UNITED ARAB REPUBLIC

# MONTHLY WEATHER REPORT

OLUME 13 NUMBER 1

## JANUARY, 1970

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METEOROLOGICAL DEPARTMENT
CAIRO

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# PUBLICATIONS OF THE METEOROLOGICAL DEPARTMENT OF THE UNITED ARAB REPUBLIC—CAIRO

In fulfilment of its duties the U.A.R. Meteorological Department issues several reports and publications on weather, climate and agrometeorology. The principal publications are described on this page.

Orders for publications should be adressed to :
"The Director General, Meteorological Department, Kubri-el-Qubbeh — CAIRO".

## THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Department since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

## THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for U.A.R.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

## THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of the U.A.R. as well as monthly values of certain elements.

## THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

## CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in march 1968 which brings normals and mean values up till 1960.

## METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institude for Research and Training" and the Operational Divisions of Meteorological Department.

## TECHNICAL NOTES

As from October 1970, the Meteorological Department started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

The first Technical Note I was issued in October 1970 on : Sandstorms & Duststorms in the U.A.R.

# FOREWORD

Since 1909 the Meteorological Department of Egypt has been issuing regularly the Monthly Weather Report, giving a brief summary of the weather conditions prevailing over Egypt during the month. These reports used to include a table giving limited climatological data for some selected surface observations.

On January 1954, the Monthly Weather Report has been revised and the general summary of the weather conditions has been extended to give a more detailed description of the synoptic situations and the associated weather prevailing during the month.

On February 1955 a further extension took place, the general summary of the weather conditions has been classified into different items to give more comprehensive information. More detailed surface climatological tables for selected stations and table for miscellaneous weather phenomena have been added to the Report.

On January 1956, the climatological tables included in the Report have been extended to include upper air climatological data to meet the increasing demand for this information.

In addition the full text of the monthly report of the standard observations taken at the Central Agro-Meteorological Station at Giza has been included in this Report instead of issuing it as a separate bulletin.

On January 1957, the Report has been completely revised, a new set of meteorological tables has been introduced to give, as far as possible, complete information for surface and upper air data from a more representative network of stations.

In addition, a general review of the observations taken in the fields of the plant breeding farm at Giza is included in the Report. The review gives a brief summary of the characteristic features of the different meteorological and micrometeorological elements of the month, more weight is given in this review to those elements which are of interest to agriculturists.

Starting from the Report of January 1958, the Monthly Weather Report for the U.A.R. included a detailed description of the synoptic situations and the associated weather experienced all over the Republic during the month. The Report included a new set of tables giving more detailed surface and upper air climatological data for selected stations in the Republic. The review of the Agrometeorological station at Giza and the normal observations made at the field of the station were also included in the Report.

As from January 1960, these tables have been totally revised and some new tables have been introduced to include more detailed climatological data.

As from January 1964, the Monthly Weather Report was again totally revised. The number of meteorological stations appearing in the Report have been concentrated in the main synoptic stations working mostly continuously 24 hours. In addition climatological data included in the Report will be confined to the montlly mean values, monthly totals, monthly frequencies and monthly absolute values. More specific climatological data have to be requested from the Meteorological Department.

Starting from the Report of January 1958, the monthly Weather Report of the U.A.R. carries serial reference in volume and number; each year carries a serial number in volume, Number I, being for January and 12 for December. The reference number of January 1958 is volume I, number I.

*Cairo, March 1971*

M. F. TAHA
**Under Secretary of State**
**Director General**
**Meteorological Department**

## INTRODUCTION AND EXPLANATION OF THE TABLES

For the purpose of this Monthly Weather Report, the United Arab Republic is divided into six climatic districts as follows :

| Number | District | Number | District |
|---|---|---|---|
| I | Mediterranean Area | IV | Upper Egypt |
| II | Lower Egypt | V | Western Desert |
| III | Cairo Area | VI | Red Sea Area |

The data included in Tables A1, A2, A3, A4 & A5, are based on surface observations made at a representative selection of the basic network of synoptic stations. The data included in Tables B1, B2 & B3 refer to Upper Air observations. The data included in Tables C1,C2, C3,C4 & C5, are based on observations taken at the Agro-Meteorological stations at Bahtim, Tahrir, Mersa Matruh and Kharga. The observation fields are considered for the moment as dry and bare fields. At Kharga Oasis, the observation field is of the size of about 4000 - 6000 square metres.

The soil characteristics of these fields are :

| | MERSA MATRUH | TAHRIR | BAHTIM | KHARGA |
|---|---|---|---|---|
| Top soil type | not available at present | Pure sand | not available at present | Sandy loam granular non-compact |
| Top soil depth | ,, | More than 3 metres. | ,, | 20 cms. |
| Sub soil type | ,, | Pure sand | ,, | Platy clay non-compact |
| Slope of ground and its direction | ,, | ½ %towards East& North | ,, | Flat (0-0.3%) |
| Level of water table | ,, | More than 5 metres | ,, | More than 5 metres |

Except for the wind speed which is expressed in knots, the metric units are used throughout this report and are as follows :

— The atmospheric pressure is expressed in millibars (one millibar = 1000 dynes per square centimetre = the pressure due to 0.7501 millimetre of mercury at 0°C at latitude 45°),

— Air and soil temperatures in degrees celsius (°C),

— Relative humidity (%),

— Rainfall in millimetres,

— Snow depth in centimetres,

— Duration of bright sunshine in hours,

— Sky cover in octas,

— Evaporation in millimetres,

— Altitude of pressure surface in geopotential metres,

— Mean wind speed of the whole day, and of the day - time and the night - time intervals in metres per second,

— (Solar + Sky) radiation in gram-calories per centimetre square,

— Vapour pressure in millimetres.

**TABLE A1.— Monthly values of the Atmospheric Pressure, Air Temperature, Relative Humidity, Bright Sunshine Duration & Piche Evaporation**

*Atmospheric Pressure.*

The monthly mean values of the daily atmospheric pressure corrected to Mean Sea Level (M.S.L.) are the arithmetic means over the month of their corresponding daily hourly values or of the daily observations taken at the 8 synoptic hours (00,03, 06, 09, 12, 15, 18 & 21 UT). The atmospheric pressure is measured by mercury barometers installed indoors; The Mean Sea Level Pressure (M.S.L.) is the barometer reading corrected for the height of the barometer cistern above or (below) the Mean Sea Level at the station. Corrections for index, temperature and latitude have been applied to the barometer readings before reduction to M.S.L. Deviations from normals appear besides monthly mean values in a separate column.

*Air Temperature.*

The monthly mean values of the maximum (A) and of the minimum (B) air temperatures are computed from their corresponding daily routine values observed over the month. The maximum (mercury) and the minimum (alcohol) thermometers are freely exposed in the louvred screens with their bulbs at a height of 160 to 170 centimetres above the ground. Deviations from normals appear besides monthly mean values.

The monthly mean values of (A +B)/2 are computed from their corresponding daily calculated values over the month.

The monthly mean values of the dry and of the wet bulb air temperatures are the arithmetic means over the month of their corresponding daily hourly values or of their corresponding values at the 8 synoptic hours (00,03, 06, 09, 12, 15, 18 & 21 UT). The dry and wet bulb thermometers used are of the mercury type and are freely exposed in sloping double roofed louvred screens with their bulbs at a height of 140-150 centimetres above the ground. Deviations from normals appear besides monthly mean values in a separate column.

*Relative Humidity*

The mean daily R. Humidity during the month is derived from the mean daily values of the dry and wet bulb temperatures using Jelinek's Psychrometer Tables (Liebzig 1911). The mean daily values of the dry and wet bulb air temperatures are as indicated in the last paragraph. No corrections for wind speeds or atmospheric pressure are applied. Deviations from normals appear besides monthly mean values in a separate column.

*Bright Sunshine Duration*

The actual duration of bright sunshine for the month is the sum of the actual daily bright sunshine durations. The total possible duration for the month is the sum of the daily calculated periods between sunrise and sunset. In calculating the possible duration of sunshine for a given day, the periods of cut-off for that day caused by obstacles, such as mountains are eliminated from the possible duration with an ideal flat horizon. In case of stations where the record of day or more is or are missing, the total actual duration is given between brackets and a note is added at the end of the table giving the actual number of records (days) used in summing up this total actual. In such cases the corresponding total possible duration is also given in brackets and it is the sum of the possible duration of the days of the available records. The percentage of the actual to the possible duration appears besides the total possible values in a separate column. The duration of bright sunshine is measured by the Campbell-Stokes sunshine recorders which are suitably exposed.

*Evaporation (Piche)*

The monthly mean value of Piche evaporation is computed from its daily routine values observed at 0600 UT over the month. Evaporation measurements are taken once daily at 0600 UT and give the evaporation for the previous 24 hours. The evaporation readings are measured by a Piche tube freely exposed in sloping double roofed louvred screens, the evaporation disc has an effective area of 10.1 centimetres square, white in colour, and at a height of 140-150 centimetres above the ground.

## TABLE A2.—Maximum & Minimum Air Temperatures

Higher and lower limits of both maximum and minimum temperatures and their corresponding dates of occurrences during the month are extracted from the daily readings of maximum (mercury) and minimum (alcohol) thermometers respectively. These dates are included for actual occurrences up to three; when exceeding three, the symbol * is added beside the last three dates.

The number of days during the month with maximum air temperature above 25°C, 30°C, 35°C, 40°C & 45°C and with minimum air temperature below 10°C, 5°C, 0°C & —5°C are included also in this table under separate columns.

The types and exposure of the maximum and of the minimum thermometers are as indicated in the notes on table A1.

The monthly mean values of grass minimum temperatures are the arithmetic means over the month of their corresponding daily values. The grass minimum temperatures are measured by ordinary minimum (alcohol) thermometers suitably exposed in the open air at the station field on special stands with their bulbs at a height of 5 centimetres above ground just touching the grass tops if there is any. Grass minimum theromometers readings are taken daily as a routine base at 0600 U.T. Deviations from normals appear besides mean values in a separate column.

## TABLE A3.—Sky Cover & Rainfall

The monthly mean values of the total sky cover at the principal hours (00,05,12 & 18 UT) are computed from their corresponding daily routine values observed during the month. Mean values of the daily total sky cover is the arithmetic means over the month of the daily hourly values or of the daily observations taken at the 8 synoptic hours (00, 03, 05, 09, 12, 15 18 & 21 U.T). Sky cover is in octas.

The monthly total rainfall is the total rainfall during the month. The maximum daily rainfall and the number of days with rain < 0.1 and more than or equal 0.1, 1, 5, 10, 25 & 50 mms are extracted from the routine daily rainfall totals during the month. The rainfall for a given day is the amount of rain which has fallen during the 24 hours commencing at 0600U.T of that day; when the amount of rain which has fallen is not large enough to be measured (less than 0.1 mm) the term "Trace" is entered as (Tr.). The amount of rainfall measured includes the water equivalent of the rain water which has frozen after falling and the water equivalent of solid precipitation if any such as hail. Dates of maximum rain in 24 hours are included for actual occurrences up to three; when exceeding three, the symbol* is added besides the last three dates.

The amount of rainfall is normally measured by ordinary rain gauges. Some selected stations are also equipped with a recording type of rain gauge. The rim of both types of gauges are at a height of 90-100 centimetres above the ground.

## TABLE A4.— Number of Days of Occurrence of Miscellaneous Weather Phenomena

This table gives the number of days of occurrence of rain, snow, ice pellets, hail, frost, thunders torm, mist, fog, haze, thick haze , dust or sandrising, dust or sandstorm, gale, clear sky & cloudy sky. Except for rain (see notes on table A3) the days of occurrence of these weather phenomena are those days during which the phenomenon has occurred at any time between 2200, and 2200 U.T.

In compiling this table, the terminology and definitions of these different weather phenomena are as follows.

— A day of rain is the day during which the total amount of rainfall is 0.1 millimetre or more.

— A day of snow is the day druing which snow or snow flakes or snow showers is or are observed even if it is or (they are) so small in quantity as to yield no measurable amounts of precipitation in the rain-gauge.

— A day of ice pellets is the day during which ice pellets are observed even if they are so small in quantity as to yield no measurable amounts of precipitation in the rain-gauge.

— A day of hail is the day during which either one or more of the following types of precipitation is or are observed, even if they are so small in quantity as to yield no measurable precipitation in the rain-gauge ;

— Soft hail
— Small hail
— Hail stone

— A day of frost is the day during which frost is observed at the station.

— A day of thunderstorm is the day during which thunder is heard at the station whether lightning is seen or not. A day on which lightning is seen but thunder is not heard at the station is not ounted as a day of thunderstorm.

— A day of mist is the day during which the surface horizontal visibility at the station has deteriorated and became equal to or greater than 1000 metres due to mist.

— A day of fog is the day during which the surface horizontal visibility at the station has deteriorated and fell below 1000 metres due to fog.

— A day of haze is the day during which the horizontal visibility at the station has deteriorated and became equal to or greater than 1000 metres due to haze.

— A day of thick haze is the day during which the horizontal visibility at the station has deteriorated and fell below 1000 metres due to thick haze.

— A day of dust or sandrising is the day during which the horizontal visibility at the station has deteriorated and became equal to or greater than 1000 metres due to dust or sandrising.

— A day of dust or sandstorm is the day during which the horizontal visibility at the station has deteriorated and fell below 1000 metres due to dust or sandstorms.

— A day of gale is the day during which the mean surface wind speed reached or exceeded 34 knots at the station for at least 10 minutes.

— A day of clear sky is the day on which the mean cloud amount at the station is less than 2/8.

— A day of cloudy sky is the day on which the mean cloud amount at the station is 6/8 or more

As regards the last two items above, the mean cloud amount for a day is the mean of the 24 hours, the 8 synoptic hours or the 4 main synoptic hours of cloud observations according to the number of the routine observations taken at the station.

**TABLE A5.— Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded Within Specified Ranges.**

The elements used in preparing this table are the mean hourly values of the surface wind speed and the corresponding mean hourly values of direction taken from the daily records of the surface wind instruments intsalled at the station. These mean hourly values are extracted for every hour of each day of the month and they refer to a period of 60 minutes centred at the hour.

The number in hours of occurrences of the surface wind falling within the ranges of speed and direction indicated in the table is the number of cases when the mean hourly values of the surface wind as defined have satisfied these ranges.

The number in hours of "variable" winds is the number of cases where the surface wind showed no definite direction over the period of the 60 minutes centred at the hour or when the wind vane was sticking over that period due to the lightness of the wind and not responding to the variation in wind direction; in such cases the mean wind speed over this period is normally less than 5 knots. The number in hours of "calm" winds is the number of cases where the surface wind has a mean speed of less than one knot over that period, whatever the mean wind direction over the same period is. The number in hours during which the recording instrument failed to record over the whole month is given under a separate column.

The instruments used for recording the surface wind are of the Dines Pressure Tube Anemograph.

This table follows the general lines of Model B of chapter 12 part IV of the WMO Technical Regulations 1959. The ranges of wind speed are (1-10), (11-27), (28-47) knots and 48 knots or more; the ranges for wind direction are twelve ranges of 30° each, beginning with the range (345°-014°) as being the true north.

This table gives the following data :

— The total number in hours of simultaneous occurrences of surface wind satisfying the specified ranges of speed and direction during the month,

— The total number in hours of occurrences of surface wind satisfying the specified ranges of speed during the month irrespective of their direction,

— The total number in hours of occurrences of surface wind blowing from the specified ranges of direction during the month irrespective of their speed.

### TABLE B1.—Upper Air Climatological Data

The routine upper air observations are taken at 0000 and 1200 U T, a separate table of this type is prepared for each hour. The number of cases the height of each of the pressure surfaces indicated in the table has been attained during the month, and the number of cases the temperatures and the dew points have been observed at each of these surfaces are given in the table against each element under column (N).

The monthly mean values of the altitude, temperature and dew piont at each of these pressure surfaces are the arithmetical means of the corresponding daily values over the number of cases (N) indicated against each element.

The instruments used are of the radiosonde modulating frequency recording type; the types of transmitters used do not need to apply any corrections for radiation.

This table follows the general lines recommended by the commission for climatology of the World Meteorological Organization Rec. 34 (CCL-1); it gives the following data for the hour of observation indicated at the top of the table :

— The number of cases the height of each of the pressure surfaces has been attained during the month and the number of cases the temperature and dew point at these surfaces have been observed,

— The monthly mean values of the atmospheric pressure corrected to the ground level of the station (H); the highest and lowest values of this pressure observed during the month,

— The monthly mean values of the air temperature and of the dew point at the surface; the highest and lowest values of the surface air temperature observed during the month,

— The monthly mean, the highest and the lowest values of the altitude for each of the pressure surfaces,

— The monthly mean, the highest and the lowest values of air temperature; and the mean dew point at each of the pressue surfaces.

### TABLE B2.— Mean and Extreme Values of the Freezing Level and the Tropopause; The Highest Wind Speed in the Upper Air.

The routine upper air observations are taken at 0000 and 1200 UT ; a separate table of this type is prepared for each hour as indicated in the notes on table B1. The number of cases the altitude of the freezing level and of the first tropopause have been attained during the month and the number of cases the pressures and the dew points or temperatures have been observed at these levels are given in the table against each element in the (N) box.

The monthly mean values of the altitudes of the freezing level and of the first tropopause and the monthly mean values of the pressures and of the dew points or temperatures at each of these levels are the arithmetical means of the corresponding daily values over the number of cases (N) indicated in the box of each element.

The first tropopause is determined in accordance with the definition adopted by the Executive Committee of the World Meteorological Organization Resolution 21 ( Ec - IX ).

This table is based on wind observations taken by the SCR — 658 or the Metox radiotheodolites working simultaneously with the radiosonde observations. The types of radiosonde instruments used are given in the notes on table BI.

This table gives the following data for each hour of observation indicated at the top of the table :

— The number of cases the freezing level has been attained during the month and the number of cases the pressure and dew point have been observed at this level.

— The number of cases the altitude of the first tropopause has been attained during the month and the number of cases the pressure and the temperature have been observed at this level.

— The monthly mean values of the altitude, pressure and dew point of the freezing level.

— The altitudes, pressures and dew points of the highest and lowest freezing level observed during the month,

— The monthly mean values of the altitudes, pressures and temperatures of the first tropooause,

— Ths altitudes. pressures and temperatures of the highest and lowest first tropopause observed during the month.

— The direction and speed of the highest wind speed observed during the month, the altitude and the pressure at which this wind has been observed.

**TABLE B3.—Number of Occurrences of Wind Direction Within Specified Ranges and the Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces**

The routine upper air observations are taken at 0000 and 1200 U.T. A separate table of this type is used for each station.

The mean scalar wind speed "ffm" of winds blowing from each range of directions at a given pressure surface, is the arithmetical mean of the corresponding daily values of wind speed for the number of cases "N" during the month.

The term "Calm" is used in this table to denote wind speed of less than one knot.

This table is based on the wind observations taken at the station as indicated in the notes on table B2.

This table, as in the case of table B 1, follows the general lines recommended by the commission for Climatology of the World Meteorological Organization REC. 34 (CCL-l) ; the ranges of wind direction used are twelve ranges of 30°each beginning with the range (345°—014°) as being the true north. It gives the following data for the hour of observation indicated :

—The number of cases (N) the wind has been observed from the specified ranges of direction at the surface of the station and at the different pressure surfaces during the month.

—The total number of cases (TN) the wind has been observed at the surface of the station and at the different pressure surfaces during the month irrespective of the wind direction,

—The mean scalar wind speeds (ffm) blowing from the specified ranges of direction at the surface of the station and at the different pressure surfaces,

—The number of cases of " calm'' winds at the surface of the station and at the different pressure surfaces,

—The mean scalar wind speeds at the surface of the station and at the different pressure surfaces blowing from all directions

## AGRO-METEOROLOGICAL DATA

### Reviews of Agrometeorological Stations at Mersa Matruh, Tahrir, Bahtim & Kharga.

The monthly review of all agrometorological elements that have been observed at each agro-meteorological station includes a general summary of pronounced weather phenomena that prevailed during the month together with a comparison between the monthly values of this year and last year of specified elements that are of great interest to agriculturists as well as to agrometeorologists. For some elements, when observations are of a long time, departure from normal values appears also in the monthly review.

During winter, the monthly review includes normally the days of minimum air temperature below 0°C at the height of five centimeters above the ground.

### TABLE C1.—Air Temperature at 1½ Metres Above Ground

The monthly mean values of the maximum, minimum, night-time mean, day-time mean and mean of day of air temperatures are the arithmetic means over the month of their corresponding daily values. The mean air temperature of a day is the mean of the eight values of the dry bulb temperature occurring at each of the principal and secondary observation hours, the value at 0000, 0300, & 2100 U.T. being extracted from the record of the dry bulb thermometer of a mercury in steel hygrograph, except at Mersa Matruh and Kharga where they are obtained from visual readings.

The night-time mean temperature of a day is the mean temperature for the period from sunset of the previous day to sunrise of the same day. The day-time mean temperature refers to the period from sunrise to sunset of the same day. Both night-time and day-time mean temperatures are computed from empirical formulae, which may vary from month to month but are common for all centres. These formulae were found by trial comparison with true means of the year 1966. The errors were never permitted to reach a whole degree, and usually stayed equal to or lower than 0.5°C.

The duration of air temperatures above a specified limit of temperature is obtained graphically from the same recording charts, daily to the nearest whole hour.

The maximum (mercury), the minimum (alcohol) and the dry bulb (mercury ventilated) thermometers are freely exposed in louvred Stevenson screens of the Egyptian type with their bulbs at a height of 190 - 195 centimetres above ground for the maximum and minimum thermometers, and 170 cms approximately for the dry bulb thermometer ; the recording thermometer used is of the bi-metallic type and is exposed in a similar screen ; the height of the bi-metallic piece is 165 centimetres approximately above the ground.

### TABLE C 2.—Extreme Values of Maximum & Minimum Air Temperatures at 1½ metres above Ground, Absolute Minimum Air Temperature at 5 cms above Ground over Different Fields.

The extreme values of maximum and minimum air temperatures at 1½ metres above ground and of minimum air temperatures at 5 cms above ground over dry fields are extracted from their routine values. Dates of occurrences are included in separate columns beside the extreme value. Extreme values of maximum & minimum air temperature at 1½ metres include the Highest & Lowest limits of the daily corresponding routine values during the month.

The thermometers used for minimum air temperature at 5 cms above ground are of the ordinary minimum type (alcohol) with the bulbs screened with small separate screens of horizontal 5 cm. length and 2 cm. diameter metal tubing painted white outside and black inside, and centered on the thermometer bulbs.

**TABLE C 3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humiditv, Vapour Pressure at 1½ meters above Ground, Evaporation & Rainfall.**

The monthly total values of the (solar+sky) Radiation, Bright Sunshine duration, Evaporation & Rainfall are the sums of their corresponding daily values for the month. The monthly mean values of the (Solar + Sky) Radiation, Relative Humidity & Vapour pressure at 1½ metres and Evaporation are the arithmetic means of their corresponding daily values for the month respectively.

The (solar + Sky) Radiation is obtained from the records of a Robitzsch Actinograph ; the Robitzch values at Bahtim and Tahrir are regularly compared with the records of an Epply pyrheliometer installed at the station. The sensitive elements of the Robitzsch Actiongraph and of the Epply pyrheliometer are at 100 cms approximately above the ground.

The types of insturments used for the measurement of the duration of bright sunshine. their exposure and the evalualtion of the durations are as given in the notes on table A1.

The relative humidity and vapour pressure values for Tahrir, Bahtim and Kharga are derived from the readings of ventilated dry and wet bulb mercury thermometers freely exposed in the screen using the Aspirations psychrometer Tafeln of the Deutschen Wetterdienst 1955. The relatve humidity and vapour pressure values for Mersa Matruh are drived from the readings of unventilated dry wet bulb mercury thermometers freely sxposed in the screen, using the Jellink's Psychrometer Tables (Liepzig 1911). No eorrections are applied for the wind sqeads or the atimosphric pressure. The height of the bulbs is 170 cms approximately above the ground.

The mean relative humidity or vapour pressure for a given day is the mean of the eight principal and secondary observation values which are extracted from the readings of the dry and wet bulb thermometers, the values at 0000, 0300, and 2100 U.T. being extracted from the records of the mercury in steel hygrograph except at Mersa Matuh and Kharga where these values are obtained from visual readings of the dry and wet bulb thermometers.

The monthly values of the relative humidity or vapour pressure are the means of the corresponding mean daily values during the month The lowest value of the relative humidity and its date of occurrence are obtained from the records of a hair hygrograph exposed in the screen, the height of the hair is 170 centimetres approximately above the ground.

The extreme maximum and minimum values of vapour pressure during the month are extracted from the values of the eight prinicipal and seconday observations.

Evaporation measurements are taken once daily at 0600 U.T. from a Piche tube and also a class "A" evaporation pan and give the evaporation for the previous 24 hours. The Piche tube is installed in the screen with the dry bulb, maximum and minimum thermometers ; the colour and effective area of the evaporation disc are as given in the notes on table A1. The class "A" evaporation pan is of the type recommended by the commission of instruments and methods of observation of the World Meteorological Organization Rec 42 (CIMO-56) ; it is of a cylindrical shape, 25 4 centimetres deep, 120.6 centimetres in diameter (inside dimentions). The pan exept at Bahtim is freely exposed in the open air in the dry field, its rim at a height of 41 centimetres above ground away from obstacles such as buildings or trees. At Bahtim the pan is protected from animals and birds by a cylindrical cover of the same diameter as the pan and 15 cm high made of plastic wire mesh of one inch side. Reduction of evaporation by 11% — established by systematic study-is being allowed for in the data published.

The types of instruments used for measuring the amount of rainfall, their exposure and the evaluation of these amounts are given in the notes on table A3.

**TABLE C 4.—Extreme Soil Temperature at Different Depths (cms) in Dry Fields**

The highest and lowest values of soil temperatures at the selected depths in dry fields are extracted from their corresponding daily routine values.

The soil temperature readings are taken in the dry fields at the specified depths ronging from 2 cms to 300 cms: in each field as indicated in the table These readings are taken regularly during the period from 0600 to 1800 U.T. according to the following schedule. except at Mersa Matrnh and Kharga where the observations are as appropriate but extend in the peirod between 1800 & 0600 U.T.

— at 0600 U.T. and every three hours for the 2,5 and 10 cms depths.

— at 0600 U.T. and every six hours for the 20 and 50 cms depths.

— at 1200 U.T. for the 100 and 200 cms. depths.

— at 0900 U.T. once every 3 days for the 300 cms depth.

The thermometers used are of the Fuess or the Friedrich types.

**TABLE C 5.—SURFACE WIND.**

The monthly values of the daily mean, the night time mean and of the day time mean of the surface wind speed is the arithmetic mean of their corresponding daily evaluated values for the month respectively. The mean wind speed of the day is computed for the period of 24 hours from 1800 U.T. of the previous day; the night-time mean wind speed of the day is obtained from the total run of air during the period 1800 U.T. of the previous day to 0600 U.T. of that day ; the day-time mean is similarly computed for the period 0600 to 1800 U.T. of the same day The type of the wind instrument used is of the run counter of the Lambrecht type ; the cups of which are at 1½ metres above the ground.

The number of days with surface wind speed reaching or exceeding specified values of velocities (≧10 Knots, ≧15 Knots, ≧20 Knots, ≧25 Knots, ≧30 Knots, ≧35 Knots and ≧40 Knots) for at at least 5 minutes at any time between 2200 & 2200 U.T. irrespective of its direction are extracted from the daily routine analysis of surface winds records during the whole month. The daily records of the Dine Pressure Tube Anemograph are used, the highest gust refer to the highest excursion made by the velocity pen on the records during the month. The head of the instroment is at a height of 10 metres above the ground level.

# LIST OF STATIONS APPEARING IN THE REPORT — SYNOPTIC AND CLIMATOLOGICAL STATIONS

| District. | Station | Index Number II iii | Latitude °N | Longitude °E | Elevation of the ground in metres (H or Ha) | Altitude of the Station in metres (Hp) | Altitude of the barometer Cistern in metres | Height of Wind recording instruments (metres) above: above building | above ground | Synoptic Observations: 00 | 03 | 06 | 09 | 12 | 15 | 18 | 21 | hourly Observations (H) Half hourly obs. ns (h) (0000—2400) | Upper air observations P (Pilot Ballon) W (Radio wind) R (Radio Sonde): 00 | 06 | 12 | 18 | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mediterranean | Sallum | 62 | 300 31 32 | 25 11 | 4.0 | 6.0 | 5.2 | 10 | 14 | × | × | × | × | × | × | × | × | H | P | — | P | — | |
| | Mersa Matruh (A) | | 306 31 20 | 27 13 | 28.3 | 30.0 | 30.0 | 8 | 15 | × | × | × | × | × | × | × | × | H | RW | W | RW | W | |
| | Alexandria (A) | | 318 31 12 | 29 57 | — 3.4 | 7.0 | 6.8 | 10 | 18 | × | × | × | × | × | × | × | × | H | P | — | P | — | |
| | Port Said (A) | | 333 31 17 | 32 14 | 1.9 | 6.1 | 6.1 | 10 | 19 | × | × | × | × | × | × | × | × | H | P | — | P | — | |
| | El Arish | | 336 31 07 | 33 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | Ghazza | | 338 31 30 | 34 27 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Lower Egypt | Tanta | | 348 30 47 | 31 00 | 14.0 | 14.8 | 15.4 | 10 | 14 | × | × | × | × | × | × | × | × | H | — | — | — | — | |
| Cairo Area | Cairo (A) | | 366 30 08 | 31 34 | 94.7 | 74 5 | 74.0 | 14 | 18 | × | × | × | × | × | × | × | × | h | — | — | — | — | |
| | Helwan | | 378 29 52 | 31 20 | 139.3 | — | — | 10 | 20 | — | — | — | — | — | — | — | — | — | RW | W | RW | W | |
| Upper Egypt | Fayoum | | 381 29 18 | 30 51 | 22.0 | 23.3 | 23.2 | 10 | 14 | — | — | × | × | × | × | × | — | H | — | — | — | — | |
| | Minya (A) | | 387 28 05 | 30 44 | 29.0 | 40.0 | 44.2 | 7 | 10 | × | × | × | × | × | × | × | × | H | P | — | P | — | |
| | Assyout (A) | | 393 27 11 | 31 06 | 71.0 | 69.6 | 69.5 | 15 | 20 | × | × | × | × | × | × | × | × | H | — | — | — | — | |
| | Luxor (A) | | 405 25 40 | 32 42 | 94.9 | 88.5 | 88.4 | 7 | 15 | × | × | × | × | × | × | × | × | H | P | — | P | — | |
| | Aswan (A) | | 414 23 58 | 32 47 | 200.0 | 193.5 | 200.0 | 10 | 14 | × | × | × | × | × | × | × | × | H | RW | W | RW | W | |
| Western Desert | Siwa | | 417 29 12 | 25 29 | —15.0 | —13.5 | —13.3 | 10 | 17 | × | × | × | × | × | × | × | × | H | P | — | P | — | |
| | Bahariya | | 420 28 20 | 28 54 | 128.0 | 129.5 | 129.6 | — | — | × | × | × | × | × | × | × | × | H | P | — | P | — | |
| | Farafra | | 423 27 03 | 27 58 | 90.0 | 91.8 | 92.1 | — | — | — | — | × | × | × | × | × | — | H | — | — | P | — | |
| | Dakhla | | 432 25 29 | 29 00 | 110.0 | 111.5 | 111.5 | 10 | 15 | × | × | × | × | × | × | × | × | H | P | — | P | — | |
| | Kharga | | 435 25 27 | 30 32 | 77.8 | 72.8 | 78.8 | 10 | 15 | × | × | × | × | × | × | × | × | H | P | — | P | — | |
| Red Sea | Tor | | 459 28 14 | 33 37 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | Hurghada | | 462 27 17 | 33 46 | 1.0 | 2.8 | 2.8 | 8 | 12 | × | × | × | × | × | × | × | × | H | — | — | P | — | |
| | Quseir | | 465 26 08 | 34 18 | 8.0 | 11.3 | 11.3 | 12 | 15 | × | × | × | × | × | × | × | × | H | — | — | — | — | |

# GENERAL SUMMARY OF WEATHER CONDITIONS

## JANUARY 1970

**Two moderate cold waves in the last decade. Light and subnormal rainfall over the northern parts.**

### GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was generally warm day-time, cool night-time ; though temperature fell to a moderate extent below normal during prevailing cold waves in the last decade.

Light rain in general fell over the Mediterranean district mostly between the 18th & 27th, and extended in land to scattered localities for few days. Rain was associated with thunderstorm over Alexandria area on the 20th and 21st.

Early morning mist and fog developed over scattered localities particularly Lower Egypt and Cairo districts during the first half of month.

### PRESSURE DISTRIBUTION

The most outstanding pressure systems over the synoptic surface charts during this month were :

— The Siberian anticyclone and its extension westwards through Europe and south west wards to East Mediterranean.

— Deep low pressure systems moving through North Europe,

— Secondary depressions through the Mediterranean Sea area and its vicinities.

— Subtropical high pressure over North Africa.

During this month seven secondary depressions passed through the Mediterranean Sea area or its vicinities. It is worthy to mention that these depressions were generally shallow and showed no pronounced deepening.

The first secondary depression appeared over Italy on the 1st, then moved northeastwards and its southern trough traversed Asia Minor on the 3rd. The other six secondary depressions developed over West Mediterranean Sea area on the 6th, 12th, 15th, 21st, 26th and 30th respectively.

The second depression moved slowly southeastwards reaching East Mediterranean Sea and north of U.A.R. on the 9th and then proceeded towards Iraq the next day.

The third depression moved eastwards and its trough passed through East Mediterranean Sea on the 14th.

The fourth and most pronounced depression during this month moved slowly eastwards while enlarging its area till the 20th, when a complex low pressure system covered East Mediterranean Sea, Asia Minor and the Black Sea areas. This system amalgamated on the 21st in one centre over East Mediterranean which moved eastwards while filling the next day.

The fifth depression reached East Mediterranean Sea on the 23rd and filled up the next day.

The sixth depression was associated with a secondary over North Algiers on the 27th. These two depressions moved eastwards and traversed Asia Minor and East Mediterranean on the 29th.

The last secondary depression during the month proceeded eastwards and reached Central Mediterranean Sea on the 31st.

The barometric pressure over U.A.R. was influenced by the transits of the above mentioned six depressions through East Mediterranean, and the subsequent extension of high pressure over the area. Accordingly, it experienced corresponding oscillations with consecutive minima round the 3rd, 9th, 14th, 21th, and 29th respectively.

The above secondary depressions were reflected aloft as upper troughs which traversed East Mediterranean and north U.A.R. on the 5th, 10, 14, 21, 25 & 30th.

**SURFACE WIND**

The prevailing winds during this month were generally light to moderate; W/SW in the northern and middle parts, NWly during few days and Nly in the southern parts.

Surface winds became fresh to strong during several days over scattered localities, mainly in the Mediterranean Sea and Red Sea districts.

**TEMPERATURE**

Maximum air temperature persisted above normal most of the first and second thirds of the month, and below normal most of the last third when two cold waves prevailed. Maximum air temperature values ranged generally between 17° & 24°C in the northern and middle parts, and between 22° & 28°C in the southern parts.

The absolute maximum air temperature for the month was 29.5°C reported at Kom-ombo on the 9th.

Minimum air temperature showed irregular fluctuations. It oscillated round its normal, though it was above normal most days of the month. Minimum air temperature values ranged generally between 6° & 13°C in the northern and southern parts and between 3° & 11°C in the middle parts. It is worthy to mention that minimum air temperature approached 0°C or fell below it during several days in scattared places in the Western Desert.

The absolute minimum air temperature for the month was — 1.3°C reported at Dakhla on the 1st.

**PRECIPITATION**

Light rain in general fell over the Mediterranean Sea district on the 4th, 9th and during the period (18th-27th). It extended in land to scattered places of the middle parts during few days. Rain was locally heavy over Mediterranean district round the 20th. The monthly rainfall was below normal in general.

The maximum daily rainfall was 18.5mm. reported at Rossetta on the 20th.

The maximum monthly rainfall was 48.3mms reported at Rossetta.

*Cairo, March 1971*

**M. F. TAHA**
**Under Secretary of State**
**Director General**
**Meteorological Department**

## Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

### JANUARY — 1970

| STATION | Atmospheric Pressure (mbs) M.S.L | | Air Temperature °C | | | | | | | | | Relative Humidity % | | Bright Sunshine Duration (Hours) | | | Piche Evaporation mms. Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Maximum | | Minimum | | | Dry Bulb | | Wet Bulb | | | | | | | |
| | Mean | D.F. Normal or Average | (A) Mean | D.F. Normal or Average | (B) Mean | D.F. Normal or Average | $\frac{A+B}{2}$ | Mean | D.F Normal or Average | Mean | D.F Normal or Average | Mean | D.F Normal or Average | Total Actual | Total Possible | % | |
| Sallum | 1016.1 | —1.4 | 20.8 | +1.9 | 11.0 | +1.8 | 15.9 | 15.4 | +1.2 | 11.0 | +0.7 | 55 | + 3 | — | — | — | 7 0 |
| Mersa Matruh (A) | 1016.7 | —0.7 | 19.5 | +1.3 | 9.4 | +1.1 | 14.4 | 14.0 | +1.1 | 11.1 | +1.3 | 67 | + 2 | 235.5 | 320.6 | 73 | 5 5 |
| Alexandria (A) | 1016.9 | – 0.8 | 19.9 | +1.4 | 9.8 | +0.5 | 14.8 | 14.6 | +1.0 | 12.0 | +1.0 | 72 | + 2 | 212.0 | 322.3 | 66 | 3.7 |
| Port Said (A) | 1016.3 | —1.0 | 19.5 | +1.4 | 12.6 | +1.2 | 16.0 | 15.5 | +1.2 | 13.3 | +1.4 | 77 | + 5 | 206.7 | 322.3 | 64 | 4.5 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | - | — | — | — | — | — | — | — | — | — | - | — | — | — | — | — |
| Tanta | 1016.0 | —1.4 | 20.8 | +0.1 | 7.2 | +1.0 | 14.0 | 13.3 | +0.7 | 10.7 | +0.7 | 71 | + 1 | 239.6 | 323.4 | 74 | 7.7 |
| Cairo (A) | 1016.8 | —1.2 | 20.9 | +1.9 | 10.4 | +1.6 | 15.6 | 15.3 | +1.5 | 10.8 | +0.7 | 54 | + 5 | — | — | — | 9.2 |
| Fayoum | — | — | 22.4 | +2.0 | 6.5 | +0.2 | 14.4 | 13.8 | +0.5 | 10.3 | +0.4 | 61 | 0 | — | — | — | 3.0 |
| Minya (A) | 1017.8 | —1.3 | 21.9 | +1.2 | 5.0 | +1.0 | 13.4 | 13.1 | +1.2 | 9.3 | +1.1 | 57 | + 1 | 265.0 | 328.8 | 81 | 4.8 |
| Assyout (A) | 1016.9 | —1.6 | 22.3 | +1.5 | 8.2 | +1.4 | 15.2 | 14.8 | +1.2 | 10.0 | +1.6 | 51 | + 5 | — | — | — | 7.9 |
| Luxor (A) | 1016.5 | —0.6 | 24.9 | +1.8 | 6.6 | +1.0 | 15.8 | 15.2 | +1.0 | 10.3 | +0.8 | 50 | — 2 | — | — | — | 4.8 |
| Aswan (A) | 1016.4 | —0.6 | 25.2 | +1.0 | 9.5 | +1.1 | — | 16.9 | +0.9 | 10.2 | +1.1 | 37 | + 4 | — | — | — | 13.9 |
| Siwa | 1015.4 | —3.3 | 21.9 | +2.2 | 7.1 | +2.8 | 14.5 | 13.8 | +1.9 | 9.3 | +1.4 | 52 | 0 | 265.1 | 326.2 | 81 | 5.8 |
| Bahariya | 1017.2 | —1.4 | 22.3 | +2.3 | 6.5 | +2.0 | 14.4 | 14.0 | +1.2 | 8.8 | +0.5 | 45 | — 5 | — | — | — | 5.8 |
| Farafra | 1017.6 | —2.7 | 22.1 | +1.3 | 5.5 | +1.1 | 13.8 | 13.2 | +0.6 | 7.8 | +1.2 | 41 | – 1 | — | — | — | 5.7 |
| Dakhla | 1018.6 | +0.5 | 23.1 | +1.6 | 4.1 | +0.2 | 13.6 | 13.1 | +0.6 | 7.8 | +0.8 | 42 | + 5 | — | — | — | 7.3 |
| Kharga | 1017.2 | —0.8 | 23.8 | +2.6 | 6.7 | +0.8 | 15.2 | 15.3 | +1.1 | 8.7 | —0.1 | 39 | — 6 | 297.8 | 334.1 | 89 | 8.5 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 1015.8 | —0.9 | 22.7 | +1.9 | 11.1 | +1.4 | 16 9 | 17.1 | +1.2 | 12.2 | +1.2 | 53 | + 1 | — | — | — | 6.6 |
| Quseir | 1015.8 | —0.7 | 22.5 | —0.1 | 14.9 | +1.1 | 18.7 | 19.2 | +0.9 | 13.6 | +0.7 | 50 | + 1 | — | — | — | 11.4 |

## Table A 2.— MAXIMUM AND MINIMUM AIR TEMPERATURES

### JANUARY — 1970

| Station | Maximum Temperature °C | | | | | | | | | Grass Min. Temp. | | Minimum Temperature °C | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | Date | Lowest | Date | No. of Days with Max-Temp. | | | | | Mean | Dev. From Normal | Highest | Date | Lowest | Date | No. of Days with Min. Temp. | | | |
| | | | | | >25 | >30 | >35 | >40 | >45 | | | | | | | <10 | <5 | <0 | <-5 |
| Sallum | 25.9 | 7 | 16.2 | 21 | 1 | 0 | 0 | 0 | 0 | 10.7 | — | 16.0 | 7 | 7.9 | 23.26 | 9 | 0 | 0 | 0 |
| Mersa Matruh (A) | 24.6 | 7 | 15.6 | 21 | 0 | 0 | 0 | 0 | 0 | 7.4 | — | 15.4 | 10 | 5.8 | 30 | 21 | 0 | 0 | 0 |
| Alexandria (A) | 23.9 | 5 | 15,8 | 22 | 0 | 0 | 0 | 0 | 0 | 8.4 | — | 15.2 | 11 | 4.9 | 3 | 17 | 1 | 0 | 0 |
| Port Said (A) | 22.5 | 5 | 15,6 | 22 | 0 | 0 | 0 | 0 | 0 | 11.2 | — | 16.5 | 11 | 7.5 | 29 | 1 | 0 | 0 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 24.6 | 5 | 16,3 | 21 | 0 | 0 | 0 | 0 | 0 | — | — | 11.7 | 10 | 2.0 | 29 | 27 | 4 | 0 | 0 |
| Cairo (A) | 25.6 | 5 | 15,6 | 20 | 1 | 0 | 0 | 0 | 0 | — | — | 14.4 | 14 | 7.0 | 26 | 14 | 0 | 0 | 0 |
| Fayoum | 27.0 | 5 | 16·4 | 20 | 4 | 0 | 0 | 0 | 0 | 4.2 | — | 14.4 | 11 | 1.9 | 28 | 28 | 8 | 0 | 0 |
| Minya (A) | 26.0 | 14 | 17,8 | 26 | 2 | 0 | 0 | 0 | 0 | 1.8 | — | 10.0 | 11 | 0.8 | 29 | 30 | 14 | 0 | 0 |
| Assyout (A) | 28.5 | 14 | 17,2 | 21 | 6 | 0 | 0 | 0 | 0 | 5.4 | — | 13.4 | 11 | 4.6 | 23 | 26 | 2 | 0 | 0 |
| Luxor (A) | 28.4 | 6 | 20,4 | 21 | 18 | 0 | 0 | 0 | 0 | 3.9 | — | 13.0 | 11 | 2.9 | 23 | 29 | 7 | 0 | 0 |
| Aswan (A) | 29.0 | 9 | 20,0 | 23 | 17 | 0 | 0 | 0 | 0 | — | — | 12.4 | 13 | 5.8 | 24 | 14 | 0 | 0 | 0 |
| Siwa | 28.2 | 4 | 17,9 | 21,26 | 6 | 0 | 0 | 0 | 0 | 4.0 | — | 10.8 | 14 | 3.4 | 2 | 27 | 6 | 0 | 0 |
| Bahariya | 28.3 | 4 | 16·6 | 21 | 9 | 0 | 0 | 0 | 0 | 5.6 | — | 12.1 | 9 | 1.8 | 29 | 26 | 10 | 0 | 0 |
| Farafra | 27.2 | 8 | 17,0 | 21 | 5 | 0 | 0 | 0 | 0 | 4.8 | — | 11.1 | 11 | 0.0 | 29 | 28 | 11 | 0 | 0 |
| Dakhla | 28.6 | 8 | 18,2 | 21,22 | 9 | 0 | 0 | 0 | 0 | 3.9 | — | 11.7 | 10 | —1.3 | 1 | 30 | 21 | 1 | 0 |
| Kharga | 27.4 | 6 | 19,2 | 21 | 11 | 0 | 0 | 0 | 0 | 4.8 | — | 13.3 | 19 | 2.0 | 23 | 26 | 10 | 0 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 26.0 | 9 | 19,4 | 28 | 3 | 0 | 0 | 0 | 0 | — | — | 16.4 | 11 | 6.9 | 20 | 10 | 0 | 0 | 0 |
| Quseir | 26.8 | 14 | 19,8 | 26 | 3 | 0 | 0 | 0 | 0 | 12.1 | — | 17.0 | 6·7 | 10.4 | 20 | 0 | 0 | 0 | 0 |

## Table A 3.—SKY COVER AND RAINFALL

### JANUARY — 1970

| Station | Mean Sky Cover Oct | | | | | Rainfall mms | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 00 U.T. | 06 U.T. | 12 U.T. | 18 U.T. | Daily Mean | Total Amount | Dev. From Normal | Max. Fall in one day | | Number of Days With Amount of Rain | | | | | | |
| | | | | | | | | Amount | Date | < 0.1 | ≥ 0.1 | ≥ 1.0 | ≥ 5.0 | ≥10 | ≥25 | ≥50 |
| Sallum | 4.1 | 3.2 | 5.0 | 3.6 | 3.9 | 4.8 | —14.0 | 2.5 | 10 | 0 | 6 | 2 | 0 | 0 | 0 | 0 |
| Mersa Matruh (A) | 2.1 | 3.8 | 4.8 | 3.0 | 3.4 | 8.7 | —22.0 | 4.0 | 20 | 3 | 4 | 3 | 0 | 0 | 0 | 0 |
| Alexandria (A) | 4.2 | 5.2 | 5.1 | 4.0 | 4.4 | 37.9 | —11.2 | 15.9 | 20 | 1 | 8 | 6 | 4 | 1 | 0 | 0 |
| Port Said (A) | — | 3.7 | 3.3 | — | — | 12.7 | + 0.2 | 11.6 | 26 | 1 | 6 | 1 | 1 | 1 | 0 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 1.9 | 2.6 | 3.6 | 2.1 | 2.6 | 15.9 | + 6.9 | 8.4 | 21 | 0 | 4 | 2 | 2 | 0 | 0 | 0 |
| Cairo (A) | 2.1 | 3.4 | 3.1 | 2.6 | 2.8 | 1.3 | — 3.8 | 1.0 | 21 | 0 | 4 | 1 | 0 | 0 | 0 | 0 |
| Fayoum | — | 2.5 | 3.2 | 2.6 | — | Tr. | — 1.0 | Tr. | 10·20 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minya (A) | 1.0 | 2.1 | 2.9 | 1.8 | 1.8 | 0 | — 0.4 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Assyout (A) | 0.5 | 1.1 | 1.9 | 1.1 | 1.1 | 0 | —Tr. | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Loxur (A) | 0.7 | 1.7 | 1.7 | 1.6 | 1.3 | 0 | — 0.1 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aswan (A) | 0.5 | 1.2 | 1.7 | 0.7 | 0.1 | 0 | 0 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Siwa | 0.5 | 2.2 | 3.6 | 0.9 | 1.2 | 4.6 | + 3.7 | 3.0 | 9 | 0 | 2 | 2 | 0 | 0 | 0 | 0 |
| Bahariya | 1.4 | 1.8 | 2.7 | 1.4 | 1.8 | 2.3 | + 2.3 | 2.3 | 9 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Farafra | — | 1.5 | 1.2 | 1.2 | — | Tr. | — 0 | Tr. | 9 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dakhla | 0.9 | 1.0 | 1.7 | 0.4 | 0.1 | 0 | — Tr. | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kharga | 0.5 | 1.7 | 1.7 | 0.7 | 1.1 | 0 | — 0.1 | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 0 9 | 2.0 | 2.0 | 1.5 | 1.6 | 0 | —Tr. | 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Quseir | 0.8 | 2.1 | 2.4 | 1.5 | 1.6 | Tr. | 0 | Tr. | 10 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

## Table A 4.—DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

### JANUARY — 1970

| Station | Precipitation | | | | Frost | Thunderstorm | Mist Vis ≥ 1000 metres | Fog Vis <1000 Metres | Haze Vis ≥1000 Metres | Thick Haze Vis <1000 Metres | Dust or Sandrising Vis ≥1000 Metres | Dust or Sandstorm Vis <1000 Metres | Gale | Clear Sky | Cloudy Sky |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rain | Snow | Ice, Pellets | Hail | | | | | | | | | | | |
| Sallum | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 3 | 0 |
| Mersa Matruh (A) | 4 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 4 | 3 |
| Alexandria (A) | 8 | 0 | 0 | 0 | 0 | 2 | 5 | 8 | 2 | 0 | 0 | 0 | 0 | 2 | 6 |
| Port Said (A) | 6 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | — | — |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 4 | 0 | 0 | 0 | 0 | 0 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 13 | 2 |
| Cairo (A) | 4 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 15 | 1 | 8 | 0 | 0 | 13 | 1 |
| Fayoum | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | — | — |
| Minya (A) | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 3 | 12 | 0 | 0 | 0 | 0 | 17 | 0 |
| Assyout (A) | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 |
| Luxor (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 0 | 7 | 0 | 0 | 22 | 0 |
| Aswan (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 7 | 0 | 0 | 26 | 0 |
| Siwa | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 |
| Bahariya | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 20 | 1 |
| Farafra | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | — | — |
| Dakhla | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 25 | 0 |
| Kharga | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 1 | 0 | 19 | 0 |
| Quseir | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 18 | 0 |

## TABLE A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

### JANUARY — 1970

| Station | calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | All directions |
| Sallum | 3 | 0 | 0 | 1–10 | 19 | 43 | 37 | 22 | 13 | 15 | 35 | 43 | 48 | 88 | 77 | 33 | 47 |
| | | | | 11–27 | 0 | 1 | 0 | 1 | 0 | 0 | 3 | 28 | 32 | 109 | 85 | 9 | 26 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | All speeds | **19** | **44** | **37** | **23** | **13** | **15** | **38** | **71** | **80** | **197** | **162** | **42** | **74** |
| Mersa Matruh (A) | 0 | 1 | 2 | 1–10 | 36 | 42 | 6 | 10 | 34 | 66 | 65 | 57 | 60 | 69 | 23 | 38 | 50 |
| | | | | 11–27 | 0 | 5 | 1 | 6 | 7 | 6 | 18 | 32 | 47 | 48 | 37 | 28 | 23 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | All speeds | **36** | **47** | **7** | **16** | **41** | **72** | **83** | **89** | **107** | **117** | **60** | **66** | **74** |
| Alexandria (A) | 0 | 0 | 0 | 1–10 | 23 | 16 | 34 | 87 | 71 | 30 | 74 | 47 | 38 | 54 | 55 | 40 | 56 |
| | | | | 11–27 | 0 | 0 | 5 | 4 | 0 | 0 | 2 | 32 | 36 | 28 | 33 | 35 | 17 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | All speeds | **23** | **16** | **39** | **91** | **71** | **30** | **76** | **79** | **74** | **82** | **88** | **75** | **74** |
| Port Said | 5 | 1 | 42 | 1–10 | 11 | 36 | 79 | 56 | 37 | 34 | 47 | 87 | 77 | 28 | 32 | 27 | 55 |
| | | | | 11–27 | 1 | 0 | 1 | 8 | 4 | 4 | 9 | 57 | 24 | 17 | 6 | 14 | 14 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | All speeds | **12** | **36** | **80** | **64** | **41** | **38** | **56** | **144** | **101** | **45** | **38** | **41** | **69** |
| Tanta | 98 | 64 | 0 | 1–10 | 17 | 20 | 47 | 64 | 59 | 18 | 22 | 40 | 68 | 45 | 53 | 48 | 50 |
| | | | | 11–27 | 9 | 0 | 0 | 4 | 6 | 3 | 1 | 2 | 18 | 14 | 9 | 15 | 8 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | All speeds | **26** | **20** | **47** | **68** | **65** | **21** | **23** | **42** | **86** | **59** | **62** | **63** | **58** |
| Cairo | 84 | 3 | 22 | 1–10 | 22 | 33 | 24 | 55 | 29 | 42 | 78 | 41 | 43 | 38 | 31 | 53 | 48 |
| | | | | 11–27 | 0 | 0 | 5 | 9 | 3 | 34 | 48 | 26 | 14 | 2 | 1 | 4 | 14 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | All speeds | **22** | **33** | **29** | **64** | **32** | **76** | **126** | **67** | **57** | **40** | **32** | **57** | **63** |
| Fayoum (A) | 62 | 5 | 0 | 1–10 | 87 | 51 | 31 | 29 | 29 | 61 | 36 | 79 | 108 | 47 | 40 | 67 | 66 |
| | | | | 11–27 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 3 | 4 | 0 | 0 | 1 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | All speeds | **88** | **51** | **33** | **29** | **29** | **61** | **36** | **81** | **111** | **51** | **40** | **67** | **67** |
| Minya | 157 | 2 | 12 | 1–10 | 121 | 33 | 5 | 2 | 1 | 69 | 86 | 43 | 28 | 26 | 35 | 70 | 5 |
| | | | | 11–27 | 21 | 8 | 0 | 0 | 0 | 0 | 3 | 2 | 0 | 1 | 14 | 5 | |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | All speeds | **142** | **41** | **5** | **2** | **1** | **69** | **89** | **45** | **28** | **27** | **49** | **75** | **5** |

## TABLE A 5 (*contd.*)—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

### JANUARY — 1970

| Station | calm (hours) | variable (hours) | unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of direction indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | All directions |
| Assyout . . . . (A) | 0 | 0 | 9 | 1-10 | 25 | 18 | 12 | 54 | 51 | 28 | 23 | 38 | 177 | 108 | 68 | 22 | 624 |
| | | | | 11-27 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 4 | 17 | 38 | 27 | 20 | 111 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **25** | **18** | **12** | **54** | **53** | **30** | **24** | **42** | **194** | **146** | **95** | **42** | **735** |
| Luxor . . . . . (A) | 19 | 13 | 5 | 1-10 | 81 | 42 | 34 | 49 | 39 | 67 | 97 | 46 | 42 | 64 | 60 | 53 | 674 |
| | | | | 11-27 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 8 | 13 | 3 | 33 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **81** | **44** | **34** | **49** | **39** | **67** | **97** | **47** | **48** | **72** | **73** | **56** | **707** |
| Aswan . . . . . (A) | 4 | 0 | 0 | 1-10 | 280 | 39 | 8 | 2 | 0 | 3 | 8 | 12 | 22 | 27 | 42 | 159 | 602 |
| | | | | 11-27 | 76 | 7 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 9 | 21 | 22 | 138 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **356** | **46** | **10** | **2** | **0** | **3** | **8** | **12** | **23** | **36** | **63** | **181** | **740** |
| Siwa . . . . . | 30 | 0 | 1 | 1-10 | 15 | 26 | 16 | 59 | 77 | 56 | 38 | 30 | 56 | 159 | 125 | 35 | 692 |
| | | | | 11-27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 13 | 2 | 21 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **15** | **26** | **16** | **59** | **77** | **56** | **38** | **31** | **58** | **162** | **138** | **37** | **713** |
| Dakhla . . . . . | 48 | 8 | 36 | 1-10 | 14 | 12 | 25 | 49 | 28 | 35 | 53 | 35 | 52 | 126 | 112 | 82 | 623 |
| | | | | 11-27 | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 11 | 13 | 29 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **17** | **12** | **26** | **49** | **28** | **35** | **53** | **35** | **52** | **127** | **123** | **95** | **652** |
| Kharga . . . . . | 9 | 19 | 33 | 1-10 | 126 | 87 | 18 | 18 | 19 | 16 | 12 | 22 | 44 | 28 | 78 | 123 | 591 |
| | | | | 11-27 | 53 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 12 | 20 | 92 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **179** | **93** | **18** | **18** | **19** | **16** | **12** | **22** | **44** | **29** | **90** | **143** | **683** |
| Hurghada . . . . . | 8 | 3 | 3 | 1-10 | 22 | 35 | 29 | 10 | 13 | 8 | 10 | 13 | 20 | 54 | 159 | 19 | 392 |
| | | | | 11-27 | 17 | 1 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 52 | 151 | 101 | 325 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 13 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **39** | **36** | **29** | **10** | **15** | **8** | **11** | **13** | **20** | **106** | **310** | **133** | **730** |
| Quseir . . . . . | 0 | 1 | 1 | 1-10 | 38 | 75 | 20 | 12 | 10 | 7 | 8 | 15 | 13 | 88 | 230 | 63 | 579 |
| | | | | 11-27 | 73 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 22 | 44 | 163 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **111** | **93** | **20** | **12** | **10** | **7** | **8** | **15** | **13** | **94** | **252** | **107** | **742** |

## Table B 1.—UPPER AIR CLIMATOLOGICAL DATA

### JANUARY — 1970

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 0000 UT | Surface | 26 | * 1013m.b. | * 1022m.b. | * 1008m.b. | 26 | 12.1 | 16.6 | 8.8 | 26 | 7.6 |
| | 1000 | 26 | 141 | 211 | 90 | 26 | 14.0 | 18.1 | 10.8 | 26 | 8.3 |
| | 850 | 26 | 1500 | 1582 | 1426 | 25 | 7.0 | 14.0 | — 1.3 | 25 | — 1.8 |
| | 700 | 25 | 3073 | 3146 | 2970 | 25 | — 0.7 | 5.8 | — 8.9 | 24 | —13.8 |
| | 600 | 25 | 4289 | 4387 | 4161 | 25 | — 8.0 | — 2.0 | —16.0 | 25 | —21.1 |
| | 500 | 25 | 5681 | 5814 | 5520 | 25 | —17.8 | —10.5 | — 24.2 | 25 | —29.4 |
| | 400 | 25 | 7315 | 7489 | 7109 | 25 | —29.5 | —23.1 | —35.3 | 25 | —40.5 |
| | 300 | 24 | 9300 | 9521 | 9062 | 24 | —45.3 | —39.9 | —52.1 | 23 | —54.1 |
| | 250 | 23 | 10505 | 10740 | 10222 | 23 | —52.1 | —45.2 | —57.9 | 23 | —60.9 |
| | 200 | 22 | 11934 | 12170 | 11650 | 22 | —56.6 | —50.0 | —62.7 | 9 | — 64.0 |
| | 150 | 16 | 13748 | 13976 | 13497 | 16 | —60.3 | —54.7 | —64.8 | 3 | —68.0 |
| | 100 | 8 | 16208 | 16374 | 16040 | 8 | —65.2 | —59.8 | —72.6 | — | — |
| | 70 | 4 | 18352 | 18437 | 18222 | 4 | —65.6 | —64.1 | —67.2 | — | — |
| | 60 | 4 | 19323 | 19380 | 19200 | 4 | —63.7 | —62.1 | —65.2 | — | — |
| | 50 | 3 | 20387 | 20472 | 20292 | 3 | —62.2 | —61.4 | —62.7 | — | — |
| | 40 | 3 | 21857 | 21920 | 21750 | 3 | —59.3 | —57.1 | —60.8 | — | — |
| | 30 | 3 | 23605 | 23732 | 23484 | 3 | —57.3 | —56.0 | —58·8 | — | — |
| | 20 | 3 | 26157 | 26322 | 26064 | 3 | —54.2 | —53.7 | —54.5 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Helwan 0000 UT | Surface | 30 | * 1000m.b. | * 1008m.b. | * 994m.b. | 30 | 12.6 | 17.0 | 8.8 | 30 | 4.3 |
| | 1000 | 30 | 142 | 206 | 90 | 18 | 12.3 | 16.9 | 9.3 | 18 | 4.7 |
| | 850 | 30 | 1500 | 1539 | 1428 | 29 | 7.7 | 16.9 | 0.5 | 29 | — 3.9 |
| | 700 | 30 | 3078 | 3164 | 2962 | 30 | — 0.4 | 7.1 | — 9.9 | 30 | —14.2 |
| | 600 | 30 | 4294 | 4417 | 4132 | 30 | — 8.2 | — 0.9 | —19.1 | 30 | —20.2 |
| | 500 | 30 | 5685 | 5846 | 5472 | 30 | —17.6 | —11.3 | —25.4 | 30 | —28.5 |
| | 400 | 30 | 7318 | 7514 | 7058 | 30 | —29.8 | —24.4 | —37.4 | 30 | —39.2 |
| | 300 | 30 | 9365 | 9531 | 8986 | 30 | —44.5 | —31.9 | —51.3 | 30 | —53.1 |
| | 250 | 29 | 10513 | 10733 | 10168 | 29 | — 51.2 | —40.7 | —56.6 | 29 | —59.6 |
| | 200 | 28 | 11943 | 12155 | 11628 | 28 | —56.0 | —50.2 | —64.8 | 23 | —63.3 |
| | 150 | 28 | 13757 | 13967 | 13488 | 28 | —61.5 | —55.7 | — 66.1 | 5 | —65.2 |
| | 100 | 26 | 16237 | 16465 | 16101 | 26 | —68.3 | —57.5 | —74.1 | — | — |
| | 70 | 21 | 18382 | 18607 | 18293 | 21 | —68.1 | —63.7 | —74.5 | — | — |
| | 60 | 19 | 19340 | 19590 | 19260 | 19 | —65.2 | —60.8 | —71.5 | — | — |
| | 50 | 19 | 20425 | 20691 | 20358 | 19 | —62.2 | —59.0 | —66.6 | — | — |
| | 40 | 17 | 21885 | 22100 | 21744 | 17 | —58.8 | —56.6 | —61.3 | — | — |
| | 30 | 11 | 23631 | 23722 | 23570 | 11 | —56.6 | —55.1 | —59.0 | — | — |
| | 20 | 7 | 26219 | 26280 | 26190 | 7 | —52.9 | —50.5 | —57.0 | — | — |
| | 10 | — | — | — | — | — | | — | — | — | — |
| Aswan 0000 UT | Surface | 31 | * 992m.b. | * 997m.b. | * 988m.b. | 31 | 12.9 | 16.0 | 9.1 | 31 | — 1.8 |
| | 1000 | 31 | 126 | 168 | 91 | — | — | — | — | — | — |
| | 850 | 31 | 1502 | 1527 | 1471 | 31 | 12.4 | 16.0 | 4.6 | 31 | — 3.[illegible] |
| | 700 | 31 | 3109 | 3136 | 3041 | 31 | 4.9 | 9.3 | — 4.0 | 31 | —13.[illegible] |
| | 600 | 30 | 4350 | 4394 | 4252 | 30 | — 2.0 | 2.4 | — 7.7 | 30 | —19.[illegible] |
| | 500 | 30 | 5775 | 5840 | 5647 | 30 | —11.5 | — 7.1 | —16.9 | 30 | —28.[illegible] |
| | 400 | 29 | 7447 | 7533 | 7302 | 29 | —23.6 | —18.1 | —27.8 | 29 | —36.[illegible] |
| | 300 | 27 | 9486 | 9593 | 9306 | 27 | —38.9 | —28.0 | —43.2 | 27 | —49.[illegible] |
| | 250 | 26 | 10714 | 10841 | 10513 | 26 | —46.6 | —40.3 | —51.8 | 26 | —57.[illegible] |
| | 200 | 23 | 12193 | 12315 | 12033 | 23 | —53.5 | —47.8 | —58.0 | 23 | —62.[illegible] |
| | 150 | 19 | 14013 | 14115 | 13876 | 19 | —62.6 | —56.5 | —68.5 | 4 | —67.[illegible] |
| | 100 | 16 | 16445 | 16615 | 16332 | 16 | —73.5 | —65.2 | —80.7 | — | — |
| | 70 | 9 | 18527 | 18720 | 18460 | 9 | —75.2 | —70.3 | —80.3 | — | — |
| | 60 | 3 | 19487 | 19625 | 19392 | 3 | —66.2 | —63.4 | —70.7 | — | — |
| | 50 | 3 | 20569 | 20719 | 20528 | 3 | —62.8 | —56.8 | —66.6 | — | — |
| | 40 | 2 | 22006 | 22080 | 21931 | 2 | —62.1 | —60.5 | —63.7 | — | — |
| | 30 | 2 | 23798 | 23860 | 23737 | 2 | —58.0 | —56.0 | —60.0 | — | — |
| | 20 | 1 | 26420 | — | — | 1 | —55.0 | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |

N = Number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

## Table B 1 (*contd.*)—UPPER AIR CLIMATOLOGICAL DATA

### JANUARY — 1970

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Meres Matruh 1200 UT | Surface . . . | 30 | *1012m.b. | *1022m.b. | *1006m.b. | 30 | 18.5 | 22.0 | 14.4 | 30 | 8 8 |
| | 1000 . . . | 30 | 132 | 211 | 71 | 30 | 17.4 | 21.6 | 13.5 | 30 | 8.4 |
| | 850 . . . | 80 | 1495 | 1555 | 1424 | 30 | 7.2 | 15.3 | 0.7 | 30 | — 2.8 |
| | 700 . . . | 30 | 3067 | 3129 | 2962 | 30 | — 1.3 | 3.4 | — 7.8 | 30 | —13.1 |
| | 600 . . . | 30 | 4283 | 4364 | 4151 | 30 | — 8.2 | 3.4 | —15.7 | 30 | —20.7 |
| | 500 . . . | 30 | 5673 | 5778 | 5503 | 30 | —17.7 | —11.8 | —22.0 | 30 | —29.1 |
| | 400 . . . | 30 | 7308 | 7431 | 7087 | 30 | —29.6 | —24.9 | —37.1 | 30 | —40 2 |
| | 300 . . . | 28 | 9291 | 9440 | 9018 | 28 | —45.3 | —41.1 | —51.7 | 26 | —54.4 |
| | 250 . . . | 25 | 10501 | 10652 | 10332 | 25 | —52.3 | —43 0 | —58.4 | 23 | —61.2 |
| | 200 . . . | 23 | 11927 | 12132 | 11640 | 23 | —57.0 | —50.4 | —65.1 | 11 | —62.5 |
| | 150 . . . | 15 | 13749 | 13826 | 13500 | 15 | —60.7 | —53.7 | —65.7 | 4 | —64.1 |
| | 100 . . . | 7 | 16272 | 16316 | 16206 | 7 | —65.7 | —62.6 | —68.2 | — | — |
| | 70 . . . | 5 | 18444 | 18487 | 18376 | 5 | —64.2 | —62.7 | —64.6 | — | — |
| | 60 . . . | 5 | 19438 | 19480 | 19380 | 5 | —62.2 | —59.9 | —64.5 | — | — |
| | 50 . . . | 5 | 20525 | 20591 | 20436 | 5 | —60.0 | —56.1 | —63 3 | — | — |
| | 40 . . . | 1 | 22090 | — | — | 1 | —57.3 | — | — | — | — |
| | 30 . . . | 1 | 23808 | — | — | 1 | —54.7 | — | — | — | — |
| | 20 . . . | — | — | — | — | — | — | — | — | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | — | — |
| Helwan 1200 UT | Surface . . . | 31 | *1000m.b. | *1007m.b. | *993m.b. | 31 | 19.9 | 25.3 | 14.6 | 31 | 4.6 |
| | 1000 . . . | 31 | 136 | 200 | 82 | 15 | 19.3 | 23.8 | 15.3 | 15 | 5.1 |
| | 850 . . . | 31 | 1503 | 1545 | 1440 | 31 | 8.3 | 15.8 | 0.4 | 31 | — 4.1 |
| | 700 . . . | 31 | 3082 | 3137 | 2984 | 31 | — 0.1 | 6.9 | — 7.9 | 31 | —15.7 |
| | 600 . . . | 31 | 4303 | 4368 | 4166 | 31 | — 7.2 | — 1.3 | —15.2 | 31 | —22.3 |
| | 500 . . . | 29 | 5722 | 5808 | 5696 | 29 | —16.8 | —11 3 | —24.7 | 29 | —31.7 |
| | 400 . . . | 27 | 7373 | 7470 | 7168 | 27 | —28.6 | —23.1 | —36.8 | 27 | —42.1 |
| | 300 . . . | 27 | 9340 | 9496 | 9040 | 26 | —43.2 | —38.1 | —48.4 | 26 | —55.1 |
| | 250 . . . | 27 | 10552 | 10714 | 10227 | 27 | —49.5 | —38.3 | —55.0 | 27 | —60.3 |
| | 200 . . . | 26 | 12004 | 12203 | 11678 | 26 | —55.3 | —49.7 | —62.1 | 21 | —66.6 |
| | 150 . . . | 26 | 13824 | 14045 | 13540 | 26 | —60.0 | —53.1 | —65.2 | 9 | —67.9 |
| | 100 . . . | 23 | 16311 | 16530 | 16100 | 23 | —67.7 | —61.1 | —74.3 | — | — |
| | 70 . . . | 19 | 18472 | 18625 | 18304 | 19 | —66.0 | —59.7 | —76.7 | — | — |
| | 60 . . . | 16 | 19465 | 19670 | 19270 | 16 | —63.2 | —57.5 | —68.4 | — | — |
| | 50 . . . | 16 | 20546 | 20724 | 20344 | 16 | —60.8 | —56.8 | —65.3 | — | — |
| | 40 . . . | 6 | 22025 | 22220 | 21700 | 5 | —58.3 | —55.0 | —63.0 | — | — |
| | 30 . . . | 6 | 23784 | 23988 | 23505 | 6 | —54.1 | —51.6 | —57.8 | — | — |
| | 20 . . . | 4 | 26384 | 26594 | 26120 | — | —47.8 | —45.8 | —49.2 | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | — | — |
| Aswan 1200 UT | Surface . . . | 29 | *992m.b. | *996m.b. | *987m.b. | 29 | 23.5 | 27.5 | 18.7 | 29 | 5.0 |
| | 1000 . . . | 29 | 123 | 167 | 79 | — | — | — | — | — | — |
| | 850 . . . | 29 | 1510 | 1545 | 1472 | 29 | 12.4 | 18.2 | 5.3 | 29 | — 6.2 |
| | 700 . . . | 29 | 3116 | 3165 | 3042 | 29 | 5.0 | 10.7 | 0.1 | 29 | —16.0 |
| | 600 . . . | 29 | 4359 | 4430 | 4270 | 29 | — 1.8 | 4.0 | — 5.5 | 29 | —22.1 |
| | 500 . . . | 29 | 5787 | 5883 | 5684 | 29 | —10.9 | — 5.4 | —13.9 | 29 | —29.2 |
| | 400 . . . | 28 | 7461 | 7586 | 7368 | 28 | —23.1 | —16.6 | —26.5 | 29 | —38.1 |
| | 300 . . . | 25 | 9423 | 9650 | 9372 | 25 | —37.2 | —30.9 | —42.0 | 28 | —51.5 |
| | 200 . . . | 22 | 10753 | 10901 | 10626 | 22 | —45.6 | —39.3 | —51.0 | 24 | —58.0 |
| | 250 . . . | 21 | 12222 | 12388 | 12034 | 21 | —53.0 | —48.4 | —67.0 | 20 | —64.8 |
| | 150 . . . | 21 | 14039 | 14232 | 13875 | 21 | —62.3 | —58.0 | —68.9 | 20 | —69.9 |
| | 100 . . . | 16 | 16487 | 16614 | 16316 | 16 | —71.5 | —67.6 | —78.4 | — | — |
| | 70 . . . | 6 | 18509 | 18720 | 17930 | 6 | —70.7 | —65.2 | —74.1 | — | — |
| | 60 . . . | 5 | 19565 | 19653 | 19478 | 5 | —66.1 | —61.7 | —71.4 | — | — |
| | 50 . . . | 5 | 20684 | 20783 | 20577 | 5 | —61.4 | —57.7 | —64.7 | — | — |
| | 40 . . . | 3 | 22098 | 22225 | 21961 | 3 | —55.8 | —50.0 | —59.4 | — | — |
| | 30 . . . | 3 | 23960 | 24127 | 23805 | 3 | —58.2 | —44.2 | —52.0 | — | — |
| | 20 . . . | 1 | 26448 | — | — | 1 | —48.4 | — | — | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | — | — |

N = Number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

## Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE; THE HIGHEST WIND SPEED IN THE UPPER AIR

### JANUARY — 1970

| | Station | Freezing Level | | | | | | | | | First Tropopause | | | | | | | | | Highest wind speed | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | | | Highest | | | Lowest | | | Mean | | | Highest | | | Lowest | | | | | | |
| | | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Direction (000–360)° | Speed in Knots |
| 0000 UT | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | Mersa Matruh(A) | 2957 (24) | 714 (24) | —10.5 (24) | 4040 | 625 | —21.4 | 1630 | 826 | — 1.8 | 10801 (18) | 240 (18) | —55.7 (18) | 12050 | 193 | —62.3 | 9020 | 310 | —46.3 | 12870 | 174 | 270 | 175 |
| | Helwan . . . . | 2901 (30) | 715 (30) | — 1.3 (29) | 4260 | 612 | —23.6 | 1600 | 844 | — 4.0 | 11979 (23) | 205 (23) | —60.9 (23) | 16267 | 100 | —72.7 | 8850 | 307 | —50.8 | 11100 | 231 | 270 | 180 |
| | Aswan . . A) | 4005 (30) | 632 (30) | —17.3 (30) | 4760 | 573 | —23.5 | 2450 | 755 | — 6.6 | 16066 (9) | 108 (9) | —71.2 (9) | 17600 | 82 | —75.4 | 14300 | 143 | —60.0 | 13700 | 171 | 254 | 160 |
| 1200 UT | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | Mersa Matruh(A) | 2788 (39) | 728 (30) | —10.8 (30) | 3790 | 644 | —12.5 | 1520 | 840 | — 3.3 | 10861 (19) | 238 (19) | —56.8 (19) | 12150 | 194 | —60.3 | 8680 | 323 | —43.5 | 9880 | 271 | 265 | 160 |
| | Helwan . . . . | 2976 (31) | 713 (31) | —13.2 (31) | 4120 | 618 | —18.7 | 1600 | 845 | — 2.2 | 11477 (22) | 222 (22) | —57.4 (22) | 14930 | 126 | —67.7 | 8350 | 335 | —45.9 | 13900 | 148 | 260 | 182 |
| | Aswan . . .(A) | 4050 (29) | 625 (29) | —20.1 (29) | 5000 | 558 | —23.5 | 3340 | 677 | —20.2 | 16026 (9) | 110 (9) | —70.9 (9) | 17400 | 85 | —72.5 | 14750 | 134 | —71.5 | 11250 | 227 | 260 | 145 |

N = The number of cases the element has been observed during the month.

## Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

### MERSA MATRUH (A)— JANUARY 1970

| Time | Pressure Surface Millibar | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of calm winds | Total number of observations (TN) | Mean scalar wind speed (knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345 / 014 | | 015 / 044 | | 045 / 074 | | 075 / 104 | | 105 / 134 | | 135 / 164 | | 165 / 194 | | 195 / 224 | | 225 / 254 | | 255 / 284 | | 285 / 314 | | 315 / 344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 2 | 10 | 0 | — | 0 | — | 0 | — | 1 | 3 | 3 | 9 | 5 | 4 | 6 | 7 | 3 | 9 | 3 | 9 | 0 | — | 2 | 8 | 1 | 26 | 7 |
| | 1000 | 1 | 13 | 1 | 21 | 0 | — | 0 | — | 1 | 6 | 5 | 16 | 1 | 17 | 2 | 7 | 1 | 21 | 4 | 14 | 2 | 13 | 2 | 18 | 1 | 21 | 14 |
| | 850 | 1 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 15 | 0 | — | 2 | 14 | 3 | 12 | 4 | 20 | 8 | 16 | 2 | 24 | 0 | 21 | 16 |
| | 700 | 0 | — | 1 | 23 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 21 | 0 | — | 4 | 29 | 4 | 20 | 6 | 23 | 3 | 25 | 1 | 20 | 23 |
| | 600 | 0 | — | 1 | 23 | 0 | — | 1 | 17 | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 31 | 4 | 25 | 8 | 28 | 1 | 26 | 0 | 20 | 27 |
| | 500 | 0 | — | 1 | 25 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 38 | 6 | 36 | 8 | 40 | 1 | 32 | 0 | 20 | 37 |
| | 400 | 0 | — | 0 | — | 1 | 42 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 53 | 5 | 56 | 9 | 52 | 0 | — | 0 | 19 | 53 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 32 | 3 | 48 | 6 | 93 | 6 | 76 | 3 | 53 | 0 | 19 | 71 |
| | 250 | 0 | — | 1 | 45 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 21 | 1 | 49 | 6 | 99 | 6 | 73 | 0 | — | 0 | 15 | 76 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 6 | 97 | 4 | 88 | 1 | 44 | 0 | 11 | 89 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 62 | 2 | 80 | 2 | 40 | 0 | — | 0 | 6 | 61 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 52 | 0 | — | 0 | — | 0 | 1 | 52 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 31 | 0 | — | 0 | 1 | 31 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 28 | 0 | — | 0 | — | 0 | 1 | 28 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 33 | 0 | — | 0 | 1 | 33 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 30 | 0 | — | 0 | 1 | 30 |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 1 | 20 | 0 | — | 1 | 8 | 1 | 18 | 0 | — | 2 | 9 | 3 | 17 | 2 | 8 | 1 | 5 | 4 | 18 | 4 | 15 | 10 | 10 | 1 | 30 | 12 |
| | 1000 | 3 | 18 | 1 | 10 | 0 | — | 1 | 19 | 2 | 8 | 1 | 4 | 3 | 24 | 1 | 6 | 4 | 9 | 2 | 20 | 8 | 18 | 2 | 20 | 0 | 28 | 16 |
| | 850 | 1 | 19 | 1 | 16 | 0 | — | 0 | — | 1 | 10 | 1 | 7 | 2 | 11 | 3 | 20 | 3 | 14 | 7 | 20 | 8 | 16 | 2 | 10 | 0 | 29 | 16 |
| | 700 | 1 | 27 | 1 | 15 | 0 | — | 1 | 8 | 0 | — | 1 | 7 | 1 | 25 | 2 | 19 | 6 | 22 | 8 | 24 | 7 | 27 | 1 | 30 | 0 | 29 | 23 |
| | 600 | 1 | 19 | 1 | 24 | 1 | 12 | 0 | — | 0 | — | 0 | — | 1 | 26 | 0 | — | 7 | 30 | 11 | 30 | 4 | 42 | 3 | 37 | 0 | 29 | 31 |
| | 500 | 0 | — | 1 | 37 | 1 | 14 | 0 | — | 0 | — | 0 | — | 1 | 47 | 1 | 21 | 5 | 43 | 12 | 41 | 5 | 44 | 3 | 40 | 0 | 29 | 40 |
| | 400 | 0 | — | 1 | 47 | 0 | — | 1 | 13 | 0 | — | 0 | — | 1 | 55 | 0 | — | 4 | 60 | 14 | 54 | 6 | 62 | 2 | 50 | 0 | 29 | 54 |
| | 300 | 1 | 65 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 7 | 0 | — | 1 | 64 | 3 | 84 | 15 | 69 | 4 | 98 | 1 | 46 | 0 | 26 | 67 |
| | 250 | 1 | 7 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 55 | 1 | 135 | 13 | 77 | 4 | 71 | 1 | 52 | 0 | 21 | 73 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 68 | 10 | 78 | 3 | 74 | 1 | 46 | 0 | 16 | 74 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 74 | 2 | 78 | 3 | 39 | 0 | — | 0 | 8 | 62 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 26 | 0 | — | 0 | — | 0 | 1 | 26 |
| | 70 | 0 | — | 1 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 20 | 0 | — | 0 | — | 0 | 1 | 20 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 4 | 0 | — | 0 | 1 | 4 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 7 | 0 | — | 0 | — | 0 | 1 | 7 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**N** = The number of cases the wind has been observed from the range of direction during the month.

**TN** = The total number of cases the wind has been observed for all directions during the month.

**Table. B 3 *(contd.)*—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIE RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**HELWAN— JANUARY 1970**

| Time | Pressure Surface Millibar | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of calm winds | Total number of observations (TN) | Mean scalar wind speed (knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345 / 014 | | 015 / 044 | | 045 / 074 | | 075 / 104 | | 105 / 134 | | 135 / 164 | | 165 / 194 | | 195 / 224 | | 225 / 254 | | 255 / 284 | | 285 / 314 | | 315 / 344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 2 | 5 | 5 | 8 | 3 | 8 | 3 | 7 | 10 | 5 | 0 | — | 0 | — | 0 | — | 1 | 3 | 1 | 2 | 1 | 5 | 2 | 7 | 2 | 30 | 6 |
| | 1000 | 2 | 5 | 4 | 4 | 3 | 11 | 1 | 8 | 3 | 6 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 3 | 4 | 8 | 0 | 18 | 7 |
| | 850 | 2 | 20 | 2 | 17 | 0 | — | 1 | 7 | 0 | — | 0 | — | 2 | 31 | 5 | 14 | 9 | 19 | 3 | 13 | 4 | 17 | 2 | 12 | 0 | 30 | 17 |
| | 700 | 1 | 33 | 0 | — | 1 | 6 | 0 | — | 0 | — | 1 | 14 | 1 | 22 | 5 | 24 | 5 | 24 | 9 | 32 | 4 | 26 | 3 | 19 | 0 | 30 | 26 |
| | 600 | 1 | 36 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 24 | 1 | 24 | 1 | 42 | 10 | 35 | 7 | 39 | 7 | 26 | 2 | 26 | 0 | 30 | 33 |
| | 500 | 1 | 59 | 0 | — | 0 | — | 0 | — | 1 | 14 | 0 | — | 1 | 50 | 2 | 48 | 10 | 40 | 8 | 60 | 5 | 43 | 0 | — | 0 | 28 | 47 |
| | 400 | 1 | 84 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 14 | 1 | 73 | 1 | 98 | 8 | 56 | 6 | 58 | 5 | 47 | 0 | — | 0 | 23 | 57 |
| | 300 | 1 | 77 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 96 | 1 | 78 | 5 | 53 | 6 | 57 | 3 | 57 | 0 | — | 0 | 17 | 62 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 68 | 7 | 81 | 1 | 76 | 0 | — | 0 | 12 | 76 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 107 | 4 | 81 | 2 | 44 | 0 | — | 0 | 9 | 81 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 104 | 5 | 99 | 0 | — | 0 | — | 0 | 6 | 100 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 82 | 3 | 67 | 0 | — | 0 | — | 0 | 4 | 70 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 12 | 0 | — | 1 | 27 | 0 | — | 0 | — | 0 | — | 0 | 2 | 20 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 10 | 0 | — | 0 | — | 1 | 67 | 0 | — | 0 | — | 0 | — | 0 | 2 | 38 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 13 | 0 | — | 0 | — | 1 | 28 | 0 | — | 0 | — | 0 | 2 | 20 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 51 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 51 |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 2 | 6 | 2 | 6 | 1 | 4 | 0 | — | 1 | 4 | 1 | 4 | 2 | 5 | 7 | 6 | 3 | 3 | 5 | 12 | 2 | 12 | 3 | 8 | 2 | 31 | 7 |
| | 1000 | 3 | 9 | 1 | 6 | 1 | 4 | 1 | 7 | 0 | — | 0 | — | 0 | — | 2 | 12 | 2 | 4 | 1 | 5 | 2 | 16 | 1 | 9 | 1 | 15 | 8 |
| | 850 | 3 | 15 | 1 | 1 | 1 | 10 | 0 | — | 1 | 11 | 1 | 5 | 2 | 18 | 3 | 20 | 7 | 20 | 7 | 14 | 2 | 12 | 3 | 17 | 0 | 31 | 16 |
| | 700 | 1 | 16 | 2 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 16 | 5 | 18 | 5 | 35 | 7 | 30 | 5 | 28 | 3 | 27 | 0 | 31 | 25 |
| | 600 | 0 | — | 1 | 21 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 17 | 3 | 24 | 8 | 33 | 6 | 45 | 7 | 38 | 2 | 40 | 0 | 28 | 35 |
| | 500 | 0 | — | 1 | 26 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 48 | 2 | 33 | 3 | 50 | 7 | 62 | 5 | 59 | 3 | 18 | 0 | 22 | 49 |
| | 400 | 0 | — | 1 | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 20 | 1 | 40 | 6 | 60 | 7 | 60 | 2 | 73 | 3 | 28 | 0 | 21 | 53 |
| | 300 | 1 | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 47 | 2 | 77 | 7 | 58 | 4 | 47 | 0 | — | 0 | 16 | 55 |
| | 250 | 1 | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 54 | 3 | 81 | 6 | 95 | 4 | 60 | 0 | — | 0 | 16 | 75 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 68 | 2 | 87 | 6 | 101 | 3 | 56 | 0 | — | 0 | 12 | 84 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 98 | 3 | 104 | 2 | 74 | 0 | — | 0 | 7 | 94 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 112 | 2 | 74 | 1 | 22 | 0 | — | 0 | 4 | 70 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 15 | 0 | — | 0 | — | 0 | 1 | 15 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 16 | 0 | — | 0 | — | 0 | 1 | 16 |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the wind has been observed from the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

**Table B 3 (*contd.*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.**

**ASWAN (A) — JANUARY 1970**

| Time | Pressure Surface Millibar | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of calm winds | Total number of observations (TN) | Mean scalar wind speed (knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345 / 014 | | 015 / 044 | | 045 / 074 | | 075 / 104 | | 105 / 134 | | 135 / 164 | | 165 / 194 | | 195 / 224 | | 225 / 254 | | 255 / 284 | | 285 / 314 | | 315 / 344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 11 | 8 | 5 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 4 | 0 | — | 1 | 7 | 0 | — | 1 | 10 | 11 | 10 | 0 | 31 | 8 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 2 | 6 | 3 | 10 | 1 | 5 | 3 | 4 | 1 | 3 | 1 | 9 | 2 | 8 | 1 | 8 | 2 | 10 | 5 | 9 | 5 | 13 | 4 | 10 | 0 | 30 | 9 |
| | 700 | 1 | 16 | 0 | — | 1 | 8 | 0 | — | 0 | — | 0 | — | 2 | 15 | 0 | — | 5 | 18 | 15 | 19 | 4 | 14 | 2 | 24 | 0 | 30 | 18 |
| | 600 | 1 | 5 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 27 | 6 | 33 | 10 | 32 | 7 | 26 | 3 | 16 | 0 | 29 | 28 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 27 | 5 | 52 | 16 | 46 | 6 | 32 | 1 | 23 | 0 | 29 | 41 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 7 | 55 | 13 | 58 | 8 | 46 | 1 | 31 | 0 | 29 | 53 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 87 | 16 | 62 | 6 | 67 | 0 | — | 0 | 26 | 67 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 94 | 16 | 78 | 5 | 71 | 0 | — | 0 | 25 | 79 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 8 | 111 | 12 | 88 | 3 | 85 | 0 | — | 0 | 23 | 96 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 50 | 0 | — | 0 | — | 2 | 77 | 14 | 85 | 2 | 96 | 0 | — | 0 | 19 | 84 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 31 | 2 | 63 | 8 | 54 | 2 | 40 | 0 | — | 0 | 13 | 51 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 30 | 0 | — | 0 | — | 0 | — | 1 | 19 | 1 | 28 | 0 | — | 0 | — | 0 | 3 | 26 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 11 | 0 | — | 0 | — | 0 | — | 0 | 1 | 11 |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 14 | 14 | 3 | 8 | 1 | 7 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 6 | 1 | 6 | 1 | 6 | 2 | 6 | 5 | 9 | 1 | 29 | 9 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 4 | 10 | 1 | 20 | 2 | 12 | 3 | 5 | 0 | — | 0 | — | 0 | — | 2 | 4 | 1 | 9 | 2 | 11 | 10 | 11 | 4 | 9 | 0 | 29 | 10 |
| | 700 | 4 | 14 | — | — | 0 | — | 0 | — | 0 | — | 1 | 16 | 0 | — | 2 | 18 | 5 | 10 | 10 | 24 | 5 | 16 | 2 | 18 | 0 | 29 | 17 |
| | 600 | 2 | 23 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 7 | 36 | 11 | 30 | 6 | 24 | 3 | 22 | 0 | 29 | 29 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 50 | 18 | 41 | 5 | 38 | 2 | 32 | 0 | 28 | 41 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 53 | 16 | 57 | 7 | 48 | 0 | — | 0 | 28 | 54 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 65 | 16 | 72 | 4 | 55 | 0 | — | 0 | 23 | 68 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 108 | 14 | 89 | 5 | 66 | 0 | — | 0 | 22 | 87 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 101 | 11 | 87 | 3 | 83 | 0 | — | 0 | 19 | 90 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 97 | 15 | 89 | 1 | 70 | 0 | — | 0 | 18 | 89 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 63 | 9 | 55 | 1 | 45 | 0 | — | 0 | 12 | 65 |
| | 70 | 1 | 19 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 30 | 2 | 36 | 0 | — | 0 | — | 0 | 5 | 30 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 32 | 1 | 12 | 0 | — | 1 | 11 | 0 | 4 | 22 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 28 | 1 | 7 | 0 | — | 0 | 4 | 23 |
| | 40 | 0 | — | 0 | — | 0 | — | 1 | 17 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 39 | 0 | — | 0 | — | 0 | 3 | 32 |
| | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 42 | 0 | — | 0 | — | 0 | 1 | 42 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N. = The number of cases the wind has been observed from the range of direction during the month.

T.N. = The total number of cases the wind has been observed for all directions during the month.

## REVIEW OF AGRO-METEOROLOGICAL STATIONS

### MERSA MATRUH—JANUARY 1970

This month as a whole was warmer than normal and remarkably less rainy. Total monthly rainfall was 8.7 mm. against 27.1 mm. for normal.

The month was characterized with four warm spells during the periods : (2nd-4th), (6th-8th), (12th-14th) and (16th-17th). The second warm spell yielded the highest maximum air temperature for the month (24.6°C) on the 7th. Two cold spells were experienced during the periods (18th-23rd) and (25th-28th). The first cold spell yielded the lowest maximum air temperature for the month (15.6°C) on the 21st.

The mean daily actual duration of bright sunshine was 1.4 hour more than the corresponding value of El Kasr in January 1969.

### TAHRIR—JANUARY 1970

Compared with last January, this month as a whole was remarkably warmer and less rainy. The total monthly rainfall was only 2.7 mm. against 13.7 mm. for last January.

The month was characterized with four warm spells during the periods : (2nd-10th), (12th-18th), (23rd-24th) and (30th-31st). The first warm spell was prolonged and yielded the highest maximum air temperature for the month (27.4°C) on the 5th and the lowest relative humidity (25 %) on the 3rd. Two cold spells were experienced during the periods (20th-22nd) and (25th-28th). The first cold spell yielded the lowest maximum air temperature for the month (17.5°C) on the 21st.

The extreme maximum soil temperatures were higher than the corresponding values of last January at all depths between 2,100 cm.; the difference was highest (3.4°C) at 2 cm. and lowest (0.5°C) at 100 cm. The extreme minimum soil temperatures were also higher than the corresponding values of last January at all depths, and the difference was highest (2.5°C) at 50 cm. and lowest (1.0°C) at both 5,10 cm.

The mean daily values of pan evaporation and actual duration of bright sunshine were more than the corresponding values of January 1969 by 0.09 mm. and 1.9 hour respectively.

## BAHTIM—JANUARY 1970

This month as a whole was warmer than last January and remarkably less rainy. The monthly total rainfall was 1.4 mm. against 13.5 mm. for last January.

Three warm spells were experienced during the periods (2nd-8th), (13th-14th) and on the 30th. The first warm spell was the most pronounced and yielded the highest maximum air temperature for the month (25.8°C) on the 5th. Two cold spells occurred during the periods (19th-22nd) and (25th-28th). The first cold spell yielded the lowest maximum air temperature for the month (15.7°C) on the 20th.

The extreme maximum soil temperatures were higher than the corresponding values of last January at all depths, apart from the 100 cm. depth where the values were the same; the difference was highest (5.4°C) at 2 cm and lowest (0.2°C) at 50 cm. The extreme minimum soil temperatures were higher than the corresponding values of last January at all depths; and the difference was highest (2.5°C) at 2 cm and lowest (0.9°C) at 100 cm.

The mean daily values of pan evaporation and actual duration of bright sunshine were more than the corresponding values of last January by 0.47 mm and 1.8 hour respectively.

## K HARGA—JANUARY 1970

This month as a whole was warmer than normal and rainless.

Two prolonged warm spells were experienced during the periods (2nd-9th) and (12th—18th). The first warm spell yielded the highest maximum air temperature for the month (27.4°C) on the 6th and the lowest relative humidity (14 %) on the 3rd. Two cold spells occurred during the periods (19th-23rd) and (26th-28th). The first cold spell yielded the lowest maximum air temperature for the month (19.2°C) on the 21st.

The extreme maximum soil temperatures were higher than the corresponding values of last January at all depths between 2,100 cm. and the difference was highest (3.3°C) at 2 cm. and lowest (0.7°C) at 100 cm. Theextreme minimum soil temperatures were also higher than the corresponding values of last January at all depths, the difference was highest (2.0°C) at both 20,50 cm. and lowest (1.3°C) at 20 cm.

The mean daily pan evaporation was 0.41 mm. more than the corresponding value of January 1969. The mean daily actual duration of bright sunshine was the same as January 1969.

## Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

### JANUARY — 1970

| STATION | Air Temperature (°C) | | | | | Mean Duration in hours of daily air temperature above the following values | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean Max. | Mean Min. | Mean of the day | Night time mean | Day time mean | -5°C | 0°C | 5°C | 10°C | 15°C | 20°C | 25°C | 30°C | 35°C | 40°C | 45° |
| Mersa Matruh . . | 19.5 | 9.4 | 14.0 | 12.0 | 15.9 | 24.0 | 24.0 | 24.0 | 21.0 | 9.5 | 1.4 | 0.0 | 0.0 | 0.0 | 0.0 | 0. |
| Tahrir . . . . . | 21.8 | 7.5 | 13.8 | 11.0 | 16.6 | 24.0 | 24.0 | 23.5 | 18.3 | 9.8 | 2.7 | 0.03 | 0.0 | 0.0 | 0.0 | 0. |
| Bahtim . . . . . | 21.0 | 6.7 | 13.2 | 10.2 | 16.3 | 24.0 | 24.0 | 23.2 | 17.2 | 8.2 | 2.1 | 0.06 | 0.0 | 0.0 | 0.0 | 0. |
| Kharga . . . . | 23.8 | 6.8 | 15.4 | 12.0 | 18.7 | 24.0 | 24.0 | 23.4 | 19.5 | 11.8 | 5.5 | 1.1 | 0.0 | 0.0 | 0.0 | 0. |

## Table C 2.—ABSOLUTE VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS

### JANUARY — 1970

| STATION | Max. Temp. at 1½ metres | | | | Min. Temp. at 1½ metres | | | | Min. Temp at 5 cms. above | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | | Lowest | | Highest | | Lowest | | Dry Soil | | Grass | |
| | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date |
| Mersa Matruh . . | 24.6 | 7 | 15.6 | 21 | 15.4 | 10 | 5.8 | 30 | 1.8 | 30 | — | — |
| Tahrir . . . . . | 27.4 | 5 | 17.5 | 21 | 13.6 | 10 | 2.2 | 29 | — 0.4 | 29 | — | — |
| Bahtim . . . . . | 25.8 | 5 | 15.7 | 20 | 12.1 | 11 | 1.9 | 29,30 | — 2.0 | 29 | — | — |
| Kharga . . . . | 27.4 | 6 | 19.2 | 21 | 13.3 | 19 | 2.0 | 23 | 1.0 | 23 | — | — |

## Table C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY & VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVPORATION & RAINFALL

### JANUARY — 1970

| STATION | Solar+Sky Radiation gm. cal/cm² | Duration of Bright Sunshine (hours) | | | Relative Humidity % | | | | Vapour Pressure (mms) | | | | | | Evaporation(mms) | | Rainfall (mms) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Actual | Total Possible monthly | % | Mean of day | 1200 U.T. | Lowest | Date | Mean of day | 1200 UT | Highest | Date | Lowest | Date | Piche | Pan class (A) | Total Amount monthly | Max. fall in one day | Date |
| Mersa Matruh . . | 252.8 | 235.5 | 320.6 | 73 | 70 | 54 | 15 | 4 | 8.3 | 8.5 | 13.9 | 9 | 3.1 | 4 | 5.6 | 9.55 | 8.7 | 4.0 | 20 |
| Tahrir . . . . . | 246.3 | 239.6 | 322.9 | 74 | 71 | 47 | 25 | 3 | 8.2 | 8.3 | 13.0 | 10 | 3.7 | 24,25 | 4.5 | 3.62 | 2.7 | 1.4 | 25 |
| Bahtim . . . . . | 251.9 | 229.1 | 324.1 | 71 | 67 | 46 | 26 | 30 | 7.5 | 8.0 | 12.8 | 10 | 4.3 | 29·30 | 4.3 | 3.63 | 1.4 | 1.3 | 21 |
| Kharga . . . . . | 327.2 | 297.8 | 334.1 | 89 | 43 | 29 | 14 | 3 | 5.5 | 5.9 | 11.4 | 16 | 2.9 | 3·4 | 8.5 | 5.99 | 0 | 0 | — |

## Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

### JANUARY — 1970

| STATION | Highest (H) Lowest (L) | Extreme soil temperature (°C) in dry field at different depths (cms.) | | | | | | | | Extreme soil temperature (°C) in grass field at different depths (cms.) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 |
| Mersa Matruh | H | 25.5 | 22.0 | 18.9 | 17.1 | 16.7 | 18.0 | 21.0 | — | — | — | — | — | — | — | — | — |
| | L | 6.9 | 7.6 | 10.2 | 12.2 | 14.7 | 17.0 | 19.7 | — | — | — | — | — | — | — | — | — |
| Tahrir . . . | H | 29.9 | 26.6 | 22.6 | 19.4 | 18.3 | 19.2 | 21.7 | 23.5 | — | — | — | — | — | — | — | — |
| | L | 4.5 | 6.0 | 8.6 | 12.7 | 15.6 | 17.8 | 20.4 | 22.1 | — | — | — | — | — | — | — | — |
| Bahtin . . . | H | 31.3 | 24.2 | 21.2 | 19.5 | 20.1 | 21.7 | 24.6 | 25.5 | — | — | — | — | — | — | — | — |
| | L | 6.8 | 8.8 | 12.4 | 15.6 | 18.6 | 20.5 | 23.1 | 24.7 | — | — | — | — | — | — | — | — |
| Kharga . . . | H | 32.1 | 26.5 | 23.4 | 21.6 | 22.6 | 24.3 | 27.8 | 29.2 | — | — | — | — | — | — | — | — |
| | L | 5.4 | 8.3 | 12.7 | 17.2 | 20.7 | 23.3 | 26.3 | 28.1 | — | — | — | — | — | — | — | — |

## Table C 5.—SURFACE WIND

### JANUARY — 1970

| STATION | Wind Speed m/sec at 1½ metres | | | Days with surface wind speed at 10 metres | | | | | | | Max. Gust (knots) at 10 metres | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean of the day | Night time mean | Day time mean | ≥10 knots | ≥15 knots | ≥20 knots | ≥25 knots | ≥30 knots | ≥35 knots | ≥40 knots | Value knots | Date |
| Mersa Matruh | 3.9 | 3.3 | 4.6 | 31 | 22 | 15 | 4 | 2 | 0 | 0 | 40 | 21 |
| Tahrir . . . . | 2.0 | 1.4 | 2.6 | 25 | 13 | 6 | 3 | 0 | 0 | 0 | 33 | 14 |
| Bahtin . . . . | 1.8 | 1.2 | 2.5 | 27 | 13 | 6 | 3 | 0 | 0 | 0 | 35 | 14 |
| Kharga . . . | 2.3 | 1.8 | 2.8 | 21 | 12 | 6 | 0 | 0 | 0 | 0 | 28 | 26 |

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UNITED ARAB REPUBLIC

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 2

## FEBRUARY, 1970

U.D.C. 551, 506.1 (62)

METEOROLOGICAL DEPARTMENT
CAIRO

# PUBLICATIONS OF THE METEOROLOGICAL DEPARTMENT OF THE UNITED ARAB REPUBLIC—CAIRO

In fulfilment of its duties, the U.A.R. Meteorological Department issues several reports and publications on weather, climate and agrometeorology. The principal publications are described on this page.

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## THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for U.A.R.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

## THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of the U.A.R. as well as monthly values of certain elements.

## THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

## CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in march 1968 which brings normals and mean values up till 1960.

## METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of Meteorological Department.

## TECHNICAL NOTES

As from October 1970, the Meteorological Department started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

The first Technical Note I was issued in October 1970 on : Sandstorms & Duststorms in the U.A.R.

UNITED ARAB REPUBLIC

# MONTHLY WEATHER REPORT

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METEOROLOGICAL DEPARTMENT
CAIRO

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*Note* : For explanatory notes on tables please refer to volume 13 number 1 (January 1970).

# GENERAL SUMMARY OF WEATHER CONDITIONS

## FEBRUARY 1970

**Generally cold and light rainy between the 17th. and 25th, abnormally dry and warm otherwise.**

### GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month ;as generally warm day-time and cool night-ime particularly round the end of the second nd fourth weeks .The month was intervened ;ith two prevailing cold waves in the eriod (18th—25th) during which weather was ssociated with light rainfall over the Iediterranean sea district.

Light rising sand blew during several days ver scattered localities in the Mediterranean nd Red sea districts. Early morning mist eveloped during several days over scattered arts in Lower Egypt, Cairo area & north of Jpper Egypt districts.

### PRESSURE DISTRIBUTION

The most outstanding features of pressure istribution over the synoptic surface charts uring this month were.

— The Siberian anticyclone.

— The Atlantic anticyclone and its exten-on over North Africa.

— Deep low pressure systems through Iorth Europe.

— Secondary depressions through the Iediterranean. Sea & its vicinities.

— The Sudan monsoon trough of low pres-ıre.

During this month six secondary depressions passed through the Mediterranean Sea and a desert secondary depression passed south of the Mediterranean Sea coast.

The first secondary depression appeared over Central Mediterranean Sea on the 1st, then moved northeastwards while filling and its southern trough traversed East Mediterranean Sea on the 2nd.

The desert secondary depression developed south of Tunisia on the 10th, moved eastwards and passed through North U.A.R. on the 12th. The other five secondary depressions originated over Central Mediterranean Sea and its vicinities on the 14th, 18th, 21st, 23th & 26th. Their southern troughs passed through East Mediterranean Sea on the 17th, 21st, 22nd, 25th & 28th respectively.

High pressure established over the Mediterranean Sea and NE Africa during the first three weeks, though it was interrupted by transits of the first four secondary depressions. Accordingly, the barometric pressure over U.A.R. was above normal most of that period.

During the last week of the month, the last three secondary depressions passed through East Mediterranean Sea and the barometric pressure over U.A.R. was generally below normal.

The most outstanding features of pressure distribution over the synoptic upper air charts were :

— Deep Upper low pressure systems over North Atlantic and North Urasia.

— Secondary Upper lows or troughs through middle latitudes passing through East Mediterranean Sea & North U.A.R. on the 2nd, 5, 12, 18, 21, & 25th.

— Upper high pressure belt over the subtropical latitudes.

## SURFACE WIND

The prevailing winds during this month were generally light to moderate., W/NW in the northern parts during the first three weeks ; W/SW during the last week. Prevailing surface winds were Nly elsewhere. Fresh/strong winds below for several days in scattered localities particularly in the Mediterranean Sea and Red Sea districts.

Gales were reported at Hurghada on the 5th & 18th and at Dabaa on the 22nd.

## TEMPERATURE

Maximum air temperature was above normal in general excluding the period (18th-25th) when two cold waves were experienced The departure from normal was moderate in general, though it was remarkable near the end of the second and fourth weeks. Maximum air temperature values ranged generally between 20° & 25°C in the northern and middle parts, and between 25° & 30°C in the southern parts.

The absolute maximum air temperature for the month was 33°C reported at Mallawi on the 28th.

Minimum air temperature fluctuations were irregular. It oscillated round normal in the northern parts and mostly above normal otherwise. The departure from normal was moderate in general. Minimum air temperature values ranged generally between 6°C and 14°C in the northern parts, between 3C & 11°C in the middle and southern parts.

The absolute minimum air temperature for the month was 0.4°C reported at Mallawi on the 1st.

## PRECIPITATION

This month was deficiently rainy. Light rain was confined to the Mediterranean Sea district between the 20th & 23rd.

The highest daily rainfall was 12 mm. reported at Rosetta on the 20th.

The highest monthly rainfall was 18.2mm reported at Rosetta.

*Cairo, April 1971*

M. F. TAHA
**Under Secretary of State**
**Director General**
**Meteorological Department**

## Table A 1.– MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

### FEBRUARY — 1970

| STATION | Atmospheric Pressure (mbs) M.S.L | | Air Temperature °C | | | | | | | | | Relative Humidity % | | Bright Sunshine Duration (Hours) | | | Piche Evaporation mms. Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Maximum | | Minimum | | | Dry Bulb | | Wet Bulb | | | | | | | |
| | Mean | D.F. Normal or Average | (A) Mean | D.F. Normal or Average | (B) Mean | D.F. Normal or Average | $\frac{A+B}{2}$ | Mean | D.F Normal or Average | Mean | D.F Normal or Average | Mean | D.F Normal or Average | Total Actual | Total Possible | % | |
| Sallum | 1017.0 | —0.3 | 21.4 | +1.7 | 10.8 | +1.4 | 16.1 | 15.6 | +1.0 | 10.6 | —0.1 | 49 | 5 | — | — | — | 7.6 |
| Mersa Matruh (A) | 1017.7 | +0.6 | 20.6 | +1.8 | 8.7 | —0.3 | 14.6 | 14.1 | +0.7 | 10.3 | —0.5 | 60 | — 3 | 240.4 | 309.9 | 78 | 7.5 |
| Alexandria (A) | 1018.1 | +0.9 | 20.8 | +1.6 | 8.9 | —0.6 | 14.8 | 14.7 | +0.5 | 11.4 | +0.2 | 64 | — 4 | 237.1 | 310.5 | 76 | 4.4 |
| Port Said (A) | 1017.5 | +0.6 | 20.5 | +1.9 | 11.4 | —0.6 | 16.0 | 15.3 | +0.5 | 11.7 | —0.3 | 62 | — 7 | 223.0 | 310.5 | 72 | 5.2 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 1017.1 | —0.2 | 21.9 | +1.0 | 6.1 | —0.5 | 14.0 | 13.4 | +0.6 | 10.2 | +0.3 | 64 | — 2 | 244.2 | 310.9 | 76 | 3.8 |
| Cairo (A) | 1017.8 | +0.4 | 22.0 | +1.4 | 10.0 | +0.6 | 16.0 | 15.8 | +1.0 | 11.2 | +0.7 | 54 | — 1 | — | — | — | 11.4 |
| Fayoum | — | — | 24.1 | +2.1 | 7.4 | 0.0 | 15.8 | 15.4 | +1.1 | 10.7 | +0.9 | 52 | 0 | — | — | — | 4.3 |
| Minya (A) | 1017.9 | +0.2 | 23.2 | +0.[illegible] | 5.8 | +0.6 | 14.5 | 14.3 | +1.0 | 9.6 | +0.7 | 50 | — 3 | 256.6 | 312.1 | 80 | 6.4 |
| Assyout (A) | 1017.1 | —0.1 | 23.6 | +1.0 | 8.3 | +0.8 | 16.0 | 15.6 | +0.5 | 9.7 | +0.5 | 41 | 0 | — | — | — | 9.2 |
| Luxor (A) | 1016.2 | +0.1 | 27.1 | +1.9 | 7.6 | +0.9 | 17.4 | 16.6 | +0.7 | 10.7 | +0.7 | 43 | + 1 | — | — | — | 6.2 |
| Aswan (A) | 1015.8 | +0.2 | 27.3 | +1.5 | 10.6 | +1.4 | 19.0 | 18.5 | +1.0 | 10.1 | +1.1 | 26 | + 2 | — | — | — | 14.8 |
| Siwa | 1017.6 | —0.1 | 23.5 | +1.8 | 7.0 | +1.3 | 15.2 | 14.9 | +1.0 | 10.8 | +2.2 | 57 | +13 | 274.7 | 312.5 | 81 | 7.5 |
| Bahariya | 1018.3 | +1.2 | 23.4 | +1.2 | 7.1 | +0.8 | 15.2 | 15.3 | +1.6 | 9.3 | +0.9 | 40 | — 4 | — | — | — | 7.0 |
| Farafra | 1018.9 | +0.6 | 23.4 | +1.0 | 5.7 | +0.3 | 14.9 | 14.5 | +0.5 | 8.1 | +0.5 | 35 | — 5 | — | — | — | 9.5 |
| Dakhla | 1018.4 | +0.4 | 24.7 | +1.0 | 4.6 | —1.1 | 14.6 | 14.6 | +1.0 | 8.0 | +0.8 | 33 | + 1 | — | — | — | 10.2 |
| Kharga | 1017.3 | +0.3 | 25.8 | +1.1 | 7.9 | +0.8 | 16.8 | 17.0 | +1.8 | 9.2 | —0.5 | 33 | — 5 | 294.8 | 316.5 | 93 | 11.8 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 1015.9 | +0.3 | 23.1 | +1.9 | 11.7 | +1.8 | 17.4 | 17.8 | +1.3 | 12.8 | +1.6 | 53 | + 5 | — | — | — | 8.2 |
| Quseir | 1015.7 | 0.0 | 23.3 | +0.3 | 15.5 | +1.2 | 19.4 | 19.6 | +1.3 | 13.3 | +0.9 | 44 | — 1 | — | — | — | 13.2 |

## Table A 4.—DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

### FEBRUARY — 1970

| Station | Precipitation | | | | Frost | Thunderstorm | Mist Vis ≥ 1000 metres | Fog Vis <1000 Metres | Haze Vis ≥1000 Metres | Thick Haze Vis <1000 Metres | Dust or Sandrising Vis ≥1000 Metres | Dust or Sandstorm Vis <1000 Metres | Gale | Clear Sky | Cloudy Sky |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rain | Snow | Ice, Pellets | Hail | | | | | | | | | | | |
| Sallum | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 10 | 1 |
| Mersa Matruh (A) | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 1 | 0 | 11 | 2 |
| Alexandria (A) | 5 | 0 | 0 | 0 | 0 | 0 | 5 | 7 | 0 | 0 | 0 | 0 | 0 | 6 | 3 |
| Port Said (A) | 1 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | — | — |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 16 | 0 |
| Cairo (A) | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 11 | 0 | 8 | 0 | 0 | 14 | 0 |
| Fayoum | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | — | — |
| Minya (A) | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 6 | 0 | 0 | 0 | 0 | 0 | 18 | 1 |
| Assyout (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 23 | 0 |
| Luxor (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 1 | 1 | 0 | 22 | 0 |
| Aswan (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 1 | 0 | 15 | |
| Siwa | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 0 |
| Bahariya | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 14 | 1 |
| Farafra | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | — | — |
| Dakhla | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 23 | 0 |
| Kharga | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 18 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 14 | 0 | 2 | 18 | 0 |
| Quseir | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 17 | 0 |

## Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

### FEBRUARY — 1970

| Station | calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | All directions |
| Sallum | 1 | 0 | 0 | 1–10 | 6 | 17 | 14 | 34 | 11 | 7 | 5 | 11 | 29 | 70 | 107 | 44 | 355 |
| | | | | 11–27 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 42 | 87 | 128 | 35 | 316 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **8** | **17** | **14** | 34 | **11** | **7** | **5** | **33** | **71** | **157** | **235** | **79** | **671** |
| Mersa Matruh (A) | 6 | 0 | 0 | 1–10 | 26 | 22 | 8 | 5 | 16 | 21 | 80 | 37 | 27 | 35 | 19 | 19 | 315 |
| | | | | 11–27 | 2 | 1 | 1 | 3 | 0 | 8 | 37 | 66 | 75 | 44 | 45 | 54 | 336 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 6 | 5 | 15 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **28** | **23** | **9** | 8 | **16** | **29** | **117** | **103** | **104** | **81** | **70** | **78** | **666** |
| Alexandria (A) | 0 | 0 | 0 | 1–10 | 26 | 15 | 27 | 42 | 38 | 56 | 91 | 44 | 30 | 74 | 56 | 45 | 544 |
| | | | | 11–27 | 0 | 0 | 0 | 0 | 1 | 1 | 13 | 27 | 36 | 31 | 17 | 1 | 127 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **26** | **15** | **27** | **42** | **39** | **57** | **104** | **71** | **67** | **105** | **73** | **46** | **672** |
| Port Said | 25 | 0 | 278 | 1–10 | 52 | 33 | 16 | 22 | 12 | 7 | 15 | 29 | 36 | 48 | 39 | 36 | 345 |
| | | | | 11–27 | 0 | 0 | 0 | 0 | 2 | 1 | 0 | 2 | 3 | 10 | 6 | 0 | 24 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **52** | **33** | **16** | **22** | **14** | **8** | **15** | **31** | **39** | **58** | **45** | **36** | **369** |
| Tanta | 93 | 0 | 0 | 1–10 | 54 | 57 | 32 | 17 | 36 | 37 | 48 | 59 | 45 | 50 | 41 | 49 | 525 |
| | | | | 11–27 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 21 | 11 | 7 | 12 | 54 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **54** | **57** | **32** | **18** | **36** | **37** | **48** | **61** | **66** | **61** | **48** | **61** | **579** |
| Cairo | 76 | 0 | 11 | 1–10 | 41 | 43 | 39 | 57 | 34 | 28 | 27 | 22 | 32 | 14 | 19 | 39 | 395 |
| | | | | 11–27 | 1 | 25 | 18 | 0 | 5 | 10 | 38 | 33 | 24 | 20 | 9 | 7 | 190 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **42** | **68** | **57** | **57** | **39** | **38** | **65** | **55** | **56** | **34** | **28** | **46** | **585** |
| Fayoum (A) | 19 | 2 | 0 | 1–10 | 184 | 84 | 22 | 6 | 12 | 35 | 29 | 62 | 69 | 29 | 31 | 55 | 618 |
| | | | | 11–27 | 0 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 2 | 1 | 0 | 33 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **184** | **101** | **22** | **6** | **12** | **35** | **29** | **62** | **82** | **31** | **32** | **55** | **651** |
| Minya | 67 | 3 | 25 | 1–10 | 180 | 55 | 6 | 0 | 2 | 41 | 42 | 31 | 21 | 20 | 23 | 80 | 501 |
| | | | | 11–27 | 47 | 18 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 2 | 3 | 4 | 76 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **227** | **73** | **6** | **0** | **2** | **41** | **44** | **31** | **21** | **22** | **26** | **84** | **577** |

## Table A 5 (*contd.*) – NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

### FEBRUARY — 1970

| Station | calm (hours) | variable (hours) | unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of direction indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | [illegible] |
| Assyout . . . . (A) | 3 | 0 | 1 | 1-10 | 4 | 12 | 16 | 23 | 21 | 22 | 18 | 31 | 162 | 131 | 82 | 12 | 5[illegible] |
| | | | | 11-27 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 | 9 | 47 | 62 | 13 | 1[illegible] |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | All speeds | **4** | **13** | **16** | **23** | **21** | **23** | **18** | **32** | **171** | **178** | **144** | **25** | **6[illegible]** |
| Luxor . . . . . (A) | 5 | 22 | 2 | 1-10 | 52 | 39 | 24 | 33 | 25 | 66 | 93 | 35 | 33 | 66 | 86 | 56 | 6[illegible] |
| | | | | 11-27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 30 | 0 | [illegible] |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | All speeds | **52** | **39** | **24** | **33** | **25** | **66** | **93** | **38** | **34** | **67** | **116** | **56** | **6[illegible]** |
| Aswan . . . . . (A) | 5 | 0 | 0 | 1-10 | 309 | 42 | 5 | 0 | 3 | 4 | 4 | 6 | 9 | 13 | 25 | 71 | 4[illegible] |
| | | | | 11-27 | 118 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 46 | 1[illegible] |
| | | | | 28-47 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | All speeds | **428** | **51** | **5** | **0** | **3** | **4** | **4** | **6** | **9** | **13** | **27** | **117** | **6[illegible]** |
| Siwa . . . . . | 36 | 2 | 0 | 1-10 | 8 | 16 | 19 | 39 | 47 | 35 | 34 | 28 | 52 | 146 | 115 | 31 | 57 |
| | | | | 11-27 | 0 | 2 | 0 | 0 | 0 | 1 | 2 | 5 | 6 | 6 | 26 | 16 | 6 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | All speeds | **8** | **18** | **19** | **39** | **47** | **36** | **36** | **33** | **58** | **152** | **141** | **47** | **6[illegible]** |
| Dakhla . . . . . | 20 | 4 | 0 | 1-10 | 25 | 31 | 13 | 41 | 22 | 15 | 41 | 42 | 47 | 70 | 136 | 116 | 59 |
| | | | | 11-27 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 35 | 4 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | All speeds | **27** | **31** | **13** | **41** | **22** | **15** | **41** | **42** | **47** | **70** | **148** | **151** | **64** |
| Kharga . . . . . | 2 | 27 | 15 | 1-10 | 105 | 68 | 18 | 7 | 9 | 13 | 12 | 9 | 14 | 12 | 46 | 131 | 44 |
| | | | | 11-27 | 110 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 2 | 51 | 18 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | | | | All speeds | **215** | **85** | **18** | **7** | **9** | **13** | **12** | **9** | **14** | **16** | **48** | **182** | **62** |
| Hurghada . . . . . | 0 | 1 | 11 | 1-10 | 12 | 16 | 12 | 11 | 8 | 13 | 11 | 5 | 4 | 27 | 83 | 22 | 22 |
| | | | | 11-27 | 79 | 4 | 0 | 0 | 0 | 4 | 1 | 0 | 0 | 10 | 157 | 151 | 40 |
| | | | | 28-47 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 26 | 3 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | [illegible] |
| | | | | All speeds | **92** | **20** | **12** | **11** | **8** | **17** | **12** | **5** | **4** | **37** | **243** | **199** | **66** |
| Quseir . . . . . | 8 | 0 | 0 | 1-10 | 38 | 48 | 25 | 15 | 8 | 5 | 8 | 14 | 8 | 40 | 139 | 93 | 44 |
| | | | | 11-27 | 143 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 56 | 22 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | [illegible] |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | [illegible] |
| | | | | All speeds | **181** | **71** | **25** | **15** | **8** | **5** | **8** | **14** | **8** | **40** | **140** | **149** | **66** |

# UPPER AIR CLIMATOLOGICAL DATA

## Table B 1. — MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

## FEBRUARY — 1970

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 0000 UT | Surface | 26 | * 1014m.b. | * 1022m.b. | * 1004m.b. | 26 | 11.9 | 16.2 | 8.4 | 26 | 5.3 |
| | 1000 | 26 | 136 | 210 | 62 | 26 | 13.2 | 18.0 | 11.0 | 26 | 6.6 |
| | 850 | 26 | 1440 | 1568 | 1420 | 26 | 6.4 | 14.0 | 0.5 | 26 | — 2.6 |
| | 700 | 24 | 3075 | 3172 | 2998 | 24 | — 1.4 | 4.6 | —11.4 | 24 | —15.3 |
| | 600 | 24 | 4291 | 4412 | 4186 | 24 | — 8.6 | — 3.0 | —16.4 | 24 | —21.5 |
| | 500 | 24 | 5681 | 5825 | 5534 | 24 | —18.1 | —11.8 | —26.7 | 23 | —30.0 |
| | 400 | 23 | 7310 | 7486 | 7108 | 23 | —30.3 | —25.1 | —37.4 | 22 | —40.8 |
| | 300 | 20 | 9302 | 9498 | 9048 | 20 | —44.7 | —40.5 | —52.0 | 17 | —53.8 |
| | 250 | 18 | 10494 | 10705 | 10236 | 18 | —51.9 | —45.2 | —60.3 | 15 | —60.3 |
| | 200 | 17 | 11942 | 12160 | 11690 | 17 | —55.7 | —47.8 | —62.0 | 7 | —61.7 |
| | 150 | 10 | 13964 | 13998 | 13532 | 10 | —59.1 | —53.5 | —63.5 | 2 | —64.3 |
| | 100 | 8 | 16277 | 16588 | 16099 | 8 | —67.8 | —57.3 | —72.9 | — | — |
| | 70 | 3 | 18496 | 18518 | 18478 | 3 | —77.4 | —73.1 | —82.6 | — | — |
| | 60 | 2 | 19440 | 19460 | 19420 | 2 | —74.2 | —72.0 | —76.5 | — | — |
| | 50 | 2 | 20460 | 20460 | 20460 | 2 | —72.8 | —70.7 | —75.0 | — | — |
| | 40 | 1 | 21845 | — | — | 1 | —75.0 | — | — | — | — |
| | 30 | 1 | 23430 | — | — | 1 | —75.2 | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Helwan 0000 UT | Surface | 27 | * 1001m.b. | * 1007m.b. | * 993m.b. | 27 | 12.5 | 18.5 | 8.6 | 27 | 4.0 |
| | 1000 | 27 | 151 | 199 | 83 | 21 | 11.8 | 15.0 | 9.0 | 21 | 4.9 |
| | 850 | 27 | 1508 | 1563 | 1474 | 27 | 7.5 | 15.0 | — 0.5 | 27 | — 9.0 |
| | 700 | 27 | 3085 | 3178 | 3020 | 27 | 0.0 | 5.4 | — 6.9 | 27 | —21.0 |
| | 600 | 27 | 4303 | 4408 | 4217 | 27 | — 7.0 | — 1.1 | —12.6 | 27 | —26.0 |
| | 500 | 27 | 5699 | 5814 | 5582 | 27 | —16.9 | —11.2 | —22.1 | 27 | —32.1 |
| | 400 | 26 | 7329 | 7477 | 7192 | 26 | —28.4 | —24.9 | —34.0 | 26 | —41.6 |
| | 300 | 26 | 9323 | 9490 | 9140 | 26 | —43.2 | — 36.0 | —50.7 | 26 | —54.4 |
| | 250 | 25 | 10533 | 10713 | 10319 | 25 | — 49.3 | —39.8 | —56.3 | 24 | —60.5 |
| | 200 | 25 | 11980 | 12180 | 11751 | 24 | —54.7 | —46.9 | — 61.0 | 20 | —64.8 |
| | 150 | 22 | 13806 | 14008 | 13599 | 22 | —61.2 | —55.3 | —67.3 | 9 | —69.4 |
| | 100 | 20 | 16261 | 16453 | 16149 | 20 | — 69.3 | —58.6 | —75.0 | — | — |
| | 70 | 15 | 18390 | 18506 | 18285 | 15 | —69.5 | —59.3 | —77.5 | — | — |
| | 60 | 13 | 19356 | 19450 | 19250 | 13 | —67.9 | —59.1 | —74.3 | — | — |
| | 50 | 13 | 20446 | 20740 | 20308 | 13 | —65.6 | —57.2 | —70.5 | — | — |
| | 40 | 9 | 21924 | 22000 | 21860 | 9 | —59.6 | —55.1 | —63.5 | — | — |
| | 30 | 8 | 23626 | 23709 | 23546 | 8 | —56.0 | —49.5 | —61.3 | — | — |
| | 20 | 2 | 26186 | 26128 | 26144 | 2 | —48.4 | —47.3 | —49.5 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Aswan 0000 UT | Surface | 28 | * 992m.b. | * 995m.b. | * 988m.b. | 28 | 14.1 | 17.5 | 10.2 | 28 | — 0.6 |
| | 1000 | 28 | 126 | 154 | 88 | — | — | — | — | — | — |
| | 850 | 28 | 1509 | 1543 | 1481 | 28 | 14.1 | 19.7 | 7.0 | 28 | — 5.4 |
| | 700 | 28 | 3125 | 3174 | 3064 | 28 | 6.8 | 12.1 | 0.4 | 28 | —12.6 |
| | 600 | 28 | 4373 | 4438 | 4288 | 28 | — 1.1 | 3.3 | — 8.2 | 27 | —18.3 |
| | 500 | 28 | 5803 | 5888 | 5695 | 28 | —10.3 | — 5.5 | —15.5 | 27 | —25.6 |
| | 400 | 28 | 7479 | 7581 | 7352 | 28 | —22.5 | —18.1 | —27.4 | 27 | —35.1 |
| | 300 | 26 | 9539 | 9660 | 9390 | 26 | —36.0 | —31.4 | —41.6 | 26 | —46.6 |
| | 250 | 25 | 10791 | 10903 | 10634 | 25 | —43.5 | —37.8 | —51.8 | 25 | —53.4 |
| | 200 | 24 | 12266 | 12362 | 12120 | 24 | —53.3 | —48.1 | —57.5 | 23 | —62.2 |
| | 150 | 23 | 14073 | 14202 | 13952 | 23 | — 62.5 | —50.3 | —67.6 | 3 | —68.2 |
| | 100 | 22 | 16509 | 16649 | 16365 | 22 | —72.8 | —66.0 | —78.0 | — | — |
| | 70 | 14 | 18595 | 18730 | 18428 | 14 | —74.6 | — 68.0 | —78.8 | — | — |
| | 60 | 6 | 19516 | 19619 | 19451 | 6 | —71.6 | —65.7 | —75.8 | — | — |
| | 50 | 6 | 20611 | 20688 | 20549 | 6 | —65.7 | —59.5 | —74.6 | — | — |
| | 40 | 3 | 21961 | 21996 | 21919 | 3 | —59.5 | —57.5 | —62.7 | — | — |
| | 30 | 3 | 23795 | 23816 | 23759 | 3 | —54.5 | — 52.4 | —56.1 | — | — |
| | 20 | 1 | 26446 | — | — | 1 | —49.6 | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |

N = Number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

## Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

### MERSA MATRUH (A)— FEBRUARY 1970

| Time | Pressure Surface Millibar | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of calm winds | Total number of observations (TN) | Mean scalar wind speed (knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345 / 014 | | 015 / 044 | | 045 / 074 | | 075 / 104 | | 105 / 134 | | 135 / 164 | | 165 / 194 | | 195 / 224 | | 225 / 254 | | 255 / 284 | | 285 / 314 | | 315 / 344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 5 | 7 | 8 | 7 | 8 | 6 | 11 | 3 | 8 | 1 | 15 | 0 | — | 1 | 26 | 10 |
| | 1000 | 0 | — | 0 | — | 0 | — | 1 | 7 | 1 | 10 | 0 | — | 0 | — | 3 | 11 | 4 | 15 | 5 | 11 | 7 | 21 | 0 | — | 2 | 23 | 14 |
| | 850 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 22 | 3 | 18 | 7 | 18 | 8 | 24 | 4 | 13 | 0 | 23 | 19 |
| | 700 | 0 | — | 1 | 7 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 6 | 4 | 26 | 9 | 24 | 8 | 25 | 0 | — | 0 | 23 | 24 |
| | 600 | 1 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 38 | 7 | 37 | 10 | 33 | 0 | — | 0 | 22 | 34 |
| | 500 | 0 | — | 1 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 55 | 10 | 48 | 5 | 42 | 2 | 32 | 0 | 22 | 45 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 71 | 11 | 64 | 3 | 39 | 2 | 44 | 0 | 20 | 60 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 103 | 9 | 72 | 5 | 66 | 1 | 44 | 0 | 17 | 75 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 106 | 6 | 86 | 6 | 77 | 0 | — | 0 | 14 | 85 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 98 | 8 | 82 | 1 | 29 | 0 | — | 0 | 12 | 82 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 130 | 5 | 77 | 1 | 33 | 0 | — | 0 | 7 | 78 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 39 | 1 | 38 | 0 | — | 0 | 2 | 38 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 30 | 0 | — | 0 | — | 0 | 1 | 30 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 38 | 0 | — | 0 | — | 0 | 1 | 38 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 38 | 0 | — | 0 | — | 0 | 1 | 38 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 24 | 0 | — | 0 | — | 0 | 1 | 24 |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 2 | 10 | 2 | 10 | 0 | — | 1 | 8 | 0 | — | 0 | — | 2 | 16 | 1 | 13 | 2 | 22 | 2 | 16 | 4 | 15 | 11 | 13 | 0 | 27 | 14 |
| | 1000 | 1 | 23 | 2 | 6 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 20 | 2 | 13 | 1 | 10 | 2 | 18 | 9 | 17 | 6 | 10 | 1 | 25 | 13 |
| | 850 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 22 | 5 | 17 | 6 | 18 | 9 | 17 | 2 | 13 | 2 | 25 | 16 |
| | 700 | 1 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 39 | 14 | 23 | 6 | 28 | 1 | 17 | 0 | 25 | 25 |
| | 600 | 0 | — | 1 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 41 | 13 | 32 | 6 | 36 | 0 | — | 0 | 25 | 34 |
| | 500 | 1 | 26 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 7 | 45 | 9 | 48 | 8 | 40 | 0 | — | 0 | 25 | 44 |
| | 400 | 1 | 33 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 51 | 14 | 65 | 4 | 43 | 1 | 25 | 0 | 25 | 56 |
| | 300 | 1 | 44 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 78 | 2 | 78 | 13 | 75 | 4 | 65 | 2 | 60 | 0 | 23 | 71 |
| | 250 | 1 | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 83 | 10 | 82 | 4 | 100 | 1 | 46 | 0 | 19 | 80 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 102 | 7 | 86 | 5 | 54 | 0 | — | 0 | 14 | 78 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 55 | 3 | 51 | 3 | 66 | 0 | — | 0 | 7 | 58 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 30 | 1 | 55 | 1 | 31 | 0 | — | 0 | 3 | 39 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 31 | 1 | 35 | 0 | — | 0 | 2 | 33 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 21 | 1 | 19 | 0 | — | 0 | 2 | 20 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 29 | 0 | — | 0 | — | 0 | 2 | 29 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 32 | 1 | 35 | 0 | — | 0 | 2 | 34 |
| | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 22 | 1 | 40 | 0 | — | 0 | 2 | 31 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the wind has been observed from the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

**Table. B 3** *(contd.)*—**NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIE RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**HELWAN— FEBRUARY 1970**

| Time | Pressure Surface Millibar | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of calm winds | Total number of observations (TN) | Mean scalar wind speed (knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 5 | 5 | 8 | 8 | 2 | 7 | 3 | 5 | 3 | 3 | 2 | 3 | 1 | 7 | 0 | — | 0 | — | 1 | 5 | 1 | 8 | 1 | 7 | 0 | 27 | 6 |
| | 1000 | 5 | 9 | 8 | 15 | 2 | 10 | 0 | — | 2 | 4 | 1 | 4 | 1 | 4 | 0 | — | 0 | — | 1 | 5 | 1 | 8 | 0 | — | 0 | 21 | 10 |
| | 850 | 2 | 18 | 2 | 17 | 0 | — | 0 | — | 0 | — | 1 | 11 | 1 | 7 | 4 | 25 | 7 | 19 | 4 | 28 | 2 | 12 | 4 | 18 | 0 | 27 | 20 |
| | 700 | 1 | 26 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 11 | 24 | 9 | 33 | 4 | 16 | 2 | 6 | 0 | 27 | 25 |
| | 600 | 1 | 33 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 47 | 1 | 45 | 11 | 38 | 6 | 36 | 5 | 34 | 1 | 16 | 0 | 26 | 36 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 42 | 11 | 54 | 7 | 49 | 3 | 44 | 1 | 37 | 0 | 23 | 50 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 56 | 7 | 70 | 7 | 72 | 2 | 52 | 1 | 44 | 0 | 18 | 66 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 105 | 4 | 64 | 4 | 93 | 1 | 37 | 0 | — | 0 | 10 | 77 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 139 | 1 | 145 | 3 | 57 | 1 | 27 | 0 | — | 0 | 6 | 80 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 119 | 2 | 43 | 2 | 74 | 0 | — | 0 | — | 0 | 5 | 71 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 68 | 0 | — | 0 | — | 0 | — | 0 | 2 | 68 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 39 | 0 | — | 0 | — | 0 | — | 0 | 1 | 39 |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 4 | 10 | 2 | 9 | 1 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 7 | 5 | 9 | 4 | 10 | 4 | 7 | 4 | 8 | 0 | 28 | 9 |
| | 1000 | 3 | 13 | 3 | 20 | 2 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 5 | 0 | — | 2 | 11 | 3 | 9 | 2 | 10 | 0 | 16 | 12 |
| | 850 | 3 | 8 | 2 | 17 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 28 | 3 | 17 | 5 | 17 | 6 | 14 | 2 | 22 | 6 | 12 | 0 | 28 | 15 |
| | 700 | 1 | 8 | 1 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 26 | 9 | 23 | 10 | 25 | 1 | 56 | 2 | 24 | 0 | 28 | 24 |
| | 600 | 0 | — | 1 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 29 | 3 | 40 | 10 | 35 | 7 | 48 | 3 | 19 | 1 | 29 | 0 | 26 | 36 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 13 | 53 | 6 | 53 | 5 | 34 | 0 | — | 0 | 24 | 49 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 9 | 90 | 9 | 59 | 2 | 60 | 1 | 30 | 0 | 21 | 71 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 133 | 2 | 81 | 6 | 76 | 1 | 97 | 1 | 60 | 0 | 11 | 83 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 55 | 1 | 44 | 0 | — | 0 | 5 | 53 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 71 | 3 | 56 | 0 | — | 0 | — | 0 | 4 | 60 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 59 | 3 | 56 | 0 | — | 0 | — | 0 | 4 | 57 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 19 | 2 | 47 | 0 | — | 0 | — | 0 | 3 | 38 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 28 | 0 | — | 0 | — | 0 | 2 | 28 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 34 | 0 | — | 0 | — | 0 | 1 | 34 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 22 | 0 | — | 0 | — | 0 | 1 | 22 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 26 | 0 | — | 0 | — | 0 | 1 | 26 |
| | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 27 | 0 | — | 0 | — | 0 | 1 | 27 |
| | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 57 | 0 | — | 0 | — | 0 | 1 | 57 |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the wind has been observed from the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

**Table B 3 (*contd.*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.**

**ASWAN (A) — FEBRUARY 1970**

| Time | Pressure Surface Millibar | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of calm winds | Total number of observations (TN) | Mean scalar wind speed (knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 14 | 10 | 3 | 7 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | - | 1 | 16 | 8 | 10 | 2 | 28 | 9 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 6 | 11 | 4 | 6 | 2 | 13 | 2 | 8 | 0 | — | 3 | 4 | 1 | 5 | 0 | — | 0 | — | 2 | 6 | 2 | 12 | 6 | 9 | 0 | 28 | 9 |
| | 700 | 2 | 14 | 2 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 22 | 4 | 16 | 10 | 26 | 6 | 22 | 1 | 14 | 0 | 28 | 19 |
| | 600 | 1 | 14 | 1 | 6 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 51 | 4 | 26 | 12 | 31 | 7 | 27 | 2 | 18 | 0 | 28 | 27 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 2 | 7 | 55 | 13 | 46 | 6 | 35 | 1 | 18 | 0 | 28 | 43 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 9 | 61 | 12 | 52 | 7 | 39 | 0 | — | 0 | 28 | 52 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 8 | 85 | 14 | 74 | 4 | 59 | 0 | — | 0 | 26 | 76 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 8 | 107 | 11 | 95 | 6 | 59 | 0 | — | 0 | 25 | 90 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 8 | 106 | 13 | 97 | 3 | 91 | 0 | — | 0 | 24 | 99 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 123 | 15 | 80 | 3 | 68 | 0 | — | 0 | 21 | 85 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 70 | 10 | 53 | 3 | 57 | 0 | — | 0 | 16 | 57 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 6 | 40 | 0 | — | 0 | — | 0 | 6 | 40 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 10 | 1 | 31 | 1 | 18 | 2 | 55 | 0 | — | 0 | 5 | 32 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 13 | 1 | 32 | 0 | — | 0 | — | 0 | 2 | 22 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 23 | 1 | 14 | 0 | — | 0 | 2 | 18 |
| | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 4 | 0 | — | 0 | — | 0 | 1 | 4 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T | Surface | 15 | 11 | 6 | 8 | 0 | — | 2 | 3 | 0 | — | 1 | 5 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 5 | 2 | 20 | 1 | 28 | 10 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 4 | 7 | 3 | 18 | 2 | 6 | 0 | — | 0 | — | 2 | 13 | 1 | 7 | 0 | — | 1 | 11 | 1 | 9 | 12 | 9 | 2 | 10 | 0 | 28 | 10 |
| | 700 | 2 | 24 | 1 | 2 | 1 | 15 | 0 | — | 1 | 5 | 0 | — | 0 | — | 1 | 25 | 4 | 22 | 9 | 17 | 5 | 18 | 4 | 14 | 0 | 28 | 17 |
| | 600 | 0 | — | 1 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 9 | 30 | 9 | 31 | 6 | 20 | 3 | 17 | 0 | 28 | 26 |
| | 500 | 1 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 41 | 5 | 45 | 14 | 45 | 7 | 31 | 0 | — | 0 | 28 | 40 |
| | 400 | 0 | — | 1 | 27 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 8 | 70 | 16 | 58 | 2 | 61 | 1 | 32 | 0 | 28 | 60 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 10 | 90 | 11 | 73 | 7 | 57 | 0 | — | 0 | 28 | 76 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 11 | 96 | 10 | 92 | 6 | 65 | 0 | — | 0 | 27 | 88 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 7 | 115 | 14 | 98 | 4 | 83 | 0 | — | 0 | 25 | 100 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 7 | 124 | 15 | 88 | 3 | 84 | 0 | — | 0 | 25 | 90 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 49 | 10 | 62 | 1 | 48 | 0 | — | 0 | 15 | 60 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 43 | 4 | 52 | 3 | 43 | 0 | — | 0 | 9 | 47 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 42 | 2 | 39 | 0 | — | 0 | 7 | 41 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 24 | 1 | 23 | 0 | — | 0 | 5 | 24 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 31 | 1 | 40 | 0 | — | 0 | 4 | 33 |
| | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 26 | 1 | 18 | 1 | 36 | 0 | — | 0 | 3 | 27 |
| | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 47 | 1 | 22 | 0 | — | 0 | — | 0 | 2 | 34 |
| | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 56 | — | — | 0 | — | 0 | 1 | 56 |

N. = The number of cases the wind has been observed from the range of direction during the month.

T.N. = The total number of cases the wind has been observed for all directions during the month.

# REVIEW OF AGRO-METEOROLOGICAL STATIONS

## MERSA MATRUH—FEBRUARY 1970

This month as a whole was slightly warmer than normal and appreciably less rainy. The total monthly rainfall was only 1.0mm., against 16.4 mm. for normal. The daily maximum air temperatures were above normal most of the month. The month was characterized with four warm spells during the periods : (5th-12th), (15th-16th), 24th and (26th 27th), and a cold spell during the period (17th-23th). The last warm spell yielded the highest maximum air temperature for the month (27.8C) and the lowest relative humidity (4%) on the 27th. The cold spell yielded the lowest maximum air temperature for the month (16.1°C) on the 18th.

The daily mean actual duration of bright sunshine was 0.6 hour more than the corresponding value for El Kasr in February 1969.

## TAHRIR—FEBRUARY 1970

Conpared with last February, this month was slightly cooler. The daily maximum air temperatures were above normal most of the month. The month was characterized with two warm spells during the periods (9th- 12th) and (25th-28th) and a cold spell during the period (18th-23rd). The first warm spell yielded the highest maximum air temperature for the month (30.7°C) and the lowest relative humidity (17%) on the 12th. The cold spell yielded the lowest maximum temperature for the month (17.8°C) on the 18th and lowest minimum air temperature (4.0°C) on the 20th.

The extreme maximum soil temperatures were lower than the corresponding values of last February at all depths between 2 & 100 cm. and the differences ranged between 1.8°C at 2 cm. and 0.3°C at 100 cm. The extreme minimum soil temperatures were higher than the corresponding values of last February at all depths and the differences ranged between 1.1°C at 2 cm. and 3.0°C at 20 cm.

The daily mean Pan evaporation was 0.1 mm. less than the corresponding value of February 1969. The daily mean actual duration of bright sunshine was 0.8 hour more than February 1969.

## BAHTIM—FEBRUARY 1970

Compared with last February, this month was slightly cooler. The daily maximum air temperatures were above normal most of the month. The month was characterized with three warm spells during the periods (10th-12th); (16th-17th) and (25th-28th) and two cold spells on the 4th and during the period (18th-23rd). The first warm spell yielded the highest maximum air temperature for the month (28.8°C) and the lowest relative humidity (17%) on the 12th. The second cold spell yielded the lowest maximum air temperature for the month (18.2°C) on the 18th and the lowest minimum air temperature (1.2°C) on the 19th.

The extreme maximum soil temperatures were higher than the corresponding values of last February at both 2, 100 cm. depths with differences 0.5°C, 0.4°C respectively. At all other depths the extreme soil maximum were lower than last February with differences ranging between 1.3°C at 5 cm. and 0.4°C at 50 cm. Th extreme minimum soil temperatures were higher than the corresponding values of last February at all depths between 2,100 cm. and the differences varied between 2.1° at both 5,10 cm. and 0.8°C at 100 cm.

The daily mean pan evaporation was 0.8 mm. less than the corresponding value of February 1969. The daily mean actual duration of bright sunshine was 0.4 hour more than February 1969.

## KHARGA—FEBRUARY 1970

This month as a whole was warmer than normal. The daily maximum air temperatures were above normal most of the month. The month was characterized with two warm spells during the periods (8th-17th) and (27th-28th) and a cold spell during the period (18th-23rd). The second warm spell yielded the highest maximum air temperature for the month (32.4°C) and the lowest relative humidity (6%) on the 28th. The cold spell yielded the lowest maximum air temperature (20.8°C) on the 22rd.

The extreme maximum soil temperatures were lower than the corresponding values of last Feb. at all depths apart from 10 cm and 100 cm. depths with differences ranging between 2.1°C at 20 cm. and 1.2°C at 50 cm. At 10 cm. the extreme maximum soil temperature was the same as last February, and at 100 cm. it was 0.2°C higher. The extreme minimum soil temperature was lower than the corresponding value of last February at 2 cm. depth by 0.4°C, and higher at all other depths with differences ranging between 0.2°C at 5 cm. and 2.3°C at 50 cm.

The daily mean pan evaporation was 0.57 mm. less than the corresponding value of February 1969. The daily mean actual duration of bright sunshine was 0.1 hour more than February. 1969.

## Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND
## FEBRUARY — 1970

| STATION | Air Temperature (°C) | | | | | Mean Duration in hours of daily air temperature above the following values | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean Max. | Mean Min. | Mean of the day | Night time mean | Day time mean | -5°C | 0°C | 5°C | 10°C | 15°C | 20°C | 25°C | 30°C | 35°C | 40°C | 45°C |
| Mersa Matruh . . | 20.6 | 8.7 | 14.1 | 11.7 | 16.5 | 24.0 | 24.0 | 24.0 | 20.1 | 10.0 | 2.1 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| Tahrir . . . . . | 22.8 | 7.4 | 14.4 | 10.9 | 17.9 | 24.0 | 24.0 | 23.9 | 18.1 | 10.3 | 4.0 | 0.4 | 0.0 | 0.0 | 0.0 | 0.0 |
| Bahtim . . . . . | 22.4 | 5.6 | 13.6 | 9.8 | 17.3 | 24.0 | 24.0 | 23.0 | 16.1 | 9.3 | 3.8 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 |
| Kharga . . . . | 25.8 | 7.9 | 17.2 | 13.5 | 20.7 | 24.0 | 24.0 | 23.8 | 20.6 | 14.5 | 7.9 | 2.6 | 0.4 | 0.0 | 0.0 | 0.0 |

## Table C 2.—ABSOLUTE VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS
## FEBRUARY — 1970

| STATION | Max. Temp. at 1½ metres | | | | Min. Temp. at 1½ metres | | | | Min. Temp. at 5 cms. above | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | | Lowest | | Highest | | Lowest | | Dry Soil | | Grass | |
| | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date |
| Mersa Matruh . . | 27.8 | 27 | 16.1 | 18 | 13.2 | 27 | 4.2 | 10 | 0.8 | 10 | — | — |
| Tahrir . . . . . | 30.7 | 12 | 17.8 | 18 | 11.5 | 26 | 4.0 | 20 | 1.8 | 20 | — | — |
| Bahtim . . . . . | 28.8 | 12 | 18.2 | 18 | 11.7 | 26 | 1.2 | 19 | — 3.3 | 19 | — | — |
| Kharga . . . . | 32.4 | 28 | 20.8 | 22 | 13.6 | 28 | 2.8 | 1 | 1.3 | 2,22 | — | — |

## Table C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY & VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVPORATION & RAINFALL
## FEBRUARY — 1970

| STATION | Solar+Sky Radiation gm. cal/cm² | Duration of Bright Sunshine (hours) | | | Relative Humidity % | | | | Vapour Pressure (mms) | | | | | | Evaporation(mms) | | Rainfall (mms) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Actual | Total Possible monthly | % | Mean of day | 1200 U.T. | Lowest | Date | Mean of day | 1200 UT | Highest | Date | Lowest | Date | Piche | Pan class (A) | Total Amount monthly | Max. fall in one day | Date |
| rsa Matruh . . | — | 239.3 | 309.5 | 77 | 62 | 48 | 4 | 27 | 7.2 | 7.5 | 10.9 | 12 | 1.2 | 27 | 7.1 | 9.24 | 1.0 | 0.6 | 22 |
| hrir . . . . . | 332.1 | 246.9 | 310.6 | 80 | 64 | 39 | 17 | 12 | 7.5 | 7.4 | 10.6 | 10 | 3.6 | 2 | 5.9 | 4.99 | Tr. | Tr. | 22 |
| htim . . . . . | 329.3 | 234.7 | 311.3 | 75 | 62 | 39 | 17 | 12 | 6.9 | 7.2 | 11.1 | 13 | 3.9 | 28 | 5.5 | 4.63 | 0.0 | 0.0 | — |
| arga . . . . . | 413.7 | 294.8 | 316.5 | 93 | 36 | 23 | 6 | 28 | 5.0 | 5.3 | 8.1 | 14 | 1.1 | 28 | 8.11 | 9.10 | 0.0 | 0.0 | — |

## Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

### FEBRUARY — 1970

| STATION | Highest (H) Lowest (L) | Extreme soil temperature (°C) in dry field at different depths (cms.) | | | | | | | | Extreme soil temperature (°C) in grass field at different depths (cms.) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 |
| Mersa Matruh | H | 30.2 | 24.3 | 21.5 | 18.4 | 17.5 | 17.7 | 19.8 | — | — | — | — | — | — | — | — | — |
| | L | 6.7 | 8.2 | 10.4 | 12.8 | 15.0 | 16.9 | 19.4 | — | — | — | — | — | — | — | — | — |
| Tahrir . . . | H | 37.4 | 31.0 | 26.8 | 22.1 | 19.3 | 18.8 | 20.4 | 21.8 | — | — | — | — | — | — | — | — |
| | L | 7.7 | 9.0 | 11.0 | 14.4 | 16.2 | 17.7 | 20.0 | 21.4 | — | — | — | — | — | — | — | |
| Bahtin . . . | H | 36.9 | 28.7 | 23.8 | 20.8 | 19.9 | 20.6 | 23.1 | 24.3 | — | — | — | — | — | — | — | — |
| | L | 7.6 | 9.9 | 13.6 | 16.3 | 18.8 | 20.3 | 22.3 | 23.7 | — | — | — | — | — | — | — | — |
| Kharga . . . | H | 40.6 | 33.2 | 30.3 | 24.2 | 23.0 | 23.6 | 26.3 | 28.1 | — | — | — | — | — | — | — | — |
| | L | 6.3 | 9.2 | 14.2 | 17.7 | 21.0 | 23.2 | 25.5 | 27.3 | — | — | — | — | — | — | — | — |

## Table C 5.—SURFACE WIND

### FEBRUARY — 1970

| STATION | Wind Speed m/sec at 1½ metres | | | Days with surface wind speed at 10 metres | | | | | | | Max. Gust (knots) at 10 metres | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean of the day | Night time mean | Day time mean | ≥10 knots | ≥15 knots | ≥20 knots | ≥25 knots | ≥30 knots | ≥35 knots | ≥40 knots | Value knots | Date |
| Mersa Matruh | 4.1 | 3.2 | 4.9 | 28 | 23 | 15 | 8 | 6 | 2 | 2 | 48 | 22 |
| Tahrir . . . . | 2.0 | 1.3 | 2.7 | 22 | 12 | 6 | 2 | 0 | 0 | 0 | 39 | 22 |
| Bahtin . . . . | 1.9 | 1.1 | 2.7 | 24 | 13 | 3 | 1 | 0 | 0 | 0 | 31 | 21 |
| Kharga . . . | 3.0 | 2.0 | 4.0 | 25 | 19 | 11 | 1 | 0 | 0 | 0 | 36 | 21 |

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THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 3

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

# PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT — CAIRO

In fulfilment of its duties, the Meteorological Authority of Egypt issues serveral reports and publications on weather, climate and agrometeorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

## THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968, this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

## THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

## THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

## THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

## CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in march 1968 which brings normals and mean values up till 1960.

## METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of Meteorological Authority.

## TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

The first Technical Note I was issued in October 1970 on : Sandstorms & Duststorms in Egypt.

THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 3

## MARCH, 1970

U.D.C. 551. 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

**NOTICE**

As from 25th November 1971 the name of the (Meteorological Department) has been changed to be the (Meteorological Authority).

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*Note* : For explanatory notes on the tables please refer to Volume 13, Number 1 (January 1970).

# GENERAL SUMMARY OF WEATHER CONDITIONS

## MARCH 1970

**Changeable, characterized by three moderate khamsin heat waves, followed by mild and light rainy weather.**

### GENERAL DESCRIPTION OF WEATHER

The prevailing weather during this month was mainly characterized by three moderate heat waves round the periods (4th—8th), (14th—17th) and (27th—30th). The break down of these heat waves was followed by periods of mild weather, light rainy in north of the country.

Weather was sandy during several days, in particular round the 10th, 17th and 21st when sandstorms were reported in scattered places in the northern parts.

### PRESSURE DISTRIBUTION

The most outstanding features of pressure distribution over the surface charts during this month were : —

— The Siberian and Atlantic anticyclones and their extensions.

— Deep Low pressure systems through North Urasia.

— Secondary depressions through the Mediterranean Sea and its vicinities, associated sometimes with khamsin secondaries south of the Mediterranean Sea.

During this month, six Mediterranean Sea secondary depressions were distinguished.

The first depression appeared over Greece and East Med. Sea on the 2nd, and then moved rapidly to the east while filling on the 3rd. The other five secondary depressions originated over West Mediterranean Sea on the 3rd, 11th, 13th, 19th and 27th respectively.

The second depression was associated with a khamsin secondary over the Libyan Desert. The two depressions moved slowly, and the Mediterranean Sea depression reached North Balkans on the 7th, while the khamsin secondary depression reached south of the gulf of Serte. On the 8th, the main depression filled up, while the khamsin secondary despression moved northeastwards to East Mediterranean Sea area, and then traversed the area on the 9th, moving towards Iraq while filling.

The third depression moved northeastwards with no effect over East Mediterranean Sea, and reached the Black Sea area on the 14th.

The fourth depression was associated with a khamsin secondary depression to its south. These two depressions moved eastwards till the 15th, then they changed their track notheastwards on the 16th when the main depression reached the Black Sea, while the khamsin secondary depression moved to the East Mediterranean Sea. On the 17th the khamsin secondary depression traversed East Mediterranean Sea area, and continued its track towards Iraq.

The fifth depression proceeded east wards, and its southern trough passed through East Mediterranean Sea on the 21st.

The sixth and last depression during this month was associated with a khamsin secondary depression to its south. The two depressions proceeded eastwards till the 29th, then they amalgamated in one centre which traversed East Mediterranean Sea area on the 30th.

The barometric pressure over Egypt was affected by the transits of the above mentioned Mediterranean Sea depressions or khamsin secondaries, and the subsequent extension of high pressure over East Mediterranean Sea area and its vicinities. Accordingly, it experienced five oscillations of large amplitudes with their minima round the 2nd, 8th 17th 21st and 30th.

Over the upper air charts, the important feature was the transit of the upper troughs associated with the secondary Mediterranean Sea depressions through East Mediterranean Sea and north of Egypt on the 3rd, 9, 14, 19, 22 and 31st.

## SURFACE WIND

Surface winds during this month were generally light to moderate, and were NWly over the northern and middle parts of the Republic. Winds changed to SWly in advance and by the passage of the khamsin secondary depressions. In the southern parts, Light to moderate Nly winds prevailed. Surface winds were fresh to strong during several days over scattered localities particularly in the Mediterranean Sea, and Red Sea districts.

Gales were reported at Sallum on the 8th, & 21st Sidi Barrani on the 4th and 24th, Mersa Matruh on the 4, 16 and 21st, Ras El Hikma on the 3rd and 21st, Dabaa on the 8th, 9th, 21, 30th, Fayed on the 10th and 22nd, Bahtim and Cairo on the 21st.

## TEMPERATURE

Maximum air temperature experienced large variability during this month. It showed appreciable rises above normal during the three khamsin heat waves, and slight to moderate departures below normal otherwise.

Maximum air temperature values varied most days of the month between 20°C and 30 °C in the northern and middle parts, and between 25°C & 35°C in the southern parts.

The absolute maximum air temperature for the month was 38.2°C reported at Kom-Ombo on the 17th.

Minimum air temperature variations were more or less similar in direction to maximum air temperature variations, though less in magnitude.

Minimum air temperature values ranged generally between 6°C & 15°C.

The absolute minimum air temperature for the month was 2.8°C reported at Beni-Suef on the 2nd and Mallawi on the 3rd.

## PRECIPITATION

This month was deficiently rainy and monthly total was below normal. Light rain fell over scattered localities in the northern parts for several days, and extended inland till Cairo Area on the 8th, 9th, 10th, &21th.

The Maximum daily rainfall was 18.4 mm. reported at Ras-El Hikma on the 21st.

The maximum monthly rainfall was 29.2 mm. reported at Balteam.

*Cairo, December 1971*

**Chairman (M. F. TAHA)**

*Board of Directors*

SURFACE DATA

## Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

## MARCH 1970

| STATION | Atmospheric Pressure (mbs) M.S.L. | | Air Temperature °C | | | | | | | | | Relative Humidity % | | Bright Sunshine Duration (Hours) | | | Piche Evaporation mms. Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Maximum | | Minimum | | | Dry Bulb | | Wet Bulb | | | | | | | |
| | Mean | D.F. Normal or Average | (A) Mean | D.F. Normal or Average | (B) Mean | D.F. Normal or Average | $\frac{A+B}{2}$ | Mean | D.F. Normal or Average | Mean | D.F. Normal or Average | Mean | D.F. Normal or Average | Total Actual | Total Possible | % | |
| Sallum . . . . . | 1014.2 | —0.8 | 23.0 | +2.2 | 12.2 | +1.1 | 17.9 | 17.5 | +1.1 | 11.3 | —0.3 | 42 | —13 | — | — | — | 11.1 |
| Mersa Matruh (A) | 1014.9 | —0.7 | 23.0 | +2.5 | 11.5 | +1.5 | 17.2 | 16.7 | +1.7 | 11.8 | +0.8 | 52 | —11 | 269.1 | 371.6 | 72 | 11.7 |
| Alexandria (A) | 1015.2 | —0.4 | 23.4 | +2.2 | 12.0 | +0.8 | 17.7 | 17.0 | +1.2 | 12.6 | +0.4 | 57 | —9 | 270.2 | 371.6 | 73 | 7.2 |
| Port Said . . (A) | 1014.6 | —0.8 | 22.9 | +2.7 | 13.4 | —0.2 | 18.2 | 17.3 | +0.9 | 13.3 | 0.0 | 61 | —7 | 258.2 | 371.6 | 69 | 6.0 |
| El Arish . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta . . . . . | 1014 5 | —0.5 | 24.7 | +1.0 | 8.8 | +0.5 | 16.8 | 16.2 | +0.5 | 11.9 | +0.1 | 57 | —3 | 275.6 | 372.4 | 74 | 5.4 |
| Cairo . . . . . | 1015.1 | —0.2 | 25.6 | +1.7 | 12.4 | +1.0 | 19.0 | 18.7 | —1.1 | 11.9 | —0.3 | 39 | —11 | — | — | — | 15.0 |
| Fayoum . . . . | — | — | 27.2 | +1.9 | 9.7 | —0.3 | 18.4 | 18.1 | +0.2 | 12.0 | —0.2 | 44 | —3 | — | — | — | 6.4 |
| Minya . . . (A) | 1015.1 | —0.4 | 26.9 | +1.1 | 8.9 | +1.0 | 17.9 | 17.6 | +1.0 | 11.5 | +0.4 | 43 | —5 | 306.7 | 372.2 | 82 | 9.0 |
| Assyout . . (A) | 1014.1 | —0.8 | 27.5 | +0.9 | 11.6 | +1.0 | 19.5 | 19.3 | +0.7 | 11.4 | +0.4 | 32 | 0 | — | — | — | 14.0 |
| Luxor . . . (A) | 1013.7 | +0.3 | 30.4 | +1.1 | 10.9 | +0.2 | 20.6 | 20.6 | +0.5 | 12.5 | +0.2 | 32 | —2 | — | — | — | 8.8 |
| Aswan . . . (A) | 1013.3 | +0.3 | 30.6 | 0.0 | 13.2 | —0.1 | 21.9 | 21.8 | —0.4 | 11.7 | +0.6 | 21 | +6 | — | — | — | 18.4 |
| Siwa . . . . . | 1014.8 | —0.8 | 26.6 | +1.6 | 9.7 | +1.3 | 18.2 | 18.2 | +1.0 | 10.7 | +0.2 | 33 | —4 | 311.3 | 371.6 | 84 | 12.7 |
| Bahariya . . . . | 1015.4 | 0.0 | 25.8 | +0.2 | 9.6 | +0.7 | 17.7 | 18.2 | +0.2 | 10.4 | —0.2 | 30 | —6 | — | — | — | 9.8 |
| Farafra . . . . | 1016.7 | +0.1 | 26.6 | 0.0 | 9.1 | +0.2 | 17.8 | 17.7 | —0.2 | 9.7 | 0.0 | 28 | +1 | — | — | — | 13.5 |
| Dakhla . . . . . | 1016.4 | +1.8 | 27.6 | —0.2 | 7.4 | —1.9 | 17.5 | 17.4 | —0.9 | 9.7 | +0.1 | 30 | +6 | — | — | — | 13.8 |
| Kharga . . . . | 1014.7 | +0.2 | 29.1 | +0.6 | 11.1 | +0.1 | 20.1 | 20.3 | 0.0 | 10.6 | —0.7 | 27 | +3 | 331.7 | 371.8 | 89 | 13.7 |
| Tor . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada . . . | 1013.6 | +0.2 | 25.1 | +1.7 | 13.8 | +1.4 | 19.4 | 20.0 | +1.2 | 13.8 | +0.6 | 46 | —4 | — | — | — | 9.3 |
| Quseir . . . . . | 1013.5 | 0.0 | 25.0 | +0.2 | 16.8 | +0.3 | 29.9 | 21.1 | +0.3 | 14.2 | —0.1 | 42 | —4 | — | — | — | 13.8 |

## Table A 2.—MAXIMUM AND MINIMUM AIR TEMPERATURES

### MARCH — 1970

| Station | Maximum Temperature °C | | | | | | | | | Grass Min. Temp. | | Minimum Temperature °C | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | Date | Lowest | Date | No. of Days with Max-Temp. | | | | | Mean | Dev. From Normal | Highest | Date | Lowest | Date | No. of Days with Min. Temp. | | | |
| | | | | | >25 | >30 | >35 | >40 | >45 | | | | | | | <10 | <5 | <0 | <-5 |
| Sallum . . . . . | 35.7 | 16 | 18.0 | 21 | 9 | 6 | 1 | 0 | 0 | 11.7 | — | 19.6 | 29 | 6.9 | 2 | 10 | 0 | 0 | 0 |
| Mersa Matruh (A) | 34.8 | 16 | 17.4 | 21 | 11 | 4 | 0 | 0 | 0 | 9.9 | — | 18.3 | 16 | 6.5 | 28 | 11 | 0 | 0 | 0 |
| Alexandria . (A) | 34.4 | 16 | 18.2 | 2 | 9 | 5 | 0 | 0 | 0 | 10.3 | — | 14.7 | 17 | 7.4 | 3 | 5 | 0 | 0 | 0 |
| Port said . . (A) | 33.3 | 16 | 18.5 | 22 | 7 | 2 | 0 | 0 | 0 | 13.0 | — | 17.4 | 8 | 9.1 | 3 | 1 | 0 | 0 | 0 |
| El Arish . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta . . . . . | 34.0 | 30 | 18.6 | 12 | 13 | 7 | 0 | 0 | 0 | — | — | 12.4 | 8,9 | 5.9 | 14 | 24 | 0 | 0 | 0 |
| Cairo . . . (A) | 34.4 | 29 | 19.6 | 12 | 13 | 9 | 0 | 0 | 0 | — | — | 19.3 | 8 | 8.4 | 2 | 4 | 0 | 0 | 0 |
| Fayoum . . . . | 35.1 | 30 | 21.4 | 1 | 17 | 10 | 1 | 0 | 0 | 7.2 | — | 15.6 | 8 | 4.9 | 2 | 19 | 1 | 0 | 0 |
| Minya . . . (A) | 35.2 | 17 | 20.6 | 1 | 14 | 11 | 1 | 0 | 0 | 6.0 | — | 14.2 | 8 | 5.0 | 3 | 22 | 0 | 0 | 0 |
| Assyout . . (A) | 37.3 | 30 | 20.5 | 1 | 17 | 11 | 2 | 0 | 0 | 8.7 | — | 17.3 | 8 | 7.7 | 24 | 10 | 0 | 0 | 0 |
| Luxor . . . (A) | 38.0 | 17 | 22.7 | 22 | 26 | 16 | 8 | 0 | 0 | 7.7 | — | 15.0 | 18 | 6.0 | 3 | 12 | 0 | 0 | 0 |
| Aswan . . . (A) | 37.4 | 17 | 23.7 | 2 | 27 | 16 | 8 | 0 | 0 | — | — | 20.2 | 8 | 8.8 | 3 | 3 | 0 | 0 | 0 |
| Siwa . . . . . | 36.8 | 16 | 19.4 | 21 | 18 | 9 | 2 | 0 | 0 | 6.5 | — | 16.8 | 16 | 5.0 | 1 | 21 | 0 | 0 | 0 |
| Bahariya . . . . | 35.9 | 29 | 19.5 | 9 | 17 | 9 | 2 | 0 | 0 | 8.8 | — | 17.2 | 17 | 5.1 | 3 | 16 | 0 | 0 | 0 |
| Farafra . . . . | 36.8 | 7 | 20.0 | 9 | 17 | 8 | 2 | 0 | 0 | 8.2 | — | 16.8 | 8 | 4.7 | 20 | 21 | 2 | 0 | 0 |
| Dakhla . . . . | 36.6 | 7,17 | 20.2 | 22 | 19 | 10 | 1 | 0 | 0 | 6.7 | — | 14.2 | 8 | 3.3 | 3 | 24 | 10 | 0 | 0 |
| Kharga . . . . | 37.4 | 17 | 22.6 | 22 | 24 | 12 | 5 | 0 | 0 | 8.4 | — | 16.7 | 18 | 5.0 | 3 | 12 | 0 | 0 | 0 |
| Tor . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada . . . | 30.6 | 30 | 20.3 | 23 | 15 | 2 | 0 | 0 | 0 | — | — | 18.8 | 18 | 10.3 | 4 | 0 | 0 | 0 | 0 |
| Qusier . . . . . | 30.0 | 30 | 21.0 | 23 | 16 | 0 | 0 | 0 | 0 | 14.4 | — | 20.2 | 29 | 12.5 | 3 | 0 | 0 | 0 | 0 |

## Table A 3. — SKY COVER AND RAINFALL

## MARCH — 1970

| Station | Mean Sky Cover (Oct). | | | | | Rainfall mms. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 00 U.T. | 06 U.T. | 12 U.T. | 18 U.T. | Daily Mean | Total Amount | D. From Normal | Max. Fall in one day | | Number of Days with Amount of Rain | | | | | | |
| | | | | | | | | Amount | Date | <0.1 | ≥0.1 | ≥1.0 | ≥5.0 | ≥10 | ≥25 | ≥50 |
| Sallum . . . . . | 3.5 | 2.4 | 3.4 | 3.1 | 3.1 | 0.6 | —11.0 | 0.2 | 1 | 0 | 4 | 0 | 0 | 0 | 0 | 0 |
| Mersa Matruh (A) | 2.2 | 3.9 | 3.3 | 2.8 | 3.0 | 4.2 | — 8.1 | 1.8 | 21 | 0 | 4 | 3 | 0 | 0 | 0 | 0 |
| Alexandria . . (A) | 3.8 | 4.1 | 4.2 | 3.5 | 3.8 | 7.2 | — 5.2 | 4.1 | 9 | 1 | 6 | 2 | 0 | 0 | 0 | 0 |
| Port Said . . (A) | 1.8 | 2.3 | 2.9 | 2.8 | 2.4 | 7.6 | — 0.1 | 3.9 | 10 | 1 | 4 | 3 | 0 | 0 | 0 | 0 |
| El Arish . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta . . . . . | 0.7 | 2.2 | 3.6 | 1.1 | 2.0 | 3.4 | — 0.8 | 1.6 | 11 | 0 | 3 | 1 | 0 | 0 | 0 | 0 |
| Cairo . . . (A) | 1.5 | 2.9 | 3.6 | 1.5 | 2.5 | 0.6 | — 1.2 | 0.4 | 10 | 2 | 2 | 0 | 0 | 0 | 0 | 0 |
| Fayoum . . . . . | — | 1.6 | 3.0 | 2.0 | — | 0.0 | — 1.4 | 0 0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minya . . . . (A) | 0.8 | 1.7 | 2.1 | 0.6 | 1.5 | 0.0 | — 0.3 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Assyout. . . . (A) | 0.5 | 0.9 | 0.8 | 0.9 | 0.7 | 0.0 | Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Luxor . . . . (A) | 1.0 | 1.3 | 1.3 | 1.5 | 1.2 | Tr. | 0.0 | Tr . | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aswan . . . . (A) | 0.6 | 2.4 | 1.5 | 1.1 | 1.1 | 0.0 | Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Siwa . . . . . | 0.8 | 1.7 | 2.2 | 1.2 | 1.4 | Tr. | — 0.2 | Tr. | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bahariya . . . . . | 1.2 | 1.6 | 2.4 | 1.3 | 1.6 | 0.0 | Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Farafra . . . . . | — | 1.2 | 1.9 | 1.1 | — | 0.0 | — 0.2 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dakhla . . . . . | 0.6 | 0.3 | 0.9 | 0.5 | 0.5 | 0.0 | Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kharga . . . . . | 0.5 | 0.7 | 1.2 | 0.8 | 0.8 | 0.0 | Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tor . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada . . . . | 0.7 | 0.9 | 1.1 | 0.8 | 0.9 | 0.1 | — 0.3 | 0.1 | 8 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Quseir . . . . . | 0.9 | 1.6 | 1.5 | 1.1 | 1.3 | Tr. | — 0.3 | Tr. | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

## Table A 4. — DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

### MARCH — 1970

| Station | Precipitation | | | | Frost | Thunderstorm | Mist Vis ≥ 1000 Metres | Fog Vis <1000 metres | Haze Vis ≥ 1000 Metres | Thick Haze Vis < 1000 Metres | Dust or Sandrising Vis ≥ 1000 Metres | Dust or Sandstorm Vis < 1000 Metres | Gale | Clear Sky | Cloudy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rain | Snow | Ice. Pellets | Hail | | | | | | | | | | | |
| Sallum . . . . . | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 2 | 2 | 10 | 3 |
| Mersa Matruh . . . (A) | 4 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 0 | 0 | 17 | 6 | 3 | 7 | 0 |
| Alexandira . . . . (A) | 6 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 5 | 1 | 0 | 6 | 3 |
| Port Said . . . . (A) | 4 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 16 | 0 |
| El Arish . . . . . | | | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta . . . . . | 3 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 4 | 0 | 0 | 18 | 0 |
| Cairo . . . . . (A) | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 2 | 9 | — | 10 | 2 | 1 | 11 | 1 |
| Fayoum . . . . . | 0 | 0 | 0 | 0 | 0 | 0 | — | 0 | 2 | 0 | 2 | 0 | 0 | — | — |
| Minya . . . . . (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 2 | 1 | 0 | 21 | 0 |
| Assyout. . . . . (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 6 | 1 | 0 | 28 | 0 |
| Luxor . . . . . (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 10 | 1 | 0 | 23 | 0 |
| Aswan . . . . . (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 11 | 2 | 0 | 24 | 0 |
| Siwa . . . . . | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 23 | 0 |
| Bahariya . . . . . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 22 | 0 |
| Farafra . . . . . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | — | — |
| Dakhla . . . . . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 30 | 0 |
| Kharga . . . . . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 25 | 0 |
| Tor . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada . . . . . | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 16 | 0 | 0 | 27 | 0 |
| Quseir . . . . . | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 0 | 0 | 22 | 0 |

## Table A 5. NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

### MARCH — 1970

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | All directions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | |
| Sallum | 14 | 0 | 0 | 1—10 | 11 | 9 | 44 | 29 | 38 | 9 | 10 | 24 | 17 | 24 | 59 | 37 | 311 |
| | | | | 11—27 | 12 | 10 | 2 | 1 | 0 | 3 | 12 | 66 | 59 | 73 | 92 | 68 | 398 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 3 | 21 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **23** | **19** | **46** | **30** | **38** | **12** | **22** | **90** | **76** | **97** | **169** | **108** | **730** |
| Mersa Matruh | 18 | 0 | 0 | 1—10 | 23 | 31 | 10 | 15 | 23 | 18 | 14 | 27 | 17 | 26 | 20 | 24 | 248 |
| | | | | 11—27 | 13 | 1 | 0 | 6 | 9 | 23 | 83 | 25 | 51 | 59 | 79 | 90 | 439 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 1 | 13 | 9 | 0 | 8 | 8 | 0 | 39 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **36** | **32** | **10** | **21** | **32** | **42** | **110** | **61** | **68** | **93** | **107** | **114** | **726** |
| Alexandria | 0 | 0 | 72 | 1—10 | 34 | 22 | 9 | 31 | 39 | 55 | 27 | 5 | 19 | 41 | 38 | 33 | 353 |
| | | | | 11—27 | 13 | 6 | 0 | 1 | 9 | 10 | 14 | 28 | 74 | 83 | 68 | 12 | 318 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **47** | **28** | **9** | **32** | **48** | **65** | **41** | **34** | **93** | **124** | **106** | **45** | **672** |
| Port Said | 21 | 0 | 4 | 1—10 | 44 | 79 | 52 | 48 | 55 | 21 | 25 | 22 | 58 | 106 | 72 | 30 | 612 |
| | | | | 11—27 | 0 | 1 | 0 | 0 | 0 | 0 | 4 | 7 | 29 | 54 | 12 | 0 | 107 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **44** | **80** | **52** | **48** | **55** | **21** | **29** | **29** | **87** | **160** | **84** | **30** | **719** |
| Tanta | 35 | 0 | 17 | 1—10 | 35 | 52 | 41 | 59 | 34 | 47 | 48 | 29 | 58 | 55 | 30 | 45 | 533 |
| | | | | 11—27 | 2 | 15 | 2 | 0 | 0 | 1 | 3 | 9 | 27 | 32 | 39 | 29 | 159 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **37** | **67** | **43** | **59** | **34** | **48** | **51** | **38** | **85** | **87** | **69** | **74** | **692** |
| Cairo | 43 | 4 | 0 | —10 | 29 | 57 | 44 | 33 | 19 | 12 | 17 | 33 | 26 | 42 | 35 | 46 | 393 |
| | | | | 11—27 | 4 | 36 | 17 | 6 | 19 | 37 | 21 | 31 | 41 | 44 | 32 | 15 | 303 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **33** | **93** | **61** | **39** | **38** | **49** | **38** | **64** | **67** | **87** | **67** | **61** | **697** |
| Fayoum | 16 | 11 | 22 | 1—10 | 135 | 100 | 16 | 8 | 16 | 51 | 19 | 54 | 86 | 45 | 54 | 51 | 635 |
| | | | | 11—27 | 9 | 12 | 0 | 0 | 0 | 0 | 3 | 4 | 7 | 19 | 2 | 4 | 60 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **144** | **112** | **16** | **8** | **16** | **51** | **22** | **58** | **93** | **64** | **56** | **55** | **695** |
| Minya | 38 | 8 | 16 | 1—10 | 179 | 31 | 9 | 2 | 0 | 49 | 36 | 42 | 21 | 27 | 43 | 83 | 522 |
| | | | | 11—27 | 96 | 4 | 0 | 0 | 0 | 1 | 5 | 1 | 0 | 2 | 29 | 22 | 160 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **275** | **35** | **9** | **2** | **0** | **50** | **41** | **43** | **21** | **29** | **72** | **105** | **682** |

**Table A 5** (*contd.*)—**NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

**MARCH — 1970**

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | All directions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | |
| Asyout | 1 | 0 | 0 | 1—10 | 3 | 17 | 30 | 51 | 31 | 14 | 16 | 21 | 113 | 144 | 56 | 14 | 510 |
| | | | | 11—27 | 0 | 0 | 1 | 7 | 8 | 5 | 3 | 6 | 30 | 71 | 94 | 8 | 233 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **3** | **17** | **31** | **58** | **39** | **19** | **19** | **27** | **143** | **215** | **150** | **22** | **743** |
| Luxor | 14 | 0 | 27 | 1—10 | 89 | 46 | 18 | 21 | 22 | 30 | 67 | 39 | 40 | 113 | 94 | 60 | 639 |
| | | | | 11—27 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 26 | 27 | 3 | 64 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **89** | **51** | **18** | **21** | **22** | **30** | **67** | **39** | **43** | **139** | **121** | **63** | **703** |
| Aswan | 0 | 5 | 0 | 1—10 | 136 | 80 | 23 | 8 | 5 | 4 | 8 | 4 | 2 | 4 | 40 | 159 | 573 |
| | | | | 11—27 | 66 | 5 | 1 | 0 | 0 | 0 | 9 | 0 | 1 | 0 | 18 | 66 | 166 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **302** | **85** | **24** | **8** | **5** | **4** | **17** | **4** | **3** | **4** | **58** | **225** | **739** |
| Siwa | 35 | 7 | 0 | 1—10 | 23 | 19 | 29 | 42 | 57 | 38 | 39 | 28 | 20 | 75 | 140 | 36 | 546 |
| | | | | 11—27 | 6 | 2 | 0 | 0 | 1 | 6 | 36 | 26 | 2 | 6 | 61 | 10 | 156 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **29** | **21** | **29** | **42** | **58** | **44** | **75** | **54** | **22** | **81** | **201** | **46** | **702** |
| Dakhla | 37 | 6 | 0 | 1—10 | 37 | 23 | 21 | 23 | 35 | 35 | 46 | 24 | 40 | 71 | 145 | 99 | 599 |
| | | | | 11—27 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 40 | 50 | 102 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **47** | **23** | **21** | **23** | **35** | **35** | **46** | **24** | **40** | **73** | **185** | **149** | **701** |
| Kharga | 7 | 31 | 3 | 1—10 | 119 | 66 | 24 | 9 | 8 | 12 | 8 | 14 | 18 | 23 | 55 | 130 | 486 |
| | | | | 11—27 | 101 | 14 | 1 | 0 | 0 | 0 | 0 | 1 | 3 | 5 | 32 | 60 | 217 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **220** | **80** | **25** | **9** | **8** | **12** | **8** | **15** | **21** | **28** | **87** | **190** | **703** |
| Hurghada | 16 | 0 | 6 | 1—10 | 12 | 16 | 26 | 17 | 20 | 27 | 10 | 6 | 5 | 22 | 103 | 20 | 284 |
| | | | | 11—27 | 90 | 2 | 2 | 2 | 18 | 1 | 0 | 0 | 0 | 3 | 123 | 183 | 424 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 11 | 14 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **102** | **18** | **28** | **19** | **38** | **28** | **10** | **6** | **5** | **25** | **229** | **214** | **722** |
| Qusseir | 2 | 0 | 16 | 1—10 | 55 | 50 | 19 | 12 | 7 | 22 | 6 | 14 | 10 | 43 | 111 | 125 | 474 |
| | | | | 11—27 | 129 | 47 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 17 | 55 | 252 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **184** | **97** | **20** | **12** | **7** | **22** | **6** | **14** | **10** | **46** | **128** | **180** | **726** |

## Table B 1. – UPPER AIR CLIMATOLOGICAL DATA

## MARCH 1970

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 0000 T.U. | Surface | 26 | *1014mb. | *1022mb. | *1000mb. | 26 | 14.2 | 21.0 | 10.2 | 26 | 7.7 |
| | 1000 | 26 | 142 | 211 | 28 | 26 | 15.5 | 23.0 | 10.0 | 26 | 8.3 |
| | 850 | 26 | 1512 | 1565 | 1424 | 25 | 9.9 | 19.0 | 0.6 | 25 | —2.1 |
| | 700 | 24 | 3093 | 3186 | 2963 | 24 | 0.5 | 8.2 | — 8.1 | 24 | —13.2 |
| | 600 | 24 | 4309 | 4410 | 4151 | 24 | — 8.6 | — 3.6 | —18.7 | 24 | —21.5 |
| | 500 | 24 | 5697 | 5862 | 5515 | 24 | —17.6 | — 8.7 | —24.4 | 24 | —29.4 |
| | 400 | 24 | 7331 | 7532 | 7153 | 24 | —29.0 | —23.6 | —34.7 | 24 | —39.2 |
| | 300 | 24 | 9325 | 9562 | 9082 | 24 | —44.4 | —39.5 | —48.0 | 22 | —53.5 |
| | 250 | 21 | 10527 | 10773 | 10265 | 21 | —52.4 | —47.9 | —57.8 | 16 | —60.4 |
| | 200 | 14 | 11962 | 12188 | 11722 | 14 | —56.3 | —47.4 | —65.7 | 4 | —62.7 |
| | 150 | 11 | 13822 | 13968 | 13664 | 11 | —58.4 | —54.0 | —64.3 | — | — |
| | 100 | 4 | 16343 | 16457 | 16164 | 4 | —63.6 | —55.8 | —68.7 | — | — |
| | 70 | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Helwan 0000 U.T. | Surface | 25 | *998mb. | *1007mb. | *986mb. | 25 | 15.4 | 24.0 | 9.5 | 25 | 3.6 |
| | 1000 | 25 | 128 | 198 | 26 | 9 | 13.4 | 18.5 | 9.9 | 9 | 5.3 |
| | 850 | 25 | 1503 | 1548 | 1429 | 25 | 11.1 | 20.0 | —0.5 | 25 | — 4.0 |
| | 700 | 25 | 3094 | 3180 | 3001 | 25 | 1.5 | 8.2 | —5.5 | 25 | —14.8 |
| | 600 | 25 | 4307 | 4396 | 4125 | 25 | —6.6 | —1.2 | —12.1 | 25 | —22.6 |
| | 500 | 24 | 5716 | 5852 | 5597 | 24 | —12.2 | —10.2 | —21.1 | 24 | —31.9 |
| | 400 | 24 | 7357 | 7528 | 7205 | 24 | —28.9 | —23.6 | —36.7 | 24 | —40.6 |
| | 300 | 24 | 9352 | 9559 | 9161 | 24 | —43.9 | —39.0 | —49.0 | 24 | —54.1 |
| | 250 | 24 | 10557 | 10770 | 10359 | 24 | —51.2 | —40.9 | —55.5 | 24 | —60.6 |
| | 200 | 23 | 11991 | 12190 | 11824 | 23 | —54.7 | —47.3 | —62.4 | 18 | —61.9 |
| | 150 | 23 | 13812 | 13980 | 13655 | 23 | —59.6 | —53.5 | —68.4 | 12 | —66.0 |
| | 100 | 22 | 16436 | 16580 | 16170 | 22 | —67.3 | —61.7 | —72.8 | — | — |
| | 70 | 18 | 18444 | 18720 | 18304 | 18 | —67.0 | —63.1 | —73.0 | — | — |
| | 60 | 16 | 19388 | 19590 | 19080 | 16 | —64.1 | —58.4 | —69.0 | — | — |
| | 50 | 16 | 20500 | 20788 | 20345 | 16 | —61.2 | —56.5 | —64.5 | — | — |
| | 40 | 10 | 21974 | 22190 | 21820 | 10 | —57.6 | —51.1 | —66.1 | — | — |
| | 30 | 9 | 23745 | 24038 | 23556 | 9 | —55.9 | —51.7 | —70.1 | — | — |
| | 20 | 2 | 26516 | 26716 | 26315 | 2 | —43.5 | —41.7 | —45.3 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Aswan 0000 U.T. | Surace | 30 | *990mb. | *995mb. | *984mb. | 30 | 17.7 | 23.5 | 11.8 | 30 | 0.3 |
| | 1000 | 30 | 110 | 167 | 55 | — | — | — | — | — | — |
| | 850 | 30 | 1502 | 1538 | 1461 | 30 | 15.8 | 23.3 | 6.8 | 30 | —3.4 |
| | 700 | 30 | 3125 | 3188 | 3042 | 30 | 7.6 | 18.3 | 0.5 | 30 | —12.8 |
| | 600 | 29 | 4378 | 4435 | 4276 | 29 | —0.3 | 4.7 | — 7.9 | 29 | —19.2 |
| | 500 | 29 | 5814 | 5872 | 5687 | 29 | —9.7 | — 4.7 | —15.6 | 29 | —27.2 |
| | 400 | 29 | 7499 | 7609 | 7337 | 29 | —22.1 | —16.6 | —27.2 | 29 | —36.9 |
| | 300 | 29 | 9560 | 9690 | 9379 | 29 | —36.2 | —29.2 | —42.5 | 27 | —47.5 |
| | 250 | 27 | 10801 | 10935 | 10641 | 27 | —42.9 | —35.9 | —48.0 | 26 | —54.1 |
| | 200 | 27 | 12270 | 12394 | 12112 | 27 | —52.4 | —47.4 | —57.0 | 26 | —62.4 |
| | 150 | 24 | 14090 | 14213 | 13912 | 24 | —62.6 | —54.7 | —67.0 | 4 | —67.2 |
| | 100 | 19 | 16545 | 16687 | 16386 | 19 | —72.5 | —66.0 | —77.8 | — | — |
| | 70 | 10 | 18642 | 18757 | 18476 | 10 | —72.3 | —68.4 | —75.6 | — | — |
| | 50 | 6 | 19595 | 19740 | 19470 | 6 | —66.1 | —65.0 | —67.8 | — | — |
| | 50 | 6 | 20667 | 20812 | 20513 | 6 | —62.0 | —56.4 | —64.6 | — | — |
| | 40 | 5 | 22190 | 22340 | 22080 | 5 | —57.8 | —56.6 | —59.5 | — | — |
| | 30 | 5 | 23932 | 24075 | 23810 | 5 | —53.3 | —51.0 | —55.4 | — | — |
| | 20 | 4 | 26538 | 26599 | 26442 | 4 | —49.1 | —47.1 | —50.7 | — | — |
| | 10 | 1 | 29077 | — | — | — | —43.0 | — | — | — | — |

N = The number of cases the element has been observes during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

## Table B 1 (*cont'd.*) - UPPER AIR CLIMATOLOGICAL DATA

### MARCH — 1970

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 12000 U.T. | Surface | 27 | *1013mb. | *1022mb. | *100mb. | 27 | 20.5 | 33.8 | 16.6 | 27 | 8.1 |
| | 1000 | 27 | 135 | 214 | 28 | 27 | 19.4 | 33.6 | 15.0 | 27 | 7.1 |
| | 850 | 27 | 1507 | 1581 | 1409 | 27 | 10.1 | 23.2 | 1.6 | 27 | — 4.6 |
| | 700 | 27 | 3098 | 3189 | 2974 | 27 | 0.9 | 8.6 | —9.7 | 27 | —14.4 |
| | 600 | 26 | 4318 | 4433 | 4162 | 26 | —7.6 | —2.7 | —13.7 | 26 | —20.6 |
| | 500 | 25 | 5720 | 5850 | 5529 | 25 | —17.0 | —12.8 | —20.9 | 25 | —30.2 |
| | 400 | 24 | 7354 | 7515 | 7158 | 24 | —28.3 | —17.3 | —35.0 | 24 | —40.4 |
| | 300 | 22 | 9369 | 9536 | 9234 | 22 | —43.6 | —32.5 | —49.5 | 21 | —54.0 |
| | 250 | 19 | 10571 | 10749 | 10441 | 19 | —52.3 | —44.8 | —58.1 | 16 | —61.8 |
| | 200 | 16 | 11982 | 12173 | 11884 | 16 | —54.8 | —48.2 | —60.9 | 13 | —63.5 |
| | 150 | 12 | 13821 | 13965 | 13696 | 12 | —57.1 | —52.1 | —63.0 | 3 | —66.9 |
| | 100 | 7 | 16372 | 16521 | 16198 | 7 | —64.0 | —59.6 | —70.0 | — | — |
| | 70 | 2 | 18474 | 18557 | 18390 | 2 | —65.3 | —64.3 | —66.3 | — | — |
| | 60 | 2 | 19440 | 19530 | 19350 | 2 | —60.0 | —57.0 | —63.0 | — | — |
| | 50 | 2 | 20561 | 20630 | 20492 | 2 | —59.8 | —59.2 | —60.5 | — | — |
| | 40 | 1 | 21961 | — | — | 1 | —52.3 | — | — | — | — |
| | 30 | 1 | 23750 | — | — | 1 | —58.1 | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Helwan 12000 U.T. | Surface | 26 | *998mb. | *1006mb. | *987mb. | 26 | 23.8 | 32.6 | 17.4 | 26 | 4.1 |
| | 1000 | 26 | 122 | 191 | 21 | 8 | 21.4 | 28.4 | 17.8 | 8 | 3.0 |
| | 850 | 26 | 1507 | 1553 | 1429 | 26 | 10.8 | 19.8 | 1.8 | 26 | —5.0 |
| | 700 | 25 | 3094 | 3167 | 2992 | 25 | 1.2 | 8.1 | —7.5 | 25 | —16.7 |
| | 600 | 25 | 4317 | 4410 | 4187 | 25 | —6.8 | —2.1 | —14.8 | 25 | —23.6 |
| | 500 | 23 | 5717 | 5829 | 5562 | 23 | —15.2 | —12.2 | —21.8 | 23 | —31.5 |
| | 400 | 22 | 7356 | 7500 | 7188 | 22 | —27.9 | —24.0 | —32.4 | 22 | —41.9 |
| | 300 | 22 | 9357 | 9522 | 9178 | 22 | —42.9 | —35.0 | —47.2 | 22 | —55.1 |
| | 250 | 21 | 10563 | 10732 | 10377 | 21 | —49.8 | —45.5 | —54.5 | 21 | —60.7 |
| | 200 | 20 | 12018 | 12152 | 11848 | 20 | —52.7 | —47.1 | —59.3 | 20 | —63.5 |
| | 150 | 19 | 13858 | 13949 | 13731 | 19 | —58.3 | —53.7 | —64.8 | 9 | —67.0 |
| | 100 | 18 | 16360 | 16471 | 16239 | 18 | —65.2 | —62.0 | —71.3 | — | — |
| | 70 | 13 | 18542 | 18647 | 18434 | 13 | —63.5 | —58.0 | —67.8 | — | — |
| | 60 | 11 | 19553 | 19700 | 19450 | 11 | —62.1 | —58.0 | —68.3 | — | — |
| | 50 | 11 | 20635 | 20745 | 20526 | 11 | —58.8 | —52.3 | —61.9 | — | — |
| | 40 | 8 | 22110 | 22170 | 22040 | 8 | —54.5 | —52.4 | —56.0 | — | — |
| | 30 | 8 | 23883 | 23962 | 23803 | 8 | —43.6 | —47.0 | —53.4 | — | — |
| | 20 | 6 | 26544 | 26641 | 26438 | 6 | —46.3 | —44.5 | —48.8 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Aswan 12000 U.T. | Surface | 31 | *989mb. | *995mb. | *980mb. | 31 | 28.0 | 36.2 | 22.0 | 31 | 1.8 |
| | 1000 | 31 | 102 | 168 | 8 | — | — | — | — | — | — |
| | 850 | 31 | 1509 | 1551 | 1443 | 31 | 15.6 | 23.3 | 8.0 | 31 | —9.0 |
| | 700 | 30 | 3130 | 3167 | 3067 | 30 | 6.7 | 11.9 | 0.8 | 30 | —16.7 |
| | 600 | 30 | 4378 | 4429 | 4297 | 30 | —0.9 | 3.9 | —6.0 | 30 | —22.6 |
| | 500 | 30 | 5810 | 5880 | 5710 | 30 | —10.4 | —4.9 | —15.0 | 30 | —30.2 |
| | 400 | 30 | 7491 | 7590 | 7361 | 30 | —22.8 | —17.8 | —26.6 | 30 | —40.1 |
| | 300 | 28 | 9553 | 9668 | 9391 | 28 | —35.8 | —30.9 | —39.8 | 28 | —51.2 |
| | 250 | 27 | 10803 | 10912 | 10654 | 27 | —43.8 | —38.5 | —48.9 | 27 | —57.6 |
| | 200 | 26 | 12274 | 12372 | 12111 | 26 | —53.1 | —46.8 | —58.4 | 26 | —65.5 |
| | 150 | 25 | 14086 | 14175 | 13943 | 25 | —62.6 | —56.0 | —71.2 | 10 | —71.3 |
| | 100 | 21 | 16540 | 16669 | 16410 | 21 | —71.1 | —66.5 | —76.0 | — | — |
| | 70 | 13 | 18648 | 18794 | 18524 | 13 | —71.2 | —67.2 | —73.0 | — | — |
| | 60 | 7 | 19636 | 19750 | 19520 | 7 | —67.6 | —64.2 | —70.2 | — | — |
| | 50 | 7 | 20710 | 20813 | 20613 | 7 | —62.4 | —60.0 | —65.0 | — | — |
| | 40 | 4 | 22192 | 22300 | 22110 | 4 | —55.3 | —53.5 | —56.7 | — | — |
| | 30 | 4 | 23943 | 24046 | 23856 | 4 | —52.1 | —49.6 | —57.7 | — | — |
| | 20 | 1 | 26518 | — | — | 1 | —48.7 | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of radiosonde station.

**Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE : THE HIGHEST WIND SPEED IN THE UPPER AIR**

**MARCH — 1970**

| | STATION | Freezing Level | | | | | | | | | First Tropopause | | | | | | | | | Highest wind speed | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | | | Highest | | | Lowest | | | Mean | | | Highest | | | Lowest | | | | | | |
| | | Altitude (gpm) | Pressure (mb.) | Dew Point (°C) | Altitude (gpm) | Pressure (mp.) | Dew Point (°C) | Altitude (gpm) | Pressure (mb.) | Dew Point (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitaed (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Direction (000—360)° | Speed in knots |
| 0000 U.T. | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | Mera Metruh . | 2976 (24) | 714 (24) | —11.3 (24) | 4200 | 617 | —31.6 | 1745 | 841 | —8.0 | 11067 (14) | 232 (14) | —56.3 (14) | 12910 | 174 | —65.3 | 9880 | 266 | —53.6 | 8315 | 338 | 250 | 164 |
| | Helwan . . . | 3151 (25) | 699 (25) | —14.5 (25) | 4170 | 617 | —19.1 | 1520 | 854 | —1.7 | 11724 (22) | 219 (22) | —57.5 (22) | 16440 | 97 | —71.2 | 8560 | 331 | —40.5 | 13900 | 151 | 260 | 159 |
| | Aswan . . . . | 4343 (29) | 605 | —19.0 | 5290 | 542 | —16.9 | 3250 | 662 | —15.0 | 15785 (9) | 122 (9) | —71.0 (9) | 17940 | 79 | —76.2 | 11800 | 216 | —54.3 | 11150 | 235 | 268 | 162 |
| 1200 U.T. | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | Mersa Matru . | 3050 (27) | 688 (27) | —12.7 (27) | 4060 | 622 | —13.9 | 1700 | 824 | —9.1 | 10878 (15) | 240 (15) | —55.4 (15) | 12935 | 177 | —62.7 | 9540 | 291 | —44.8 | 7610 | 382 | 265 | 168 |
| | Helwan . . . | 3138 (25) | 655 (25) | —15.7 (25) | 4080 | 614 | —25.9 | 2060 | 790 | —9.8 | 11391 (20) | 224 (20) | —54.9 (20) | 16770 | 94 | —71.2 | 8650 | 326 | —41.2 | 11220 | 231 | 290 | 150 |
| | Aswan . . . . | 4204 (29) | 614 (29) | —22.3 (27) | 5100 | 550 | —23.5 | 2370 | 650 | —20.7 | 16204 (10) | 98 (10) | —72.3 (10) | 17810 | 80 | —76.7 | 14520 | 140 | —68.2 | 11990 | 180 | 278 | 160 |

N — The number of cases the element bas been observed during the month.

## Table B 3. – NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

### MERSA MATRUH (A) MARCH – 1970

| Time | Pressure Surface (Millibar.) | Wind between ranges of direction (000—360°) | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (T.N) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 T.U. | Surface | 1 | 15 | 0 | — | 1 | 17 | 1 | 3 | 2 | 10 | 4 | 11 | 2 | 16 | 2 | 3 | 7 | 10 | 1 | 5 | 3 | 15 | 0 | — | 2 | 26 | 10 |
| | 1000 | 1 | 23 | 0 | — | 0 | — | 1 | 7 | 1 | 12 | 1 | 30 | 2 | 26 | 1 | 9 | 3 | 12 | 2 | 20 | 3 | 18 | 2 | 16 | 0 | 17 | 18 |
| | 850 | 0 | — | 0 | — | 1 | 7 | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 24 | 1 | 25 | 5 | 24 | 4 | 29 | 3 | 19 | 0 | 17 | 23 |
| | 700 | 1 | 9 | 0 | — | 1 | 6 | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 25 | 1 | 48 | 5 | 34 | 4 | 26 | 1 | 31 | 0 | 16 | 28 |
| | 600 | 1 | 5 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 41 | 4 | 46 | 5 | 49 | 3 | 33 | 2 | 25 | 0 | 16 | 39 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 42 | 5 | 67 | 2 | 52 | 8 | 43 | 0 | — | 0 | 16 | 52 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 54 | 2 | 85 | 7 | 59 | 2 | 64 | 4 | 27 | 0 | 16 | 62 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 100 | 2 | 60 | 5 | 88 | 3 | 56 | 0 | — | 0 | 11 | 75 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 98 | 4 | 79 | 4 | 60 | 0 | — | 0 | 10 | 75 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 56 | 2 | 7[illegible] | 2 | 86 | 0 | — | 0 | 6 | 76 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 82 | 0 | — | 0 | 3 | 82 |
| | 100 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 T.U. | Surface | 1 | 4 | 3 | 5 | 0 | — | 1 | 10 | 1 | 5 | 0 | — | 2 | 25 | 3 | 25 | 0 | — | 2 | 22 | 9 | 21 | 4 | 9 | 1 | 27 | 16 |
| | 1000 | 0 | — | 0 | — | 2 | 10 | 2 | 8 | 0 | — | 1 | 7 | 1 | 28 | 3 | 31 | 1 | 26 | 2 | 14 | 5 | 22 | 8 | 16 | 0 | 25 | 18 |
| | 850 | 2 | 5 | 0 | — | 1 | 13 | 1 | 5 | 0 | — | 1 | 19 | 0 | — | 3 | 24 | 4 | 26 | 7 | 20 | 0 | — | 6 | 18 | 0 | 25 | 19 |
| | 700 | 1 | 16 | 3 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 16 | 1 | 42 | 5 | 35 | 6 | 32 | 3 | 36 | 4 | 28 | 0 | 24 | 28 |
| | 600 | 1 | 23 | 0 | — | 1 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 34 | 5 | 30 | 6 | 40 | 2 | 27 | 5 | 26 | 0 | 22 | 31 |
| | 500 | 0 | — | 0 | — | 1 | 16 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 32 | 5 | 51 | 5 | 63 | 5 | 34 | 4 | 26 | 0 | 21 | 43 |
| | 400 | 1 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 73 | 3 | 45 | 7 | 84 | 5 | 52 | 3 | 29 | 0 | 20 | 58 |
| | 300 | 1 | 35 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 67 | 5 | 77 | 6 | 56 | 3 | 54 | 0 | 17 | 62 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 91 | 4 | 76 | 4 | 46 | 0 | 13 | 73 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 115 | 5 | 59 | 1 | 78 | 0 | 10 | 84 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 76 | 2 | 84 | 1 | 63 | 0 | 6 | 77 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 60 | 1 | 46 | 0 | — | 0 | 5 | 57 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 32 | 0 | — | 1 | 29 | 0 | — | 0 | 2 | 30 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 16 | 0 | 1 | 16 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 12 | 0 | — | 0 | 1 | 12 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N– The number of cases the element has been observed during the month.

TN—The total number of cases the wind has been observed for all directions during the month.

**Table B 3.—(*contd.*) NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**HELWAN (A) MARCH — 1970**

| Time | Pressure Surface (Millibar.) | Wind between ranges of direction (000—360°) | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (T.N) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 4 | 7 | 3 | 7 | 0 | — | 6 | 9 | 1 | 5 | 2 | 6 | 1 | 5 | 1 | 6 | 1 | 5 | 1 | 4 | 1 | 7 | 4 | 6 | 0 | 25 | 6 |
| | 1000 | 2 | 12 | 1 | 16 | 0 | — | 2 | 16 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 7 | 3 | 10 | 0 | 9 | 12 |
| | 850 | 1 | 13 | 1 | 17 | 0 | — | 3 | 11 | 3 | 8 | 1 | 22 | 2 | 20 | 2 | 20 | 5 | 25 | 4 | 20 | 0 | — | 3 | 19 | 0 | 25 | 18 |
| | 700 | 1 | 18 | 2 | 12 | 0 | — | 2 | 12 | 0 | — | 0 | — | 2 | 5 | 2 | 38 | 2 | 44 | 9 | 27 | 2 | 28 | 3 | 29 | 0 | 25 | 25 |
| | 600 | 0 | — | 1 | 15 | 1 | 13 | 0 | — | 1 | 8 | 0 | — | 0 | — | 2 | 32 | 8 | 35 | 4 | 41 | 4 | 32 | 3 | 32 | 0 | 24 | 32 |
| | 500 | 2 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 28 | 4 | 44 | 7 | 43 | 4 | 35 | 1 | 38 | 0 | 20 | 37 |
| | 400 | 1 | 25 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 53 | 8 | 58 | 5 | 54 | 1 | 25 | 0 | 19 | 52 |
| | 300 | 1 | 44 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 89 | 5 | 72 | 5 | 73 | 2 | 58 | 0 | 17 | 73 |
| | 250 | 1 | 48 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 6 | 91 | 3 | 68 | 0 | — | 0 | 10 | 80 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0x | — | 0 | — | 0 | — | 0 | — | 6 | 120 | 3 | 92 | 0 | — | 0 | 9 | 111 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 78 | 0 | — | 0 | 3 | 78 |
| | 100 | 0 | — | 9 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 52 | 0 | — | 0 | 1 | 52 |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 2 | 10 | 1 | 11 | 1 | 10 | 0 | — | 0 | — | 0 | — | 1 | 7 | 1 | 4 | 9 | 10 | 6 | 12 | 3 | 6 | 2 | 10 | 0 | 26 | 10 |
| | 1000 | 3 | 11 | 0 | — | 1 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 11 | 1 | 18 | 1 | 19 | 1 | 9 | 0 | 8 | 13 |
| | 850 | 4 | 12 | 1 | 15 | 0 | — | 2 | 7 | 2 | 12 | 0 | — | 2 | 26 | 2 | 12 | 4 | 20 | 6 | 19 | 1 | 19 | 2 | 14 | 0 | 26 | 16 |
| | 700 | 1 | 22 | 2 | 12 | 1 | 5 | 0 | — | 1 | 11 | 2 | 14 | 2 | 24 | 1 | 31 | 6 | 27 | 3 | 39 | 3 | 32 | 3 | 29 | 0 | 25 | 25 |
| | 600 | 1 | 15 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 30 | 3 | 14 | 4 | 42 | 7 | 35 | 2 | 38 | 4 | 30 | 0 | 23 | 32 |
| | 500 | 1 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 89 | 0 | — | 8 | 51 | 4 | 47 | 4 | 60 | 2 | 33 | 0 | 20 | 48 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 83 | 5 | 63 | 7 | 51 | 3 | 61 | 2 | 31 | 0 | 18 | 56 |
| | 300 | 1 | 32 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 76 | 6 | 82 | 3 | 90 | 0 | — | 0 | 12 | 79 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 99 | 3 | 104 | 2 | 110 | 1 | 38 | 0 | 9 | 101 |
| | 200 | 1 | 79 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 110 | 1 | 137 | 0 | — | 0 | — | 0 | 3 | 109 |
| | 150 | 1 | 65 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | — | — | 1 | 144 | — | — | — | — | — | — | — | 2 | 104 |
| | 100 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N—The number of cases the element has been observed during the month.

TN—The total number of cases the wind has been observed for all directions during the month.

**Table B 3.— (*contd.*) NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**ASWAN (A) MARCH — 1970**

| Time | Pressure Surface (Millibar.) | Wind between ranges of direction (000—360°) | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (T.N) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | )ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 T.U. | Surface | 7 | 10 | 6 | 6 | 2 | 6 | 0 | — | 1 | 3 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 8 | 10 | 12 | 1 | 30 | 9 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 2 | 16 | 8 | 12 | 2 | 11 | 2 | 6 | 1 | 8 | 1 | 4 | 0 | — | 1 | 5 | 1 | 10 | 1 | 6 | 7 | 22 | 2 | 6 | 0 | 28 | 13 |
| | 700 | 2 | 7 | 1 | 3 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 22 | 4 | 12 | 12 | 26 | 5 | 21 | 3 | 15 | 0 | 28 | 20 |
| | 600 | 0 | — | 0 | — | 0 | — | 1 | 5 | 0 | — | 0 | — | 0 | — | 1 | 12 | 4 | 40 | 10 | 36 | 8 | 19 | 3 | 18 | 0 | 27 | 27 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 53 | 16 | 34 | 3 | 34 | 3 | 23 | 0 | 27 | 40 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 62 | 14 | 61 | 8 | 43 | 0 | — | 0 | 26 | 56 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 79 | 14 | 92 | 7 | 57 | 0 | — | 0 | 26 | 80 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 95 | 16 | 70 | 6 | 78 | 0 | — | 0 | 25 | 100 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | | 0 | — | 2 | 97 | 18 | 111 | 5 | 84 | 0 | — | 0 | 25 | 106 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 108 | 15 | 88 | 3 | 109 | 0 | | 0 | 20 | 93 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 39 | 8 | 53 | 1 | 42 | 0 | — | 0 | 13 | 48 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 32 | 2 | 29 | 0 | | 0 | 6 | 31 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | | 2 | 15 | 4 | 33 | 0 | — | 0 | — | 0 | 6 | 27 |
| | 50 | 0 | — | 0 | — | 1 | 13 | 0 | — | 0 | — | 0 | — | 1 | 7 | 0 | — | 0 | — | 2 | 14 | 1 | 15 | 0 | — | 0 | 5 | 12 |
| | 40 | 0 | — | 9 | — | 0 | — | 0 | — | 1 | 18 | 0 | — | 0 | — | 0 | — | 1 | 7 | 0 | — | 2 | 19 | 1 | 10 | 0 | 5 | 15 |
| | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 28 | 1 | 12 | 0 | — | 0 | 3 | 23 |
| | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 9 | 0 | — | 0 | 1 | 9 |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 T.U. | Surface | 13 | 11 | 3 | 8 | 1 | 8 | 2 | 4 | 1 | 4 | 0 | — | 2 | 14 | 0 | — | 0 | — | 0 | — | 1 | 10 | 8 | 8 | 0 | 31 | 9 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 850 | 4 | 16 | 2 | 12 | 3 | 6 | 4 | 11 | 0 | — | 0 | — | 0 | — | 1 | 30 | 2 | 14 | 0 | — | 6 | 16 | 5 | 9 | 0 | 27 | 13 |
| | 700 | 0 | — | 2 | 15 | 2 | 8 | 0 | — | 0 | — | 0 | — | 1 | 6 | 0 | — | 4 | 20 | 8 | 26 | 5 | 24 | 4 | 16 | 0 | 26 | 20 |
| | 600 | 2 | 16 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 8 | 27 | 11 | 29 | 4 | 28 | 1 | 24 | 0 | 26 | 27 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 36 | 17 | 44 | 4 | 40 | 2 | 32 | 0 | 26 | 41 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 60 | 16 | 56 | 4 | 47 | 2 | 32 | 0 | 26 | 52 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 96 | 16 | 80 | 3 | 51 | 0 | — | 0 | 22 | 78 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 81 | 14 | 98 | 5 | 86 | 0 | — | 0 | 22 | 93 |
| | 200 | 0 | — | 0 | — | 9 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 91 | 13 | 105 | 4 | 102 | 0 | — | 0 | 21 | 102 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 92 | 12 | 97 | 4 | 84 | 0 | — | 0 | 20 | 93 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 63 | 0 | — | 0 | — | 2 | 38 | 12 | 56 | 1 | 92 | 0 | — | 0 | 16 | 57 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 32 | 3 | 29 | 1 | 25 | 0 | — | 0 | 5 | 29 |
| | 60 | 0 | — | 0 | — | 1 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 21 | 1 | 15 | 0 | — | 0 | — | 0 | 4 | 16 |
| | 50 | 0 | — | 1 | 9 | 0 | — | 1 | 28 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 10 | 0 | — | 0 | — | 0 | 3 | 16 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 16 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 12 | 0 | — | 0 | 2 | 14 |
| | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 14 | 0 | — | 0 | — | 0 | — | 0 | 1 | 14 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N—The numher of cases the element has been observed during the monh.

TN—The total number of cases the wind has been observed for all directions during the month.

# REVIEW OF AGRO-METEOROLOGICAL STATIONS

## MERSA MATRUH — MARCH 1970

This month as a whole was warmer than normal and remarkably less rainy. The total monthly rainfall was 4.2 mm. against 13.7 mm. for normal.

The month was characterized by three khamsin heat waves during the periods (3rd—8th), (13th—16th) and (28th—30th). The second heat wave yielded the highest maximum air temperature for the month (34.8°C) and the lowest relative humidity (3%) on the 16th. During rest of month, mild weather was experienced and maximum air temperatures were slightly below normal.

The mean daily actual duration of bright sunshine was 2.4 hour more than the corresponding value of El Kasr in March 1969.

## TAHRIR — MARCH 1970

This month as a whole was slightly cooler and less rainy than last March.

The month was characterized by three khamsin heat waves during the periods (3rd-8th), (14th-17th) and (27th-30th). The highest maximum air temperature for the month (34.9°C) was reported on both the 16th and 30th. During rest of the month mild weather prevailed and maximum air temperatures were below normal.

The extreme maximum soil temperatures were higher than the corresponding values of last March at 2, 5 cm. depths by 0.1, 0.5°C respectively. At other depths between 10, 100 cm. the extreme soil. maxima were lower than last March, and the differences varied between 1.5 °C at 20 cm. and 0.4 °C at 100 cm. The extreme minimum soil temperatures were lower than the corresponding values of last March at 2.5 100 cm with differences ranging between 1.8°C at 2 cm. and 0.2 °C at 100 cm. At depths between 10, 50 cm. the extreme soil minima were higher than last March, and the differences vaired between 0.4°C, 1.3°C.

The mean daily pan evaporation was slightly less (0.03 mm) than the corresponding value of March 1969. The mean daily actual duration of bright sunshine was 2.2 hour more than its value for March 1969.

## BAHTIM — MARCH 1970

Compared with last March, this month as a whole was slightly cooler and less rainy. The total monthly rainfall was only 0.4 mm. against 7.8 mm. for last March.

Three khamsin heat waves were experienced during the periods : (3rd—8th), 14th—17ht) and (27th—30th). The second heat wave yielded the highest maximum air temperature for the month (33.5 °C) on the 16th and the lowest relative humidity 12%) on the 15th. The break down of these heat waves was followed by mild periods in which maximum air temperatures were below normal.

The extreme maximum soil temperatures were higher than the corresponding values of last March at 2, 5, 100 cm. depths with differences ranging between 3.5°C at 2 cm. and 0.3°C at 100 cm. At depths between 10, 50 cm. the extreme soil maxima were slightly lower (0.1 °C to 0.4 °C) than last March. The extreme minimum soil temprerures were slightly higher (0.3°C to 0.6°C) than the corresponding values of last March at all depths apart from the 50cm. depth where the values were the same.

The mean daiy pan evaporation was slightly more (0.02 mm.) than the corresponding value of March 1969. The mean daily actual duration of bright sunshine was 2.0 hour more than its value for March 1969.

## KHARGA - MARCH 1970

This month as a whole was slightly warmer than normal and rainless.

Three khamsin heat waves occured during the periods (4th—8th), (14th—17th) and (28th—30th). The second heat wave yielded the highest maximum air temperature for the month (37.4°C) and the lowest relative humidity (6%) on the 17th. During rest of the month, mild weather was experienced and maximum air temperatures were below normal.

The extreme maximum soil temperatures were lower than the corresponding values of last March at all depths between 2, 100 cm. and the difference was highest (2.4°C) at 20 cm, and lowest (0.8°C) at 100 cm. The extreme minimum soil temperatures were lower than the corresponding values of last March at all depths apart from the 100 cms depth where the value was slightly higher (0.1°C), the difference was highest (3.9 °C) at 2 cm. and lowest (1.3 °C) at 20 cm.

The mean daily pan eveportation was 2.04 mm. less than the corresponding value of March 1969. The mean daily actual duration of bright sunshine was 0.6 hour more than its value for March 1969.

## Table C 1. —AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

### MARCH — 1970

| STATION | Air Temperature (°C) | | | | | Mean Duration in hours of daily air temperature above the following values | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean Max. | Mean Min. | Mean of the day | Night time mean | Day time mean | 5°C | 6°C | 5°C | 10°C | 15°C | 20°C | 25°C | 30°C | 35°C | 40°C | 45°C |
| Mersa Matruh | 23.0 | 11.5 | 16.8 | 14.5 | 19.1 | 24.0 | 24.0 | 24.0 | 21.9 | 14.6 | 4.4 | 1.9 | 0.6 | 0 | 0 | 0 |
| Tahrir | 25.7 | 9.6 | 17.1 | 13.3 | 20.9 | 24.0 | 24.0 | 24.0 | 21.4 | 13.8 | 6.8 | 2.8 | 1.0 | 0 | 0 | 0 |
| Bahtim | 25.3 | 8.2 | 16.4 | 12.2 | 20.6 | 24.0 | 24.0 | 24.0 | 19.7 | 12.9 | 5.7 | 2.7 | 0.8 | 0.0 | 0.0 | 0.0 |
| Kharga | 29.1 | 11.1 | 20.4 | 16.7 | 24.1 | 24.0 | 24.0 | 24.0 | 22.8 | 18.8 | 11.4 | 5.3 | 2.3 | 0.3 | 0.0 | 0.0 |

## Table C 2. —EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS

### MARCH — 1970

| STATION | Max. Temp. at 1½ metres (°C) | | | | Min. Temp. at 1½ metres (°C) | | | | Min. Temp. at 5 cms. above (°C) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | | Lowest | | Highest | | Lowest | | Dry soil | | Grass | |
| | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date |
| Mersa Matruh | 34.8 | 16 | 17.4 | 21 | 18.3 | 16 | 6.5 | 28 | 2.4 | 25 | — | — |
| Tahrir | 34.9 | 16.30 | 19.2 | 22 | 14.6 | 16 | 6.1 | 13 | 4.1 | 3 | — | — |
| Bahtim | 33.5 | 16 | 20.0 | 10 22 | 12.4 | 10 | 4.2 | 13 | 1.6 | 13 | — | — |
| Kharga | 37.4 | 17 | 22.6 | 22 | 16.7 | 18 | 5.0 | 3 | 3.1 | 3 | — | — |

## Table C 3. (SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL

### MARCH - 1970

| STATION | (Solar+Sky) Radiation gm. cal/cm² | Duration of Bright Sunshine (hours) | | | Relative Humidity | | | | Vapour pressure (mms) | | | | | | Evaporation (mms) | | Rainfall (mms) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Actual monthly | Total Possible monthly | % | Mean of day | 1200 U.T. | Lowest | Date | Mean of day | 1200 U.T. | Highest | Date | Lowest | Date | Piche | Pan class A | Total Amount Monthly | Max. fall in one day | Date |
| M. Matruh | 421.3 | 269.1 | 371.2 | 72 | 58 | 42 | 3 | 16 | 7.6 | 7.2 | 13.5 | 6 | 0.9 | 16 | 11.7 | 16.6* | 4.2 | 1.8 | 21 |
| Tahrir | 413.2 | 278.0 | 371.5 | 75 | 58 | 36 | 10 | 17 | 7.9 | 7.4 | 13.0 | 30 | 3.3 | 17 | 8.8 | 7.47 | 4.2 | 2.0 | 10 |
| Bahtim | 406.4 | 272.1 | 371.4 | 73 | 58 | 36 | 12 | 15 | 7.6 | 7.6 | 12.5 | 7 | 2.2 | 3 | 7.5 | 6.59 | 0.4 | 0.2 | 10 |
| Kharga | 494.4 | 331.7 | 371.8 | 89 | 29 | 18 | 6 | 17 | 4.9 | 5.0 | 9.5 | 8 | 2.0 | 31 | 13.6 | 11.26 | 0 | 0 | — |

* Mean of 23 days only.

## Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

### MARCH — 1970

| STATION | Highest (H) Lowest (L) | Extreme soil temperature (°C) in dry field at different depths (cms.) | | | | | | | | Extreme soil temperature (°C) in grass field at different depths (cms.) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 |
| Mersa Matruh | H | 35.7 | 29.0 | 26.0 | 22.0 | 20.2 | 19.7 | 19.6 | — | — | — | — | — | — | — | — | — |
| | L | 9.1 | 9.8 | 11.6 | 14.0 | 16.3 | 16.6 | 19.2 | — | — | — | — | — | — | — | — | — |
| Tahrir | H | 43.6 | 37.0 | 32.0 | 26.4 | 22.4 | 20.9 | 20.8 | 21.5 | — | — | — | — | — | — | — | — |
| | L | 10.5 | 11.2 | 12.8 | 16.2 | 18.1 | 19.0 | 20.1 | 21.2 | — | — | — | — | — | — | — | — |
| Bahtim | H | 42.8 | 34.5 | 28.1 | 24.2 | 22.3 | 21.7 | 22.3 | 23.7 | — | — | — | — | — | — | — | — |
| | L | 12.8 | 13.0 | 15.2 | 18.5 | 19.9 | 20.5 | 22.1 | 23.3 | — | — | — | — | — | — | — | — |
| Kharga | H | 48.5 | 39.8 | 33.5 | 28.4 | 26.0 | 25.0 | 25.6 | 27.3 | — | — | — | — | — | — | — | — |
| | L | 7.4 | 11.0 | 16.3 | 20.2 | 22.7 | 23.6 | 25.2 | 26.8 | — | — | — | — | — | — | — | — |

## Table C 5.—SURFACE WIND

### MARCH — 1970

| STATION | Wind Speed m/sec at 1½ metres | | | Days with surface wind speed at 10 metres | | | | | | | Max. Gust (knots) at 10 metres | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean of the day | Night time mean | Day time mean | ≥10 knots | ≥15 knots | ≥20 knots | ≥25 knots | ≥30 knots | ≥35 knots | ≥40 knots | Value (knots) | Date |
| Mersa Matruh | 5.6 | 4.7 | 6.6 | 31 | 25 | 22 | 15 | 11 | 5 | 3 | 58 | 8 |
| Tahrir | 2.7 | 1.8 | 3.5 | 29 | 21 | 13 | 6 | 2 | 0 | 0 | 42 | 21 |
| Bahtim | 2.2 | 1.3 | 3.2 | 29 | 19 | 8 | 3 | 1 | 1 | 0 | 43 | 21 |
| Kharga | 3.2 | 2.2 | 4.1 | 27 | 21 | 10 | 1 | 0 | 0 | 0 | 30 | 8 |

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ALY SULTAN ALY
***Chairman of the Board of Directors***

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THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 4

## APRIL, 1970

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

# PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

## THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

## THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

## THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

## THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

## CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

## METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

## TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields

THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 4

## APRIL, 1970

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

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# GENERAL SUMMARY OF WEATHER CONDITIONS

## APRIL 1970

**Changeable characterized by an excessive khamsin heat wave. Maximum air temperature records at Alexandria and Cairo during the second week. Thundery rain on the 18th in the north.**

### GENERAL DESCRIPTION OF WEATHER

The prevailing weather this month was changeable characterized by four variant khamsin heat waves round the periods (2nd -4th), (8th-12th), (24th-26th) & (28th-30th). The second heat wave was the most excessive and reached its peak on the 12th, when maximum air temperature attained records at Alexandria and Cairo. The break down of these heat waves was followed by periods of mild spring weather.

The month was rainless in general, apart from the 4th & 8th when scattered light rain fell over north of the country. Rain was locally heavy and associated with thunderstorms on the 18th.

Weather was sandy over many parts in association with the travelling khamsin depressions, and in particular on the 3rd, 4th 18th, & 26th when sandstorms were reported over scattered localities.

### PRESSURE DISTRIBUTION

The outstanding pressure seystems over the synoptic surface charts for the month were :

— The Atlantic and Siberian anticyclones and their extensions.

— Deep depressions through Central Europe and its vicinities.

— Khamsin secondary depressions south of the coast of North Africa.

— Northward elongation of the Sudan trough of low pressure.

During this month five khamsin secondary depressions were distinguished. The first two developed over North Algiers on the 1st, 7th respectively. These secondary depressions preceeded in their preferred track south of the coast of North Africa and traversed North of Egypt on the 4th & 12th.

Round the 17th, 23rd, & 28th the Sudan trough of Low pressure showed marked northward elongations and slight deepening towards the SE Mediterranean Sea corner, where local khamsin disturbances developed over the Western Desert and traversed East Mediterranean round the 18th, 26th, & 30th.

The East Mediterranean Sea and Egypt territories with the exclusion of khamsin transit periods were mostly areas of high pressure where ridges of Siberian or subtropical anticyclones operated.

Accordingly, the barometric pressure over Egypt was generally above normal, though it experienced five falls round the 4th, 12th, 18th, 26th & 30th.

Over the Upper air charts five secondary upper troughs were distinguished through middle latitudes and passed through north of Egypt on the 1st, 7th, 14th, 19th, & 27th. The fourth trough (which passed on the 19th) was the deepest.

## SURFACE WIND

The prevailing winds during this month were generally light to moderate N ly. They strengthened for several days over scattered parts, and changed to SW ly in advance of the travelling khamsin depressions and to NW ly at their rears.

Gale was reported at Hurghada on the 7th.

## TEMPERATURE

Maximum air temperature experienced large variability during this month. It exceeded its normal during the four khamsin heat waves which prevailed round the periods (2nd—4th), (8th—12th), (24th—26th) and (28th—30th). The deviations from normal were appreciable during the second heat wave in particular. During rest of the month, maximum air temperature showed moderate deviations below normal. Maximum air temperature values ranged generally between 20°, 28°C in the northern parts, between 25°, 35°C in the middle parts and between 32°, 40°C, in the southren parts. It is worthy of mention that maximum air temperature reached on the peak of second heat wave (12th) 43°C at Alexandria and Cairo which is a record.

The absolute maximum air temperature was 44.5°C reported at Zaher on the 12th.

Minimum air temperature fluctuations were more or less similar to maximum air temperature fluctuations. Its values ranged most days of month between 10°, 18°C in the northern and middle parts and between 12°C, 22°C in the southern parts.

The abolute minimum air temperature was 5.6°C reported at Dabaa and Beni Seuf on the 12th.

## PRECIPITATION

This month was generally rainless excluding the 4th & 18th when light rain fell over scattered localities of the northern districts including Cairo area. In particular widespread thunderstorms occured on the 18th.

The monthly rainfall was subnormal in general, though it exceeded slightly normal in scattered localities of the Mediterranean Sea, Lower Egypt and Cairo area districts.

The absolute daily rainfall for the month was 7.9 mm which fell at Wadi-El-Natrun on the 18th.

The absolute monthly rainfall was 8.3 mm. which fell at Wadi-El Natrun.

**Chairman (M. F. TAHA.)**

*Board of Directors*

*Cairo, January 1972*

# SURFACE DATA

## Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

## APRIL 1970

| STATION | Atmospheric Pressure (mbs) M.S.L. | | Air Temperature °C | | | | | | | | | Relative Humidity % | | Bright Sunshine Duration (Hours) | | | Piche Evaporation mms. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Maximum | | Minimum | | Dry Bulb | | | Wet Bulb | | | | | | | |
| | Mean | D.F. Normal or Average | (A) Mean | D.F. Normal or Average | (B) Mean | D.F. Normal or Average | $\frac{A+B}{2}$ Mean | | D.F. Normal or Average | Mean | D.F. Normal or Average | Mean | D.F. Normal or Average | Total Actual | Total Possible | % | Mean |
| Sallum | 1015.6 | +2.2 | 24.1 | +0.4 | 13.8 | +0.3 | 19.0 | 18.6 | -0.3 | 13.6 | —0.2 | 54 | — 2 | — | — | — | 8.1 |
| Mersa Matruh (A) | 1016.1 | +1.7 | 23.2 | +0.5 | 11.7 | —0.3 | 17.1 | 17.2 | —0.1 | 13.9 | +0.5 | 67 | + 3 | 297.7 | 388.0 | 77 | 8.6 |
| Alexandria (A) | 1015.9 | +1.8 | 24.4 | +0.6 | 14.3 | +0.9 | 19.4 | 19.0 | +0.8 | 14.8 | +0.2 | 61 | — 5 | 317.5 | 388.2 | 82 | 7.3 |
| Port Said (A) | 1014.6 | +0.9 | 24.7 | +2.2 | 15.7 | —1.1 | 20.2 | 19.3 | +0.5 | 15.5 | 0.0 | 64 | — 6 | 298.1 | 388.2 | 77 | 6.1 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 1014.1 | +1.4 | 27.8 | 0.0 | 10.1 | —0.7 | 19.0 | 18.8 | +0.1 | 14.1 | +0.2 | 57 | + 3 | 300.0 | 387.8 | 77 | 5.2 |
| Cairo | 1014.6 | +1.2 | 29.4 | +1.2 | 14.2 | +0.2 | 21.8 | 21.1 | +2.0 | 14.5 | 0.0 | 43 | — 3 | — | — | — | 17.6 |
| Fayoum | — | — | 31.4 | +1.7 | 13.2 | 0.0 | 22.3 | 22.1 | +0.8 | 14.8 | +0.7 | 41 | + 1 | — | — | — | 8.6 |
| Minya (A) | 1013.1 | +0.3 | 31.8 | +1.2 | 12.9 | +1.0 | 22.4 | 22.2 | +1.0 | 14.4 | +0.5 | 38 | — 3 | 315.0 | 385.1 | 82 | 12.6 |
| Assyout (A) | 1012.1 | 0.0 | 33.1 | +1.3 | 15.5 | +0.6 | 24.3 | 24.2 | +0.4 | 14.4 | +1.1 | 28 | + 4 | — | — | — | 18.5 |
| Luxor (A) | 1011.1 | +0.6 | 36.6 | +2.0 | 16.6 | +1.0 | 26.6 | 26.7 | +0.9 | 15.5 | +0.4 | 25 | — 1 | — | — | — | 12.5 |
| Aswan (A) | 1010.3 | +0.6 | 37.0 | +1.9 | 19.0 | +1.3 | 28.0 | 28.0 | +1.2 | 14.5 | +1.2 | 15 | + 3 | — | — | — | 23.8 |
| Siwa | 1014.3 | —0.9 | 30.6 | +0.8 | 13.0 | —0.8 | 21.8 | 21.7 | +0.1 | 13.1 | 0.0 | 31 | — 1 | 302.8 | 385.4 | 79 | 15.1 |
| Bahariya | 1013.7 | +1.3 | 31.7 | +1.7 | 14.7 | +1.9 | 23.2 | 23.2 | +0.8 | 13.9 | +0.6 | 30 | + 1 | — | — | — | 11.8 |
| Farafra | 1014.8 | +0.8 | 31.6 | +0.4 | 13.4 | +0.1 | 22.5 | 22.4 | —0.3 | 12.6 | 0.0 | 25 | + 2 | — | — | — | 16.0 |
| Dakhla | 1013.4 | +2.2 | 32.8 | 0.0 | 13.8 | —0.2 | 23.3 | 23.5 | —0.4 | 12.8 | +0.2 | 21 | + 3 | — | — | — | 20.2 |
| Kharga | 1012.2 | +0.9 | 34.3 | +1.0 | 17.3 | +1.8 | 25.8 | 26.1 | +1.3 | 13.5 | —0.1 | 21 | — 2 | 313.8 | 381.8 | 82 | 19.6 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 1011.8 | +0.9 | 28.3 | +2.0 | 17.9 | +1.7 | 23.1 | 23.5 | +1.2 | 16.9 | +1.2 | 48 | + 1 | — | — | — | 11.0 |
| Quseir | 1011.6 | +1.0 | 27.2 | 0.0 | 20.0 | +0.5 | 23.5 | 23.9 | +0.4 | 17.0 | +0.3 | 49 | + 3 | — | — | — | 16.1 |

## Table A 2.—MAXIMUM AND MINIMUM AIR TEMPERATURES

### APRIL — 1970

| Station | Maximum Temperature °C | | | | | | | | | Grass Min. Tmp. | | Minimum Temperature °C | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | Date | Lowest | Date | No. of Days with Max-Temp. | | | | | Mean | Dev. From Normal | Highest | Date | Lowest | Date | No. of Days with Min, Temp. | | | |
| | | | | | >25 | >30 | >35 | >40 | >45 | | | | | | | <10 | <5 | <0 | <-5 |
| Sallum . . . . . | 40.8 | 11 | 17.0 | 5 | 11 | 5 | 2 | 1 | 0 | 13.7 | — | 18.1 | 28 | 9.0 | 18 | 1 | 0 | 0 | 0 |
| Mesra Matruh (A) | 39.7 | 12 | 18.6 | 1 | 7 | 2 | 1 | 0 | 0 | — | — | 17.4 | 12 | 6.5 | 24 | 9 | 0 | 0 | 0 |
| Alexandria . (A) | 43.2 | 12 | 18.2 | 18 | 8 | 2 | 1 | 1 | 0 | 12.8 | — | 19.5 | 12 | 8.0 | 2 | 3 | 0 | 0 | 0 |
| Port said . . (A) | 41.8 | 12 | 19.3 | 18.19 | 10 | 2 | 1 | 1 | 0 | 15.3 | — | 22.7 | 12 | 12.0 | 2,19 | 0 | 0 | 0 | 0 |
| El Arish . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta . . . . . | 41.6 | 12 | 21.0 | 18 | 19 | 10 | 2 | 1 | 0 | — | — | 18.8 | 12 | 6.3 | 2 | 14 | 0 | 0 | 0 |
| Cairo . . . (A) | 42.4 | 12 | 21.7 | 1 | 24 | 13 | 3 | 1 | 0 | — | — | 27.6 | 12 | 9.8 | 2 | 1 | 0 | 0 | 0 |
| Fayoum . . . . | 41.3 | 12 | 22.8 | 18 | 23 | 17 | 8 | 1 | 0 | 11.4 | — | 21.9 | 12 | 8.1 | 19 | 6 | 0 | 0 | 0 |
| Minya . . . (A) | 42.4 | 12 | 23.9 | 18 | 27 | 17 | 8 | 3 | 0 | 10.7 | — | 21.7 | 13 | 7.0 | 1 | 6 | 0 | 0 | 0 |
| Assyout. . . (A) | 42.7 | 12 | 24.0 | 19 | 28 | 21 | 11 | 5 | 0 | 12.7 | — | 24.5 | 12 | 9.8 | 1 | 1 | 0 | 0 | 0 |
| Luxor . . . (A) | 43.6 | 13 | 26.0 | 19 | 30 | 27 | 21 | 7 | 0 | 13.1 | — | 22.4 | 12 | 11.0 | 2 | 0 | 0 | 0 | 0 |
| Aswan . . . (A) | 43.0 | 13 | 26.6 | 19 | 30 | 26 | 19 | 12 | 0 | — | — | 25.2 | 12 | 12.2 | 2 | 0 | 0 | 0 | 0 |
| Siwa . . . . . | 42.9 | 11 | 22.1 | 18 | 27 | 13 | 6 | 2 | 0 | 10.7 | — | 23.5 | 12 | 8.0 | 20 | 3 | 0 | 0 | 0 |
| Bahariya . . . . | 44.4 | 12 | 21.7 | 18 | 27 | 17 | 8 | 3 | 0 | 13.4 | — | 25.2 | 14 | 8.7 | 1 | 2 | 0 | 0 | 0 |
| Farafra . . . . | 43.2 | 12 | 20.4 | 18 | 27 | 16 | 8 | 3 | 0 | 12.8 | — | 22.4 | 12 | 5.7 | 3 | 6 | 0 | 0 | 0 |
| Dakhla . . . . . | 42.3 | 12 | 23.2 | 18 | 28 | 22 | 10 | 4 | 0 | 13.8 | — | 20.8 | 13 | 5.9 | 3 | 6 | 0 | 0 | 0 |
| Kharga . . . . | 43.2 | 12 | 25.0 | 19 | 30 | 22 | 12 | 5 | 0 | 14.7 | — | 25.0 | 10,12 | 8.6 | 3 | 1 | 0 | 0 | 0 |
| Tor . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada . . . | 34.3 | 12 | 23.1 | 19 | 26 | 5 | 0 | 0 | 0 | — | — | 24.0 | 12 | 13.2 | 25 | 0 | 0 | 0 | 0 |
| Quseir . . . . . | 33.2 | 13 | 23.2 | 19 | 23 | 3 | 0 | 0 | 0 | 17.3 | — | 23.5 | 30 | 16.6 | 25 | 0 | 0 | 0 | 0 |

## Table A 3. SKY COVER AND RAINFALL

## APRIL 1970

| STATION | Mean Sky Cover (Oct). | | | | | Rainfall mms. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 00 U.T. | 06 U.T. | 12 U.T. | 18 U.T. | Daily Mean | Total Amount | D. From Normal | Max. Fall in one day | | Number of days With Amount of Rain | | | | | | |
| | | | | | | | | Amount | Date | <0.1 | ≥0.1 | ≥1.0 | ≥5.0 | ≥10 | ≥25 | ≥50 |
| Sallum . . . . | 2.2 | 3.1 | 4.1 | 1.8 | 2.6 | 4 9 | + 3.8 | 3.4 | 4 | 0 | 3 | 2 | 0 | 0 | 0 | 0 |
| Mersa Matruh (A) | 2.0 | 3.5 | 3.1 | 2.0 | 2.6 | 1.5 | — 1.0 | 0.9 | 18 | 1 | 1 | 0 | 0 | 0 | 0 | 0 |
| Alexandria . . (A) | 2.8 | 3.1 | 2.7 | 2.8 | 2.8 | 2.0 | — 1.1 | 2.0 | 18 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Port Said . . (A) | 2.2 | 2.6 | 2.2 | 1.5 | 2.1 | 2.2 | — 0.9 | 1.6 | 18 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| El Arish . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta . . . . . | 0.4 | 2.9 | 2.4 | 1.3 | 1.8 | 1.7 | — 0.4 | 0.9 | 20 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| Cairo . . . . (A) | 0.9 | 2.7 | 2.5 | 1.4 | 2.0 | 3.8 | + 3.0 | 3.8 | 18 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| Fayoum . . . . . | — | 2.5 | 3.0 | 2.4 | — | 0.0 | — 0.7 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minya . . . . . | 0.8 | 1.6 | 2.1 | 1.3 | 1.6 | 0.0 | — 0.4 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Assyout. . . . (A) | 0.7 | 0.7 | 1.2 | 0.9 | 0.9 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Luxor . . . . (A) | 0.7 | 1.4 | 1.5 | 1.4 | 1.2 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aswan . . . . (A) | 0.5 | 0.8 | 1.1 | 1.1 | 0.8 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Siwa . . . . . | 3.1 | 4.1 | 6.6 | 3.4 | 4.6 | Tr. | — 0.9 | Tr. | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bahariya . . . . . | 0.9 | 1.7 | 2.5 | 1.4 | 2.7 | 0.0 | — 0.5 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Farafra . . . . . | — | 1.4 | 2.0 | 0.9 | — | 0.0 | — 0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dakhla . . . . . | 0.1 | 0.4 | 1.0 | 0.6 | 0.6 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kharga . . . . . | 0.7 | 1.3 | 1.1 | 0.8 | 1.1 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tor . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada . . . . | 0.6 | 1.2 | 1.1 | 0.8 | 1.0 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Quseir . . . . . | 0.6 | 1.5 | 1.6 | 1.3 | 1.2 | 0.0 | — 0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Table A 4.—DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

### APRIL — 1970

| STATION | Precipitation | | | | Frost | Thunderstorm | Mist Vis ≥ 1000 Metres | Fog Vis < 1000 metres | Haze Vis ≥ 1000 Metres | Thick Haze Vis < 1000 Metres | Dust or Sandrising Vis ≥ 1000 Metres | Dust or Sandstorm Vis < 1000 Metres | Gale | Clear Sky | Cloudy |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rain | Snow | Ice Pellets | Hail | | | | | | | | | | | |
| Sallum | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 9 | 1 |
| Mersa Matruh (A) | 1 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 10 | 2 | 0 | 8 | 0 |
| Alexandria (A) | 1 | 0 | 0 | 0 | 0 | 1 | 2 | 2 | 0 | 0 | 2 | 1 | 0 | 8 | 0 |
| Port Said (A) | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 14 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 2 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 0 | 2 | 0 | 0 | 12 | 0 |
| Cairo (A) | 1 | 0 | 0 | 0 | 0 | 1 | 7 | 1 | 0 | 0 | 7 | 1 | 0 | 15 | 0 |
| Fayoum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | — | — |
| Minya (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 20 | 0 |
| Assyout (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 6 | 0 | 0 | 24 | 0 |
| Luxor (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 | 9 | 2 | 0 | 21 | 0 |
| Aswan (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 15 | 1 | 0 | 26 | 0 |
| Siwa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 18 | 0 |
| Bahariya | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 0 | 0 | 17 | 0 |
| Farafra | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 3 | 0 | — | — |
| Dakhla | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 28 | 0 |
| Kharga | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 10 | 0 | 0 | 25 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 17 | 0 | 1 | 22 | 0 |
| Quseir | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 23 | 0 |

## Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

### APRIL — 1970

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of direction indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345/014 | 015/044 | 045/074 | 075/104 | 105/134 | 135/164 | 165/194 | 195/224 | 225/254 | 255/284 | 285/314 | 315/344 | All directions |
| Sallum | 13 | 1 | 0 | 1—10 | 30 | 52 | 116 | 62 | 82 | 29 | 5 | 10 | 8 | 19 | 49 | 63 | 525 |
| | | | | 11—27 | 20 | 13 | 2 | 0 | 1 | 1 | 0 | 22 | 9 | 4 | 60 | 49 | 181 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **50** | **65** | **118** | **62** | **83** | **30** | **5** | **32** | **17** | **23** | **109** | **112** | **706** |
| Mersa Matruh | 9 | 0 | 3 | 1—10 | 27 | 14 | 29 | 59 | 39 | 22 | 8 | 13 | 32 | 46 | 15 | 67 | 371 |
| | | | | 11—27 | 17 | 8 | 18 | 37 | 28 | 14 | 12 | 6 | 0 | 18 | 63 | 112 | 333 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 0 | 4 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **44** | **22** | **47** | **96** | **67** | **36** | **21** | **21** | **33** | **64** | **78** | **179** | **708** |
| Alexandria | 0 | 0 | 0 | 1—10 | 66 | 47 | 29 | 16 | 21 | 12 | 8 | 1 | 9 | 39 | 113 | 103 | 464 |
| | | | | 11—27 | 22 | 43 | 11 | 1 | 3 | 2 | 5 | 0 | 16 | 56 | 23 | 74 | 256 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **88** | **90** | **40** | **17** | **24** | **14** | **13** | **1** | **25** | **95** | **136** | **177** | **720** |
| Port Said | 16 | 0 | 0 | 1—10 | 142 | 145 | 58 | 42 | 26 | 6 | 9 | 4 | 17 | 25 | 49 | 111 | 634 |
| | | | | 11—27 | 5 | 0 | 0 | 0 | 3 | 0 | 5 | 0 | 0 | 19 | 28 | 10 | 70 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **147** | **145** | **58** | **42** | **29** | **6** | **14** | **4** | **17** | **44** | **77** | **121** | **704** |
| Tanta | 37 | 0 | 0 | 1—10 | 125 | 104 | 92 | 37 | 17 | 10 | 6 | 7 | 20 | 41 | 30 | 64 | 553 |
| | | | | 11—27 | 33 | 18 | 19 | 7 | 3 | 1 | 7 | 0 | 2 | 5 | 16 | 19 | 130 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **158** | **122** | **111** | **44** | **20** | **11** | **13** | **7** | **22** | **46** | **46** | **83** | **683** |
| Cairo | 34 | 3 | 0 | 1—10 | 39 | 97 | 82 | 9 | 3 | 5 | 6 | 20 | 11 | 27 | 19 | 29 | 347 |
| | | | | 11—27 | 34 | 117 | 66 | 16 | 6 | 15 | 8 | 18 | 15 | 17 | 12 | 12 | 336 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **73** | **214** | **148** | **25** | **9** | **20** | **14** | **38** | **26** | **44** | **31** | **41** | **683** |
| Fayoum | 8 | 3 | 0 | 1—10 | 301 | 103 | 17 | 10 | 9 | 27 | 8 | 12 | 23 | 15 | 26 | 41 | 592 |
| | | | | 11—27 | 49 | 50 | 0 | 0 | 0 | 0 | 2 | 3 | 9 | 2 | 2 | 0 | 117 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **350** | **153** | **17** | **10** | **9** | **27** | **10** | **15** | **32** | **17** | **28** | **41** | **709** |
| Minya | 31 | 4 | 0 | 1—10 | 200 | 34 | 2 | 1 | 2 | 46 | 30 | 19 | 12 | 0 | 7 | 57 | 410 |
| | | | | 11—27 | 213 | 24 | 0 | 0 | 0 | 1 | 8 | 0 | 0 | 8 | 9 | 12 | 275 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **413** | **58** | **2** | **1** | **2** | **47** | **38** | **19** | **12** | **8** | **16** | **69** | **685** |

**Table A 5 (*contd.*)—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

**APRIL — 1970**

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | All directions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345/014 | 015/044 | 045/074 | 075/104 | 105/134 | 135/164 | 165/194 | 195/224 | 225/254 | 255/284 | 285/314 | 315/344 | |
| **Asyout** | 1 | 4 | 0 | 1—10 | 9 | 13 | 19 | 27 | 20 | 9 | 8 | 7 | 119 | 103 | 42 | 22 | 398 |
| | | | | 11—27 | 2 | 0 | 0 | 9 | 19 | 17 | 0 | 4 | 17 | 82 | 134 | 32 | 316 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **11** | **13** | **19** | **36** | **39** | **26** | **8** | **11** | **136** | **186** | **176** | **54** | **715** |
| **Luxor** | 2 | 14 | 2 | 1—10 | 53 | 52 | 26 | 26 | 23 | 49 | 70 | 23 | 27 | 98 | 113 | 69 | 629 |
| | | | | 11—27 | 4 | 16 | 4 | 3 | 2 | 4 | 2 | 0 | 0 | 14 | 23 | 1 | 73 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **57** | **68** | **30** | **29** | **25** | **53** | **72** | **23** | **27** | **112** | **136** | **70** | **702** |
| **Aswan** | 1 | 5 | 0 | 1—10 | 162 | 46 | 12 | 16 | 29 | 21 | 8 | 5 | 1 | 14 | 10 | 97 | 424 |
| | | | | 11—27 | 127 | 27 | 8 | 6 | 27 | 8 | 1 | 0 | 0 | 3 | 13 | 70 | 290 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **289** | **73** | **20** | **22** | **56** | **29** | **9** | **5** | **4** | **17** | **23** | **167** | **714** |
| **Siwa** | 25 | 10 | 0 | 1—10 | 51 | 72 | 57 | 115 | 113 | 39 | 15 | 14 | 18 | 22 | 48 | 55 | 619 |
| | | | | 11—27 | 17 | 8 | 3 | 3 | 6 | 3 | 7 | 0 | 0 | 0 | 8 | 11 | 66 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **68** | **80** | **60** | **118** | **119** | **42** | **22** | **14** | **18** | **22** | **56** | **66** | **685** |
| **Dakhla** | 10 | 8 | 0 | 1—10 | 78 | 38 | 16 | 33 | 40 | 41 | 54 | 33 | 29 | 48 | 74 | 101 | 585 |
| | | | | 11—27 | 39 | 4 | 1 | 0 | 4 | 6 | 0 | 0 | 0 | 0 | 24 | 39 | 117 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **117** | **42** | **17** | **33** | **44** | **47** | **54** | **33** | **29** | **48** | **98** | **140** | **702** |
| **Kharga** | 8 | 15 | 4 | 1—10 | 108 | 53 | 30 | 17 | 13 | 16 | 11 | 14 | 11 | 11 | 38 | 93 | 415 |
| | | | | 11—27 | 190 | 10 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 0 | 10 | 62 | 278 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **298** | **63** | **30** | **17** | **14** | **21** | **11** | **14** | **11** | **11** | **48** | **155** | **693** |
| **Hurghada** | 16 | 1 | 0 | 1—10 | 37 | 26 | 20 | 9 | 26 | 46 | 9 | 7 | 2 | 7 | 66 | 32 | 287 |
| | | | | 11—27 | 84 | 4 | 0 | 0 | 6 | 0 | 0 | 0 | 0 | 2 | 55 | 223 | 374 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 41 | 42 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **121** | **30** | **20** | **9** | **32** | **46** | **9** | **7** | **2** | **9** | **122** | **296** | **703** |
| **Quseir** | 8 | 3 | 7 | 1—10 | 140 | 76 | 20 | 13 | 10 | 12 | 29 | 9 | 8 | 19 | 36 | 68 | 440 |
| | | | | 11—27 | 103 | 136 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 262 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **243** | **212** | **23** | **13** | **10** | **12** | **29** | **9** | **8** | **19** | **36** | **88** | **702** |

# UPPER AIR CLIMATOLOGICAL DATA

## Table B 1—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMFERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

### APRIL — 1970

| Station | Pressure Surfare (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 0000 U.T. | Surface | 29 | 1014 | 1021 | 1005 | 29 | 15.3 | 24.2 | 11.0 | 29 | 10.6 |
| | 1000 | 29 | 147 | 206 | 72 | 29 | 15.9 | 28.4 | 12.5 | 29 | 10.7 |
| | 850 | 29 | 1527 | 1581 | 1481 | 29 | 13.9 | 24.7 | 2.7 | 29 | — 4.9 |
| | 700 | 29 | 3139 | 3215 | 3024 | 29 | 1.4 | 14.6 | 2.0 | 29 | —13.8 |
| | 600 | 28 | 4375 | 4492 | 4205 | 28 | — 4.3 | 3.0 | —14.9 | 28 | —20.6 |
| | 500 | 27 | 5784 | 5932 | 5565 | 27 | —14.4 | —10.0 | —24.2 | 27 | —29.9 |
| | 400 | 27 | 7437 | 7612 | 7161 | 27 | —26.7 | —22.7 | —34.9 | 25 | —39.0 |
| | 300 | 24 | 9439 | 9594 | 9131 | 24 | —41.9 | —38.6 | —47.2 | 24 | —53.7 |
| | 250 | 23 | 10651 | 10818 | 10366 | 23 | — 50.2 | —43.2 | —54.2 | 19 | —61.4 |
| | 200 | 18 | 12104 | 12250 | 11858 | 18 | —56.9 | —48.5 | —62.9 | 7 | —67.8 |
| | 150 | 14 | 13937 | 14070 | 13745 | 14 | —60.2 | —54.3 | —68.5 | 1 | —71.3 |
| | 100 | 4 | 16475 | 16551 | 16421 | 4 | —67.4 | —64.0 | —73.1 | — | — |
| | 70 | 1 | 18645 | — | — | 1 | —65.5 | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Helwan 0000 U.T. | Surface | 28 | 998 | 1005 | 990 | 28 | 17.8 | 31.8 | 9.6 | 28 | 7.5 |
| | 1000 | 28 | 121 | 182 | 53 | 9 | 13.8 | 15.6 | 11.2 | 9 | 9.0 |
| | 850 | 28 | 1510 | 1552 | 1459 | 28 | 15.9 | 26.3 | 2.0 | 28 | — 4.0 |
| | 700 | 28 | 3129 | 3218 | 3006 | 28 | 5.6 | 11.3 | — 5.3 | 27 | —13.0 |
| | 600 | 28 | 4367 | 4475 | 4169 | 28 | — 3.3 | 2.0 | —13.6 | 28 | —18.9 |
| | 500 | 26 | 5782 | 5905 | 5559 | 26 | —13.7 | — 9.6 | —24.8 | 25 | —30.8 |
| | 400 | 25 | 7440 | 7585 | 7149 | 25 | —25.7 | —22.3 | —35.7 | 25 | —40.5 |
| | 300 | 24 | 9459 | 9631 | 9122 | 24 | —40.4 | —37.4 | —44.3 | 24 | —51.8 |
| | 250 | 21 | 10686 | 10869 | 10370 | 21 | —47.6 | —40.0 | —53.2 | 20 | —58.0 |
| | 200 | 19 | 12141 | 12318 | 11878 | 19 | —54.7 | —46.4 | —60.8 | 14 | —62.7 |
| | 150 | 16 | 13961 | 14092 | 13757 | 16 | —60.3 | — 54.7 | — 67.5 | 6 | — 67.2 |
| | 100 | 13 | 16439 | 16582 | 16286 | 13 | —67.3 | —62.8 | —71.0 | — | — |
| | 70 | 12 | 18593 | 18704 | 18481 | 12 | —67.2 | — 59.7 | — 72.1 | — | — |
| | 60 | 11 | 19571 | 19700 | 19480 | 11 | —64.8 | —59.5 | —68.7 | — | — |
| | 50 | 11 | 20658 | 20765 | 20573 | 11 | —62.5 | —59.7 | —65.9 | — | — |
| | 40 | 10 | 22131 | 22250 | 22050 | 10 | —60.3 | —57.8 | —69.3 | — | — |
| | 30 | 10 | 23866 | 23976 | 23765 | 10 | —55.3 | —52.7 | —57.0 | — | — |
| | 20 | 4 | 26468 | 26570 | 26420 | 4 | —49.6 | —48.5 | —51.1 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Aswan 0000 U.T. | Surface | 29 | 987 | 993 | 983 | 29 | 23.1 | 30.0 | 17.0 | 29 | 0.9 |
| | 1000 | 29 | 86 | 133 | 52 | — | — | — | — | — | — |
| | 850 | 29 | 1504 | 1526 | 1476 | 29 | 20.9 | 28.2 | 8.8 | 29 | — |
| | 700 | 29 | 3150 | 3203 | 3086 | 29 | 10.1 | 19.2 | 0.4 | 29 | —12.3 |
| | 600 | 29 | 4411 | 4485 | 4335 | 29 | 1.0 | 4.6 | — 2.6 | 28 | —18.1 |
| | 500 | 29 | 5854 | 5943 | 5779 | 29 | — 8.6 | — 4.8 | —12.2 | 29 | —25.4 |
| | 400 | 28 | 7548 | 7651 | 7481 | 28 | —21.0 | —17.0 | —27.8 | 28 | —34.1 |
| | 300 | 27 | 9606 | 9731 | 9519 | 27 | —35.6 | —29.7 | —41.0 | 27 | —46.4 |
| | 250 | 27 | 10861 | 10991 | 10765 | 27 | —44.3 | —38.0 | —51.8 | 27 | —55.1 |
| | 200 | 26 | 12233 | 12497 | 12214 | 26 | —53.3 | —49.3 | —57.7 | 24 | —63.6 |
| | 150 | 25 | 14152 | 14333 | 14001 | 25 | —63.3 | —59.5 | —68.6 | — | — |
| | 100 | 23 | 16597 | 16747 | 16433 | 23 | —72.5 | —65.6 | —76.9 | — | — |
| | 70 | 17 | 18693 | 18839 | 18542 | 17 | —72.7 | —67.8 | —80.2 | — | — |
| | 60 | 14 | 19653 | 19940 | 19470 | 14 | —69.5 | —66.0 | —79.0 | — | — |
| | 50 | 14 | 20701 | 20880 | 20512 | 14 | —66.0 | —61.0 | —80.0 | — | — |
| | 40 | 6 | 22195 | 22380 | 22100 | 6 | —59.8 | —58.4 | —62.2 | — | — |
| | 30 | 6 | 23902 | 23964 | 23860 | 6 | —55.8 | —54.2 | —57.8 | — | — |
| | 20 | 2 | 26516 | 26619 | 26512 | 2 | —50.8 | —46.8 | —54.9 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

## UPPER AIR CLIMATOLOGICAL DATA

### Table B 1(*contd*). — MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

### APRIL — 1970

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 1200 U.T. | Surface | 30 | 1014 | 1022 | 1005 | 30 | 21.3 | 31.0 | 16.8 | 30 | 10·6 |
| | 1000 | 30 | 151 | 216 | 72 | 30 | 20.3 | 30.0 | 15.5 | 30 | 8.4 |
| | 850 | 30 | 1535 | 1596 | 1477 | 30 | 13.4 | 23.2 | 3.2 | 30 | — 4.8 |
| | 700 | 30 | 3144 | 3223 | 3023 | 30 | 4.0 | 10.0 | —7.8 | 29 | —12.7 |
| | 600 | 29 | 4379 | 4481 | 4208 | 29 | — 4.0 | 0.8 | —8.4 | 28 | —20.0 |
| | 500 | 28 | 5798 | 5960 | 5559 | 28 | —14.3 | —10.0 | —26.1 | 28 | —28.2 |
| | 400 | 28 | 7440 | 7630 | 7137 | 28 | — 26.6 | — 22.9 | — 39.0 | 28 | —39.3 |
| | 300 | 27 | 9466 | 9678 | 9115 | 27 | —41.5 | —36.5 | —45.2 | 26 | —53.0 |
| | 250 | 26 | 10681 | 10953 | 10358 | 26 | —48.9 | —43.6 | —54.3 | 23 | —59.8 |
| | 200 | 24 | 12125 | 12335 | 11861 | 24 | —55.9 | —46.7 | —63.0 | 10 | —65.0 |
| | 150 | 15 | 13942 | 14160 | 13755 | 15 | —59.5 | —51.6 | —65.8 | 5 | —68.8 |
| | 100 | 6 | 16478 | 16576 | 16375 | 6 | —68.2 | —65.9 | —71.3 | — | — |
| | 70 | 1 | 18616 | — | — | 1 | —62.1 | — | — | — | — |
| | 60 | 1 | 19600 | — | — | 1 | —60.0 | — | — | — | — |
| | 50 | 1 | 20716 | — | — | 1 | — 57.7 | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Helwan 1200 U.T. | Surface | 24 | 998 | 1005 | 993 | 24 | 28.1 | 39.9 | 19.4 | 24 | 3.8 |
| | 1000 | 24 | 117 | 182 | 47 | 6 | 24.0 | 29.4 | 20.0 | 6 | 4.1 |
| | 850 | 24 | 1523 | 1566 | 1469 | 24 | 16.3 | 26.8 | 6.7 | 24 | — 5.6 |
| | 700 | 24 | 3145 | 3209 | 3061 | 24 | 6.7 | 20.9 | —3.3 | 24 | —16.3 |
| | 600 | 23 | 4386 | 4469 | 4270 | 23 | —2.9 | 0.8 | — 9.6 | 23 | —22.8 |
| | 500 | 22 | 5803 | 5904 | 5713 | 22 | —12.8 | —9.3 | —17.3 | 22 | —32.0 |
| | 400 | 20 | 7464 | 7594 | 7311 | 20 | —24.6 | —19.1 | —28.7 | 20 | —40.8 |
| | 300 | 19 | 9488 | 9606 | 9320 | 19 | —39.6 | —35.3 | —44.3 | 19 | —53.3 |
| | 250 | 17 | 10701 | 10836 | 10528 | 17 | —48.1 | —43.0 | —53.7 | 15 | —60.6 |
| | 200 | 15 | 12168 | 12299 | 12033 | 15 | —54.6 | —48.7 | —61.0 | 12 | —65.6 |
| | 150 | 14 | 13963 | 14087 | 13830 | 14 | —58.0 | —53.7 | —65.0 | 9 | —68.0 |
| | 100 | 11 | 16492 | 16592 | 16324 | 11 | —65.4 | —61.4 | —70.8 | — | — |
| | 70 | 10 | 18662 | 18740 | 18586 | 10 | —67.1 | —63.0 | —71.1 | — | — |
| | 60 | 8 | 19634 | 19730 | 19520 | 8 | —64.6 | —61.9 | —67.4 | — | — |
| | 50 | 8 | 20733 | 20813 | 20635 | 8 | —59.8 | —57.5 | —61.4 | — | — |
| | 40 | 6 | 22188 | 22350 | 22070 | 6 | —56.2 | — 54.0 | —57.7 | — | — |
| | 30 | 4 | 24003 | 24099 | 23898 | 4 | — 50.8 | —49.5 | —52.9 | — | — |
| | 20 | 3 | 26687 | 26794 | 26578 | 3 | —45.1 | —42.6 | —44.4 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Aswan 1200 U.T. | Surface | 30 | 987 | 993 | 983 | 30 | 35.0 | 41.7 | 23.7 | 30 | 3.9 |
| | 1000 | 30 | 77 | 131 | 45 | — | — | — | — | — | — |
| | 850 | 30 | 1516 | 1541 | 1481 | 30 | 21.9 | 28.0 | 11.8 | 30 | — 6.7 |
| | 700 | 30 | 3165 | 3205 | 3085 | 30 | 13.4 | 21.0 | 3.3 | 30 | —15.4 |
| | 600 | 29 | 4426 | 4484 | 4321 | 29 | 1.5 | 6.1 | — 3.2 | 29 | —21 9 |
| | 500 | 29 | 5868 | 5938 | 5752 | 29 | —7.9 | — 4.3 | —12.8 | 29 | —29.8 |
| | 400 | 29 | 7567 | 7658 | 7438 | 29 | —19.5 | —16.3 | —25.7 | 29 | —37.8 |
| | 300 | 28 | 9635 | 9759 | 9480 | 28 | —34.6 | —30.1 | —40.3 | 28 | —50.4 |
| | 250 | 26 | 10895 | 11031 | 10783 | 26 | — 43.4 | — 37.1 | — 48.7 | 26 | —58.1 |
| | 200 | 25 | 12372 | 12539 | 12241 | 25 | — 52.6 | — 45.9 | — 59.1 | 25 | — 65.6 |
| | 150 | 23 | 14186 | 14274 | 14058 | 23 | —61.9 | —53.0 | —68.1 | 3 | —71.5 |
| | 100 | 20 | 16640 | 16803 | 16508 | 20 | —71.6 | —67.2 | —74.0 | - | — |
| | 70 | 13 | 18734 | 18910 | 18584 | 13 | —72.3 | —67.2 | —76.1 | — | - |
| | 60 | 11 | 19687 | 19900 | 19540 | 11 | — 67.5 | — 64.6 | — 70.7 | — | — |
| | 50 | 11 | 20770 | 20948 | 20600 | 11 | —62.5 | —59.0 | —67.2 | — | — |
| | 40 | 8 | 22359 | 22550 | 22100 | 8 | —51.7 | —52.3 | —56.2 | — | — |
| | 30 | 8 | 24052 | 24224 | 23876 | 8 | —50.2 | —46.2 | —54.0 | — | — |
| | 20 | 4 | 26790 | 26945 | 26665 | 4 | —46.4 | —42.2 | —49.4 | — | — |
| | 10 | | — | — | — | — | — | — | — | — | — |

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

## Table B 2.— MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE THE HIGHEST WIND SPEED IN THE UPPER AIR

### APRIL — 1970

| STATION | Freezing Level | | | | | | | | | First Tropopause | | | | | | | | | Highest wind speed | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | | | Highest | | | Lowest | | | Mean | | | Highest | | | Lowest | | | | | | |
| | Altitude (gpm) | Pressure (mb.) | Dew Point (°C) | Altitude (gpm) | Pressure (mb.) | Dew Point (°C) | Altitude (gpm) | Pressure (mb.) | Dew Point (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Direction (000—360)° | Speed in knots |
| **0000 U.T.** | | | | | | | | | | | | | | | | | | | | | | |
| | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| Merra Matruh | 3718 (28) | 654 (28) | —18.5 (28) | 4770 | 580 | —10.7 | 1850 | 815 | —3.0 | 11638 (12) | 218 (12) | —58.6 (12) | 13820 | 155 | —69.3 | 8180 | 346 | —41.5 | 9830 | 280 | 250 | 133 |
| Helwan | 3788 (28) | 645 (28) | —15.2 (26) | 4710 | 584 | —26.9 | 1930 | 800 | —3.0 | 12884 (12) | 195 (2) | —59.8 (12) | 19900 | 58 | —65.8 | 7600 | 375 | —28.3 | 11280 | 229 | 270 | 162 |
| Aswan | 4585 (29) | 588 (29) | —19.7 (28) | 5230 | 546 | —280 | 4150 | 620 | —16.5 | 16056 (12) | 111 (12) | —72.8 (12) | 17910 | 79 | —74.7 | 14320 | 149 | —66.0 | 12520 | 192 | 314 | 150 |
| **1200 U.T.** | | | | | | | | | | | | | | | | | | | | | | |
| | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| Mersa Matruh | 3747 (29) | 659 (29) | —15.1 (29) | 4600 | 593 | —16.7 | 1900 | 804 | —7.4 | 11897 (10) | 207 (10) | —59.2 (10) | 12640 | 186 | —62.9 | 10400 | 257 | —53.4 | 9590 | 289 | 250 | 165 |
| Helwan | 3891 (22) | 640 (22) | —19.9 (22) | 4469 | 600 | —17.6 | 2200 | 782 | —8.4 | 12851 (11) | 189 (11) | —60.2 (11) | 18940 | 68 | —71.4 | 10410 | 257 | —53.2 | 12625 | 188 | 290 | 150 |
| Aswan | 4677 (29) | 583 (29) | —23.4 (29) | 5360 | 536 | —25.9 | 3710 | 643 | —22.0 | 15689 (13) | 122 (13) | —70.3 (13) | 18820 | 71 | —75.6 | 12300 | 199 | —55.9 | 12372 | — | 250 | 145 |

N — The number of cases the element has been observed during the month.

**Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**MERSA MATRUH (A) APRIL — 1970**

| Time | Pressure Surface (Millibar.) | Wind between ranges of direction (000—360) | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (T.N) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 T.U. | Surface | 0 | — | 1 | 6 | 2 | 4 | 0 | — | 3 | 7 | 2 | 11 | 1 | 4 | 3 | 12 | 2 | 7 | 6 | 10 | 5 | 12 | 2 | 10 | 2 | 29 | 9 |
| | 1000 | 0 | — | 1 | 7 | 1 | 11 | 1 | 21 | 1 | 18 | 2 | 24 | 0 | — | 0 | — | 0 | — | 1 | 7 | 5 | 14 | 2 | 14 | 0 | 14 | 14 |
| | 850 | 2 | 14 | 1 | 8 | 1 | 6 | 0 | — | 0 | — | 2 | 19 | 1 | 12 | 2 | 11 | 0 | — | 1 | 21 | 1 | 22 | 3 | 16 | 0 | 14 | 15 |
| | 700 | 1 | 20 | 1 | 17 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 29 | 2 | 8 | 0 | — | 3 | 33 | 3 | 23 | 1 | 19 | 1 | 13 | 21 |
| | 600 | 1 | 22 | 1 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 34 | 0 | — | 5 | 20 | 1 | 21 | 0 | 11 | 23 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 53 | 3 | 36 | 4 | 31 | 1 | 28 | 0 | 11 | 38 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 77 | 4 | 40 | 1 | 59 | 3 | 55 | 0 | 10 | 54 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 102 | 3 | 58 | 2 | 76 | 1 | 71 | 0 | 8 | 75 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 81 | 3 | 75 | 0 | — | 0 | 6 | 78 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 96 | 2 | 92 | 1 | 92 | 0 | — | 0 | 4 | 93 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 74 | 0 | — | 0 | — | 0 | 1 | 74 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 74 | 0 | — | 0 | — | 0 | 1 | 74 |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 T.U. | Surface | 3 | 9 | 3 | 12 | 6 | 12 | 2 | 12 | 0 | — | 0 | — | 1 | 15 | 1 | 7 | 0 | — | 2 | 16 | 3 | 15 | 9 | 13 | 0 | 30 | 12 |
| | 1000 | 2 | 10 | 1 | 9 | 1 | 13 | 7 | 14 | 2 | 16 | 0 | — | 0 | — | 1 | 18 | 2 | 14 | 0 | — | 5 | 24 | 8 | 13 | 0 | 29 | 15 |
| | 850 | 5 | 13 | 0 | — | 1 | 3 | 1 | 16 | 2 | 6 | 3 | 7 | 2 | 17 | 1 | 15 | 2 | 18 | 2 | 18 | 8 | 20 | 2 | 18 | 0 | 29 | 15 |
| | 700 | 2 | 14 | 2 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 3 | 2 | 14 | 6 | 25 | 4 | 33 | 8 | 19 | 2 | 18 | 0 | 27 | 20 |
| | 600 | 2 | 19 | 0 | — | 0 | — | 1 | 4 | 0 | — | 0 | — | 3 | 11 | 0 | — | 4 | 39 | 7 | 37 | 2 | 30 | 6 | 21 | 0 | 25 | 27 |
| | 500 | 1 | 27 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 22 | 0 | — | 5 | 43 | 10 | 42 | 4 | 24 | 4 | 30 | 0 | 25 | 36 |
| | 400 | 1 | 24 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 7 | 55 | 7 | 54 | 6 | 44 | 4 | 31 | 0 | 25 | 49 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 90 | 5 | 73 | 11 | 59 | 2 | 52 | 0 | 22 | 67 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 97 | 5 | 115 | 10 | 76 | 2 | 46 | 0 | 19 | 85 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 112 | 5 | 83 | 0 | — | 0 | 10 | 98 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 83 | 3 | 102 | 0 | — | 0 | 6 | 92 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 65 | 1 | 38 | 0 | — | 0 | 2 | 52 |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N= The number of cases the wind has been observed from the range of direction during the month.

TN=The total number of cases the wind has been served during the month.

**Table B3.** *(contd.)*—**NUMBER OF OCCURRENCES OF WIND DIRECTION WITHEN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**HELWAN APRIL — 1970**

| Time | Pressure Surface (Millibar.) | Wind between ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (T.N) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 000 T.U. | Surface | 6 | 10 | 11 | 9 | 2 | 10 | 1 | 10 | 2 | 6 | 1 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 6 | 1 | 4 | 3 | 28 | 8 |
| | 1000 | 3 | 8 | 3 | 13 | 2 | 14 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 9 | 10 |
| | 850 | 3 | 18 | 4 | 10 | 3 | 14 | 2 | 22 | 0 | — | 1 | 5 | 1 | 13 | 4 | 17 | 1 | 10 | 2 | 10 | 2 | 17 | 4 | 14 | 0 | 27 | 14 |
| | 700 | 0 | — | 2 | 13 | 3 | 18 | 0 | — | 0 | — | 0 | — | 2 | 20 | 2 | 16 | 5 | 25 | 4 | 33 | 4 | 17 | 4 | 25 | 0 | 26 | 22 |
| | 600 | 1 | 23 | 1 | 17 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 26 | 3 | 43 | 7 | 36 | 8 | 25 | 3 | 25 | 0 | 26 | 30 |
| | 500 | 2 | 31 | 1 | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 38 | 7 | 33 | 2 | 40 | 8 | 38 | 2 | 24 | 0 | 24 | 34 |
| | 400 | 1 | 48 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 55 | 9 | 42 | 5 | 42 | 5 | 38 | 0 | 24 | 43 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 29 | 1 | 101 | 7 | 59 | 5 | 65 | 1 | 54 | 0 | 15 | 61 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 52 | 1 | 46 | 3 | 105 | 5 | 65 | 1 | 74 | 0 | 11 | 74 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 111 | 6 | 72 | 0 | — | 0 | 8 | 82 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 66 | 3 | 60 | 0 | — | 0 | 5 | 63 |
| | 100 | 0 | — | 0 | — | — | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 46 | 0 | — | 0 | — | 0 | 2 | 46 |
| | 70 | 0 | — | 0 | — | — | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 33 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 33 |
| | 60 | 0 | — | 0 | — | — | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 14 | 0 | — | 0 | — | 0 | 1 | 14 |
| | 50 | 0 | — | 0 | — | — | — | 0 | — | 0 | — | 0 | — | 1 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 11 |
| | 40 | 0 | — | 0 | — | — | — | 1 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 12 |
| | 30 | 0 | — | 0 | — | 1 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 11 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 T.U. | Surface | 6 | 9 | 7 | 11 | 1 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 12 | 4 | 6 | 3 | 7 | 0 | — | 1 | 10 | 0 | 24 | 9 |
| | 1000 | 1 | 13 | 3 | 15 | 1 | 28 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 9 | 0 | — | 0 | — | 0 | 6 | 16 |
| | 850 | 2 | 10 | 4 | 12 | 3 | 13 | 3 | 16 | 0 | — | 1 | 4 | 0 | — | 2 | 23 | 1 | 15 | 1 | 26 | 2 | 14 | 3 | 14 | 0 | 22 | 14 |
| | 700 | 1 | 17 | 2 | 16 | 1 | 18 | 1 | 4 | 0 | — | 0 | — | 1 | 30 | 2 | 37 | 3 | 33 | 2 | 19 | 4 | 17 | 5 | 11 | 0 | 22 | 20 |
| | 600 | 2 | 24 | 1 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 30 | 2 | 36 | 4 | 34 | 3 | 25 | 7 | 20 | 2 | 15 | 0 | 22 | 25 |
| | 500 | 0 | — | 1 | 14 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 39 | 6 | 39 | 3 | 39 | 5 | 26 | 4 | 27 | 0 | 21 | 32 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 57 | 5 | 51 | 9 | 40 | 2 | 38 | 0 | 19 | 46 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 54 | 1 | 61 | 9 | 59 | 0 | — | 0 | 12 | 60 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 64 | 0 | — | 8 | 80 | 0 | — | 0 | 10 | 77 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 55 | 4 | 105 | 0 | — | 0 | 5 | 95 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 55 | 3 | 93 | 0 | — | 0 | 4 | 82 |
| | 100 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N= The number of cases the wind has been observed from the range of direction during the month.

TN=The total number of cases the wind has been observed during the month

**Table B3.—(*contd.*) NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELCECTED PRESSURE SURFACES**

**ASWAN (A) APRIL — 1970**

| Time | Pressure Surface (Millibar.) | Wind between ranges of direction (000—260°) | | | | | | | | | | | | | | | | | | | | | | | | Num er of Calm winds | Total Number of Observations (T.N) | Mean Scaler wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/643 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 T.U. | Surface | 13 | 10 | 1 | 6 | 0 | | 1 | 9 | 3 | 7 | 1 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 14 | 7 | 11 | 1 | 29 | 10 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 4 | 12 | 7 | 14 | 4 | 15 | 4 | 8 | 2 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 9 | 2 | 11 | 5 | 12 | 0 | 29 | 13 |
| | 700 | 1 | 11 | 0 | — | 3 | 13 | 3 | 17 | 4 | 8 | 1 | 18 | 0 | — | 2 | 14 | 5 | 15 | 2 | 28 | 5 | 19 | 3 | 10 | 0 | 29 | 15 |
| | 600 | 0 | — | 0 | — | 1 | 22 | 1 | 15 | 3 | 12 | 1 | 9 | 0 | — | 0 | — | 6 | 32 | 7 | 21 | 7 | [illegible] | 3 | 13 | 0 | 29 | 19 |
| | 500 | 0 | — | 1 | 11 | 1 | 4 | 0 | — | 0 | — | 2 | 6 | 0 | — | 0 | — | 7 | 39 | 10 | 24 | 5 | 21 | 2 | 23 | 0 | 28 | 26 |
| | 400 | 1 | 25 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 69 | 11 | 36 | 12 | 32 | 0 | — | 0 | 27 | 38 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 51 | 2 | 90 | 10 | 57 | 11 | 52 | 2 | 48 | 0 | 26 | 58 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 80 | 8 | 78 | 11 | 65 | 2 | 51 | 0 | 25 | 70 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 89 | 10 | 74 | 6 | 82 | 3 | 78 | 0 | 23 | 80 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 7 | 76 | 7 | 76 | 7 | 69 | 1 | 88 | 0 | 22 | 74 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 40 | 9 | 39 | 3 | 40 | 0 | — | 0 | 17 | 40 |
| | 70 | 0 | — | 0 | — | 1 | 24 | 1 | 18 | 0 | — | 1 | 15 | 1 | 10 | 0 | — | 1 | 20 | 5 | 14 | 0 | — | 0 | — | 0 | 10 | 16 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 20 | 1 | 10 | 0 | — | 0 | — | 2 | 7 | 1 | 18 | 2 | 10 | 0 | — | 0 | 8 | 13 |
| | 50 | 1 | 12 | 1 | 12 | 1 | 20 | 1 | 13 | 0 | — | 0 | — | 0 | — | 1 | 10 | 0 | — | 2 | 10 | 0 | — | 0 | — | 0 | 7 | 12 |
| | 40 | 1 | 11 | 0 | — | 1 | 14 | 1 | 2 | 0 | — | 1 | 7 | 0 | — | 0 | — | 0 | — | 1 | 9 | 0 | — | 0 | — | 0 | 5 | 9 |
| | 30 | 1 | 10 | 0 | — | 2 | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 3 | 17 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 T.U. | Surface | 11 | 11 | 2 | 10 | 2 | 5 | 1 | 7 | 4 | 7 | 2 | 13 | 2 | 11 | 1 | 5 | 0 | — | 0 | — | 0 | — | 5 | 16 | 0 | 30 | 11 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 4 | 10 | 4 | 6 | 3 | 7 | 4 | 13 | 4 | 12 | 1 | 9 | 3 | 9 | 0 | — | 0 | — | 1 | 11 | 3 | 13 | 3 | 15 | 0 | 30 | 11 |
| | 700 | 2 | 8 | 2 | 16 | 1 | 17 | 1 | 14 | 4 | 12 | 1 | 12 | 2 | 11 | 3 | 6 | 5 | 23 | 2 | 13 | 3 | 17 | 4 | 12 | 0 | 30 | 14 |
| | 600 | 0 | — | 1 | 22 | 1 | 5 | 1 | 10 | 3 | 16 | 2 | 4 | 1 | 16 | 0 | — | 5 | 30 | 5 | 20 | 6 | 19 | 4 | 12 | 0 | 29 | 18 |
| | 500 | 1 | 14 | 1 | 12 | 0 | — | 1 | 11 | 1 | 13 | 0 | — | 1 | 6 | 0 | — | 8 | 32 | 7 | 26 | 8 | 27 | 1 | 23 | 0 | 29 | 25 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 15 | 0 | — | 0 | — | 0 | — | 6 | 52 | 7 | 42 | 12 | 38 | 2 | 24 | 0 | 28 | 40 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 88 | 7 | 54 | 11 | 60 | 4 | 51 | 0 | 26 | 61 |
| | 250 | 1 | 77 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 77 | 7 | 70 | 10 | 65 | 4 | 57 | 0 | 25 | 69 |
| | 200 | 0 | — | 0 | — | 9 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 78 | 7 | 78 | 9 | 76 | 5 | 64 | 0 | 22 | 74 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 120 | 9 | 68 | 8 | 66 | 2 | 85 | 0 | 20 | 71 |
| | 100 | 1 | 22 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 23 | 0 | — | 0 | — | 0 | — | 9 | 47 | 3 | 50 | 0 | — | 0 | 14 | 44 |
| | 70 | 0 | — | 0 | — | 0 | — | 1 | 10 | 1 | 6 | 1 | 1 | 0 | — | 0 | — | 1 | 9 | 0 | — | 2 | 10 | 0 | — | 0 | 6 | 8 |
| | 60 | 0 | — | 0 | — | 0 | — | 3 | 16 | 1 | 1 | 0 | — | 0 | — | 1 | 10 | 0 | — | 1 | 16 | 0 | — | 0 | — | 0 | 6 | 12 |
| | 50 | 0 | — | 0 | — | 0 | — | 2 | 14 | 2 | 12 | 0 | — | 0 | — | 0 | — | 1 | 10 | 0 | — | 0 | — | 0 | — | 0 | 5 | 13 |
| | 40 | 0 | — | 0 | — | 0 | — | 2 | 17 | 0 | — | 2 | 18 | 1 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 16 |
| | 30 | 0 | — | 0 | — | 0 | — | 1 | 7 | 0 | — | 0 | — | 1 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 8 |
| | 20 | 0 | — | 0 | — | 1 | 28 | 0 | — | 0 | — | 1 | 7 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 18 |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N=The number of cases the wind has been observed from the range of direction during the month

TN=The total number of cases the wind has been observed during the month

# REVIEW OF AGRO-METEOROLOGICAL STATIONS

## MERSA MATRUH — APRIL 1970

This month as a whole was normal with respect to the mean daily air temperature and slightly less rainy than normal.

The month was characterized with three khamsin heat waves during the periods (2nd-3th), (10th-12th) and (29th-30th). The second heat wave was the most pronounced and yielded the highest maximum air temperature for the month (39.7°C) on the 12th. During rest of the month spring mild weather prevailed and maximum air temperatures were mostly below normal. The lowest maximum air temperature for the month (18.6°C) was reported on the 1st.

The mean daily actual duration of bright sunshine was 0.8 hour more than the corresponding value of April 1969.

## TAHRIR — APRIL 1970

Compared with last April, this month as a whole was warmer and more rainy. The total monthly rainfall was 3.8 mm. against 0.3 mm for last April.

The month was characterized with three khamsin heat waves on the 3rd and during the periods (9th-12th) and (24th-30th). The second heat wave was the most pronounced and yielded the highest maximum air temperature for the month (43.2°C) on the 12th. During rest of the month, mild spring weather was experienced and maximum air temperatures were below normal. The lowest maximum air temperature for the month (21.8°C) was reported on the 18th.

The extreme maximum soil temperatures were higher than the corresponding values of last April at all depths between 2,100 cm. and the departures varied between 2.9°C at 10 cm. and 0.2°C at 100 cm. The extreme minimum soil temperatures were lower than the corresponding values of last April at depths between 2,10 cm. and also at 100 cm. and the departures varied between 2.3°C at 2 cm. and 0.5°C at 100 cm. At 20, 50 depths the extreme soil minima were slightly higher (0.1°, 0.5°C respectively) than last April.

The mean daily values of Pan evaporation and actual duration of bright sunshine were higher than the corresponding values ofApril 1969 by 0.80 mm. and 0.8 hour respectively.

## BAHTIM — APRIL 1970

This month as a whole was warmer than last April. The total monthly rainfall was 3.3 mm. against 1.7 mm. for last April.

The month was characterized with three khamsin heat waves during the periods (3rd-4th), (9th-13th) and (24th-30th). The second heat wave was the most excessive and yielded the highest maximum air temperature for the month (42.4°C) on the 12th. During rest of the month mild spring weather prevailed and maximum air temperatures were below normal. The lowest maximum air temperature for the month (21.8°C) was reported on the 1st.

The extreme maximum soil temperatures were higher than the corresponding values of last April at all depths between 2,100 cm. and the differences ranged between 3.9°C at 2 cm. and 0.3°C at 100 cm. The extreme minimum soil temperatures were also higher than the corresponding values of last April at all depths with differences ranging between 1.5°C at 2 cm. and 0.1°C at 100 cm.

The mean daily values of Pan evaporation and actual duration of bright sunshine were more than the corresponding values of April 1969 by 0.85 mm. and 1.1 hour respectively.

## KHARGA — APRIL 1970

This month as a whole was warmer than normal and rainless.

The month was characterized with three khamsin heat waves during the periods (3rd-6th), (9th-13th) and (24th-26th).

The second heat wave was the most excessive and yielded the highest maximum air temperature for the month (43.2°C) on the 12th. In the rest of the month maximum air temperatures were mostly below normal. The lowest maximum air temperature for the month (25.0°C) was reported on the 19th.

The extreme maximum soil temperatures were higher than the corresponding values of last April at all depths apart from the 5 cm depth where its value was slightly lower (0.1 °C); the departures varied between 0.3°C at 2 cm. and 1.6°C at both 10, 20 cm. The extreme minimum soil temperatures were higher than the corresponding values of last April at depths between 2, 20 cm. and the differencs ranged between 0.9°C at 2 cm. and 3.7 at 5cm. At 50, 100 cm. depths the extreme soil minima were lower than last April by 0.8°C, 1.0°C respectively.

The mean daily values of Pan evaporation and actual duration of bright sunshine were higher than the corresponding values of April 1969 by 2.77 mm. and 1.7 hour respectively.

## Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

### APRIL — 1970

| STATION | Air Temperature (°C) | | | | | Mean Duration in hours of daily air temperature above the following values | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean Max. | Mean Min. | Mean of the day | Night time mean | Day time mean | −5°C | 0°C | 5°C | 10°C | 15°C | 20°C | 25°C | 30°C | 35°C | 40°C | 45°C |
| Mersa Matruh . . | 23.2 | 11.7 | 17.2 | 14.4 | 18.9 | 24.0 | 24.0 | 24.0 | 23.4 | 16.6 | 4.6 | 1.5 | 0.2 | 0.1 | 0.0 | 0.0 |
| Tahrir . . . . . | 28.6 | 12.1 | 19.8 | 15.8 | 22.3 | 24.0 | 24.0 | 24.0 | 23.4 | 17.4 | 10.7 | 4.6 | 1.8 | 0.2 | 0.2 | 0.0 |
| Bahtim . . . . . | 29.0 | 10.8 | 19.6 | 14.8 | 22.5 | 24.0 | 24.0 | 24.0 | 22.8 | 16.4 | 10.6 | 4.7 | 2.0 | 0.4 | 0.1 | 0.0 |
| Kharga . . . . . | 34 3 | 17.3 | 26.2 | 22.5 | 28.4 | 24.0 | 24.0 | 24.0 | 23.9 | 22.8 | 19.3 | 13.1 | 6.8 | 2.7 | 0.8 | 0.0 |

## Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cm ABOVE GROUND OVER DIFFERENT FIELDS

### APRIL — 1970

| STATION | Max. Temp. at 1½ metres (°C) | | | | Min. Temp. at 1½ metres (°C) | | | | Min. Temp. at 5 cms. above (°C) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | | Lowest | | Highest | | Lowest | | Dry soil | | Grass | |
| | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date | Nalue | Date |
| Mersa Matruh . . . | 39.7 | 12 | 18.6 | 1 | 17.4 | 12 | 6.5 | 24 | 2.4 | 23,24 | — | — |
| Tahrir . . . . . | 43.2 | 12 | 21.8 | 18 | 17.9 | 12 | 6.7 | 2 | 4.8 | 4 | — | — |
| Bahtim . . . . . | 42.4 | 12 | 21.8 | 1 | 17.1 | 12 | 6.0 | 2 | 2.6 | 2 | — | — |
| Kharga . . . . . | 43.2 | 12 | 25.0 | 19 | 25.0 | 10,12 | 8.6 | 3 | 5.4 | 3 | — | — |

## Table C 3.—(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL

### APRIL — 1970

| STATION | (Solar+Sky) Radiation gm. cal/cm² | Duration of Bright Sunshine (hours) | | | Relative Humidity | | | | Vapour pressure (mms) | | | | | | Evaporation (mms) | | Rainfall (mms) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Actual monthly | Total Possible monthly | % | Mean of day | 1200 U.T. | Lowest | Date | Mean of day | 1200 U.T. | Highest | Date | Lowest | Date | Piche | Pan lass A | Total Amount Monthly | Max. fall in one day | Date |
| M. Matruh . | 520.4 | 297.7 | 388.0 | 77 | 70 | 54 | 11 | 3 | 10.0 | 10.1 | 14.9 | 10 | 2.9 | 3 | 8.3 | 11.60 | 1.5 | 0.9 | 18th |
| Tahrir . . . | 503.4 | 307.4 | 386.9 | 79 | 63 | 38 | 12 | 12 | 10.2 | 9.6 | 15.1 | 11 | 4 7 | 4 | 8.5 | 8.61 | 3.8 | 3.8 | 18 |
| Bahtim . . . | 516.0 | 303.4 | 386.5 | 78 | 59 | 33 | 11 | 4 | 9.3 | 8.8 | 16.5 | 11 | 2.8 | 4 | 10.2 | 8.85 | 3.3 | 3.3 | 18 |
| Kharga . . | 646.3 | 313.8 | 381.8 | 82 | 24 | 16 | 4 | 24 | 5.5 | 5.6 | 12.5 | 6 | 2.3 | 6 | 19.6 | 17.0 | 0.0 | 0.0 | — |

## Table C 4.—EXTREME SOIL TEMPERATURE AT DEFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

### APRIL — 1970

| STATION | Highest (H) Lowest (L) | Extreme soil temperature (°C) in dry field at different depths (cms.) | | | | | | | | Extreme soil temperature (°C) in gras field at different depths (cms.) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 |
| M. Matruh | H | 39.9 | 34.6 | 29.0 | 24.4 | 21.9 | 21.1 | 20.7 | — | — | — | — | — | — | — | — | — |
| | L | 13.3 | 13.9 | 15.3 | 17.8 | 19.2 | 19.5 | 19.6 | — | — | — | — | — | — | — | — | — |
| Tahrir. . . | H | 50.4 | 43.6 | 37.7 | 31.0 | 25.7 | 23.7 | 22.5 | 22.5 | — | — | — | — | — | — | — | — |
| | L | 12.6 | 15.0 | 15.2 | 18.7 | 21.3 | 21.2 | 20.8 | 21.5 | — | — | — | — | — | — | — | — |
| Bahtim . . | H | 49.8 | 40.0 | 32.9 | 28.2 | 25.1 | 23.6 | 22.8 | 23.1 | — | — | — | — | — | — | — | — |
| | L | 17.2 | 17.0 | 19.2 | 22.1 | 22.3 | 21.7 | 22.2 | 23.1 | — | — | — | — | — | — | — | — |
| Kharga . . | H | 52.7 | 44.4 | 38.3 | 32.8 | 29.6 | 27.6 | 26.6 | 27.0 | — | — | — | — | — | — | — | — |
| | L | 11.0 | 15.7 | 19.4 | 23.5 | 25.0 | 25.0 | 25.4 | 26.7 | — | — | — | — | — | — | — | — |

## Table C 5,—SURFACE WIND

### APRIL — 1970

| STATION | Wind Speed m/sec at $1\frac{1}{8}$ metres | | | Days with surface wind speed at 10 metres | | | | | | | Max, Gust (knots) at 10 metres | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean of the day | Night time mean | Day time mean | ≥ 10 konts | ≥ 15 knots | ≥ 20 knots | ≥ 25 knots | ≥ 30 knots | ≥ 35 knots | ≥ 40 knots | Value (knots) | Date |
| Mersa Matruh . . . | 4.3 | 3.1 | 5.5 | 30 | 26 | 13 | 9 | 4 | 2 | 1 | 44 | 3 |
| Tahrir . . . . . | 2.7 | 1.9 | 3.4 | 30 | 24 | 8 | 2 | 1 | 0 | 0 | 34 | 12,18 |
| Bahtim . . . . . | — | — | — | — | — | — | — | — | — | — | — | — |
| Kharga . . . . . | 4.2 | 3.4 | 4.9 | 28 | 22 | 14 | 5 | 1 | 0 | 0 | 36 | 17 |

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THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 5

## MAY, 1970

U.D.C. 551, 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

# PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT — CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

## THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968, this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

## THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

## THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

## THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

## CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

## METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

## TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 5

## MAY, 1970

U.D.C. 551, 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

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*Note* : For explanatory notes on the tables please refer to Volume 13, Number 1 (January 1970).

# GENERAL SUMMARY OF WEATHER CONDITIONS

## MAY 1970

**Changeable & rainless, characterized with excessive khamsin heat waves. Max temp records at Cairo and Assyout**

### GENERAL DESCRIPTION OF WEATHER

The prevailing weather this month was generally changeable and almost rainless. Two pronounced khamsin heat waves have been experienced during the periods (8th—13th) and (17th—21th), the second of which was remarkably excessive all over the country. It yielded new records for maximum air temperature at Cairo and Assyout on the 21st. In addition, a moderate heat wave was experienced in Upper Egypt during the first three days of the month. The break down of these heat waves was followed by mild periods.

Weather was sandy over scattered parts of the country on several days, particularly on the 4th, 21st & 25th when widespread sandstorms occurred.

### PRESSURE DISTRIBUTION

The outstanding features of pressure distribution over the synoptic surface charts during this month were :

— The Atlantic anticyclone and its extensions over Europe and Mediterranean area.

— Deep low pressure systems through North Europe and their extensions through Central Europe.

— Desert khamsin secondaries near the coast of North Africa.

— Thermal low pressure over Arabia, Sudan and NW Africa.

During this month, four khamsin secondaries were distinguished. The first secondary depression appeared over North Algiers on the 5th, proceeded eastwards and passed through North Egypt while filling on the 8th. The second khamsin depression appeared over west of the Libyan Desert on the 8th and moved slowly eastwards reaching the Gulf of Serte on the 11th, then it proceeded northeastwards and passed through East Mediterranean on the 13th. The third khamsin secondary depression developed over North Algiers on the the 15th, moved along the coast of North Africa and traversed Egypt on the 19th. The fourth and most pronounced khamsin depression during this month appeared over west of Libyan Desert on the 19th, moved eastwards and passed through Egypt on the 21st.

In addition the Sudan monsoon low showed two northward elongations round the 3rd & 31st respectively, when East Med. area was accordingly an area of relatively low pressure.

The East Med. and Egypt territories were occupied by high pressure this month, excluding periods of pressure falls, either due to khamsin depressions or due to locally developing secondary depressions. Accordingly the barometric pressure over Egypt was generally above normal, though it experienced five consecutive falls with its minima round the 4th, 8th, 13th, 18th, 21st.

Over the synoptic upper air charts, five secondary upper troughs passed by East Med. & north of Egypt on the 5th, 15th, 19th, 26th, & 30th. The third and fifth troughs were rather flat, while the other troughs were pronounced.

## SURFACE WIND

Light to moderate N/NW winds prevailed most of the month in general. Winds became fresh to strong during several days over scattered parts mainly in the Mediterranean, Red Sea and Western Desert districts.

Gales were reported at Hurghada on the 14th, 24th & 26th and at Dabaa on the 21st.

## TEMPERATURE

Maximum air temperature experienced large variability during this month. It was appreciably above normal during the khamsin heat waves, in particular the second heat wave which reached its peak on the 21st and maximum air temperature attained record values at Cairo (47.8°C) and Assyout (47.8°C).

During rest of the month, maximum air temperature was moderately below normal and its values ranged generally between 22°C & 26°C in the northern parts, between 26°C & 32°C in the middle parts and between 34°C & 38°C in the southern parts.

The absolute maximum air temperature for the month was 48.6°C reported at Abu-Sueir on the 21st and at Kena on the 20th.

Minimum air temperature variations were rather similar to maximum air temperature variations, though less in magnitude. Its values ranged generally between 12°C & 20°C in the northern and middle parts and between 16°C & 25°C in the southern parts.

The absolute minimum air temperature for the month was 7.5°C reported at Siwa on the 6th.

## PRECIPITATION

This month was almost rainless, excluding light rain which fell over few localities in the Mediterranean districts on the 3rd & 4th.

The highest daily rainfall was 1.3 mm reported at Sidi Barrani on the 4th. which was also the highest monthly rainfall.

**Chairman (M. F. TAHA)**

*Board of Directors*

*Cairo, February 1972*

## SURFACE DATA

### Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

### MAY - 1970

| STATION | Atmospheric Pressure (mbs) M.S.L. | | Air Temperature °C | | | | | | | | | Relative Humidity % | | Bright Sunshine Duration (Hours) | | | Piche Evaporation mms. Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Maximum | | Minimum | | | Dry Bulb | | Wet Bulb | | | | | | | |
| | Mean | D.F. Normal or Average | (A) Mean | D.F. Normal or Average | (B) Mean | D.F. Normal or Average | $\frac{A+B}{2}$ | Mean | D.F. Normal or Average | Mean | D.F. Normal or Average | Mean | D.F. Normal or Average | Total Actual | Total Possible | % | |
| Sallum . . . . . | 1014.3 | +0.4 | 26.6 | +0.4 | 16.3 | —0.2 | 21.4 | 21.0 | +0.1 | 15.2 | —1.0 | 51 | —8 | — | — | — | 10.1 |
| Mersa Matruh (A) | 1014.6 | +1.1 | 25.8 | +0.3 | 14.8 | +0.3 | 20.3 | 20.0 | —0.1 | 15.2 | —1.1 | 57 | —9 | 279.4 | 426.3 | 65 | 11.4 |
| Alexandria (A) | 1014.8 | +1.9 | 27.1 | +0.5 | 16.1 | —0.4 | 21.6 | 21.0 | —0.4 | 16.3 | —1.4 | 59 | —8 | 332.8 | 425.2 | 79 | 8.0 |
| Port Said . . (A) | 1013.7 | +1.2 | 27.1 | +1.5 | 17.8 | —1.8 | 22.4 | 21.6 | —0.4 | 17.7 | —1.3 | 63 | —7 | 336.3 | 425.6 | 79 | 6.6 |
| El Arish . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta . . . . . | 1013 4 | +1.3 | 31.0 | —0.7 | 13.8 | —0.6 | 22.4 | 22.0 | —0.6 | 15.7 | —0.7 | 48 | —1 | 336.2 | 424.5 | 79 | 8.9 |
| Cairo . . . . . | 1013.3 | +1.1 | 32.3 | 0.0 | 17.0 | —0.4 | 24.6 | 24.3 | —0.3 | 16.0 | —1.0 | 37 | —6 | — | — | — | 20.3 |
| Fayoum . . . . | — | — | 34.7 | +1.0 | 15.9 | —1.3 | 25.3 | 24.9 | —0.1 | 16.3 | +0.3 | 36 | +1 | — | — | — | 10.8 |
| Minya . . . (A) | 1011.9 | +0.9 | 34.9 | 0.0 | 16.0 | —0.4 | 25.5 | 25.6 | —0.1 | 15.9 | —0.7 | 31 | —5 | 350.2 | 419.4 | 84 | 17.3 |
| Assyout . . (A) | 1010.5 | —0.2 | 36.4 | +0.3 | 18.7 | —0.5 | 27.5 | 27.7 | +0.1 | 16.5 | +0.8 | 26 | +4 | — | — | — | 22.0 |
| Luxor . . . (A) | 1009.3 | +0.5 | 40.4 | +1.5 | 19.7 | —0.4 | 30.0 | 30.1 | 0.0 | 17.0 | —0.4 | 21 | —1 | — | — | — | 14.8 |
| Aswan . . . (A) | 1008.6 | 0.0 | 40.5 | +2.4 | 22.3 | +1.6 | 31.4 | 31.3 | +1.3 | 15.6 | +0.3 | 10 | —2 | — | — | — | 28.6 |
| Siwa . . . . . | 1014.4 | +1.5 | 34.4 | +0.2 | 16.1 | —0.5 | 25.2 | 25.4 | —0.2 | 14.4 | —1.1 | 23 | —6 | 329.0 | 421.4 | 78 | 16.9 |
| Bahariya . . . . | 1012.7 | +0.9 | 34.7 | +0.3 | 17.2 | 0.0 | 26.0 | 26.4 | +0.7 | 15.2 | —0.7 | 24 | —4 | — | — | — | 12.9 |
| Farafra . . . . | 1013.7 | +0.1 | 34.9 | +0.6 | 16.6 | —0.1 | 25.8 | 26.1 | +0.6 | 14.7 | +0.2 | 22 | —1 | — | — | — | 20.9 |
| Dakhla . . . . . | 1012.4 | +2.0 | 37.2 | +0.3 | 17.7 | —1.8 | 27.5 | 28.0 | +0.4 | 15.2 | +0.2 | 18 | 0 | — | — | — | 23.7 |
| Kharga . . . . | 1010.7 | +0.4 | 38.2 | +0.5 | 20.7 | —0.2 | 29.4 | 29.8 | +1.8 | 15.1 | —0.6 | 18 | —4 | 364.8 | 413.9 | 88 | 28.1 |
| Tor . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada . . . | 1009.8 | +0.5 | 31.3 | +1.6 | 20.6 | +0.2 | 26.0 | 26.2 | +0.6 | 17.7 | —0.3 | 40 | —4 | — | — | — | 17.9 |
| Quseir . . . . . | 1009.4 | +0.3 | 29.7 | —0.6 | 22.8 | 0.0 | 26.2 | 26.6 | —0.1 | 18.9 | +0.3 | 45 | +1 | — | — | — | 19.7 |

## Table A 2.—MAXIMUM AND MINIMUM AIR TEMPERATURES

### MAY — 1970

| Station | Maximum Temperature °C | | | | | | | | | Grass Min. Temp. | | Minimum Temperature °C | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | Date | Lowest | Date | No. of Days with Max-Temp. | | | | | Mean | Dev. From Normal | Highest | Date | Lowest | Date | No. of Days with Min. Temp. | | | |
| | | | | | >25 | >30 | >35 | >40 | >45 | | | | | | | <10 | <5 | <0 | <-5 |
| Sallum . . . . . | 44.2 | 12 | 20.6 | 2 | 13 | 5 | 4 | 2 | 0 | 15.8 | — | 25.9 | 11 | 10.5 | 4 | 0 | 0 | 0 | 0 |
| Mersa Matruh (A) | 43.0 | 12 | 19.6 | 4 | 15 | 5 | 3 | 1 | 0 | 13.2 | — | 22.8 | 12 | 10.7 | 6 | 0 | 0 | 0 | 0 |
| Alexandria . (A) | 38.2 | 21 | 20.4 | 4 | 18 | 7 | 3 | 0 | 0 | 14.7 | — | 19.9 | 21 | 12.6 | 3,17 | 0 | 0 | 0 | 0 |
| Port said . . (A) | 45.0 | 21 | 22.8 | 3 | 21 | 4 | 2 | 1 | 0 | 17.6 | — | 21.4 | 13 | 14.2 | 5 | 0 | 0 | 0 | 0 |
| El Arish . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta . . . . . | 44.2 | 21 | 23.8 | 5 | 28 | 18 | 4 | 2 | 0 | — | — | 17.8 | 19 | 9.0 | 6 | 1 | 0 | 0 | 0 |
| Cairo . . . (A) | 47.8 | 21 | 25.0 | 5 | 30 | 19 | 8 | 3 | 1 | — | — | 21.6 | 13 | 13.0 | 5 | 0 | 0 | 0 | 0 |
| Fayouu . . . . | 47.2 | 21 | 25.9 | 4 | 31 | 26 | 13 | 5 | 1 | 13.6 | — | 20.8 | 14 | 9.6 | 5 | 1 | 0 | 0 | 0 |
| Minya . . . (A) | 47.7 | 21 | 27.0 | 4 | 31 | 25 | 13 | 7 | 1 | 16.0 | — | 21.5 | 19 | 10.6 | 5 | 0 | 0 | 0 | 0 |
| Assyout . . (A) | 47.8 | 21 | 27.2 | 5 | 31 | 26 | 18 | 8 | 2 | 16.2 | — | 27.8 | 21 | 13.0 | 5 | 0 | 0 | 0 | 0 |
| Luxor . . . (A) | 48.3 | 26 | 30.6 | 5 | 31 | 31 | 26 | 17 | 7 | 16.0 | — | 25.8 | 23 | 13.0 | 6 | 0 | 0 | 0 | 0 |
| Aswan . . . (A) | 48.3 | 22 | 30.1 | 5 | 31 | 31 | 27 | 16 | 7 | — | — | 28.5 | 22 | 14.6 | 6 | 0 | 0 | 0 | 0 |
| Siwa . . . . . | 45.6 | 12 | 22.3 | 4 | 29 | 24 | 13 | 5 | 1 | 13.9 | — | 21.4 | 13 | 7.5 | 6 | 2 | 0 | 0 | 0 |
| Bahariya . . . . | 45.9 | 20 | 23.3 | 4 | 30 | 25 | 15 | 7 | 1 | 16.2 | — | 22.5 | 13-20 | 10.7 | 5 | 0 | 0 | 0 | 0 |
| Farafra . . . . | 46.0 | 20 | 23.8 | 4 | 30 | 25 | 15 | 5 | 1 | 16.0 | — | 23.6 | 13 | 7.6 | 5 | 1 | 0 | 0 | 0 |
| Dakhla . . . . | 47.7 | 21 | 27.8 | 4 | 31 | 27 | 20 | 9 | 3 | 17.5 | — | 24.8 | 22 | 8.6 | 5 | 1 | 0 | 0 | 0 |
| Kharga . . . . | 48.4 | 21 | 28.8 | 5 | 31 | 29 | 22 | 11 | 4 | 18.4 | — | 28.7 | 9 | 10.8 | 5 | 0 | 0 | 0 | 0 |
| Tor . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada . . . | 39.4 | 21 | 25.8 | 5 | 31 | 19 | 4 | 0 | 0 | — | — | 27.0 | 22 | 13.4 | 6 | 0 | 0 | 0 | 0 |
| Qusier . . . . . | 35.4 | 19,21 | 25.0 | 5 | 30 | 12 | 2 | 0 | 0 | 20.8 | — | 26.6 | 22 | 17.8 | 5 | 0 | 0 | 0 | 0 |

## Table A 3. — SKY COVER AND RAINFALL

### MAY — 1970

| Station | Mean Sky Cover (Oct). | | | | | Rainfall mms. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 00 U.T. | 06 U.T. | 12 U.T. | 18 U.T. | Daily Mean | Total Amount | D. From Normal | Max. Fall in one day | | Number of Days with Amount of Rain | | | | | | |
| | | | | | | | | Amount | Date | <0.1 | ≥0.1 | ≥1.0 | ≥5.0 | ≥10 | ≥25 | ≥50 |
| Sallum . . . . . | 2.7 | 2.4 | 3.5 | 2.2 | 2.7 | 0.0 | — 3.3 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mersa Matruh (A) | 1.5 | 3.5 | 3.4 | 2.4 | 2.7 | 0.0 | — 2.5 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Alexandria . . (A) | 2.9 | 2.7 | 3.5 | 2.6 | 2.7 | Tr. | — 2.0 | Tr. | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Port Said . . (A) | 1.7 | 1.9 | 1.9 | 1.5 | 1.8 | 0.0 | — 3.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| El Arish . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta . . . . . | 0.8 | 1.9 | 2.9 | 1.2 | 1.7 | 0.0 | — 3.7 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cairo . . . (A) | 0.9 | 2.0 | 2.5 | 1.5 | 1.7 | 0.0 | — 0.7 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fayoum . . . . . | — | 1.4 | 1.8 | 2.3 | — | 0.0 | — 1.3 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minya . . . . (A) | 1.1 | 1.3 | 1.5 | 1.4 | 1.3 | 0.0 | — 0.6 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Assyout. . . . (A) | 0.2 | 0.5 | 0.7 | 0.5 | 0.4 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Luxor . . . . (A) | 0.2 | 0.2 | 0.0 | 0.2 | 0.2 | 0.0 | — 0.4 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aswan . . . . (A) | 0.0 | 0.3 | 0.5 | 0.2 | 0.3 | 0.0 | —Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Siwa . . . . . | 1.4 | 1.4 | 2.1 | 1.5 | 1.6 | 0.0 | — 1.3 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bahariya . . . . . | 1.2 | 1.9 | 2.1 | 1.6 | 1.6 | 0.0 | — 0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Farafra . . . . . | — | 0.6 | 1.7 | 1.5 | — | 0.0 | — 0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dakhla . . . . . | 0.0 | 0.1 | 0.4 | 0.1 | 0.2 | 0.0 | — 0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kharga . . . . . | 0.1 | 0.2 | 0.3 | 0.1 | 0.2 | 0.0 | — 0.3 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tor . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada . . . . | 0.2 | 0.9 | 0.6 | 0.3 | 0.5 | 0.0 | — 0.4 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Quseir . . . . . | 0.0 | 0.3 | 0.3 | 0.1 | 0.2 | 0.0 | —Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Table A 4. — DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

### MAY — 1970

| Station | Precipitation | | | | Frost | Thunderstorm | Mist Vis > 1000 Metres | Fog Vis < 1000 metres | Haze Vis > 1000 Metres | Thick Haze Vis < 1000 Metres | Dust or Sandrising Vis > 1000 Metres | Dust or Sandstorm Vis < 1000 Metres | Gale | Clear Sky | Cloudy Sky |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rain | Snow | Ice Pellets | Hail | | | | | | | | | | | |
| Sallum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 11 | 0 |
| Mersa Matruh (A) | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 13 | 4 | 0 | 10 | 0 |
| Alexandria (A) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 1 | 0 | 3 | 0 | 0 | 11 | 0 |
| Port Said (A) | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 17 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | | — | — | — | | — | — | — | — | — | — | — |
| Tanta | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 17 | 0 |
| Cairo (A) | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 9 | 0 | 6 | 1 | 0 | 19 | 0 |
| Fayoum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | 0 | 0 | 0 | — | — |
| Minya (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 0 | 22 | 0 |
| Assyout (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 7 | 0 | 0 | 30 | 0 |
| Luxor (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 0 | 9 | 1 | 0 | 31 | 0 |
| Aswan (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 12 | 5 | 0 | 31 | 0 |
| Siwa | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 19 | 0 |
| Bahariya | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 18 | 0 |
| Farafra | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | — | — |
| Dakhla | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 31 | 0 |
| Kharga | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 2 | 0 | 31 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 14 | 1 | 3 | 29 | 0 |
| Quseir | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 31 | 0 |

## Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

### MAY — 1970

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345/014 | 015/044 | 045/074 | 075/104 | 105/134 | 135/164 | 165/194 | 195/224 | 225/254 | 255/284 | 285/314 | 315/344 | All directions |
| Sallum | 7 | 3 | 1 | 1—10 | 23 | 29 | 89 | 108 | 38 | 11 | 7 | 6 | 9 | 16 | 54 | 76 | 466 |
| | | | | 11—27 | 23 | 31 | 19 | 12 | 9 | 2 | 6 | 20 | 22 | 19 | 54 | 48 | 265 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **46** | **60** | **108** | **120** | **47** | **13** | **13** | **26** | **31** | **35** | **108** | **126** | **733** |
| Mersa Matruh | 1 | 0 | 0 | 1—10 | 19 | 12 | 11 | 29 | 28 | 37 | 10 | 5 | 17 | 28 | 26 | 144 | 366 |
| | | | | 11—27 | 25 | 14 | 20 | 80 | 61 | 14 | 21 | 10 | 10 | 11 | 52 | 50 | 368 |
| | | | | 28—47 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 1 | 6 | 0 | 9 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **44** | **26** | **31** | **111** | **89** | **51** | **31** | **15** | **27** | **40** | **84** | **194** | **743** |
| Alexandria | 0 | 2 | 12 | 1—10 | 37 | 49 | 28 | 55 | 27 | 19 | 13 | 2 | 13 | 72 | 152 | 76 | 544 |
| | | | | 11—27 | 11 | 24 | 21 | 3 | 0 | 0 | 1 | 4 | 32 | 30 | 39 | 23 | 186 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **48** | **73** | **49** | **57** | **27** | **19** | **14** | **6** | **45** | **102** | **191** | **99** | **730** |
| Port Said | 4 | 0 | 0 | 1—10 | 202 | 90 | 69 | 81 | 19 | 8 | 2 | 2 | 2 | 21 | 50 | 143 | 689 |
| | | | | 11—27 | 0 | 1 | 5 | 19 | 0 | 0 | 0 | 1 | 0 | 10 | 8 | 7 | 51 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **202** | **91** | **74** | **100** | **19** | **8** | **2** | **3** | **2** | **31** | **58** | **150** | **740** |
| Tanta | 52 | 0 | 0 | 1—10 | 111 | 95 | 75 | 91 | 31 | 7 | 5 | 11 | 8 | 26 | 41 | 98 | 599 |
| | | | | 11—27 | 25 | 4 | 6 | 7 | 1 | 0 | 0 | 0 | 3 | 2 | 8 | 37 | 93 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **136** | **99** | **81** | **98** | **32** | **7** | **5** | **11** | **11** | **28** | **49** | **135** | **692** |
| Tire | 29 | 2 | 5 | 1—10 | 61 | 76 | 67 | 29 | 4 | 9 | 6 | 7 | 9 | 20 | 19 | 93 | 400 |
| | | | | 11—27 | 44 | 103 | 75 | 28 | 8 | 1 | 2 | 3 | 4 | 11 | 6 | 23 | 308 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **105** | **179** | **142** | **57** | **12** | **10** | **8** | **10** | **13** | **31** | **25** | **116** | **708** |
| Fayoum | 9 | 2 | 0 | 1—10 | 324 | 143 | 25 | 12 | 6 | 5 | 5 | 16 | 22 | 19 | 28 | 62 | 667 |
| | | | | 11—27 | 31 | 19 | 0 | 0 | 0 | 0 | 1 | 2 | 3 | 6 | 1 | 3 | 66 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **355** | **162** | **25** | **12** | **6** | **5** | **6** | **18** | **25** | **25** | **29** | **65** | **733** |
| Minya | 11 | 0 | 0 | 1—10 | 282 | 48 | 3 | 2 | 3 | 20 | 12 | 6 | 2 | 10 | 24 | 27 | 439 |
| | | | | 11—27 | 255 | 21 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 2 | 9 | 4 | 294 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **537** | **69** | **3** | **2** | **3** | **20** | **15** | **6** | **2** | **12** | **33** | **31** | **733** |

**Table A 5 (*contd.*) — NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

**MAY — 1970**

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | All directions |
| Asyout | 15 | 0 | 4 | 1—10 | 7 | 8 | 12 | 28 | 9 | 5 | 4 | 8 | 100 | 129 | 95 | 46 | 451 |
| | | | | 11—27 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 3 | 2 | 38 | 144 | 85 | 274 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥ 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **7** | **8** | **12** | **28** | **9** | **7** | **4** | **11** | **102** | **167** | **239** | **131** | **725** |
| Luxor | 7 | 14 | 1 | 1—10 | 74 | 47 | 14 | 34 | 24 | 47 | 81 | 13 | 20 | 58 | 181 | 81 | 674 |
| | | | | 11—27 | 1 | 2 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 7 | 31 | 3 | 48 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **75** | **49** | **17** | **35** | **24** | **47** | **81** | **13** | **20** | **65** | **212** | **84** | **722** |
| Aswan | 1 | 11 | 1 | 1—10 | 238 | 85 | 17 | 7 | 8 | 4 | 3 | 0 | 2 | 7 | 8 | 132 | 511 |
| | | | | 11—27 | 129 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 77 | 219 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **367** | **95** | **17** | **7** | **8** | **4** | **3** | **0** | **2** | **7** | **11** | **210** | **731** |
| Siwa | 26 | 11 | 3 | 1—10 | 56 | 60 | 64 | 85 | 57 | 29 | 25 | 13 | 17 | 31 | 51 | 37 | 525 |
| | | | | 11—27 | 12 | 15 | 13 | 22 | 39 | 18 | 8 | 0 | 0 | 0 | 30 | 22 | 179 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **68** | **75** | **77** | **107** | **96** | **47** | **33** | **13** | **17** | **81** | **81** | **59** | **704** |
| Dakhla | 9 | 0 | 0 | 1—10 | 65 | 50 | 55 | 38 | 32 | 39 | 35 | 29 | 20 | 35 | 63 | 150 | 611 |
| | | | | 11—27 | 44 | 17 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 52 | 124 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 109 | **67** | **59** | **38** | **32** | **39** | **35** | **29** | **20** | **35** | **70** | **202** | **735** |
| Kharga | 1 | 6 | 1 | 1—10 | 168 | 81 | 14 | 9 | 5 | 2 | 5 | 10 | 8 | 9 | 16 | 112 | 439 |
| | | | | 11—27 | 218 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 62 | 297 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **386** | **92** | **14** | **9** | **5** | **2** | **5** | **10** | **8** | **9** | **22** | **174** | **736** |
| Hurghada | 11 | 0 | 0 | 1—10 | 17 | 32 | 8 | 4 | 7 | 11 | 1 | 0 | 0 | 6 | 68 | 54 | 208 |
| | | | | 11—27 | 137 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 49 | 262 | 465 |
| | | | | 28—47 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 53 | 60 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **159** | **45** | **8** | **4** | **7** | **11** | **1** | **0** | **0** | **10** | **119** | **369** | **733** |
| Qusseir | 4 | 1 | 4 | 1—10 | 182 | 117 | 15 | 4 | 2 | 0 | 2 | 5 | 5 | 4 | 18 | 72 | 426 |
| | | | | 11—27 | 152 | 154 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 309 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **334** | **271** | **17** | **4** | **2** | **0** | **2** | **5** | **5** | **4** | **19** | **72** | **735** |

# UPPER AIR CLIMATOLOGICAL DATA

## Table B 1.—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALEUS OF ALTITUDE, AIR TEMBERATURE & DEW POINT AT STANDARD AND SELECTED ORESSURE SURFACES

## MAY — 1970

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 0000 T.U. | Surface | 29 | *1013mb. | *1018mb. | *1009mb. | 29 | 17.9 | 23.5 | 13.0 | 29 | 12.4 |
| | 1000 | 29 | 134 | 181 | 47 | 29 | 18.5 | 28.4 | 14.5 | 29 | 11.5 |
| | 850 | 29 | 1530 | 1575 | 1479 | 29 | 17.0 | 29.7 | 6.0 | 29 | —1.8 |
| | 700 | 29 | 3159 | 3246 | 3043 | 29 | 7.4 | 14.2 | — 3.7 | 29 | — 9.9 |
| | 600 | 29 | 4410 | 4509 | 4252 | 29 | — 1.9 | 3.0 | — 9.7 | 29 | —15.8 |
| | 500 | 29 | 5832 | 5934 | 5643 | 29 | —12.6 | — 8.0 | —16.8 | 29 | —24.3 |
| | 400 | 28 | 7498 | 7628 | 7287 | 28 | —24.8 | —20.1 | —29.0 | 28 | — 35.4 |
| | 300 | 27 | 9526 | 9649 | 9295 | 27 | — 40.7 | — 36.3 | —46.6 | 26 | —50.3 |
| | 250 | 26 | 10753 | 10884 | 10508 | 26 | —49.6 | —46.7 | —54.8 | 25 | —58.0 |
| | 200 | 25 | 12193 | 12337 | 11938 | 25 | — 56.6 | — 49.3 | —62.0 | 17 | —64.2 |
| | 150 | 20 | 13995 | 14171 | 13786 | 20 | —60.1 | —53.2 | —65.5 | 6 | —67.6 |
| | 100 | 11 | 16494 | 16635 | 16338 | 11 | —67.6 | —64.6 | —73.5 | — | — |
| | 70 | 4 | 18696 | 18753 | 18626 | 4 | —63.2 | —52.3 | —67.5 | — | — |
| | 60 | 2 | 19630 | 19660 | 19600 | 2 | —63.7 | — 63.6 | —63.8 | — | — |
| | 50 | 2 | 20716 | 20739 | 20692 | 2 | —61.4 | —59.8 | —63·0 | — | — |
| | 40 | 1 | 22200 | — | — | 1 | —56.2 | — | — | — | — |
| | 30 | 1 | 23942 | — | — | 1 | —52.4 | — | — | — | — |
| | 20 | 1 | 26593 | — | — | 1 | —47.6 | — | — | — | — |
| | 10 | — | — | — | — | - | — | — | — | — | — |
| Helwan 0000 U.T. | Surface | 25 | *997mb. | *1002mb. | *991mb. | 25 | 20.0 | 27.8 | 16.1 | 25 | 9.3 |
| | 1000 | 25 | 113 | 157 | 60 | 4 | 17.6 | 18.7 | 16.6 | 4 | 13.2 |
| | 850 | 25 | 1515 | 1579 | 1465 | 25 | 18.6 | 27.0 | 7.9 | 25 | — 2.2 |
| | 700 | 25 | 3154 | 3226 | 3047 | 25 | 9.1 | 14.4 | 0.5 | 25 | —11.4 |
| | 600 | 25 | 4411 | 4499 | 4270 | 25 | —0.2 | 8.0 | — 5.1 | 25 | — 17.7 |
| | 500 | 25 | 5842 | 5936 | 5686 | 25 | —11.4 | — 7.4 | —21.1 | 25 | —27.1 |
| | 400 | 24 | 7526 | 7619 | 7394 | 24 | —23.1 | — 20.0 | — 26.0 | 24 | —35.6 |
| | 300 | 23 | 9568 | 9690 | 9423 | 23 | —38.8 | —34.2 | —41.3 | 23 | —49.2 |
| | 250 | 21 | 10789 | 10904 | 10645 | 21 | —47.4 | —40.3 | —51.9 | 21 | —58.0 |
| | 200 | 20 | 12243 | 12372 | 12113 | 20 | —54.6 | —49.5 | —60.2 | 19 | —64.3 |
| | 150 | 15 | 14052 | 14150 | 13929 | 15 | —61.0 | —55.8 | —64.7 | 4 | —68.2 |
| | 100 | 14 | 16537 | 16652 | 16440 | 14 | —67.5 | —61.3 | —72.9 | — | — |
| | 70 | 12 | 18677 | 18742 | 18623 | 12 | — 67.7 | —63.5 | —76.1 | — | — |
| | 60 | 7 | 19644 | 19720 | 19590 | 7 | —64.0 | —61.2 | —66.0 | — | — |
| | 50 | 7 | 20744 | 20814 | 20678 | 7 | — 61.6 | — 58.2 | — 65.3 | — | — |
| | 40 | 5 | 22242 | 22320 | 22190 | 5 | —57.4 | —55.2 | —59.0 | — | — |
| | 30 | 5 | 23981 | 24064 | 23901 | 5 | —53.2 | —51.7 | —55.0 | — | — |
| | 20 | 1 | 26644 | — | — | 1 | —45.6 | — | — | — | — |
| | 10 | — | — | — | — | - | — | — | — | — | — |
| Aswan 0000 U.T. | Surace | 30 | *986mb. | *990mb. | *982mb. | 30 | 26.6 | 33.5 | 18.9 | 30 | 0.5 |
| | 1000 | 30 | 66 | 99 | 27 | — | — | — | — | — | — |
| | 850 | 30 | 1502 | 1533 | 1474 | 30 | 24.8 | 32.0 | 17.4 | 30 | — 2.8 |
| | 700 | 30 | 3167 | 3225 | 3113 | 30 | 12.3 | 18.0 | 6.2 | 30 | —11.5 |
| | 600 | 30 | 4437 | 4512 | 4369 | 30 | 2.0 | 7.3 | — 5.6 | 30 | —17.5 |
| | 500 | 30 | 5884 | 5979 | 5799 | 30 | —8.0 | — 3.1 | —11.4 | 29 | —26.7 |
| | 400 | 29 | 7584 | 7692 | 7481 | 29 | —19.9 | —16.5 | —24.3 | 28 | —36.7 |
| | 300 | 29 | 9660 | 9794 | 9548 | 29 | —34.6 | —29.8 | —40.3 | 28 | —49.6 |
| | 250 | 28 | 10916 | 11022 | 10779 | 28 | —43.0 | —38.1 | —49.2 | 28 | — 56.5 |
| | 200 | 28 | 12393 | 12545 | 12219 | 28 | — 52.2 | —48.8 | —56.0 | 28 | —64.1 |
| | 150 | 28 | 14214 | 14388 | 14015 | 28 | —62.8 | —58.0 | —67.8 | 4 | —68.6 |
| | 100 | 27 | 16653 | 16829 | 16467 | 27 | —73.8 | — 67.0 | —78.7 | — | — |
| | 70 | 19 | 18743 | 18966 | 18572 | 19 | —71.6 | —64.9 | —78.6 | — | — |
| | 50 | 14 | 19669 | 19840 | 19520 | 14 | —67.3 | —63.3 | —72.9 | — | — |
| | 50 | 14 | 20782 | 20956 | 20617 | 14 | — 61.3 | —56.2 | —59.5 | — | — |
| | 40 | 8 | 22322 | 22480 | 22180 | 8 | — 57.2 | — 56.6 | —58.3 | — | — |
| | 30 | 8 | 24067 | 24204 | 23923 | 8 | —52.5 | —49.5 | —54.7 | — | — |
| | 20 | 7 | 26706 | 26860 | 26583 | 7 | —47.4 | —45.1 | —51.0 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the element has been observes during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

## UPPER AIR CLIMATOLOGICAL DATA

**Table B 1** (*contd.*) -MONTHLY MERNS AND MONTHLY ABSOLUTE HIGHER & LOWER VALEUS OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

### MAY - 1970

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 12000 U.T. | Surface | 30 | *1013mb. | *1020mb. | *1010mb. | 30 | 23.7 | 41.2 | 18.2 | 30 | 11.7 |
| | 1000 | 30 | 143 | 198 | 116 | 30 | 22.0 | 40.1 | 17.1 | 30 | 10.0 |
| | 850 | 30 | 1539 | 1596 | 1475 | 30 | 16.8 | 28.6 | 4.6 | 30 | — 3.5 |
| | 700 | 29 | 3167 | 3222 | 3031 | 29 | 7.8 | 23.5 | —4.7 | 28 | —12.0 |
| | 600 | 27 | 4413 | 4501 | 4234 | 27 | —2.1 | 2.2 | —10.9 | 27 | —18.7 |
| | 500 | 24 | 5826 | 5938 | 5619 | 24 | —12.4 | —8.9 | —19.6 | 24 | —26.8 |
| | 400 | 24 | 1492 | 7619 | 7264 | 24 | —24.6 | —21.1 | —33.2 | 22 | —38.0 |
| | 300 | 20 | 9522 | 9679 | 9268 | 20 | —40.1 | —36.0 | —43.8 | 18 | —52.8 |
| | 250 | 19 | 10742 | 10929 | 10481 | 19 | —48.3 | —44.5 | —53.8 | 17 | —60.2 |
| | 200 | 16 | 12210 | 12382 | 12135 | 16 | —55.6 | —46.3 | —61.4 | 10 | —67.8 |
| | 150 | 9 | 14038 | 14090 | 13970 | 9 | —58.8 | —53.8 | —62.3 | — | — |
| | 100 | 4 | 16589 | 16618 | 16513 | 4 | —64.5 | —63.4 | —65.9 | — | — |
| | 70 | 1 | 18763 | — | — | 1 | —67.6 | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Helwan 12000 U.T. | Surface | 26 | *996mb. | *1002mb. | *990mb. | 26 | 31.5 | 44.4 | 23.4 | 26 | 4.2 |
| | 1000 | 26 | 106 | 158 | 49 | 2 | 28.2 | 28.6 | 27.8 | 2 | 4.3 |
| | 850 | 26 | 1529 | 1570 | 1497 | 26 | 19.9 | 32.4 | 10.9 | 26 | —5.8 |
| | 700 | 26 | 3175 | 3235 | 3107 | 26 | 10.4 | 16.7 | 4.2 | 26 | —14.6 |
| | 600 | 26 | 4436 | 4507 | 4357 | 26 | 0.6 | 4.2 | —5.7 | 26 | —20.3 |
| | 500 | 26 | 5872 | 5964 | 5793 | 26 | —10.3 | —7.5 | —15.5 | 26 | —28.4 |
| | 400 | 26 | 7552 | 7660 | 7402 | 26 | —22.4 | —19.3 | —27.1 | 26 | —38.9 |
| | 300 | 22 | 9599 | 9750 | 9432 | 22 | —38.0 | —33.5 | —42.5 | 22 | —52.0 |
| | 250 | 20 | 10821 | 10930 | 10639 | 20 | —46.6 | —40.1 | —51.6 | 20 | —59.4 |
| | 200 | 19 | 12276 | 12401 | 12141 | 19 | —54.4 | —47.0 | —60.8 | 17 | —65.6 |
| | 150 | 17 | 14105 | 14243 | 13977 | 17 | —60.4 | —56.0 | —64.3 | 3 | —69.5 |
| | 100 | 16 | 16595 | 16715 | 16507 | 16 | —66.9 | —61.5 | —74.2 | — | — |
| | 70 | 11 | 18748 | 18865 | 18662 | 11 | —68.7 | —59.1 | —78.1 | — | — |
| | 60 | 8 | 19732 | 19900 | 19600 | 8 | —62.7 | —56.5 | —67.0 | — | — |
| | 50 | 8 | 20831 | 21000 | 20731 | 8 | —57.1 | —53.8 | —61.3 | — | — |
| | 40 | 1 | 22320 | — | — | 1 | —55.0 | — | — | — | — |
| | 30 | 1 | 24100 | — | — | 1 | —51.7 | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Aswan 12000 U.T. | Surface | 31 | *985mb. | *991mb. | *985mb. | 31 | 38.2 | 46.5 | 27.7 | 31 | 3.3 |
| | 1000 | 31 | 61 | 113 | 24 | — | — | — | — | — | — |
| | 850 | 31 | 1519 | 1553 | 1484 | 31 | 25.1 | 32.8 | 15.4 | 31 | —6.8 |
| | 700 | 31 | 3181 | 3252 | 3118 | 31 | 12.5 | 16.7 | 6.3 | 31 | —14.8 |
| | 600 | 31 | 4548 | 4632 | 4366 | 31 | 2.4 | 5.7 | —1.0 | 31 | —21.7 |
| | 500 | 31 | 5899 | 5980 | 5812 | 31 | —7.8 | —2.5 | —12.1 | 31 | —30.7 |
| | 400 | 31 | 7501 | 7733 | 7510 | 31 | —19.2 | —14.8 | —23.1 | 31 | —40.2 |
| | 300 | 30 | 9579 | 9833 | 9576 | 30 | —33.9 | —29.5 | —38.4 | 30 | —51.6 |
| | 250 | 30 | 10935 | 11099 | 10829 | 30 | —42.8 | —37.5 | —48.1 | 30 | —59.2 |
| | 200 | 30 | 12415 | 12597 | 12289 | 30 | —51.7 | —47.0 | —56.8 | 30 | —66.2 |
| | 150 | 27 | 14243 | 14435 | 14001 | 27 | —61.7 | —57.1 | —67.7 | 5 | —71.2 |
| | 100 | 22 | 16695 | 16875 | 16441 | 22 | —73.0 | —66.1 | —79.8 | — | — |
| | 70 | 15 | 18779 | 18984 | 18658 | 15 | —71.2 | —65.4 | —74.6 | — | — |
| | 60 | 10 | 19816 | 20120 | 19700 | 10 | —61.3 | —60.0 | —68.0 | — | — |
| | 50 | 10 | 20852 | 21061 | 20721 | 10 | —58.8 | —57.4 | —61.7 | — | — |
| | 40 | 8 | 22355 | 22400 | 22300 | 8 | —53.7 | —50.1 | —57.3 | — | — |
| | 30 | 7 | 24125 | 24154 | 24067 | 7 | —49.0 | —46.7 | —52.9 | — | — |
| | 20 | 4 | 26854 | 26880 | 26808 | 4 | —39.6 | 34.2 | —43.2 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of radiosonde station.

## Table B 2.— MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE : THE HIGHEST WIND SPEED IN THE UPPER AIR

### MAY — 1970

| | STATION | Freezing Level | | | | | | | | | First Tropopause | | | | | | | | | Highest wind speed | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | | | Highest | | | Lowest | | | Mean | | | Highest | | | Lowest | | | | | | |
| | | Altitude (gpm) | Pressure (mb.) | Dew Point (°C) | Altitude (gpm) | Pressure (mb.) | Dew Point (°C) | Altitude (gpm) | Pressure (mb.) | Dew Point (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Direction (000—360)° | Speed in knots |
| 0000 U.T. | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | Mersa Matruh. | 4094 (29) | 626 (29) | -13.9 (29) | 4850 | 575 | —20.7 | 2230 | 774 | —5.7 | 11644 (14) | 220 (14) | —56.4 (14) | 13140 | 174 | —64.9 | 10390 | 265 | —47.0 | 11870 | 208 | 300 | 135 |
| | Helwan . . . | 4345 (25) | 603 (25) | -17.2 (25) | 4800 | 577 | -13.9 | 3120 | 694 | —24.2 | 13357 (10) | 173 (10) | —62.3 (10) | 16350 | 103 | —71.0 | 11320 | 227 | —59.5 | 13430 | 168 | 260 | 160 |
| | Aswan . . . . | 4760 (30) | 578 (30) | —19.5 (30) | 5490 | 530 | —20.3 | 4160 | 619 | —12.0 | 16995 (20) | 97 (20) | —74.3 (20) | 18400 | 81 | —80.4 | 15200 | 131 | 6 | 13400 | 171 | 268 | 120 |
| 1200 U.T. | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | Mersa Matruh. | 4034 (27) | 632 (27) | —16.2 (27) | 4740 | 581 | —19.1 | 2050 | 793 | —14.2 | 11742 (14) | 219 (11) | —56.0 (11) | 13320 | 170 | —60.0 | 8170 | 352 | —42.6 | 13960 | 154 | 260 | 149 |
| | Helwan . . . | 4510 (26) | 595 (25) | —20.6 (26) | 5090 | 560 | —22.1 | 3690 | 653 | —9.6 | 14155 (15) | 160 (15) | —63.4 (15) | 17060 | 93 | —75.6 | 11820 | 210 | —57.8 | 13750 | 161 | 300 | 155 |
| | Aswan . . . . | 4794 (31) | 576 (29) | —23.8 (31) | 5120 | 536 | —25.9 | 4280 | 609 | —26.9 | 16711 (13) | 104 (13) | —70.3 (13) | 18800 | 71 | —45.4 | 12020 | 211 | —53.3 | 13500 | 167 | 270 | 124 |

N = The number of cases the element has been observed during the month.

**Table B 3. – NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**MERSA MATRUH (A) MAY — 1970**

| Time | Pressure Surface (Millibar.) | Wind between ranges of direction (000—360°) | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (TN) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 T.U. | Surface | 1 | 5 | 0 | — | 0 | — | 2 | 12 | 0 | 12 | 3 | 9 | 0 | — | 2 | 6 | 2 | 8 | 2 | 6 | 7 | 12 | 1 | 12 | 0 | 29 | 10 |
| | 1000 | 1 | 10 | 1 | 9 | 2 | 10 | 2 | 22 | 3 | 15 | 4 | 16 | 0 | — | 1 | 13 | 2 | 16 | 2 | 15 | 3 | 16 | 8 | 17 | 0 | 29 | 15 |
| | 850 | 5 | 18 | 1 | 14 | 0 | — | 0 | — | 0 | — | 1 | 7 | 1 | 30 | 1 | 30 | 3 | 16 | 7 | 22 | 7 | 21 | 3 | 19 | 0 | 27 | 29 |
| | 700 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 50 | 6 | 34 | 15 | 29 | 4 | 30 | 0 | 27 | 32 |
| | 600 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 43 | 8 | 42 | 8 | 32 | 6 | 28 | 0 | 27 | 35 |
| | 500 | 1 | 29 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 48 | 10 | 55 | 9 | 40 | 3 | 31 | 0 | 27 | 52 |
| | 400 | 1 | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 69 | 15 | 49 | 3 | 54 | 3 | 57 | 0 | 27 | 52 |
| | 300 | 1 | 35 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 131 | 10 | 66 | 5 | 60 | 4 | 63 | 0 | 23 | 65 |
| | 250 | 1 | 35 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 81 | 9 | 72 | 4 | 78 | 2 | 69 | 0 | 19 | 78 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 82 | 6 | 85 | 3 | 84 | 1 | 72 | 0 | 15 | 81 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 84 | 3 | 53 | 0 | — | 1 | 43 | 0 | 9 | 79 |
| | 100 | — | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 89 | 1 | 52 | 0 | — | 0 | 2 | 72 |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 T.U. | Surface | 4 | 10 | 4 | 14 | 2 | 20 | 4 | 19 | 0 | — | 1 | 14 | 0 | — | 1 | 13 | 0 | — | 0 | — | 7 | 18 | 7 | 18 | 0 | 30 | 16 |
| | 1000 | 4 | 11 | 2 | 10 | 0 | — | 4 | 18 | 2 | 14 | 1 | 15 | 0 | — | 0 | — | 1 | 15 | 0 | — | 2 | 31 | 13 | 17 | 0 | 29 | 17 |
| | 850 | 1 | 5 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 12 | 5 | 20 | 5 | 22 | 3 | 24 | 9 | 19 | 4 | 19 | 0 | 29 | 19 |
| | 700 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 38 | 12 | 29 | 9 | 26 | 3 | 26 | 0 | 28 | 29 |
| | 600 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 46 | 13 | 30 | 4 | 31 | 5 | 31 | 0 | 26 | 38 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 52 | 11 | 47 | 4 | 20 | 4 | 42 | 0 | 24 | 45 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 32 | 14 | 57 | 6 | 49 | 0 | — | 0 | 23 | 56 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 16 | 68 | 1 | 68 | 1 | 99 | 0 | 18 | 70 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 83 | 12 | 78 | 1 | 34 | 2 | 76 | 0 | 16 | 75 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 87 | 6 | 86 | 1 | 40 | 3 | 90 | 0 | 12 | 83 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 86 | 2 | 81 | 1 | 52 | 0 | 4 | 75 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 17 | 0 | — | 0 | — | 0 | — | 0 | 1 | 17 |
| | 70 | — | — | — | — | — | — | 0 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N=The number of cases the element has been observed during the month.

TN=The total number of cases the wind has been observed for all directions during the month.

**Table B 3.—(*contd.*) NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**HELWAN MAY — 1970**

| Time | Pressure Surface (Millibar.) | Wind between ranges of direction (000—360°) | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (T.N) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 9 | 7 | 7 | 8 | 2 | 6 | 1 | 4 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 8 | 3 | 7 | 2 | 25 | 7 |
| | 1000 | 1 | 5 | 3 | 15 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 4 | 13 |
| | 850 | 7 | 22 | 4 | 17 | 1 | 15 | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 19 | 3 | 21 | 0 | — | 4 | 22 | 4 | 16 | 0 | 25 | 20 |
| | 700 | 1 | 47 | 0 | — | 2 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 34 | 9 | 28 | 2 | 37 | 7 | 21 | 0 | 25 | 27 |
| | 600 | 1 | 57 | 1 | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 32 | 2 | 26 | 10 | 45 | 6 | 28 | 4 | 30 | 0 | 25 | 36 |
| | 500 | 3 | 35 | 0 | — | 1 | 24 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 36 | 14 | 42 | 2 | 34 | 2 | 40 | 0 | 24 | 39 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 6 | 49 | 9 | 38 | 2 | 74 | 5 | 35 | 0 | 22 | 44 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 86 | 9 | 67 | 3 | 60 | 3 | 52 | 0 | 17 | 66 |
| | 250 | 1 | 88 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 129 | 7 | 87 | 3 | 109 | 1 | 64 | 0 | 13 | 94 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 98 | 1 | 128 | 1 | 120 | 0 | 6 | 66 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 116 | 0 | — | 0 | — | 0 | 2 | 116 |
| | 100 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 8 | 11 | 6 | 10 | 1 | 11 | 2 | 8 | 0 | — | 0 | — | 0 | — | 3 | 6 | 0 | — | 0 | — | 1 | 11 | 5 | 8 | 0 | 26 | 9 |
| | 1000 | 2 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 13 |
| | 850 | 7 | 19 | 4 | 19 | 1 | 8 | 2 | 30 | 1 | 8 | 0 | — | 1 | 8 | 1 | 9 | 3 | 17 | 1 | 33 | 2 | 15 | 3 | 20 | 0 | 26 | 18 |
| | 700 | 3 | 42 | 1 | 13 | 1 | 14 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 35 | 8 | 29 | 5 | 30 | 4 | 16 | 0 | 26 | 28 |
| | 600 | 1 | 36 | 0 | — | 2 | 14 | 0 | — | 0 | — | 0 | — | 1 | 6 | 0 | — | 4 | 57 | 10 | 37 | 5 | 27 | 3 | 31 | 0 | 26 | 34 |
| | 500 | 1 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 12 | 6 | 48 | 8 | 40 | 2 | 38 | 5 | 38 | 0 | 24 | 38 |
| | 400 | 2 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 57 | 6 | 52 | 10 | 42 | 0 | — | 4 | 58 | 0 | 23 | 46 |
| | 300 | 1 | 23 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 86 | 7 | 73 | 1 | 52 | 2 | 55 | 0 | 16 | 70 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 80 | 6 | 97 | 3 | 70 | 3 | 50 | 0 | 14 | 79 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 126 | 3 | 133 | 1 | 135 | 1 | 28 | 0 | 8 | 118 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 98 | 0 | — | 0 | — | 1 | 42 | — | 2 | 70 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 27 | 0 | — | 0 | — | — | 1 | 27 |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N=The number of cases the element has been observed during the month.

TN=The total number of cases the wind has been observed for all directions during the month.

**Table B 3.—(*contd.*) NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED FRESSURE SURFACES**

**ASWAN (A) MAY 1970**

| Time | Pressure Surface (Millibar.) | Wind between ranges of direction (000—360°) | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (T.N) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 T.U. | Surface | 15 | 12 | 3 | 9 | 3 | 4 | 0 | — | 1 | 6 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 7 | 12 | 1 | 30 | 10 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 3 | 17 | 11 | 15 | 6 | 12 | 2 | 14 | 1 | 15 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 6 | 3 | 12 | 3 | 13 | 0 | 30 | 14 |
| | 700 | 2 | 18 | 4 | 18 | 3 | 10 | 2 | 10 | 1 | 21 | 1 | 3 | 1 | 6 | 0 | — | 2 | 22 | 6 | 21 | 4 | 15 | 4 | 14 | 0 | 30 | 16 |
| | 600 | 0 | — | 0 | — | 3 | 16 | 2 | 8 | 0 | — | 0 | — | 2 | 6 | 0 | — | 7 | 19 | 6 | 23 | 6 | 22 | 4 | 10 | 0 | 30 | 17 |
| | 500 | 3 | 17 | 3 | 14 | 1 | 8 | 0 | — | 1 | 20 | 3 | 13 | 0 | — | 0 | — | 3 | 23 | 8 | 30 | 5 | 25 | 1 | 17 | 0 | 28 | 22 |
| | 400 | 1 | 12 | 0 | — | 0 | — | 2 | 6 | 0 | — | 1 | 18 | 1 | 22 | 0 | — | 2 | 18 | 12 | 44 | 5 | 21 | 3 | 18 | 0 | 27 | 27 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 7 | 0 | — | 0 | — | 0 | — | 5 | 39 | 12 | 52 | 5 | 24 | 3 | 24 | 0 | 26 | 39 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 8 | 33 | 12 | 54 | 3 | 31 | 3 | 57 | 0 | 26 | 45 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 21 | 11 | 40 | 8 | 75 | 2 | 54 | 2 | 79 | 0 | 26 | 53 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 27 | 7 | 33 | 10 | 57 | 4 | 40 | 1 | 55 | 0 | 25 | 46 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 19 | 1 | 12 | 2 | 22 | 3 | 24 | 8 | 45 | 4 | 38 | 1 | 20 | 0 | — | 0 | 20 | 34 |
| | 70 | 0 | — | 0 | — | 0 | — | 3 | 15 | 3 | 13 | 2 | 16 | 0 | — | 1 | 12 | 1 | 15 | 1 | 21 | 0 | — | 0 | — | 0 | 11 | 15 |
| | 60 | 0 | — | 0 | — | 1 | 13 | 1 | 5 | 4 | 17 | 3 | 12 | 0 | — | 0 | — | 1 | 20 | 0 | — | 0 | — | 0 | | 0 | 10 | 14 |
| | 50 | 0 | — | 1 | 4 | 0 | — | 5 | 15 | 1 | 19 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 7 | 19 |
| | 40 | 0 | — | 0 | — | 2 | 24 | 3 | 22 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 20 | 0 | — | 0 | | 0 | 6 | 22 |
| | 30 | 0 | — | 0 | — | 2 | 29 | 3 | 26 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 38 | 0 | — | 0 | — | 0 | 6 | 26 |
| | 20 | 0 | — | 0 | — | 0 | — | 1 | 35 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 35 |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 T.U. | Surface | 19 | 10 | 3 | 13 | 1 | 6 | 0 | — | 2 | 8 | 1 | 3 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 14 | 0 | 31 | 10 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 5 | 10 | 5 | 13 | 5 | 13 | 1 | 18 | 1 | 15 | 1 | 4 | 0 | — | 0 | — | 0 | — | 2 | 10 | 4 | 9 | 7 | 15 | 0 | 31 | 12 |
| | 700 | 3 | 10 | 0 | — | 3 | 17 | 2 | 18 | 2 | 11 | 1 | 8 | 1 | 4 | 2 | 20 | 1 | 10 | 5 | 17 | 6 | 15 | 5 | 18 | 0 | 31 | 15 |
| | 600 | 1 | 4 | 2 | 22 | 0 | — | 1 | 12 | 1 | 3 | 3 | 12 | 1 | 9 | 4 | 12 | 4 | 22 | 4 | 24 | 7 | 16 | 3 | 26 | 0 | 31 | 17 |
| | 500 | 3 | 17 | 0 | — | 1 | 9 | 1 | 5 | 3 | 7 | 1 | 7 | 1 | 8 | 1 | 14 | 7 | 20 | 8 | 32 | 4 | 19 | 1 | 14 | 0 | 31 | 19 |
| | 400 | 0 | — | 1 | 20 | 0 | — | 2 | 7 | 2 | 22 | 0 | — | 0 | — | 0 | — | 4 | 31 | 12 | 38 | 6 | 24 | 4 | 15 | 0 | 31 | 28 |
| | 300 | 1 | 30 | 1 | 10 | 1 | 7 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 16 | 5 | 29 | 13 | 51 | 4 | 40 | 3 | 32 | 0 | 29 | 38 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 7 | 36 | 13 | 59 | 4 | 36 | 5 | 24 | 0 | 29 | 44 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 11 | 31 | 11 | 71 | 4 | 37 | 3 | 43 | 0 | 29 | 48 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 14 | 7 | 28 | 11 | 66 | 4 | 51 | 0 | — | 0 | 24 | 48 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 5 | 0 | — | 1 | 14 | 4 | 18 | 6 | 26 | 6 | 30 | 0 | — | 0 | — | 0 | 18 | 24 |
| | 70 | 1 | 15 | 0 | — | 1 | 13 | 2 | 18 | 1 | 8 | 2 | 14 | 1 | 6 | 1 | 9 | 1 | 6 | 1 | 17 | 0 | — | 0 | — | 0 | 11 | 13 |
| | 60 | 0 | — | 0 | — | 2 | 17 | 2 | 20 | 3 | 21 | 1 | 11 | 1 | 14 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 9 | 18 |
| | 50 | 0 | — | 0 | — | 0 | — | 2 | 15 | 4 | 20 | 1 | 27 | 0 | — | 0 | — | 1 | 14 | 0 | — | 0 | — | 0 | — | 0 | 8 | 19 |
| | 40 | 0 | — | 0 | — | 0 | — | 5 | 18 | 1 | 22 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 3 | 0 | — | 0 | — | 0 | 7 | 16 |
| | 30 | 0 | — | 0 | — | 0 | — | 2 | 20 | 3 | 24 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 22 |
| | 20 | 0 | — | 0 | — | 1 | 26 | 1 | 24 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 25 |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N=The numher of cases the element has been observed during the month.

TN=The total number of cases the wind has been observed for all directions during the month.

# REVIEW OF AGRO-METEOROLOGICAL STATIONS

## MERSA MATRUH MAY 1970

This month as a whole was rather normal with respect to the daily mean air temperature.

The month was characterized by three heat waves during the period (10th—13th) and on the 17th & 29th. The first heat wave was the most excessive and yielded the highest maximum air temperature for the month (43.0°C), the highest minimum air temperature (22.8°C) and lowest relative humidity (13%) on the 12th. During rest of the month, mild spring weather was experienced.

The daily mean actual duration of bright sunshine was less than the corresponding value of May 1969 by 1.8 hour.

## TAHRIR - MAY 1970

This month as a whole was slightly cooler than last May.

The month was characterized by three heat waves on the 1st and during the periods (8th—13th) and (17th—21st). The last heat wave yielded the lowest relative humidity (8%) on the 18th, and both the highest maximum air temperature (45.9°C) and the highest minimum air temperature (19.3°C) on the 21st. The break down of these heat waves was followed by periods of mild spring weather.

The extreme maximum soil temperatures were higher than the corresponding values of last May at shallow depths between 2,10 cm. with differences between 3.1°C at 2 cm. and 0.4°C at 5 cm. At deeper depths between 20,100 cm. the extreme soil maxima were lower than last May with differences between 0.8°, 1.0°C.

The extreme minimum soil temperatures were higher than the corresponding values of last May at all depths apart from the 10,50 cm. depths, the differences varied between 1.6°C at 2cm. and 0.2°C at 20 cm. At 10 cm. the extreme minimum soil temperature was slightly lower (0.2°C), and at 50 cm. it was the same as last May.

The daily mean values of Pan evaporation and actual duration of bright sunshine were more than the corresponding values of May 1969 by 0.29 mm. and 0.5 hour respectively.

## BAHTIM — MAY 1970

This month as a whole was slightly cooler than last May.

Three heat waves were experienced on the 1st and during the periods (8th—14th) & (17th—21st). The last heat wave yielded both the highest maximum air temperature for the month (46.7°C) and the lowest relaive humidity (8%) on the 21st. The break down of these waves was followed by periods of mild spring weather.

The extreme maximum soil temperatures were higher than the corresponding values of last May at all depths apart from the 20 cm. depth where its value was slightly lower (0.2°C) ; the differences ranged between 4.7°C at 2 cm. and 0.1°C at both 50,100 cm. The extreme minimum soil temperatures were lower than the corresponding values of last May at shallow depths between 2,10 cm. and higher at deeper depths between 20,100 cm. ; the differences varied between 0.1°, 09°C.

The daily mean values of Pan evaporation and actual duration of bright sunshine were more than the corresponding values of May 1969 by 0.75 mm. and 0.6 hour respectively.

## KHARGA — MAY 1970

This month as a whole was slightly warmer than normal.

Three heat waves occurred on the 1st and during the periods (7th-14th) & (17th-24th). The last heat wave yielded both the highest maximum air temperature for the month (48.4°C) and the lowest relative humidity (5%) on the 21st. During rest of the month maximum air temperatures were below normal.

The extreme maximum soil temperatures were higher than the corresponding values of last May at all depths, and the differences ranged between 5.0°C at 2 cm. and 0.3°C at 100 cm.

The extreme minimum soil temperatures were lower than last May at depths between 2,20 cm. with differences between 1.9°C at 2 cm. and 0.1°C at 20 cm. At both 50,100 cm. depths the extreme minimum soil temperature was 0.5°C higher than last May.

The daily mean values of Pan evaporation and actual duration of bright sunshine were more than the corresponding values of May 1969 by 2.99 mm. and 0.9 hour respectively.

## Table C 1. AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

### MAY — 1970

| STATION | Air Temperature (°C) | | | | | Mean Duration in hours of daily air temperature above the following values | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean Max. | Mean Min. | Mean of the day | Night time mean | Day time mean | −5°C | 0°C | 5°C | 10°C | 15°C | 20°C | 25°C | 30°C | 35°C | 40°C | 45°C |
| Mersa Matruh | 25.8 | 14.8 | 20.0 | 17.4 | 21.0 | 24.0 | 24.0 | 24.0 | 24.0 | 21.2 | 10.3 | 2.5 | 1.1 | 0.3 | 0.1 | 0.0 |
| Tahrir | 31.7 | 14.4 | 22.4 | 18.1 | 24.1 | 24.0 | 24.0 | 24.0 | 24.0 | 21.7 | 14.2 | 7.7 | 2.9 | 0.8 | 0.2 | 0.03 |
| Bahtim | 32.4 | 13.7 | 21.2 | 17.8 | 24.7 | 24.0 | 24.0 | 24.0 | 24.0 | 21.5 | 14.7 | 8.5 | 3.6 | 1.0 | 0.4 | 0.1 |
| Kharga | 38.2 | 20.7 | 29.8 | 25.9 | 31.2 | 24.0 | 24.0 | 24.0 | 24.0 | 23.8 | 22.5 | 17.8 | 10.5 | 5.4 | 1.7 | 0.5 |

## Table C 2. EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS

### MAY — 1970

| STATION | Max. Temp. at 1½ metres (°C) | | | | Min. Temp. at 1½ metres (°C) | | | | Min. Temp. at 5 cms. above (°C) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | | Lowest | | Highest | | Lowest | | Dry soil | | Grass | |
| | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date |
| Mersa Matruh | 43.0 | 12 | 19.6 | 4 | 22.8 | 12 | 10.7 | 6 | 5.9 | 6 | — | — |
| Tahrir | 45.9 | 21 | 23.6 | 4 | 19.3 | 21 | 10.9 | 6 | 8.7 | 6 | — | — |
| Bahtim | 46.7 | 21 | 25.2 | 4 | 17.6 | 14 | 9.8 | 6 | 7.1 | 6 | — | — |
| Kharga | 48.4 | 21 | 28.8 | 5 | 28.7 | 9 | 10.8 | 5 | 8.0 | 5 | — | — |

## Table C 3. (SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL

### MAY — 1970

| STATION | (Solar+Sky) Radiation gm. cal/cm² | Duration of Bright Sunshine (hours) | | | Relative Humidity | | | | Vapour pressure (mms) | | | | | | Evaporation (mms) | | Rainfall (mms) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Actual monthly | Total Possible monthly | % | Mean of day | 1200 U.T. | Lowest | Date | Mean of day | 1200 U.T. | Highest | Date | Lowest | Date | Piche | Pan class A | Total Amount Monthly | Max. fall in one day | Date |
| M. Matruh | 537.6 | 279.4 | 426.3 | 65 | 64 | 52 | 13 | 12 | 10.8 | 11.0 | 14.6 | 18 | 5.4 | 4 | 10.8 | 11.47* | 0 | 0 | — |
| Tahrir | 545.7 | 345.6 | 424.6 | 81 | 55 | 29 | 8 | 18 | 10.3 | 9.0 | 15.8 | 19 | 3.4 | 4 | 10.5 | 10.25 | 0 | 0 | — |
| Bahtim | 570.1 | 333.1 | 423.2 | 79 | 50 | 25 | 8 | 21 | 9.5 | 8.2 | 14.4 | 21 | 3.5 | 4 | 14.1 | 11.42 | 0 | 0 | — |
| Kharga | 589.0 | 364.8 | 413.9 | 88 | 20 | 13 | 5 | 20,21 | 5.7 | 5.7 | 11.1 | 22 | 2.2 | 18 | 25.4 | 21.72 | 0 | 0 | — |

* Mean of 23 days only.

THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 6

## JUNE, 1970

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

# PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

## THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

## THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for [illegible] meteorological elements and their deviations from the normal values. From 1954 to 1957 this [illegible] as in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

## THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

## THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

## CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

## METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

## TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 6

## JUNE, 1970

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

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*Note* : For explanatory notes on the tables please refer to Volume 13, Number 1 (January 1970).

# GENERAL SUMMARY OF WEATHER CONDITIONS
## JUNE 1970

**Stable summer weather, rather humid in the north and remarkably dry in the south**

### GENERAL DESCRIPTION OF WEATHER

The prevailing weather this month was generally mild and rather humid in the northern parts, hot and rather dry in the middle parts, remarkably hot and dry in the southern parts. Three light heat waves occurred round the periods (8th—12th), (19th—20th) and on the 27th.

Weather was light sandy in several days over scattered parts mainly in west of the Mediterranean, Red, Sea & Western Desert districts. Early morning low clouds and scattered mist developed in several days over Delta & Cairo areas.

### PRESSURE DISTRIBUTION

The outstanding features of pressure distribution over the surface maps during this month were :

— The Atlantic anticyclone and its extension through Europe.

— Deep low pressure systems through North Europe, associated sometimes with secondaries through Central Europe.

— A ridge of high pressure over Central Mediterranean & NE Africa.

— The Complex monsoon low pressure over the Arabian Gulf, Arabia & North Sudan.

It is worthy of mention that the monsoon trough over the Arabian Gulf showed consecutive elongations towards East Mediterranean & Asia Minor during the periods (5th—8th), (10th—14th), (18th—20th) & (25th—27th), the second of which was the most pronounced.. These elongations associated the transit of secondary depressions through the Black Sea area and its vicinities.

The barometric pressure over Egypt this month was generally above normal, though it attained its normal or was slightly below normal during the elongation periods of the complex monsoon trough of Iraq & Arabian gulf.

From the upper air charts, the most important feature over our area, was the passage of five upper troughs through East Med. and north Egypt on the 2nd, 6th, 17th, 24th, 29th.

### SURFACE WIND

Light to moderate N/NW winds prevailed most of this month in general. Winds became fresh to strong during several days in scattered localities, mainly in the Mediterranean Sea, Red Sea & Western Desert districts.

Gales were reported at Hurghada on the 2nd.

## TEMPERATURE

Maximum air temperature showed slight to moderate departure from normal during this month, it continued above normal during the heat waves and below normal otherwise. Maximum air temperature values ranged generally between 25°C & 30°C in the northern parts, between 30°C & 36°C in the middle parts, between 39°C & 43°C in the southern parts.

The absolute maximum air temperature for the month was 44.4°C reported at Luxor on the 13th.

Minimum air temperature oscillated slightly round normal in general. Its values ranged most of the month between 16°C & 20°C in the northern and middle parts, and between 20°C & 25°C in the southern parts.

The absolute minimum air temperature was 11.2°C reported at Sakha on the 4th.

## PRECIPITATION

This month was rainless all over the Country.

*Cairo, March 1972*

**Chairman (M. F. TAHA)**
*Board of Directors*

## SURFACE DATA

### Table A 1.- MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

### JUNE — 1970

| STATION | Atmospheric Pressure (mbs) M.S.L. | | Air Temperature °C | | | | | | | | | Relative Humidity % | | Bright Sunshine Duration (Hours) | | | Piche Evaporation mms. Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Maximum | | Minimum | | | Dry Bulb | | Wet Bulb | | | | | | | |
| | Mean | D.F. Normal or Average | (A) Mean | D.F. Normal or Average | (B) Mean | D.F. Normal or Average | $\frac{A+B}{2}$ | Mean | D.F. Normal or Average | Mean | D.F. Normal or Average | Mean | D.F. Normal or Average | Total Actual | Total Possible | % | |
| Sallum | 1013.8 | +1.1 | 28.9 | —0.6 | 19.8 | 0.0 | 24.4 | 24.1 | —0.6 | 18.9 | —0.8 | 59 | —2 | — | — | — | 7.9 |
| Mersa Matruh (A) | 1013.8 | +1.2 | 27.1 | —0.9 | 17.8 | —0.4 | 22.4 | 22.4 | —0.9 | 18.8 | —0.8 | 69 | 0 | 359.8 | 425.4 | 84 | 7.0 |
| Alexandria (A) | 1012.9 | +1.2 | 28.1 | —0.3 | 20.7 | +0.5 | 24.4 | 23.9 | —0.3 | 20.1 | —0.4 | 79 | +8 | 348.4 | 424.1 | 82 | 6.3 |
| Port Said (A) | 1010.9 | 0.0 | 28.9 | +0.4 | 20.7 | —1.7 | 24.8 | 24.2 | —0.8 | 20.3 | —1.1 | 69 | —2 | 362.9 | 424.1 | 86 | 6.1 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 1011.5 | +0.4 | 31.8 | —2.2 | 17.1 | —0.3 | 24.5 | 24.2 | —1.7 | 18.8 | —0.8 | 57 | +4 | 371.8 | 422.4 | 88 | 6.2 |
| Cairo | 1011.4 | +0.6 | 33.5 | —1.2 | 19.2 | —0.9 | 26.4 | 25.9 | —1.3 | 19.1 | —0.5 | 50 | +4 | — | — | — | 16.2 |
| Fayoum | — | — | 35.9 | —0.1 | 18.4 | —1.5 | 27.2 | 26.8 | —2.1 | 19.5 | 0.0 | 47 | +1 | — | — | — | 9.6 |
| Minya (A) | 1010.1 | +0.4 | 35.5 | —0.9 | 18.7 | —0.3 | 27.1 | 27.1 | —0.7 | 18.4 | —0.6 | 40 | 0 | 386.3 | 416.1 | 93 | 19.0 |
| Assyout (A) | 1009.2 | +0.3 | 36.0 | —1.7 | 20.3 | —1.3 | 28.2 | 28.2 | —1.8 | 17.8 | —0.3 | 31 | +5 | — | — | — | 23.2 |
| Luxor (A) | 1007.2 | +0.5 | 40.2 | —0.8 | 21.6 | —1.0 | 30.9 | 31.0 | —1.6 | 18.6 | —0.7 | 25 | +2 | — | — | — | 24.2 |
| Aswan (A) | 1006.7 | +0.6 | 40.0 | —2.2 | 23.6 | —0.6 | 31.8 | 31.8 | —2.1 | 16.9 | —0.6 | 15 | +3 | — | — | — | 31.6 |
| Siwa | 1012.2 | +0.4 | 36.4 | —0.9 | 18.8 | —0.6 | 28.6 | 28.3 | —1.0 | 16.8 | —1.5 | 25 | —5 | 382.7 | 416.8 | 95 | 16.5 |
| Bahariya | 1011.4 | +1.5 | 35.9 | —0.6 | 19.7 | +0.2 | 27.8 | 28.0 | —1.2 | 17.9 | —0.5 | 32 | +2 | — | — | — | 12.7 |
| Farafra | 1012.2 | +0.7 | 35.6 | —2.1 | 19.0 | —1.2 | 27.3 | 27.5 | —2.0 | 16.8 | —0.1 | 28 | +6 | — | — | — | 20.9 |
| Dakhla | 1011.2 | +2.4 | 36.4 | —2.1 | 20.1 | —2.4 | 28.0 | 28.6 | —2.5 | 16.4 | —0.8 | 23 | +5 | — | — | — | 26.7 |
| Kharga | 1009.2 | +1.4 | 37.8 | —1.4 | 22.7 | —0.5 | 30.0 | 30.6 | —1.9 | 16.8 | —1.2 | 25 | +5 | 373.6 | 409.7 | 91 | 25.7 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 1007.0 | +0.2 | 31.4 | —0.5 | 22.8 | —0.8 | 27.1 | 27.6 | —1.0 | 19.4 | —1.0 | 42 | —2 | — | — | — | 19.4 |
| Quseir | 1006.9 | —0.2 | 30.4 | —2.0 | 24.7 | —0.8 | 27.6 | 27.8 | —1.4 | 20.2 | —0.6 | 46 | +2 | — | — | — | 20.0 |

## Table A 2.-MAXIMUM AND MINIMUM AIR TEMPERATURES

### JUNE — 1970

| Station | Maximum Temperature °C | | | | | | | | | Grass Min. Temp. | | Minimum Temperature °C | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | Date | Lowest | Date | No. of Days with Max-Temp. | | | | | Mean | Dev. From Normal | Highest | Date | Lowest | Date | No. of Days with Min. Temp. | | | |
| | | | | | >25 | >30 | >35 | >40 | >45 | | | | | | | <10 | <5 | <0 | <-5 |
| Sallum . . . . . | 34.7 | 11 | 23.2 | 3 | 27 | 9 | 0 | 0 | 0 | — | — | 23.6 | 10 | 16.4 | 2,4 | 0 | 0 | 0 | 0 |
| Mersa Matruh (A) | 32.2 | 19 | 23.1 | 3 | 24 | 3 | 0 | 0 | 0 | 16.0 | — | 21.6 | 21 | 14.0 | 5 | 0 | 0 | 0 | 0 |
| Alexandria . (A) | 30.5 | 11,12 | 24.5 | 2 | 27 | 4 | 0 | 0 | 0 | 19.1 | — | 22.8 | 18 | 16.6 | 3 | 0 | 0 | 0 | 0 |
| Port said . . (A) | 33.7 | 1 | 25.3 | 2 | 30 | 9 | 0 | 0 | 0 | 20.3 | — | 22.9 | 28 | 17.7 | 2 | 0 | 0 | 0 | 0 |
| El Arish . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta . . . . . | 37.1 | 12 | 28.2 | 2 | 30 | 20 | 4 | 0 | 0 | — | — | 19.7 | 14 | 12.6 | 4 | 0 | 0 | 0 | 0 |
| Cairo . . . (A) | 39.4 | 1 | 29.7 | 2 | 30 | 28 | 10 | 0 | 0 | — | — | 20.8 | 20,21,28 | 16.0 | 5 | 0 | 0 | 0 | 0 |
| Fayoun . . . . | 40.5 | 1 | 21.2 | 27 | 30 | 30 | 20 | 1 | 0 | 16.7 | — | 21.2 | 27 | 15.6 | 1,2 | 0 | 0 | 0 | 0 |
| Minya . . . (A) | 41.7 | 1 | 31.0 | 2 | 31 | 31 | 18 | 1 | 0 | 17.7 | — | 21.8 | 11 | 15.2 | 7 | 0 | 0 | 0 | 0 |
| Assyout . . (A) | 42.5 | 11 | 31.2 | 2 | 30 | 30 | 19 | 2 | 0 | 18.0 | — | 22.8 | 11 | 16.8 | 6 | 0 | 0 | 0 | 0 |
| Luxor . . . (A) | 44.4 | 13 | 36.3 | 4 | 30 | 30 | 30 | 12 | 0 | 16.8 | — | 25.8 | 1 | 18.2 | 7 | 0 | 0 | 0 | 0 |
| Aswan . . . (A) | 43.5 | 9 | 36.5 | 3 | 30 | 30 | 30 | 10 | 0 | — | — | 25.9 | 2 | 19.8 | 3 | 0 | 0 | 0 | 0 |
| Siwa . . . . . | 41.4 | 27 | 29.9 | 2 | 30 | 29 | 20 | 5 | 0 | 15.5 | — | 21.5 | 1 | 14.8 | 4 | 0 | 0 | 0 | 0 |
| Bahariya . . . . | 41.1 | 12 | 30.0 | 2 | 30 | 29 | 20 | 1 | 0 | 17.9 | — | 22.5 | 28 | 16.3 | 2 | 0 | 0 | 0 | 0 |
| Farafra . . . . | 39.4 | 10,12 | 31.1 | 5 | 30 | 30 | 17 | 0 | 0 | 18.3 | — | 21.4 | 11 | 14.2 | 6 | 0 | 0 | 0 | 0 |
| Dakhla . . . . | 41.5 | 1 | 32.2 | 2 | 30 | 30 | 18 | 2 | 0 | 19.6 | — | 24.8 | 12 | 15.6 | 27 | 0 | 0 | 0 | 0 |
| Kharga . . . . | 43.0 | 1 | 33.2 | 3 | 30 | 30 | 24 | 7 | 0 | 19.9 | — | 27.6 | 13 | 14.8 | 1 | 0 | 0 | 0 | 0 |
| Tor . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada . . . | 34.6 | 1 | 28.8 | 3 | 30 | 26 | 0 | 0 | 0 | — | — | 25.5 | 14 | 18.8 | 1 | 0 | 0 | 0 | 0 |
| Qusier . . . . . | 33.5 | 1 | 28.0 | 7 | 30 | 15 | 0 | 0 | 0 | 21.1 | — | 26.1 | 21 | 23.0 | 1 | 0 | 0 | 0 | 0 |

## Table A 3. — SKY COVER AND RAINFALL

### JUNE — 1970

| Station | Mean Sky Cover (Oct). | | | | | Rainfall mms. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 00 U.T. | 06 U.T. | 12 U.T. | 18 U.T. | Daily Mean | Total Amount | D. From Normal | Max. Fall in one day | | Number of Days with Amount of Rain | | | | | | |
| | | | | | | | | Amount | Date | <0.1 | ≥0.1 | ≥1.0 | ≥5.0 | ≥10 | ≥25 | ≥50 |
| Sallum . . . . . | 1.5 | 1.0 | 1.2 | 0.4 | 1.0 | 0.0 | — 0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mersa Matruh (A) | 1.0 | 2.4 | 0.8 | 1.8 | 1.3 | 0.0 | — 3.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Alexandria . . (A) | 2.4 | 1.9 | 1.2 | 1.3 | 1.8 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Port Said . . (A) | 1.2 | 1.7 | 0.2 | 0.7 | 0.9 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| El Arish . . . . . | — | — | — | — | — | — | | — | — | — | — | — | — | — | — | — |
| Ghazza . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta . . . . . | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cairo . . . (A) | 1.0 | 2.3 | 0.4 | 0.0 | 0.9 | 0.0 | — 0.2 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fayoum . . . . . | — | 0.8 | 0.1 | 0.0 | — | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minya . . . . (A) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Assyout. . . . (A) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Luxor . . . . (A) | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aswan . . . . (A) | 0.1 | 0.3 | 0.4 | 0.4 | 0.3 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Siwa . . . . . | 0.2 | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bahariya . . . . . | 0.0 | 0.2 | 0.1 | 0.1 | 0.1 | 0.0 | — 0.2 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Farafra . . . . . | — | 0.0 | 0.0 | 0.0 | — | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dakhla . . . . . | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kharga . . . . . | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tor . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada . . . . | — | 0.0 | 0.1 | 0.0 | — | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Quseir . . . . . | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Table A 4. — DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

### JUNE — 1970

| Station | Precipitation | | | | Frost | Thunderstorm | Mist Vis ≥ 1000 Metres | Fog Vis < 1000 metres | Haze Vis ≥ 1000 Metres | Thick Haze Vis < 1000 Metres | Dust or Sandrising Vis ≥ 1000 Metres | Dust or Sandstorm Vis < 1000 Metres | Gale | Clear Sky | Cloudy Sky |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rain | Snow | Ice. Pellets | Hail | | | | | | | | | | | |
| Sallum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 0 |
| Mersa Matruh (A) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 0 | 7 | 0 | 0 | 23 | 0 |
| Alexandira (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 1 | 0 | 0 | 18 | 0 |
| Port Said (A) | 0 | 0 | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 27 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 |
| Cairo (A) | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 1 | 3 | 0 | 1 | 0 | 0 | 29 | 0 |
| Fayoum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | — | — |
| Minya (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 30 | 0 |
| Assyout (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 |
| Luxor (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 | 5 | 0 | 0 | 30 | 0 |
| Aswan (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 30 | 0 |
| Siwa | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 |
| Bahariya | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 |
| Farafra | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | — | — |
| Dakhla | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 30 | 0 |
| Kharga | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 0 | 30 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 1 | — | — |
| Quseir | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 30 | 0 |

## Table A 5.– NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

### JUNE — 1970

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | All directions |
| Sallum | 18 | 0 | 0 | 1—10 | 7 | 95 | 49 | 23 | 37 | 13 | 10 | 17 | 12 | 27 | 52 | 102 | 444 |
| | | | | 11—27 | 2 | 80 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 69 | 97 | 258 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **9** | **175** | **59** | **23** | **37** | **13** | **10** | **17** | **12** | **27** | **121** | **199** | **702** |
| Mersa Matruh | 8 | 0 | 0 | 1—10 | 34 | 4 | 0 | 0 | 0 | 1 | 1 | 1 | 29 | 143 | 106 | 56 | 375 |
| | | | | 11—27 | 21 | 0 | 0 | 0 | 0 | 1 | 3 | 0 | 0 | 4 | 99 | 209 | 337 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **55** | **4** | **0** | **0** | **0** | **2** | **4** | **1** | **29** | **147** | **205** | **265** | **712** |
| Alexandria | 0 | 0 | 33 | 1—10 | 4 | 0 | 2 | 1 | 0 | 2 | 1 | 2 | 86 | 277 | 90 | 7 | 472 |
| | | | | 11—27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 37 | 156 | 22 | 0 | 215 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **4** | **0** | **2** | **1** | **0** | **2** | **1** | **2** | **123** | **433** | **112** | **7** | **687** |
| Port Said | 10 | 0 | 0 | 1—10 | 181 | 21 | 3 | 3 | 4 | 5 | 2 | 0 | 3 | 32 | 140 | 273 | 667 |
| | | | | 11—27 | 0 | 0 | 1 | 5 | 0 | 0 | 0 | 1 | 1 | 0 | 9 | 20 | 43 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **181** | **21** | **4** | **8** | **4** | **5** | **2** | **1** | **4** | **38** | **149** | **293** | **710** |
| Tanta | 56 | 0 | 1 | 1—10 | 96 | 34 | 13 | 1 | 7 | 2 | 1 | 5 | 8 | 40 | 135 | 198 | 540 |
| | | | | 11—27 | 33 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 78 | 123 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **129** | **37** | **13** | **1** | **7** | **2** | **1** | **5** | **8** | **40** | **144** | **276** | **663** |
| Caire | 82 | 0 | 0 | 1—10 | 81 | 59 | 21 | 5 | 0 | 0 | 0 | 1 | 2 | 22 | 77 | 147 | 415 |
| | | | | 11—27 | 73 | 39 | 5 | 1 | 0 | 0 | 0 | 1 | 2 | 0 | 20 | 82 | 223 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **154** | **98** | **26** | **6** | **0** | **0** | **0** | **2** | **4** | **22** | **97** | **229** | **638** |
| Fayoum | 3 | 0 | 19 | 1—10 | 472 | 103 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 5 | 10 | 70 | 664 |
| | | | | 11—27 | 21 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 34 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **493** | **111** | **1** | **0** | **1** | **0** | **0** | **1** | **1** | **5** | **14** | **71** | **698** |
| Minya | 0 | 0 | 2 | 1—10 | 355 | 36 | 0 | 0 | 0 | 0 | 3 | 0 | 1 | 0 | 1 | 6 | 403 |
| | | | | 11—27 | 276 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1 | 315 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **632** | **72** | **0** | **0** | **0** | **0** | **3** | **0** | **1** | **0** | **3** | **7** | **718** |

**Table A 5** (*contd.*) **NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

**JUNE — 1970**

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | All directions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | |
| Asyout | 0 | 0 | 2 | 1—10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 96 | 188 | 111 | 36 | 436 |
| | | | | 11—27 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 43 | 136 | 100 | 282 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **3** | **0** | **0** | **0** | **0** | **0** | **0** | **5** | **96** | **231** | **247** | **136** | **718** |
| Luxor | 52 | 0 | 0 | 1—10 | 22 | 8 | 2 | 2 | 5 | 43 | 95 | 43 | 44 | 119 | 206 | 48 | 637 |
| | | | | 11—27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 2 | 3 | 31 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **22** | **8** | **2** | **2** | **5** | **43** | **95** | **43** | **45** | **120** | **232** | **51** | **668** |
| Aswan | 0 | 5 | 5 | 1—10 | 144 | 26 | 1 | 1 | 1 | 0 | 0 | 0 | 2 | 11 | 50 | 224 | 460 |
| | | | | 11—27 | 57 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 171 | 250 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **201** | **27** | **1** | **1** | **1** | **0** | **0** | **0** | **2** | **11** | **71** | **395** | **710** |
| Siwa | 23 | 8 | 6 | 1—10 | 92 | 99 | 109 | 62 | 29 | 12 | 5 | 5 | 9 | 13 | 36 | 86 | 557 |
| | | | | 11—27 | 29 | 32 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 41 | 126 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **121** | **131** | **125** | **62** | **29** | **12** | **5** | **5** | **9** | **13** | **44** | **127** | **683** |
| Dakhla | 3 | 0 | 1 | 1—10 | 53 | 12 | 8 | 5 | 7 | 7 | 13 | 11 | 31 | 48 | 102 | 262 | 559 |
| | | | | 11—27 | 31 | 13 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 110 | 157 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **84** | **25** | **11** | **5** | **7** | **7** | **13** | **11** | **31** | **48** | **102** | **372** | **716** |
| Kharga | 5 | 1 | 1 | 1—10 | 201 | 15 | 3 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 10 | 121 | 352 |
| | | | | 11—27 | 239 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 120 | 361 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **440** | **16** | **3** | **0** | **0** | **0** | **0** | **0** | **1** | **1** | **11** | **241** | **713** |
| Hurghada | 0 | 0 | 8 | 1—10 | 9 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 33 | 46 | 92 |
| | | | | 11—27 | 188 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 5 | 90 | 254 | 573 |
| | | | | 28—47 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 41 | 47 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **203** | **38** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **7** | **123** | **341** | **712** |
| Quseir | 4 | 0 | 2 | 1—10 | 225 | 118 | 1 | 0 | 0 | 0 | 0 | 2 | 1 | 2 | 14 | 50 | 413 |
| | | | | 11—27 | 170 | 131 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 301 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **395** | **249** | **1** | **0** | **0** | **0** | **0** | **2** | **1** | **2** | **14** | **50** | **714** |

# UPPER AIR CLIMATOLOGICAL DATA

## Table B 1.—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALEUS OF ALTITUDE, AIR TEMBERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

### JUNE — 1970

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 0000 T.U. | Surface | 30 | *1012mb. | *1016mb. | *1007mb. | 30 | 20.0 | 24.0 | 16.8 | 30 | 16.8 |
| | 1000 | 30 | 132 | 165 | 89 | 30 | 20.7 | 25.7 | 17.2 | 30 | 16.7 |
| | 850 | 30 | 1536 | 1576 | 1503 | 30 | 17.9 | 24.2 | 10.0 | 29 | — 2.4 |
| | 700 | 29 | 3175 | 3245 | 3122 | 29 | 9.1 | 12.0 | 4.8 | 29 | — 11.4 |
| | 600 | 29 | 4436 | 4509 | 4368 | 29 | 1.9 | 4.0 | — 3.0 | 29 | —18.8 |
| | 500 | 29 | 5884 | 5962 | 5794 | 29 | — 7.5 | — 1.4 | —11.6 | 29 | —26.3 |
| | 400 | 29 | 7582 | 7675 | 7470 | 29 | —19.6 | —14.0 | —24.5 | 29 | — 36.6 |
| | 300 | 29 | 9663 | 9766 | 9512 | 29 | — 33.1 | —26.1 | —39.0 | 28 | —48.4 |
| | 250 | 27 | 10922 | 11032 | 10770 | 27 | —40.6 | —36.5 | —44.9 | 27 | —54.8 |
| | 200 | 26 | 12421 | 12534 | 12257 | 26 | —49.9 | —46.1 | —52.6 | 24 | —62.5 |
| | 150 | 24 | 14268 | 14374 | 14145 | 24 | —61.0 | —57.0 | —63.5 | 3 | —73.7 |
| | 100 | 21 | 16728 | 16870 | 16585 | 21 | —71.5 | —68.5 | —76.4 | — | — |
| | 70 | 17 | 18849 | 19049 | 18740 | 17 | —69.3 | —65.2 | —74.6 | — | — |
| | 60 | 11 | 19815 | 19900 | 19730 | 11 | —63.9 | — 62.0 | —65.6 | — | — |
| | 50 | 11 | 20901 | 20968 | 20813 | 11 | —59.5 | —56.5 | —66.7 | — | — |
| | 40 | 8 | 22425 | 22500 | 22370 | 8 | —55.3 | —54.0 | —56.8 | — | — |
| | 30 | 8 | 24168 | 24230 | 24103 | 8 | —51.2 | —49.7 | —53.1 | — | — |
| | 20 | 2 | 26838 | 26864 | 26812 | 2 | —46.5 | —45.0 | —48.0 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Helwan 0000 U.T. | Surface | 28 | *995mb. | *999mb. | *992mb. | 28 | 21.2 | 25.0 | 17.4 | 28 | 15.0 |
| | 1000 | 28 | 100 | 135 | 69 | — | — | — | — | — | — |
| | 850 | 28 | 1502 | 1520 | 1480 | 28 | 18.0 | 23.2 | 12.6 | 28 | 1.5 |
| | 700 | 28 | 3145 | 3165 | 3108 | 28 | 10.9 | 13.4 | 6.5 | 28 | — 8.2 |
| | 600 | 28 | 4410 | 4439 | 4336 | 28 | 3.3 | 6.6 | — 1.8 | 28 | — 15.1 |
| | 500 | 28 | 5866 | 5903 | 5808 | 28 | — 6.0 | — 0.7 | —10.7 | 28 | —23.4 |
| | 400 | 28 | 7578 | 7635 | 7478 | 28 | —17.5 | —12.3 | —22.5 | 28 | —32.7 |
| | 300 | 27 | 9677 | 9760 | 9548 | 27 | —31.1 | —27.1 | —36.7 | 27 | —44.1 |
| | 250 | 26 | 10944 | 11044 | 10809 | 26 | —40.1 | —35.4 | —43.3 | 26 | —51.7 |
| | 200 | 26 | 12435 | 12563 | 12226 | 26 | —50.5 | —47.0 | —52.5 | 26 | —60.8 |
| | 150 | 25 | 14262 | 14415 | 14113 | 25 | —62.3 | —60.5 | —64.1 | — | — |
| | 100 | 15 | 16 91 | 16790 | 16542 | 15 | —73.6 | —71.1 | —76.6 | — | — |
| | 70 | 8 | 18796 | 18874 | 18708 | 8 | —68.4 | —62.7 | —71.0 | — | — |
| | 60 | 7 | 19780 | 19840 | 19700 | 7 | —63.9 | —61.7 | —65.5 | — | — |
| | 50 | 7 | 20878 | 20934 | 20796 | 7 | — 58.2 | — 56.7 | — 59.5 | — | — |
| | 40 | 4 | 22410 | 22420 | 22400 | 4 | —56.0 | —55.7 | —56.4 | — | — |
| | 30 | 4 | 24165 | 24196 | 24145 | 4 | —52.6 | —51.9 | —54.1 | — | — |
| | 20 | 2 | 26815 | 26823 | 26807 | 2 | —47.2 | —47.1 | —47.3 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Aswan 0000 U.T. | Surace | 28 | *984mb. | *987mb. | *980mb. | 28 | 26.8 | 30.5 | 23.5 | 28 | 4.0 |
| | 1000 | 28 | 52 | 88 | 13 | — | — | — | — | — | — |
| | 850 | 28 | 1487 | 1519 | 1466 | 28 | 24.6 | 27.8 | 21.0 | 28 | — 1.0 |
| | 700 | 28 | 3154 | 3195 | 3122 | 28 | 13.5 | 15.1 | 9.3 | 28 | — 9.9 |
| | 600 | 28 | 4431 | 4467 | 4374 | 28 | 4.9 | 14.0 | 1.4 | 28 | —16.9 |
| | 500 | 28 | 5896 | 5935 | 5845 | 28 | — 3.9 | 0.5 | — 7.8 | 28 | —25.3 |
| | 400 | 28 | 7625 | 7680 | 7539 | 28 | —14.9 | —11.5 | —21.5 | 28 | —33.9 |
| | 300 | 28 | 9744 | 9818 | 9722 | 28 | —29.7 | —26.7 | —32.3 | 28 | —46.1 |
| | 250 | 27 | 11020 | 11102 | 10881 | 27 | —39.4 | —36.0 | —42.6 | 27 | — 53.4 |
| | 200 | 27 | 12515 | 12612 | 12303 | 27 | — 50.5 | —48.1 | —53.3 | 27 | —62.4 |
| | 150 | 26 | 14337 | 14435 | 14160 | 26 | —63.5 | —60.9 | —66.1 | — | — |
| | 100 | 25 | 16754 | 16891 | 16543 | 25 | —76.3 | —72.5 | —80.0 | — | — |
| | 70 | 18 | 18821 | 18961 | 18620 | 18 | —73.3 | —67.1 | —84.1 | — | — |
| | 50 | 8 | 19819 | 19930 | 19720 | 8 | —66.9 | —62.0 | —71.7 | — | — |
| | 50 | 8 | 20885 | 21011 | 20799 | 8 | —61.3 | —58.2 | —68.4 | — | — |
| | 40 | 6 | 22387 | 22450 | 22300 | 6 | —57.1 | — 55.2 | —61.6 | — | — |
| | 30 | 5 | 24110 | 24148 | 24024 | 5 | —53.8 | —50.8 | —58.2 | — | — |
| | 20 | 3 | 26741 | 26804 | 26652 | 3 | —48.9 | —46.6 | —51.2 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the element has been observes during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

## UPPER AIR CLIMATOLOGICAL DATA

**Table B 1** (*cont l.*) -**MONTHLY MERNS AND MONTHLY ABSOLUTE HIGHER & LOWER VALEUS OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES**

**JUNE — 1970**

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 12000 U.T. | Surface | 29 | 1013*mb. | 1010*mb. | 1010*mb. | 29 | 25.3 | 29.5 | 20.8 | 29 | 18.4 |
| | 1000 | 29 | 138 | 166 | 116 | 29 | 33.2 | 28.5 | 19.1 | 29 | 15.6 |
| | 850 | 29 | 1546 | 1592 | 1507 | 29 | 17.7 | 23.6 | 10.1 | 29 | 0.8 |
| | 700 | 28 | 3182 | 3229 | 3129 | 29 | 9.4 | 13.2 | 5.2 | 27 | — 8.2 |
| | 600 | 25 | 4443 | 4494 | 4377 | 25 | 1.5 | 5.1 | — 2.4 | 25 | —16.9 |
| | 500 | 23 | 5888 | 5946 | 5801 | 23 | — 7.5 | —3.2 | —12.7 | 23 | —24.7 |
| | 400 | 22 | 7589 | 7665 | 7474 | 22 | —18.9 | —12.7 | —24.6 | 21 | —34.4 |
| | 300 | 19 | 9682 | 9796 | 9514 | 19 | —32.4 | —28.5 | —38.2 | 19 | —46.8 |
| | 250 | 19 | 10952 | 11083 | 10758 | 19 | —39.8 | —36.7 | —43.8 | 19 | —53.2 |
| | 200 | 17 | 12446 | 12589 | 12248 | 17 | —49.1 | —46.3 | —50.8 | 15 | —60.8 |
| | 150 | 13 | 14306 | 14408 | 14096 | 13 | —59.8 | —57.1 | —62.5 | 7 | —69.3 |
| | 100 | 11 | 16806 | 16885 | 16757 | 11 | —71.3 | —66.7 | —75.5 | — | — |
| | 70 | 6 | 18956 | 19005 | 18893 | 6 | —67.1 | —63.2 | —69.0 | — | — |
| | 60 | 5 | 19870 | 20000 | 19690 | 5 | —61.9 | —59.0 | —64.5 | — | — |
| | 50 | 4 | 21026 | 21058 | 20955 | 4 | —57.2 | —55.5 | —59.0 | — | — |
| | 40 | 1 | 22500 | — | — | 1 | —52.1 | — | — | — | — |
| | 30 | 1 | 24285 | — | — | 1 | —44.5 | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Helwan 12000 U.T. | Surface | 30 | 995*mb. | 998*mb. | 992*mb. | 30 | 31.7 | 39.0 | 26.7 | 30 | 10.7 |
| | 1000 | 30 | 92 | 124 | 60 | — | — | — | — | — | — |
| | 850 | 30 | 1515 | 1539 | 1490 | 30 | 18.7 | 25.8 | 12.1 | 30 | —0.6 |
| | 700 | 30 | 3161 | 3193 | 3118 | 30 | 11.3 | 13.1 | 7.0 | 30 | —12.8 |
| | 600 | 30 | 4429 | 4467 | 4372 | 30 | 3.8 | 6.1 | —1.3 | 30 | —19.1 |
| | 500 | 29 | 5888 | 5933 | 5817 | 29 | — 4.7 | —1.3 | — 8.7 | 29 | —26.8 |
| | 400 | 28 | 7609 | 7658 | 7509 | 28 | —16.0 | —12.1 | —20.5 | 28 | —35.1 |
| | 300 | 25 | 9720 | 9790 | 9594 | 25 | —29.7 | —24.5 | —35.0 | 25 | —45.7 |
| | 250 | 23 | 10994 | 11069 | 10871 | 23 | —38.8 | —35.2 | —41.8 | 23 | —53.7 |
| | 200 | 23 | 12497 | 12592 | 12371 | 23 | —49.3 | —45.6 | —52.0 | 21 | —62.6 |
| | 150 | 19 | 14320 | 14452 | 14207 | 19 | —61.4 | —59.6 | —64.2 | 3 | —72.4 |
| | 100 | 16 | 16771 | 16917 | 16657 | 16 | —72.6 | —61.4 | —77.5 | — | — |
| | 70 | 8 | 18901 | 19019 | 18773 | 8 | —68.2 | —59.7 | —72.8 | — | — |
| | 60 | 2 | 19820 | 19880 | 19760 | 2 | —63.5 | —63.0 | —64.0 | — | — |
| | 50 | 2 | 20906 | 20969 | 20842 | 2 | —55.2 | —54.5 | —55.8 | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Aswan 12000 U.T. | Surface | 30 | 984*mb. | 986*mb. | 981*mb. | 30 | 38.6 | 47.5 | 34.0 | 30 | 4.9 |
| | 1000 | 30 | 42 | 69 | 16 | — | — | — | — | — | — |
| | 850 | 30 | 1447 | 1518 | 1487 | 30 | 24.4 | 28.2 | 19.5 | 30 | —5.4 |
| | 700 | 29 | 3164 | 3195 | 3138 | 29 | 13.5 | 16.1 | 10.9 | 29 | —14.0 |
| | 600 | 28 | 4441 | 4471 | 4413 | 28 | 4.5 | 8.1 | 1.5 | 28 | —20.9 |
| | 500 | 28 | 5998 | 5971 | 5871 | 28 | —3.9 | 0.3 | — 9.0 | 28 | —28.4 |
| | 400 | 27 | 7640 | 7704 | 7579 | 27 | —14.0 | —10.7 | —18.6 | 27 | —36.7 |
| | 300 | 27 | 9765 | 9834 | 9701 | 27 | —32.3 | —27.0 | —30.8 | 27 | —48.2 |
| | 250 | 27 | 11050 | 11178 | 10967 | 27 | —38.6 | —36.0 | —40.9 | 27 | —55.7 |
| | 200 | 27 | 12549 | 12678 | 12473 | 27 | —50.1 | —48.2 | —52.2 | 27 | —64.8 |
| | 150 | 27 | 14371 | 14513 | 14169 | 27 | —63.0 | —60.9 | —65.0 | — | — |
| | 100 | 25 | 16789 | 16943 | 16599 | 25 | —76.0 | —70.8 | —79.8 | — | — |
| | 70 | 19 | 18925 | 19007 | 18772 | 19 | —71.7 | —67.9 | —78.5 | — | — |
| | 60 | 9 | 19851 | 19990 | 19780 | 9 | —65.2 | —63.1 | —67.9 | — | — |
| | 50 | 9 | 20934 | 21067 | 20851 | 9 | —58.5 | —56.0 | —60.2 | — | — |
| | 40 | 8 | 22463 | 22600 | 22364 | 8 | —53.7 | —52.6 | —54.8 | — | — |
| | 30 | 7 | 24231 | 24357 | 24143 | 7 | —48.7 | —47.6 | —50.5 | — | — |
| | 20 | 5 | 26921 | 27070 | 26840 | 5 | —43.8 | —39.8 | —47.6 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of radiosonde station.

**Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE : THE HIGHEST WIND SPEED IN THE UPPER AIR**

**JUNE — 1970**

| | STATION | Freezing Level | | | | | | | | | First Tropopause | | | | | | | | | Highest wind speed | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | | | Highest | | | Lowest | | | Mean | | | Highest | | | Lowest | | | | | | |
| | | Altitude (gpm) | Pressure (mb.) | Dew Point (°C) | Altitude (gpm) | Pressure (mp.) | Dew Point (°C) | Altitude (gpm) | Pressure (mb.) | Dew Point (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitaed (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Direction (000—360)° | Speed in knots |
| 0000 U.T. | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | Mersa Matruh. | 4705 (29) | 579 (29) | —19.8 (29) | 6240 | 544 | —26.9 | 4010 | 630 | —30.4 | 16058 (16) | 113 (16) | —70.1 (16) | 17300 | 92 | —72.4 | 15280 | 121 | —66.2 | 14080 | 153 | 220 | 120 |
| | Helwan . . . | 4945 (28) | 563 (28) | —17.8 (28) | 5660 | 514 | —18.1 | 4200 | 616 | — 9.1 | 15472 (4) | 127 (4) | —69.0 (4) | 16610 | 101 | —74.1 | 12380 | 199 | —51.6 | 10840 | 251 | 240 | 138 |
| | Aswan . . . . | 5213 (28) | 547 (28) | —21.0 (28) | 5800 | 507 | —25.9 | 4810 | 572 | —12.8 | 16885 (19) | 97 (19) | —77 1 (19) | 17820 | 84 | —77.5 | 15480 | 123 | —74.4 | 15180 | 130 | 180 | 75 |
| 1200 U.T. | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | Mersa Matruh. | 4698 (25) | 583 (25) | —17.9 (25) | 5300 | 542 | —25.9 | 4010 | 630 | —16.3 | 15172 (6) | 148 (6) | —64.2 (6) | 17710 | 86 | —75.0 | 8560 | 350 | —31.6 | 14475 | 149 | 230 | 129 |
| | Helwan . . . | 5089 (30) | 554 (30) | —22.2 (30) | 5660 | 518 | —22.2 | 4260 | 613 | —12.5 | 16161 (5) | 109 (5) | —70.6 (5) | 17560 | 89 | —74.5 | 14269 | 150 | — 60.6 | 8430 | 353 | 240 | 140 |
| | Aswan . . . . | 5180 (28) | 549 (28) | —24.7 (28) | 5800 | 508 | —25.1 | 4780 | 577 | —24.2 | 17024 (14) | 97 (14) | —76.6 (14) | 18370 | 77 | —78.8 | 15900 | 117 | —72.0 | 15905 | 116 | 150 | 70 |

N = The number of cases the element has been observed during the month.

**Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**MERSA MATRUH (A) — JUNE 1970**

| Time | Pressure Surface (Millibar.) | Wind between ranges of direction (000—360°) | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (T.N) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 T.U. | Surface | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 25 | 1 | 4 | 8 | 7 | 13 | 8 | 3 | 15 | 3 | 8 | 1 | 30 | 8 |
| | 1000 | 3 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 14 | 15 | 14 | 9 | 12 | 0 | 29 | 13 |
| | 850 | 9 | 19 | 5 | 22 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 22 | 0 | — | 4 | 22 | 10 | 18 | 0 | 29 | 20 |
| | 700 | 2 | 29 | 2 | 25 | 1 | 22 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 20 | 5 | 19 | 11 | 23 | 7 | 20 | 0 | 29 | 22 |
| | 600 | 4 | 14 | 1 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 7 | 30 | 13 | 20 | 4 | 24 | 0 | 29 | 22 |
| | 500 | 1 | 10 | 1 | 19 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 35 | 13 | 29 | 9 | 29 | 4 | 20 | 0 | 29 | 27 |
| | 400 | 1 | 4 | 2 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 38 | 15 | 43 | 5 | 36 | 2 | 30 | 0 | 29 | 33 |
| | 300 | 0 | — | 1 | 2 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 57 | 17 | 52 | 5 | 43 | 2 | 36 | 1 | 67 | 0 | 28 | 48 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 50 | 0 | — | 0 | — | 2 | 88 | 16 | 65 | 3 | 55 | 1 | 41 | 2 | 60 | 0 | 25 | 64 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 51 | 6 | 77 | 13 | 74 | 2 | 48 | 1 | 36 | 0 | — | 0 | 23 | 69 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 68 | 10 | 63 | 2 | 40 | 0 | — | 0 | — | 0 | 16 | 61 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 18 | 6 | 44 | 5 | 32 | 1 | 42 | 0 | — | 0 | — | 0 | 13 | 37 |
| | 70 | 0 | — | 1 | 19 | 0 | — | 1 | 73 | 2 | 12 | 1 | 18 | 1 | 8 | 0 | — | 1 | 8 | 0 | — | 0 | — | 0 | — | 1 | 8 | 19 |
| | 60 | 0 | — | 2 | 11 | 1 | 15 | 2 | 18 | 1 | 14 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 6 | 14 |
| | 50 | 0 | — | 0 | — | 2 | 16 | 2 | 36 | 1 | 15 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 24 |
| | 40 | 0 | — | 0 | — | 1 | 9 | 3 | 21 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 4 | 18 |
| | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 12 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 T.U. | Surface | 1 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 14 | 17 | 14 | 14 | 0 | 29 | 16 |
| | 1000 | 3 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 22 | 22 | 17 | 0 | 29 | 18 |
| | 850 | 8 | 18 | 3 | 24 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 21 | 2 | 21 | 8 | 16 | 7 | 14 | 0 | 29 | 18 |
| | 700 | 2 | 20 | 3 | 29 | 1 | 29 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 6 | 24 | 11 | 24 | 4 | 16 | 0 | 27 | 23 |
| | 600 | 2 | 16 | 1 | 22 | 1 | 16 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 13 | 23 | 4 | 26 | 4 | 20 | 0 | 25 | 22 |
| | 500 | 0 | — | 1 | 15 | 1 | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 29 | 14 | 33 | 5 | 26 | 1 | 14 | 0 | 23 | 29 |
| | 400 | 1 | 6 | 0 | — | 1 | 21 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 8 | 38 | 7 | 58 | 2 | 28 | 1 | 42 | 0 | 20 | 42 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 12 | 60 | 5 | 60 | 1 | 39 | 1 | 26 | 0 | 19 | 57 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 48 | 11 | 72 | 5 | 59 | 0 | — | 0 | — | 0 | 17 | 67 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 102 | 10 | 74 | 1 | 72 | 0 | — | 0 | — | 0 | 12 | 76 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 53 | 7 | 67 | 0 | — | 0 | — | 0 | — | 0 | 8 | 66 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 21 | 3 | 19 | 0 | — | 1 | 40 | 0 | — | 0 | 5 | 24 |
| | 70 | 0 | — | 0 | — | 0 | — | 1 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 10 | 0 | — | 0 | — | 0 | — | 0 | 2 | 10 |
| | 60 | 0 | — | 0 | — | 1 | 4 | 0 | — | 1 | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 12 |
| | 50 | 0 | — | 0 | — | 1 | 5 | 0 | — | 1 | 24 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 14 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 6 | 0 | — | 0 | 1 | 6 |
| | 30 | 0 | — | 0 | — | 1 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | — | — | 0 | — | 0 | 1 | 11 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N=The number of cases the element has been observed during the month.

TN=The total number of cases the wind has been observed for all directions during the month.

**Table B 3.—(contd.) NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**HELWAN — JUNE 1970**

| Time | Pressure Surface (Millibar.) | Wind between ranges of direction (000—360°) | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (T.N) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 10 | 6 | 7 | 6 | 1 | 4 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 10 | 5 | 0 | 28 | 6 |
| | 1000 | — | — | — | — | — | — | — | — | 0 | — | 0 | — | 0 | — | — | — | — | — | — | — | — | — | — | — | 0 | — | — |
| | 850 | 6 | 18 | 9 | 25 | 1 | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 25 | 9 | 17 | 0 | 28 | 21 |
| | 700 | 4 | 15 | 3 | 14 | 1 | 19 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 20 | 4 | 12 | 7 | 18 | 5 | 16 | 0 | 28 | 16 |
| | 600 | 3 | 13 | 1 | 9 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 9 | 7 | 20 | 7 | 22 | 5 | 17 | 3 | 19 | 0 | 28 | 18 |
| | 500 | 0 | — | 1 | 9 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 11 | 32 | 11 | 30 | 4 | 14 | 1 | 30 | 0 | 28 | 28 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 45 | 15 | 46 | 9 | 38 | 0 | — | 2 | 50 | 0 | 27 | 44 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 48 | 16 | 59 | 3 | 32 | 1 | 12 | 0 | — | 0 | 25 | 55 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 67 | 11 | 70 | 3 | 83 | 1 | 25 | 0 | — | 0 | 20 | 69 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 78 | 8 | 84 | 1 | 80 | 1 | 35 | 0 | — | 0 | 12 | 78 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 90 | 3 | 69 | 1 | 36 | 0 | — | 0 | — | 0 | 5 | 66 |
| | 100 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 7 | 12 | 3 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 7 | 1 | 5 | 5 | 8 | 13 | 8 | 0 | 30 | 9 |
| | 1000 | — | — | — | — | — | — | — | — | 0 | — | 0 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 10 | 13 | 8 | 17 | 2 | 37 | 0 | — | 0 | — | 0 | — | 1 | 3 | 1 | 9 | 2 | 19 | 1 | 22 | 2 | 10 | 3 | 14 | 0 | 30 | 15 |
| | 700 | 5 | 13 | 3 | 17 | 1 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 17 | 7 | 15 | 6 | 16 | 6 | 13 | 0 | 30 | 14 |
| | 600 | 4 | 17 | 0 | — | 0 | — | 1 | 3 | 0 | — | 0 | — | 0 | — | 1 | 35 | 4 | 20 | 10 | 23 | 6 | 20 | 4 | 15 | 0 | 30 | 20 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 32 | 11 | 35 | 8 | 29 | 4 | 20 | 4 | 30 | 0 | 29 | 31 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 40 | 16 | 48 | 6 | 36 | 0 | — | 2 | 46 | 0 | 26 | 45 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 72 | 14 | 71 | 5 | 73 | 0 | — | 2 | 59 | 0 | 22 | 64 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 64 | 13 | 64 | 3 | 63 | 0 | — | 1 | 53 | 0 | 20 | 61 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 44 | 6 | 63 | 4 | 77 | 0 | — | 0 | — | 0 | 15 | 60 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 6 | 50 | 3 | 64 | 0 | — | 0 | — | 0 | — | 0 | 9 | 55 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 21 | 1 | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 40 |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N=The number of cases the element has been observed during the month.

TN=The total number of cases the wind has been observed for all directions during the month.

**Table B 3.—(*contd.*) NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**ASWAN (A) — JUNE 1970**

| Time | Pressure Surface (Millibar.) | Wind between ranges of direction (000—360°) | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (T.N) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | )ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 T.U. | Surface | 8 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 7 | 10 | 13 | 11 | 0 | 28 | 11 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 7 | 16 | 3 | 7 | 2 | 4 | 1 | 4 | 0 | — | 1 | 9 | 0 | — | 0 | — | 2 | 6 | 0 | — | 6 | 8 | 4 | 10 | 0 | 26 | 10 |
| | 700 | 1 | 7 | 1 | 4 | 0 | — | 0 | — | 3 | 18 | 0 | — | 0 | — | 2 | 27 | 6 | 14 | 6 | 14 | 3 | 4 | 3 | 10 | 0 | 25 | 13 |
| | 600 | 2 | 9 | 1 | 6 | 0 | — | 1 | 13 | 0 | — | 1 | 14 | 1 | 3 | 5 | 30 | 4 | 15 | 2 | 16 | 5 | 12 | 3 | 14 | 0 | 25 | 16 |
| | 500 | 1 | 29 | 3 | 17 | 1 | 7 | 3 | 12 | 1 | 6 | 2 | 3 | 2 | 15 | 2 | 12 | 3 | 23 | 5 | 13 | 2 | 2 | 0 | — | 0 | 25 | 13 |
| | 400 | 1 | 5 | 3 | 7 | 1 | 20 | 1 | 14 | 0 | — | 2 | 8 | 1 | 13 | 6 | 11 | 6 | 11 | 2 | 20 | 1 | 2 | 1 | 13 | 0 | 25 | 11 |
| | 300 | 0 | — | 0 | — | 1 | 23 | 1 | 10 | 1 | 12 | 0 | — | 8 | 13 | 8 | 23 | 4 | 16 | 1 | 7 | 1 | 4 | 0 | — | 0 | 25 | 17 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 12 | 4 | 9 | 5 | 23 | 8 | 32 | 4 | 13 | 1 | 24 | 0 | — | 1 | 11 | 0 | 24 | 19 |
| | 200 | 0 | — | 0 | — | 0 | — | 2 | 11 | 0 | — | 4 | 18 | 11 | 29 | 6 | 32 | 1 | 6 | 0 | — | 0 | — | 0 | — | 0 | 24 | 25 |
| | 150 | 0 | — | 0 | — | 0 | — | 1 | 13 | 2 | 35 | 8 | 34 | 10 | 36 | 2 | 26 | 1 | 35 | 0 | — | 0 | — | 0 | — | 0 | 24 | 33 |
| | 100 | 0 | — | 0 | — | 0 | — | 2 | 24 | 3 | 27 | 8 | 32 | 2 | 20 | 1 | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 16 | 28 |
| | 70 | 0 | — | 0 | — | 1 | 24 | 3 | 22 | 3 | 25 | 1 | 8 | 1 | 32 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 9 | 23 |
| | 60 | 0 | — | 0 | — | 1 | 24 | 4 | 19 | 1 | 28 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | | 0 | 6 | 21 |
| | 50 | 0 | — | 0 | — | 1 | 42 | 4 | 32 | 1 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 6 | 30 |
| | 40 | 0 | — | 0 | — | 1 | 30 | 4 | 29 | 1 | 57 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 6 | 34 |
| | 30 | 0 | — | 0 | — | 2 | 42 | 3 | 41 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 42 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 T.U. | Surface | 12 | 12 | 3 | 9 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 7 | 3 | 8 | 6 | 8 | 1 | 30 | 9 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 3 | 12 | 1 | 7 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 13 | 2 | 12 | 5 | 8 | 11 | 11 | 7 | 12 | 0 | 30 | 11 |
| | 700 | 3 | 19 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 5 | 2 | 12 | 7 | 25 | 6 | 16 | 4 | 18 | 3 | 18 | 2 | 16 | 0 | 28 | 18 |
| | 600 | 0 | — | 1 | 13 | 0 | — | 0 | — | 0 | — | 1 | 9 | 3 | 9 | 11 | 25 | 4 | 16 | 2 | 12 | 3 | 17 | 3 | 12 | 0 | 28 | 18 |
| | 500 | 1 | 3 | 2 | 19 | 3 | 14 | 2 | 10 | 0 | — | 2 | 6 | 2 | 12 | 7 | 19 | 3 | 14 | 4 | 6 | 1 | 12 | 1 | 21 | 0 | 28 | 13 |
| | 400 | 0 | — | 2 | 23 | 2 | 24 | 3 | 12 | 3 | 8 | 1 | 17 | 5 | 11 | 3 | 8 | 5 | 18 | 2 | 6 | 1 | 10 | 0 | — | 0 | 27 | 14 |
| | 300 | 0 | — | 1 | 21 | 1 | 6 | 3 | 14 | 3 | 9 | 4 | 11 | 4 | 18 | 7 | 22 | 2 | 6 | 2 | 14 | 0 | — | 0 | — | 0 | 27 | 15 |
| | 250 | 0 | — | 2 | 10 | 1 | 13 | 1 | 11 | 2 | 14 | 4 | 13 | 10 | 22 | 6 | 27 | 1 | 15 | 0 | — | 0 | — | 0 | — | 0 | 27 | 20 |
| | 200 | 0 | — | 0 | — | 0 | — | 2 | 12 | 3 | 20 | 6 | 22 | 11 | 29 | 3 | 39 | 1 | 31 | 0 | — | 0 | — | 0 | — | 0 | 26 | 26 |
| | 150 | 0 | — | 0 | — | 0 | — | 3 | 21 | 1 | 16 | 12 | 32 | 6 | 38 | 4 | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 26 | 32 |
| | 100 | 0 | — | 0 | — | 0 | — | 1 | 12 | 7 | 32 | 9 | 26 | 3 | 28 | 1 | 28 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 21 | 28 |
| | 70 | 0 | — | 0 | — | 0 | — | 5 | 25 | 6 | 32 | 1 | 27 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 12 | 29 |
| | 60 | 0 | — | 0 | — | 0 | — | 5 | 31 | 4 | 28 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 9 | 29 |
| | 50 | 0 | — | 0 | — | 0 | — | 4 | 28 | 5 | 27 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 9 | 28 |
| | 40 | 0 | — | 0 | — | 0 | — | 5 | 27 | 2 | 32 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 7 | 29 |
| | 30 | 0 | — | 0 | — | 0 | — | 4 | 36 | 1 | 44 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 37 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**N=The number of cases the element has been observed during the month.**

**TN=The total number of cases the wind has been observed for all directions during the month.**

# REVIEW OF AGRO-METEOROLOGICAL STATIONS

## MERSA MATRUH — JUNE 1970

This month as a whole was slightly cooler and more humid than normal.

Three light heat waves occurred during the periods (9th—11th), (17th—19th & (25th—26th). Maximum air temperatures were below normal during the period (1st—6th). The highest maximum air temperature for the month (32.2°C) was reported on the 19th together with the lowest value of relative humidity (33%). The lowest maximum air temperature (23.1°C) was reported on the 3rd.

The daily mean actual duration of bright sunshine was slightly less (0.1 hour) than the corresponding value of El Kasr in June 1969.

## TAHRIR — JUNE 1970

Compared with last June, this month as a whole was cooler and more humid.

Three heat waves were experienced on the 1st and during the periods (8th—12th) & (17th—20th) respectively. The first heat wave was associated with the lowest value of relative humidity (16%). The second heat wave was the most pronounced and yielded the highest maximum air temperature for the month (37.6°C) on the 12th. During rest of the month maximum air temperatures were mostly below normal.

The extreme maximum soil temperatures were lower than the corresponding values of last June at all depths between 2 & 100 cm. with differences between 3.2°C at 5 cm. and 0.1°C at 100 cm. The extreme minimum soil temperatures were also lower than the corresponding values of last June with differences between 3.5°C at 2 cm. and 1.2°C at 100 cm.

The daily mean pan evaporation was 0.88 mm. less than the corresponding value of June 1969. The daily mean actual duration of bright sunshine was the same as the corresponding value of June 1969.

## BAHTIM — JUNE 1970

This month as a whole was cooler than last June and slightly more humid.

Three heat waves occurred on the 1st and during the periods (8th-13th) & (16th-20th) respectively. The first heat wave yielded the highest maximum air temperature for the month (40.6°C) and the lowest value of relative humidity (15%). During rest of the month, maximum air temperatures were mostly below normal.

The extreme maximum soil temperatures were lower than the corresponding values of last June at all depths, the differences ranged between 4.4°C at 2 cm. and 0.3°C at 50 cm. The extreme minimum soil temperatures were lower than the corresponding values of last June at all depths apart from the 100 cm. depth where the values were the same, the differences ranged between 2.2°C at 5 cm. and 0.1°C at 50 cm.

The daily mean values of Pan evaporation and actual duration of bright sunshine were less than the corresponding values of June 1969 by 1.15 mm. and 0.2 hour respectively.

## KHARGA — JUNE 1970

This month as a whole was slightly cooler than normal.

Four heat waves were experienced on the 1st, during the period (19th—13th), on the 20th and 27th respectively. The first heat wave yielded the highest maximum air temperature for the month(43.0°C). The second heat wave yielded the lowest value of relative humidity (8%) on the 9th. During rest of the month, maximum air temperatures were below normal.

The extreme maximum soil temperatures were noticably lower than the corresponding values of last June at all depths between 2 & 100 cm and the differences varied between 6.0°C at 5 cm. and 1.2°C at 100 cm. The extreme minimum soil temperatures were lower than the corresponding values of last June at all depths apart from the 100 cm. depth where the values were the same, the differences varied between 1.2°C at 5 cm. and 2.4°C at 20 cm.

The daily mean values of Pan evaporation and actual duration of bright sunshine were less than the corresponding valuese of June 1969 by 2.68 mm. and 0.2 hour respectively.

## Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

### JUNE — 1970

| STATION | Air Temperature (°C) | | | | | Mean Duration in hours of daily air temperature above the following values | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean Max. | Mean Min. | Mean of the day | Night time mean | Day time mean | −5°C | 0°C | 5°C | 10°C | 15°C | 20°C | 25°C | 30°C | 35°C | 40°C | 45°C |
| Mersa Matruh . | 27.1 | 17.8 | 22.5 | 20.0 | 23.4 | 24.0 | 24.0 | 24.0 | 24.0 | 23.8 | 17.5 | 6.2 | 0.1 | 0.0 | 0 0 | 0.0 |
| Tahrir . . . . . | 33.3 | 18.1 | 24.8 | 21.0 | 26.3 | 24.0 | 24.0 | 24.0 | 24.0 | 23.9 | 19.7 | 10.8 | 4.4 | 0.5 | 0.0 | 0.0 |
| Bahtim . . . . . | 34.4 | 17.0 | 25.2 | 21.1 | 26.9 | 24.0 | 24.0 | 24.0 | 24.0 | 23.7 | 19.1 | 11.4 | 5.8 | 0.8 | 0.0 | 0.0 |
| Kharga . . . . | 37.8 | 22.7 | 30.6 | 27.4 | 31.8 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 23.7 | 20.2 | 12.3 | 5.3 | 0.4 | 0.0 |

## Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS

### JUNE — 1970

| STATION | Max. Temp. at 1½ metres (°C) | | | | Min. Temp. at 1½ metres (°C) | | | | Min. Temp. at 5 cms. above (°C) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | | Lowest | | Highest | | Lowest | | Dry soil | | Grass | |
| | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date |
| Mersa Matruh . . . | 32.2 | 19 | 23.1 | 3 | 21.6 | 21 | 14.0 | 5 | 11.8 | 4 | — | — |
| Tahrir . . . . . | 37.6 | 12 | 28.6 | 2 | 20.5 | 14 | 13.9 | 4 | 11.3 | 4 | — | — |
| Bahtim . . . . . | 40.6 | 1 | 29.4 | 2 | 20.8 | 28 | 12.7 | 5 | 9.2 | 5 | — | — |
| Kharga . . . . . | 43.0 | 1 | 33.2 | 3 | 27.6 | 13 | 14.8 | 1 | 12.0 | 1 | — | — |

## Table C 3.—(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL

### JUNE — 1970

| STATION | (Solar+Sky) Radiation gm. cal/cm² | Duration of Bright Sunshine (hours) | | | Relative Humidity | | | | Vapour pressure (mms) | | | | | | Evaporation (mms) | | Rainfall (mms) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Actual monthly | Total Possible monthly | % | Mean of day | 1200 U.T. | Lowest | Date | Mean of day | 1200 U.T. | Highest | Date | Lowest | Date | Piche | Pan class A | Total Amount Monthly | Max. fall in one day | Date |
| M. Matruh | 627.4 | 359.8 | 425.4 | 84 | 73 | 60 | 33 | 19 | 14.7 | 15.2 | 18.9 | 30 | 9.3 | 19 | 7.8 | — | 0.0 | 0.0 | — |
| Tahrir . . | 610.6 | 378.5 | 422.2 | 90 | 63 | 35 | 16 | 1 | 14.0 | 12.3 | 18.9 | 27 | 7.3 | 1 | 9.5 | 10.80 | 0.0 | 0.0 | — |
| Bahtim . . | 588.5 | 362.2 | 421.6 | 86 | 56 | 30 | 15 | 1 | 12.6 | 11.3 | 17.5 | 11 | 7.0 | 1 | 13.5 | 12.02 | 0.0 | 0.0 | — |
| Kharga . | 618.5 | 373.6 | 409.7 | 91 | 25 | 16 | 8 | 9 | 7.6 | 7.2 | 12.3 | 30 | 4.3 | 9 | 25.6 | 22.39 | 0.0 | 0.0 | — |

## Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

### JUNE — 1970

| STATION | Highest (H) Lowest (L) | Extreme soil temperature (°C) in dry field at different depths (cms.) | | | | | | | | Extreme soil temperature (°C) in grass field at different depths (cms.) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 3 |
| Mersa Matruh | H | 42.1 | 37.4 | 32.8 | 28.7 | 27.2 | 24.5 | 22.6 | — | — | — | — | — | — | — | — | — |
| | L | 20.6 | 20.5 | 21.4 | 21.8 | 23.5 | 22.4 | 21.4 | — | — | — | — | — | — | — | — | — |
| Tahrir . . . . | H | 53.6 | 47.4 | 41.4 | 35.9 | 31.4 | 29.2 | 26.7 | 25.5 | — | — | — | — | — | — | — | — |
| | L | 24.5 | 23.7 | 23.4 | 26.2 | 27.2 | 26.3 | 24.7 | 24.1 | — | — | — | — | — | — | — | — |
| Bahtim . . . . | H | 53.3 | 44.8 | 38.4 | 33.7 | 30.6 | 28.4 | 25.2 | 24.2 | — | — | — | — | — | — | — | — |
| | L | 26.3 | 25.2 | 25.8 | 28.4 | 27.5 | 26.2 | 24.1 | 23.6 | — | — | — | — | — | — | — | — |
| Kharga . . . | H | 54.8 | 46.1 | 40.1 | 35.2 | 33.3 | 31.2 | 29.2 | 28.2 | — | — | — | — | — | — | — | — |
| | L | 17.7 | 23.0 | 27.0 | 30.4 | 31.1 | 30.1 | 28.2 | 27.5 | — | — | — | — | — | — | — | — |

## Table C 5.—SURFACE WIND

### JUNE — 1970

| STATION | Wind Speed m/sec at 1½ metres | | | Days with surface wind speed at 10 metres | | | | | | | Max. Gust (kn at 10 metre | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean of the day | Night time mean | Day time mean | ≥10 knots | ≥15 knots | ≥20 knots | ≥25 knots | ≥30 knots | ≥35 knots | ≥40 knots | Value (knots) | Da |
| Mersa Matruh . . | 4.4 | 2.9 | 5.8 | 30 | 29 | 16 | 4 | 2 | 0 | 0 | 36 | |
| Tahrir . . . . . | 2.6 | 1.8 | 3.4 | 30 | 15 | 2 | 1 | 0 | 0 | 0 | 30 | |
| Bahtim . . . . . | 2.7 | 1.4 | 4.2 | 30 | 13 | 3 | 1 | 0 | 0 | 0 | 30 | |
| Kharga . . . . . | 5.2 | 3.8 | 6.6 | 30 | 27 | 16 | 5 | 0 | 0 | 0 | 34 | 2,28 |

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THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 7

## JULY, 1970

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

# PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT — CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors. Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

## THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968, this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

## THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

## THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

## THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

## CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

## METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

## TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 7

## JULY, 1970

U.D.C. 551, 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

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*Note* : For explanatory notes on tables please refer to Volume 13, Number 1 (January 1970).

# GENERAL SUMMARY OF WEATHER CONDITIONS

## JULY 1970

**Normal summer weather, humid in the north and dry in the south.**
**Frequent early morning low clouds in the north.**

### GENERAL DESCRIPTION OF WEATHER

The prevailing weather this month was generally mild & humid in the northern parts, hot and rather humid in the central parts, excessively hot & dry in the southern parts. Two moderate heat waves were experienced mainly in land areas round the periods (14th—17th) & (24th—27th).

Early morning low clouds developed frequently over Delta, Canal, Cairo areas, with scattered mist during several days.

### PRESSURE DISTRIBUTION

The outstanding pressure systems over the synoptic surface charts during this month were :

— The Atlantic anticyclone and its extensions, eastwards over Europe and southeastwards over the Mediterranean.

— Deep low pressure systems through North Europe associated sometimes with secondaries over Central Europe.

— The Complex monsoon low pressure system over the Arabian gulf, Arabia & Sudan.

It is worthy of mention that the Iraq monsoon trough experienced five westward elongations towards East Mediterranean & Asia Minor during this month. These elongations associated the transits of secondary depressions or troughs through the Black Sea area and its vicinities round the 4th, 10th, 18th, 24th & 30th.

The barometric pressure over Egypt was alternatively affected by the above mentioned westward elongations of the Iraq monsoon through, and the eastward extension of high pressure over Central Mediterranean & NE Africa. It accordingly experienced oscillations of small amplitude, and was generally round normal in north of the Republic and slightly above normal in the southern parts.

The important features of pressure distribution over the upper air charts were :

— Two upper low pressure systems over North Atlantic and North Russia.

— Transit of a secondary upper low through East Med. on the 12th and three secondary upper troughs on the 3rd, 20th, & 26th.

— Upper high pressure system over the subtropical latitudes.

### SURFACE WIND

Light to moderate Nly and NWly winds prevailed over most parts of the Republic during this month. Winds freshened during several days over scattered localities in the Mediteranean and Red Sea districts.

### TEMPERATURE

Maximum air temperature was above normal during the two heat waves, and mostly below normal otherwise. The departures from normal were slight to moderate. Maximum air temperature values ranged most of

the month between 28°C & 31°c in the northern parts, between 32°C & 38°C in the central parts and between 39°C & 44°C in the southern parts.

The absolute maximum air temperature for the month was 45.3°C reported at Aswan on the 31st.

Minimum air temperature oscillated round normal with slight to moderate departures. Its values ranged generally between 18°C & 24°C in the northern and central parts, and between 22°C & 27°C in the southern parts.

The absolute minimum air temperature for the month was 15.0°C reported at Mallawi on the 2nd, 5th & 22nd.

**PRECIPITATION**

This month was rainless as usual.

*Cairo, April 1972*

**Chairman (M. F. TAHA)**

***Board of Directors***

## TABLE A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

### JULY — 1970

| STATION | Atmospheric Pressure (mbs) M.S.L | | Air Temperature °C | | | | | | | | | Relative Humidity % | | Bright Sunshine Duration (Hours) | | | Piche Evaporation mms. Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Maximum | | Minimum | | | Dry Bulb | | Wet Bulb | | | | | | | |
| | Mean | D.F Normal or Average | (A) Mean | D.F Normal or Average | (B) Mean | D.F Normal or Average | $\frac{A+B}{2}$ | Mean | D.F Normal or Average | Mean | D.F Normal or Average | Mean | D.F Normal or Average | Total Actual | Total Possible | % | |
| . . . . . | 1009.4 | —0.9 | 30.5 | —0.4 | 21.3 | 0.0 | 25.9 | 25.6 | —0.5 | 20.7 | —0.7 | 63 | — 1 | — | — | — | 8.7 |
| [illegible] (A) | 1009.8 | 0.0 | 29.0 | —0.2 | 20.2 | —0.1 | 24.6 | 24.6 | —0.4 | 21.0 | —0.5 | 74 | + 1 | (353.5) | (405.9) | (87) | 7.5 |
| [illegible] . (A) | 1009.3 | +0.8 | 29.9 | +0.2 | 22.2 | —0.4 | 26.0 | 25.6 | —0.4 | 21.8 | —0.7 | 70 | — 3 | 375.2 | 432.3 | 87 | 7.0 |
| Said . . (A) | 1007.6 | +0.1 | 30.9 | +0.5 | 22.4 | —1.7 | 26.6 | 26.0 | —0.7 | 22.6 | —1.1 | 69 | — 3 | 376.2 | 432.3 | 87 | 6.1 |
| . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| . . . . . | 1007.9 | —0.2 | 31.7 | —2.7 | 18.6 | —0.7 | 25.2 | 24.8 | —1.7 | 21.2 | —0.2 | 71 | + 9 | 366.2 | 431.0 | 85 | 3.8 |
| . . . .(A) | 1008.3 | +0.3 | 33.8 | —1.4 | 21.3 | —0.2 | 27.6 | 27.2 | —0.7 | 21.1 | —0.2 | 56 | + 3 | — | — | — | 14.5 |
| . . . . . | — | — | 37.8 | +1.1 | 20.5 | —1.0 | 29.2 | 28.4 | —0.5 | 20.7 | —0.1 | 47 | + 2 | — | — | — | 9.5 |
| . . (A) | 1007.7 | —0.8 | 36.6 | —0.1 | 20.2 | —0.1 | 28.4 | 28.7 | +0.2 | 20.0 | —0.3 | 42 | — 3 | 394.7 | 425 4 | 92 | 14.2 |
| . . . (A) | 1007.2 | +0.4 | 36.5 | —0.3 | 22.5 | +0.2 | 29.5 | 29.5 | —0.3 | 20.1 | +0.7 | 38 | + 4 | — | — | — | 18.4 |
| . . . (A) | 1005.6 | +0.8 | 40.6 | +0.1 | 23.2 | —0.4 | 31.9 | 32.1 | —0.7 | 20.1 | +0.2 | 28 | + 3 | — | — | — | 13.8 |
| . . . (A) | 1005.5 | +0.8 | 41.2 | +0.1 | 24.4 | —0.3 | 32.8 | 33.3 | —0.3 | 18.6 | +0.5 | 19 | + 4 | — | — | — | 25.6 |
| . . . . . | 1008.6 | —1.1 | 37.0 | —0.9 | 20.8 | +0.1 | 28.9 | 29.3 | —0.4 | 18.6 | —0.8 | 31 | — 3 | 393.2 | 427.7 | 92 | 15.7 |
| . . . . . | 1008.2 | +0.2 | 37.5 | +0.6 | 22.1 | +1.6 | 29.8 | 30.6 | +1.2 | 19.6 | +0.2 | 31 | — 5 | — | — | — | 12.5 |
| . . . . . | 1009.1 | —0.3 | 37.2 | 0.0 | 21.1 | —0.2 | 29.2 | 29.5 | —0.3 | 18.3 | +0.7 | 29 | + 5 | — | — | — | 19.0 |
| . . . . . | 1008.2 | +1.4 | 38.0 | —0.5 | 21.6 | —1.3 | 29.8 | 30.2 | —0.8 | 18.0 | +0.1 | 25 | + 4 | — | — | — | 22.9 |
| . . . . . | 1006.9 | +0.5 | 39.4 | —0.0 | 23.8 | +0.6 | 30.6 | 32.1 | +0.5 | 18.0 | —0.7 | 25 | — 1 | 384.7 | 418.8 | 92 | 23.1 |
| . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| . . . . . | 1005.2 | +0.8 | 33.0 | +0.1 | 25.1 | +0.2 | 29.0 | 29.3 | —0.3 | 21.8 | +0.1 | 49 | + 2 | — | — | — | 14.3 |
| . . . . . | 1005.0 | +0.1 | 31.9 | —1.3 | 25.6 | —0.7 | 28.8 | 29.2 | —0.7 | 22.2 | 0.0 | 52 | + 4 | — | — | — | 13 5 |

[illegible]: The number of records for the sunshine at Mersa Matruh is 29 days only.

## Table A 2.— MAXIMUM AND MINIMUM AIR TEMPERATURES

### JULY — 1970

| Station | Maximum Temperature °C | | | | | | | | | Grass Min. Temp. | | Minimum Temperature °C | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | Date | Lowest | Date | No. of Days with Max-Temp. | | | | | Mean | Dev. From Normal | Highest | Date | Lowest | Date | No. of Days with Min. Temp. | | | |
| | | | | | >25 | >30 | >35 | >40 | >45 | | | | | | | < 10 | <5 | <0 | <-5 |
| Sallum | 41.0 | 17 | 27.0 | 20 | 31 | 17 | 1 | 1 | 0 | 20.7 | — | 23.0 | 12,17 | 19.6 | 23 | 0 | 0 | 0 | 0 |
| Mersa Matruh (A) | 34.4 | 17 | 27.5 | 7,8 | 31 | 5 | 0 | 0 | 0 | 18.7 | — | 23.0 | 18 | 16.5 | 17 | 0 | 0 | 0 | 0 |
| Alexandria (A) | 33.6 | 17 | 28.6 | 4,19,21 | 31 | 11 | 0 | 0 | 0 | 20.6 | — | 23.8 | 13,19 | 19.0 | 27 | 0 | 0 | 0 | 0 |
| Port Said (A) | 33.3 | 2 | 29.2 | 20 | 31 | 23 | 0 | 0 | 0 | 21.9 | — | 24.1 | 15 | 21.3 | 1 | 0 | 0 | 0 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 34.0 | 15 | 29.0 | 19 | 31 | 25 | 0 | 0 | 0 | — | — | 20.8 | 13 | 16.2 | 21 | 0 | 0 | 0 | 0 |
| Cairo (A) | 37.1 | 26 | 30.4 | 8 | 31 | 31 | 6 | 0 | 0 | — | — | 23.4 | 26 | 19.4 | 20,21 | 0 | 0 | 0 | 0 |
| Fayoum | 42.0 | 27 | 34.2 | 8 | 31 | 31 | 26 | 3 | 0 | 18.1 | — | 23.5 | 14 | 17.2 | 2 | 0 | 0 | 0 | 0 |
| Minya (A) | 39.6 | 25 | 33.3 | 20 | 31 | 31 | 24 | 0 | 0 | 19.4 | — | 24.4 | 15 | 17.6 | 2 | 0 | 0 | 0 | 0 |
| Assyout (A) | 41.5 | 27 | 33.0 | 8 | 31 | 31 | 21 | 2 | 0 | 20.4 | — | 25.4 | 15 | 19.9 | 21 | 0 | 0 | 0 | 0 |
| Luxor (A) | 44.6 | 26 | 37.2 | 8 | 31 | 31 | 31 | 17 | 0 | 18.0 | — | 26.8 | 7 | 20.2 | 25 | 0 | 0 | 0 | 0 |
| Aswan (A) | 45.3 | 31 | 37.3 | 8 | 31 | 31 | 31 | 23 | 1 | — | — | 27.2 | 31 | 22.3 | 21 | 0 | 0 | 0 | 0 |
| Siwa | 42.2 | 17 | 32.5 | 8 | 31 | 31 | 23 | 4 | 0 | — | — | 24.3 | 18 | 17.5 | 23 | 0 | 0 | 0 | 0 |
| Bahariya | 40.9 | 16,17 | 34.0 | 19 | 31 | 31 | 24 | 3 | 0 | 20.0 | — | 26.0 | 15 | 19.7 | 21 | 0 | 0 | 0 | 0 |
| Farafra | 41.5 | 18 | 32.3 | 19 | 31 | 31 | 27 | 3 | 0 | 20.5 | — | 24.7 | 15 | 16.9 | 23 | 0 | 0 | 0 | 0 |
| Dakhla | 42.9 | 17 | 33.8 | 19 | 31 | 31 | 27 | 6 | 0 | 21.1 | — | 26.4 | 28 | 16.2 | 24 | 0 | 0 | 0 | 0 |
| Kharga | 42.6 | 26 | 35.8 | 19 | 31 | 31 | 31 | 13 | 0 | 21.8 | — | 28.0 | 17 | 18.2 | 23 | 0 | 0 | 0 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 35.3 | 31 | 30.4 | 20 | 31 | 31 | 2 | 0 | 0 | — | — | 27.8 | 18 | 21.0 | 26 | 0 | 0 | 0 | 0 |
| Quseir | 35.6 | 25 | 29.7 | 1,8 | 31 | 29 | 1 | 0 | 0 | 22.1 | — | 28.7 | 15 | 22.8 | 2 | 0 | 0 | 0 | 0 |

## Table A 3.—SKY COVER AND RAINFALL

### JULY — 1970

| Station | Mean Sky Cover Oct | | | | | Rainfall mms | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 00 U.T. | 06 U.T. | 12 U.T. | 18 U.T. | Daily Mean | Total Amount | Dev. From Normal | Max. Fall in one day | | Number of Days With Amount of Rain | | | | | | |
| | | | | | | | | Amount | Date | < 0.1 | ≥ 0.1 | ≥ 1.0 | ≥ 5.0 | ≥10 | ≥25 | ≥50 |
| Sallum | 1.7 | 0.7 | 1.4 | 1.0 | 1.2 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mersa Matruh (A) | 1.2 | 2.5 | 1.0 | 1.4 | 1.4 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Alexandria (A) | 2.8 | 3.1 | 3.0 | 2.6 | 2.8 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Port Said (A) | 1.8 | 1.9 | 0.3 | 0.7 | 1.1 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 0.3 | 2.2 | 1.4 | 0.1 | 1.0 | 0 0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cairo (A) | 0.9 | 2.2 | 0.5 | 0.3 | 1.0 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fayoum | — | 1.9 | 0.1 | 0.6 | — | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minya (A) | 1.1 | 1.3 | 1.5 | 1.5 | 1.3 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Assyout (A) | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0 0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Luxor (A) | 0.1 | 0.3 | 0.1 | 0.3 | 0.2 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aswan (A) | 0.2 | 0.9 | 0.5 | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Siwa | 0.0 | 0.2 | 0.2 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bahariya | 0.0 | 0.4 | 0.3 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Farafra | — | 0.0 | 0.1 | 0.2 | — | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dakhla | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kharga | 0.0 | 0.3 | 0.3 | 0.3 | 0.2 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Quseir | 0.2 | 0.1 | 0.4 | 0.3 | 0.2 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Table A 4.—DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

### JULY — 1970

| Station | Precipitation | | | | Frost | Thunderstorm | Mist Vis ≥ 1000 metres | Fog Vis <1000 Metres | Haze Vis ≥1000 Metres | Thick Haze Vis <1000 Metres | Dust or Sandrising Vis ≥1000 Metres | Dust or Sandstorm Vis <1000 Metres | Gale | Clear Sky | Cl S |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rain | Snow | Ice, Pellets | Hail | | | | | | | | | | | |
| Sallum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | |
| Mersa Matruh (A) | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 3 | 2 | 0 | 8 | 0 | 0 | 9 | |
| Alexandria (A) | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 12 | |
| Port Said (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Tanta | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 6 | 0 | 0 | 0 | 0 | 0 | 25 | |
| Cairo (A) | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 1 | 3 | 0 | 0 | 0 | 0 | 27 | |
| Fayoum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — |
| Minya (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | |
| Assyout (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | |
| Luxor (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 2 | 0 | 0 | 31 | |
| Aswan (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 14 | 0 | 0 | 28 | |
| Siwa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | |
| Bahariya | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | |
| Farafra | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — |
| Dakhla | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | |
| Kharga | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 31 | |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| Hurghada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 31 | |
| Quseir | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | |

## ble A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

### JULY — 1970

| STATION | calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | All directions |
| | | | | 1-10 | 18 | 86 | 69 | 28 | 20 | 7 | 3 | 4 | 18 | 21 | 79 | 115 | 468 |
| | | | | 11-27 | 3 | 48 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 63 | 154 | 273 |
| m . . . . . | 3 | 0 | 0 | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **21** | **134** | **73** | **28** | **20** | **7** | **3** | **4** | **18** | **22** | **142** | **269** | **741** |
| | | | | 1-10 | 41 | 5 | 3 | 5 | 5 | 2 | 11 | 14 | 33 | 104 | 43 | 80 | 346 |
| | | | | 11-27 | 30 | 8 | 1 | 0 | 1 | 0 | 0 | 0 | 3 | 14 | 102 | 237 | 396 |
| a Matruh . . (A) | 0 | 1 | 0 | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **71** | **13** | **4** | **5** | **6** | **2** | **11** | **14** | **36** | **118** | **146** | **317** | **743** |
| | | | | 1-10 | 42 | 10 | 6 | 2 | 1 | 4 | 11 | 30 | 103 | 80 | 75 | 179 | 543 |
| | | | | 11-27 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 20 | 21 | 110 | 197 |
| andria . . . . (A) | 2 | 0 | 2 | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **49** | **11** | **6** | **2** | **1** | **4** | **11** | **30** | **141** | **100** | **96** | **289** | **740** |
| | | | | 1-10 | 156 | 13 | 4 | 4 | 2 | 1 | 1 | 10 | 25 | 101 | 148 | 230 | 695 |
| | | | | 11-27 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 6 | 26 | 41 |
| Said . . . . (A) | 8 | 0 | 0 | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **162** | **13** | **4** | **4** | **2** | **1** | **1** | **10** | **25** | **104** | **154** | **256** | **736** |
| | | | | 1-10 | 91 | 26 | 5 | 1 | 2 | 0 | 0 | 4 | 19 | 41 | 102 | 158 | 449 |
| | | | | 11-27 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 62 | 79 |
| a . . . . . | 121 | 95 | 0 | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **104** | **26** | **5** | **1** | **2** | **0** | **0** | **4** | **19** | **41** | **106** | **220** | **528** |
| | | | | 1-10 | 104 | 53 | 20 | 12 | 3 | 1 | 0 | 3 | 12 | 17 | 92 | 187 | 504 |
| | | | | 11-27 | 31 | 10 | 1 | 1 | 4 | 0 | 0 | 0 | 0 | 1 | 12 | 75 | 135 |
| o . . . . . (A) | 102 | 2 | 1 | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **135** | **63** | **21** | **13** | **7** | **1** | **0** | **3** | **12** | **18** | **104** | **262** | **639** |
| | | | | 1-10 | 412 | 155 | 17 | 3 | 3 | 8 | 3 | 14 | 11 | 14 | 19 | 77 | 736 |
| | | | | 11-27 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| oum . . . . . | 0 | 3 | 1 | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **414** | **156** | **18** | **3** | **3** | **8** | **3** | **14** | **11** | **14** | **19** | **77** | **740** |
| | | | | 1-10 | 284 | 161 | 6 | 2 | 3 | 13 | 24 | 4 | 3 | 14 | 11 | 31 | 556 |
| | | | | 11-27 | 98 | 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 175 |
| ya . . . . . (A) | 6 | 0 | 7 | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **382** | **238** | **6** | **2** | **3** | **13** | **24** | **4** | **3** | **14** | **11** | **31** | **731** |

**Table A 5 (*contd.*)—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

**JULY — 1970**

| Station | calm (hours) | variable (hours) | unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of direction indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | All directions |
| Assyout . . . . . (A) | 0 | 0 | 0 | 1-10 | 13 | 6 | 3 | 0 | 5 | 5 | 10 | 15 | 153 | 186 | 164 | 67 | 627 |
| | | | | 11-27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 53 | 59 | 5 | 117 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **13** | **6** | **3** | **0** | **5** | **5** | **10** | **15** | **153** | **239** | **223** | **72** | **744** |
| Luxor . . . . . (A) | 92 | 0 | 0 | 1-10 | 19 | 6 | 3 | 7 | 12 | 31 | 92 | 61 | 84 | 133 | 139 | 38 | 625 |
| | | | | 11-27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 1 | 21 | 1 | 27 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **19** | **6** | **3** | **7** | **12** | **31** | **92** | **64** | **85** | **134** | **160** | **39** | **652** |
| Aswan . . . . . (A) | 5 | 0 | 0 | 1-10 | 133 | 30 | 2 | 2 | 3 | 5 | 13 | 15 | 22 | 65 | 116 | 199 | 605 |
| | | | | 11-27 | 11 | 1 | 0 | 0 | 0 | 1 | 2 | 5 | 13 | 9 | 29 | 63 | 134 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **144** | **31** | **2** | **2** | **3** | **6** | **15** | **20** | **35** | **74** | **145** | **262** | **739** |
| Siwa . . . . . | 44 | 7 | 0 | 1-10 | 86 | 84 | 86 | 31 | 20 | 13 | 8 | 5 | 6 | 35 | 81 | 163 | 618 |
| | | | | 11-27 | 12 | 20 | 5 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 10 | 26 | 75 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **98** | **104** | **91** | **31** | **20** | **13** | **8** | **5** | **7** | **36** | **91** | **189** | **693** |
| Dakhla . . . . . | 9 | 1 | 1 | 1-10 | 54 | 13 | 12 | 17 | 9 | 8 | 23 | 19 | 68 | 96 | 142 | 216 | 677 |
| | | | | 11-27 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 | 56 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **59** | **15** | **12** | **17** | **9** | **8** | **23** | **19** | **68** | **96** | **142** | **265** | **733** |
| Kharga . . . . . | 20 | 1 | 3 | 1-10 | 160 | 33 | 14 | 6 | 4 | 3 | 3 | 7 | 8 | 25 | 66 | 159 | 488 |
| | | | | 11-27 | 114 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 105 | 230 |
| | | | | 28-47 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **276** | **43** | **14** | **6** | **4** | **3** | **3** | **7** | **8** | **25** | **67** | **264** | **720** |
| Hurghada | 15 | 1 | 0 | 1-10 | 29 | 29 | 17 | 6 | 13 | 36 | 12 | 5 | 3 | 10 | 54 | 30 | 244 |
| | | | | 11-27 | 145 | 32 | 0 | 1 | 5 | 2 | 0 | 0 | 0 | 6 | 66 | 227 | 484 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **174** | **61** | **17** | **7** | **18** | **38** | **12** | **5** | **3** | **16** | **120** | **257** | **728** |
| Quseir . . . . . | 27 | 0 | 0 | 1-10 | 134 | 139 | 63 | 38 | 13 | 14 | 29 | 26 | 16 | 16 | 31 | 72 | 591 |
| | | | | 11-27 | 38 | 69 | 18 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 126 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **172** | **208** | **81** | **39** | **13** | **14** | **29** | **26** | **16** | **16** | **31** | **72** | **717** |

# UPPER AIR CLIMATOLOGICAL DATA

## Table B 1.—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

### JULY—1970

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm.) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh (A) 0000 U.T. | Surface | 29 | *1009mb. | *1013mb. | *1005mb. | 29 | 22.1 | 25.0 | 19.1 | 29 | 19.2 |
| | 1000 | 29 | 108 | 139 | 71 | 29 | 22.2 | 27.6 | 20.0 | 29 | 18.8 |
| | 850 | 29 | 1516 | 1540 | 1482 | 29 | 18.7 | 22.6 | 12.6 | 29 | 2.1 |
| | 700 | 29 | 3159 | 3193 | 3132 | 29 | 10.3 | 14.5 | 6.6 | 29 | — 8.9 |
| | 600 | 29 | 4429 | 4463 | 4387 | 29 | 4.0 | 7.0 | 1.5 | 29 | —16.1 |
| | 500 | 29 | 5891 | 5935 | 5826 | 29 | — 4.4 | — 1.1 | — 7.3 | 28 | —23.4 |
| | 400 | 28 | 7620 | 7689 | 7553 | 28 | —14.1 | — 9.7 | —19.8 | 28 | —31.4 |
| | 300 | 27 | 9747 | 9840 | 9671 | 27 | —28.4 | —26.0 | —34.4 | 26 | —42.8 |
| | 250 | 26 | 11028 | 11128 | 10953 | 26 | —37.8 | —29.2 | —42.0 | 26 | —51.1 |
| | 200 | 25 | 12535 | 12633 | 12435 | 25 | —49.1 | —47.0 | —51.9 | 25 | —61.0 |
| | 150 | 25 | 14373 | 14470 | 14256 | 25 | —62.0 | —59.0 | —64.4 | — | — |
| | 100 | 23 | 16808 | 16902 | 16706 | 23 | —73.4 | —68.5 | —77.5 | — | — |
| | 70 | 21 | 18912 | 18977 | 18820 | 21 | —68.2 | —61.3 | —72.8 | — | — |
| | 60 | 19 | 19904 | 20050 | 19810 | 19 | —64.0 | —60.3 | —67.6 | — | — |
| | 50 | 19 | 20975 | 21014 | 20884 | 19 | —59.9 | —56.9 | —64.3 | — | — |
| | 40 | 5 | 22508 | 22570 | 22470 | 5 | —54.9 | —54.0 | —55 6 | — | — |
| | 30 | 3 | 24278 | 24304 | 24255 | 3 | —51.1 | —51.0 | —51.2 | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Helwan 0000 U.T. | Surface | 31 | *992 mb. | *996mb. | *988mb. | 31 | 23.3 | 26.6 | 20.6 | 31 | 17.8 |
| | 1000 | 31 | 71 | 105 | 34 | — | — | — | — | — | — |
| | 850 | 31 | 1483 | 1513 | 1462 | 30 | 19.7 | 22.8 | 15.4 | 30 | 6.5 |
| | 700 | 31 | 3130 | 3164 | 3093 | 31 | 10.9 | 14.2 | 6.0 | 31 | — 4.2 |
| | 600 | 31 | 4402 | 4447 | 4359 | 31 | 4.9 | 8.4 | 0.0 | 31 | —11.6 |
| | 500 | 30 | 5873 | 5916 | 5836 | 30 | — 1.8 | 2.0 | — 7.0 | 30 | —17.4 |
| | 400 | 30 | 7614 | 7673 | 7518 | 29 | —12.1 | — 6.5 | —17.9 | 29 | —26.5 |
| | 300 | 30 | 9754 | 9814 | 9626 | 30 | —27.4 | —21.1 | —31.3 | 30 | —39.7 |
| | 250 | 29 | 11037 | 11103 | 10896 | 29 | —37.3 | —28.0 | —40.6 | 29 | —48.1 |
| | 200 | 26 | 12536 | 12617 | 12387 | 26 | —48.9 | —47.0 | —50.9 | 26 | —57.5 |
| | 150 | 22 | 14373 | 14408 | 14197 | 22 | —62.1 | —59.3 | —66.7 | 3 | —71.9 |
| | 100 | 20 | 16806 | 16917 | 16674 | 20 | —74.8 | —71.0 | —78.2 | — | — |
| | 70 | 14 | 18890 | 18971 | 18805 | 14 | —69.4 | —69.0 | —72.3 | — | — |
| | 60 | 10 | 19866 | 19920 | 19749 | 10 | —64.7 | —60.3 | —67.3 | — | — |
| | 50 | 10 | 20966 | 21027 | 20916 | 10 | —59.7 | —56.4 | —63.0 | — | — |
| | 40 | 6 | 22437 | 22490 | 22400 | 6 | —58.0 | —54.0 | —67.3 | — | — |
| | 30 | 6 | 24211 | 24260 | 24172 | 6 | —51.8 | —49.7 | —54.3 | — | — |
| | 20 | 2 | 26896 | 26897 | 26894 | 2 | —48.6 | —48.2 | —49.0 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Aswan (A) 0000 U.T. | Surface | 31 | *983mb. | *985mb. | *981mb. | 31 | 28.3 | 31.5 | 25.5 | 31 | 6.4 |
| | 1000 | 31 | 39 | 61 | 23 | — | — | — | — | — | — |
| | 850 | 31 | 1480 | 1514 | 1456 | 31 | 24.1 | 31.0 | 15.2 | 31 | 1.9 |
| | 700 | 31 | 3141 | 3193 | 3079 | 31 | 11.9 | 22.0 | 6.5 | 31 | — 8.4 |
| | 600 | 31 | 4414 | 4468 | 4379 | 31 | 5.0 | 9.2 | — 0.2 | 31 | —15.7 |
| | 500 | 31 | 5887 | 5929 | 5799 | 31 | — 1.9 | 1.6 | — 6.3 | 31 | —22.3 |
| | 400 | 30 | 7633 | 7695 | 7520 | 30 | —12.0 | — 8.0 | —17.1 | 30 | —32.2 |
| | 300 | 28 | 9773 | 9869 | 9628 | 28 | —27.5 | —24.9 | —31.6 | 26 | —44.0 |
| | 250 | 27 | 11059 | 11153 | 10893 | 27 | —37.4 | —35.0 | —42.1 | 26 | —51.9 |
| | 200 | 27 | 12563 | 12670 | 12379 | 27 | —48.6 | —43.6 | —52.2 | 26 | —61.1 |
| | 150 | 24 | 14404 | 14560 | 14199 | 24 | —61.6 | —48.0 | —66.0 | 4 | —70.5 |
| | 100 | 23 | 16805 | 16996 | 16597 | 23 | —76.4 | —73.0 | —81.0 | — | — |
| | 70 | 14 | 18871 | 19074 | 18640 | 14 | —73.5 | —64.2 | —78.8 | — | — |
| | 60 | 7 | 19884 | 20020 | 19720 | 7 | —66.1 | —60.8 | —69.7 | — | — |
| | 50 | 7 | 20942 | 21104 | 20802 | 7 | —61.5 | —57.3 | —64.3 | — | — |
| | 40 | 3 | 22480 | 22580 | 22420 | 3 | —58.0 | —54.0 | —60.3 | — | — |
| | 30 | 3 | 24222 | 24323 | 24154 | 3 | —53.1 | —50.9 | —56.6 | — | — |
| | 20 | 2 | 26808 | 26876 | 26739 | 2 | —50.1 | —46.1 | —54.1 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |

N = The number of case the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

# UPPER AIR CLIMATOLOGICAL DATA

## TABLE B 1 (*contd.*).—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

### JULY — 1970

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 1200 U.T. | Surface | 30 | *1009mb | *1013md | *1007mb | 30 | 27.2 | 30.0 | 24.3 | 30 | 20.0 |
| | 1000 | 30 | 112 | 141 | 81 | 30 | 26.3 | 29.5 | 23.0 | 30 | 18.4 |
| | 850 | 30 | 1526 | 1555 | 1508 | 30 | 19.2 | 22.4 | 15.0 | 30 | 3.3 |
| | 700 | 27 | 3170 | 3197 | 3150 | 27 | 10.8 | 15.0 | 8.0 | 26 | − 7.3 |
| | 600 | 25 | 4439 | 4473 | 4398 | 25 | 3.6 | 6.8 | 0.2 | 25 | −13.5 |
| | 500 | 24 | 5901 | 5942 | 5847 | 24 | − 3.3 | − 1.0 | − 7.0 | 23 | −20.8 |
| | 400 | 22 | 7640 | 7683 | 7579 | 22 | −12.6 | − 9.0 | −19.2 | 22 | −28.7 |
| | 300 | 18 | 9781 | 9836 | 9683 | 18 | −27.4 | −24.3 | −32.0 | 17 | −40.9 |
| | 250 | 17 | 11073 | 11140 | 10953 | 17 | −37.0 | −34.8 | −40.6 | 15 | −48.9 |
| | 200 | 15 | 12579 | 12655 | 12453 | 15 | −48.1 | −45.0 | −49.2 | 14 | −58.1 |
| | 150 | 14 | 14422 | 14516 | 14309 | 14 | −60.6 | −58.7 | −62.9 | 4 | −67.6 |
| | 100 | 13 | 16874 | 16985 | 16771 | 13 | −72.8 | −69.1 | −75.9 | — | — |
| | 70 | 10 | 18985 | 19072 | 18914 | 10 | −68.2 | −62.1 | −73.2 | — | — |
| | 60 | 8 | 19975 | 20050 | 19910 | 8 | −62.7 | −56.2 | −70.0 | — | — |
| | 50 | 8 | 21071 | 21142 | 20993 | 8 | −58.1 | −54.0 | −68.3 | — | — |
| | 40 | 3 | 22577 | 22690 | 22390 | 3 | −51.5 | −49.2 | −53.5 | — | — |
| | 30 | 1 | 24442 | — | — | 1 | −44.4 | — | — | — | — |
| | 20 | 1 | 27157 | — | — | 1 | −44.2 | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Helwan 1200 U.T. | Surface | 30 | *992mb | *995mb | *989mb | 30 | 32.6 | 36.8 | 29.0 | 30 | 12.6 |
| | 1000 | 30 | 67 | 94 | 42 | — | — | — | — | — | — |
| | 850 | 30 | 1498 | 1526 | 1464 | 30 | 20.1 | 24.4 | 13.6 | 30 | 2.6 |
| | 700 | 30 | 3149 | 3197 | 3092 | 30 | 12.0 | 16.2 | 6.8 | 30 | −10.5 |
| | 600 | 29 | 4424 | 4485 | 4362 | 29 | 5.5 | 10.0 | 1.2 | 29 | −17.2 |
| | 500 | 28 | 5897 | 5966 | 5821 | 28 | − 1.0 | 2.6 | − 7.3 | 28 | −22.3 |
| | 400 | 28 | 7649 | 7727 | 7561 | 28 | −10.9 | − 6.3 | −16.1 | 28 | −30.5 |
| | 300 | 28 | 9798 | 9884 | 9698 | 28 | −25.9 | −23.5 | −29.3 | 28 | −42.8 |
| | 250 | 26 | 11084 | 11184 | 10986 | 26 | −36.3 | −33.1 | −38.9 | 26 | −51.0 |
| | 200 | 24 | 12601 | 12718 | 12514 | 24 | −47.2 | −44.8 | −50.3 | 24 | −60.2 |
| | 150 | 22 | 14444 | 14580 | 14323 | 22 | −59.9 | −52.3 | −62.9 | 7 | −70.3 |
| | 100 | 16 | 16898 | 17016 | 16793 | 16 | −73.0 | −69.1 | −77.0 | — | — |
| | 70 | 13 | 18968 | 19044 | 18866 | 13 | −68.8 | −60.9 | −75.0 | — | — |
| | 60 | 8 | 19978 | 20190 | 19820 | 8 | −59.0 | −47.5 | −63.6 | — | — |
| | 50 | 8 | 21102 | 21424 | 20944 | 8 | −56.2 | −54.5 | −58.0 | — | — |
| | 40 | 5 | 22678 | 23100 | 22500 | 5 | −51.9 | −50.0 | −54.0 | — | — |
| | 30 | 5 | 24372 | 24430 | 24277 | 5 | −49.2 | −47.9 | −50.9 | — | — |
| | 20 | 3 | 27087 | 27125 | 27047 | 3 | −44.2 | −40.7 | −48.6 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Aswan 1200 U.T. | Surface | 31 | *983mb | *986mb | *981mb | 31 | 39.2 | 43.0 | 34.5 | 31 | 8.8 |
| | 1000 | 31 | 33 | 60 | 14 | — | — | — | — | — | — |
| | 850 | 31 | 1494 | 1540 | 1461 | 31 | 25.3 | 30.4 | 21.0 | 31 | − 0.2 |
| | 700 | 31 | 3155 | 3197 | 3108 | 31 | 12.0 | 17.8 | 9.0 | 30 | −10.1 |
| | 600 | 29 | 4429 | 4475 | 4392 | 29 | 4.9 | 9.2 | 1.0 | 29 | −17.9 |
| | 500 | 29 | 5898 | 5940 | 5853 | 29 | − 1.7 | 1.6 | − 8.9 | 29 | −24.3 |
| | 400 | 29 | 7647 | 7712 | 7605 | 29 | −11.7 | − 7.3 | −15.1 | 29 | −33.0 |
| | 300 | 29 | 9791 | 9893 | 9736 | 29 | −26.8 | −23.1 | −30.4 | 29 | −45.0 |
| | 250 | 28 | 11078 | 11202 | 11016 | 28 | −36.8 | −33.3 | −39.5 | 28 | −52.9 |
| | 200 | 28 | 12596 | 12786 | 12516 | 28 | −48.2 | −44.3 | −50.8 | 28 | −62.2 |
| | 150 | 26 | 14435 | 14623 | 14347 | 26 | −61.1 | −55.0 | −64.5 | 6 | −68.9 |
| | 100 | 20 | 16871 | 17114 | 16752 | 20 | −75.1 | −70.7 | −79.1 | — | — |
| | 70 | 14 | 18877 | 19225 | 18700 | 14 | −70.0 | −61.2 | −78.9 | — | — |
| | 60 | 9 | 19944 | 20200 | 19800 | 9 | −64.0 | −59.1 | −67.1 | — | — |
| | 50 | 9 | 21034 | 21120 | 20885 | 9 | −57.5 | −54.0 | −63.5 | — | — |
| | 40 | 7 | 22556 | 22880 | 22330 | 7 | −52.9 | −49.3 | −55.3 | — | — |
| | 30 | 5 | 24397 | 24670 | 24216 | 5 | −47.5 | −42.9 | −51.8 | — | — |
| | 20 | 4 | 27192 | 27458 | 27048 | 4 | −36.3 | −32.8 | −41.2 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |

N — The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde stations.

## *Table B 2.*—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE ; THE HIGHEST WIND SPEED IN THE UPPER AIR

### JULY — 1970

| | Station | Freezing Level | | | | | | | | | First Tropopause | | | | | | | | | Highest wind speed | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | | | Highest | | | Lowest | | | Mean | | | Highest | | | Lowest | | | | | | |
| | | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gmp) | Pressure (mb.) | Direction (000—360) | Speed in Knots |
| 0000 U.T. | M. Matruh (A) | 5120 (29) | 552 (29) | —19.5 (29) | 5730 | 514 | —23.4 | 4670 | 579 | —14.3 | 16801 (21) | 103 (21) | —74.5 (21) | 18080 | 82 | —77.4 | 15080 | 131 | —67.3 | 13885 | 163 | 250 | 85 |
| | Helwan . . . | 5457 (30) | 529 (30) | —15.9 (30) | 6200 | 481 | —21.4 | 4363 | 600 | —11.8 | 16877 (12) | 99 (12) | —75.2 (12) | 17770 | 86 | —76.2 | 15160 | 130 | —70.4 | 11870 | 222 | 280 | 88 |
| | Aswan . . (A) | 5545 (31) | 522 (31) | —20.0 (31) | 6430 | 470 | —22.1 | 5080 | 554 | —20.2 | 17289 (14) | 96 (14) | —74.6 (14) | 22485 | 40 | —53.8 | 15690 | 122 | —73.9 | 16950 | 98 | 110 | 70 |
| 1200 U.T. | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | M. Matruh (A) | 5142 (25) | 552 (25) | —17.5 (25) | 5730 | 514 | —14.2 | 4530 | 590 | —25.1 | 17015 (8) | 99 (8) | —74.2 (8) | 17930 | 85 | —77.8 | 15620 | 113 | —70.3 | 10060 | 291 | 250 | 68 |
| | Helwan . (A) | 5689 (28) | 516 (28) | —22.0 (28) | 6480 | 468 | —23.5 | 4680 | 579 | —24.3 | 17223 (9) | 95 (9) | —74.7 (9) | 18040 | 84 | —78.2 | 15170 | 132 | —69.0 | 12770 | 194 | 240 | 78 |
| | Aswan . . (A) | 5530 (29) | 575 (29) | —22.0 (29) | 6400 | 524 | —24.3 | 4560 | 591 | —8.1 | 16812 (11) | 102 (11) | —74.7 (11) | 18160 | 44 | —72.8 | 15700 | 120 | —72.3 | 27025 | 20[illegible] | 095 | 80 |

N = The number of cases the element has been observed during the month.

## Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

### MERSA MATRUH (A)— JULY 1970

| Time | Pressure Surface Millibar | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of calm winds | Total number of observations (TN) | Mean scalar wind speed (knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 1 | 5 | 0 | — | 0 | — | 1 | 2 | 0 | — | 0 | — | 0 | — | 1 | 3 | 7 | 6 | 7 | 7 | 8 | 16 | 2 | 8 | 2 | 29 | 9 |
| | 1000 | 5 | 9 | 0 | — | 0 | — | 1 | 3 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 8 | 5 | 10 | 12 | 14 | 3 | 20 | 0 | 27 | 12 |
| | 850 | 4 | 18 | 3 | 16 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 11 | 7 | 16 | 10 | 18 | 0 | 27 | 16 |
| | 700 | 5 | 15 | 1 | 6 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 20 | 8 | 18 | 10 | 13 | 0 | 27 | 15 |
| | 600 | 2 | 17 | 1 | 9 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 17 | 11 | 17 | 7 | 14 | 0 | 25 | 16 |
| | 500 | 0 | — | 1 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 13 | 1 | 12 | 12 | 23 | 8 | 19 | 0 | — | 0 | 23 | 21 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 26 | 12 | 33 | 4 | 25 | 0 | — | 0 | 21 | 30 |
| | 300 | 0 | — | 1 | 6 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 10 | 36 | 8 | 41 | 2 | 26 | 0 | — | 0 | 21 | 36 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 11 | 4 | 27 | 8 | 44 | 6 | 38 | 1 | 18 | 0 | — | 0 | 20 | 36 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 24 | 4 | 29 | 7 | 46 | 5 | 45 | 1 | 22 | 0 | — | 0 | 19 | 39 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 34 | 6 | 33 | 7 | 39 | 0 | — | 0 | — | 0 | — | 0 | 15 | 36 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 15 | 2 | 24 | 4 | 22 | 2 | 22 | 0 | — | 1 | 20 | 0 | — | 0 | 12 | 20 |
| | 70 | 0 | — | 0 | — | 1 | 28 | 4 | 16 | 2 | 35 | 2 | 16 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 9 | 23 |
| | 60 | 0 | — | 0 | — | 2 | 10 | 4 | 20 | 1 | 25 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 8 | 16 |
| | 50 | 0 | — | 0 | — | 1 | 25 | 6 | 30 | 0 | — | 0 | — | 0 | — | 1 | 32 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 8 | 29 |
| | 40 | 0 | — | 0 | — | 0 | — | 2 | 33 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 33 |
| | 30 | 0 | — | 0 | — | 0 | — | 1 | 47 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 47 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 2 | 12 | 2 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 13 | 16 | 13 | 14 | 0 | 30 | 15 |
| | 1000 | 3 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 10 | 19 | 17 | 15 | 0 | 30 | 16 |
| | 850 | 5 | 12 | 1 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 12 | 2 | 10 | 12 | 17 | 8 | 12 | 0 | 30 | 14 |
| | 700 | 2 | 6 | 2 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 15 | 3 | 16 | 9 | 13 | 9 | 17 | 0 | 26 | 14 |
| | 600 | 3 | 14 | 1 | 9 | 0 | — | 1 | 3 | 0 | — | 0 | — | 0 | — | 1 | 5 | 2 | 12 | 6 | 16 | 5 | 20 | 6 | 16 | 0 | 25 | 15 |
| | 500 | 1 | 4 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 8 | 2 | 18 | 11 | 22 | 7 | 21 | 1 | 20 | 0 | 23 | 20 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 8 | 32 | 9 | 30 | 3 | 18 | 1 | 34 | 0 | 21 | 29 |
| | 300 | 0 | — | 0 | — | 0 | — | 1 | 4 | 0 | — | 0 | — | 0 | — | 2 | 26 | 6 | 34 | 8 | 34 | 1 | 33 | 0 | — | 0 | 18 | 32 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 9 | 0 | — | 0 | — | 5 | 33 | 5 | 26 | 2 | 46 | 2 | 40 | 1 | 28 | 0 | 16 | 34 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 24 | 5 | 33 | 2 | 39 | 2 | 46 | 2 | 26 | 0 | — | 0 | 14 | 33 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 21 | 3 | 27 | 5 | 31 | 2 | 44 | 1 | 42 | 1 | 27 | 1 | 30 | 0 | 14 | 32 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 22 | 2 | 22 | 1 | 17 | 3 | 26 | 2 | 18 | 0 | — | 0 | — | 0 | — | 0 | 9 | 22 |
| | 70 | 0 | — | 0 | — | 0 | — | 1 | 31 | 1 | 35 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 33 |
| | 60 | 0 | — | 0 | — | 0 | — | 2 | 33 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 33 |
| | 50 | 0 | — | 0 | — | 1 | 17 | 1 | 38 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 28 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the wind has been observed from the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

**Table. B 8 *(contd.)*—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**HELWAN — JULY 1970**

| Time | Pressure Surface Millibar | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of calm winds | Total number of observations (TN) | Mean scalar wind speed (knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345 / 014 | | 015 / 044 | | 045 / 074 | | 075 / 104 | | 105 / 134 | | 135 / 164 | | 165 / 194 | | 195 / 224 | | 225 / 254 | | 255 / 284 | | 285 / 314 | | 315 / 344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| U.T. 0000 | Surface | 16 | 4 | 9 | 6 | 2 | 7 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 4 | 0 | — | 0 | — | 3 | 4 | 0 | 31 | 5 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 6 | 14 | 3 | 10 | 0 | — | 1 | 2 | 1 | 8 | 0 | — | 0 | — | 1 | 6 | 3 | 14 | 5 | 15 | 9 | 14 | 2 | 20 | 0 | 31 | 14 |
| | 700 | 5 | 19 | 1 | 9 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 28 | 6 | 16 | 1 | 10 | 10 | 15 | 6 | 12 | 1 | 31 | 15 |
| | 600 | 3 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 8 | 14 | 4 | 18 | 11 | 16 | 4 | 14 | 1 | 31 | 15 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 13 | 6 | 26 | 13 | 16 | 8 | 14 | 2 | 8 | 0 | 30 | 17 |
| | 400 | 1 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 12 | 10 | 22 | 11 | 24 | 2 | 13 | 1 | 13 | 1 | 30 | 20 |
| | 300 | 0 | — | 0 | — | 0 | — | 1 | 7 | 0 | — | 1 | 7 | 1 | 25 | 7 | 20 | 9 | 26 | 6 | 46 | 3 | 22 | 0 | — | 1 | 29 | 26 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 20 | 7 | 21 | 7 | 24 | 6 | 29 | 5 | 43 | 1 | 20 | 0 | — | 0 | 27 | 28 |
| | 200 | 0 | — | 0 | — | 0 | — | 1 | 25 | 0 | — | 3 | 27 | 2 | 30 | 6 | 26 | 5 | 41 | 1 | 29 | 1 | 20 | 0 | — | 0 | 19 | 32 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 6 | 32 | 2 | 47 | 3 | 38 | 0 | — | 0 | — | 0 | — | 0 | 11 | 35 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 24 | 1 | 41 | 2 | 26 | 0 | — | 1 | 46 | 0 | — | 0 | — | 0 | — | 0 | 5 | 33 |
| | 70 | 0 | — | 0 | — | 1 | 50 | 1 | 18 | 1 | 45 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 3 | 38 |
| | 60 | 0 | — | 0 | — | 1 | 28 | 1 | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 39 |
| | 50 | 0 | — | 0 | — | 0 | — | 1 | 35 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 35 |
| | 40 | 0 | — | 0 | — | 0 | — | 1 | 49 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 49 |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| U.T. 1200 | Surface | 2 | 6 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 6 | 0 | — | 4 | 6 | 2 | 7 | 21 | 7 | 0 | 30 | 7 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 11 | 10 | 0 | — | 3 | 9 | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 10 | 1 | 17 | 3 | 11 | 5 | 15 | 5 | 11 | 0 | 30 | 11 |
| | 700 | 1 | 10 | 1 | 11 | 1 | 5 | 0 | — | 0 | — | 0 | — | 1 | 20 | 2 | 10 | 10 | 14 | 7 | 12 | 3 | 14 | 3 | 16 | 0 | 29 | 13 |
| | 600 | 0 | — | 1 | 7 | 0 | — | 0 | — | 2 | 8 | 0 | — | 0 | — | 2 | 20 | 4 | 17 | 10 | 14 | 6 | 16 | 3 | 6 | 0 | 28 | 14 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 5 | 0 | — | 0 | — | 8 | 19 | 9 | 19 | 6 | 15 | 4 | 14 | 0 | 28 | 17 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 8 | 1 | 14 | 6 | 19 | 9 | 25 | 8 | 26 | 1 | 8 | 1 | 8 | 0 | 28 | 21 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 25 | 2 | 7 | 1 | 11 | 7 | 16 | 9 | 28 | 5 | 35 | 2 | 8 | 0 | — | 0 | 27 | 22 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 28 | 8 | 21 | 8 | 36 | 2 | 38 | 1 | 38 | 0 | — | 0 | 22 | 29 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 6 | 31 | 5 | 31 | 5 | 49 | 1 | 35 | 0 | — | 0 | — | 0 | 17 | 37 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 26 | 7 | 38 | 2 | 24 | 1 | 17 | 0 | — | 0 | — | 0 | — | 0 | 11 | 32 |
| | 100 | 0 | — | 0 | — | 0 | — | 1 | 35 | 0 | — | 2 | 31 | 2 | 34 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 21 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 32 | 1 | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 4 | 36 |
| | 60 | 0 | — | 0 | — | 0 | — | 2 | 38 | 1 | 37 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 3 | 38 |
| | 50 | 0 | — | 0 | — | 1 | 49 | 2 | 36 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 3 | 41 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 40 |
| | 30 | 0 | — | 0 | — | 0 | — | 2 | 46 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 46 |
| | 20 | 0 | — | 0 | — | 0 | — | 1 | 45 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 45 |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the wind has been observed from the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

**Table B 3.** (*contd.*)—**NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**ASWAN (A) — JULY 1970**

| Time | Pressure Surface (Millibar.) | Wind between specified ranges of direction (000—360°) | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (T.N) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345 / 014 | | 015 / 044 | | 045 / 074 | | 075 / 104 | | 105 / 134 | | 135 / 164 | | 165 / 194 | | 195 / 224 | | 225 / 254 | | 255 / 284 | | 285 / 314 | | 315 / 344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 6 | 7 | 0 | — | 0 | — | 1 | 6 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 6 | 11 | 8 | 10 | 9 | 0 | 31 | 8 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 3 | 10 | 1 | 11 | 0 | — | 0 | — | 0 | — | 1 | 31 | 0 | — | 1 | 6 | 2 | 10 | 4 | 11 | 7 | 7 | 9 | 14 | 0 | 28 | 11 |
| | 700 | 0 | — | 0 | — | 1 | 7 | 0 | — | 1 | 12 | 2 | 8 | 3 | 11 | 2 | 18 | 6 | 20 | 5 | 8 | 5 | 12 | 3 | 12 | 0 | 28 | 13 |
| | 600 | 1 | 6 | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 7 | 1 | 31 | 1 | 24 | 5 | 14 | 5 | 8 | 3 | 11 | 4 | 8 | 0 | 22 | 11 |
| | 500 | 2 | 10 | 2 | 11 | 1 | 3 | 1 | 8 | 6 | 16 | 1 | 9 | 1 | 6 | 1 | 14 | 4 | 9 | 2 | 16 | 1 | 7 | 2 | 6 | 0 | 24 | 11 |
| | 400 | 0 | — | 4 | 6 | 4 | 12 | 6 | 12 | 4 | 16 | 2 | 4 | 1 | 4 | 2 | 16 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 23 | 11 |
| | 300 | 1 | 7 | 0 | — | 3 | 11 | 11 | 18 | 3 | 12 | 2 | 9 | 1 | 9 | 0 | — | 1 | 7 | 0 | — | 0 | — | 0 | — | 0 | 22 | 14 |
| | 250 | 0 | — | 2 | 12 | 0 | — | 12 | 19 | 4 | 21 | 2 | 16 | 0 | — | 0 | — | 1 | 10 | 0 | — | 0 | — | 0 | — | 0 | 21 | 18 |
| | 200 | 0 | — | 1 | 16 | 2 | 18 | 5 | 26 | 10 | 23 | 2 | 18 | 0 | — | 0 | — | 0 | — | 1 | 15 | 0 | — | 0 | — | 0 | 21 | 22 |
| | 150 | 0 | — | 0 | — | 1 | 36 | 5 | 38 | 11 | 32 | 1 | 44 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 18 | 34 |
| | 100 | 0 | — | 0 | — | 0 | — | 3 | 44 | 10 | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 13 | 48 |
| | 70 | 0 | — | 0 | — | 0 | — | 4 | 32 | 3 | 29 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 7 | 30 |
| | 60 | 0 | — | 0 | — | 0 | — | 4 | 39 | 1 | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 33 |
| | 50 | 0 | — | 0 | — | 0 | — | 4 | 37 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 4 | 37 |
| | 40 | 0 | — | 0 | — | 0 | — | 2 | 52 | 1 | 46 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 3 | 50 |
| | 30 | 0 | — | 0 | — | 0 | — | 1 | 45 | 1 | 38 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 42 |
| | 20 | 0 | — | 0 | — | 0 | — | 1 | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 40 |
| | 01 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 5 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 11 | 2 | 14 | 11 | 8 | 3 | 10 | 7 | 10 | 0 | 31 | 10 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 1 | 22 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 14 | 7 | 16 | 6 | 8 | 7 | 10 | 8 | 11 | 0 | 31 | 12 |
| | 700 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 27 | 0 | — | 4 | 18 | 6 | 19 | 8 | 12 | 7 | 12 | 4 | 12 | 0 | 30 | 15 |
| | 600 | 2 | 2 | 0 | — | 0 | — | 0 | — | 1 | 7 | 0 | — | 6 | 16 | 5 | 11 | 8 | 14 | 3 | 12 | 3 | 12 | 1 | 12 | 0 | 29 | 12 |
| | 500 | 2 | 5 | 4 | 6 | 4 | 12 | 2 | 9 | 1 | 12 | 0 | — | 0 | — | 5 | 17 | 3 | 11 | 3 | 12 | 3 | 5 | 1 | 10 | 0 | 28 | 11 |
| | 400 | 2 | 4 | 3 | 9 | 4 | 8 | 10 | 17 | 5 | 11 | 0 | — | 0 | — | 1 | 19 | 1 | 12 | 1 | 10 | 0 | — | 0 | — | 0 | 27 | 12 |
| | 300 | 0 | — | 1 | 27 | 3 | 11 | 12 | 18 | 8 | 20 | 2 | 10 | 1 | 11 | 0 | — | 0 | — | 1 | 13 | 0 | — | 0 | — | 0 | 28 | 17 |
| | 250 | 0 | — | 0 | — | 4 | 18 | 8 | 22 | 8 | 18 | 3 | 18 | 0 | — | 2 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 25 | 19 |
| | 200 | 0 | — | 0 | — | 4 | 20 | 5 | 29 | 10 | 28 | 4 | 14 | 1 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 24 | 24 |
| | 150 | 0 | — | 0 | — | 1 | 36 | 6 | 30 | 14 | 39 | 1 | 15 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 22 | 36 |
| | 100 | 0 | — | 0 | — | 1 | 37 | 5 | 46 | 7 | 31 | 1 | 25 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 14 | 43 |
| | 70 | 0 | — | 0 | — | 0 | — | 7 | 44 | 2 | 26 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 9 | 40 |
| | 60 | 0 | — | 0 | — | 0 | — | 3 | 35 | 2 | 34 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 34 |
| | 50 | 0 | — | 0 | — | 0 | — | 4 | 42 | 1 | 58 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 45 |
| | 40 | 0 | — | 0 | — | 0 | — | 2 | 50 | 2 | 48 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 4 | 49 |
| | 30 | 0 | — | 0 | — | 0 | — | 2 | 49 | 2 | 24 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 4 | 36 |
| | 20 | 0 | — | 0 | — | 0 | — | 1 | 80 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 80 |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**N = The number of cases the element has been observed during the month.**

**TN = The total number of cases the wind has been observed for all directions during the month.**

# REVIEW OF AGRO-METEOROLOGICAL STATIONS

## MERSA MATRUH — JULY 1970

For this month as a whole. the daily mean air temperature was slightly lower than normal, and the daily mean relative humidity was slightly higher.

The daily maximum air temperatures were slightly above normal most of the month. Two short heat waves occurred on the 14th and 17th. The second heat wave was associated with the highest maximum air temperature for the month (34.4°C) and the lowest relative humidity (29%).

The daily mean actual duration of bright sunshine was 0.4 hour less than the corresponding value of July 1969.

## TAHRIR — JULY 1970

For the month as a whole, the daily mean air temperature was slightly lower than normal and the daily mean relative humidity was slightly higher.

Four short heat waves occurred on the 2nd, 15th, 17th and in the period (24th—26th) respectively. The second heat wave yielded the highest maximum air temperature for the month (37.4°C). During rest of the month, mild summer weather prevailed and maximum air temperatures were generally below normal.

The extreme maximum soil temperatures were higer than the corresponding values of last July at all depths, and the departures varied between 2.0°C at 2 cm. and 0.1°C at 100 cm. The extreme minimum soil temperatures were higher than the corresponding values of last July at all depths apart from the 100 cm. depth where the value was slightly lower (0.6°C) ; the departures varied between 0.1°C & 0.9°C.

The daily mean values of wind speed, actual duration of bright sunshine and Pan evaporation were less than the corresponding values of July 1969 by 0.4 m./sec., 0.4 hour and 0.73 mm. respectively.

## BAHTIM — JULY 1970

For the month as a whole, the daily mean air temperature was slightly higher than the corresponding value of last July, and the daily mean relative humidity was slightly lower.

A heat wave occurred on the 14th & 15th yielding the highest maximum air temperature for the month (37.3°C) on the 15th. Otherwise, the daily maximum air temperatures were below or slightly above average.

The extreme maximum soil temperatures were higher than the corresponding values of last July at all depths apart from the 100 cm. depth where the values were the same ; the departures varied between 0.3°C at 2 cm and 1.1°C at 20 cm. The extreme minimum soil temperatures were also higher than the corresponding values of last July at all depths apart from the 100 cm. depth where its value was slightly lower (0.3°C); the departures varied between 0.2°C at 2 cm. and 1.2°C at 20 cm.

The daily mean actual duration of bright sunshine was slightly more (0.3 hour) than the corresponding value of July 1969. The daiy mean values of wind speed and Pan evaporation were less than the corresponding values of July 1969 by 0.6 m./sec. & 0.01 mm. respectively.

## KHARGA — JULY 1970

For the month as a whole, the daily mean air temperature was higher than normal.

The month was characterized by three heat waves on the 3rd and in the periods (14th—18th) & (25th—31st) respectively. The last heat wave was associated with the highest maximum air temperature for the month (42.6°C) and the lowest relative humidity (10%) on the 26th. During rest of the month, maximum air temperatures were mostly below normal.

The extreme maximum soil temperatures were slightly higher (0.1° to 0.8°C) than the corresponding values of last July at all depths, apart from the 10 cm. depth where its value was slightly lower (0.5°C). The extreme minimum soil temperatures at 2& 5 cm. depths were slightly higher (0.2°C to 0.3°C) than the corresponding values of last July. At 10 cm. depth its value was the same, and deeper depths between 20 & 100 cm. the values were lower by 0.2° to 1.0°C.

Th daily mean values of actual duration of bright sunshine, wind speed and Pan evaporation were less than corresponding values of July 1969 by 0.1 hour, 1.0 mm./sec. and 2.62 mm. respectively.

## TABLE C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND
### JULY — 1970

| STATION | Air Temperature (°C) | | | | | Mean Duration in hours of daily air temperature above the following values | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean Max. | Mean Min. | Mean of the day | Night time mean | Day time mean | —5°C | 0°C | 5°C | 10°C | 15°C | 20°C | 25°C | 30°C | 35°C | 40°C | 45°C |
| Mersa Matruh. . | 29.0 | 20.2 | 24.6 | 22.3 | 26.3 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 22.5 | 10.9 | 0.4 | 0.0 | 0.0 | 0.0 |
| Tahrir . . . . . | 34.0 | 19.8 | 26.0 | 22.4 | 28.9 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 22.1 | 12.3 | 5.7 | 0.2 | 0.0 | 0.0 |
| Bahtim. . . . . | 33.8 | 18.6 | 25.8 | 22.1 | 28.8 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 21.1 | 12.2 | 5.7 | 0.1 | 0.0 | 0.0 |
| Kharga . . . . | 39.4 | 23.8 | 32.2 | 28.9 | 35.1 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 23.9 | 21.8 | 15.2 | 7.8 | 0.9 | 0.0 |

## TABLE C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS
### JULY — 1970

| STATION | Max. Temp. at 1½ metres (°C) | | | | Min. Temp. at 1½ metres (°C) | | | | Min. Temp. at 5 cms. above (°C) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | | Lowest | | Highest | | Lowest | | Dry soil | | Grass | |
| | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date |
| Mersa Matruh. . . . | 34.4 | 17 | 27.5 | 7,8 | 23.0 | 18 | 16.5 | 17 | 14.5 | 17 | — | — |
| Tahrir . . . . . | 37.4 | 15 | 30.4 | 20 | 22.5 | 14 | 17.1 | 25 | 15.5 | 21 | — | — |
| Bahtim. . . . . | 37.3 | 15 | 30.8 | 21 | 21.6 | 16 | 16.0 | 21 | 13.6 | 1·21 | — | — |
| Kharga . . . . . | 42.6 | 26 | 35.8 | 19 | 28.0 | 17 | 18.2 | 23 | 15.4 | 23 | — | — |

## TABLE C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES, EVAPORATION & RAINFALL
### JULY — 1970

| STATION | Soar+Sky) Radiation gm. cal/cm² | Duration of Bright Sunshine (hours) | | | Relative Humidity % | | | | Vapour pressure (mms) | | | | | | Evaporation (mms) | | Rainfall (mms) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Actual monthly | Total Possible monthly | % | Mean of day | 1200 U.T. | Lowest | Date | Mean of day | 1200 UT | Highest | Date | Lowest | Date | Piche | Pan class A | Total Amount Monthly | Max. Fall in one day | Date |
| Mersa Matruh. | 621.7 | * 353.5 | 433.9 | 87 | 74 | 61 | 29 | 17 | 17.0 | 17.3 | 20.3 | 29 | 11.0 | 17 | 7.4 | — | 0.0 | 0.0 | — |
| Tahrir . . . . | 559.5 | 377.5 | 431.2 | 88 | 67 | 40 | 20 | 17 | 16.1 | 14.8 | 20.9 | 15 | 8.9 | 25 | 8.4 | 10.12 | 0.0 | 0.0 | — |
| Bahtim. . . . | 591.1 | 368.8 | 429.9 | 86 | 66 | 42 | 23 | 17 | 15.7 | 15.1 | 20.3 | 14 | 10.2 | 17 | 9.1 | 9.58 | 0.0 | 0.0 | — |
| Kharga. . . . | 587.7 | 384.7 | 418.8 | 92 | 25 | 17 | 10 | 26 | 8.5 | 8.5 | 13.5 | 30 | 4.6 | 26 | 22.8 | 18.62 | 0.0 | 0.0 | — |

* Total for 29 days.

## Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

### JULY — 1970

| STATION | Highest (H) Lowest (L) | Extreme soil temperature (°C) in dry field at different depths (cms.) | | | | | | | | Extreme soil temperature (°C) in grass field at different depths (cms.) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 |
| Mersa Matruh | H | 44.5 | 39.3 | 35.0 | 30.9 | 28.7 | 26.3 | 23.9 | — | — | — | — | — | — | — | — | — |
| | L | 24.5 | 24.1 | 24.4 | 26.6 | 26.5 | 24.5 | 22.5 | — | — | — | — | — | — | — | — | — |
| Tahrir . . . | H | 55.3 | 48.8 | 43.0 | 37.4 | 32.7 | 30.5 | 28.2 | 26.9 | — | — | — | — | — | — | — | — |
| | L | 28.1 | 26.9 | 26.8 | 30.0 | 30.5 | 29.2 | 26.7 | 25.6 | — | — | — | — | — | — | — | — |
| Bahtim . . . | H | 53.2 | 45.4 | 39.6 | 35.4 | 32.1 | 30.0 | 27.0 | 25.1 | — | — | — | — | — | — | — | — |
| | L | 28.9 | 28.3 | 29.8 | 31.6 | 30.5 | 28.5 | 25.4 | 24.2 | — | — | — | — | — | — | — | — |
| Kharga . . . | H | 57.6 | 49.4 | 43.2 | 38.0 | 35.4 | 33.4 | 30.5 | 29.0 | — | — | — | — | — | — | — | — |
| | L | 22.1 | 26.1 | 30.1 | 32.6 | 32.9 | 31.2 | 29.2 | 28.3 | — | — | — | — | — | — | — | — |

## Table C 5.—SURFACE WIND

### JULY — 1970

| STATION | Wind Speed m/sec at 1½ metres | | | Days with surface wind speed at 10 metres | | | | | | | Max. Gust (knots) at 10 metres | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean of the day | Night time mean | Day time mean | ≥10 knots | ≥15 knots | ≥20 knots | ≥25 knots | ≥30 knots | ≥35 knots | ≥40 knots | Value knots | Date |
| Mersa Matruh | 4.5 | 3.2 | 5.8 | 31 | 31 | 17 | 6 | 1 | 0 | 0 | 33 | 18 |
| Tahrir . . . . | 2.3 | 1.5 | 3.1 | 30 | 8 | 0 | 0 | 0 | 0 | 0 | 23 | 24 |
| Bahtim. . . . | 1.9 | 1.0 | 2.9 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 20 | 1,20 |
| Kharga . . . | 3.6 | 2.8 | 4.5 | 31 | 23 | 12 | 5 | 0 | 0 | 0 | 33 | 18 |

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*First Under-Secretary of State*

ALY SULTAN ALY

*Chairman of the Board of Directors*

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THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 8

## AUGUST, 1970

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

# PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT — CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

## THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968, this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

## THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

## THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

## THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

## CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

## METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

## TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 8

## AUGUST, 1970

U.D.C. 551. 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

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*Note* : For explanatory notes on the tables please refer to Volume 13, Number 1 (January 1970).

# GENERAL SUMMARY OF WEATHER CONDITIONS

## AUGUST 1970

**Normal summer weather, rather humid in the northern and middle parts, deficiently dry in the south.**

### GENERAL DESCRIPTION OF WEATHER

The prevailing weather this month was generally humid, mild in the northern parts, hot in middle parts. Weather was excessively hot & dry in the southern parts. Two summer heat waves were experienced round the periods : (9th—13th) & (22nd—27th).

Early morning low clouds with scattered mist developed frequently over Delta, Canal & Cairo areas.

Light rising sand was reported during several days over few scattered localities, mainly in the southern parts.

### PRESSURE DISTRIBUTION

The outstanding pressure systems over the synoptic surface charts during this month were :

— The Atlantic anticyclone and its eastward extension through Europe and southeastward extension through the Mediterranean.

— The complex monsoon low pressure over the Arabian gulf, Arabia & North Sudan :

— Seven secondary depressions through Central Europe.

These depressions moved eastwards and passed north of the Black Sea area round the 1st, 8th, 12th, 16th, 20th, 23rd & 27th. It is noteworthy that the transits of depressions through the Black Sea area was associated with westward elongations of the Iraq monsoon trough through East Mediterranean and Asia Minor.

The barometric pressure over Egypt during this month was influenced alternatively by the above mentioned westward elongations of the Iraq monsoon trough, and the eastward extensions of high pressure over Central Mediterranean. It accordingly showed six oscillations of small amplitude in general.

Over the upper air charts, the important features were the transits of secondary upper troughs through East Mediterranean round the 2nd, 8th 14th, 18th, 21st, & 29th.

### SURFACE WIND

Light to moderate Nly and NWly winds prevailed most of this month. Winds freshened during several days in scattered localities, mainly in the Mediterranean and Red Sea districts.

### TEMPERATURE

Maximum air temperature oscillated slightly round normal during this month. Its

values varied most of the month between 29°C & 32°C in the northern parts, between 33°C & 38°C in the middle parts, between 39th & 44°C in the southern parts.

The absolute maximum air temperature for the month was 45.6°C reported at Aswan on the 14th.

Minimum air temperature oscillated slightly above normal in the northern parts, and slightly round normal in the middle and southern parts. Its values ranged generally between 18°C & 24°C in the northern and middle parts and between 22°C & 26°C in the southern parts.

The absolute minimum air temperature for the month was 15.0°C reported at Mallawi on the 25th.

**PRECIPITATION**

This month was — as normal — rainless all over the country.

*Cairo, April 1972*

**Chairman (M. F. TAHA)**
*Board of Directors*

## SURFACE DATA

### Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

### AUGUST — 1970

| STATION | Atmospheric Pressure (mbs) M.S.L | | Air Temperature °C | | | | | | | | | Relative Humidity % | | Bright Sunshine Duration (Hours) | | | Piche Evaporation mms. Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Maximum | | Minimum | | | Dry Bulb | | Wet Bulb | | | | | | | |
| | Mean | D.F. Normal or Average | (A) Mean | D.F. Normal or Average | (B) Mean | D.F. Normal or Average | $\frac{A+B}{2}$ | Mean | D.F Normal or Average | Mean | D.F Normal or Average | Mean | D.F Normal or Average | Total Actual | Total Possible | % | |
| Sallum | 1010.0 | —0.3 | 31.2 | +0.1 | 22.7 | +1.1 | 27.0 | 26.7 | +0.4 | 21.6 | —0.3 | 62 | — 4 | — | — | — | 10.6 |
| Mersa Matruh (A) | 1009.9 | —0.2 | 29.9 | 0.0 | 21.4 | +0.4 | 25.6 | 25.5 | 0.0 | 21.7 | —0.1 | 72 | 0 | 366.6 | 412.0 | 89 | 10.6 |
| Alexandria (A) | 1008.8 | 0.0 | 30.4 | —0.2 | 23.7 | +0.9 | 27.0 | 26.4 | —0.3 | 22.5 | —0.5 | 70 | — 2 | 367.6 | 411.1 | 89 | 6.3 |
| Port Said (A) | 1006.9 | —1.1 | 30.9 | +0.1 | 23.2 | —1.7 | 27.0 | 26.7 | —0.6 | 22.8 | —0.9 | 70 | — 2 | 361.7 | 411.1 | 88 | 6.3 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 1007.6 | —0.7 | 32.5 | —2.1 | 19.4 | —0.1 | 26.0 | 25.1 | —1.8 | 21.8 | —0.2 | 74 | +10 | 351.8 | 410.6 | 86 | 3.4 |
| Cairo (A) | 1008.1 | —0.4 | 34.0 | —0.7 | 21.7 | —0.1 | 27.8 | 27.8 | +0.1 | 21.7 | —0.1 | 61 | + 5 | — | — | — | 12.2 |
| Fayoum | — | — | 37.2 | +0.7 | 21.3 | —0.3 | 29.2 | 28.5 | —0.5 | 21.3 | 0.0 | 51 | + 3 | — | — | — | 8.5 |
| Minya (A) | 1007.0 | —0.4 | 35.9 | —0.5 | 20.3 | —0.2 | 28.1 | 27.9 | —0.4 | 21.6 | +0.8 | 49 | — 1 | 375.3 | 406.6 | 92 | 11.9 |
| Assyout (A) | 1007.0 | 0.0 | 35.8 | —1.1 | 21.7 | —0.7 | 28.8 | 28.7 | —1.7 | 20.0 | +0.2 | 42 | + 7 | — | — | — | 16.1 |
| Luxor (A) | 1005.1 | 0.0 | 40.3 | —0.7 | 22.9 | —0.7 | 31.6 | 31.7 | —1.2 | 20.0 | 0.0 | 30 | + 4 | — | — | — | 13.0 |
| Aswan (A) | 1004.9 | —0.2 | 41.0 | —0.3 | 24.8 | —0.4 | 32.9 | 32.8 | —1.0 | 18.1 | —0.3 | 17 | + 1 | — | — | — | 25.3 |
| Siwa | 1010.0 | +0.2 | 37.0 | —0.7 | 20.4 | —0.3 | 28.7 | 29.1 | —0.7 | 20.0 | +0.3 | 39 | + 3 | 374.9 | 408.1 | 91 | 15.5 |
| Bahariya | 1008.4 | +0.2 | 37.2 | +0.4 | 21.9 | +1.1 | 29.6 | 29.6 | 0.0 | 20.0 | +0.2 | 37 | + 1 | — | — | — | 10.0 |
| Farafra | 1009.7 | +0.3 | 36.2 | —1.3 | 20.2 | —0.9 | 28.2 | 28.4 | —1.5 | 19.5 | +1.6 | 40 | +15 | — | — | — | 19.2 |
| Dakhla | 1007.7 | +0.8 | 37.5 | —1.3 | 21.4 | —1.4 | 29.4 | 29.6 | —1.2 | 17.9 | 0.0 | 26 | + 3 | — | — | — | 24.1 |
| Kharga | 1006.5 | —0.1 | 39.1 | —0.2 | 22.8 | 0.0 | 31.0 | 31.4 | —0.5 | 17.8 | —1.3 | 26 | — 0 | 377.0 | 403.2 | 93 | 21.6 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 1004.6 | +0.1 | 33.3 | +0.1 | 24.9 | —0.3 | 29 1 | 29.5 | —0.6 | 21.4 | —0.7 | 46 | — 2 | — | — | — | 12.9 |
| Quseir | 1004.4 | —0.6 | 32.4 | —1.3 | 25.2 | —1.7 | 28.8 | 29.8 | —0.5 | 21.6 | —0.8 | 46 | — 1 | — | — | — | 18.0 |

## TABLE A 2.—MAXIMUM AND MINIMUM AIR TEMPERATURES

### AUGUST — 1970

| STATION | Maximum Temperature °C | | | | | | | | | Grass Min. Temp. | | Minimum Temperature °C | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | Date | Lowest | Date | No. of Days with Max-Temp. | | | | | Mean | D. From Normal | Highest | Date | Lowest | Date | No. of Days with Min. Temp. | | | |
| | | | | | >25 | >30 | >35 | >40 | >45 | | | | | | | <10 | < 5 | < 0 | <— 5 |
| Sallum | 34.8 | 11 | 27.3 | 30 | 31 | 23 | 0 | 0 | 0 | 22.1 | — | 25.4 | 11 | 20.2 | 30 | 0 | 0 | 0 | 0 |
| Mersa Matruh (A) | 32.4 | 9 | 27.8 | 30 | 31 | 14 | 0 | 0 | 0 | 20.2 | — | 24.8 | 12 | 18.8 | 31 | 0 | 0 | 0 | 0 |
| Alexandria (A) | 31.9 | 10,26 | 28.6 | 30 | 31 | 21 | 0 | 0 | 0 | 22.1 | — | 25.0 | 23 | 22.4 | 9 | 0 | 0 | 0 | 0 |
| Port Said (A) | 35.1 | 11 | 29.8 | 27 | 31 | 30 | 1 | 0 | 0 | 22.6 | — | 25.5 | 12 | 21.3 | 19 | 0 | 0 | 0 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 35.4 | 11 | 29.2 | 27 | 31 | 30 | 1 | 0 | 0 | — | — | 21.7 | 12 | 17.0 | 31 | 0 | 0 | 0 | 0 |
| Cairo (A) | 37.8 | 11 | 31.6 | 18 | 31 | 31 | 8 | 0 | 0 | — | — | 23.2 | 12 | 19.0 | 31 | 0 | 0 | 0 | 0 |
| Fayoum | 41,0 | 11 | 33.7 | 27 | 31 | 31 | 27 | 2 | 0 | 18.6 | — | 24.0 | 12 | 19.0 | 18 | 0 | 0 | 0 | 0 |
| Minya (A) | 39.4 | 11 | 32.5 | 29 | 31 | 31 | 24 | 0 | 0 | 19.9 | — | 23.4 | 12 | 16.8 | 18 | 0 | 0 | 0 | 0 |
| Assyout (A) | 38.5 | 11 | 32.0 | 28 | 31 | 31 | 24 | 0 | 0 | 20.1 | — | 24.0 | 12 | 18.0 | 31 | 0 | 0 | 0 | 0 |
| Luxor (A) | 44.4 | 13 | 35.4 | 28 | 31 | 31 | 31 | 15 | 0 | 17.5 | — | 27.2 | 14 | 19.4 | 30 | 0 | 0 | 0 | 0 |
| Aswan (A) | 45.6 | 14 | 36.3 | 29 | 31 | 31 | 31 | 25 | 1 | — | — | 28.2 | 15 | 21.8 | 30 | 0 | 0 | 0 | 0 |
| Siwa | 41.8 | 11 | 32.5 | 29 | 31 | 31 | 25 | 3 | 0 | — | — | 24.0 | 12 | 17.0 | 31 | 0 | 0 | 0 | 0 |
| Bahariya | 41.2 | 12 | 32.7 | 28 | 31 | 31 | 27 | 3 | 0 | 20.1 | — | 25.2 | 12 | 19.8 | 18 | 0 | 0 | 0 | 0 |
| Farafra | 41.0 | 12 | 31.6 | 28 | 31 | 31 | 23 | 2 | 0 | 19.5 | — | 24.8 | 12 | 16.8 | 19 | 0 | 0 | 0 | 0 |
| Dakhla | 41.6 | 12 | 32.8 | 28 | 31 | 31 | 28 | 2 | 0 | 20.8 | — | 29.8 | 12 | 15.2 | 19 | 0 | 0 | 0 | 0 |
| Kharga | 43.3 | 12 | 34.0 | 28 | 31 | 31 | 29 | 5 | 0 | 20.7 | — | 29.1 | 12 | 17.6 | 19 | 0 | 0 | 0 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 36.4 | 26 | 31.3 | 29 | 31 | 31 | 1 | 0 | 0 | — | — | 27.8 | 13,14 | 22.1 | 19 | 0 | 0 | 0 | 0 |
| Quseir | 34.0 | 12 | 30.3 | 28 | 31 | 31 | 0 | 0 | 0 | 22.8 | — | 28.4 | 15 | 23.7 | 3 | 0 | 0 | 0 | 0 |

## TABLE A 3.—SKY COVER AND RAINFALL

## AUGUST — 1970

| Station | Mean Sky Cover (Oct) | | | | | Rainfall (mms) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 00 U.T. | 06 U.T. | 12 U.T. | 18 U.T | Daily Mean | Total Amount | Dev. From Normal | Max. Fall in one day | | Number of days with Amount of Rain | | | | | | |
| | | | | | | | | Amount | Dte | <0.1 | ≥0.1 | ≥1.0 | ≥5.0 | ≥10 | ≥25 | ≥50 |
| Sallum | 1.7 | 0.6 | 0.5 | 0.4 | 0.8 | 0.0 | 0.0 | 0.0 | — | 0 | 2 | 2 | 1 | 0 | 0 | ● |
| Mersa Matruh (A) | 0.8 | 2.9 | 0.8 | 1.4 | 1.3 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | ● |
| Alexandria (A) | 3.9 | 2.2 | 2.8 | 2.6 | 2.8 | 0.0 | — 0.4 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | ● |
| Port Said (A) | 1.4 | 1.8 | 0.4 | 0.3 | 0.9 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | ● |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 0.7 | 2.2 | 0.6 | 0.1 | 0.9 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | ● |
| Cairo (A) | 2.7 | 4.6 | 0.5 | 0.0 | 1.7 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | ● |
| Fayoum | — | 1.2 | 0.1 | 0.3 | — | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | ● |
| Minya (A) | 0.0 | 1.2 | 0.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | ● |
| Assyout (A) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | ● |
| Luxor (A) | 0.0 | 0.3 | 0.5 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | ● |
| Aswan (A) | 0.3 | 1.5 | 0.9 | 0.5 | 0.7 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | ● |
| Siwa | 0.0 | 0.3 | 0.4 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bahariya | 0.0 | 1.2 | 0.1 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | ● |
| Farafra | — | 0.2 | 0.0 | 0.1 | — | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dakhla | 0.0 | 0.1 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kharga | 0.0 | 0.2 | 0.5 | 0.1 | 0.2 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | ● |
| Quseir | 0.0 | 0 1 | 0.2 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | ● |

## TABLE A 4—DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

### AUGUST — 1970

| Station | Precipitation | | | | Frost | Thunderstorm | Mist Vis ≥1000 metres | Fog Vis < 1000 Metres | Haze Vis ≥1000 Metres | Thick Haze Vis < 1000 Metres | Dust or Sandrising Vis ≥1000 Metres | Dust or Sandstorm Vis <1000 Metres | Gale | Clear Sky | Cloudy Sky |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rain | Snow | Ice Pellets | Hail | | | | | | | | | | | |
| Sallum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 |
| Mersa Matruh (A) | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 3 | 0 | 0 | 3 | 0 | 0 | 21 | 0 |
| Alexandria (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 0 |
| Port Said (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | — |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0 |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 2 | 0 | 0 | 0 | 0 | 0 | 28 | 0 |
| Cairo | 0 | 0 | 0 | 0 | 0 | 0 | 17 | 7 | 0 | 0 | 0 | 0 | 0 | 20 | 0 |
| Fayoum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — |
| Minya (A) | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 31 | 0 |
| Assyout (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 0 |
| Luxor (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 0 | 1 | 0 | 0 | 31 | 0 |
| Aswan (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 30 | 0 |
| Siwa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 31 | 0 |
| Bahariya | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 0 |
| Farafra | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | — | — |
| Dakhla | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 31 | 0 |
| Kharga | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 31 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 31 | 0 |
| Quesir | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 |

## Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

### AUGUST — 1970

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | All directions |
| Sallum . . . . . | 0 | 0 | 0 | 1–10 | 22 | 81 | 31 | 4 | 9 | 4 | 3 | 4 | 7 | 10 | 45 | 131 | 351 |
| | | | | 11–27 | 15 | 96 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 71 | 189 | 393 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 37 | 177 | 53 | 4 | 9 | 4 | 3 | 4 | 7 | 10 | 116 | 320 | 744 |
| Mreas Matruh . (A) | 0 | 0 | 0 | 1–10 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 24 | 142 | 51 | 85 | 316 |
| | | | | 11–27 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 10 | 116 | 258 | 428 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 152 | 167 | 341 | 744 |
| Alexandria . . . (A) | 0 | 0 | 0 | 1–10 | 57 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 121 | 333 | 528 |
| | | | | 11–27 | 18 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 162 | 216 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 75 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 157 | 495 | 744 |
| Port Said . . . (A) | 6 | 0 | 0 | 1–10 | 81 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 32 | 190 | 177 | 218 | 702 |
| | | | | 11–27 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 16 | 17 | 36 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 82 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 32 | 192 | 193 | 235 | 738 |
| Tanta . . . . . | 89 | 2 | 92 | 1–10 | 58 | 5 | 0 | 0 | 0 | 0 | 0 | 7 | 33 | 53 | 125 | 199 | 480 |
| | | | | 11–27 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 67 | 81 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 62 | 5 | 0 | 0 | 0 | 0 | 0 | 7 | 33 | 53 | 135 | 266 | 561 |
| Cairo . . . . . | 87 | 0 | 0 | 1–10 | 83 | 44 | 6 | 0 | 1 | 0 | 1 | 4 | 7 | 43 | 178 | 156 | 523 |
| | | | | 11–27 | 25 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 34 | 69 | 134 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 108 | 47 | 6 | 0 | 1 | 0 | 1 | 4 | 7 | 46 | 212 | 225 | 657 |
| Fayoum . . . . . | 0 | 3 | 3 | 1–10 | 273 | 204 | 9 | 0 | 0 | 0 | 3 | 2 | 4 | 12 | 50 | 175 | 732 |
| | | | | 11–27 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 6 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 273 | 208 | 9 | 0 | 0 | 0 | 3 | 2 | 4 | 12 | 51 | 176 | 738 |
| Minya . . . . . | 0 | 0 | 0 | 1–10 | 366 | 166 | 11 | 0 | 2 | 0 | 0 | 0 | 2 | 8 | 7 | 46 | 608 |
| | | | | 11–27 | 77 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 136 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All Speeds | 443 | 224 | 11 | 0 | 2 | 0 | 0 | 0 | 2 | 8 | 7 | 47 | 744 |

**Table A 5 (*contd.*)—NUMBER IN HOURS OF OCCURRENCE OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

**AUGUST — 1970**

| Station | calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | All directions |
| Assyout . . . . . (A) | 68 | 0 | 25 | 1–10 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 7 | 112 | 181 | 138 | 29 | 472 |
| | | | | 11–27 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 49 | 72 | 48 | 179 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **10** | **0** | **0** | **0** | **0** | **0** | **3** | **8** | **113** | **230** | **210** | **77** | **651** |
| Luxor . . . . . (A) | 2 | 0 | 12 | 1–10 | 5 | 5 | 8 | 11 | 32 | 71 | 113 | 63 | 62 | 141 | 175 | 38 | 724 |
| | | | | 11–27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 6 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **5** | **5** | **8** | **11** | **32** | **71** | **113** | **63** | **62** | **141** | **180** | **39** | **730** |
| Aswan . . . . . (A) | 4 | 1 | 0 | 1–10 | 130 | 22 | 2 | 0 | 7 | 10 | 22 | 9 | 22 | 43 | 131 | 156 | 554 |
| | | | | 11–27 | 44 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 57 | 70 | 185 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **174** | **25** | **2** | **0** | **7** | **10** | **22** | **9** | **22** | **54** | **188** | **226** | **739** |
| Siwa . . . . . | 59 | 0 | 0 | 1–10 | 43 | 140 | 57 | 16 | 3 | 5 | 3 | 1 | 3 | 19 | 72 | 233 | 595 |
| | | | | 11–27 | 11 | 34 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 40 | 90 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **54** | **174** | **60** | **16** | **3** | **5** | **3** | **1** | **3** | **19** | **74** | **273** | **685** |
| Dakhla . . . . . | 5 | 0 | 0 | 1–10 | 59 | 18 | 10 | 1 | 2 | 0 | 10 | 15 | 68 | 85 | 154 | 248 | 670 |
| | | | | 11–27 | 14 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 33 | 69 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **73** | **40** | **10** | **1** | **2** | **0** | **10** | **15** | **68** | **85** | **154** | **281** | **739** |
| Kharga . . . . . | 33 | 3 | 1 | 1–10 | 165 | 24 | 7 | 16 | 3 | 5 | 3 | 1 | 4 | 13 | 62 | 158 | 461 |
| | | | | 11–27 | 176 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 67 | 246 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **341** | **26** | **7** | **16** | **3** | **5** | **3** | **1** | **4** | **13** | **63** | **225** | **707** |
| Hurghada . . . . . | 5 | 1 | 0 | 1–10 | 29 | 8 | 2 | 0 | 1 | 1 | 0 | 0 | 1 | 11 | 86 | 55 | 194 |
| | | | | 11–27 | 204 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 118 | 208 | 539 |
| | | | | 28–47 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 5 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **234** | **9** | **2** | **0** | **1** | **1** | **0** | **0** | **1** | **19** | **204** | **267** | **738** |
| Quseir . . . . . | 9 | 1 | 0 | 1–10 | 149 | 123 | 32 | 13 | 5 | 2 | 12 | 10 | 6 | 19 | 64 | 71 | 506 |
| | | | | 11–27 | 47 | 149 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 228 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **196** | **272** | **64** | **13** | **5** | **2** | **12** | **10** | **6** | **19** | **64** | **71** | **734** |

# UPPER AIR CLIMATOLOGICAL DATA

## Table B 1.— MONTHLY MEANS, ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

### AUGUST — 1970

| Station | Pressure Surface Millibar | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matrah 0000 U.T. | Surface | 30 | *1009mb | *1014mb | *1006mb | 30 | 23.0 | 25.4 | 20.2 | 30 | 19.8 |
| | 1000 | 30 | 109 | 150 | 80 | 29 | 23.3 | 24.8 | 19.6 | 29 | 20.1 |
| | 850 | 30 | 1520 | 1563 | 1492 | 30 | 19.6 | 28.1 | 12.5 | 30 | 1.7 |
| | 700 | 30 | 3168 | 3257 | 3116 | 30 | 11.5 | 15.8 | 7.1 | 30 | —10.9 |
| | 600 | 30 | 4441 | 4540 | 4375 | 30 | 4.3 | 9.0 | 0.4 | 30 | —17.5 |
| | 500 | 30 | 5904 | 5996 | 5819 | 30 | — 4.1 | 3.5 | — 9.3 | 30 | —24.6 |
| | 400 | 29 | 7635 | 7735 | 7521 | 29 | —15.1 | —10.4 | —21.4 | 29 | —33.7 |
| | 300 | 27 | 9757 | 9882 | 9611 | 27 | —29.0 | —26.2 | —33.2 | 27 | —45.5 |
| | 250 | 27 | 11035 | 11170 | 10892 | 27 | —38.3 | —35.6 | —42.5 | 27 | —52.8 |
| | 200 | 27 | 12539 | 12680 | 12390 | 27 | —49.2 | —43.7 | —52.0 | 26 | —62.4 |
| | 150 | 26 | 14377 | 14520 | 14244 | 26 | —62.1 | —59.7 | —64.6 | 2 | —72.9 |
| | 100 | 23 | 16821 | 16962 | 16707 | 23 | —73.9 | —68.3 | —78.3 | — | — |
| | 70 | 21 | 18937 | 19062 | 18884 | 21 | —66.8 | —62.7 | —71.6 | — | — |
| | 60 | 18 | 19929 | 20050 | 19680 | 18 | —62.3 | —58.9 | —65.2 | — | — |
| | 50 | 18 | 21024 | 21132 | 20909 | 18 | —58.1 | —49.4 | —61.2 | — | — |
| | 40 | 9 | 22578 | 22680 | 22500 | 9 | —55.0 | —53.3 | —56.7 | — | — |
| | 30 | 9 | 24314 | 24412 | 24240 | 9 | —51.8 | —47.4 | —53.3 | — | — |
| | 20 | 4 | 26968 | 27082 | 26892 | 4 | —47.6 | —47.0 | —48.0 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Helwan 0000 U.T. | Surface | 31 | *992 mb | *997mb | *990mb | 31 | 23.1 | 25.8 | 21.1 | 31 | 19.7 |
| | 1000 | 31 | 69 | 117 | 49 | — | — | — | — | — | — |
| | 850 | 31 | 1482 | 1516 | 1449 | 30 | 20.1 | 25.5 | 13.0 | 30 | 5.2 |
| | 700 | 31 | 3132 | 3174 | 3077 | 31 | 12.2 | 15.9 | 8.8 | 31 | — 4.4 |
| | 600 | 31 | 4409 | 4458 | 4343 | 31 | 5.5 | 10.3 | 2.6 | 31 | —11.5 |
| | 500 | 31 | 5880 | 5930 | 5779 | 31 | — 2.5 | 1.2 | — 7.0 | 31 | —18.5 |
| | 400 | 30 | 7618 | 7682 | 7517 | 30 | —13.6 | —10.7 | —18.6 | 30 | —27.7 |
| | 300 | 30 | 9745 | 9813 | 9629 | 30 | —28.3 | —25.9 | —31.0 | 30 | —40.5 |
| | 250 | 29 | 11028 | 11102 | 10904 | 29 | —38.0 | —35.7 | —40.0 | 29 | —49.1 |
| | 200 | 28 | 12526 | 12604 | 12404 | 28 | —49.6 | —47.5 | —51.0 | 28 | —59.4 |
| | 150 | 27 | 14350 | 14441 | 14217 | 27 | —62.9 | —60.9 | —64.8 | — | — |
| | 100 | 26 | 16720 | 16853 | 16632 | 26 | —75.1 | —69.7 | —79.3 | — | — |
| | 70 | 22 | 18854 | 18932 | 18725 | 22 | —68.5 | —65.0 | —76.1 | — | — |
| | 60 | 16 | 19839 | 19930 | 19700 | 16 | —63.7 | —58.7 | —70.5 | — | — |
| | 50 | 15 | 20927 | 21022 | 20775 | 15 | —59.7 | —55.3 | —64.0 | — | — |
| | 40 | 14 | 22418 | 22520 | 22270 | 14 | —57.5 | —54.9 | —68.7 | — | — |
| | 30 | 11 | 24158 | 24266 | 24023 | 11 | —54.9 | —51.0 | —71.1 | — | — |
| | 20 | 7 | 26798 | 26938 | 26659 | 7 | —48.7 | —47.1 | —50.4 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Aswan 0000 U.T. | Surface | 24 | *982mb | *985mb | *980mb | 24 | 28.0 | 30.5 | 24.4 | 24 | 5.3 |
| | 1000 | 24 | 39 | 63 | 13 | — | — | — | — | — | — |
| | 850 | 24 | 1474 | 1499 | 1449 | 24 | 23.8 | 28.0 | 18.8 | 24 | 0.4 |
| | 700 | 23 | 3139 | 3179 | 3107 | 23 | 14.7 | 19.0 | 9.4 | 23 | — 8.8 |
| | 600 | 22 | 4425 | 4471 | 4377 | 22 | 6.2 | 11.6 | 2.4 | 22 | —14.8 |
| | 500 | 22 | 5893 | 5963 | 5831 | 22 | — 2.9 | 3.0 | — 6.8 | 22 | —24.0 |
| | 400 | 21 | 7630 | 7667 | 7559 | 21 | —13.0 | — 9.8 | —17.0 | 21 | —32.5 |
| | 300 | 20 | 9762 | 9883 | 9679 | 20 | —28.7 | —25.0 | —33.2 | 20 | —44.6 |
| | 250 | 19 | 11038 | 11088 | 10921 | 19 | —38.9 | —34.5 | —47.6 | 18 | —52.9 |
| | 200 | 18 | 12537 | 12705 | 12413 | 18 | —49.5 | —48.2 | —51.4 | 17 | —61.7 |
| | 150 | 16 | 14370 | 14557 | 14241 | 16 | —63.2 | —60.2 | —65.2 | — | — |
| | 100 | 13 | 16769 | 16982 | 16632 | 13 | —78.1 | —74.9 | —80.3 | — | — |
| | 70 | 8 | 18854 | 19010 | 18736 | 8 | —71.8 | —68.2 | —73.5 | — | — |
| | 60 | 6 | 19847 | 20000 | 19700 | 6 | —65.9 | —60.8 | —70.2 | — | — |
| | 50 | 6 | 20897 | 21020 | 20765 | 6 | —61.4 | —58.0 | —65.8 | — | — |
| | 40 | 5 | 22416 | 22520 | 22240 | 5 | —57.0 | —53.3 | —60.8 | — | — |
| | 30 | 5 | 24129 | 24290 | 23965 | 5 | —54.3 | —52.5 | —56.7 | — | — |
| | 20 | 3 | 26746 | 26835 | 26678 | 3 | —47.9 | —40.3 | —53.7 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |

N = Number of observations of specified pressure surface.

* The atmospheric pressure corrected to the elevation of the radiosonde stations.

# UPPER AIR CLIMATOLOGICAL DATA

## Table B 1 (*contd.*)—MONTHLY MEANS, ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

## AUGUST — 1970

| Station | Pressure Surface Millibar | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh (A) 1200 U.T. | Surface | 31 | 1010mb.* | 1015mb.* | 1006mb.* | 31 | 28.5 | 31.0 | 25.6 | 31 | 20.8 |
| | 1000 | 31 | 113 | 160 | 81 | 30 | 27.3 | 29.6 | 23.7 | 29 | 19.4 |
| | 850 | 31 | 1532 | 1567 | 1494 | 31 | 20.4 | 26.8 | 11.1 | 30 | 1.3 |
| | 700 | 29 | 3202 | 3250 | 3135 | 29 | 12.5 | 20.5 | 7.5 | 27 | — 9.1 |
| | 600 | 24 | 4458 | 4524 | 4371 | 24 | 5.1 | 10.4 | 0.2 | 23 | —16.8 |
| | 500 | 22 | 5924 | 5992 | 5835 | 22 | — 3.5 | 0.8 | — 7.6 | 22 | —21.5 |
| | 400 | 21 | 7655 | 7742 | 7541 | 21 | —15.1 | —10.1 | —23.6 | 21 | —33.4 |
| | 300 | 17 | 9773 | 9883 | 9630 | 17 | —28.4 | —17.8 | —33.2 | 17 | —43.8 |
| | 250 | 17 | 11112 | 11163 | 10907 | 17 | —38.1 | —36.1 | —42.7 | 17 | —52.3 |
| | 200 | 17 | 12556 | 12667 | 12422 | 17 | —49.1 | —46 5 | —51.1 | 17 | —61.1 |
| | 150 | 17 | 14394 | 14507 | 14276 | 17 | —61.8 | —60.0 | —64.7 | 1 | —70.2 |
| | 100 | 15 | 16838 | 16942 | 16784 | 15 | —73.5 | —68.3 | —79.0 | — | — |
| | 70 | 15 | 18952 | 19085 | 18742 | 15 | —65.2 | —59.4 | —72.5 | — | — |
| | 60 | 9 | 19952 | 20050 | 19900 | 9 | —59.4 | —56.1 | —62.9 | — | — |
| | 50 | 8 | 21063 | 21178 | 21001 | 8 | —55.1 | —48.9 | —57.6 | — | — |
| | 40 | 6 | 22665 | 229 0 | 22540 | 6 | —53.4 | —52.0 | —54.3 | — | — |
| | 30 | 6 | 24377 | 24508 | 24271 | 6 | —48.9 | —45.9 | —51.8 | — | — |
| | 20 | 5 | 27077 | 27221 | 26966 | 5 | —44.2 | —42.0 | —47.0 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Helwan 1200 U.T. | Surface | 29 | * 992mb | * 997mb | * 989mb | 29 | 32.7 | 37.6 | 29.4 | 29 | 13.7 |
| | 1000 | 29 | 65 | 113 | 42 | — | — | — | — | — | — |
| | 850 | 29 | 1495 | 1526 | 1459 | 29 | 20.7 | 26.6 | 15.0 | 29 | 1.8 |
| | 700 | 29 | 3148 | 3203 | 3097 | 29 | 12.9 | 17.8 | 8.6 | 29 | —10.1 |
| | 600 | 28 | 4429 | 4487 | 4364 | 28 | 6.1 | 11.8 | 0.2 | 28 | —16.4 |
| | 500 | 27 | 5899 | 5961 | 5818 | 27 | — 2.1 | 2.2 | — 6.1 | 27 | —33.9 |
| | 400 | 27 | 7640 | 7716 | 7536 | 27 | —12.8 | —10.5 | —18.9 | 27 | —31.5 |
| | 300 | 22 | 9773 | 9856 | 9648 | 22 | —27.6 | —25.1 | —30.5 | 22 | —43.4 |
| | 250 | 21 | 11055 | 11150 | 10930 | 21 | —37.3 | —35.3 | —39.7 | 21 | —51.5 |
| | 200 | 21 | 12563 | 12662 | 12436 | 21 | —47.9 | —38.3 | —50.7 | 21 | —59.9 |
| | 150 | 17 | 14396 | 14503 | 14278 | 17 | —61.7 | —59.5 | —65.7 | — | — |
| | 100 | 17 | 16830 | 16951 | 16733 | 17 | —74.2 | —71.4 | —79.5 | — | — |
| | 70 | 15 | 18924 | 19022 | 18820 | 15 | —68.7 | —63.7 | —82.5 | — | — |
| | 60 | 12 | 19889 | 20000 | 19770 | 12 | —61.5 | —59.4 | —63.0 | — | — |
| | 50 | 12 | 21008 | 21120 | 20890 | 12 | —57.2 | —55.3 | —60.5 | — | — |
| | 40 | 10 | 22516 | 22630 | 22420 | 10 | —54.3 | —52.0 | —57.3 | — | — |
| | 30 | 10 | 24295 | 24440 | 24160 | 10 | —45.2 | —48.1 | —54.3 | — | — |
| | 20 | 5 | 27007 | 27148 | 26944 | 5 | —45.7 | —44.0 | —47.0 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Aswan 1200 U.T. | Suracef | 22 | * 982m.b. | * 985m.b. | * 980m.b. | 22 | 38.7 | 43.0 | 34.5 | 22 | 6.7 |
| | 1000 | 22 | 25 | 56 | 7 | — | — | — | — | — | — |
| | 850 | 21 | 1483 | 1518 | 1454 | 21 | 25.6 | 31.0 | 20.6 | 21 | —3.8 |
| | 700 | 19 | 3151 | 3196 | 3112 | 19 | 15.3 | 18.9 | 10.7 | 19 | —13 2 |
| | 600 | 18 | 4440 | 4488 | 4394 | 18 | 7.1 | 12.8 | 4.0 | 18 | —18 8 |
| | 500 | 18 | 5916 | 5970 | 5860 | 18 | — 1.6 | 2.0 | — 5.0 | 18 | —26.6 |
| | 400 | 17 | 7657 | 7719 | 7582 | 17 | —12.3 | —10 3 | —15.1 | 17 | —35.4 |
| | 300 | 16 | 9798 | 9866 | 9706 | 16 | —26 7 | —24.7 | —29.0 | 16 | —46.3 |
| | 250 | 15 | 11087 | 11166 | 10982 | 15 | —36 3 | —33 5 | —38.3 | 15 | —54.1 |
| | 200 | 15 | 12600 | 12694 | 12484 | 15 | —47.8 | —44 8 | —50.2 | 13 | —63.0 |
| | 150 | 14 | 14448 | 14500 | 14306 | 14 | —61.5 | —58.0 | —76.9 | 4 | —71.2 |
| | 100 | 10 | 16908 | 17028 | 16740 | 10 | —75 4 | —71.9 | —78.0 | — | — |
| | 70 | 4 | 18985 | 19033 | 18920 | 4 | —73.3 | —68.0 | —78.2 | — | — |
| | 60 | 2 | 19950 | 19970 | 19930 | 2 | —65.1 | —61.3 | —65.9 | — | — |
| | 50 | 2 | 21024 | 21052 | 20992 | 2 | —59.2 | —58.4 | —60.0 | — | — |
| | 40 | 1 | 22560 | — | — | 1 | —53.6 | — | — | — | — |
| | 30 | 1 | 24333 | — | — | 1 | —50.6 | — | — | — | — |
| | 20 | 1 | 27025 | — | — | 1 | —43.0 | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |

N — Number of observations of specified pressure surface.

* The atmospheric pressure corrected to the elevation of the radiosonde stations.

## TABLE B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE; THE HIGHEST WIND SPEED IN THE UPPER AIR

### AUGUST — 1970

| | Station | Freezing level | | | | | | | | | First Tropopause | | | | | | | | | Highest wind speed | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | | | Highest | | | Lowest | | | Mean | | | Highest | | | Lowest | | | | | | |
| | | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Direction (000—360)° | Speed in Knots |
| 0000 UT | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | M. Matruh (A) | 5220 (30) | 547 (30) | -21.3 (30) | 6400 | 474 | -28.0 | 4500 | 595 | -11.8 | 16331 (23) | 109 (23) | -73.6 (23) | 17600 | 88 | -80.2 | 13580 | 170 | -60.0 | 15330 | 126 | 260 | 76 |
| | Helwan . . . | 5425 (31) | 531 (31) | -16.1 (31) | 6080 | 492 | - 9.8 | 4900 | 566 | -27.9 | 16575 (20) | 104 (20) | -75.3 (20) | 17710 | 87 | -77.0 | 15820 | 115 | -72.8 | 10090 | 282 | 235 | 96 |
| | Aswan . .(A) | 5353 (22) | 537 (22) | -20.0 (22) | 6350 | 476 | -25.0 | 4770 | 572 | -17.8 | 17008 (6) | 96 (6) | -78.0 (6) | 18260 | 79 | -73.9 | 16672 | 100 | -78.6 | 16023 | — | 110 | 70 |
| 1200 U.T. | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | M. Matruh (A) | 5300 (23) | 540 (23) | -20.2 (23) | 5992 | 500 | -17.7 | 4410 | 599 | -23.4 | 16559 (14) | 105 (14) | -73.9 (14) | 17400 | 93 | -75.0 | 15440 | 126 | -70.0 | 12130 | 212 | 260 | 72 |
| | Helwan . . . | 5560 (27) | 522 (27) | -20.9 (27) | 6500 | 498 | -21.5 | 4500 | 589 | -21.5 | 16761 (12) | 94 (12) | -75.3 (12) | 17330 | 94 | -75.2 | 15850 | 120 | -73.1 | 9190 | 320 | 240 | 88 |
| | Aswan . .(A) | 5641 (18) | 520 (18) | -23.2 (18) | 6280 | 482 | -22.0 | 5040 | 555 | -26.0 | 16735 (4) | 104 (4) | -75.0 )4) | 17380 | 92 | -77.5 | 15680 | 123 | -70.5 | 14141 | — | 107 | 64 |

N = The number of cases the element has been observed during the month.

## Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

### MERSA MATRUH (A) — AUGUST 1970

| Time | Pressure Surface (Millibar) | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (TN) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 1 | 14 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 10 | 8 | 10 | 8 | 5 | 12 | 4 | 21 | 0 | 30 | 10 |
| | 1000 | 3 | 21 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 10 | 12 | 14 | 10 | 15 | 0 | 30 | 14 |
| | 850 | 15 | 17 | 5 | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 11 | 1 | 13 | 8 | 20 | 0 | 30 | 18 |
| | 700 | 11 | 15 | 5 | 24 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 21 | 7 | 15 | 6 | 16 | 0 | 30 | 17 |
| | 600 | 5 | 15 | 3 | 15 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 7 | 2 | 22 | 11 | 17 | 8 | 18 | 0 | 30 | 17 |
| | 500 | 5 | 12 | 2 | 4 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 14 | 8 | 19 | 9 | 23 | 4 | 20 | 0 | 30 | 18 |
| | 400 | 1 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 8 | 19 | 9 | 26 | 9 | 24 | 2 | 24 | 0 | 29 | 21 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 24 | 10 | 32 | 8 | 32 | 3 | 38 | 0 | — | 0 | 25 | 31 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 6 | 31 | 11 | 36 | 8 | 33 | 0 | — | 0 | — | 0 | 25 | 34 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 39 | 9 | 30 | 8 | 40 | 7 | 37 | 0 | — | 0 | — | 0 | 25 | 36 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 43 | 8 | 31 | 8 | 41 | 0 | — | 0 | — | 0 | — | 0 | 20 | 38 |
| | 100 | 0 | — | 0 | — | 0 | — | — | — | 0 | — | 0 | — | 7 | 30 | 3 | 23 | 5 | 30 | 1 | 37 | 0 | — | 0 | — | 0 | 16 | 29 |
| | 70 | 0 | — | 0 | — | 2 | 17 | 2 | 18 | 1 | 20 | 0 | — | 0 | — | 2 | 15 | 0 | — | 1 | 3 | 0 | — | 0 | — | 1 | 9 | 14 |
| | 60 | 0 | — | 0 | — | 1 | 26 | 4 | 26 | 0 | — | 0 | — | 1 | 3 | 0 | — | 0 | — | 0 | — | 1 | 15 | 0 | — | 0 | 7 | 21 |
| | 50 | 0 | — | 0 | — | 0 | — | 5 | 28 | 1 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 6 | 25 |
| | 40 | 0 | — | 0 | — | 2 | 44 | 2 | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 4 | 42 |
| | 30 | 0 | — | 0 | — | 0 | — | 2 | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 40 |
| | 20 | 0 | — | 0 | — | 0 | — | 1 | 47 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 47 |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 1 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 17 | 16 | 13 | 17 | 0 | 31 | 16 |
| | 1000 | 1 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 20 | 26 | 18 | 0 | 31 | 15 |
| | 800 | 4 | 16 | 3 | 15 | 1 | 7 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 13 | 8 | 16 | 14 | 15 | 0 | 31 | 14 |
| | 700 | 6 | 14 | 5 | 24 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 14 | 1 | 7 | 4 | 14 | 10 | 19 | 0 | 28 | 17 |
| | 600 | 3 | 11 | 2 | 16 | 1 | 14 | 1 | 9 | 0 | — | 0 | — | 1 | 1 | 0 | — | 0 | — | 3 | 9 | 6 | 15 | 6 | 19 | 0 | 23 | 14 |
| | 500 | 1 | 7 | 1 | 8 | 0 | — | 0 | — | 2 | 6 | 0 | — | 1 | 2 | 0 | — | 5 | 12 | 4 | 14 | 4 | 30 | 3 | 15 | 0 | 21 | 15 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 20 | 10 | 25 | 3 | 26 | 2 | 27 | 0 | 20 | 14 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 25 | 2 | 28 | 6 | 29 | 6 | 32 | 1 | 48 | 0 | — | 0 | 16 | 31 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 34 | 6 | 32 | 7 | 40 | 0 | — | 0 | — | 0 | 16 | 36 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 26 | 3 | 39 | 8 | 32 | 4 | 36 | 0 | — | 0 | — | 0 | 16 | 34 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 36 | 6 | 34 | 3 | 28 | 4 | 37 | 0 | — | 0 | — | 0 | 15 | 34 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 17 | 3 | 20 | 5 | 26 | 1 | 26 | 0 | — | 0 | — | 0 | — | 0 | 11 | 23 |
| | 70 | 0 | — | 0 | — | 0 | — | 1 | 11 | 3 | 29 | 2 | 15 | 2 | 14 | 0 | — | 0 | — | 0 | — | 1 | 10 | 0 | — | 0 | 9 | 18 |
| | 60 | 0 | — | 0 | — | 0 | — | 2 | 18 | 2 | 18 | 1 | 16 | 1 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 6 | 18 |
| | 50 | 0 | — | 0 | — | 0 | — | 5 | 31 | 1 | 25 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 6 | 30 |
| | 40 | 0 | — | 0 | — | 0 | — | 4 | 35 | 1 | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 34 |
| | 30 | 0 | — | 0 | — | 0 | — | 3 | 31 | 1 | 39 | 0 | — | 1 | 34 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 33 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the element has been observed during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

**Table B 3.** *(Cont.)* —**NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**HELWAN — AUGUST 1970**

| Time | Pressure Surface (Millibar) | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (T N) | Mean Scalar wind Speed (Knots |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345 / 014 | | 015 / 044 | | 045 / 074 | | 075 / 104 | | 105 / 134 | | 135 / 164 | | 165 / 194 | | 195 / 224 | | 225 / 254 | | 255 / 284 | | 285 / 314 | | 315 / 344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 15 | 5 | 4 | 6 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 10 | 4 | 2 | 31 | 4 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 9 | 17 | 6 | 20 | 3 | 5 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 7 | 0 | — | 2 | 16 | 7 | 12 | 3 | 18 | 0 | 31 | 15 |
| | 700 | 3 | 12 | 4 | 18 | 3 | 7 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 15 | 0 | — | 4 | 12 | 6 | 17 | 10 | 12 | 0 | 31 | 13 |
| | 600 | 4 | 12 | 1 | 11 | 1 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 14 | 4 | 21 | 12 | 15 | 5 | 12 | 0 | 31 | 15 |
| | 500 | 3 | 11 | 1 | 12 | 0 | — | 0 | — | 0 | — | 1 | 5 | 0 | — | 0 | — | 2 | 18 | 13 | 20 | 7 | 19 | 4 | 10 | 0 | 31 | 17 |
| | 400 | 0 | — | 0 | — | 0 | — | 1 | 8 | 0 | — | 0 | — | 1 | 7 | 2 | 8 | 8 | 31 | 11 | 31 | 5 | 23 | 2 | 19 | 0 | 30 | 26 |
| | 300 | 2 | 4 | 0 | — | 0 | — | 0 | — | 1 | 7 | 1 | 6 | 1 | 8 | 4 | 16 | 10 | 35 | 8 | 33 | 2 | 28 | 0 | — | 0 | 29 | 26 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 11 | 1 | 13 | 4 | 37 | 11 | 40 | 6 | 28 | 1 | 18 | 0 | — | 0 | 26 | 32 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 23 | 3 | 26 | 3 | 48 | 8 | 43 | 4 | 30 | 1 | 21 | 1 | 45 | 0 | 24 | 32 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 12 | 3 | 30 | 4 | 23 | 4 | 30 | 8 | 42 | 1 | 34 | 1 | 25 | 0 | — | 0 | 22 | 32 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 23 | 4 | 36 | 1 | 31 | 1 | 19 | 1 | 17 | 2 | 31 | 0 | — | 0 | — | 0 | 12 | 28 |
| | 70 | 0 | — | 0 | — | 1 | 27 | 3 | 24 | 2 | 22 | 1 | 9 | 0 | — | 0 | — | 0 | — | 1 | 44 | 0 | — | 0 | — | 0 | 8 | 24 |
| | 60 | 0 | — | 0 | — | 0 | — | 2 | 35 | 3 | 38 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 37 |
| | 50 | 0 | — | 0 | — | 0 | — | 5 | 34 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 34 |
| | 40 | 0 | — | 0 | — | 2 | 39 | 3 | 47 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 40 |
| | 30 | 0 | — | 0 | — | 0 | — | 2 | 48 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 48 |
| | 20 | 0 | — | 0 | — | 1 | 64 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 9 | — | 0 | — | 0 | 1 | 64 |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 6 | 9 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 6 | 6 | 5 | 8 | 12 | 8 | 0 | 29 | 8 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 7 | 17 | 4 | 18 | 1 | 24 | 1 | 3 | 1 | 15 | 0 | — | 0 | — | 1 | 5 | 0 | — | 4 | 14 | 7 | 11 | 3 | 10 | 0 | 29 | 14 |
| | 700 | 6 | 12 | 1 | 33 | 1 | 15 | 0 | — | 1 | 20 | 0 | — | 0 | — | 2 | 6 | 2 | 20 | 5 | 12 | 8 | 10 | 2 | 11 | 0 | 28 | 12 |
| | 600 | 2 | 8 | 1 | 14 | 0 | — | 1 | 7 | 0 | — | 0 | — | 0 | — | 3 | 10 | 4 | 15 | 7 | 15 | 7 | 14 | 3 | 16 | 0 | 28 | 13 |
| | 500 | 2 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 15 | 3 | 11 | 5 | 15 | 14 | 22 | 1 | 7 | 1 | 16 | 0 | 27 | 17 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 4 | 1 | 4 | 0 | — | 4 | 20 | 5 | 30 | 7 | 22 | 3 | 18 | 1 | 10 | 0 | 22 | 21 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 16 | 1 | 11 | 3 | 22 | 4 | 28 | 8 | 35 | 3 | 8 | 0 | — | 0 | 20 | 26 |
| | 250 | 0 | — | 0 | — | 1 | 7 | 0 | — | 0 | — | 2 | 28 | 1 | 25 | 3 | 40 | 7 | 28 | 3 | 43 | 1 | 16 | 1 | 7 | 0 | 19 | 29 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 12 | 2 | 24 | 3 | 37 | 6 | 42 | 0 | — | 1 | 15 | 1 | 29 | 0 | 15 | 32 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 47 | 2 | 34 | 5 | 36 | 6 | 32 | 0 | — | 0 | — | 0 | — | 0 | 14 | 35 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 44 | 7 | 20 | 2 | 22 | 0 | — | 1 | 27 | 2 | 24 | 0 | — | 0 | — | 0 | 13 | 23 |
| | 70 | 0 | — | 0 | — | 0 | — | 2 | 37 | 7 | 31 | 1 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 10 | 31 |
| | 60 | 0 | — | 0 | — | 0 | — | 4 | 42 | 2 | 28 | 1 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 7 | 34 |
| | 50 | 0 | — | 0 | — | 0 | — | 4 | 32 | 3 | 48 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 7 | 39 |
| | 40 | 0 | — | 0 | — | 0 | — | 3 | 46 | 3 | 39 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 6 | 35 |
| | 30 | 0 | — | 0 | — | 0 | — | 1 | 46 | 2 | 36 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 3 | 39 |
| | 20 | 0 | — | 0 | — | 0 | — | 1 | 58 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 58 |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**N = The number of cases the element has been observed during the month.**

**TN = The total number of cases the wind has been observed for all directions during the month.**

**Table B 3.** *(Contd.)*—**NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**ASWAN (A) — AUGUST 1970**

| Time | Pressure Surface (Millibar) | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (TN) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 5 | 7 | 1 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 11 | 0 | — | 2 | 9 | 14 | 10 | 1 | 24 | 9 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 5 | 8 | 2 | 12 | 0 | — | 1 | 6 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 9 | 7 | 10 | 5 | 10 | 0 | 23 | 9 |
| | 700 | 1 | 8 | 1 | 5 | 0 | — | 0 | — | 1 | 10 | 0 | — | 0 | — | 6 | 11 | 4 | 19 | 7 | 16 | 1 | 9 | 2 | 15 | 0 | 23 | 14 |
| | 600 | 1 | 8 | 1 | 7 | 0 | — | 1 | 6 | 0 | — | 1 | 7 | 1 | 2 | 2 | 16 | 6 | 18 | 5 | 15 | 1 | 6 | 0 | — | 1 | 20 | 12 |
| | 500 | 0 | — | 1 | 13 | 3 | 10 | 4 | 17 | 3 | 6 | 0 | — | 0 | — | 0 | — | 5 | 14 | 2 | 24 | 0 | — | 1 | 8 | 0 | 19 | 14 |
| | 400 | 0 | — | 1 | 10 | 5 | 13 | 4 | 8 | 1 | 4 | 2 | 8 | 1 | 2 | 1 | 18 | 0 | — | 2 | 6 | 1 | 4 | 0 | — | 0 | 18 | 9 |
| | 300 | 0 | — | 0 | — | 3 | 12 | 4 | 10 | 5 | 11 | 2 | 6 | 2 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 6 | 0 | 17 | 13 |
| | 250 | 0 | — | 0 | — | 2 | 8 | 4 | 15 | 5 | 22 | 1 | 9 | 3 | 14 | 1 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 16 | 15 |
| | 200 | 1 | 16 | 0 | — | 0 | — | 5 | 20 | 5 | 25 | 4 | 22 | 0 | — | 1 | 24 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 16 | 22 |
| | 150 | 0 | — | 0 | — | 0 | — | 4 | 26 | 5 | 26 | 4 | 20 | 1 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 14 | 24 |
| | 100 | 0 | — | 0 | — | 0 | — | 2 | 35 | 4 | 28 | 3 | 35 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 9 | 32 |
| | 70 | 0 | — | 0 | — | 0 | — | 2 | 28 | 4 | 32 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 6 | 30 |
| | 60 | 0 | — | 0 | — | 0 | — | 6 | 32 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 6 | 32 |
| | 50 | 0 | — | 0 | — | 0 | — | 5 | 32 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 32 |
| | 40 | 0 | — | 0 | — | 0 | — | 5 | 39 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 39 |
| | 30 | 0 | — | 0 | — | 0 | — | 4 | 47 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 4 | 47 |
| | 20 | 0 | — | 0 | — | 0 | — | 2 | 39 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 39 |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 T.U. | Surface | 6 | 12 | 1 | 6 | 0 | — | 0 | — | 0 | — | 1 | 8 | 1 | 6 | 0 | — | 0 | — | 2 | 12 | 5 | 12 | 6 | 9 | 0 | 22 | 10 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 3 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 14 | 0 | — | 0 | — | 0 | — | 6 | 14 | 10 | 13 | 1 | 16 | 0 | 21 | 13 |
| | 700 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 9 | 2 | 11 | 11 | 17 | 3 | 14 | 1 | 12 | 1 | 28 | 0 | 19 | 16 |
| | 600 | 1 | 3 | 0 | — | 1 | 3 | 0 | — | 0 | — | 0 | — | 2 | 8 | 6 | 15 | 5 | 21 | 2 | 13 | 1 | 8 | 0 | — | 0 | 18 | 14 |
| | 500 | 0 | — | 1 | 14 | 2 | 10 | 4 | 16 | 0 | — | 2 | 8 | 2 | 4 | 2 | 9 | 4 | 14 | 0 | — | 1 | 6 | 0 | — | 0 | 18 | 11 |
| | 400 | 1 | 3 | 2 | 10 | 6 | 11 | 1 | 11 | 3 | 10 | 1 | 12 | 0 | — | 2 | 8 | 0 | — | 0 | — | 1 | 8 | 0 | — | 0 | 17 | 10 |
| | 300 | 0 | — | 1 | 17 | 1 | 7 | 9 | 16 | 2 | 8 | 2 | 10 | 1 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 16 | 13 |
| | 250 | 0 | — | 0 | — | 2 | 11 | 5 | 19 | 6 | 20 | 0 | — | 2 | 16 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 15 | 18 |
| | 200 | 0 | — | 0 | — | 1 | 18 | 3 | 14 | 7 | 28 | 3 | 19 | 1 | 3 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 15 | 22 |
| | 150 | 0 | — | 0 | — | 0 | — | 2 | 16 | 7 | 32 | 3 | 23 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 12 | 27 |
| | 100 | 0 | — | 0 | — | 0 | — | 3 | 33 | 6 | 39 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 9 | 37 |
| | 70 | 0 | — | 0 | — | 0 | — | 3 | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 3 | 40 |
| | 60 | 0 | — | 0 | — | 0 | — | 1 | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 50 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 46 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 46 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 50 |
| | 30 | 0 | — | 0 | — | 0 | — | 1 | 45 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 45 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the element has been observed direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

# REVIEW OF AGRO-METEOROLOGICAL STATIONS

## MERSA MATRUH — AUGUST 1970

For the month as a whole, the daily mean air temperature and the daily mean relative humidity were about normal.

The prevailing weather during this month was generally mild apart from two short heat waves on the 9th and 11th. The daily maximum air temperatures were slightly above normal the whole month except during the last four days, when they were below normal. The highest maximum air temperature for the month (32.4°C) was reported on the 9th.

## TAHRIR — AUGUST 1970

For the month as a whole, the daily mean air temperature and the daily mean relative humidity were about average.

The month was characterized by two heat waves during the periods (8th—11th) and (20th—26th). The second heat wave was the more pronounced and was associated with the highest maximum air temperature for the month (38.4°C) and the lowest relative humidity (23%) on the 21st.

The extreme maximum soil temperatures were higher than the corresponding values of last August at all depths between 2 and 100 cm., and the departures varied between 0.4°C at both 2 and 100 cm. and 1.3°C at 10 cm. The extreme minimum soil temperatures were slightly lower (0.3°C to 0.7°C) than the corresponding values of last August at depths between 2 and 20 cm., the same at 50 cm. depth and slightly higher (0.2°C) at 100 cm. depth.

Compared with the corresponding values of August 1969, the daily mean wind speed was the same, the daily mean actual duration of bright sunshine was slightly higher (0.1 hour) and the mean daily pan evaporation was slightly lower (0.08 mm.).

## BAHTIM — AUGUST 1970

For the month as a whole, the daily mean air temperature was slightly higher (0.5°C) than the corresponding value of last August, and the daily mean relative humidity was the same.

The prevailing weather during this month was generally of the mild summer type, apart from two short heat waves on the 11th and 26th. The second heat wave yielded the highest maximum air temperature for the month (36.8°C).

The extreme maximum soil temperatures were slightly lower (0.2°C to 0.5°C) than the corresponding values of last August at shallow depths between 2 and 5 cm., and slightly higher (0.2°C to 0.7°C) at deeper depths between 10 and 100 cm. The extreme minimum soil temperatures were higher than the corresponding values of last August at 2, 50 and 100 cm. depths with departures between 1.3°C and 0.1°C. At other depths between 5 and 20 cm., the extreme soil minima were slightly lower (0.1° to 0.6°C).

The daily mean values of wind speed, actual duration of bright sunshine, Pan evaporation were lower than the corresponding values of August 1969 by 0.4 met/sec, 0.1 hour and 0.24 mm. respectively.

## KHARGA — AUGUST 1970

This month as a whole was rather normal with respect to the mean daily air temperature and relative humidity.

The month was characterized by two heat waves during the period (9th—14th) and on the 26th. The first heat wave was associated with the highest maximum air temperature for the month (43.3°C) on the 12th.

The extreme maximum soil temperatures were lower than the corresponding values of last August at shallow depths between 2 and 10 cm. with departures between 2.2° and 0.4°C. At 20 and 50 cm. depths the extreme soil maxima were slightly higher (0.3° to 0.4°C) and at 100 cm. depth its value was the same as last August. The extreme minimum soil temperature was lower than the corresponding value of last August at 2 cm. depth, and higher at all other depths apart from the 50 cm. depth where its value was the same. The departures were slight and varied between 0.4° and 0.8°C.

Compared with the corresponding values of last August, the mean daily actual duration of bright sunshine was slightly higher (0.1 hour), and the mean daily values of wind speed and Pan evaporation were lower by 0.2 m./sec. and 2.15 mm. respectively.

## Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

### AUGUST — 1970

| STATION | Air Temperature (°C) | | | | | Mean Duration in hours of daily air temperature above the following values | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean Max. | Mean Min. | Mean of the day | Night time mean | Day time mean | —5°C | 0°C | 5°C | 10°C | 15°C | 20°C | 25°C | 30°C | 35°C | 40°C | 45°C |
| Mersa Matruh. . . | 29.9 | 21.4 | 25.6 | 23.5 | 27.2 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 23.7 | 13.1 | 0.4 | 0.3 | 0.0 | 0.0 |
| Tahrir . . . . . | 34.6 | 20.6 | 26.5 | 23.0 | 29.1 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 23.4 | 12.6 | 6.4 | 0.2 | 0.0 | 0.0 |
| Bahtim . . . . . | 33.5 | 18.9 | 25.5 | 21.9 | 28.3 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 21.4 | 11.5 | 5.3 | 0.03 | 0.0 | 0.0 |
| Kharga . . . . . | 39.1 | 22.8 | 31.5 | 28.4 | 34.3 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 23.9 | 20.7 | 14.2 | 7.3 | 0.5 | 0.0 |

## Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS.

### AUGUST — 1970

| STATION | Max. Temp. at 1½ metres (°C) | | | | Min. Temp. at 1½ metres (°C) | | | | Min. Temp. at 5 cms. above (°C) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | | Lowest | | Highest | | Lowest | | Dry soil | | Grass | |
| | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date |
| Mersa Matruh . . . | 32.4 | 9 | 27.8 | 30 | 24.8 | 12 | 18.8 | 31 | 16.8 | 31 | — | — |
| Tahrir . . . . . | 38.4 | 21 | 31.6 | 30 | 22.4 | 8 | 18.5 | 30 | 15.9 | 30 | — | — |
| Bahtim, , , , , . | 36.8 | 26 | 31.2 | 30 | 22.0 | 12 | 16.1 | 18 | 13.7 | 18 | — | — |
| Kharga . . . . . | 43.3 | 12 | 34.0 | 28 | 29.1 | 12 | 17.6 | 19 | 15.4 | 19 | — | — |

## Table C 3.—(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL

### AUGUST — 1970

| STATION | (Solar+Sky) Radiation gm. cal/cm² | Duration of Bright Sunshine (hours) | | | Relative Humidity | | | | Vapour pressure (mms) | | | | | | Evaporation (mms) | | Rainfall (mms) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Actual monthly | Total Possible monthly | % | Mean of day | 200 U.T. | Lowest | Date | Mean of day | 1200 U.T. | Highest | Date | Lowest | Date | Piche | Pan class A | Total Amount Monthly | Max. Fall in one day | Date |
| M.Matruh | 574.7 | 366.6 | 412.0 | 89 | 72 | 60 | 47 | 27 | 17.8 | 18.1 | 23.1 | 10 | 12.6 | 31 | 10.4 | 13.18 | 0.0 | 0.0 | — |
| Tahrir. . | 523.6 | 362.3 | 410.9 | 91 | 70 | 40 | 23 | 21 | 17.5 | 15.4 | 21.6 | 11 | 9.5 | 21 | 7.7 | 9.46 | 0.0 | 0.0 | — |
| Bahtim . | 543.1 | 338.1 | 409.7 | 83 | 72 | 45 | 31 | 8 | 17.0 | 16.1 | 22.3 | 11 | 12.1 | 30 | 6.6 | 8.09 | 0.0 | 0.0 | — |
| Kharga . | 565.7 | 377.0 | 403.2 | 93 | 26 | 17 | 9 | 19 | 8.6 | 8.2 | 15.2 | 1 | 4.3 | 19 | 21.5 | 18.21 | 0.0 | 0.0 | — |

## TABLE C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

### AUGUST — 1970

| STATION | Highest (H) Lowest (L) | Extreme soil tempetature (°C) in dry field at different depths (cms.) | | | | | | | | Extreme soil temperature (°C) in grass field at different depths (cms,) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 |
| Mersa Matruh. | H | 42.0 | 39.5 | 34.4 | 31.2 | 29.0 | 27.8 | 24.8 | — | — | — | — | — | — | — | — | — |
| | L | 25.8 | 25.0 | 25.5 | 28.0 | 27.5 | 26.0 | 24.0 | — | — | — | — | — | — | — | — | — |
| Tahrir . . . . | H | 54.0 | 48.0 | 42.8 | 37.4 | 32.9 | 31.0 | 29.0 | 27.8 | — | — | — | — | — | — | — | — |
| | L | 26.7 | 25.8 | 26.2 | 29.7 | 30.9 | 30.5 | 28.2 | 26.9 | — | — | — | — | — | — | — | — |
| Bahtim . . . | H | 53.1 | 45.4 | 39.6 | 35.6 | 32.8 | 31.1 | 28.2 | 26.2 | — | — | — | — | — | — | — | — |
| | L | 28.7 | 27.8 | 29.6 | 32.4 | 32.0 | 30.1 | 27.0 | 25.3 | — | — | — | — | — | — | — | — |
| Kharga. . . . | H | 56.2 | 49.6 | 43.1 | 38.0 | 35.6 | 33.3 | 31.2 | 29.7 | — | — | — | — | — | — | — | — |
| | L | 20.7 | 25.7 | 29.9 | 33.0 | 33.9 | 33.0 | 30.3 | 29.0 | — | — | — | — | — | — | — | — |

## TABLE C 5.—SURFACE WIND

### AUGUST — 1970

| STATION | Wind Speed m/sec at 1½ metres | | | Days with surface wind speed at 10 metres. | | | | | | | Max. Gust (knots) at 10 metres | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean of the day | Night time mean | Day time mean | ≥ 10 knots | ≥ 15 knots | ≥ 20 knots | ≥ 25 knots | ≥ 30 knots | ≥ 35 knots | ≥ 40 knots | Value (knots) | Date |
| Mersa Matruh. | 5.0 | 3.7 | 6.3 | 31 | 31 | 16 | 5 | 1 | 0 | 0 | 33 | 26 |
| Tahrir . . . . | 2.4 | 1.6 | 3.1 | 31 | 5 | 0 | 0 | 0 | 0 | 0 | 25 | 8,27,28 |
| Bahtim . . . . | 1.4 | 0.7 | 2.1 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 30 |
| Kharga . . . | 3.8 | 2.9 | 4.7 | 31 | 20 | 11 | 1 | 0 | 0 | 0 | 31 | 13 |

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THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 9

## SEPTEMBER, 1970

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

# PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT — CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

## THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968, this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

## THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

## THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

## THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

## CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

## METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

## TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 9

## SEPTEMBER, 1970

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

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# GENERAL SUMMARY OF WEATHER CONDITIONS

## SEPTEMBER 1970

**An excessive heat wave during the fourth week; otherwise generally mild and humid in the north; hot and dry in the south.**

### GENERAL DESCRIPTION OF WEATHER

The prevailing weather this month was generally mild in the northern parts, rather hot in the middle parts and hot in the southern parts. Two heat waves were experienced round the periods : (1st—2nd) & (21st—25th). The first heat wave was mainly pronounced in Upper Egypt area. The second heat wave was the most pronounced and affected all parts of the country. The break down of this heat wave was followed by gradual decrease in temperature till the end of the month, and a rather cold spell was experienced on the 29th & 30th.

The month was characterized by rather high humidity most days of the month in the north and deficient rainfall.

Weather was misty in the early morning in several days over scattered parts in Delta & Cairo areas. Light rising sand was reported in several days over few scattered localities, mainly the Red Sea, Upper Egypt & Western Desert districts.

### PRESSURE DISTRIBUTION

The prevailing pressure distribution over the synoptic surface maps this month was the usual distribution for this part of the year, and can be summarized in the following main systems :

— The Atlantic anticyclone and its extensions over Europe & the Mediterranean.

— A local anticyclone over Europe & its extension over the Mediterranean.

— Deep low pressure troughs moving eastwards through Central Europe.

— The complex monsoon low pressure over the Arabian gulf, Arabia, North Sudan.

During this month, six low pressure troughs were distinguished through Central Europe area and passed north of the Black Sea area round the 2nd, 7th, 12th, 17th, 22nd, & 29th.

It is noteworthy that these transits were associated with elongations of the Iraq monsoon trough towards East Mediterranean & Asia Minor areas.

The barometric pressure over Egypt was mainly influenced by the eastward extension of high pressure over Central Mediterranean & NE Africa, and the above mentioned westward elongations of the Iraq monsoon trough. It accordingly experienced oscillations round its normal, generally of small amplitudes and reached its minima round the 2nd, 7th, 13th, 17th, 22nd, & 29th respectively.

Over the upper air charts, the important feature in our area was the transits of secondary upper troughs through East Mediter-

ranean on the 4th, 8th, 11th, 15th & 30th, the last of which was the sharpest.

### SURFACE WIND

Light to moderate Nly and NWly winds prevailed most days of this month in general. Winds were fresh to strong in several days over few scattered localities mainly in the Red Sea & Western Desert districts.

Gales were reported at Hurghada on the 28th.

### TEMPERATURE

Maximum air temperature experienced moderate to large departures above normal during the two heat waves round the periods (1st—2nd) & (21st—25th) and below normal during the cold spell on the 29th & 30th. Otherwise, maximum air temperatures were slightly round normal. Maximum air temperature values ranged generally between 27°C & 31°C in the northern parts, between 31°C & 36°C in the middle parts, between 37°C & 43°C in the southern parts.

The absolute maximum air temperature for the month was 46.0°C reported at Aswan on the 24th.

Minimum air temperature fluctuations were irregular. It oscillated round normal in general and its departures were slight to moderate.

Minimum air temperature values ranged most days of the month between 17°C & 23°C in the northern and middle parts and between 20°C & 26°C in th southern parts.

The absolute minimum air temperature for the month was 12.0°C reported at Mallawi on the 30th.

### PRECIPITATION

This month was rainless apart from scattered light rain over the northern coast on the 4th, 21st and 27th.

The highest daily rainfall was 3.4 m.m. reported at Dabaa on the 27th and it was also the highest monthly rainfall.

*Cairo, April 1972*

**Chairman (M. F. TAHA)**
*Board of Directors*

## Table A 1. — MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION.

### SEPTEMBER — 1970

| STATION | Atmospheric Pressure (mbs) M.S.L. | | Air Temperature °C | | | | | | | | | Relative Humidity % | | Bright Sunshine Duration (Hours) | | | Piche Evaporation (mms) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Maximum | | Minimum | | | Dry Bulb | | Wet Bulb | | | | | | | |
| | Mean | D.F. Normal or Average | (A) Mean | D.F. Normal or Average | (B) Mean | D.F. Normal or Average | A+B / 2 | Mean | D.F. Normal or Average | Mean | D.F. Normal or Average | Mean | D.F. Normal or Average | Total Actual | Total Possible | % | Mean |
| Sallum | 1012.7 | — 1.1 | 29.1 | — 0.1 | 20.9 | + 0.7 | 25.0 | 24.8 | 0.0 | 20.1 | 0.0 | 62 | — 1 | — | — | — | 8.0 |
| Mersa Matruh (A) | 1012.9 | — 0.8 | 28.6 | 0.0 | 19.9 | + 0.3 | 24.2 | 24.2 | 0.0 | 19.8 | — 0.2 | 65 | — 2 | 318.0 | 371.2 | 85 | 9.9 |
| Alexandria (A) | 1012.2 | — 0.4 | 29.2 | — 0.3 | 21.1 | — 0.1 | 25.2 | 24.8 | — 1.2 | 20.7 | — 0.5 | 68 | 0 | 324.7 | 370.8 | 88 | 6.4 |
| Port Said (A) | 1010.6 | — 1.3 | 30.8 | + 1.6 | 22.5 | — 1.3 | 26.6 | 26.0 | — 0.1 | 22.0 | — 0.1 | 69 | 0 | 331.1 | 370.8 | 89 | 5.7 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 1011.0 | — 0.4 | 32.8 | + 0.4 | 17.2 | — 0.4 | 25.0 | 24.0 | — 0.5 | 19.8 | 0.0 | 66 | + 3 | 324.9 | 370.3 | 88 | 3.9 |
| Cairo (A) | 1011.1 | — 1.5 | 32.9 | + 0.6 | 20.3 | + 0.4 | 26.6 | 26.0 | + 0.5 | 19.9 | — 0.3 | 55 | — 3 | — | — | — | 14.3 |
| Fayoum | — | — | 34.8 | + 1.1 | 19.4 | — 0.2 | 27.1 | 26.5 | + 0.1 | 19.9 | + 0.2 | 52 | + 1 | — | — | — | 8.0 |
| Minya (A) | 1009.9 | — 1.1 | 34.3 | + 0.9 | 18.2 | — 0.4 | 26.8 | 26.0 | + 0.4 | 18.7 | — 0.9 | 47 | — 8 | 334.5 | 369.7 | 90 | 12.1 |
| Assyout (A) | 1009.2 | — 1.2 | 34.7 | — 0.2 | 19.5 | — 0.6 | 27.0 | 26.8 | — 0.7 | 18.0 | — 0.5 | 38 | — 1 | — | — | — | 16.3 |
| Luxor (A) | 1007.6 | — 0.7 | 38.9 | + 0.6 | 20.4 | — 1.0 | 29.6 | 29.6 | — 0.4 | 19.1 | — 0.3 | 32 | 0 | — | — | — | 12.0 |
| Aswan (A) | 1007.3 | — 0.7 | 39.4 | + 0.2 | 22.8 | + 0.7 | 31.1 | 30.7 | — 0.1 | 17.2 | 0.0 | 18 | — 1 | — | — | — | 22.8 |
| Siwa | 1011.9 | — 1.5 | 34.4 | — 0.5 | 18.6 | + 0.3 | 26.5 | 26.6 | — 0.3 | 17.6 | — 0.9 | 37 | — 4 | 334.4 | 372.8 | 90 | 12.5 |
| Bahariya | 1011.4 | — 0.5 | 34.8 | + 0.8 | 19.8 | + 1.0 | 27.3 | 27.3 | + 0.7 | 18.4 | — 0.2 | 38 | — 5 | — | — | — | 10.0 |
| Farafra | 1012.5 | — 0.7 | 34.4 | 0.0 | 18.6 | — 0.3 | 26.5 | 26.6 | — 0.1 | 17.5 | + 1.0 | 36 | + 5 | — | — | — | 16.9 |
| Dakhla | 1010.5 | + 0.3 | 34.9 | — 0.7 | 19.2 | — 1.1 | 27.0 | 27.0 | — 1.0 | 16.6 | — 0.6 | 29 | + 1 | — | — | — | 20.1 |
| Kharga | 1009.1 | — 0.9 | 36.9 | — 0.1 | 21.2 | — 0.1 | 29.0 | 29.3 | + 0.7 | 16.9 | — 1.0 | 27 | — 5 | 342.8 | 369.2 | 93 | 20.7 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 1007.6 | — 0.4 | 31.6 | + 0.8 | 22.1 | — 1.0 | 26.8 | 27.7 | — 0.1 | 19.9 | — 1.2 | 45 | — 7 | — | — | — | 11.6 |
| Quseir | 1007.4 | — 0.8 | 31.2 | — 0.7 | 24.5 | — 0.7 | 27.8 | 28.3 | + 0.4 | 20.8 | — 0.4 | 48 | — 5 | — | — | — | 18.3 |

## Table A2.—MAXIMUM AND MINIMUM AIR TEMPERATURES

### SEPTEMBER — 1970

| Station | Maximum Temperature °C | | | | | | | | | Grass Min. Temp. | | Minimum Temperature °C | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | Date | Lowest | Date | No. of Days with Max-Temp. | | | | | Mean | D. From Normal | Highest | Date | Lowest | Date | No. of Days with Min. Temp. | | | |
| | | | | | >25 | >30 | >35 | >40 | >45 | | | | | | | 10 | <5 | <0 | <-5 |
| Sallum | 37.9 | 21 | 23.0 | 30 | 29 | 7 | 3 | 0 | 0 | 19.9 | — | 25.1 | 22 | 19.1 | 28,30 | 0 | 0 | 0 | 0 |
| Mersa Natruh (A) | 38.2 | 22 | 22.8 | 30 | 29 | 2 | 1 | 0 | 0 | 17.9 | — | 23.4 | 3 | 16.9 | 21 | 0 | 0 | 0 | 0 |
| Alexandria (A) | 35.0 | 22 | 24.5 | 30 | 29 | 6 | 0 | 0 | 0 | 19.0 | — | 23.5 | 9 | 17.8 | 12 | 0 | 0 | 0 | 0 |
| Port Said (A) | 32.6 | 9 | 25.3 | 30 | 30 | 25 | 0 | 0 | 0 | 21.7 | — | 24.2 | 9 | 19.7 | 30 | 0 | 0 | 0 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | | — | — | — | — | — | — | — |
| Tanta | 36.3 | 22 | 25.5 | 30 | 30 | 26 | 4 | 0 | 0 | — | — | 19.3 | 19 | 13.9 | 30 | 0 | 0 | 0 | 0 |
| Coiro (A) | 37.4 | 22 | 26.0 | 30 | 30 | 27 | 4 | 0 | 0 | — | — | 24.2 | 2 | 16.0 | 30 | 0 | 0 | 0 | 0 |
| Fayoum | 39.9 | 2 | 28.0 | 30 | 30 | 28 | 11 | 0 | 0 | 15.8 | — | 21.2 | 26 | 15.4 | 30 | 0 | 0 | 0 | 0 |
| Minya (A) | 40.8 | 2 | 27.8 | 30 | 30 | 28 | 8 | 1 | 0 | 17.2 | — | 21.5 | 19 | 14.5 | 30 | 0 | 0 | 0 | 0 |
| Assyout (A) | 40.6 | 24 | 28.0 | 30 | 30 | 28 | 10 | 1 | 0 | 17.9 | — | 23.3 | 3 | 15.5 | 30 | 0 | 0 | 0 | 0 |
| Luxor (A) | 44.2 | 2 | 31.6 | 30 | 30 | 30 | 28 | 9 | 0 | 15.1 | — | 24.0 | 3 | 16.8 | 14 | 0 | 0 | 0 | 0 |
| Aswan (A) | 46.0 | 24 | 31.0 | 30 | 30 | 30 | 28 | 12 | 1 | — | — | 27.0 | 3 | 19.0 | 30 | 0 | 0 | 0 | 0 |
| Siwa | 40.8 | 23 | 27.3 | 30 | 30 | 29 | 11 | 1 | 0 | — | — | 22.6 | 2 | 16.0 | 21,13 | 0 | 0 | 0 | 0 |
| Bahariya | 38.7 | 25 | 27.7 | 30 | 30 | 28 | 14 | 0 | 0 | 18.2 | — | 23.3 | 24 | 16.9 | 30 | 0 | 0 | 0 | 0 |
| Farafra | 40.0 | 2 | 26.0 | 30 | 30 | 28 | 9 | 0 | 0 | 17.9 | — | 22.4 | 23 | 14.1 | 30 | 0 | 0 | 0 | 0 |
| Dakhla | 40.5 | 2 | 27.2 | 30 | 30 | 28 | 13 | 1 | 0 | 18.8 | — | 25.4 | 24 | 13.0 | 13 | 0 | 0 | 0 | 0 |
| Kharga | 42.6 | 2 | 28.6 | 30 | 30 | 29 | 27 | 4 | 0 | 19.3 | — | 28.0 | 2 | 16.1 | 22 | 0 | 0 | 0 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 33.7 | 2 | 28.1 | 30 | 30 | 28 | 0 | 0 | 0 | — | — | 26.8 | 3 | 20.6 | 12,14 | 0 | 0 | 0 | 0 |
| Quseir | 34.6 | 2 | 27.5 | 30 | 30 | 28 | 0 | 0 | 0 | 21.4 | — | 28.1 | 3 | 22.5 | 6 | 0 | 0 | 0 | 0 |

# Table A 3.—SKY COVER AND RAINFALL

## SEPTEMBER — 1970

| Station | Mean Sky Cover Oct. | | | | | Rainfall mms. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 00 U.T. | 06 U.T. | 12 U.T. | 18 U.T. | Daily Mean | Total Amount | D. From Normal | Max. Fall in one day | | Number of Days with Amount of Rain | | | | | | |
| | | | | | | | | Amount | Date | <0.1 | ≥0.1 | ≥1 0 | ≥5 0 | ≥10 | ≥25 | ≥50 |
| Sallum (A) | 3.3 | 1.4 | 2.7 | 1.7 | 2.2 | 0.7 | 0.0 | 0.7 | 21 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| Mersa Matruh (A) | 1.1 | 2.5 | 1.0 | 1.5 | 2 0 | 1.0 | 0.0 | 0.7 | 27 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| Alexandria (A) | 3.5 | 2.6 | 2.8 | 2.7 | 2 9 | 0.0 | —0.5 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Port Said (A) | 0.7 | 1.2 | 0.4 | 0.3 | 0,8 | 0.0 | —0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 0.0 | 1.1 | 1.3 | 0.1 | 0.7 | 0.0 | —0.2 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Cairo (A) | 1.4 | 2.9 | 0.9 | 0.5 | 1.2 | 0.0 | —Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fayoum | 0.0 | 0.8 | 0.5 | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minya (A) | 0 0 | 0 6 | 0.0 | 0.0 | 0 4 | 0.0 | —0 1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Assyout (A) | 0.0 | 0.0 | 0 0 | 0.0 | 0.0 | 0.0 | —Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Luxor (A) | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.0 | —0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aswan (A) | 0.0 | 0.8 | 0.3 | 0.2 | 0.3 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Siwa | 0.4 | 0.4 | 0.9 | 0.0 | 0.5 | 0.0 | —0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bahariya | 0.0 | 0.2 | 0.2 | 0.0 | 0.2 | 0.0 | —Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Farafra | — | 0.0 | 0.0 | 0.0 | — | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dakhla | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kharga | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | —Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Quseir | 0.0 | 0.1 | 0.1 | 0.0 | 0.0 | 0.0 | —Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Table A 4.— DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

### SEPTEMBER — 1970

| Station | Precipitation | | | | Frost | Thunderstorm | Mist Vis ≥ 1000 metres | Fog Vis < 1000 Metres | Haze Vis ≥ 1000 Metres | Thick Haze Vis < 1000 Metres | Dust or Sandrising Vis ≥ 1000 Metres | Dust or Sandstorm Vis < 1000 Metres | Gale | Clear Sky | Cloudy Sky |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rain | Snow | Ice. Pellets | Hail | | | | | | | | | | | |
| Sallum | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 |
| Mersa Matruh (A) | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 18 | 0 |
| Alexandria (A) | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 1 | 0 | 2 | 0 | 0 | 9 | 0 |
| Port Said (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | — |
| Al Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 0 | 0 | 0 | 0 | 0 | 30 | 0 |
| Cairo (A) | 0 | 0 | 0 | 0 | 0 | 0 | 11 | 3 | 1 | 0 | 2 | 0 | 0 | 21 | 0 |
| Fayoum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 30 | — |
| Minya (A) | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 |
| Assyout (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 |
| Luxor (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 3 | 0 | 0 | 30 | 0 |
| Aswan (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 2 | 0 | 30 | 0 |
| Siwa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 |
| Bahariya | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 |
| Farafra | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | — | — |
| Dakhala | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 30 | 0 |
| Kharga | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 30 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 | 1 | 30 | 0 |
| Quseir | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30 | 0 |

## Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

### SEPTEMBER — 1970

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | All directions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | |
| ...ilum . . . . . | 4 | 2 | 2 | 1-10 | 39 | 129 | 83 | 40 | 7 | 1 | 3 | 2 | 8 | 25 | 112 | 144 | 593 |
| | | | | 11-27 | 4 | 35 | 18 | 7 | 0 | 0 | 0 | 0 | 18 | 5 | 11 | 21 | 119 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **43** | **164** | **101** | **47** | **7** | **1** | **3** | **2** | **26** | **30** | **123** | **165** | **712** |
| ...rsa Matruh . (A) | 2 | 0 | 1 | 1-10 | 124 | 48 | 18 | 16 | 4 | 12 | 8 | 18 | 79 | 45 | 24 | 88 | 484 |
| | | | | 11-27 | 81 | 19 | 12 | 6 | 0 | 2 | 6 | 4 | 4 | 0 | 7 | 92 | 233 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **205** | **67** | **30** | **22** | **4** | **14** | **14** | **22** | **83** | **45** | **31** | **180** | **717** |
| ...xandria . . . . . | 4 | 0 | 0 | 1—10 | 148 | 41 | 29 | 8 | 4 | 7 | 33 | 21 | 4 | 8 | 29 | 215 | 547 |
| | | | | 11—27 | 40 | 24 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 101 | 169 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **188** | **65** | **30** | **8** | **4** | **7** | **33** | **21** | **4** | **8** | **32** | **316** | **716** |
| ...rt Said . . . (A) | 7 | 0 | 0 | 1-10 | 187 | 50 | 16 | 5 | 2 | 4 | 1 | 1 | 9 | 62 | 92 | 244 | 673 |
| | | | | 11-27 | 4 | 9 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 8 | 12 | 40 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **191** | **59** | **17** | **5** | **2** | **4** | **1** | **1** | **9** | **68** | **100** | **256** | **713** |
| ...nta . . . . . | 122 | 13 | 52 | 1-10 | 89 | 85 | 20 | 14 | 1 | 5 | 2 | 8 | 17 | 36 | 41 | 140 | 458 |
| | | | | 11-27 | 28 | 7 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 4 | 35 | 75 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **117** | **92** | **21** | **14** | **1** | **5** | **2** | **8** | **17** | **36** | **45** | **175** | **533** |
| ...iro . . . . . | 123 | 3 | 8 | 1-10 | 94 | 70 | 44 | 16 | 5 | 2 | 0 | 5 | 5 | 16 | 53 | 106 | 416 |
| | | | | 11-27 | 35 | 55 | 18 | 13 | 0 | 0 | 0 | 0 | 1 | 1 | 15 | 32 | 170 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **129** | **125** | **62** | **29** | **5** | **2** | **0** | **5** | **6** | **17** | **68** | **138** | **586** |
| ...youm . . . . . | 3 | 2 | 0 | 1-10 | 214 | 263 | 14 | 6 | 6 | 6 | 3 | 0 | 15 | 11 | 24 | 117 | 679 |
| | | | | 11-27 | 9 | 18 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 36 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **223** | **281** | **18** | **6** | **6** | **6** | **3** | **0** | **15** | **11** | **26** | **120** | **715** |
| ...inya . . . . . | 13 | 4 | 1 | 1-10 | 327 | 167 | 11 | 1 | 0 | 4 | 4 | 4 | 5 | 9 | 8 | 22 | 662 |
| | | | | 11-27 | 74 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 140 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **401** | **233** | **11** | **1** | **0** | **4** | **4** | **4** | **5** | **9** | **8** | **22** | **702** |
| ...yout . . . . . | 0 | 0 | 0 | 1-10 | 9 | 4 | 1 | 1 | 6 | 2 | 3 | 3 | 20 | 228 | 155 | 96 | 528 |
| | | | | 11-27 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 5 | 79 | 79 | 192 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **36** | **4** | **1** | **1** | **6** | **2** | **3** | **4** | **21** | **233** | **234** | **175** | **720** |

**Table A 5** (*contd.*).—**NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

**SEPTEMBER — 1970**

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | All directions |
| Luxor | 83 | 0 | 0 | 1-10 | 60 | 9 | 9 | 16 | 11 | 28 | 120 | 44 | 17 | 103 | 162 | 38 | 611 |
| | | | | 11-27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 15 | 4 | 26 |
| | | | | 28-47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **60** | **9** | **9** | **16** | **11** | **28** | **120** | **44** | **17** | **104** | **177** | **42** | **637** |
| Aswan | 0 | 2 | 0 | 1—10 | 227 | 33 | 2 | 0 | 0 | 0 | 0 | 0 | 2 | 21 | 90 | 182 | 557 |
| | | | | 11—27 | 69 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 19 | 65 | 161 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **296** | **35** | **2** | **0** | **0** | **0** | **0** | **0** | **2** | **27** | **109** | **247** | **718** |
| Siwa | 128 | 0 | 0 | 1—10 | 42 | 100 | 80 | 35 | 24 | 15 | 13 | 10 | 11 | 41 | 51 | 147 | 570 |
| | | | | 11—27 | 1 | 4 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 22 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **43** | **104** | **85** | **36** | **24** | **15** | **13** | **10** | **11** | **41** | **51** | **159** | **592** |
| Dakhla | 6 | 4 | 0 | 1—10 | 68 | 20 | 12 | 5 | 4 | 11 | 7 | 27 | 55 | 91 | 106 | 233 | 639 |
| | | | | 11—27 | 17 | 16 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 36 | 71 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **85** | **36** | **14** | **5** | **4** | **11** | **7** | **27** | **55** | **91** | **106** | **269** | **710** |
| Kharga | 6 | 3 | 0 | 1—10 | 195 | 36 | 9 | 9 | 5 | 4 | 4 | 3 | 8 | 9 | 43 | 145 | 470 |
| | | | | 11—27 | 189 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 | 241 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **384** | **39** | **9** | **9** | **5** | **4** | **4** | **3** | **8** | **9** | **43** | **194** | **711** |
| Hurghada | 0 | 0 | 0 | 1—10 | 12 | 11 | 4 | 1 | 0 | 6 | 1 | 2 | 1 | 17 | 112 | 37 | 204 |
| | | | | 11—27 | 164 | 12 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 87 | 211 | 477 |
| | | | | 28—47 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 38 | 39 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **177** | **23** | **5** | **1** | **0** | **6** | **1** | **2** | **1** | **19** | **199** | **286** | **720** |
| Quseir | 5 | 0 | 3 | 1—10 | 186 | 96 | 51 | 5 | 2 | 0 | 1 | 5 | 4 | 6 | 22 | 96 | 474 |
| | | | | 11—27 | 113 | 107 | 15 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 238 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **299** | **203** | **66** | **5** | **2** | **0** | **1** | **5** | **4** | **6** | **22** | **99** | **712** |

## UPPER AIR CLIMATOLOGICAL DATA

### Table B 1.—MONTHELY MEAN AND MONTHLY ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESURE SURFACES

### SEPTEMBER – 1970

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 0000 U.T. | Surface . . . | 29 | 1012m.b.* | 1016m.b.* | 1008m.b.* | 29 | 22.6 | 24.7 | 20.0 | 29 | 17.1 |
| | 1000 . . . | 29 | 128 | 165 | 97 | 29 | 22.9 | 25.4 | 19 3 | 29 | 17.9 |
| | 850 . . . | 29 | 1532 | 1556 | 1503 | 29 | 17 2 | 22.1 | 7.0 | 29 | 2 8 |
| | 700 . . . | 29 | 3163 | 3191 | 3123 | 29 | 7.8 | 11.0 | 2.5 | 29 | 9 8 |
| | 600 . . . | 28 | 4419 | 4452 | .4359 | 28 | 0 6 | 4.0 | — 4.8 | 28 | —16.8 |
| | 500 . . . | 28 | 5863 | 5904 | 5778 | 28 | — 8 5 | — 5.9 | —13.8 | 28 | —25.6 |
| | 400 . . . | 28 | 7559 | 7611 | 7443 | 28 | —18.9 | —13.7 | —25.9 | 27 | —34.5 |
| | 300 . . . | 27 | 9651 | 9751 | 9470 | 27 | —31.9 | —25 9 | —40.5 | 27 | —45.8 |
| | 250 . . . | 24 | 10834 | 11040 | 10696 | 24 | —40.7 | —35.3 | —48.2 | 22 | —53.3 |
| | 200 . . . | 22 | 12416 | 12566 | 12234 | 22 | —50.8 | —46.0 | —55.1 | 21 | —61.7 |
| | 150 . . . | 21 | 14251 | 14426 | 14055 | 21 | —62.3 | —59 7 | —66.1 | 1 | —70.7 |
| | 100 . . . | 16 | 16719 | 16862 | 16550 | 16 | —71 3 | —61.7 | —76.8 | — | — |
| | 70 . . . | 12 | 18873 | 18969 | 18762 | 12 | —65 5 | —62.1 | —67.7 | — | — |
| | 60 . . . | 9 | 19858 | 19970 | 19725 | 9 | —61.3 | —56.5 | —64.0 | — | — |
| | 50 . . . | 9 | 20960 | 21037 | 20838 | 9 | —59.4 | —57.4 | —61.0 | — | — |
| | 40 . . . | 3 | 22353 | 22390 | 22300 | 3 | —56.5 | —54.0 | —59.1 | — | — |
| | 30 . . . | 2 | 24112 | 24116 | 24107 | 2 | —54.2 | —53.3 | —55.1 | — | — |
| | 20 . . . | 1 | 26757 | — | — | 1 | —50.8 | — | — | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | — | — |
| Helwan 0000 U.T. | Surface . . . | 30 | 995m b.* | 1000m.b.* | 991m.b.* | 30 | 22.3 | 25.6 | 17.6 | 30 | 17.2 |
| | 1000 . . . | 30 | 94 | 140 | 62 | 1 | 20.7 | — | — | 1 | 15.1 |
| | 850 . . . | 30 | 1502 | 1540 | 1462 | 30 | 17 8 | 22.4 | 10.8 | 30 | 3.4 |
| | 700 . . . | 30 | 3137 | 3187 | 3093 | 30 | 9 3 | 12 4 | 6.6 | 30 | 8 2 |
| | 600 . . . | 30 | 4403 | 4456 | 4353 | 30 | 2.2 | 6.2 | — 1.5 | 30 | —14.2 |
| | 500 . . . | 30 | 5851 | 5899 | 5799 | 30 | — 6 6 | — 1.7 | —10.6 | 30 | —21.8 |
| | 400 . . . | 28 | 7560 | 7625 | 7428 | 28 | —16.9 | —12 1 | —22.4 | 28 | —30.8 |
| | 300 . . . | 26 | 9657 | 9749 | 9533 | 26 | —31.6 | —27.3 | —36.0 | 26 | —43.7 |
| | 250 . . . | 23 | 10920 | 11030 | 10676 | 23 | —39.7 | —28 2 | —44.7 | 22 | —51.3 |
| | 200 . . . | 22 | 12407 | 12529 | 12254 | 22 | —50 9 | —47.0 | —55.0 | 22 | —60.9 |
| | 150 . . . | 20 | 14246 | 14361 | 14116 | 20 | —63.4 | —61.5 | —65.8 | — | — |
| | 100 . . . | 18 | 16611 | 16790 | 16538 | 18 | —73.7 | —67.2 | —78.8 | — | — |
| | 70 . . . | 17 | 18773 | 18909 | 18684 | 17 | —67.2 | —62.9 | —72.0 | — | — |
| | 60 . . . | 15 | 19752 | 19920 | 19660 | 15 | —62.9 | —56 0 | —65.9 | — | — |
| | 50 . . . | 15 | 20838 | 21007 | 20760 | 15 | —60.3 | —58 3 | —65.0 | — | — |
| | 40 . . | 7 | 22321 | 22450 | 22100 | 7 | —56 8 | —53.6 | —58.5 | — | — |
| | 30 . . . | 6 | 24112 | 24225 | 24012 | 6 | —54.1 | —51.0 | —56.3 | — | — |
| | 20 . . . | 3 | 26756 | 26878 | 26622 | 3 | —50.1 | —49.0 | —51.0 | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | — | — |
| Aswan 0000 U.T. | Surface . . . | 30 | 984m.b.* | 987m.b.* | 982m.b.* | 30 | 26.2 | 32.0 | 23 0 | 30 | 4.3 |
| | 1000 . . . | 30 | 54 | 78 | 32 | — | — | — | — | — | — |
| | 850 . . . | 30 | 1485 | 1511 | 1448 | 30 | 23.1 | 28.5 | 15.9 | 30 | —0.2 |
| | 700 . . . | 30 | 3146 | 3184 | 3101 | 30 | 12.2 | 16.6 | 6.5 | 30 | — 8.7 |
| | 600 . . . | 30 | 4417 | 4464 | 4349 | 30 | 2.4 | 6.6 | — 3 9 | 30 | —14.9 |
| | 500 . . . | 30 | 5869 | 5927 | 5780 | 30 | — 5.7 | — 3.5 | — 9.7 | 30 | —26.2 |
| | 400 . . . | 30 | 7587 | 7655 | 7470 | 30 | —16.4 | —11.8 | —22.7 | 30 | —34.8 |
| | 300 . . . | 29 | 9691 | 9770 | 9547 | 29 | —31.1 | —27.4 | —35.6 | 28 | —46.5 |
| | 250 . . . | 26 | 10965 | 11055 | 10863 | 26 | —40.4 | —35.8 | —45.2 | 26 | —54.6 |
| | 200 . . . | 26 | 12451 | 12555 | 12320 | 26 | —51.8 | —48.7 | —55.8 | 25 | —63.7 |
| | 150 . . . | 22 | 14264 | 14395 | 14113 | 22 | —64.9 | —61.7 | —68.0 | — | — |
| | 100 . . . | 21 | 16669 | 16772 | 16520 | 21 | —76.8 | —72.7 | —80.5 | — | — |
| | 70 . . . | 14 | 18746 | 18885 | 18604 | 14 | —69.7 | —63.9 | —75.2 | — | — |
| | 60 . . . | 11 | 19718 | 19850 | 19580 | 11 | —64.9 | —61.1 | —67.0 | — | — |
| | 50 . . . | 11 | 20800 | 20925 | 20638 | 11 | —61.0 | —58.6 | —63.8 | — | — |
| | 40 . . . | 9 | 22250 | 22450 | 22050 | 9 | —58.8 | —56.9 | —61.6 | — | — |
| | 30 . . . | 8 | 24002 | 24122 | 23822 | 8 | —55.2 | —50.3 | —59.0 | — | — |
| | 20 . . . | 5 | 26590 | 26695 | 26482 | 5 | —52.2 | —50.3 | —55.4 | — | — |
| | 10 . . . | 1 | 31230 | — | — | 1 | —48.8 | | — | — | — |

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

## UPPER AIR CLIMATOLOGICAL DATA

### Table B 1 (*contd.*).—MONTHLY MEAN AND MONTHLY ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

### SEPTEMBER — 1970

| Station | Pressure Surface Millibar | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 1200 UT | Surface . . . | 26 | 1012*m.b. | 1017*m.b. | 1009*m.b. | 26 | 27.2 | 37.0 | 21.0 | 26 | 18.0 |
| | 1000 . . . | 26 | 133 | 174 | 107 | 26 | 26.1 | 36.0 | 19.6 | 26 | 16.6 |
| | 850 . . . | 26 | 1540 | 1567 | 1517 | 26 | 16.8 | 23.7 | 6.6 | 25 | 0.1 |
| | 700 . . . | 18 | 3168 | 3219 | 3130 | 18 | 8.3 | 13 4 | 4.6 | 18 | —11.0 |
| | 600 . . . | 14 | 4430 | 4490 | 4377 | 14 | 0.7 | 4.6 | —4.5 | 14 | —16.9 |
| | 500 . . . | 13 | 5871 | 5931 | 5795 | 13 | — 8.5 | — 5.7 | —13.1 | 13 | —25.7 |
| | 400 . . . | 11 | 7564 | 7632 | 7466 | 11 | —19.3 | —13.7 | —23.1 | 10 | —34.7 |
| | 300 . . . | 8 | 9683 | 9758 | 9581 | 8 | —30.4 | —26.8 | —38.0 | 8 | —44.7 |
| | 250 . . . | 8 | 10957 | 11050 | 10818 | 8 | —39.5 | —36.2 | —44.2 | 7 | —51.7 |
| | 200 . . . | 7 | 12467 | 12569 | 12293 | 7 | —49.0 | —46.1 | —50.9 | 5 | —59.2 |
| | 150 . . . | 5 | 14264 | 14338 | 14030 | 5 | —60.8 | —59.9 | —61.4 | 1 | —66.3 |
| | 100 . . . | 4 | 16702 | 16778 | 16510 | 4 | —72.6 | —66.4 | —77.7 | — | — |
| | 70 . . . | 3 | 18816 | 18886 | 18705 | 3 | —68.7 | —61.9 | —74.3 | — | — |
| | 60 . . . | 1 | 19700 | — | — | 1 | —57.9 | — | — | — | — |
| | 50 . . . | 1 | 20825 | — | — | 1 | —55.4 | — | — | — | — |
| | 40 . . . | — | — | — | — | — | — | — | — | — | — |
| | 30 . . . | — | — | — | — | — | — | — | — | — | — |
| | 20 . . . | — | — | — | — | — | — | — | — | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | | |
| Helwan 1200 U.T. | Surface . . . | 29 | 994*m.b. | 998*m.b. | 991*m.b. | 29 | 31.6 | 36.3 | 25.2 | 29 | 10 3 |
| | 1000 . . . | 29 | 88 | 124 | 63 | — | — | — | — | — | — |
| | 850 . . . | 29 | 1513 | 1547 | 1480 | 29 | 18.6 | 23.8 | 10 0 | 29 | 0 0 |
| | 700 . . . | 29 | 3150 | 3205 | 3094 | 29 | 10.1 | 14.6 | 5.2 | 29 | —12.9 |
| | 600 . . . | 27 | 4419 | 4483 | 4368 | 27 | 2.8 | 7 0 | — 1.2 | 27 | —19.4 |
| | 500 . . . | 27 | 5872 | 5941 | 5798 | 27 | — 5.8 | 0.0 | —10.9 | 27 | —26.5 |
| | 400 . . . | 26 | 7590 | 7682 | 7473 | 26 | —16.1 | —10.6 | —23 0 | 26 | —35.1 |
| | 300 . . . | 26 | 9696 | 9832 | 9513 | 26 | —30.8 | —25.5 | —39.6 | 26 | —47 0 |
| | 250 . . . | 24 | 10968 | 11117 | 10741 | 24 | —39.3 | —34.3 | —45.2 | 24 | —53.6 |
| | 200 . . . | 23 | 12465 | 12648 | 12216 | 23 | —49 9 | —45.1 | —53.9 | 23 | —62.7 |
| | 150 . . . | 23 | 14297 | 14498 | 14036 | 23 | —62.2 | —58.5 | —65.1 | 2 | —70.2 |
| | 100 . . . | 22 | 16737 | 16936 | 16540 | 22 | —72.3 | —57.5 | —80.7 | — | — |
| | 70 . . . | 18 | 18864 | 19055 | 18704 | 18 | —66 5 | —62.0 | —72.3 | — | — |
| | 60 . . . | 14 | 19851 | 20050 | 19680 | 14 | —61.4 | —56.5 | —67 7 | — | — |
| | 50 . . . | 14 | 20953 | 21169 | 20813 | 14 | —57.7 | —53.0 | —61.9 | — | — |
| | 40 . . . | 9 | 22450 | 22730 | 22323 | 9 | —56.2 | —50.0 | —60.7 | — | — |
| | 30 . . . | 8 | 24226 | 24519 | 24098 | 8 | —51.0 | —47.0 | —53.0 | — | — |
| | 20 . . . | 7 | 26891 | 27220 | 26758 | 7 | —46.6 | —43.5 | —49.6 | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | — | — |
| Aswan 1200 UT | Surface . . . | 28 | 984*m.b. | 988*m.b. | 982*m.b. | 28 | 37.1 | 41.5 | 29.0 | 28 | 6.2 |
| | 1000 . . . | 28 | 45 | 76 | 25 | — | — | — | — | — | — |
| | 850 . . . | 28 | 1496 | 1524 | 1457 | 28 | 24.6 | 30.6 | 19.0 | 27 | — 3.2 |
| | 700 . . . | 27 | 3163 | 3207 | 3112 | 27 | 13.3 | 17.0 | 7.6 | 26 | —13.0 |
| | 600 . . . | 27 | 4436 | 4482 | 4385 | 27 | 3.7 | 8.3 | 0.2 | 26 | —19.7 |
| | 500 . . . | 27 | 5895 | 5941 | 5845 | 27 | — 4.0 | — 1.5 | — 7.8 | 26 | —27.3 |
| | 400 . . . | 25 | 7625 | 7686 | 7555 | 25 | —14.9 | —10.2 | —18.7 | 25 | —36.1 |
| | 300 . . . | 24 | 9743 | 9816 | 9650 | 24 | —29.5 | —25.0 | —32.9 | 24 | —47.4 |
| | 250 . . . | 21 | 11025 | 11106 | 10950 | 21 | —39.2 | —35.0 | —42.7 | 21 | —55.7 |
| | 200 . . . | 20 | 12522 | 12614 | 12441 | 20 | —49.9 | —45.4 | —52.8 | 20 | —64.4 |
| | 150 . . . | 19 | 14348 | 14476 | 14222 | 19 | —63.3 | —59.4 | —65.8 | 1 | —72.7 |
| | 100 . . . | 16 | 16772 | 16932 | 16644 | 16 | —75.6 | —71.3 | —78.2 | — | — |
| | 70 . . . | 15 | 18866 | 19016 | 18741 | 15 | —69.2 | —64.2 | —77.1 | — | — |
| | 60 . . . | 8 | 19856 | 20062 | 19720 | 8 | —62.4 | —61.3 | —66.3 | — | — |
| | 50 . . . | 7 | 20920 | 21087 | 20809 | 7 | —59.0 | —54.2 | —60.6 | — | — |
| | 40 . . . | 4 | 22335 | 22480 | 22150 | 4 | —55.7 | —51.3 | —58.4 | — | — |
| | 30 . . . | 2 | 24077 | 24101 | 24053 | 2 | —62.0 | —53.2 | —70.7 | — | — |
| | 20 . . . | 1 | 26920 | — | — | 1 | —53.2 | — | — | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | | |

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde stations.

## Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE, THE HIGHEST WIND SPEED IN THE UPPER AIR

### SEPTEMBER — 1970

| | Station | Freezing Level | | | | | | | | | First Tropopause | | | | | | | | | Highest wind speed | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | | | Highest | | | Lowest | | | Mean | | | Highest | | | Lowest | | | | | | |
| | | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Direction (000—360) | Speed in Knots |
| 0000 U.T. | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | Mersa Matruh (A) | 4431 (29) | 601 (29) | -16.7 (29) | 5000 | 558 | -26.7 | 3090 | 706 | - 5.3 | 16298 (12) | 108 (12) | -72.2 (12) | 16863 | 100 | -76.8 | 15400 | 122 | -65.2 | 12120 | — | 250 | 90 |
| | Helwan. . . . . | 4781 (30) | 551 (30) | -16.0 (30) | 5430 | 528 | -14.6 | 4100 | 618 | -17.6 | 16019 (17) | 113 (17) | -74.1 (17) | 17250 | 92 | -78.6 | 14460 | 142 | -67.4 | 13260 | 173 | 235 | 132 |
| | Aswan . . . (A) | 4810 (30) | 569 (30) | -17.1 (30) | 5320 | 538 | -25.1 | 3780 | 646 | -11.8 | 16145 (15) | 113 (15) | -76.3 (15) | 17180 | 93 | -79.5 | 14950 | 132 | -73.8 | 32800 | 007 | 086 | 87 |
| 1200 U.T | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | Mersa Matruh (A) | 4543 (14) | 593 (14) | -17.2 (14) | 5120 | 552 | -23.4 | 3900 | 645 | -11.0 | 16508 (4) | 104 (4) | -75.1 (4) | 16778 | 100 | -74.3 | 16260 | 109 | -70.2 | 11714 | — | 230 | 85 |
| | Helwan . . . . | 4950 (27) | 563 (27) | -21.9 (27) | 5928 | 500 | -22.7 | 4100 | 619 | -22.8 | 15715 (18) | 120 (18) | -71.4 (18) | 17500 | 91 | -77.7 | 13420 | 166 | -60.0 | 11990 | 208 | 250 | 138 |
| | Aswan . . . (A) | 5084 (27) | 555 (27) | -21.8 (27) | 5500 | 525 | -24.2 | 4560 | 590 | -26.9 | 16856 (12) | 99 (12) | -77.1 (12) | 17900 | 85 | -76.7 | 16090 | 114 | -73.4 | 10276 | — | 242 | 50 |

N = The number of cases the element has been observed during the month.

**Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.**

**MERSA MATRUH (A) SEPTEMBER — 1970**

| Time | Pressure Surface (Millibar.) | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (T N) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/164 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 5 | 10 | 2 | 4 | 1 | 8 | 0 | — | 0 | — | 2 | 9 | 1 | 10 | 1 | 5 | 7 | 6 | 1 | 10 | 1 | 6 | 6 | 11 | 2 | 29 | 8 |
| | 1000 | 6 | 13 | 4 | 9 | 2 | 6 | 1 | 16 | 0 | — | 1 | 16 | 1 | 10 | 0 | — | 0 | — | 1 | 6 | 5 | 9 | 7 | 11 | 0 | 28 | 11 |
| | 850 | 7 | 12 | 6 | 14 | 3 | 11 | 0 | — | 1 | 4 | 0 | — | 0 | — | 1 | 9 | 0 | — | 3 | 15 | 1 | 22 | 6 | 16 | 0 | 28 | 13 |
| | 700 | 5 | 17 | 3 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 14 | 1 | 3 | 2 | 34 | 8 | 16 | 7 | 15 | 0 | 28 | 16 |
| | 600 | 1 | 23 | 2 | 17 | 1 | 15 | 0 | — | 0 | — | 1 | 10 | 0 | — | 1 | 11 | 0 | — | 10 | 21 | 6 | 17 | 5 | 21 | 0 | 27 | 19 |
| | 500 | 2 | 16 | 3 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 30 | 5 | 25 | 9 | 32 | 6 | 15 | 0 | — | 0 | 26 | 24 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 17 | 7 | 38 | 12 | 31 | 2 | 20 | 2 | 26 | 0 | 24 | 32 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 44 | 11 | 44 | 6 | 52 | 0 | — | 0 | — | 0 | 19 | 47 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 10 | 54 | 3 | 50 | 0 | — | 0 | — | 0 | 13 | 54 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 6 | 41 | 0 | — | 0 | — | 0 | — | 0 | 6 | 41 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 52 | 0 | — | 0 | — | 0 | — | 0 | 4 | 54 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 23 | 0 | — | 0 | — | 0 | — | 0 | 1 | 23 |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 4 | 11 | 3 | 12 | 1 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 17 | 0 | — | 4 | 14 | 13 | 15 | 0 | 26 | 13 |
| | 1000 | 6 | 16 | 3 | 14 | 1 | 15 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 20 | 0 | — | 2 | 18 | 13 | 13 | 0 | 26 | 15 |
| | 850 | 3 | 17 | 1 | 4 | 0 | — | 1 | 9 | 0 | — | 0 | — | 0 | — | 1 | 17 | 3 | 16 | 4 | 12 | 8 | 10 | 4 | 18 | 0 | 25 | 13 |
| | 700 | 2 | 12 | 2 | 9 | 2 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 11 | 1 | 3 | 4 | 22 | 5 | 10 | 0 | 17 | 12 |
| | 600 | 1 | 9 | 0 | — | 3 | 7 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 10 | 5 | 14 | 2 | 30 | 2 | 12 | 0 | 14 | 14 |
| | 500 | 0 | — | 1 | 14 | 1 | 17 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 20 | 4 | 23 | 1 | 10 | 2 | 8 | 0 | 11 | 17 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 34 | 4 | 24 | 0 | — | 2 | 8 | 0 | 9 | 24 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 48 | 1 | 39 | 0 | — | 1 | 16 | 0 | 7 | 42 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 44 | 1 | 67 | 0 | — | 0 | — | 0 | 4 | 50 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 59 | 1 | 50 | 0 | — | 0 | — | 0 | 4 | 54 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 44 | 0 | — | 0 | — | 0 | — | 0 | 2 | 44 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 27 | 0 | — | 0 | — | 0 | — | 0 | 1 | 27 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 7 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 7 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 20 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 19 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 19 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N = number of cases the wind has been observed for all directions during the month.

TN = The number of cases the elemnet has been observed during the month.

Table B 3.(contd.)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

HELWAN — SEPTEMBER 1970

| Time | Pressure Surface (Millibar) | Wind between specified ranges of direction (000 – 360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (TN) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345 / 014 | | 015 / 044 | | 045 / 074 | | 075 / 104 | | 105 / 134 | | 135 / 164 | | 165 / 194 | | 195 / 224 | | 225 / 254 | | 255 / 284 | | 285 / 314 | | 315 / 344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 11 | 6 | 5 | 8 | 6 | 8 | 2 | 4 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 6 | 5 | 0 | 30 | 6 |
| | 1000 | 1 | 4 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 4 |
| | 850 | 7 | 16 | 8 | 24 | 2 | 22 | 1 | 24 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 13 | 1 | 13 | 4 | 13 | 6 | 16 | 0 | 30 | 18 |
| | 700 | 3 | 19 | 1 | 20 | 4 | 11 | 0 | — | 2 | 13 | 0 | — | 2 | 4 | 1 | 4 | 1 | 23 | 5 | 13 | 5 | 17 | 6 | 10 | 0 | 30 | 13 |
| | 600 | 2 | 24 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 10 | 2 | 23 | 7 | 21 | 8 | 22 | 5 | 18 | 3 | 10 | 0 | 29 | 19 |
| | 500 | 1 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 16 | 0 | — | 6 | 34 | 11 | 29 | 5 | 32 | 3 | 18 | 1 | 7 | 0 | 28 | 27 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 65 | 18 | 41 | 7 | 40 | 0 | — | 0 | — | 0 | 26 | 42 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 72 | 14 | 56 | 8 | 43 | 0 | — | 0 | — | 0 | 23 | 52 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 25 | 14 | 66 | 5 | 47 | 1 | 28 | 0 | — | 0 | 21 | 57 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 55 | 15 | 64 | 4 | 36 | 0 | — | 0 | — | 0 | 20 | 58 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 58 | 7 | 46 | 2 | 33 | 1 | 14 | 0 | — | 0 | 11 | 42 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 9 | 0 | — | 0 | — | 3 | 27 | 3 | 41 | 0 | — | 1 | 12 | 0 | — | 0 | 8 | 28 |
| | 70 | 0 | — | 0 | — | 0 | — | 1 | 23 | 1 | 17 | 1 | 31 | 1 | 48 | 1 | 32 | 0 | — | 0 | — | 1 | 2 | 0 | — | 0 | 6 | 26 |
| | 60 | 0 | — | 0 | — | 0 | — | 2 | 26 | 1 | 14 | 3 | 34 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 6 | 28 |
| | 50 | 0 | — | 0 | — | 0 | — | 4 | 33 | 2 | 36 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 6 | 34 |
| | 40 | 0 | — | 0 | — | 0 | — | 3 | 53 | 1 | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 4 | 50 |
| | 30 | 0 | — | 0 | — | 1 | 34 | 2 | 42 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 3 | 39 |
| | 20 | 0 | — | 0 | — | 0 | — | 2 | 31 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 31 |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 9 | 8 | 5 | 10 | 1 | 13 | 1 | 4 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 4 | 3 | 9 | 7 | 7 | 0 | 29 | 8 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 8 | 14 | 8 | 12 | 5 | 23 | 1 | 14 | 0 | — | 0 | — | 0 | — | 2 | 5 | 0 | — | 1 | 2 | 2 | 28 | 2 | 9 | 0 | 29 | 15 |
| | 700 | 1 | 9 | 0 | — | 1 | 15 | 0 | — | 1 | 12 | 0 | — | 1 | 4 | 3 | 6 | 5 | 15 | 6 | 22 | 3 | 14 | 6 | 15 | 0 | 27 | 15 |
| | 600 | 1 | 11 | 0 | — | 0 | — | 1 | 14 | 0 | — | 0 | — | 1 | 3 | 4 | 17 | 10 | 26 | 6 | 25 | 2 | 10 | 2 | 14 | 0 | 27 | 20 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 26 | 11 | 30 | 9 | 31 | 2 | 16 | 0 | — | 0 | 26 | 29 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 40 | 12 | 41 | 9 | 48 | 0 | — | 0 | — | 0 | 23 | 43 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 44 | 13 | 58 | 8 | 49 | 0 | — | 0 | — | 0 | 22 | 54 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 38 | 17 | 57 | 4 | 49 | 0 | — | 0 | — | 0 | 22 | 55 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 13 | 63 | 3 | 33 | 2 | 22 | 0 | — | 0 | 18 | 54 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 11 | 1 | 72 | 9 | 57 | 4 | 38 | 2 | 11 | 0 | — | 0 | 17 | 45 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 1 | 0 | — | 2 | 34 | 1 | 17 | 1 | 34 | 1 | 14 | 0 | — | 1 | 15 | 0 | 7 | 21 |
| | 70 | 1 | 11 | 0 | — | 0 | — | 2 | 53 | 1 | 26 | 0 | — | 1 | 10 | 0 | — | 1 | 34 | 0 | — | 0 | — | 0 | — | 0 | 6 | 22 |
| | 60 | 0 | — | 0 | — | 0 | — | 2 | 40 | 1 | 18 | 0 | — | 1 | 40 | 0 | — | 1 | 23 | 0 | — | 0 | — | 0 | — | 0 | 5 | 32 |
| | 50 | 0 | — | 0 | — | 0 | — | 2 | 32 | 1 | 16 | 0 | — | 1 | 25 | 0 | — | 1 | 30 | 0 | — | 0 | — | 0 | — | 0 | 5 | 27 |
| | 40 | 0 | — | 0 | — | 0 | — | 3 | 46 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 30 | 0 | — | 0 | — | 0 | 4 | 30 |
| | 30 | 0 | — | 0 | — | 0 | — | 3 | 38 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 3 | 38 |
| | 20 | — | — | 0 | — | 0 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N — The number of cases the wind has been observed during the month.

TN — The total number of cases the wind has been observed for all directions during the month.

**Table B.3.(*contd*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.**

**ASWAN (A) — SEPTEMBER 1970**

| Time | Pressure Surface (Millibar.) | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (T N) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 13 | 9 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 24 | 12 | 10 | 0 | 30 | 9 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 7 | 10 | 1 | 17 | 2 | 12 | 3 | 9 | 2 | 8 | 0 | — | 1 | 4 | 0 | — | 1 | 8 | 1 | 7 | 9 | 8 | 2 | 8 | 0 | 29 | 9 |
| | 700 | 2 | 12 | 2 | 8 | 1 | 10 | 1 | 8 | 0 | — | 0 | — | 0 | — | 4 | 16 | 10 | 17 | 6 | 17 | 3 | 7 | 0 | — | 0 | 29 | 14 |
| | 600 | 0 | — | 1 | 10 | 0 | — | 0 | — | 1 | 3 | 1 | 12 | 1 | 19 | 7 | 21 | 11 | 17 | 4 | 13 | 1 | 8 | 2 | 6 | 0 | 29 | 16 |
| | 500 | 0 | — | 0 | — | 1 | 6 | 0 | — | 3 | 4 | 7 | 10 | 4 | 8 | 2 | 10 | 5 | 13 | 7 | 14 | 0 | — | 0 | — | 0 | 29 | 10 |
| | 400 | 1 | 7 | 0 | — | 1 | 4 | 2 | 10 | 0 | — | 1 | 19 | 9 | 13 | 8 | 11 | 4 | 17 | 1 | 6 | 0 | — | 2 | 5 | 0 | 29 | 12 |
| | 300 | 1 | 3 | 0 | — | 1 | 15 | 1 | 13 | 2 | 8 | 0 | — | 4 | 12 | 9 | 17 | 6 | 18 | 2 | 7 | 2 | 8 | 0 | — | 0 | 28 | 14 |
| | 250 | 0 | — | 1 | 5 | 3 | 8 | 1 | 12 | 4 | 10 | 2 | 10 | 5 | 23 | 6 | 18 | 4 | 14 | 0 | — | 0 | — | 0 | — | 0 | 26 | 14 |
| | 200 | 0 | — | 1 | 9 | 0 | — | 2 | 24 | 3 | 18 | 3 | 13 | 9 | 18 | 5 | 21 | 3 | 21 | 0 | — | 0 | — | 0 | — | 0 | 26 | 18 |
| | 150 | 0 | — | 0 | — | 0 | — | 2 | 25 | 6 | 22 | 5 | 24 | 6 | 26 | 2 | 14 | 1 | 20 | 0 | — | 0 | — | 0 | — | 0 | 22 | 23 |
| | 100 | 0 | — | 0 | — | 0 | — | 3 | 28 | 9 | 30 | 4 | 22 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 16 | 28 |
| | 70 | 0 | — | 0 | — | 1 | 32 | 4 | 23 | 5 | 23 | 1 | 24 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 11 | 24 |
| | 60 | 0 | — | 0 | — | 0 | — | 10 | 24 | 1 | 35 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 11 | 25 |
| | 50 | 0 | — | 0 | — | 2 | 22 | 9 | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 11 | 28 |
| | 40 | 0 | — | 0 | — | 0 | — | 8 | 31 | 1 | 17 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 9 | 29 |
| | 30 | 0 | — | 0 | — | 1 | 35 | 4 | 38 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 38 |
| | 20 | 0 | — | 0 | — | 1 | 54 | 2 | 58 | 2 | 41 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 5 | 50 |
| | 10 | 0 | — | 0 | — | 0 | — | 1 | 53 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 53 |
| 1200 U.T. | Surface | 15 | 10 | 1 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 6 | 8 | 7 | 0 | 28 | 9 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 2 | 14 | 1 | 7 | 0 | — | 3 | 7 | 1 | 5 | 1 | 20 | 0 | — | 1 | 3 | 1 | 13 | 4 | 7 | 6 | 9 | 8 | 11 | 0 | 28 | 10 |
| | 700 | 2 | 6 | 0 | — | 1 | 4 | 0 | — | 1 | 2 | 1 | 7 | 1 | 18 | 5 | 18 | 11 | 19 | 4 | 22 | 1 | 11 | 0 | — | 0 | 27 | 16 |
| | 600 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 11 | 10 | 14 | 8 | 19 | 5 | 19 | 1 | 13 | 1 | 8 | 0 | 27 | 16 |
| | 500 | 1 | 25 | 0 | — | 1 | 4 | 0 | — | 3 | 9 | 2 | 7 | 5 | 9 | 8 | 11 | 4 | 12 | 2 | 7 | 0 | — | 0 | — | 0 | 26 | 11 |
| | 400 | 0 | — | 0 | — | 2 | 8 | 2 | 12 | 3 | 11 | 4 | 10 | 2 | 14 | 5 | 17 | 6 | 14 | 1 | 3 | 0 | — | 0 | — | 0 | 25 | 12 |
| | 300 | 0 | — | 1 | 14 | 1 | 14 | 0 | — | 2 | 8 | 5 | 11 | 6 | 9 | 5 | 19 | 4 | 24 | 0 | — | 0 | — | 0 | — | 0 | 24 | 15 |
| | 250 | 0 | — | 0 | — | 0 | — | 2 | 12 | 3 | 10 | 3 | 12 | 5 | 16 | 5 | 13 | 2 | 28 | 1 | 5 | 0 | — | 0 | — | 0 | 21 | 14 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 7 | 19 | 2 | 16 | 6 | 21 | 2 | 24 | 0 | — | 2 | 22 | 0 | — | 0 | — | 0 | 19 | 20 |
| | 150 | 0 | — | 0 | — | 0 | — | 2 | 22 | 5 | 21 | 5 | 28 | 4 | 19 | 2 | 18 | 0 | — | 1 | 29 | 0 | — | 0 | — | 0 | 19 | 23 |
| | 100 | 0 | — | 0 | — | 0 | — | 2 | 37 | 9 | 27 | 3 | 24 | 0 | — | 0 | — | 0 | — | 1 | 26 | 0 | — | 0 | — | 0 | 15 | 28 |
| | 70 | 0 | — | 0 | — | 1 | 10 | 5 | 32 | 6 | 29 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 12 | 29 |
| | 60 | 0 | — | 0 | — | 0 | — | 5 | 28 | 3 | 35 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 8 | 31 |
| | 50 | 0 | — | 0 | — | 0 | — | 3 | 33 | 1 | 42 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 4 | 35 |
| | 40 | 0 | — | 0 | — | 1 | 2 | 1 | 29 | 1 | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 3 | 24 |
| | 30 | 0 | — | 0 | — | 0 | — | 1 | 43 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 43 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N — The number of cases the element has been observed during the month.

TN — The total number of cases the wind has been observed for all directions during the month.

# REVIEW OF AGRO-METEOROLOGICAL STATIONS

## MERSA MATRUH — SEPTEMBER 1970

For the month as a whole the mean daily values of air temperature and relative humidity were about normal.

The prevailing weather during this month was generally mild, apart from a pronounced heat wave on the 21st & 22nd and cold spell on the 29th & 30th. The heat wave yielded the highest maximum air temperature for the month (38.2°C) and the lowest value of relative humidity (20%) on the 22nd. The cold spell yielded the lowest maximum air temperature (22.8°C) on the 30th.

The extreme maximum soil temperatures were lower than the corresponding values of last September at all depths between 2 & 100 cm, apart from the 50 cm. depth where the value was slightly higher (0.1°C); the departures varied between 3.5°C at 2 cm. and 0.3°C at 100 cm. The extreme minimum soil temperature were lower than the corresponding values of last September at all depths, and the departures varied between 2.2°C at 2 cm. and 0.3°C at both 5 & 10 cm.

The daily mean values of wind speed at $1^1/_2$m. and actual duration of bright sunshine were more than the corresponding values of September 1969 by 0.5 m/sec. and 0.1 hour respectively.

## TAHRIR — SEPTEMBER 1970

For the month as a whole the mean daily values of air temperature and relative humidity were about average.

The month was characterized by a heat wave during the period (21st—24th) and a cold spell during the period (28th—30th). The heat wave yielded the highest maximum air temperature for the month (37.4°C) on the 22nd. The cold spell yielded the lowest maximum air temperature (25.7°C) on the 30th. During the rest of the month maximum air temperatures were slightly round average.

The extreme maximum soil temperatures were lower than the corresponding values of last September at all depths between 2 & 50 cm.; the depa rtures varied between 1.2°C at 2 cm. and 0.2°C at 50 cm. At 100 cm. depth the value was the same as last September. The extreme minimum soil temperatures were lower than the corresponding values of last September at all depths between 2 & 100 cm. ; the departures varied between 2.7°C at 2 cm. and 0.5°C at 100 cm.

The daily mean actual duration of bright sunshine was 0.4 hour more than the corresponding value of September 1969. The daily mean values of wind speed at $1^1/_2$ m. and Pan evaporation were less than the corresponding values of September 1969. by 0.1 m./sec. and 0.74 mm. respectively.

## BAHTIM — SEPTEMBER 1970

For the month as a whole the daily mean values of air temperature and relative humidity were slightly less than the corresponding values of last September.

The prevailing weather was generally mild and maximum air temperatures varied only slightly from average during the first two thirds of the month. A heat wave was experienced during the period (21st—25th) and a cold spell during the period (28th—30th). The heat wave yielded the highest maximum air temperature for the month (36.8°C) and the lowest relative humidity (21%) on the 22nd. The cold spell yielded the lowest maximum air temperature (26.9°C) on the 30th.

The extreme maximum soil temperatures were lower than the corresponding values of last September at depths between 2 & 20 cm.; the departures varied between 1.5°C at 5 cm. and 0.6°C at 20 cm. At 50cm. depth the extreme maximum soil temperature was the same as last September, and at 100 cm. it was slightly higher (0.2°C). The extreme minimum soil temperatures were lower than the corresponding values of last September at depths between 2 & 50 cm., the departures varied between 3.5°C at 2 cm. and 0.4°C at 50 cm. At 100 cm. depth the value was slightly higher (0.1°C).

The daily mean wind speed at $1^1/_2$ meter. was slightly less than the corresponding value of September 1969. (0.2 m./sec.). The daily mean values of actual duration of bright sunshine and Pan evaporation were slightly more than the corresponding values of September 1969. (0.2 hour and 0.01 mm. respectively).

## KHARGA — SEPTEMBER 1970

For the month as a whole the daily mean air temperature was slightly above normal.

The month was characterized by two heat waves during the periods (1st—2nd) and (22nd—26th) and a cold spell on the 29th & 30th. The first heat wave yielded the highest maximum air temperature (42.6°C) on the 2nd, and the second heat wave yielded the lowest relative humidity (8%) on the 25th. The cold spell was associated with the lowest maximum air temperature (28.6°C) on the 30th.

The extreme maximum soil temperatures were lower than the corresponding values of last September at all depths ; the departures ranged between 1.7°C at 2 cm. & 0.2°C at 100 cm. The extreme minimum soil temperatures were also lower than the corresponding values of last September at all depths; the departures varied between 3.6°C at 2 cm. and 0.7°C at 100 cm.

The daily mean actual duration of bright sunshine was 0.4 hour more than the corresponding value of September 1969. The daily mean values of wind speed at $1^1/_2$ m. and Pan evaporation were less than the corresponding values of September 1969 by 0.4 m./sec. and 4.11 mm. respectively.

## Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

### SEPTEMBER — 1970

| STATION | Air Temperature (°C) | | | | | Mean Duration in hours of daily air temperature above the following values | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean Max. | Mean Min. | Mean of the day | Night time mean | Day time mean | -5°C | 0°C | 5°C | 10°C | 15°C | 20°C | 25°C | 30°C | 35°C | 40°C | 45°C |
| Mersa Matruh. . | 28.6 | 19.9 | 24.2 | 22.3 | 26.2 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 21.0 | 9.2 | 0.4 | 0.1 | 0 | 0 |
| Tahrir . . . . . | 33.1 | 18.0 | 24.6 | 21.1 | 28.3 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 18.6 | 9.8 | 4.3 | 0.2 | 0 | 0 |
| Bahtim . . . . . | 32.7 | 16.7 | 24.2 | 20.2 | 28.3 | 24.0 | 24.0 | 24.0 | 24.0 | 23.9 | 17.2 | 10.1 | 4.3 | 0.1 | 0 | 0 |
| Kharga . . . . | 36.9 | 21.2 | 29.4 | 26.4 | 32.7 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 22.9 | 18.4 | 10.7 | 3.7 | 0.3 | 0 |

## Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS

### SEPTEMBER — 1970

| STATION | Max. Temp. at 1½ metres | | | | Min. Temp. at 1½ metres | | | | Min. Temp. at 5 cms. above | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | | Lowest | | Highest | | Lowest | | Dry Soil | | Grass | |
| | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date |
| Mersa Matruh. . | 38.2 | 22 | 22.8 | 30 | 23.4 | 3 | 16.9 | 21 | 13.9 | 21 | — | — |
| Tahrir . . . . . | 37.4 | 22 | 25.7 | 30 | 21.0 | 24 | 13.7 | 30 | 13.8 | 16 | — | — |
| Bahtim . . . . | 36.8 | 22 | 26.9 | 20 | 19.3 | 24 | 13.2 | 30 | 11.5 | 28 | — | — |
| Kharga . . . . . | 42.6 | 2 | 28.6 | 30 | 28.0 | 2 | 16.1 | 22 | 13.7 | 22 | — | — |

## Table C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY & VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVPORATION & RAINFALL

### SEPTEMBER — 1970

| STATION | Solar+Sky Radiation gm. cal/cm² | Duration of Bright Sunshine (hours) | | | Relative Humidity % | | | | Vapour Pressure (mms) | | | | | | Evaporation (mms) | | Rainfall (mms) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Actual | Total Possible monthly | % | Mean of day | 1200 U.T. | Lowest | Date | Mean of day | 1200 UT | Highest | Date | Lowest | Date | Piche | Pan class (A) | Total Amount monthly | Max. fall in one day | Date |
| Mersa Matruh. . | 486.2 | 318.0 | 371.2 | 85 | 68 | 58 | 20 | 22 | 15.3 | 15.8 | 20.2 | 23 | 8.5 | 30 | 9.2 | 11.13 | 1.0 | 0.7 | 27 |
| Tahrir . . . . . | 444.8 | 327.3 | 370.8 | 88 | 69 | 38 | 18 | 13 | 15.4 | 13.2 | 20.6 | 24 | 7.6 | 13 | 7.4 | 8.08 | 0.0 | 0.0 | — |
| Bahtim . . . . . | 469.5 | 316.1 | 370.8 | 85 | 67 | 37 | 21 | 22 | 14.4 | 12.7 | 19.8 | 24 | 8.9 | 30 | 8.1 | 8.54 | 0.0 | 0.0 | — |
| Kharga . . . . . | 515.9 | 342.8 | 369.2 | 93 | 28 | 19 | 8 | 25 | 8.3 | 8.2 | 15.0 | 19 | 4.1 | 13 | 20.7 | 16.82 | 0.0 | 0.0 | — |

## Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

### SEPTEMBER — 1970

| STATION | Highest (H) Lowest (L) | Extreme soil temperature (°C) in dry field at different depths (cms.) | | | | | | | | Extreme soil temperature (°C) in grass field at different depths (cms.) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 |
| Mersa Matruh. | H | 40.0 | 37.9 | 33 2 | 29.8 | 28.8 | 27.0 | 25.4 | — | — | — | — | — | — | — | — | — |
| | L | 20.9 | 21.9 | 23.2 | 25.4 | 26.8 | 26.1 | 24.4 | — | — | — | — | — | — | — | — | — |
| Tahrir . . . . | H | 50 2 | 44.4 | 39.4 | 34 8 | 31.4 | 30.6 | 28.9 | 28 0 | — | — | — | — | — | — | — | — |
| | L | 23.2 | 22.2 | 23.0 | 26.4 | 28.4 | 29.3 | 28 6 | 27.9 | — | — | — | — | — | — | — | — |
| Bahtim. . . . | H | 49.7 | 42.4 | 37.4 | 34.1 | 32 1 | 30.9 | 28.5 | 26.5 | — | — | — | — | — | — | — | — |
| | L | 22.9 | 23.6 | 25.5 | 29.2 | 30.3 | 30.3 | 28.2 | 26.2 | — | — | — | — | — | — | — | — |
| Kharga . . . . | H | 52.0 | 46.1 | 40.7 | 35.8 | 34.3 | 33.2 | 31.2 | 30.1 | — | — | — | — | — | — | — | — |
| | L | 19.9 | 23.5 | 26.7 | 30.2 | 32.0 | 32.4 | 31.1 | 29.8 | — | — | — | — | — | — | — | — |

## Table C 5.—SURFACE WIND

### SEPTEMBER — 1970

| STATION | Wind Speed m/sec at 1½ metres | | | Days with surface wind speed at 10 metres | | | | | | | Max. Gust (knots at 10 metres) | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean of the day | Night time mean | Day time mean | ≥10 knots | ≥15 knots | ≥20 konts | ≥25 knots | ≥30 knots | ≥35 knots | ≥40 knots | value | Date |
| Mersa Matruh. | 4.0 | 2.9 | 5.0 | 30 | 21 | 9 | 2 | 1 | 0 | 0 | 39 | 29 |
| Tahrir . . . . | 2.0 | 1.2 | 2.8 | 29 | 8 | 1 | 0 | 0 | 0 | 0 | 26 | 29 |
| Bahtim . . . . | 1.8 | 2.6 | 1.0 | 24 | 8 | 0 | 0 | 0 | 0 | 0 | 25 | 29,30 |
| Kharga . . . . | 4.1 | 3.1 | 5.1 | 29 | 21 | 8 | 3 | 1 | 0 | 0 | 34 | 28 |

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THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 10

## OCTOBER, 1970

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

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In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

## THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968, this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

## THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

## THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

## THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

## CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

## METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

## TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 10

## OCTOBER, 1970

U.D.C. 551. 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

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*Note* : For explanatory notes on tables please refer to Volume 13, Number 1 (January 1970).

# GENERAL SUMMARY OF WEATHER CONDITIONS

## OCTOBER 1970

**Generally mild characterized by an excessive heat wave between the 18th and 25th. A record for daily rainfall at Alexandria on the 12th and Ras-El-Teen on the 13th.**

### GENERAL DESCRIPTION OF WEATHER

The prevailing weather this month was generally mild in the northern & middle parts and rather hot in the southern parts. Two heat waves were experienced in the periods (4th, 5th) & (18th — 25th). The second heat wave was of long duration and dry, reached its peak round the 21st.

Rain was confined to the northern parts where light rain fell on the 12th, 13th, & 27th. Rain was locally heavy and associated with thunderstorms over few coastal localities on the 12th & 13th.

Early morning low clouds developed frequently over Cairo, Delta areas. Light rising sand was reported during several days in few scattered localities.

### PRESSURE DISTRIBUTION

This month started with the Altlantic anticyclone extending southeastwards through the Mediterranean, a deep depression over North Europe associated with a secondary over Italy and the monsoon low pressure over Sudan & Arabia. The secondary depression over Italy proceeded eastwards and filled up east of Greece on the 3rd when a second depression developed over Italy. It moved to Greece on the 4th with its trough over East Mediterranean area, then it proceeded northeastwards while filling.

From the 5th till the 16th high pressure extending from the Atlantic or the local anticyclone north of the Black Sea established over the Mediterranean area. This high pressure was interrupted by the northward elongation of the Sudan trough towards the SE corner of the Mediterranean sea, where a secondary depression developed on the 11th and moved eastwards while filling on the 13th.

During the second half of the month, three Mediterranean depressions and three northward elongations of the Sudan trough were distinguished.

The first Mediterranean disturbance started on the 17th when a trough appeared south of Italy. It moved slowly eastwards, while the Sudan trough showed a northward elongation on the 19th & 20th. On the 21st a shallow low formed south of Crete and filled up the next day over East Mediterranean.

The second Mediterranean depression appeared over Italy on the 21st. It moved slowly eastwards till the 23rd, and then northeastwards to the Black Sea on the 24th, while the Sudan trough experienced a pronounced northward elongation. On the 25th a secondary depression developed south of Greece which moved to Cyprus on the 26th and then moved eastwards while filling.

The Sudan trough showed the last northward elongation in the last three days of the month in association with the eastward transit of a deep depression north of the Black & Caspian seas.

The barometric pressure over Egypt experienced consecutive falls by the above mentioned transits of depressions through East Mediterranean and northward elongations of the Sudan trough and reached minima below normal round the 4th, 12th, 21st

& 25th. Otherwise high pressure established over the Mediterranean, and barometric pressure over Egypt was above normal most of the month.

In the upper levels, the important feature in the middle latitudes was the transits of three scondary upper troughs through East Mediterranean on the 6th, 13th & 27th.

### SURFACE WIND

Light to moderate Nly and NWly winds prevailed most of this month in general. Winds became fresh to strong during several days in few scattered localities, mainly in Mediterranean & Red Sea· districts.

### TEMPERATURE

Maximum air temperature was above normal during the two heat waves which prevailed in the periods (4th—5th) & (18th—25th). The departures from normal were appreciable during the second heat wave in particular. Otherwise, maximum air temperatures were below normal and the departures were moderate in general.

Maximum air temperature values ranged most of the month between 23°C & 28°C in the northern parts, between 26th & 32°C in the middle parts and between 32°C & 38°C in the southern parts.

The absolute maximum air temperature was 42.5°C reported at Kena on the 22nd.

Minimum air temperature fluctuations were irregular. In the northern parts it oscillated round normal. In the middle and southern parts it was mostly above normal during the heat waves and below normal otherwise. The departures from normal were moderate in general.

Minimum air temperature values ranged most of the month between 13°C & 22°C.

Th absolute minimum air temperature was 7.8.°C reported at Siwa on the 28th.

### PRECIPITATION

Light rain fell over scattered localities in the northern parts on the 12th, 13th, 27th. Rain was heavy and associated with thunderstorms on the 12th & 13th over few localities in the Mediterranean district. The daily rainfall attainded a record (39.omm.) over Alexandria on the 12th and (55.2 mm) over Ras El-Teen on th 13th.

The maximum daily rainfall was 55.2 mm. reported at Ras El-Teen on the 13th.

The maximum monthly rainfall was 59.7 mm. reported at Ras El-Teen.

*Cairo, May 1972*

**Chairman (M.F. TAHA)**

***Board of Directors***

## SURFACE DATA

### Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

### OCTOBER — 1970

| STATION | Atmospheric Pressure (mbs) M.S.L. | | Air Temperature °C | | | | | | | | | Relative Humidity % | | Bright Sunshine Duration (Hours) | | | Piche Evap. nation mms |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Maximum | | Minimum | | | Dry Bulb | | Wet Bulb | | | | | | | |
| | Mean | D.F. Normal or Average | (A) Mean | D.F. Normal or Average | (B) Mean | D.F. Normal or Average | $\frac{A+B}{2}$ | Mean | D.F. Normal or Average | Mean | D.F. Normal or Average | Mean | D.F. Normal or Average | Total Actual | Total Possible | % | Mean |
| Sallum. . . . . | 1016.4 | +0.2 | 26.3 | —1.1 | 17.2 | —0.7 | 21.8 | 21.5 | —1.1 | 16.2 | —2.0 | 55 | —9 | — | — | — | 7.6 |
| Mersa Matruh (A) | 1016.9 | +0.5 | 25.7 | —1.3 | 17.0 | +0.1 | 21.3 | 20.8 | —0.9 | 16.3 | —1.5 | 60 | —6 | 288.5 | 353.9 | 82 | 10.4 |
| Alexandria . (A) | 1016.3 | +0.5 | 26.4 | —1.4 | 16.4 | —1.3 | 21.4 | 21.2 | —1.5 | 16.8 | —2.0 | 62 | —6 | 291.1 | 354.2 | 82 | 6.5 |
| Port Said.. . (A) | 1014.9 | —0.2 | 27.2 | —0.1 | 18.6 | —3.2 | 22.9 | 22.4 | —1.7 | 18.2 | —2.1 | 65 | —4 | 300.2 | 354.2 | 85 | 5.3 |
| El Arish. . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta. . . . . | 1015.5 | +0.1 | 28.9 | —1.2 | 13.4 | —2.1 | 21.2 | 20.3 | —1.8 | 16.0 | —2.0 | 62 | —3 | 301.9 | 354.5 | 85 | 4.7 |
| Cairo. . . . (A) | 1015.4 | +0.2 | 28.7 | —1.2 | 16.4 | —1.4 | 22.6 | 22.2 | —1.3 | 16.2 | —2.0 | 51 | —7 | — | — | — | 14.0 |
| Fayoum. . . . . | — | — | 30.5 | —0.9 | 14.6 | —2.7 | 22.6 | 22.2 | —1.9 | 16.4 | —1.6 | 53 | +1 | — | — | — | 6.3 |
| Minya. . . . (A) | 1014.6 | +0.4 | 30.4 | —1.0 | 14.0 | —1.6 | 22.2 | 21.8 | —1.4 | 15.2 | —2.3 | 45 | —10 | 327.9 | 356.6 | 92 | 10.4 |
| Assyout. . . (A) | 1013.8 | +0.2 | 31.1 | 0.0 | 15.2 | —2.8 | 23.2 | 22.7 | —1.7 | 14.9 | —2.4 | 39 | —7 | — | — | — | 15.0 |
| Luxor. . . . (A) | 1012.0 | +0.2 | 34.6 | —0.5 | 16.1 | —1.5 | 25.4 | 24.9 | 0.0 | 16.4 | —1.5 | 37 | —2 | — | — | — | 9.5 |
| Aswan. . . . (A) | 1011.4 | +0.2 | 35.4 | —1.5 | 18.6 | —0.8 | 27.0 | 26.5 | —1.7 | 14.9 | —0.9 | 22 | +2 | — | — | — | 20.6 |
| Siwa. . . . . | 1016.0 | 0.0 | 29.6 | —2.0 | 13.2 | —1.7 | 21.4 | 21.2 | —1.9 | 13.7 | —2.3 | 38 | —6 | 326.4 | 355.8 | 92 | 9.4 |
| Bahariya. . . . . | 1015.3 | +0.8 | 30.6 | —0.5 | 15.3 | —0.7 | 23.0 | 22.7 | —1.1 | 15.2 | —1.4 | 41 | —8 | — | — | — | 7.9 |
| Farafra. . . . . | 1017.0 | +0.8 | 29.4 | —1.9 | 13.6 | —1.8 | 21.5 | 21.4 | —1.8 | 13.9 | —0.9 | 38 | +2 | — | — | — | 12.6 |
| Dakhla . . . . . | 1014.9 | +2.0 | 30.8 | —1.4 | 14.2 | —2.9 | 22.5 | 22.2 | —2.5 | 13.8 | —1.3 | 34 | +4 | — | — | — | 16.9 |
| Kharga . . . . | 1013.6 | +0.7 | 32.2 | —1.9 | 17.4 | —1.0 | 24.8 | 25.0 | —0.7 | 14.6 | —1.6 | 31 | —2 | 336.6 | 359.1 | 94 | 17.3 |
| Tor . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada . . . . | 1012.4 | +0.3 | 28.6 | —0.2 | 19.0 | —0.8 | 23.8 | 24.1 | —0.8 | 17.4 | —1.8 | 48 | —8 | — | — | — | 13.8 |
| Quseir . . . . . | 1012.1 | —0.1 | 28.2 | —1.9 | 21.5 | —1.3 | 24.8 | 25.2 | —0.7 | 18.9 | —0.7 | 52 | —1 | — | — | — | 15.3 |

## Table A 2.—MAXIMUM AND MINIMUM AIR TEMPERATURES

### OCTOBER — 1970

| Station | Maximum Temperature °C | | | | | | | | | Grass Min. Temp. | | Minimum Temperature °C | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | Date | Lowest | Date | No. of Days with Max-Temp. | | | | | Mean | Dev. From Normal | Highest | Date | Lowest | Date | No. of Days with Min. Temp. | | | |
| | | | | | >25 | >30 | >35 | >40 | >45 | | | | | | | <10 | <5 | <0 | <-5 |
| Sallum | 34.5 | 21 | 21.9 | 26 | 18 | 5 | 0 | 0 | 0 | 16.1 | — | 20.9 | 3 | 13.0 | 28 | 0 | 0 | 0 | 0 |
| Mersa Matruh | 32·8 | 3 | 21.8 | 26 | 15 | 2 | 0 | 0 | 0 | 15.5 | — | 20.6 | 9 | 13.4 | 23 | 0 | 0 | 0 | 0 |
| Alexandri (A) | 34.8 | 21 | 22.5 | 27,28 | 19 | 4 | 0 | 0 | 0 | 14.3 | — | 20.0 | 21 | 13.3 | 3,24 | 0 | 0 | 0 | 0 |
| Port Said (A) | 31.3 | 4 | 24.0 | 27 | 27 | 2 | 0 | 0 | 0 | 18.1 | — | 20.9 | 21 | 15.7 | 27 | 0 | 0 | 0 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 38.0 | 21 | 23.3 | 27 | 28 | 9 | 2 | 0 | 0 | — | — | 18.0 | 21 | 10.7 | 31 | 0 | 0 | 0 | 0 |
| Cairo (A) | 38.2 | 21 | 23.6 | 28 | 27 | 7 | 2 | 0 | 0 | — | — | 22.1 | 21 | 12.6 | 28 | 0 | 0 | 0 | 0 |
| Fayoum | 38.5 | 22 | 25.0 | 26 | 30 | 14 | 3 | 0 | 0 | 11.2 | — | 18.1 | 26 | 10.7 | 27 | 0 | 0 | 0 | 0 |
| Minya (A) | 39.5 | 21 | 24.6 | 27 | 29 | 13 | 4 | 0 | 0 | 12.7 | — | 19.0 | 6 | 11.4 | 29 | 0 | 0 | 0 | 0 |
| Assyout (A) | 41.0 | 21 | 24.2 | 27 | 29 | 15 | 7 | 2 | 0 | 12.9 | — | 20.7 | 21 | 11.5 | 29 | 0 | 0 | 0 | 0 |
| Luxor (A) | 42.0 | 21 | 28.6 | 27 | 31 | 28 | 15 | 2 | 0 | 12.2 | — | 21.0 | 21 | 10.9 | 28 | 0 | 0 | 0 | 0 |
| Aswan (A) | 42.4 | 20 | 28.4 | 27 | 31 | 29 | 17 | 3 | 0 | — | — | 23.5 | 20 | 15.0 | 14,15 | 0 | 0 | 0 | 0 |
| Siwa | 38.0 | 24 | 22.4 | 27 | 25 | 11 | 4 | 0 | 0 | 11.9 | — | 18.4 | 4 | 7.8 | 28 | 3 | 0 | 0 | 0 |
| Bahariya | 41.2 | 21 | 23.9 | 26 | 29 | 14 | 8 | 2 | 0 | 13.4 | — | 20.9 | 5 | 10.4 | 28 | 0 | 0 | 0 | 0 |
| Farafra | 40.3 | 21 | 22.6 | 28 | 25 | 9 | 5 | 1 | 0 | 13.0 | — | 18.7 | 5 | 9.7 | 14 | 2 | 0 | 0 | 0 |
| Dakhla | 41.4 | 21 | 23.2 | 27 | 26 | 13 | 7 | 2 | 0 | 13.9 | — | 20.0 | 23 | 9.8 | 15 | 1 | 0 | 0 | 0 |
| Kharga | 42.2 | 21 | 25.0 | 27 | 30 | 20 | 9 | 2 | 0 | 15.0 | — | 26.9 | 23 | 11.2 | 13 | 0 | 0 | 0 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 33.2 | 21 | 25.4 | 28 | 31 | 5 | 0 | 0 | 0 | — | — | 22.0 | 23 | 16.6 | 16.19 | 0 | 0 | 0 | 0 |
| Quseir | 32.3 | 22 | 25.8 | 28 | 31 | 5 | 0 | 0 | 0 | 19.0 | — | 24.4 | 23 | 18.8 | 26 | 0 | 0 | 0 | 0 |

## Table A 3.—SKY COVER AND RAINFALL

### OCTOBER — 1970

| Station | Mean Sky Cover Oct. | | | | | Rainfall mms. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 00 U.T. | 06 U.T. | 12 U.T. | 18 U.T. | [Daily Mean | Total Amount | Dev. From Normal | Max. Fall in one day | | Number of Days with Amount of Rain | | | | | | |
| | | | | | | | | Amount | Date | <0.1 | ≥0.1 | ≥1.0 | ≥5.0 | ≥10 | ≥25 | ≥50 |
| Sallum | 3.5 | 3.1 | 4.1 | 1.8 | 3.0 | 3.6 | —13.5 | 2.0 | 11 | 0 | 4 | 1 | 0 | 0 | 0 | 0 |
| Mersa Matruh (A) | 1.9 | 3.4 | 3.1 | 2.2 | 2.7 | 5.8 | —10.4 | 5.0 | 11 | 0 | 3 | 1 | 1 | 0 | 0 | 0 |
| Alexandria (A) | 3.7 | 3.9 | 3.6 | 2.9 | 3.5 | 41.6 | +32.4 | 39.0 | 12 | 0 | 3 | 2 | 1 | 1 | 1 | 0 |
| Port Said (A) | 2.1 | 2.3 | 1.3 | 1.2 | 1.8 | 4.0 | — 3.0 | 4.0 | 11 | 1 | 1 | 1 | 0 | 0 | 0 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 0.7 | 1.6 | 2.1 | 0.4 | 1.2 | 3.4 | —1.0 | 2.8 | — | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| Cairo (A) | 0.8 | 1.4 | 2.0 | 0.7 | 1.3 | 0.0 | —0.8 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fayoum | — | 0.6 | 0.9 | 0.6 | — | 0.0 | —0.9 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minya (A) | 0.0 | 0.4 | 0.4 | 0.1 | 0.2 | 0.0 | —0.6 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Assyout (A) | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | —Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Luxor (A) | 0.1 | 0.2 | 0.2 | 0.0 | 0.1 | 0.0 | —0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aswan (A) | 0.0 | 1.6 | 3.2 | 0.1 | 1.2 | 0.0 | —Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Siwa | 0.7 | 0.8 | 2.5 | 0.5 | 1.0 | 0.0 | —0.3 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bahariya | 0.2 | 0.3 | 0.7 | 0.2 | 0.4 | 0.0 | —0.3 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Farafra | — | 0.1 | 0.5 | 0.2 | — | 0.0 | —1.0 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dakhla | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | —Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kharga | 0.2 | 0.2 | 0.2 | 0.0 | 0.2 | 0.0 | —Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 0.1 | 0.4 | 0.2 | 0.2 | 0.2 | 0.0 | —0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Quseir | 0.0 | 0.2 | 0.1 | 0.1 | 0.1 | 0.0 | —0.5 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Table A 4.—DAYS OF OCCURRENCE OF MISCELLANEOUS WTAEHER PHENOMENA

### OCTOBER 1970

| Station | Precipitation | | | | Frost | Thunderstorm | Mist Vis ≥ 1000 metres | Fog Vis < 1000 metres | Haze Vis ≥ 1000 metres | Thick Haze Vis < 1000 Metres | Dust or Sandrising Vis ≥ 1000 metres | Dust or Sandstorm Vis < 1000 metres | Gale | Clear Sky | Clondy Sky |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rain | Snow | Ice, Pellets | Hail | | | | | | | | | | | |
| Sallum | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0 | 9 | 0 |
| Mersa Matruh (A) | 3 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 6 | 2 | 0 | 11 | 0 |
| Alexandria (A) | 3 | 0 | 0 | 0 | 0 | 2 | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 7 | 1 |
| Port Said (A) | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 17 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 2 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 |
| Cairo | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 7 | 0 | 3 | 0 | 0 | 24 | 0 |
| Fayoum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — |
| Minya (A) | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 31 | 0 |
| Assyout (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 31 | 0 |
| Luxor (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 5 | 0 | 0 | 30 | 0 |
| Aswan (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 | 2 | 0 | 30 | 0 |
| Siwa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 28 | 0 |
| Bahariya | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 |
| Farafra | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | — | — |
| Dakhla | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 31 | 0 |
| Kharga | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 30 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 30 | 0 |
| Quseir | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31 | 0 |

## Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

### OCTOBER — 1970

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | All directions |
| Sallum | 8 | 0 | 0 | 1—10 | 41 | 52 | 97 | 30 | 23 | 18 | 10 | 12 | 22 | 41 | 80 | 137 | 563 |
| | | | | 11—27 | 5 | 12 | 3 | 0 | 0 | 0 | 2 | 2 | 33 | 31 | 53 | 31 | 172 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 0 | 1 | 0 | 1 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **46** | **64** | **100** | **30** | **23** | **18** | **12** | **14** | **55** | **72** | **134** | **168** | **736** |
| Mersa Matruh | 22 | 0 | 3 | 1—10 | 57 | 36 | 6 | 11 | 22 | 16 | 7 | 21 | 52 | 17 | 2 | 34 | 281 |
| | | | | 11—27 | 151 | 29 | 2 | 14 | 25 | 8 | 17 | 18 | 22 | 18 | 36 | 98 | 438 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **208** | **65** | **8** | **25** | **47** | **24** | **24** | **39** | **74** | **35** | **38** | **132** | **719** |
| Alexandria | 9 | 0 | 0 | 1—10 | 135 | 111 | 25 | 16 | 14 | 46 | 35 | 36 | 22 | 23 | 34 | 90 | 587 |
| | | | | 11—27 | 38 | 26 | 9 | 1 | 0 | 0 | 0 | 1 | 10 | 15 | 25 | 23 | 148 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **173** | **137** | **34** | **17** | **14** | **46** | **35** | **37** | **32** | **38** | **59** | **113** | **735** |
| Port Said | 18 | 0 | 0 | 1—10 | 199 | 90 | 25 | 43 | 17 | 10 | 4 | 5 | 36 | 81 | 50 | 103 | 663 |
| | | | | 11—27 | 0 | 1 | 1 | 6 | 0 | 0 | 0 | 1 | 24 | 17 | 7 | 6 | 63 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **199** | **91** | **26** | **49** | **17** | **10** | **4** | **6** | **60** | **98** | **57** | **109** | **726** |
| Tanta | 68 | 0 | 0 | 1—10 | 112 | 64 | 31 | 26 | 17 | 13 | 8 | 18 | 43 | 25 | 58 | 143 | 558 |
| | | | | 11—27 | 37 | 15 | 5 | 5 | 1 | 0 | 0 | 0 | 10 | 15 | 14 | 16 | 118 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **149** | **79** | **36** | **31** | **18** | **13** | **8** | **18** | **53** | **40** | **72** | **159** | **676** |
| Cairo | 98 | 0 | 22 | 1—10 | 79 | 107 | 48 | 39 | 12 | 0 | 9 | 11 | 20 | 17 | 33 | 23 | 398 |
| | | | | 11—27 | 40 | 91 | 18 | 16 | 9 | 0 | 2 | 5 | 12 | 18 | 7 | 8 | 226 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **119** | **198** | **66** | **55** | **21** | **0** | **11** | **16** | **32** | **35** | **40** | **31** | **624** |
| Fayoum | 2 | 0 | 3 | 1—10 | 225 | 256 | 20 | 0 | 6 | 5 | 4 | 9 | 32 | 25 | 42 | 81 | 705 |
| | | | | 11—27 | 9 | 22 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 34 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **234** | **278** | **22** | **0** | **6** | **5** | **4** | **9** | **32** | **26** | **42** | **81** | **739** |
| Minya | 6 | 0 | 4 | 1—10 | 433 | 91 | 4 | 5 | 0 | 1 | 8 | 2 | 3 | 7 | 10 | 36 | 600 |
| | | | | 11—27 | 80 | 41 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 9 | 134 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥ 48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **513** | **132** | **4** | **5** | **0** | **1** | **8** | **2** | **3** | **7** | **14** | **45** | **734** |

**Table A 5. (*contd.*)—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

**OCTOBER – 1970**

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | All directions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345/014 | 015/044 | 045/074 | 075/104 | 105/134 | 135/164 | 165/164 | 195/224 | 225/254 | 255/284 | 285/314 | 315/344 | |
| Assyout | 0 | 0 | 0 | 1—10 | 18 | 8 | 5 | 5 | 2 | 0 | 4 | 1 | 16 | 274 | 156 | 98 | 587 |
| | | | | 11—27 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 35 | 104 | 157 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **32** | **8** | **5** | **5** | **2** | **0** | **4** | **1** | **16** | **278** | **191** | **202** | **744** |
| Luxor | 57 | 0 | 1 | 1—10 | 75 | 25 | 10 | 11 | 14 | 55 | 162 | 45 | 24 | 58 | 98 | 86 | 663 |
| | | | | 11—27 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 9 | 23 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **78** | **25** | **12** | **11** | **14** | **55** | **162** | **45** | **24** | **58** | **107** | **95** | **686** |
| Aswan | 0 | 1 | 0 | 1—10 | 295 | 57 | 9 | 12 | 1 | 2 | 0 | 0 | 0 | 3 | 7 | 115 | 501 |
| | | | | 11—27 | 156 | 28 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 54 | 242 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **451** | **85** | **10** | **12** | **1** | **2** | **0** | **0** | **0** | **3** | **10** | **169** | **743** |
| Siwa | 132 | 0 | 0 | 1—10 | 29 | 68 | 40 | 52 | 69 | 29 | 33 | 13 | 16 | 42 | 84 | 75 | 550 |
| | | | | 11—27 | 0 | 11 | 1 | 0 | 2 | 5 | 0 | 0 | 0 | 2 | 26 | 15 | 62 |
| | | | | 28—27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **29** | **79** | **41** | **52** | **71** | **34** | **33** | **13** | **16** | **44** | **110** | **90** | **612** |
| Dakhla | 2 | 3 | 2 | 1—10 | 45 | 33 | 27 | 9 | 6 | 9 | 31 | 32 | 43 | 100 | 133 | 187 | 655 |
| | | | | 11—27 | 7 | 13 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 59 | 82 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **52** | **46** | **29** | **9** | **6** | **9** | **31** | **32** | **43** | **100** | **134** | **246** | **737** |
| Kharga | 1 | 0 | 21 | 1—10 | 183 | 34 | 8 | 3 | 1 | 0 | 2 | 2 | 2 | 5 | 13 | 126 | 379 |
| | | | | 11—27 | 248 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6 | 54 | 343 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **431** | **69** | **8** | **3** | **1** | **0** | **2** | **2** | **2** | **5** | **19** | **180** | **722** |
| Hurghada | 8 | 0 | 5 | 1—10 | 9 | 16 | 4 | 1 | 1 | 1 | 1 | 0 | 3 | 14 | 91 | 26 | 167 |
| | | | | 11—27 | 155 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 110 | 262 | 542 |
| | | | | 28—47 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 21 | 22 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **165** | **26** | **4** | **1** | **1** | **1** | **1** | **0** | **3** | **19** | **201** | **309** | **731** |
| Quseir | 3 | 2 | 0 | 1—10 | 107 | 46 | 4 | 0 | 0 | 0 | 1 | 5 | 0 | 3 | 44 | 184 | 394 |
| | | | | 11—27 | 200 | 95 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 49 | 344 |
| | | | | 28—47 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **308** | **141** | **4** | **0** | **0** | **0** | **1** | **5** | **0** | **3** | **44** | **233** | **739** |

# UPPER AIR CLIMATOLOGICAL DATA

## Table B 1.—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES.

### OCTOBER — 1970

| Station | Pressure Surface Millibar | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh (A) 0000 U.T. | Surface | 31 | *1015mb. | *1019mb. | *1012mb. | 31 | 19.2 | 23.2 | 15.2 | 31 | 13.3 |
| | 1000 | 31 | 154 | 191 | 129 | 31 | 19.5 | 24.2 | 15.6 | 31 | 13.6 |
| | 850 | 31 | 1536 | 1572 | 1492 | 31 | 12.0 | 23.0 | 4.2 | 31 | 1.4 |
| | 700 | 30 | 3110 | 3220 | 3066 | 30 | 4.1 | 10.6 | — 3.4 | 30 | —10.8 |
| | 600 | 30 | 4381 | 4475 | 4284 | 30 | — 3.4 | 3.9 | — 9.6 | 30 | —19.1 |
| | 500 | 30 | 5799 | 5930 | 5669 | 30 | —12.9 | — 6.0 | —19.6 | 30 | —28.0 |
| | 400 | 30 | 7461 | 7634 | 7305 | 30 | —24.9 | —20.0 | —31.0 | 29 | —38.4 |
| | 300 | 28 | 9491 | 9702 | 9340 | 28 | —39.6 | —33.0 | —46.9 | 27 | —51.3 |
| | 250 | 26 | 10723 | 10960 | 10534 | 26 | —47.4 | —39.9 | —55.9 | 25 | —58.3 |
| | 200 | 24 | 12171 | 12450 | 11959 | 24 | —54.3 | —46.5 | —60.7 | 20 | —64.5 |
| | 150 | 19 | 13991 | 14274 | 13775 | 19 | —60.9 | —55.3 | —65.9 | 5 | —66.3 |
| | 100 | 17 | 16485 | 16726 | 16293 | 17 | —65.7 | —56.6 | —73.1 | — | — |
| | 70 | 12 | 18649 | 18772 | 18483 | 12 | —64.1 | —61.1 | —70.3 | — | — |
| | 60 | 8 | 19691 | 19800 | 19530 | 8 | —62.9 | —61.4 | —64.8 | — | — |
| | 50 | 8 | 20803 | 20837 | 20610 | 8 | —60.5 | —58.5 | —62.7 | — | — |
| | 40 | 7 | 22267 | 22360 | 22130 | 7 | —57.8 | —56.6 | —59.2 | — | — |
| | 30 | 6 | 24006 | 24080 | 23834 | 6 | —55.7 | —52.0 | —59.7 | — | — |
| | 20 | 4 | 26647 | 26684 | 26605 | 4 | —50.5 | —48.9 | —51.9 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | |
| Helwan 0000 U.T. | Surface | 29 | *999mb. | *1004mb. | *993mb. | 29 | 18.9 | 27.8 | 14.8 | 29 | 11.8 |
| | 1000 | 29 | 130 | 173 | 100 | 14 | 17.2 | 21.2 | 14.9 | 14 | 12.4 |
| | 850 | 29 | 1519 | 1559 | 1476 | 29 | 14.2 | 22.8 | 6.0 | 29 | 2.7 |
| | 700 | 29 | 3138 | 3210 | 3052 | 29 | 6.1 | 10.8 | — 3.9 | 29 | — 6.5 |
| | 600 | 29 | 4384 | 4457 | 4266 | 29 | — 1.7 | 3.5 | — 7.4 | 29 | —13.9 |
| | 500 | 29 | 5812 | 5890 | 5672 | 29 | —11.0 | — 6.9 | —16.8 | 29 | —22.6 |
| | 400 | 27 | 7489 | 7578 | 7310 | 27 | —23.0 | —16.6 | —29.6 | 27 | —33.8 |
| | 300 | 27 | 9537 | 9686 | 9322 | 27 | —37.8 | —31.4 | —44.0 | 27 | —47.4 |
| | 250 | 26 | 10760 | 10868 | 10542 | 26 | —46.5 | —42.0 | —52.0 | 26 | —54.9 |
| | 200 | 25 | 12228 | 12434 | 12018 | 25 | —54.1 | —47.1 | —59.8 | 24 | —62.1 |
| | 150 | 23 | 14043 | 14256 | 13853 | 23 | —62.6 | —57.0 | —67.1 | 5 | —65.6 |
| | 100 | 18 | 16503 | 16666 | 16383 | 18 | —69.8 | —62.8 | —74.1 | — | — |
| | 70 | 13 | 18665 | 18777 | 18575 | 13 | —65.9 | —63.9 | —70.6 | — | — |
| | 60 | 11 | 19651 | 19760 | 19530 | 11 | —64.2 | —61.9 | —66.7 | — | — |
| | 50 | 11 | 20729 | 20837 | 20603 | 11 | —61.7 | —58.0 | —65.2 | — | — |
| | 40 | 10 | 22205 | 22350 | 22080 | 10 | —59.2 | —58.0 | —62.0 | — | — |
| | 30 | 9 | 23932 | 24060 | 23795 | 9 | —56.9 | —55.0 | —59.8 | — | — |
| | 20 | 5 | 26530 | 26678 | 26463 | 5 | —54.3 | —50.3 | —50.9 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Aswan (A) 0000 U.T. | Surface | 28 | *988mb. | *991mb. | *984mb. | 28 | 21.9 | 28.6 | 17.5 | 28 | 2.4 |
| | 1000 | 28 | 86 | 118 | 51 | — | — | — | — | — | — |
| | 850 | 27 | 1507 | 1548 | 1453 | 27 | 22.1 | 26.9 | 15.2 | 27 | — 0.6 |
| | 700 | 27 | 3159 | 3215 | 3100 | 27 | 9.9 | 13.0 | 5.7 | 27 | — 7.9 |
| | 600 | 27 | 4417 | 4473 | 4361 | 26 | 1.8 | 6.6 | — 2.1 | 25 | —18.6 |
| | 500 | 27 | 5868 | 5936 | 5797 | 26 | — 6.2 | 3.5 | —10.0 | 25 | —26.9 |
| | 400 | 24 | 7573 | 7656 | 7496 | 24 | —18.6 | —15.7 | —24.3 | 21 | —37.8 |
| | 300 | 23 | 9658 | 9756 | 9559 | 23 | —34.0 | —31.0 | —36.9 | 22 | —49.5 |
| | 250 | 20 | 10909 | 11023 | 10799 | 20 | —43.4 | —40.9 | —46.0 | 17 | —57.2 |
| | 200 | 19 | 12378 | 12505 | 12259 | 19 | —54.0 | —52.2 | —55.8 | 16 | —65.4 |
| | 150 | 16 | 14191 | 14314 | 14075 | 16 | —64.3 | —60.9 | —65.8 | — | — |
| | 100 | 14 | 16605 | 16714 | 16464 | 14 | —75.3 | —70.7 | —81.3 | — | — |
| | 70 | 9 | 18713 | 18796 | 18651 | 9 | —69.7 | —67.1 | —73.0 | — | — |
| | 60 | 6 | 19665 | 19750 | 19620 | 6 | —64.8 | —63.4 | —66.7 | — | — |
| | 50 | 6 | 20765 | 20873 | 20701 | 6 | —63.0 | —60.7 | —66.7 | — | — |
| | 40 | 2 | 22225 | 22250 | 22200 | 2 | —58.8 | —58.5 | —59.2 | — | — |
| | 30 | 2 | 23960 | 23988 | 23932 | 2 | —56.1 | —51.4 | —55.0 | — | — |
| | 20 | 1 | 26593 | — | — | 1 | —52.8 | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |

N—The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde stations.

## UPPER AIR CLIMATOLOGICAL DATA

**Table B 1. (*cont.*) — MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES**

**OCTOBER — 1970**

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 1200 UT | Surface . . . | 30 | *1015m.b. | *1020m.b. | *1011m.b. | 30 | 24.0 | 32.0 | 19.4 | 30 | 14.0 |
| | 1000 . . . | 30 | 155 | 200 | 122 | 30 | 22.6 | 30.4 | 18.0 | 30 | 12.6 |
| | 850 . . . | 30 | 1543 | 1569 | 1498 | 30 | 12.6 | 21.5 | 5.1 | 29 | 1.9 |
| | 700 . . . | 28 | 3150 | 3207 | 3078 | 28 | 3.8 | 8.9 | — 4.0 | 28 | —12.4 |
| | 600 . . . | 25 | 4390 | 4449 | 4290 | 25 | — 3.8 | 2.0 | — 9.1 | 25 | —20.3 |
| | 500 . . . | 24 | 5813 | 5874 | 5684 | 24 | —13.1 | — 8.8 | —19.9 | 24 | —29.2 |
| | 400 . . . | 22 | 7471 | 7567 | 7308 | 22 | —25.5 | —20.9 | —32.1 | 22 | —39.1 |
| | 300 . . . | 19 | 9492 | 9614 | 9318 | 19 | —40.3 | —33.6 | —46.6 | 19 | —52.0 |
| | 250 . . . | 19 | 10714 | 10857 | 10550 | 19 | —48.3 | —41.0 | —54.0 | 18 | —59.3 |
| | 200 . . . | 18 | 12154 | 12344 | 11959 | 18 | —55.1 | —46.6 | —59.6 | 15 | —65.0 |
| | 150 . . . | 14 | 13960 | 14171 | 13788 | 14 | —60.5 | —53.0 | —67.9 | 6 | —67.4 |
| | 100 . . . | 13 | 16454 | 16641 | 16309 | 13 | —71.0 | —62.2 | —73.2 | — | — |
| | 70 . . . | 6 | 18624 | 18767 | 18378 | 6 | —60.5 | —60.3 | —64.2 | — | — |
| | 60 . . . | 5 | 19654 | 19740 | 19520 | 5 | —60.5 | —59.9 | —61.7 | — | — |
| | 50 . . . | 5 | 20736 | 20858 | 20625 | 5 | —58.2 | —56.6 | —59.3 | — | — |
| | 40 . . . | 2 | 22168 | 22270 | 22066 | 2 | —56.0 | —55.9 | —56.1 | — | — |
| | 30 . . . | 1 | 24016 | — | — | 1 | —53.0 | — | — | — | — |
| | 20 . . . | — | — | — | — | — | — | — | — | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | — | — |
| Helwan 1200 UT | Surface . . . | 27 | *998m.b. | *1002m.b. | *994m.b. | 27 | 27.4 | 36.2 | 22.2 | 27 | 9.0 |
| | 1000 . . . | 27 | 121 | 162 | 86 | 6 | 23.6 | 25.2 | 22.0 | 6 | 10.9 |
| | 850 . . . | 27 | 1524 | 1571 | 1477 | 27 | 15.0 | 24.9 | 8.4 | 27 | — 0.8 |
| | 700 . . . | 27 | 3144 | 3221 | 3046 | 27 | 7.0 | 12.2 | — 4.9 | 27 | —13.5 |
| | 600 . . . | 27 | 4397 | 4475 | 4258 | 27 | — 0.9 | 4.9 | — 7.9 | 27 | —20.1 |
| | 500 . . . | 27 | 5824 | 5931 | 5656 | 27 | —10.1 | — 3.5 | —16.9 | 27 | —29.0 |
| | 400 . . . | 27 | 7504 | 7639 | 7314 | 27 | —22.5 | —15.7 | —30.2 | 27 | —38.3 |
| | 300 . . . | 25 | 9557 | 9733 | 9364 | 25 | —37.1 | —29.9 | —44.1 | 25 | —51.0 |
| | 250 . . . | 24 | 10792 | 11009 | 10589 | 24 | —45.8 | —38.7 | —51.1 | 24 | —58.2 |
| | 200 . . . | 23 | 12252 | 12504 | 12018 | 23 | —53.4 | —47.8 | —57.3 | 23 | —64.8 |
| | 150 . . . | 21 | 14016 | 14326 | 13770 | 21 | —61.1 | —53.3 | —68.5 | 5 | —66.4 |
| | 100 . . . | 20 | 16550 | 16777 | 16368 | 20 | —68.1 | —61.4 | —75.0 | — | — |
| | 70 . . . | 16 | 18699 | 18863 | 18574 | 16 | —63.9 | —60.1 | —70.2 | — | — |
| | 60 . . . | 12 | 19699 | 19870 | 19530 | 12 | —61.4 | —59.0 | —64.5 | — | — |
| | 50 . . . | 12 | 20797 | 20963 | 20635 | 12 | —59.0 | —57.1 | —61.1 | — | — |
| | 40 . . . | 9 | 22318 | 22500 | 22130 | 9 | —55.5 | —53.5 | —57.0 | — | — |
| | 30 . . . | 9 | 24050 | 24253 | 23885 | 9 | —52.0 | —46.9 | —54.6 | — | — |
| | 20 . . . | 6 | 26659 | 26780 | 26523 | 6 | —48.4 | —44.7 | —51.2 | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | — | — |
| Aswan 1200 U.T. | Surfaec . . . | 29 | *987m.b. | *991m.b. | *984m.b. | 29 | 33.5 | 42.0 | 27.4 | 29 | 5.9 |
| | 1000 . . . | 29 | 79 | 113 | 47 | — | — | — | — | — | — |
| | 850 . . . | 29 | 1516 | 1551 | 1491 | 29 | 22.6 | 28.2 | 14.3 | 26 | — 3.4 |
| | 700 . . . | 28 | 3169 | 3224 | 3117 | 27 | 10.4 | 13.4 | 7.1 | 27 | —12.4 |
| | 600 . . . | 25 | 4431 | 4487 | 4364 | 24 | — 2.0 | 6.0 | — 1.3 | 24 | —20.0 |
| | 500 . . . | 24 | 5886 | 5948 | 5801 | 24 | — 5.5 | — 0.2 | —10.8 | 24 | —27.9 |
| | 400 . . . | 24 | 7600 | 7676 | 7491 | 24 | —17.3 | —13.0 | —24.1 | 24 | —35.8 |
| | 300 . . . | 22 | 9692 | 9797 | 9542 | 21 | —33.1 | —29.7 | —38.6 | 18 | —49.8 |
| | 250 . . . | 19 | 10944 | 11051 | 10775 | 18 | —42.6 | —38.7 | —47.5 | 17 | —57.7 |
| | 200 . . . | 18 | 12418 | 12547 | 12235 | 18 | —52.6 | —49.6 | —55.5 | 17 | —65.8 |
| | 150 . . . | 16 | 14245 | 14390 | 14056 | 16 | —63.4 | —60.1 | —66.3 | — | — |
| | 100 . . . | 10 | 16671 | 16848 | 16499 | 10 | —74.0 | —69.0 | —77.4 | — | — |
| | 70 . . . | 5 | 18790 | 18983 | 18695 | 5 | —69.8 | —68.0 | —71.4 | — | — |
| | 60 . . . | 2 | 19725 | 19750 | 19700 | 2 | —66.7 | —64.7 | —68.7 | — | — |
| | 50 . . . | 2 | 20802 | 20835 | 20768 | 2 | —62.4 | —59.5 | —65.2 | — | — |
| | 40 . . . | 1 | 22340 | — | — | 1 | —56.1 | — | — | — | — |
| | 30 . . . | 1 | 24094 | — | — | 1 | —52.7 | — | — | — | — |
| | 20 . . . | 1 | 26747 | — | — | 1 | —48.1 | — | — | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | — | — |

N — Number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

## Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE.

## THE HIGHEST WIND SPEED IN THE UPPER AIR

## OCTOBER — 1970

| | Station | Freezing level | | | | | | | | | First tropopanse | | | | | | | | | Highest wind speed | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | | | Highest | | | Lowest | | | Mean | | | Highest | | | Lowest | | | | | | |
| | | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Direction (000—300)° | Speed in knots |
| 0000 U.T. | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | M. Matruh (A) | 3761 (30) | 654 (30) | —14.3 (30) | 4950 | 566 | —23.5 | 2010 | 799 | — 0.5 | 13199 (16) | 178 (16) | —59.7 (16) | 16538 | 100 | —62.5 | 10260 | 261 | —53.1 | 13740 | 155 | 240 | 125 |
| | Helwan . . . | 4078 (29) | 625 (29) | —11.4 (29) | 4900 | 568 | —21.4 | 2680 | 735 | — 2.5 | 15358 (15) | 125 (15) | —69.0 (15) | 18130 | 78 | —73.5 | 11720 | 209 | —56 4 | 11510 | 223 | 270 | 148 |
| | Aswan . . (A) | 4696 (27) | 580 (27) | —19.7 (26) | 5530 | 526 | —22.7 | 4000 | 631 | — 9.5 | 16266 (10) | 108 (10) | —73.5 (10) | 17720 | 82 | —77.8 | 13502 | 167 | —60.0 | 13700 | 160 | 235 | 94 |
| 1200 U.T. | | | | | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | M. Matruh (A) | 3712 (25) | 656 (25) | —15.1 (25) | 4580 | 591 | —19.5 | 2520 | 750 | — 2.2 | 12299 (12) | 200 (12) | —58.6 (12) | 15830 | 113 | —64.5 | 10190 | 26[illegible] | —52.6 | 11360 | 230 | 240 | 104 |
| | Helwan . . . | 4273 (27) | 611 (27) | —18.6 (27) | 5440 | 531 | —23.4 | 2430 | 756 | — 3.0 | 14497 (16) | 145 (16) | —65.2 (16) | 16930 | 94 | —73.0 | 11500 | 218 | —55.5 | 12690 | 210 | 260 | 150 |
| | Aswain . . (A) | 4952 (24) | 567 (24) | —22.3 (24) | 6200 | 550 | —25.1 | 4100 | 620 | —22.1 | 16184 (6) | 110 (6) | —72.5 (6) | 16848 | 100 | —69 0 | 14650 | 143 | —68.4 | 12417 | 196 | 250 | 90 |

N= The number of cases the element has been observed during the month.

**Table B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**MERSA MATRUH (A)— OCTOBER 1970**

| Time | Pressure Surface (Millibar) | Wind between specified ranges of direction (000 - 360°) | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (TN) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345 / 014 | | 015 / 044 | | 045 / 074 | | 075 / 104 | | 105 / 134 | | 135 / 164 | | 165 / 194 | | 195 / 224 | | 225 / 254 | | 255 / 284 | | 285 / 314 | | 315 / 344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Sufaoe | 7 | 15 | 2 | 8 | 1 | 11 | 0 | — | 1 | 16 | 3 | 7 | 2 | 10 | 0 | — | 5 | 11 | 2 | 8 | 3 | 15 | 3 | 11 | 2 | 31 | 11 |
| | 1000 | 9 | 15 | 2 | 16 | 1 | 2 | 1 | 7 | 3 | 14 | 1 | 12 | 1 | 4 | 1 | 18 | 1 | 19 | 1 | 9 | 1 | 10 | 1 | 16 | 0 | 23 | 13 |
| | 850 | 3 | 14 | 6 | 14 | 0 | — | 0 | — | 0 | — | 1 | 34 | 0 | — | 0 | — | 3 | 15 | 3 | 16 | 3 | 18 | 4 | 14 | 0 | 23 | 16 |
| | 700 | 1 | 12 | 1 | 7 | 1 | 14 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 4 | 2 | 10 | 7 | 15 | 4 | 19 | 3 | 12 | 0 | 20 | 14 |
| | 600 | 0 | — | 0 | — | 1 | 11 | 1 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 16 | 7 | 20 | 6 | 20 | 3 | 17 | 0 | 19 | 18 |
| | 500 | 0 | — | 1 | 8 | 1 | 14 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 28 | 10 | 26 | 2 | 24 | 1 | 49 | 0 | 19 | 26 |
| | 400 | 1 | 13 | 0 | — | 1 | 26 | 0 | — | 0 | — | 0 | — | 1 | 13 | 0 | — | 6 | 37 | 8 | 32 | 1 | 45 | 0 | — | 0 | 18 | 32 |
| | 300 | 0 | — | 0 | — | 1 | 29 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 14 | 7 | 62 | 6 | 49 | 2 | 36 | 0 | — | 0 | 17 | 50 |
| | 250 | 0 | — | 0 | — | 1 | 17 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 15 | 5 | 81 | 6 | 56 | 1 | 60 | 0 | — | 0 | 14 | 60 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 21 | 0 | — | 0 | — | 0 | — | 4 | 68 | 4 | 64 | 0 | — | 0 | — | 0 | 9 | 61 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 44 | 3 | 47 | 0 | — | 0 | — | 0 | 6 | 45 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 41 | 0 | — | 1 | 31 | 0 | — | 0 | 5 | 39 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 20 | 0 | — | 1 | 10 | 0 | — | 0 | — | 0 | 2 | 15 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 19 | 0 | — | 0 | — | 0 | — | 0 | 1 | 19 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 17 | 0 | — | 0 | — | 0 | 1 | 17 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 6 | 12 | 3 | 8 | 0 | — | 1 | 15 | 2 | 8 | 0 | — | 0 | — | 0 | — | 1 | 22 | 2 | 20 | 5 | 16 | 10 | 12 | 0 | 30 | 13 |
| | 1000 | 8 | 15 | 2 | 6 | 0 | — | 1 | 13 | 0 | — | 1 | 11 | 0 | — | 1 | 19 | 1 | 23 | 4 | 12 | 3 | 19 | 6 | 14 | 0 | 27 | 14 |
| | 850 | 4 | 11 | 2 | 14 | 3 | 11 | 0 | — | 0 | — | 1 | 24 | 0 | — | 2 | 26 | 5 | 17 | 4 | 22 | 4 | 20 | 3 | 16 | 0 | 28 | 17 |
| | 700 | 1 | 27 | 4 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 6 | 3 | 22 | 4 | 14 | 6 | 23 | 6 | 14 | 2 | 18 | 0 | 27 | 17 |
| | 600 | 1 | 7 | 0 | — | 0 | — | 1 | 10 | 0 | — | 0 | — | 0 | — | 1 | 8 | 7 | 22 | 6 | 17 | 3 | 25 | 4 | 23 | 0 | 23 | 19 |
| | 500 | 0 | — | 0 | — | 2 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 31 | 4 | 41 | 8 | 24 | 4 | 36 | 2 | 36 | 0 | 23 | 31 |
| | 400 | 0 | — | 1 | 8 | 1 | 37 | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 77 | 4 | 36 | 7 | 36 | 3 | 37 | 1 | 44 | 0 | 19 | 39 |
| | 300 | 0 | — | 1 | 4 | 1 | 34 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 75 | 2 | 46 | 8 | 48 | 2 | 33 | 0 | — | 0 | 15 | 44 |
| | 250 | 0 | — | 0 | — | 0 | — | 1 | 18 | 0 | — | 0 | — | 0 | — | 2 | 49 | 2 | 66 | 10 | 56 | 0 | — | 0 | — | 0 | 15 | 54 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 8 | 0 | — | 4 | 66 | 6 | 54 | 1 | 56 | 0 | — | 0 | 12 | 45 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 48 | 5 | 56 | 1 | 71 | 0 | — | 0 | 10 | 55 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 44 | 3 | 36 | 0 | — | 0 | — | 0 | 7 | 41 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 26 | 0 | — | 0 | — | 0 | — | 0 | 2 | 26 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 12 | 1 | 14 | 0 | — | 0 | — | 0 | 2 | 13 |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the wind has been observed from the range of direction during the month.
TN = The total number of cases the wind has been observed for all directions during the month.

**Table B 3. (*contd.*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**HELWAN — OCTOBER 1970**

| Time | Pressure Surface (Millibar.) | Wind between specified ranges of direction (000—360°) | | | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (T.N) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 12 | 6 | 10 | 8 | 0 | — | 1 | 15 | 0 | — | 1 | 1 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 5 | 2 | 29 | 6 |
| | 1000 | 6 | 9 | 6 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 6 | 0 | 14 | 9 |
| | 850 | 5 | 20 | 2 | 18 | 5 | 14 | 2 | 12 | 0 | — | 1 | 5 | 1 | 7 | 1 | 12 | 1 | 14 | 3 | 19 | 3 | 17 | 5 | 15 | 0 | 29 | 16 |
| | 700 | 2 | 29 | 2 | 10 | 0 | — | 2 | 19 | 0 | — | 0 | — | 0 | — | 3 | 40 | 5 | 21 | 6 | 24 | 8 | 16 | 1 | 15 | 0 | 29 | 21 |
| | 600 | 2 | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 48 | 9 | 39 | 13 | 25 | 2 | 16 | 2 | 14 | 0 | 29 | 30 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 6 | 2 | 76 | 9 | 40 | 8 | 41 | 4 | 30 | 2 | 38 | 0 | 26 | 40 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 1 | 10 | 61 | 8 | 52 | 5 | 53 | 0 | — | 0 | 24 | 54 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 11 | 81 | 6 | 81 | 2 | 64 | 0 | — | 0 | 19 | 79 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 6 | 77 | 7 | 76 | 2 | 105 | 0 | — | 0 | 15 | 80 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 94 | 5 | 76 | 1 | 94 | 0 | — | 0 | 10 | 85 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 75 | 2 | 42 | 0 | — | 0 | — | 0 | 4 | 58 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 30 | 0 | — | 0 | — | 0 | — | 0 | 1 | 30 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 23 | 0 | — | 0 | 1 | 23 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 18 | 0 | 1 | 18 |
| | 50 | 1 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 12 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 5 | 9 | 10 | 10 | 1 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 14 | 1 | 9 | 4 | 8 | 4 | 7 | 1 | 27 | 9 |
| | 1000 | 1 | 10 | 3 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 12 | 1 | 6 | 0 | 6 | 12 |
| | 850 | 5 | 17 | 9 | 12 | 2 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 14 | 2 | 18 | 3 | 9 | 5 | 16 | 0 | 27 | 14 |
| | 700 | 1 | 26 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 12 | 4 | 18 | 9 | 18 | 5 | 19 | 7 | 20 | 0 | — | 0 | 27 | 19 |
| | 600 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 22 | 1 | 47 | 11 | 23 | 9 | 26 | 2 | 42 | 1 | 18 | 0 | 27 | 26 |
| | 500 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 23 | 0 | — | 3 | 32 | 13 | 33 | 7 | 43 | 0 | — | 2 | 20 | 0 | 26 | 35 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 32 | 10 | 52 | 11 | 64 | 1 | 29 | 1 | 38 | 0 | 25 | 54 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 54 | 9 | 74 | 9 | 76 | 2 | 68 | 0 | — | 0 | 22 | 73 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 58 | 10 | 90 | 7 | 73 | 2 | 66 | 0 | — | 0 | 21 | 79 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 7 | 89 | 4 | 93 | 2 | 78 | 0 | — | 0 | 13 | 90 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 82 | 2 | 84 | 2 | 88 | 0 | — | 0 | 7 | 84 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 100 | 1 | 81 | 1 | 42 | 0 | — | 0 | — | 0 | 3 | 74 |
| | 70 | 0 | — | 0 | — | 1 | 44 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 39 | 0 | — | 0 | — | 0 | 2 | 42 |
| | 60 | 0 | — | 0 | — | 1 | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 29 | 0 | — | 0 | — | 0 | — | 0 | 2 | 30 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 25 | 1 | 20 | 0 | — | 0 | — | 0 | 2 | 22 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 25 | 0 | — | 1 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 18 |
| | 30 | 0 | — | 0 | — | 0 | — | 1 | 22 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 22 |
| | 20 | 0 | — | 0 | — | 0 | — | 1 | 26 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 26 |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the wind has been observed from the range of direction during the month.

TN=The total number of cases the wind has been observed for all directions during the month.

**Table B 3 (*contd.*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.**

**ASWAN (A) — OCTOBER 1970**

| Time | Pressure Surface Millibar | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of calm winds | Total number of observations (TN) | Mean scalar wind speed (knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 20 | 10 | 2 | 8 | 0 | — | 0 | — | 2 | 6 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 12 | 3 | 11 | 0 | 28 | 10 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 3 | 6 | 0 | — | 4 | 11 | 5 | 14 | 4 | 10 | 3 | 9 | 0 | — | 2 | 8 | 1 | 5 | 2 | 6 | 2 | 18 | 1 | 8 | 0 | 27 | 10 |
| | 700 | 0 | — | 1 | 20 | 1 | 15 | 1 | 10 | 4 | 8 | 0 | — | 3 | 13 | 10 | 19 | 6 | 32 | 1 | 14 | 0 | — | 0 | — | 0 | 27 | 16 |
| | 600 | 0 | — | 1 | 16 | 1 | 15 | 0 | — | 4 | 6 | 2 | 8 | 1 | 12 | 4 | 10 | 11 | 16 | 3 | 14 | 0 | — | 0 | — | 0 | 27 | 13 |
| | 500 | 1 | 22 | 2 | 6 | 1 | 6 | 0 | — | 0 | — | 1 | 7 | 1 | 8 | 2 | 9 | 10 | 23 | 6 | 22 | 2 | 7 | 0 | — | 0 | 26 | 17 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 22 | 0 | — | 3 | 13 | 12 | 28 | 5 | 31 | 2 | 12 | 1 | 2 | 0 | 24 | 24 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 25 | 15 | 35 | 5 | 37 | 0 | — | 0 | — | 0 | 23 | 34 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 15 | 16 | 40 | 3 | 51 | 0 | — | 0 | — | 0 | 20 | 41 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 5 | 0 | — | 12 | 44 | 6 | 46 | 0 | — | 0 | — | 0 | 19 | 43 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 9 | 1 | 45 | 13 | 46 | 0 | — | 0 | — | 0 | — | 0 | 15 | 43 |
| | 100 | 1 | — | 1 | — | 0 | — | 0 | — | 0 | — | 1 | 17 | 1 | 9 | 3 | 24 | 3 | 17 | 2 | 26 | 0 | — | 0 | — | 0 | 10 | 20 |
| | 70 | 0 | — | 0 | — | 0 | — | 1 | 8 | 1 | 12 | 2 | 16 | 0 | — | 2 | 8 | 0 | — | 1 | 7 | 0 | — | 0 | — | 0 | 7 | 11 |
| | 60 | 0 | — | 0 | — | 1 | 9 | 0 | — | 2 | 3 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 3 | 5 |
| | 50 | 0 | — | 0 | — | 0 | — | 2 | 8 | 0 | — | 1 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 3 | 9 |
| | 40 | 0 | — | 0 | — | 0 | — | 1 | 16 | 0 | — | 0 | — | 1 | 9 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 12 |
| | 30 | 0 | — | 0 | — | 0 | — | 1 | 22 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 22 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 20 | 10 | 1 | 5 | 0 | — | 0 | — | 1 | 5 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 7 | 5 | 8 | 1 | 29 | 9 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 6 | 7 | 2 | 3 | 2 | 8 | 1 | 4 | 1 | 7 | 1 | 6 | 1 | 2 | 1 | 4 | 3 | 9 | 3 | 8 | 6 | 9 | 2 | 5 | 0 | 29 | 7 |
| | 700 | 1 | 9 | 1 | 2 | 1 | 13 | 1 | 5 | 1 | 8 | 4 | 8 | 8 | 16 | 6 | 22 | 3 | 22 | 0 | — | 0 | — | 0 | — | 0 | 26 | 15 |
| | 600 | 1 | 17 | 1 | 12 | 1 | 17 | 2 | 6 | 1 | 7 | 3 | 15 | 2 | 18 | 9 | 14 | 4 | 26 | 1 | 13 | 0 | — | 0 | — | 0 | 25 | 16 |
| | 500 | 2 | 18 | 1 | 3 | 3 | 4 | 0 | — | 0 | — | 0 | — | 2 | 6 | 3 | 11 | 9 | 20 | 4 | 21 | 0 | — | 0 | — | 0 | 24 | 15 |
| | 400 | 1 | 17 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 6 | 0 | — | 4 | 16 | 11 | 27 | 5 | 36 | 0 | — | 2 | 6 | 0 | 24 | 24 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 17 | 12 | 35 | 6 | 42 | 2 | 36 | 1 | 25 | 0 | 22 | 36 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 14 | 11 | 48 | 3 | 33 | 2 | 39 | 1 | 38 | 0 | 19 | 41 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 16 | 8 | 55 | 5 | 38 | 3 | 47 | 0 | — | 0 | 18 | 45 |
| | 150 | 0 | — | 0 | — | 1 | 4 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 22 | 10 | 43 | 3 | 34 | 1 | 50 | 0 | — | 0 | 16 | 38 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 23 | 1 | 16 | 5 | 22 | 2 | 11 | 0 | — | 1 | 28 | 0 | 10 | 20 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 12 | 0 | — | 1 | 16 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 4 | 10 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 11 |
| | 50 | 0 | — | 0 | — | 0 | — | 1 | 6 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 6 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 14 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 14 |
| | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 8 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N. = The number of cases the wind has been observed from the range of directions during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

# REVIEW OF AGRO-METEOROLOGICAL STATIONS

## MERSA MATRUH — OCTOBER 1970

For the month as a whole, the mean daily values of air temperature and relative humidity were slightly below normal. The total monthly rainfall was 5.8 mm against 16.2 mm. for normal.

The month was characterized by three heat waves on the 3rd and during the periods (18th—21st) and (23rd—24th). The first heat wave yielded the highest maximum air temperature for the month (32.8°C) and the lowest relative humidity (23%). During rest of the month weather was generally mild and maximum air temperatures were below normal. The lowest maximum air temperature for the month (21.8°C) was reported on the 26th.

The extreme maximum soil temperatures were lower than the corresponding values of last October at all depths between 2 and 100 cm. and the departures varied between 3.0°C at 2 cm and 0.1°C at 100 cm. The extreme minimum soil temperatures were higher than the corresponding values of last October at all depths between 2 and 100 cm. and the departures ranged between 1.5°C at 2 cm and 3.8°C at 20 cm.

The mean daily values of wind speed at 1.5 m, actual sunshine duration and Pan evaporation were more than the corresponding values of October 1969 by 1.9 m/sec., 1.2 hour and 5.94 mm respectively.

## TAHRIR — OCTOBER 1970

For the month as a whole, the mean daily values of air temperature and relative humidity were below normal. The total monthly rainfall was 6.7 mm against 2.3 mm for normal.

Two heat waves were experienced on the 4th and during the period (19th—25th). The second heat wave yielded the highest maximum air temperature for the month (39.6°C) and the lowest relative humidity (21%) on the 21st. Apart from these two heat waves, mild weather prevailed and maximum air temperatures were below normal. The lowest maximum air temperature for the month (24.2°C) was reported on the 27th.

The extreme maximum soil temperatures were slightly higher (0.4° to 0.5°C) than the corresponding values of last October at shallow depths between 2 and 5 cm and lower at deeper depths between 10 and 100 cm with departures between 1.9°C at 50 cm and 0.5°C at 100 cm. The extreme minimum soil temperatures were lower than the corresponding values of last October at all depths between 2 and 100 cm. and the differences ranged between 2.4°C at 10 cm and 1.5°C at 100 cm.

The mean daily wind speed at 1.5 m. was the same as the corresponding value of last October, while the mean daily values of actual duration of sunshine and Pan evaporation were more by 1.0 hour and 0.36 mm. respectively.

## BAHTIM — OCTOBER 1970

This month was rainless, and the mean daily values of air temperature and relative humidity were lower than the corresponding values of last October.

Two heat waves occurred on the 4th and during the period (19th—25th). The second heat wave yielded the highest maximum air temperature for the month (37.8°C) on the 21st. Mild weather prevailed during rest of the month when maximum air temperatures were below average. The lowest maximum air temperature for the month (24.1°C) was reported on the 27th and 28th.

The extreme maximum soil temperatures were generally lower than the corresponding values of last October except at 2 cm where it was slightly higher (0.4°C) and at 100 cm where it was the same; the departures varied between 2.0°C at 20cm. and 0.5°C at 50 cm. The extreme minimum soil temperatures were lower than the corresponding values of last October at all depths between 2 and 100 cm. and the departures varied between 1.2°C at 5 cm and 0.8°C at 100 cm.

The mean daily value of sunshine duration was more than the corresponding value of last October by 0.9 hour, while the mean daily values of wind speed at 1.5 m and Pan evaporation were less by 0.2 m/sec. and 0.10 mm respectively.

## KHARGA — OCTOBER 1970

For the month as a whole, the mean daily air temperature was slightly below normal.

Two heat waves were experienced during the periods (4th—5th) and (18th—25th). The second heat wave was excessive and reached its peak on the 21st when the highest maximum air temperature for the month (42.2°C) was reported. During rest of the month weather was generally mild and maximum air temperatures were below normal. The lowest maximum air temperature for the month (25.0°C) was reported on the 27th.

The extreme maximum and minimum soil temperatures were both lower than the corresponding values of last October at all depths between 2 and 100 cm. The departures for the extreme maxima ranged between 0.4°C at 2 cm. 2.6°C at both 20 and 50 cm. The departures for the extreme minima ranged between 0.7°C at 5 cm. and 2.4°C at 20 cm.

The mean daily values of wind speed at 1.5 m. and sunshine duration were more than the corresponding values of October 1969 by 0.5 m./sec. and 0.7 hour respectively ; while the mean daily pan evaporation was less by 0.25 mm.

## Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

### OCTOBER — 1970

| STATION | Air Temperature (°C) | | | | | Mean Duration in hours of daily air temperature above the following values | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean Max. | Mean Min. | Mean of the day | Night time mean | Day time mean | —5°C | 0°C | 5°C | 10°C | 15°C | 20°C | 25°C | 30°C | 35°C | 40°C | 45°C |
| M. Matruh . . | 25.7 | 17.0 | 20.9 | 19.0 | 22.9 | 24.0 | 24.0 | 24.0 | 24.0 | 23.1 | 13.6 | 2.1 | 0.3 | 0.0 | 0.0 | 0.0 |
| Tahrir . . . . | 29.1 | 13.5 | 20.5 | 16.8 | 24.3 | 24.0 | 24.0 | 24.0 | 24.0 | 20.0 | 11.9 | 4.7 | 0.9 | 0.1 | 0 | 0 |
| Bahtim . . . . | 28.8 | 12.1 | 20.4 | 16.3 | 24.5 | 24.0 | 24.0 | 24.0 | 24.0 | 18.9 | 11.7 | 5.3 | 1.2 | 0.1 | 0 | 0 |
| Kharga . . . | 32.2 | 17.4 | 25.1 | 22.0 | 28.2 | 24.0 | 24.0 | 24.0 | 24.0 | 23.7 | 18.5 | 11.4 | 4.5 | 1.3 | 0.1 | 0 |

## Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS

### OCTOBER — 1970

| STATION | Max. Temp. at 1½ metres (°C) | | | | Min. Temp. at 1½ metres (°C) | | | | Min. Temp. at 5 cms. above (°C) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | | Lowest | | Highest | | Lowest | | Dry soil | | Grass | |
| | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date |
| M. Matruh . . . . | 32.8 | 3 | 21.8 | 26 | 20.6 | 9 | 13.4 | 23 | 9.5 | 23 | — | — |
| Tahrir . . . . . | 39.6 | 21 | 24.2 | 27 | 17.6 | 5 | 10.7 | 28 | 8.3 | 31 | — | — |
| Bahtim . . . . . | 37.8 | 21 | 24.1 | 27,28 | 16.0 | 21 | 9.1 | 28 | 6.2 | 28,29 | — | — |
| Kharga . . . . . | 42.2 | 21 | 25.0 | 27 | 26.9 | 23 | 11.2 | 13 | 8.4 | 28 | — | — |

## Table C 3.—(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY AND, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION AND RAINFALL

### OCTOBER — 1970

| STATION | (Solar+Sky Radiation gm. cal/cm²) | Duration of Bright Sunshine (hours) | | | Relative Humidity | | | | Vapour pressure (mms) | | | | | | Evaporation (mms) | | Rainfall (mms) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Actual monthly | Total Possible monthly | % | Mean of day | 1200 U.T. | Lowest | Date | Mean of day | 1200 U.T. | Highest | Date | Lowest | Date | Piche | Pan class A | Total Amount Monthly | Max. Fall in one day | Date |
| Matruh | — | 288.5 | 353.9 | 82 | 64 | 53 | 23 | 3 | 11.8 | 12.3 | 17.9 | 24 | 7.1 | 4,19 | 10.4 | 11.74 | 5.0 | 5.0 | 11 |
| ahrir . | 362.5 | 317.7 | 354.6 | 90 | 67 | 42 | 21 | 21 | 11.7 | 11.3 | 17.2 | 5 | 7.5 | 22 | 6.6 | 6.38 | 6.7 | 6.7 | 12 |
| ahtim . | 388.2 | 314.1 | 355.0 | 88 | 63 | 37 | 16 | 20 | 10.7 | 10.3 | 16.0 | 5 | 6.6 | 20 | 8.6 | 7.04 | 0 | 0 | — |
| harga | 437.7 | 336.6 | 359.1 | 94 | 33 | 22 | 7 | 23 | 7.4 | 7.1 | 12.8 | 6 | 3.3 | 23 | 17.2 | 14.63 | 0 | 0 | — |

## Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS IN DIFFERENT FIELDS

### OCTOBER — 1970

| STATION | Highest (H) Lower (L) | Extreme soil temperature (°C) in dry field at different depths (cms.) | | | | | | | | Extreme soil temperature (°C) in grass field at different depths (cms) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 |
| M.Matruh . . . . | H | 36.9 | 33.4 | 29.7 | 26.5 | 26.7 | 26.6 | 25.4 | — | — | — | — | — | — | — | — | — |
| | L | 16.0 | 16.5 | 18.3 | 21.2 | 22.9 | 24.3 | 24.5 | — | — | — | — | — | — | — | — | — |
| Tahrir . . . . . | H | 45.9 | 40.8 | 35.0 | 30.5 | 28.2 | 29.2 | 28.5 | 27.9 | — | — | — | — | — | — | — | — |
| | L | 16.0 | 16.4 | 17.0 | 20.7 | 23.4 | 25.1 | 26.4 | 26.9 | — | — | — | — | — | — | — | — |
| Bahtim . . . . . | H | 44.9 | 37.9 | 32.6 | 30.3 | 30.2 | 30.2 | 28.5 | 27.1 | — | — | — | — | — | — | — | — |
| | L | 18.4 | 18.2 | 21.4 | 24.6 | 26.5 | 27.4 | 27.8 | 26.7 | — | — | — | — | — | — | — | — |
| Kharga . . . . . | H | 49.2 | 42.2 | 36.7 | 32.4 | 31.1 | 32.3 | 31.2 | 30.3 | — | — | — | — | — | — | — | — |
| | L | 13.5 | 17.5 | 21.0 | 25.0 | 23.1 | 30.1 | 30.4 | 30.0 | — | — | — | — | — | — | — | — |

## Table C 5.—SURFACE WIND

### OCTOBER — 1970

| STATION | Wind Speed m/sec at 1½ metres | | | Days with surface wind speed at (10 metres) | | | | | | | Max. Gust 10 metres | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean of the day | Night time mean | Day time mean | ≥10 (knots) | ≥15 (knots) | ≥20 (knots) | ≥25 (knots) | ≥30 (knots) | ≥35 (knots) | ≥40 (knots) | Value (knots) | Date |
| M.Matruh. . . | 4.5 | 3.9 | 5.1 | 31 | 25 | 18 | 6 | 1 | 0 | 0 | 41 | 26 |
| Tahrir . . . . | 2.0 | 1.3 | 2.8 | 26 | 9 | 1 | 0 | 0 | 0 | 0 | 34 | 12 |
| Bahtim . . . . | 2.1 | 1.0 | 3.1 | 27 | 15 | 1 | 0 | 0 | 0 | 0 | 31 | 12 |
| Kharga . . . | 4.3 | 3.2 | 5.3 | 31 | 28 | 12 | 4 | 0 | 0 | 0 | 31 | 30 |

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*Chairman of the Board of Directors*

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THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 11

## NOVEMBER, 1970

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
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# PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT — CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

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This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968, this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

## THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

## THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

## THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

## CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

## METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

## TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 11

## NOVEMBER, 1970

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CAIRO

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*Note* : For explanatory notes on the tables please refer to Volume 13, Number 1 (January 1970).

# GENERAL SUMMARY OF WEATHER CONDITIONS

## NOVEMBER 1970

**Changeable and generally humid, characterized with a pronounced cold wave near end of the month. Scattered thundery rain round the 2nd and 27th. A record for daily rainfall at Ras-El-Teen on the 28th.**

### GENERAL DESCRIPTION OF WEATHER

During this month, four cold waves were experienced and were separated by short warm periods. The first three cold waves were generally light and prevailed most of the first three weeks during which weather was generally mild daytime in the north and warm in the south, but cool in the night time. The last cold wave was pronounced and prevailed during the period (26th-30th) when temperatures were appreciably subnormal.

Weather was light rainy in general in the north of the country during the cold waves. Scattered heavy rain and thunderstorms were reported round the 2nd & 27th.

Early morning mist developed during several days over scattered parts in Delta, Cairo, and north of Upper Egypt.

### PRESSURE DISTRIBUTION

The outstanding pressure systems over the synoptic surface charts during this month were :

— The Atlantic anticyclone and its extension over the Mediterranean and North Africa.

— The Siberian anticyclone and its southwest extension towards East Mediterranean.

— Deep low pressure troughs through Central Europe.

— Secondary depressions or troughs through the Mediterranean.

— The Sudan monsoon trough.

During this month five secondary Mediterranean depressions or troughs were distinguished.

The first Mediterranean trough appeared over East Mediterranean on the 1st with a closed low over north of Red Sea. This system moved slowly on the 2nd and filled up on the 3rd.

The second trough appeared on the 6th over Central and East Mediterranean as a secondary for a deep trough north of the Black Sea. It moved rapidly north eastwards on the 7th while filling.

The third Mediterranean trough developed over West Mediterranean on the 14th and moved slowly eastwards reaching Central Med. on the 16th, then it continued its track northeastwards towards the Black Sea area on the 17th.

A secondary low appeared over Greece on the 11th, moved to East Mediterranean on the 12th and then it moved eastwards while filling on the 13th.

The last Mediterranean depression during this month developed over the Balkans on the 22nd. It moved southeastwards reaching East Mediterranean on the 24th where it remained quasi-stationary till the 27th, then it moved eastwards while filling the next day.

The transits of the above mentioned secondary depressions or troughs through East

Mediterranean was followed by development of high pressure which extended either from the Atlantic anticyclone or from SW Russia.

The barometric pressure over Egypt was generally above normal this month, excluding periods of transit of secondary Mediterranean depressions during which it was round or slightly below normal.

In the upper levels (700 & 500 mb) five upper troughs (or lows) were distinguished through middle latitudes. These troughs associated the above mentioned surface depressions and traversed East Mediterranean and north Egypt on the 5th, 8th, 14th, 19th & 30th. The last upper trough was the deepest and was quasi-stationary over East Mediterranean from the 24th till the end of the month.

### SURFACE WIND

Light to moderate N/NW winds prevailed most of this month over most parts of the Republic. Winds became fresh to strong over local places mainly in the Red Sea district in several days.

### TEMPERATURE

Maximum air temperature was generally below normal, apart from few warm days during which it was slightly above normal. The departure below normal was appreciable during the last cold wave which prevailed in the period (26th—30th), and was slight to moderate otherwise. Maximum air temperature values ranged most of the month between 20°C & 27°C in th northern and middle parts, between 27°C & 32°C in the southern parts.

The absolute maximum air temperature for the month was 35.2°C reported at Aswan on the 12th.

Minimum air temperature was round normal with slight to moderate departure in general ; its values ranged in general between 8°C & 18°C. As an exception minimum air temperature values ranged between 2°C & 7°C in scattered parts of the Western Desert & Upper Egypt districts during the last cold wave.

The absolute minimum air temperature for the month was 2.2°C reported at Dakhla on the 29th.

### PRECIPITATION

Light to moderate rain fell over the northern parts during several days and extended to Cairo area on the 2nd, 3rd. Rain was heavy and associated with thunderstorms over scattered parts round the 2nd & 27th. It is worthy of mention that the daily rainfall reported a record (55.4) at Ras El-Teen on the 28th.

The highest daily rainfall was 55.4 mm reported at Ras El-Teen on the 28th.

The highest monthly rainfall was 73.0 mm reported at Alexandria.

*Cairo, May 1972*

**Chairman (M. F. TAHA)**

***Board of Directors***

## Table A 1. — MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION.

### NOVEMBER — 1970

| STATION | Atmospheric Pressure (mbs) M.S.L | | Air Temperature °C | | | | | | | | | Relative Humidity % | | Bright Sunshine Duration (Hours) | | | Piche Evap. (mms) Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Maximum | | Minimum | | | Dry Bulb | | Wet Bulb | | | | | | | |
| | Mean | D.F. Normal or Average | (A) Mean | D.F. Normal or Average | (B) Mean | D.F. Normal or Average | $\frac{A+B}{2}$ | Mean | D.F. Normal or Average | Mean | D.F. Normal or Average | Mean | D.F. Normal or Average | Total Actual | Total Possible | % | |
| Sallum | 1018.5 | +0.7 | 23.2 | —1.4 | 14.3 | —0.6 | 18.8 | 18.2 | —1.6 | 13.5 | —1.8 | 57 | — 3 | — | — | — | 6.9 |
| Mersa Matruh (A) | 1018.9 | +1.1 | 22.3 | —1.2 | 13.5 | +0.1 | 17.9 | 17.4 | —0.8 | 14.1 | —0.6 | 68 | + 1 | 229.4 | 317.3 | 72 | 6.9 |
| Alexandria (A) | 1018.2 | +1.0 | 23.2 | —1.3 | 14.2 | —0.5 | 18.7 | 18.5 | —0.8 | 15.6 | —0.5 | 72 | + 3 | 256.3 | 318.0 | 80 | 4.4 |
| Port Said (A) | 1016.6 | +0.1 | 23.2 | —0.8 | 16.4 | —2.1 | 20.0 | 19.8 | —1.1 | 16.5 | —1.1 | 70 | — 1 | 240.4 | 318.0 | 76 | 5.5 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Gharza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 1017.4 | —0.1 | 24.5 | —1.3 | 12.0 | —0.4 | 18.2 | 17.2 | —1.2 | 14.4 | —0.8 | 72 | + 2 | 245.3 | 318.8 | 77 | 3.1 |
| Cairo (A) | 1017.6 | +0.5 | 23.9 | —1.3 | 14.0 | +0.2 | 19.0 | 18.6 | —0.7 | 15.0 | 0.0 | 66 | + 5 | — | — | — | 7.9 |
| Fayoum | — | — | 25.3 | —1.2 | 12.4 | —0.8 | 18.8 | 18.5 | —1.0 | 15.0 | —0.1 | 67 | + 8 | — | — | — | 3.9 |
| Minya (A) | 1016.8 | +0.2 | 25.3 | —1.5 | 12.0 | +0.5 | 18.6 | 17.8 | —0.6 | 13.8 | —0.7 | 61 | + 1 | 268.8 | 323.5 | 83 | 6.2 |
| Assyout (A) | 1016.8 | +0.4 | 25.7 | —0.9 | 12.1 | —0.7 | 18.9 | 18.1 | —1.3 | 13.4 | —0.2 | 56 | + 8 | — | — | — | 8.6 |
| Luxor (A) | 1015.2 | +0.6 | 29.2 | —0.5 | 11.8 | —0.4 | 20.5 | 20.0 | +0.3 | 14.1 | —0.7 | 48 | + 1 | — | — | — | 5.9 |
| Aswan (A) | 1014.9 | +0.5 | 29.1 | —1.4 | 14.2 | —0.4 | 21.6 | 21.4 | —1.0 | 13.2 | —0.3 | 33 | + 3 | — | — | — | 14.7 |
| Siwa | 1018.5 | +0.5 | 24.5 | —1.8 | 9.9 | —0.2 | 17.2 | 16.9 | —1.1 | 12.1 | —0.5 | 54 | + 4 | 264.5 | 321.7 | 82 | 6.7 |
| Bahariya | 1017.8 | +0.1 | 24.9 | —1.3 | 12.0 | +0.7 | 18.5 | 18.1 | —0.1 | 13.2 | —0.3 | 54 | + 3 | — | — | — | 5.4 |
| Farafra | 1019.6 | +1.1 | 24.3 | —1.9 | 10.7 | 0 | 17.5 | 17.1 | —1.2 | 12.3 | +0.4 | 54 | +11 | — | — | — | 9.3 |
| Dakhla | 1017.6 | +2.2 | 25.6 | —2.1 | 10.4 | —1.1 | 18.0 | 17.6 | —1.5 | 11.7 | —0.3 | 45 | + 7 | — | — | — | 10.8 |
| Kharga | 1016.6 | +0.5 | 26.8 | —1.9 | 12.6 | —0.3 | 19.7 | 19.9 | —0.7 | 13.0 | —0.4 | 45 | + 3 | 299.8 | 328.3 | 91 | 11.0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 1015.1 | +0.3 | 25.5 | —0.4 | 16.1 | +0.6 | 20.8 | 20.9 | 0 | 15.7 | 0.0 | 55 | + 1 | 279.5 | 325.8 | 86 | 11.5 |
| Quseir | 1014.9 | +0.3 | 25.6 | —1.7 | 19.1 | —0.4 | 22.3 | 22.2 | —0.9 | 17.0 | —0.3 | 56 | + 3 | — | — | — | 12.3 |

## Table A 2 — MAXIMUM AND MINIMUM AIR TEMPERATURE

## NOVEMBER — 1970

| Station | Maximum Temperature °C | | | | | | | | | Grass Min. Temp. | | Minimum Temperature °C | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | Date | Lowest | Date | No. of Days with Max-Temp. | | | | | Mean | Dev. From Normal | Highest | Date | Lowest | Date | No. of Days with Min. Temp. | | | |
| | | | | | >25 | >30 | >35 | >40 | >45 | | | | | | | <10 | <5 | <0 | <-5 |
| Sallum . . . . . | 28.2 | 10 | 17.1 | 27 | 8 | 0 | 0 | 0 | 0 | 13.3 | — | 16.6 | 3 | 10.5 | 27 | 0 | 0 | 0 | 0 |
| Mersa Matruh (A) | 25.2 | 10 | 16.8 | 27 | 2 | 0 | 0 | 0 | 0 | 12.0 | — | 19.3 | 3 | 10.2 | 27 | 0 | 0 | 0 | 0 |
| Alexandria . (A) | 26.2 | 7 | 13.3 | 27 | 4 | 0 | 0 | 0 | 0 | 12.6 | — | 19.1 | 4 | 10.8 | 11 | 0 | 0 | 0 | 0 |
| Port Said . (A) | 27.7 | 1 | 20.0 | 27 | 12 | 0 | 0 | 0 | 0 | 15.8 | — | 20.7 | 1 | 11.3 | 28 | 0 | 0 | 0 | 0 |
| El Arish . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta. . . . . | 28.2 | 1 | 18.6 | 27 | 14 | 0 | 0 | 0 | 0 | — | — | 17.0 | 2 | 6.7 | 30 | 4 | 0 | 0 | 0 |
| Cairo . . . (A) | 27.2 | 1 | 18.2 | 27 | 8 | 0 | 0 | 0 | 0 | — | — | 16.8 | 4 | 9.0 | 30 | 1 | 0 | 0 | 0 |
| Fayoum. . . . . | 28.9 | 11 | 20.1 | 27 | 18 | 0 | 0 | 0 | 0 | 9.8 | — | 17.0 | 5 | 5.2 | 30 | 6 | 0 | 0 | 0 |
| Minya . . . (A) | 28.0 | 11 | 20.0 | 27 | 17 | 0 | 0 | 0 | 0 | 10.3 | — | 15.6 | 5 | 5.0 | 29 | 7 | 0 | 0 | 0 |
| Assyout. . . (A) | 30.7 | 19 | 19.0 | 29 | 21 | 1 | 0 | 0 | 0 | 10.0 | — | 16.3 | 2 | 5.7 | 29 | 4 | 0 | 0 | 0 |
| Luxor . . . (A) | 33.8 | 12 | 22.0 | 28 | 26 | 14 | 0 | 0 | 0 | 8.7 | — | 15.8 | 6 | 5.8 | 28 | 6 | 0 | 0 | 0 |
| Aswan . . . (A) | 35.2 | 12 | 22.0 | 28 | 26 | 12 | 1 | 0 | 0 | — | — | 19.1 | 19 | 7.9 | 30 | 2 | 0 | 0 | [illegible] |
| Siwa . . . . . | 28.5 | 3 | 19.3 | 28 | 15 | 0 | 0 | 0 | 0 | 8.7 | — | 14.9 | 3 | 5.2 | 16 | 15 | 0 | 0 | 0 |
| Bahariya . . . . | 28.1 | 11 | 19.3 | 28 | 16 | 0 | 0 | 0 | 0 | 10.4 | — | 16.0 | 4,18 | 4.4 | 29 | 8 | 1 | 0 | 0 |
| Farafra . . . . | 27.0 | 11 | 18.7 | 27 | 16 | 0 | 0 | 0 | 0 | 9.9 | — | 14.6 | 3 | 4.7 | 28 | 12 | 2 | 0 | 0 |
| Dakhla . . . . . | 31.6 | 18 | 19.4 | 28 | 20 | 2 | 0 | 0 | 0 | 9.9 | — | 15.6 | 19 | 2.2 | 29 | 12 | 3 | 0 | 0 |
| Kharga . . . . | 32.0 | 18 | 20.6 | 29 | 23 | 2 | 0 | 0 | 0 | 10.1 | — | 19.2 | 19 | 4.4 | 29 | 8 | 2 | 0 | 0 |
| Tor . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada . . . | 27.4 | 8 | 21.8 | 28 | 21 | 0 | 0 | 0 | 0 | — | — | 19.7 | 2 | 10.7 | 28 | 0 | 0 | 0 | 0 |
| Quseir . . . . . | 31.2 | 2 | 22.2 | 28 | 21 | 1 | 0 | 0 | 0 | 16.4 | — | 21.2 | 2 | 12.5 | 28 | 0 | 0 | 0 | 0 |

## Table A 3.—SKY COVER AND RAINFALL.

### NOVEMBER — 1970

| Station | Mean Sky Cover Oct. | | | | | Rainfall mms. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 00 U.T. | 06 U.T. | 12 U.T. | 18 U.T. | Daily Mean | Total Amount | D. From Normal | Max. Fall in one day | | Number of Days with Amount of Rain | | | | | | |
| | | | | | | | | Amount | Date | <0.1 | ≥0.1 | ≥1.0 | ≥5.0 | ≥10 | ≥25 | ≥50 |
| Sallum | 4.1 | 2.8 | 4.4 | 2.5 | 3.4 | 25.8 | — 2.7 | 16.4 | 29 | 0 | 5 | 2 | 1 | 1 | 0 | 0 |
| Mersa Matruh (A) | 2.5 | 4.4 | 5.1 | 3.3 | 3.7 | 25.3 | + 1.7 | 10.8 | 12 | 1 | 6 | 4 | 2 | 2 | 0 | 0 |
| Alexandria (A) | 4.8 | 5.0 | 5.3 | 3.8 | 4.7 | 73.0 | +44.2 | 53.3 | 27 | 0 | 7 | 4 | 2 | 2 | 1 | 1 |
| Port Said (A) | 1.7 | 2.5 | 3.1 | 2.5 | 2.4 | 20.0 | +10.3 | 10.3 | 1 | 0 | 7 | 3 | 2 | 1 | 0 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 1.0 | 2.6 | 4.3 | 1.0 | 2.2 | 2.3 | — 1.9 | 0.9 | 30 | 0 | 5 | 0 | 0 | 0 | 0 | 0 |
| Cairo (A) | 1.9 | 3.4 | 4.6 | 1.8 | 2.9 | 9.7 | + 7.0 | 9.7 | 2 | 0 | 1 | 1 | 1 | 0 | 0 | 0 |
| Fayoum | — | 2.7 | 3.7 | 1.7 | — | 2.0 | + 1.5 | 2.0 | 2 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| Minya | 0.9 | 2.4 | 2.9 | 0.7 | 1.6 | 0.0 | — 0.2 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Assyout (A) | 0.6 | 2.2 | 1.6 | 0.8 | 1.2 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Luxor (A) | 0.6 | 1.4 | 1.6 | 0.9 | 1.0 | 0.0 | — 0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aswan (A) | 0.9 | 1.4 | 2.0 | 0.9 | 1.4 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Siwa | 0.9 | 1.3 | 3.0 | 0.8 | 1.5 | 0.0 | — 0.6 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bahariya | 1.5 | 2.3 | 3.0 | 1.3 | 1.9 | Tr. | — 0.6 | Tr. | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Farafra | — | 2.0 | 2.2 | 0.6 | — | 0.0 | — 0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dakhla | 0.1 | 0.3 | 1.0 | 0.1 | 0.4 | 0.0 | — Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kharga | 0.6 | 1.1 | 1.9 | 0.2 | 1.0 | 0.0 | — 0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 1.0 | 2.1 | 2.6 | 1.8 | 1.9 | Tr. | — 0.2 | Tr. | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Quseir | 0.5 | 1.5 | 1.9 | 1.7 | 1.3 | Tr. | — 1.9 | Tr. | 1,21 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |

## Table A 4. — DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA.

NOVEMBER — 1970

| Station | Precipitation | | | | Frost | Thunderstorm, | Mist Vis ≥1000 metres | Fog Vis <1000 Metres | Haze Vis ≥1000 Metres | Thick Haze Vis <1000 Metres | Dust or Sandstorm Vis ≥1000 Metres | Dust or Sandstorm Vis <1000 Metres | Gale | Clear Sky | Cloudy Sky |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rain | Snow | Ice, Pellets | Hail | | | | | | | | | | | |
| Sallum | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 |
| Mersa Matruh (A) | 6 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 3 | 2 | 0 | 4 | 0 |
| Alexandria (A) | 7 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Port Said (A) | 7 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 1 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 5 | 0 | 0 | 0 | 0 | 1 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 |
| Cairo (A) | 1 | 0 | 0 | 0 | 0 | 1 | 9 | 1 | 6 | 0 | 2 | 0 | 0 | 9 | 1 |
| Fayoum | 1 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — |
| Minya (A) | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 0 | 0 | 20 | 0 |
| Assyout (A) | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 0 | 2 | 0 | 0 | 0 | 0 | 22 | 0 |
| Luxor (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 1 | 0 | 0 | 23 | 0 |
| Aswan A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 1 | 0 | 20 | 0 |
| Siwa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 19 | 0 |
| Bahariya | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 |
| Farafra | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — |
| Dakhla | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 29 | 0 |
| Kharga | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 26 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 18 | 0 |
| Quseir | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 22 | 0 |

# TABLE A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

## NOVEMBER — 1970

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | All directions |
| Sallum | 2 | 0 | 0 | 1—10 | 97 | 39 | 46 | 0 | 4 | 4 | 1 | 7 | 9 | 44 | 119 | 87 | 457 |
| | | | | 11—27 | 46 | 5 | 0 | 0 | 0 | 0 | 2 | 0 | 7 | 55 | 125 | 21 | 261 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 143 | 44 | 46 | 0 | 4 | 4 | 3 | 7 | 16 | 99 | 244 | 108 | 718 |
| Mersa Matruh (A) | 2 | 1 | 0 | 1—10 | 58 | 24 | 3 | 0 | 3 | 4 | 14 | 40 | 117 | 61 | 19 | 51 | 394 |
| | | | | 11—27 | 46 | 2 | 0 | 0 | 0 | 0 | 9 | 23 | 60 | 36 | 28 | 119 | 323 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 104 | 26 | 3 | 0 | 3 | 4 | 23 | 63 | 177 | 97 | 47 | 170 | 717 |
| Alexandria (A) | 16 | 1 | 2 | 1—10 | 110 | 88 | 16 | 1 | 5 | 9 | 23 | 100 | 57 | 24 | 49 | 139 | 621 |
| | | | | 11—27 | 22 | 7 | 2 | 0 | 0 | 1 | 0 | 0 | 17 | 12 | 9 | 10 | 80 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 132 | 95 | 18 | 1 | 5 | 10 | 23 | 100 | 74 | 36 | 58 | 149 | 701 |
| Port Saird | 22 | 0 | 0 | 1—10 | 138 | 87 | 30 | 4 | 4 | 3 | 11 | 41 | 94 | 58 | 61 | 142 | 673 |
| | | | | 11—27 | 4 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 11 | 0 | 0 | 3 | 25 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 142 | 88 | 30 | 4 | 4 | 3 | 11 | 47 | 105 | 58 | 61 | 145 | 698 |
| Tanta | 93 | 0 | 0 | 1—10 | 122 | 46 | 4 | 6 | 0 | 1 | 28 | 64 | 46 | 47 | 92 | 84 | 540 |
| | | | | 11—27 | 18 | 9 | 0 | 0 | 0 | 0 | 0 | 1 | 21 | 10 | 5 | 23 | 87 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 140 | 55 | 4 | 6 | 0 | 1 | 28 | 65 | 67 | 57 | 97 | 107 | 627 |
| Cairo (A) | 104 | 0 | 6 | 1—10 | 82 | 86 | 12 | 32 | 5 | 12 | 39 | 26 | 32 | 37 | 38 | 47 | 448 |
| | | | | 11—27 | 32 | 42 | 2 | 1 | 0 | 1 | 36 | 28 | 11 | 4 | 0 | 5 | 162 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 114 | 128 | 14 | 33 | 5 | 13 | 75 | 54 | 43 | 41 | 38 | 52 | 610 |
| Fayoum | 7 | 5 | 1 | 1—10 | 200 | 183 | 13 | 2 | 0 | 13 | 24 | 42 | 69 | 39 | 22 | 76 | 683 |
| | | | | 11—27 | 5 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 3 | 0 | 0 | 24 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 205 | 197 | 13 | 2 | 0 | 13 | 24 | 42 | 71 | 42 | 22 | 76 | 707 |
| Minya | 26 | 0 | 0 | 1—10 | 380 | 39 | 1 | 1 | 0 | 11 | 17 | 13 | 13 | 25 | 48 | 53 | 601 |
| | | | | 11—27 | 66 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 93 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 446 | 66 | 1 | 1 | 0 | 11 | 17 | 13 | 13 | 25 | 48 | 53 | 694 |
| Asyout | 12 | 0 | 229 | 1—10 | 5 | 0 | 0 | 0 | 1 | 2 | 1 | 3 | 8 | 192 | 126 | 70 | 408 |
| | | | | 11—27 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 | 12 | 46 | 71 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | 10 | 0 | 0 | 0 | 1 | 2 | 1 | 3 | 12 | 196 | 138 | 116 | 479 |

**Table A 5** (*contd.*)—**NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

**NOVEMBER — 1970**

| Station | calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | All directions |
| Luxor . . . . . (A) | 31 | 0 | 13 | 1–10 | 80 | 32 | 2 | 22 | 12 | 56 | 149 | 61 | 36 | 74 | 84 | 57 | 665 |
| | | | | 11–27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 9 | 0 | 11 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **80** | **32** | **2** | **22** | **12** | **56** | **149** | **62** | **36** | **75** | **93** | **57** | **676** |
| Aswan . . . . . (A) | 0 | 0 | 3 | 1–10 | 335 | 26 | 0 | 0 | 0 | 1 | 1 | 0 | 1 | 7 | 19 | 123 | 513 |
| | | | | 11–27 | 154 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 32 | 204 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **489** | **32** | **0** | **0** | **0** | **1** | **1** | **0** | **1** | **7** | **31** | **155** | **717** |
| Siwa . . . . . | 94 | 5 | 0 | 1–10 | 10 | 37 | 57 | 17 | 14 | 12 | 10 | 8 | 29 | 147 | 145 | 79 | 565 |
| | | | | 11–27 | 0 | 0 | 6 | 2 | 0 | 0 | 0 | 1 | 2 | 3 | 34 | 8 | 56 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **10** | **37** | **63** | **19** | **14** | **12** | **10** | **9** | **31** | **150** | **179** | **87** | **621** |
| Dakhla . . . . . | 13 | 2 | 0 | 1–10 | 139 | 44 | 15 | 5 | 5 | 7 | 28 | 37 | 80 | 110 | 123 | 77 | 670 |
| | | | | 11–27 | 6 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 2 | 23 | 35 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **145** | **47** | **15** | **5** | **5** | **7** | **28** | **37** | **80** | **111** | **125** | **100** | **705** |
| Kharga . . . . . | 5 | 0 | 8 | 1–10 | 176 | 41 | 11 | 18 | 4 | 0 | 1 | 1 | 4 | 8 | 39 | 167 | 470 |
| | | | | 11–27 | 172 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 50 | 237 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **348** | **51** | **11** | **18** | **4** | **0** | **1** | **1** | **4** | **8** | **44** | **217** | **707** |
| Hurghada . . . . . | 3 | 0 | 0 | 1–10 | 10 | 15 | 4 | 0 | 0 | 0 | 2 | 0 | 0 | 4 | 66 | 42 | 143 |
| | | | | 11–27 | 152 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 169 | 224 | 573 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **162** | **41** | **4** | **0** | **0** | **0** | **2** | **0** | **0** | **6** | **235** | **267** | **717** |
| Quseir . . . . . | 0 | 0 | 4 | 1–10 | 43 | 78 | 17 | 3 | 1 | 1 | 1 | 2 | 4 | 6 | 123 | 188 | 467 |
| | | | | 11–27 | 127 | 88 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 28 | 249 |
| | | | | 28–47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **170** | **166** | **18** | **3** | **1** | **1** | **1** | **2** | **4** | **6** | **128** | **216** | **716** |

# UPPER AIR CLIMATOLOGICAL DATA

## Table B1 —MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

### NOVEMBER—1970

| Station | Pressure Surface Millibar | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matrah 0000 UT. | Surface . . . | 30 | *1017m.b. | *1022m.b. | *1012m.b. | 30 | 16.0 | 21.0 | 12.0 | 30 | 11.6 |
| | 1000 . . . | 30 | 169 | 215 | 128 | 30 | 17.5 | 20.9 | 11.6 | 30 | 12.1 |
| | 850 . . . | 30 | 1539 | 1583 | 1473 | 30 | 8.9 | 14.3 | 2.8 | 30 | — 0.6 |
| | 700 . . . | 30 | 3126 | 3174 | 3016 | 30 | 0.9 | 6.5 | — 6.1 | 30 | —12.9 |
| | 600 . . . | 30 | 4350 | 4415 | 4208 | 30 | — 6.7 | — 0.7 | —14.1 | 30 | —21.5 |
| | 500 . . . | 30 | 5751 | 5841 | 5565 | 30 | —16.6 | —11.2 | —24.7 | 30 | —29.7 |
| | 400 . . . | 30 | 7722 | 7517 | 7147 | 30 | —29.2 | —24.1 | —37.1 | 30 | —40.7 |
| | 300 . . . | 27 | 9388 | 9547 | 9087 | 27 | —43.7 | —39.1 | —51.0 | 26 | —54.9 |
| | 250 . . . | 22 | 10584 | 10757 | 10294 | 22 | —51.1 | —46.3 | —56.7 | 19 | —61.4 |
| | 200 . . . | 16 | 12011 | 12183 | 11768 | 16 | —56.0 | —47.5 | —63.5 | 13 | —66.6 |
| | 150 . . . | 14 | 13835 | 13981 | 13622 | 14 | —59.8 | —52.9 | —64.9 | 5 | —69.5 |
| | 100 . . . | 13 | 16352 | 16466 | 16182 | 13 | —66.0 | —59.4 | —71.0 | — | — |
| | 70 . . . | 9 | 18532 | 18631 | 18397 | 9 | —65.4 | —63.5 | —70.2 | — | — |
| | 60 . . . | 8 | 19519 | 19680 | 19360 | 8 | —63.9 | —60.0 | —67.9 | — | — |
| | 50 . . . | 8 | 20600 | 20711 | 20495 | 8 | —61.9 | —55.6 | —66.4 | — | — |
| | 40 . . . | 5 | 22084 | 22200 | 21860 | 5 | —59.7 | —58.4 | —61.7 | — | — |
| | 30 . . . | 2 | 23894 | 23950 | 23839 | 2 | —55.4 | —54.3 | —56.5 | — | — |
| | 20 . . . | — | — | — | — | — | — | — | — | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | — | — |
| Helwan 0000 U.T. | Surface . . . | 29 | *1001m.b. | *1006m.b. | *997m.b. | 29 | 15.8 | 19.6 | 9.0 | 29 | 12.4 |
| | 1000 . . . | 29 | 148 | 201 | 116 | 29 | 15.6 | 17.5 | 9.0 | 29 | 12.2 |
| | 850 . . . | 29 | 1518 | 1573 | 1458 | 29 | 9.9 | 15.1 | 1.8 | 29 | 3.1 |
| | 700 . . . | 29 | 3110 | 3174 | 2995 | 29 | 1.7 | 6.8 | — 7.1 | 29 | — 7.1 |
| | 600 . . . | 29 | 4337 | 4420 | 4184 | 29 | — 5.8 | — 1.6 | —14.9 | 29 | —15.1 |
| | 500 . . . | 29 | 5743 | 5847 | 5536 | 29 | —15.8 | — 8.8 | —25.4 | 29 | —24.6 |
| | 400 . . . | 29 | 7387 | 7532 | 7120 | 29 | —27.7 | —22.3 | —37.0 | 29 | —35.4 |
| | 300 . . . | 29 | 9384 | 9578 | 9693 | 29 | —43.1 | —38.3 | —47.1 | 29 | —49.9 |
| | 250 . . . | 25 | 10582 | 10802 | 10359 | 25 | —51.7 | —46.8 | —58.9 | 25 | —58.4 |
| | 200 . . . | 18 | 11961 | 12100 | 11785 | 18 | —57.3 | —50.9 | —66.1 | 12 | —56.4 |
| | 150 . . . | 14 | 13764 | 13892 | 13631 | 14 | —59.3 | —56.7 | —63.7 | 9 | —64.7 |
| | 100 . . . | 13 | 16271 | 16412 | 16155 | 13 | —60.1 | —61.4 | —68.9 | — | — |
| | 70 . . . | 13 | 18451 | 18586 | 18287 | 13 | —63.6 | —61.1 | —67.7 | — | — |
| | 60 . . . | 9 | 19438 | 19550 | 19260 | 9 | —63.2 | —60.8 | —66.0 | — | — |
| | 50 . . . | 9 | 20531 | 20627 | 20340 | 9 | —62.1 | —59.7 | —62.8 | — | — |
| | 40 . . . | 6 | 22018 | 22170 | 21830 | 6 | —60.0 | —57.0 | —63.6 | — | — |
| | 30 . . . | 6 | 23715 | 23827 | 23522 | 6 | —57.9 | —54.4 | —66.3 | — | — |
| | 20 . . . | 6 | 26329 | 26455 | 26112 | 6 | —50.5 | —44.1 | —57.8 | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | — | — |
| Aswan 0000 U.T. | Surface . . . | 30 | *991m.b. | *996m.b. | *987m.b. | 30 | 18.1 | 28.4 | 10.4 | 30 | 5.2 |
| | 1000 . . . | 30 | 114 | 160 | 81 | — | — | — | — | — | — |
| | 850 . . . | 30 | 1510 | 1580 | 1480 | 30 | 15.8 | 21.5 | 6.7 | 30 | — 5.5 |
| | 700 . . . | 29 | 3133 | 3172 | 3083 | 29 | 7.7 | 18.3 | 0.1 | 29 | —13.5 |
| | 600 . . . | 29 | 4386 | 4451 | 4301 | 29 | — 1.1 | 7.8 | — 7.7 | 28 | —20.3 |
| | 500 . . . | 29 | 5822 | 5920 | 5697 | 29 | — 9.7 | — 4.2 | —13.9 | 28 | —28.0 |
| | 400 . . . | 28 | 7513 | 7641 | 7361 | 28 | —22.0 | —17.0 | —26.9 | 28 | —36.6 |
| | 300 . . . | 28 | 9559 | 9716 | 9391 | 28 | —38.1 | —32.7 | —42.1 | 28 | —50.2 |
| | 250 . . . | 27 | 10791 | 10956 | 10612 | 27 | —47.5 | —42.8 | —56 4 | 25 | —58.2 |
| | 200 . . . | 27 | 12248 | 12406 | 12063 | 27 | —56.2 | —52.9 | —59.3 | 24 | —66.0 |
| | 150 . . . | 23 | 14041 | 14211 | 13863 | 23 | —63.4 | —59.9 | —68.7 | 2 | —69.8 |
| | 100 . . . | 23 | 16481 | 16655 | 16273 | 23 | —72.3 | —67.6 | —75.7 | — | — |
| | 70 . . . | 16 | 18594 | 18689 | 18518 | 16 | —69.9 | —62.6 | —77.0 | — | — |
| | 60 . . . | 10 | 19573 | 19670 | 19490 | 10 | —65.9 | —64.2 | —69.5 | — | — |
| | 50 . . . | 10 | 20641 | 20737 | 20538 | 10 | —62.7 | —55.8 | —65.8 | — | — |
| | 40 . . . | 9 | 22118 | 22220 | 21910 | 9 | —59.6 | —56.2 | —61.4 | — | — |
| | 30 . . . | 8 | 23858 | 23937 | 23726 | 8 | —55.8 | —53.4 | —57.1 | — | — |
| | 20 . . . | 6 | 26461 | 26595 | 26320 | 6 | —53.2 | —51.1 | —56.3 | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the element has been observed during the month.

* = The atmospheric pressure corrected to the elevation of the radiosonde station.

# UPPER AIR CLIMATOLOGICAL DATA

## Table B1 (*contd*).—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

### NOVEMBER — 1970

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Merse Mat uh (A) 1200 U.T. | Surface . . . | 29 | *1016m.b. | *1021m.b. | *1010m.b. | 29 | 21.3 | 24.5 | 19.0 | 29 | 12.4 |
| | 1000 . . . | 29 | 169 | 208 | 115 | 29 | 19.8 | 23.8 | 16.5 | 29 | 10.9 |
| | 850 . . . | 29 | 1541 | 1578 | 1481 | 29 | 9.3 | 14.1 | 4.2 | 29 | — 0.5 |
| | 700 . . . | 29 | 3130 | 3191 | 3046 | 29 | 1.3 | 7.8 | — 4.3 | 29 | —12.6 |
| | 600 . . . | 29 | 4355 | 4442 | 4243 | 29 | — 6.5 | — 0.8 | —12.7 | 29 | —19.6 |
| | 500 . . . | 29 | 5757 | 5872 | 5611 | 29 | —16.5 | —11.0 | —22.2 | 29 | —28.9 |
| | 400 . . . | 29 | 7397 | 7548 | 7213 | 29 | —29.1 | —23.1 | —34.9 | 29 | —40.9 |
| | 300 . . . | 27 | 9404 | 9588 | 9166 | 27 | —43.3 | —37.1 | —48.9 | 27 | —54.0 |
| | 250 . . . | 26 | 10604 | 10808 | 10389 | 26 | —51.4 | —37.9 | —57.1 | 23 | —61.4 |
| | 200 . . . | 22 | 12047 | 12248 | 11878 | 22 | —57.0 | —42.2 | —64.6 | 13 | —65.4 |
| | 150 . . . | 14 | 13888 | 14080 | 13764 | 14 | —59.9 | —46.7 | —64.3 | 6 | —69.1 |
| | 100 . . . | 9 | 16418 | 16575 | 16319 | 9 | —65.1 | —53.1 | —70.7 | — | — |
| | 70 . . . | 4 | 18569 | 18670 | 18539 | 4 | —61.9 | —61.5 | —63.8 | — | — |
| | 60 . . . | 4 | 19582 | 19650 | 19520 | 4 | —59.8 | —60.7 | —60.2 | — | — |
| | 50 . . . | 4 | 20697 | 20780 | 20638 | 4 | —59.9 | —58.7 | —62.5 | — | — |
| | 40 . . . | 2 | 22175 | 22250 | 22100 | 2 | —53.5 | —47.5 | —59.5 | — | — |
| | 30 . . . | 2 | 23913 | 23950 | 23876 | 2 | —57.8 | —53.9 | —61.6 | — | — |
| | 20 . . . | 1 | 26457 | — | — | 1 | —64.3 | — | — | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | — | — |
| Helwan 1200 U.T. | Surface . . . | 29 | *1000m.b. | *1006m.b. | *997m.b. | 29 | 22.8 | 26.5 | 17.0 | 29 | 11.3 |
| | 1000 . . . | 29 | 141 | 189 | 113 | 16 | 22.6 | 26.5 | 18.0 | 16 | 10.4 |
| | 850 . . . | 29 | 1523 | 1557 | 1463 | 29 | 11.8 | 17.9 | 2.5 | 29 | — 1.4 |
| | 700 . . . | 29 | 3118 | 3178 | 3006 | 29 | 2.4 | 7.8 | — 6.8 | 29 | —12.2 |
| | 600 . . . | 29 | 4349 | 4430 | 4199 | 29 | — 4.9 | 0.4 | —12.6 | 29 | —18.0 |
| | 500 . . . | 29 | 5757 | 5856 | 5563 | 29 | —15.1 | — 9.5 | —23.5 | 28 | —27.0 |
| | 400 . . . | 28 | 7406 | 7530 | 7159 | 28 | —26.8 | —22.5 | —34.1 | 28 | —38.3 |
| | 300 . . . | 27 | 9418 | 9576 | 9147 | 27 | —41.7 | —38.9 | —46.3 | 27 | —51.7 |
| | 250 . . . | 27 | 10633 | 10798 | 10366 | 27 | —49.6 | —46.5 | —55.9 | 27 | —58.9 |
| | 200 . . . | 23 | 12073 | 12232 | 11825 | 23 | —55.8 | —48.7 | —63.8 | 19 | —63.6 |
| | 150 . . . | 17 | 13861 | 13972 | 13668 | 17 | —59.4 | —54.7 | —63.7 | 9 | —66.1 |
| | 100 . . . | 12 | 16382 | 16463 | 16260 | 12 | —63.1 | —58.0 | —67.5 | — | — |
| | 70 . . . | 9 | 18579 | 18649 | 18467 | 9 | —62.5 | —59.6 | —66.0 | — | — |
| | 60 . . . | 9 | 19563 | 19670 | 19450 | 9 | —60.2 | —59.5 | —62.0 | — | — |
| | 50 . . . | 9 | 20676 | 20789 | 20519 | 9 | —59.1 | —52.0 | —63.5 | — | — |
| | 40 . . . | 8 | 22176 | 22300 | 22100 | 8 | —56.9 | —54.4 | —61.3 | — | — |
| | 30 . . . | 8 | 23917 | 24070 | 23777 | 8 | —54.8 | —51.1 | —59.3 | — | — |
| | 20 . . . | 5 | 26528 | 26652 | 26394 | 5 | —48.5 | —45.4 | —51.0 | — | — |
| | 10 . . . | — | — | — | — | — | — | — | — | — | — |
| Aswan (A) 1200 U.T. | Surface . . . | 29 | *990m.b. | *996m.b. | *987m.b. | 29 | 27.4 | 31.9 | 20.0 | 29 | 6.8 |
| | 1000 . . . | 29 | 109 | 159 | 76 | — | — | — | — | — | — |
| | 850 . . . | 29 | 1516 | 1541 | 1485 | 29 | 15.9 | 21.6 | 6.8 | 29 | — 3.0 |
| | 700 . . . | 29 | 3114 | 3191 | 3076 | 29 | 7.1 | 14.5 | — 7.1 | 29 | —13.1 |
| | 600 . . . | 29 | 4395 | 4483 | 4300 | 29 | 0.3 | 9.8 | —10.1 | 29 | —20.8 |
| | 500 . . . | 29 | 5832 | 5971 | 5696 | 29 | — 9.6 | — 2.0 | —17.9 | 28 | —28.9 |
| | 400 . . . | 26 | 7517 | 7579 | 7326 | 26 | —21.5 | —16.2 | —27.5 | 26 | —37.6 |
| | 300 . . . | 26 | 9578 | 9801 | 9366 | 26 | —36.9 | —30.7 | —41.1 | 24 | —50.2 |
| | 250 . . . | 24 | 10809 | 11049 | 10601 | 24 | —46.5 | —39.7 | —50.5 | 21 | —58.3 |
| | 200 . . . | 23 | 12262 | 12516 | 12061 | 23 | —55.0 | —51.0 | —59.0 | 18 | —6[illegible].3 |
| | 150 . . . | 21 | 14076 | 14218 | 13859 | 21 | —62.9 | —58.2 | —67.6 | 3 | —63.3 |
| | 100 . . . | 15 | 16524 | 16817 | 16321 | 15 | —71.7 | —67.4 | —75.0 | — | — |
| | 70 . . . | 12 | 18660 | 18915 | 18529 | 12 | —67.9 | —65.0 | —71.7 | — | — |
| | 60 . . . | 9 | 19641 | 19890 | 19500 | 9 | —63.9 | —58.9 | —67.2 | — | — |
| | 50 . . . | 9 | 20734 | 20973 | 20605 | 9 | —59.9 | —57.0 | —62.0 | — | — |
| | 40 . . . | 3 | 22303 | 22470 | 22170 | 3 | —56.9 | —55.5 | —59.5 | — | — |
| | 30 . . . | 3 | 24065 | 24230 | 23920 | 3 | —52.8 | —51.4 | —54.2 | — | — |
| | 20 . . . | 2 | 26633 | 26696 | 26570 | 2 | —48.4 | —48.2 | —48.7 | — | — |
| | 10 . . . | 1 | 31376 | — | — | 1 | —35.1 | — | — | — | — |

N— The number of cases the element has been observed during the month.

The atmospher pressure corrected to the elevation of the radiosonde station.

## Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE. THE HIGHEST WIND SPEED IN THE UPPER AIR

### NOVEMBER — 1970

| Station | Freezing level | | | | | | | | | First Tropopause | | | | | | | | | Highest wind speed | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | | | Highest | | | Lowest | | | Mean | | | Highest | | | Lowest | | | | | | |
| | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Direction (000—360)° | Speed in Knots |
| **0000 U.T.** | (N) | N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| Mersa Matruh (A) | 3177 (30) | 698 (30) | —12.3 (30) | 4020 | 628 | —19.1 | 1860 | 809 | —17.0 | 11779 (12) | 215 (12) | —56.5 (12) | 16353 | 100 | —68.3 | 8850 | 316 | —44.4 | 10700 | 248 | 290 | 125 |
| Helwan . . . . | 3352 (29) | 683 (29) | — 8.0 (28) | 4200 | 615 | — 8.7 | 1770 | 816 | — 1.4 | 11524 (12) | 222 (12) | —57.1 (12) | 15090 | 120 | —68.0 | 8790 | 362 | —42.7 | 9720 | 230 | 230 | 164 |
| Aswan . . . (A) | 4343 (29) | 603 (29) | —19.8 (28) | 5330 | 537 | —22.2 | 3100 | 699 | —14.6 | 16392 (16) | 102 (16) | —72.7 (16) | 17160 | 90 | —76.9 | 15040 | 124 | —70.8 | 14670 | — | 237 | 158 |
| **1200 U.T.** | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| Mersa Matruh (A) | 3274 (29) | 656 (29) | —12.5 (29) | 4300 | 610 | —22.1 | 2260 | 772 | — 4.0 | 11874 (16) | 211 (16) | —57.1 (16) | 15000 | 127 | —67.5 | 9500 | 286 | —43.3 | 8660 | 341 | 265 | 115 |
| Helwan . . . . | 3533 (28) | 668 (28) | —13.1 (28) | 4500 | 595 | —18.6 | 1850 | 811 | — 4.8 | 13185 (13) | 172 (13) | —59.7 (13) | 17000 | 90 | —70.1 | 8090 | 361 | —37.6 | 13100 | 169 | 255 | 195 |
| Aswan . . . (A) | 4381 (29) | 612 (29) | —20.0 (29) | 5710 | 516 | —20.7 | 3170 | 695 | —12.5 | 16306 (11) | 105 (11) | —72.6 (11) | 16940 | 98 | —74.0 | 15640 | 116 | —69.4 | 10097 | 273 | 196 | 140 |

N = The Number of cases the element has been observed during the month.

## TABLE B 3.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

### MERSA MATRUH (A)— NOVEMBER 1970

| Time | Pressure Surface Millibar | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of calm winds | Total number of observations (TN) | Mean scalar wind speed (knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 3 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 8 | 4 | 8 | 6 | 6 | 8 | 9 | 3 | 9 | 1 | 18 | 3 | 16 | 1 | 30 | 9 |
| | 1000 | 4 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 11 | 3 | 13 | 3 | 7 | 6 | 13 | 5 | 11 | 6 | 10 | 0 | 28 | 12 |
| | 850 | 3 | 18 | 2 | 16 | 0 | — | 0 | — | 0 | — | 1 | 9 | 0 | — | 0 | — | 0 | — | 5 | 18 | 10 | 14 | 7 | 12 | 0 | 28 | 14 |
| | 700 | 3 | 8 | 4 | 14 | 0 | — | 1 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 28 | 7 | 18 | 10 | 17 | 0 | — | 0 | 28 | 17 |
| | 600 | 2 | 10 | 3 | 14 | 2 | 16 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 9 | 3 | 40 | 11 | 28 | 6 | 21 | 0 | — | 0 | 28 | 24 |
| | 500 | 3 | 14 | 1 | 13 | 1 | 32 | 1 | 10 | 0 | — | 0 | — | 1 | 10 | 0 | — | 3 | 42 | 12 | 39 | 3 | 30 | 3 | 12 | 0 | 28 | 30 |
| | 400 | 0 | — | 2 | 20 | 3 | 23 | 0 | — | 0 | — | 0 | — | 1 | 14 | 0 | — | 3 | 47 | 14 | 49 | 3 | 29 | 2 | 36 | 0 | 28 | 40 |
| | 300 | 0 | — | 2 | 25 | 1 | 39 | 1 | 16 | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 42 | 14 | 64 | 3 | 66 | 0 | — | 0 | 24 | 55 |
| | 250 | 0 | — | 2 | 22 | 2 | 38 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 56 | 5 | 81 | 3 | 85 | 1 | 46 | 0 | 16 | 62 |
| | 200 | 0 | — | 1 | 3 | 1 | 23 | 1 | 17 | 0 | — | 1 | 3 | 0 | — | 0 | — | 1 | 61 | 5 | 70 | 1 | 54 | 0 | — | 0 | 11 | 46 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 36 | 2 | 40 | 2 | 33 | 0 | — | 0 | 7 | 36 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 33 | 1 | 28 | 0 | — | 0 | 4 | 32 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 24 | 1 | 13 | 0 | — | 0 | 3 | 20 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 28 | 0 | — | 0 | — | 0 | 1 | 28 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 6 | 0 | — | 0 | — | 0 | 1 | 6 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 14 | 0 | — | 0 | 1 | 14 |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 4 | 9 | 1 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 11 | 0 | — | 10 | 13 | 10 | 13 | 0 | 29 | 12 |
| | 1000 | 6 | 16 | 2 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 14 | 0 | — | 10 | 13 | 9 | 16 | 0 | 29 | 15 |
| | 850 | 2 | 10 | 3 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 14 | 2 | 9 | 8 | 13 | 8 | 13 | 5 | 9 | 0 | 29 | 12 |
| | 700 | 4 | 12 | 1 | 7 | 0 | — | 1 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 9 | 9 | 22 | 7 | 17 | 4 | 21 | 0 | 29 | 17 |
| | 600 | 2 | 15 | 1 | 17 | 0 | — | 2 | 10 | 1 | 2 | 0 | — | 0 | — | 0 | — | 3 | 18 | 10 | 28 | 8 | 23 | 1 | 33 | 0 | 28 | 22 |
| | 500 | 2 | 15 | 2 | 27 | 1 | 26 | 0 | — | 0 | — | 1 | 11 | 0 | — | 0 | — | 5 | 34 | 9 | 34 | 6 | 38 | 2 | 38 | 0 | 28 | 33 |
| | 400 | 1 | 12 | 3 | 31 | 1 | 30 | 1 | 15 | 0 | — | 0 | — | 0 | — | 1 | 47 | 3 | 42 | 12 | 48 | 4 | 34 | 2 | 47 | 0 | 28 | 40 |
| | 300 | 1 | 19 | 0 | — | 2 | 50 | 1 | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 54 | 11 | 70 | 1 | 86 | 3 | 58 | 0 | 23 | 60 |
| | 250 | 1 | 24 | 0 | — | 2 | 46 | 1 | 21 | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 55 | 7 | 78 | 4 | 69 | 0 | — | 0 | 18 | 62 |
| | 200 | 0 | — | 0 | — | 0 | — | 2 | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 76 | 5 | 58 | 2 | 61 | 1 | 25 | 0 | 11 | 50 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 65 | 3 | 39 | 1 | 15 | 1 | 16 | 0 | 6 | 36 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 28 | 1 | 19 | 1 | 20 | 0 | — | 0 | 3 | 22 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 25 | 2 | 21 | 0 | — | 0 | — | 0 | 3 | 22 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 16 | 0 | — | 2 | 19 | 0 | — | 0 | 3 | 18 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 5 | 0 | — | 0 | — | 1 | 13 | 0 | — | 0 | — | 0 | 2 | 9 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 12 | 0 | — | 0 | — | 1 | 6 | 0 | — | 0 | — | 0 | 2 | 9 |
| | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 20 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the wind has been observed from the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

**Table B 3.** *(contd.)*—**NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**HELWAN — NOVEMBER 1970**

| Time | Pressure Surface (Millibar) | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | Number of Calm winds | Total Number of Observations (TN) | Mean Scalar wind Speed (Knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 3 | 7 | 12 | 9 | 1 | 8 | 0 | — | 1 | 2 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 2 | 5 | 4 | 6 | 29 | 6 |
| | 1000 | 3 | 9 | 8 | 13 | 3 | 14 | 0 | — | 1 | 2 | 0 | — | 0 | — | 1 | 14 | 1 | 8 | 0 | — | 0 | — | 2 | 3 | 0 | 19 | 11 |
| | 850 | 9 | 102 | 7 | 11 | 2 | 16 | 0 | — | 1 | 5 | 0 | — | 1 | 15 | 2 | 28 | 3 | 22 | 0 | — | 1 | 20 | 3 | 24 | 0 | 29 | 16 |
| | 700 | 3 | 17 | 1 | 13 | 0 | — | 0 | — | 2 | 16 | 0 | — | 1 | 17 | 1 | 36 | 4 | 20 | 10 | 20 | 4 | 29 | 3 | 23 | 0 | 29 | 21 |
| | 600 | 1 | 34 | 2 | 17 | 0 | — | 0 | — | 0 | — | 1 | 25 | 1 | 20 | 0 | — | 9 | 31 | 8 | 33 | 5 | 35 | 2 | 40 | 0 | 29 | 31 |
| | 500 | 1 | 27 | 2 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 24 | 0 | — | 9 | 44 | 7 | 51 | 6 | 57 | 2 | 42 | 0 | 29 | 45 |
| | 400 | 1 | 16 | 1 | 72 | 1 | 48 | 0 | — | 0 | — | 0 | — | 2 | 26 | 1 | 29 | 6 | 56 | 10 | 72 | 3 | 100 | 2 | 38 | 0 | 27 | 61 |
| | 300 | 0 | — | 1 | 84 | 1 | 39 | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 37 | 3 | 90 | 7 | 73 | 4 | 91 | 1 | 22 | 0 | 20 | 70 |
| | 250 | 0 | — | 0 | — | 1 | 86 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 21 | 6 | 89 | 3 | 65 | 1 | 89 | 0 | — | 0 | 12 | 77 |
| | 200 | 0 | — | 1 | 74 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 43 | 3 | 53 | 2 | 70 | 1 | 64 | 0 | — | 0 | 8 | 60 |
| | 150 | 0 | — | 1 | 96 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 49 | 3 | 78 | 0 | — | 0 | — | 0 | 7 | 68 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 55 | 0 | — | 0 | — | 0 | — | 0 | 3 | 55 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 12 | 1 | 10 | 0 | — | 0 | — | 0 | — | 0 | 2 | 11 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 17 | 0 | — | 0 | — | 0 | — | 0 | 1 | 17 |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 9 | 7 | 7 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 7 | 3 | 5 | 2 | 4 | 1 | 8 | 3 | 6 | 0 | 29 | 7 |
| | 1000 | 8 | 10 | 4 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 10 | 1 | 3 | 0 | — | 1 | 9 | 1 | 6 | 0 | 16 | 10 |
| | 850 | 6 | 12 | 7 | 13 | 3 | 11 | 1 | 8 | 2 | 12 | 0 | — | 0 | — | 0 | — | 4 | 25 | 1 | 13 | 1 | 17 | 4 | 10 | 0 | 29 | 14 |
| | 700 | 2 | 24 | 1 | 19 | 3 | 9 | 0 | — | 0 | — | 1 | 22 | 0 | — | 0 | — | 8 | 34 | 7 | 17 | 3 | 20 | 4 | 16 | 0 | 29 | 21 |
| | 600 | 2 | 16 | 2 | 25 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 24 | 2 | 38 | 8 | 42 | 9 | 30 | 3 | 22 | 2 | 51 | 0 | 29 | 33 |
| | 500 | 2 | 28 | 1 | 24 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 22 | 2 | 22 | 9 | 45 | 7 | 54 | 3 | 51 | 2 | 38 | 0 | 27 | 44 |
| | 400 | 1 | 42 | 1 | 52 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 25 | 1 | 49 | 8 | 62 | 7 | 74 | 7 | 56 | 0 | — | 0 | 26 | 60 |
| | 300 | 0 | — | 1 | 47 | 2 | 38 | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 41 | 1 | 150 | 8 | 63 | 3 | 95 | 1 | 72 | 0 | 18 | 69 |
| | 250 | 1 | 56 | 0 | — | 1 | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 46 | 4 | 80 | 5 | 64 | 1 | 47 | 0 | — | 0 | 13 | 64 |
| | 200 | 1 | 34 | 1 | 54 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 70 | 3 | 80 | 3 | 54 | 0 | — | 0 | — | 0 | 9 | 62 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 76 | 1 | 48 | 3 | 45 | 0 | — | 0 | — | 0 | 5 | 52 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 41 | 1 | 60 | 1 | 36 | 0 | — | 0 | — | 0 | 3 | 46 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 10 | 0 | — | 1 | 20 | 0 | — | 0 | — | 0 | 2 | 15 |
| | 60 | 0 | — | 0 | — | 1 | 7 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 46 | 0 | — | 0 | — | 0 | — | 0 | 2 | 26 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 6 | 0 | — | 0 | — | 0 | — | 1 | 35 | 0 | — | 0 | — | 0 | 2 | 20 |
| | 40 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 15 | 1 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 12 |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**N** = The number of cases the wind has been observed from the range of direction during the month.

**TN** = The total number of cases the wind has been observed for all directions during the month.

**Table B 3 (*contd.*).—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES**

**ASWAN (A) NOVEMBER — 1970**

| Time | Pressure Surface Millibar | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of calm winds | Total number of observations (TN) | Mean scalar wind Speed (knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 18 | 10 | 6 | 10 | 1 | 7 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 8 | 4 | 8 | 0 | 30 | 10 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 1 | 3 | 5 | 8 | 4 | 7 | 7 | 11 | 1 | 7 | 3 | 10 | 1 | 11 | 0 | — | 1 | 7 | 0 | — | 3 | 12 | 3 | 6 | 0 | 29 | 9 |
| | 700 | 1 | 7 | 3 | 7 | 1 | 14 | 4 | 15 | 1 | 10 | 1 | 9 | 3 | 21 | 1 | 14 | 6 | 16 | 4 | 12 | 1 | 8 | 2 | 10 | 0 | 28 | 13 |
| | 600 | 1 | 22 | 2 | 4 | 0 | — | 1 | 4 | 1 | 11 | 1 | 6 | 1 | 17 | 2 | 24 | 11 | 24 | 1 | 11 | 3 | 14 | 4 | 12 | 0 | 28 | 17 |
| | 500 | 2 | 15 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 7 | 12 | 42 | 6 | 19 | 4 | 22 | 3 | 16 | 0 | 28 | 26 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 14 | 52 | 6 | 29 | 6 | 25 | 1 | 22 | 0 | 27 | 40 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 67 | 11 | 68 | 9 | 35 | 6 | 40 | 0 | — | 0 | 27 | 51 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 10 | 84 | 11 | 49 | 3 | 50 | 1 | 43 | 0 | 25 | 63 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 9 | 82 | 11 | 64 | 4 | 49 | 1 | 46 | 0 | 25 | 68 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 8 | 64 | 9 | 44 | 4 | 54 | 0 | — | 0 | 21 | 53 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 13 | 8 | 29 | 6 | 29 | 4 | 28 | 0 | — | 0 | 19 | 28 |
| | 70 | 0 | — | 0 | — | 0 | — | 2 | 10 | 0 | — | 0 | — | 1 | 7 | 0 | — | 3 | 9 | 2 | 14 | 0 | — | 1 | 24 | 0 | 9 | 12 |
| | 60 | 0 | — | 0 | — | 0 | — | 2 | 15 | 1 | 8 | 1 | 13 | 0 | — | 1 | 9 | 1 | 12 | 1 | 7 | 0 | — | 0 | — | 1 | 8 | 10 |
| | 50 | 0 | — | 0 | — | 0 | — | 1 | 7 | 2 | 6 | 1 | 10 | 0 | — | 0 | — | 0 | — | 3 | 10 | 0 | — | 0 | — | 1 | 8 | 8 |
| | 40 | 1 | 1 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 6 | 1 | 7 | 2 | 10 | 1 | 5 | 0 | — | 1 | 7 | 6 |
| | 30 | 1 | 9 | 1 | 5 | 0 | — | 0 | — | 1 | 15 | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 10 | 0 | — | 0 | — | 0 | 6 | 10 |
| | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 10 | 0 | — | 0 | — | 0 | 1 | 10 |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 20 | 10 | 4 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 4 | 4 | 10 | 0 | 29 | 9 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 4 | 9 | 4 | 10 | 3 | 10 | 3 | 8 | 2 | 8 | 2 | 8 | 0 | — | 0 | — | 0 | — | 2 | 10 | 5 | 12 | 4 | 10 | 0 | 29 | 10 |
| | 700 | 1 | 10 | 1 | 3 | 2 | 10 | 1 | 7 | 1 | 3 | 2 | 8 | 3 | 15 | 3 | 26 | 5 | 15 | 5 | 14 | 1 | 14 | 4 | 8 | 0 | 29 | 13 |
| | 600 | 3 | 6 | 1 | 5 | 1 | 9 | 2 | 6 | 2 | 6 | 0 | — | 0 | — | 1 | 32 | 11 | 25 | 4 | 16 | 2 | 12 | 2 | 8 | 0 | 29 | 16 |
| | 500 | 0 | — | 0 | — | 1 | 3 | 0 | — | 0 | — | 0 | — | 1 | 19 | 2 | 9 | 16 | 37 | 4 | 10 | 4 | 20 | 1 | 12 | 0 | 29 | 27 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 47 | 8 | 63 | 11 | 30 | 3 | 28 | 1 | 31 | 0 | 26 | 42 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 124 | 9 | 72 | 10 | 50 | 5 | 39 | 0 | — | 0 | 25 | 59 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 8 | 78 | 8 | 70 | 5 | 42 | 0 | — | 0 | 21 | 66 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 7 | 81 | 10 | 66 | 3 | 45 | 0 | — | 0 | 20 | 68 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 66 | 9 | 52 | 3 | 64 | 0 | — | 0 | 16 | 58 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 29 | 4 | 33 | 3 | 38 | 0 | — | 0 | 12 | 32 |
| | 70 | 0 | — | 0 | — | 1 | 17 | 1 | 8 | 1 | 9 | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 14 | 1 | 5 | 0 | — | 0 | 8 | 12 |
| | 60 | 1 | 5 | 0 | — | 2 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 16 | 0 | — | 0 | — | 1 | 5 | 8 |
| | 50 | 1 | 6 | 0 | — | 1 | 5 | 0 | — | 0 | — | 0 | — | 1 | 7 | 1 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 4 | 6 |
| | 40 | 0 | — | 0 | — | 0 | — | 2 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 2 | 8 |
| | 30 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | 1 | 8 |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the wind has been observed from the range of directions during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

# REVIEW OF AGRO-METEOROLOGICAL STATIONS

## MERSA MATRUH — NOVEMBER 1970

For the month as a whole the mean daily air temperature was slightly below normal, while the mean daily relative humidity and the total monthly rainfall were slightly above normal.

The daily maximum and minimum air temperatures were slightly below normal most days of the month. Two short cold waves occurred on the 1st and 13th, and a moderate cold wave in the period (25th—28th) yielding the lowest maximum air temperature for the month (16.8°C) and the lowest minimum air temperature (10.2°C) on the 27th. The highest maximum air temperature for the month (25.2°C) was reported on the 10th.

The extreme maximum soil temperatures were higher than the corresponding values of last November at all depths between 2 and 100 cm. with departures between 3.2°C (at 5 cm) and 1.5°C (at 100 cm). The extreme minimum soil temperatures were lower than the corresponding values of last November at all depths except at 100 cm. where it was higher by 0.9°C ; the departures varied between 2.9°C (at 5 cm) and 1.0°C(at 50 cm).

The mean daily wind speed at 1.5 m was more than the corresponding value of November 1969 by 0.8 m/sec ; while the mean daily actual sunshine duration and Pan exaporation were less by 0.5 hour and 0.72 mm. respectively.

## TAHRIR — NOVEMBER 1970

For the month as a whole the mean daily air temperature was below average and the mean daily relative humidity was normal. The total monthly rainfall was 22.0 mm against 4.9 mm for average.

The daily maximum and minimum air temperatures were slightly below average most days of the month. A moderate cold wave was experienced in the period (26th—28th) yielding the lowest maximum air temperature for the month (19.0°C) on the 27th.

The extreme maximum soil temperatures were higher than the corresponding values of last November at shallow depths between 2, 10 cm with departures between 2.5°C (at 2 cm) and 0.2°C (at 10 cm). At deeper depths between 20, 100 cm the extreme soil maxima were lower than last November with departures between 0.7°C (at 20 cm) and 1.3°C (at 50 cm). The extreme minimum soil temperatures were lower than the corresponding values of last November at all depths between 2, 100 cm. and the departures varied between 3.5°C (at 50 cm) and 1.9°C (at 100 cm).

The daily mean values of wind speed at 1.5 m. and actual sunshine duration were the same as the corresponding values of November 1969, while the daily mean Pan evaporation was less by 0.86 mm.

## BAHTIM — NOVEMBER 1970

For the month as a whole the mean daily air temperature was slightly lower than the coresponding value of the last November and the mean daily relative humidity was the same. The total monthly rainfall was 5.2 mm. while last November was rainless.

The daily maximum and minimum air temperatures were slightly below average most days of the month. A moderate cold wave was experienced in the period (26th—30th) yielding the lowest maximum air temperature (18.6°C) on the 27th and the lowest minimum air temperature (4.8°C) on the 30th.

The extreme maximum soil temperatures were slightly higher than the corresponding values of last November at 2, 5 cm. depths (0.5°C and 0.4°C respectively) and lower at deeper depths between 10, 100 cm with departures between 0.1°C (at 10 cm) and 1.2°C (at 50 cm). The extreme minimum soil temperatures were lower than the corresponding values of last November at all depths between 2, 100 cm. and the departures ranged between 2.3°C (at 2 cm) and 0.3°C (at 100 cm).

The daily mean wind speed at 1.5 m. was the same as last November, while the daily mean values of actual sunshine duration and Pan evaporation were less by 0.6 hour and 0.30 mm. respectively.

## KHARGA — NOVEMBER 1970

For the month as a whole the mean daily air temperature was slightly below normal.

The month was characterized by four cold waves in the periods : (1st—9th), (14th, 15th), (22nd, 23rd) and (27th—30th) and a light heat wave in the period (18th—22nd). The last cold wave yielded the lowest maximum air temperature for the month (20.6°C) and the lowest minimum air temperature (4.4°C) on the 29th. The heat wave yilded the highest maximum air temperature (32.0°C) and the lowest relative humidity(18%) on the 18th.

The extreme maximum and minimum soil temperatures were noticably lower than the corresponding values of last November at all depths between 2, 100 cm. The departures for the extreme maxima ranged between 4.1°C (at 2 cm) and 1.4°C (at 100 cm). The departures for the extreme minima ranged between 5.5°C (at 2 cm) and 1.0°C (at 100 cm).

The mean daily wind speed at 1.5 m. was the same as the corresponding value of November 1969 ; while the mean daily values of actual sunshine duration and Pan evaporation were less by 0.2 hour and 0.42 mm. respectively.

## Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND
## NOVEMBER — 1970

| STATION | Air Temperature (°C) | | | | | Mean Duration in hours of daily air temperature above the following values | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean Max. | Mean Min. | Mean of the day | Night time mean | Day time mean | -5°C | 0°C | 5°C | 10°C | 15°C | 20°C | 25°C | 30°C | 35°C | 40°C | 45°C |
| M. Matruh. . . . | 22.3 | 13.5 | 17.9 | 15.6 | 19.3 | 24.0 | 24.0 | 24.0 | 24.0 | 17.6 | 6.0 | 0 | 0 | 0 | 0 | 0 |
| Tahrir . . . . . | 24.7 | 12.5 | 17.6 | 14.9 | 20.4 | 24.0 | 24.0 | 24.0 | 23.5 | 16.1 | 7.0 | 0.5 | 0 | 0 | 0 | 0 |
| Bahtim . . . . . | 24.2 | 11.4 | 17.3 | 14.5 | 20.1 | 24.0 | 24.0 | 24.0 | 23.6 | 15.1 | 6.8 | 0.3 | 0 | 0 | 0 | 0 |
| Kharga . . . . . | 26.8 | 12.6 | 20.0 | 17.1 | 22.9 | 24.0 | 24.0 | 24.0 | 23.0 | 19.8 | 11.6 | 4.3 | 0.1 | 0 | 0 | 0 |

## Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS
## NOVEMBER — 1970

| STATION | Max. Temp. at 1½ metres | | | | Min. Temp. at 1½ metres | | | | Min. Temp. at 5 cms. above | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | | Lowest | | Highest | | Lowest | | Dry Soil | | Grass | |
| | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date |
| M. Matruh. . . . . | 25.2 | 10 | 16.8 | 27 | 19.3 | 3 | 10.2 | 27 | 8.8 | 16 | — | — |
| Tahrir . . . . . | 28.2 | 1 | 19.0 | 27 | 17.1 | 4 | 7.8 | 30 | 5.9 | 30 | — | — |
| Bahtim . . . . . | 26.8 | 1 | 18.6 | 27 | 16.0 | 4 | 4.8 | 30 | 1.2 | 30 | — | — |
| Kharga . . . . . | 32.0 | 18 | 20.6 | 29 | 19.2 | 19 | 4.4 | 29 | 2.4 | 29,30 | — | — |

## Table C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY & VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL
## NOVEMBER — 1970

| STATION | Solar+Sky Radiation gm. cal/cm² | Duration of Bright Sunshine (hours) | | | Relative Humidity % | | | | Vapour Pressure (mms) | | | | | | Evaporation(mms) | | Rainfall (mms) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Actual | Total Possible monthly | % | Mean of day | 1200 U.T. | Lowest | Date | Mean of day | 1200 UT | Highest | Date | Lowest | Date | Piche | Pan class (A) | Total Amount monthly | Max. fall in one day | Date |
| M. Matruh. . . . | — | 229.4 | 317.3 | 72 | 71 | 58 | 27 | 11 | 10.6 | 10.9 | 15.1 | 3 | 6.0 | 11 | 6.8 | 4.94 | 25.3 | 10.8 | 12 |
| Tahrir . . . . . | 264.0 | 258.4 | 319.2 | 81 | 76 | 56 | 41 | 25 | 11.5 | 11.7 | 17.1 | 3 | 6.2 | 29 | 4.0 | 3.65 | 22.0 | 18.3 | 2 |
| Bahtim . . . . | 282.4 | 242.8 | 320.2 | 76 | 74 | 53 | 36 | 25 | 10.8 | 11.1 | 15.7 | 2 | 5.6 | 30 | 4.8 | 4.07 | 5.2 | 4.2 | 3 |
| Kharga. . . . . | 360.3 | 299.8 | 328.3 | 91 | 47 | 32 | 18 | 18 | 7.9 | 8.0 | 13.4 | 4 | 4.2 | 30 | 11.0 | 9.38 | 0.0 | 0.0 | — |

THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 12

## DECEMBER, 1970

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

# PUBLICATIONS OF THE METEOROLOGICAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues serveral reports and publications on weather, climate and agro-meteorology. The principal publications are described on this page.

Orders for publications should be addressed to :

"Chairman of the Board of Directors, Meteorological Authority, Kubri-el-Qubbeh — CAIRO".

## THE DAILY WEATHER REPORT

This report is issued daily by the Meteorological Authority since the year 1901. It includes surface and upper air observations carried out by the relevant networks of the Republic at the principal hours of observations.

As from January 1968 this report was revised to include a condensed representative selection of surface and upper air observations besides the 1200 U.T. surface & 500 mb charts.

As from 1st January 1972, the Daily Weather Report will not be issued or distributed because it does not serve no longer any good purpose as it used to be in the past. The Meteorological Authority is ready to supply the recipients of the Report with any information used to be included in it, if they so desire.

## THE MONTHLY WEATHER REPORT

First issued in 1909, the Monthly Weather Report served to give a brief summary of the weather conditions that prevailed over Egypt during the month, with a table showing the mean values for few meteorological elements and their deviations from the normal values. From 1954 to 1957 this report was in a rapid state of development and extension resulting into a voluminous report on January 1958 giving surface, upper air, and agro-meteorological data for Egypt.

As from January 1964, the Monthly Weather Report was pressed to give climatological data for a representative selection of synoptic stations.

## THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

Gives a review of weather experienced in the agro-meteorological stations of Egypt as well as monthly values of certain elements.

## THE ANNUAL REPORT

This report gives annual values and statistics for the various meteorological elements, together with a summary of the weather conditions that prevailed during all months of the year.

## CLIMATOLOGICAL NORMALS FOR EGYPT

A voluminous edition was issued in March 1968 which brings normals and mean values up till 1960.

## METEOROLOGICAL RESEARCH BULLETIN

First issued in January 1969 on a bi-annual basis. It includes research works carried out by members of staff of "The Meteorological Institute for Research and Training" and the Operational Divisions of the Meteorological Authority.

## TECHNICAL NOTES

As from October 1970, the Meteorological Authority started to issue a new series of publications in the form of Technical Notes (non periodical) on subjects related to studies and applications of meteorology in different fields for the benefit of personnel working in these fields.

THE ARAB REPUBLIC OF EGYPT

# MONTHLY WEATHER REPORT

VOLUME 13 NUMBER 12

## DECEMBER, 1970

U.D.C. 551. 506.1 (62)

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

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*Note* : For explanatory notes on tables please refer to Volume 13, Number 1 (January 1970).

# GENERAL SUMMARY OF WEATHER CONDITIONS

## DECEMBER 1970

**Generally cold weather with subnormal rainfall. Frequent mist and fog over north of the Republic**

### GENERAL DESCRIPTION OF WEATHER

The prevailing weather this month was rather cold daytime and cold night time. Four consecutive cold waves were experienced covering nearly the whole month. Coldness was intense in the second and third weeks in particular.

Weather was generally light rainy in north of the Republic. Local heavy rain fell over scattered places in the Mediterranean district on the 11th & 12th and was associated with thunderstorms.

Scattered mist and fog developed frequently over Delta, Canal, Cairo & north of Upper Egypt mainly during the second half of the month.

### PRESSURE DISTRIBUTION

The outstanding features of pressure distribution over the synoptic surface charts during this month were :

— The Atlantic anticyclone and its extensions eastwards through Europe and southeastwards through the Mediterranean & North Africa.

— The Siberian anticyclone and its extension to East Mediterranean.

— Deep low pressure systems through North Europe & Russia.

— Secondary depressions through the Mediterranean and its vicinities.

— The Sudan monsoon trough.

During this month, five secondary Mediterranean depressions were distinguished.

The first secondary depression appeared over Greece on the 2nd, moved slowly eastwards reaching Asia Minor on the 4th, where it deepened on the 5th, then it continued its track slowly to the east while filling.

The second Mediterranean depression formed on the 11th over the SE corner of the Mediterranean and was associated with the northward elongation of Sudan trough, and then the depression moved on the next day slowly to the east while filling.

The third Mediterranean depression developed over West Mediterranean on the 14th, moved eastwards and traversed East Mediterranean on the 18th, when the Sudan trough showed a second northward elongation.

The fourth Mediterranean depression appeared on the 20th over Tunisia, moved the next day to Central Mediterranean. On the 22nd a complex low pressure system covered Central Mediterranean, the Balkans and Italy. This system moved slowly eastwards on the 23rd, then it split up into two centres which moved northeastwards and filled up over the Black Sea on the 24th 27th.

The last Mediterranean depression during this month developed over West Mediterranean on the 27th and moved slowly eastwards reaching Central Mediterranean by the end of the month.

The barometric pressure over Egypt was mainly affected by high pressure extending, either from the Mediterranean or from SW Russia ; and the transit of the above mentioned four secondary depressions through East Mediterranean. It was generally above normal and showed four minima round or slightly below normal round the 5th, 11th, 18th & 23rd.

In upper levels (700 & 500 mb) the outstanding features were :

— Upper low pressure systems over North Atlantic and North Europe.

— Secondary upper troughs or lows through middle latitudes passing through East Med. and north Egypt on the 8th, 13th, 19th, & 26th.

— Upper high pressure belt over the subtropical latitudes.

### SURFACE WIND

Light to moderate W/NW winds prevailed most of this month in the northern parts, and changed to NEly during the last week. In south of the country, the prevailing winds were generally light to moderate Nly. Winds became fresh to strong during several days in scattered localities mainly in the Mediterranean and Red Sea districts.

### TEMPERATURE

Maximum air temperatures were mostly below normal during this month and its departures from normal were moderate in general and appreciable in few days. Maximum air temperature values ranged generally between 17°C & 22°C in the northern and middle parts, and between 21°C & 27°C in the southern parts.

The absolute maximum air temperature for the month was 30.0°C reported at Kena on the 31st.

Minimum air temperatures were also below normal in general, and the departures were mostly moderate but appreciable in few days. As an exception, minimum air temperatures were slightly to moderately above normal in the Mediterranean district during the first third of the month. Minimum air temperature values ranged generally between 5°C & 14°C in th northern parts and between 2°C & 10°C in Upper Egypt and the Western Desert districts.

The alsolute minimum air temperature for the month was -1.4°C reported at Dakhla on the 15th.

### PRECIPITATION

Rain was reported in the northern parts during the first and second decades of the month and extended to Cairo on the 13th. The daily rainfall was light to moderate in general, though it was heavy on the 11th & 12th in scattered places in the Mediterranean district, where it was associated with thunderstorms.

The monthly rainfall was subnormal in general.

The maximum monthly rainfall was 32.9 mm. reported at Damietta

The maximum daily rainfall was 19.7 m.m. reported at Balteam on the 12th.

**Chairman (M. F. TAHA)**

*Board of Directors*

*Cairo, May 1972*

## Table A 1.—MONTHLY VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

### DECEMBER 1970

| Station | Atmospheric Pressure (mbs) M.S.L. | | Air Temperature °C | | | | | | | | | Relative Humidity % | | Bright Sunshine Duration (Hours) | | | Piche Evaporation (mms.) Mean |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Maximum | | Minimum | | | Dry Bulb | | Wet Bulb | | | | | | | |
| | Mean | D.F. Normal or Average | (A) Mean | D.F. Normal or Average | (B) Mean | D.F. Normal or Average | $\frac{A+B}{2}$ | Mean | D.F. Normal or Average | Mean | D.F. Normal or Average | Mean | D.F. Normal or Average | Total Actual | Total Possible | % | |
| Sallum | 1020.6 | +3.6 | 19.4 | —1.1 | 10.7 | —0.3 | 15.0 | 14.7 | —1.1 | 10.3 | —1.4 | 53 | —6 | — | — | — | 6.9 |
| Mersa Matruh(A) | 1021.3 | +3.6 | 18.3 | —1.5 | 9.8 | —0.8 | 14.0 | 13.7 | —0.8 | 10.4 | —1.0 | 61 | —7 | 183.7 | 314.2 | 58 | 6.4 |
| Alexandria. (A) | 1020.9 | +3.4 | 18.7 | —1.8 | 9.2 | —1.9 | 14.0 | 13.8 | —1.5 | 11.0 | —1.7 | 68 | —4 | 222.8 | 315.6 | 71 | 4.0 |
| Port Said. (A) | 1019.6 | +2.3 | 19.7 | —0.1 | 11.2 | —2.4 | 15.4 | 14.8 | —1.5 | 11.9 | —1.8 | 69 | —4 | 217.9 | 315.6 | 69 | 4.6 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 1020.2 | +3.0 | 19.9 | —1.4 | 6.3 | —1.9 | 13.1 | 12.5 | —2.2 | 9.6 | —2.1 | 67 | 0 | 223.1 | 316.8 | 70 | 2.7 |
| Cairo (A) | 1020.6 | +2.6 | 19.3 | —1.4 | 8.7 | —1.7 | 14.0 | 13.6 | —1.8 | 10.1 | —1.4 | 61 | —1 | — | — | — | 7.2 |
| Fayoum | — | — | 20.7 | —1.2 | 7.4 | —1.0 | 14.0 | 13.0 | —1.4 | 10.1 | —0.7 | 67 | +6 | — | — | — | 3.0 |
| Minya (A) | 1020.3 | +2.0 | 19.9 | —2.1 | 4.8 | —2.1 | 12.2 | 11.9 | —1.8 | 8.7 | —1.4 | 63 | +1 | 252.8 | 322.9 | 78 | 4.4 |
| Assyout (A) | 1019.9 | +1.9 | 20.0 | —2.3 | 6.5 | —2.3 | 13.2 | 12.7 | —2.5 | 8.7 | —1.5 | 55 | +6 | — | — | — | 6.7 |
| Luxor (A) | 1018.8 | +1.9 | 23.6 | —1.2 | 5.7 | —1.9 | 14.6 | 14.2 | —0.8 | 9.8 | —1.3 | 53 | 0 | — | — | — | 4.2 |
| Aswan (A) | 1018.4 | +2.0 | 23.6 | —2.3 | 8.7 | —1.4 | 16.2 | 15.6 | —2.2 | 9.1 | —1.8 | 36 | 0 | — | — | — | 10.8 |
| Siwa | 1021.4 | +3.0 | 20.2 | —1.1 | 4.5 | —1.6 | 12.4 | 11.8 | —1.8 | 8.3 | —0.9 | 59 | +4 | 259.7 | 319.9 | 81 | 5.3 |
| Bahariya | 1021.0 | +2.7 | 20.8 | —0.8 | 5.9 | —0.8 | 13.4 | 13.1 | —1.7 | 8.6 | —1.4 | 51 | +1 | — | — | — | 4.2 |
| Farafra | 1022.9 | +2.9 | 19.5 | —2.5 | 4.4 | —1.6 | 12.0 | 11.9 | —1.6 | 7.8 | —0.7 | 53 | +7 | — | — | — | 5.8 |
| Dakhla | 1020.7 | +3.4 | 20.7 | —2.6 | 4.4 | —1.7 | 12.6 | 12.0 | —2.3 | 7.4 | —1.4 | 47 | +3 | — | — | — | 7.0 |
| Kharga | 1019.9 | +1.9 | 21.8 | —2.2 | 6.0 | —2.0 | 13.9 | 14.2 | —1.0 | 8.6 | —1.0 | 46 | 0 | 277.2 | 329.2 | 84 | 9.5 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 1018.7 | +2.3 | 21.4 | —1.1 | 10.3 | —1.4 | 15.8 | 15.8 | —1.4 | 10.9 | —1.7 | 51 | —4 | 267.0 | 325.4 | 82 | 10.3 |
| Quseir | 1018.1 | +1.8 | 21.4 | —2.7 | 14.1 | —1.7 | 17.8 | 18.1 | —1.8 | 12.6 | —2.4 | 49 | —4 | — | — | — | 12.3 |

## Table A 2. -MAXIMUM AND MINIMUM AIR TEMPERATURE

## DECEMBER 1970

| Station | Maximum Temperature °C | | | | | | | | | Grass Min. Temp. | | Minimum Temperature °C | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | Date | Lowest | Date | No. of Days with Max-Temp. | | | | | Mean | Dev. From Normal | Highest | Date | Lowest | Date | No. of Days with Min. Temp. | | | |
| | | | | | >25 | >30 | >35 | >40 | >45 | | | | | | | <10 | <5 | <0 | <-5 |
| Sallum . . . . . | 23.0 | 30 | 15.3 | 11 | 0 | 0 | 0 | 0 | 0 | 9.3 | — | 12.7 | 29 | 7.5 | 23 | 10 | 0 | 0 | 0 |
| Mersa Matruh (A) | 21.8 | 3 | 14.0 | 12 | 0 | 0 | 0 | 0 | 0 | 7.8 | — | 14.7 | 8 | 6.2 | 25 | 15 | 0 | 0 | 0 |
| Alexandria . .(A) | 22.2 | 2 | 13.0 | 12 | 0 | 0 | 0 | 0 | 0 | 7.8 | — | 15.8 | 6 | 4.4 | 25 | 19 | 3 | 0 | 0 |
| Port Said . .(A) | 22.8 | 2,3 | 13.3 | 12 | 0 | 0 | 0 | 0 | 0 | 10.1 | — | 15.5 | 31 | 6.6 | 19 | 12 | 0 | 0 | 0 |
| El Arish . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta . . . . . | 23.2 | 4,12 | 15.2 | 12 | 0 | 0 | 0 | 0 | 0 | — | — | 10.8 | 5,6 | 1.9 | 16 | 28 | 9 | 0 | 0 |
| Cairo . . . . (A) | 24.4 | 31 | 14.2 | 13 | 0 | 0 | 0 | 0 | 0 | — | — | 12.7 | 1 | 5.1 | 29 | 21 | 0 | 0 | 0 |
| Fayoum . . . . . | 23.7 | 31 | 16.5 | 12 | 0 | 0 | 0 | 0 | 0 | 2.5 | — | 11.4 | 7 | 1.9 | 16 | 29 | 11 | 0 | 0 |
| Minya . . . (A) | 24.0 | 31 | 16.7 | 12 | 0 | 0 | 0 | 0 | 0 | 2.9 | — | 8.0 | 2 | 1.2 | 15 | 31 | 16 | 0 | 0 |
| Assyout . . .(A) | 23.7 | 3 | 16.2 | 12 | 0 | 0 | 0 | 0 | 0 | 3.8 | — | 10.5 | 5 | 3.6 | 15 | 29 | 3 | 0 | 0 |
| Luxor . . . .(A) | 27.4 | 31 | 17.0 | 12 | 7 | 0 | 0 | 0 | 0 | 3.9 | — | 9.4 | 3 | 2.8 | 29 | 31 | 15 | 0 | 0 |
| Aswan . . . .(A) | 28.6 | 31 | 17.4 | 12 | 9 | 0 | 0 | 0 | 0 | — | — | 13.0 | 26 | 5.0 | 13 | 23 | 0 | 0 | 0 |
| Siwa . . . . . | 22.9 | 16,13 | 18.0 | 12 | 0 | 0 | 0 | 0 | 0 | 3.0 | — | 9.6 | 11 | 0.1 | 23 | 31 | 17 | 0 | 0 |
| Bahariya . . . . . | 26.9 | 31 | 16.3 | 12 | 1 | 0 | 0 | 0 | 0 | 4.6 | — | 11.0 | 5 | 0.3 | 16 | 28 | 9 | 0 | 0 |
| Farafra . . . . . | 23.2 | 26 | 17.0 | 23 | 9 | 0 | 0 | 0 | 0 | 3.7 | — | 11.8 | 2 | — 1.2 | 23 | 29 | 19 | 2 | 0 |
| Dakhla . . . . . | 26.0 | 31 | 16.3 | 12 | 1 | 0 | 0 | 0 | 0 | 4.3 | — | 11.0 | 1,2 | — 1.4 | 15 | 29 | 19 | 2 | 0 |
| Kharga . . . . . | 26.8 | 31 | 17.2 | 12 | 1 | 0 | 0 | 0 | 0 | 3.1 | — | 12.0 | 1 | 1.2 | 15 | 27 | 14 | 0 | 0 |
| Tor . . . . . | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada. . . . . | 24.6 | 4 | 16.9 | 14 | 0 | 0 | 0 | 0 | 0 | — | — | 14.6 | 1 | 6.0 | 13 | 11 | 0 | 0 | 0 |
| Queir . . . . . | 24.8 | 31 | 18.2 | 14 | 0 | 0 | 0 | 0 | 0 | 12.9 | — | 17.7 | 2 | 9.6 | 13 | 1 | 0 | 0 | 0 |

## Table A 3.—SKY COVER AND RAINFALL

### DECEMBER 1970

| Station | Mean Sky Cover Oct. | | | | | Rainfall mms. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 00 U.T. | 06 U.T. | 12 U.T. | 18 U.T. | Daily Mean | Total Amount | D. From Normal | Max. Fall in one day | | Number of Days with Amount of Rain | | | | | | |
| | | | | | | | | Amount | Date | <0.1 | ≥0.1 | ≥1.0 | ≥5.0 | ≥10 | ≥25 | ≥50 |
| Sallum | 3.2 | 3.6 | 4.5 | 3.0 | 3.5 | 20.0 | — 0.1 | 14.6 | 10 | 0 | 3 | 3 | 1 | 1 | 0 | 0 |
| Mersa Matruh (A) | 2.4 | 4.6 | 4.6 | 3.3 | 3.7 | 17.1 | —16.8 | 10.3 | 12 | 1 | 8 | 4 | 1 | 1 | 0 | 0 |
| Alexandria (A) | 4.1 | 4.4 | 5.0 | 4.1 | 4.3 | 21.5 | —34.6 | 8.1 | 12 | 1 | 7 | 6 | 1 | 0 | 0 | 0 |
| Port Said (A) | 2.4 | 3.5 | 3.2 | 1.7 | 2.7 | 18.2 | — 0.7 | 10.7 | 11 | 0 | 9 | 2 | 2 | 1 | 0 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 1.3 | 3.0 | 4.3 | 1.6 | 2.6 | 3.6 | —6.4 | 1.1 | 12 | 0 | 6 | 1 | 0 | 0 | 0 | 0 |
| Cairo (A) | 1.4 | 3.7 | 3.8 | 2.1 | 2.7 | 1.3 | —6.7 | 1.1 | 13 | 0 | 2 | 1 | 0 | 0 | 0 | 0 |
| Fayoum | — | 2.7 | 3.7 | 2.3 | — | Tr. | —4.6 | Tr. | 11 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minya (A) | 1.0 | 2.4 | 3.1 | 1.3 | 1.8 | 0.0 | —0.7 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Assyout (A) | 0.8 | 1.4 | 2.0 | 1.8 | 1.4 | 0.0 | —Tr. | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Luxor (A) | 1.5 | 1.8 | 2.2 | 1.8 | 1.7 | 0.0 | —0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Aswan (A) | 1.3 | 2.0 | 1.8 | 1.6 | 1.7 | 0.0 | —0.2 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Siwa | 2.4 | 2.7 | 3.1 | 1.9 | 2.4 | 0.0 | —2.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Bahariya | 1.7 | 3.0 | 3.5 | 1.2 | 2.3 | 0.0 | —1.2 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Farafra | — | 1.8 | 2.7 | 1.8 | — | 0.0 | —0.3 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dakhla | 0.4 | 0.7 | 1.5 | 0.8 | 0.9 | 0.0 | —0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kharga | 0.4 | 1.2 | 2.0 | 0.7 | 1.4 | 0.0 | —0.3 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 2.0 | 2.4 | 2.6 | 2.1 | 2.1 | 0.0 | —2.2 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Quseir | 0.6 | 2.2 | 2.6 | 1.8 | 1.7 | 0.0 | —0.1 | 0.0 | — | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

## Table A 4.– DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

### DECEMBER 1970

| Station | Precipitation | | | | Frost | Thunderstorm | Mist Vis ≥ 1000 metres | Fog Vis < 1000 Metres | Haze Vis ≥1000 Metres | Thick Haze Vis <1000 Metres | Dust or Sandrising Vis ≥ 1000 Metres | Dust or Sandstorm Vis <1000 Metres | Gale | Clear Sky | Cloudy Sky |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Rain | Snow | Ice. Pellets | Hail | | | | | | | | | | | |
| Sallum | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 10 | 7 |
| Mersa Matruh (A) | 8 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 5 |
| Alexandria (A) | 7 | 0 | 0 | 0 | 0 | 1 | 5 | 4 | 0 | 0 | 0 | 0 | 0 | 4 | 9 |
| Port Said (A) | 9 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15 | 0 |
| El Arish | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Ghazza | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tanta | 6 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 12 | 0 |
| Cairo (A) | 2 | 0 | 0 | 0 | 0 | 0 | 8 | 1 | 2 | 0 | 0 | 0 | 0 | 13 | 0 |
| Fayoum | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | — | — |
| Minya (A) | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 1 | 15 | 0 | 0 | 0 | 0 | 18 | 0 |
| Assyout (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 21 | 1 |
| Luxor (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 0 | 4 | 0 | 0 | 19 | 2 |
| Aswan (A) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 18 | 0 |
| Siwa | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 2 |
| Bahariya | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16 | 0 |
| Farafra | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | — | — |
| Dakhla | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 25 | 0 |
| Kharga | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 23 | 0 |
| Tor | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hurghada | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 18 | 2 |
| Quseir | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18 | 1 |

## Table A 5.—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

### DECEMBER — 1970

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 531 / 344 | All directions |
| Sallum | 0 | 1 | 1 | 1—10 | 20 | 10 | 11 | 12 | 25 | 58 | 38 | 34 | 35 | 66 | 98 | 34 | 441 |
| | | | | 11—27 | 5 | 4 | 7 | 7 | 5 | 3 | 4 | 8 | 27 | 74 | 145 | 12 | 301 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **25** | **14** | **18** | **19** | **30** | **61** | **42** | **42** | **62** | **140** | **243** | **46** | **742** |
| Mersa Matruh | 4 | 0 | 0 | 1—10 | 14 | 8 | 37 | 37 | 25 | 68 | 82 | 19 | 29 | 21 | 4 | 8 | 352 |
| | | | | 11—27 | 89 | 9 | 1 | 1 | 8 | 10 | 12 | 46 | 91 | 29 | 34 | 58 | 388 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **103** | **17** | **38** | **38** | **33** | **78** | **94** | **65** | **120** | **50** | **38** | **66** | **740** |
| Alexandria | 16 | 44 | 0 | 1—10 | 52 | 38 | 80 | 39 | 29 | 20 | 19 | 105 | 58 | 35 | 31 | 33 | 539 |
| | | | | 11—27 | 32 | 0 | 10 | 0 | 0 | 0 | 0 | 0 | 13 | 16 | 17 | 57 | 145 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **84** | **38** | **90** | **39** | **29** | **20** | **19** | **105** | **71** | **51** | **48** | **90** | **684** |
| Port Said | 57 | 0 | 0 | 1—10 | 62 | 51 | 34 | 65 | 27 | 18 | 49 | 41 | 86 | 149 | 39 | 39 | 660 |
| | | | | 11—27 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 6 | 10 | 5 | 5 | 27 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **62** | **51** | **35** | **65** | **27** | **18** | **49** | **41** | **92** | **159** | **44** | **44** | **687** |
| Tanta | 76 | 0 | 96 | 1—10 | 76 | 72 | 58 | 31 | 3 | 4 | 11 | 31 | 80 | 41 | 52 | 40 | 499 |
| | | | | 11—27 | 1 | 6 | 4 | 4 | 2 | 0 | 0 | 0 | 6 | 10 | 12 | 28 | 73 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **77** | **78** | **62** | **35** | **5** | **4** | **11** | **31** | **86** | **51** | **64** | **68** | **572** |
| Cairo | 111 | 0 | 22 | 1—10 | 23 | 49 | 56 | 64 | 22 | 31 | 59 | 52 | 39 | 54 | 47 | 32 | 528 |
| | | | | 11—27 | 4 | 9 | 13 | 0 | 2 | 0 | 9 | 14 | 8 | 7 | 12 | 5 | 83 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **27** | **58** | **69** | **64** | **24** | **31** | **68** | **66** | **47** | **61** | **59** | **37** | **611** |
| Fayoum | 0 | 2 | 7 | 1—10 | 130 | 155 | 33 | 8 | 8 | 18 | 17 | 64 | 87 | 54 | 60 | 96 | 730 |
| | | | | 11—27 | 2 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 5 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **132** | **156** | **34** | **8** | **8** | **18** | **17** | **64** | **87** | **55** | **60** | **96** | **735** |
| Minya | 30 | 0 | 1 | 1—10 | 387 | 40 | 4 | 1 | 1 | 12 | 20 | 8 | 12 | 23 | 49 | 130 | 687 |
| | | | | 11—27 | 15 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 1 | 8 | 26 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **402** | **40** | **4** | **1** | **1** | **13** | **20** | **9** | **12** | **23** | **50** | **138** | **713** |

**Table A 5** (*contd.*)—**NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES**

**DECEMBER — 1970**

| Station | Calm (hours) | Variable (hours) | Unrecorded (hours) | Wind speed in knots | Number in hours of occurrences of wind blowing from the ranges of directions indicated | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 345 / 014 | 015 / 044 | 045 / 074 | 075 / 104 | 105 / 134 | 135 / 164 | 165 / 194 | 195 / 224 | 225 / 254 | 255 / 284 | 285 / 314 | 315 / 344 | All directions |
| Asyout . . . . . (A) | 20 | 0 | 0 | 1—10 | 12 | 8 | 6 | 3 | 7 | 8 | 3 | 3 | 5 | 242 | 213 | 119 | 629 |
| | | | | 11—27 | 23 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 17 | 46 | 95 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **35** | **16** | **6** | **3** | **7** | **8** | **3** | **3** | **5** | **243** | **230** | **165** | **724** |
| Luxor . . . . . (A) | 3 | 0 | 0 | 1—10 | 69 | 50 | 36 | 37 | 22 | 73 | 155 | 36 | 24 | 66 | 70 | 63 | 701 |
| | | | | 11—27 | 3 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 27 | 8 | 40 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **72** | **50** | **38** | **37** | **22** | **73** | **155** | **36** | **24** | **66** | **97** | **71** | **741** |
| Aswan . . . . . (A) | 0 | 6 | 0 | 1—10 | 339 | 30 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 3 | 8 | 144 | 531 |
| | | | | 11—27 | 186 | 10 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 8 | 8 | 213 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **525** | **40** | **5** | **3** | **0** | **0** | **0** | **0** | **0** | **3** | **16** | **152** | **744** |
| Siwa . . . . . | 135 | 8 | 0 | 1—10 | 8 | 22 | 12 | 59 | 122 | 40 | 17 | 10 | 18 | 106 | 94 | 50 | 558 |
| | | | | 11—27 | 4 | 0 | 0 | 0 | 12 | 5 | 0 | 0 | 0 | 4 | 13 | 5 | 43 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **12** | **22** | **12** | **59** | **134** | **45** | **17** | **10** | **18** | **110** | **107** | **55** | **601** |
| Dakhla . . . . . | 26 | 4 | 0 | 1—10 | 29 | 26 | 12 | 19 | 7 | 18 | 39 | 32 | 76 | 153 | 148 | 125 | 684 |
| | | | | 11—27 | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 25 | 30 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **32** | **27** | **12** | **19** | **7** | **18** | **39** | **32** | **76** | **153** | **149** | **150** | **714** |
| Kharga . . . . . | 1 | 0 | 3 | 1—10 | 244 | 77 | 16 | 8 | 5 | 7 | 5 | 5 | 5 | 11 | 24 | 170 | 577 |
| | | | | 11—27 | 126 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 24 | 163 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **370** | **89** | **16** | **8** | **5** | **7** | **5** | **5** | **5** | **11** | **25** | **194** | **740** |
| Hurghada . . . . . | 5 | 0 | 24 | 1—10 | 20 | 16 | 3 | 2 | 0 | 0 | 0 | 0 | 4 | 10 | 83 | 36 | 174 |
| | | | | 11—27 | 99 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 246 | 190 | 537 |
| | | | | 28—47 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 4 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **121** | **17** | **3** | **2** | **0** | **0** | **0** | **0** | **4** | **11** | **329** | **228** | **715** |
| Quseir . . . . . | 0 | 0 | 3 | 1—10 | 31 | 73 | 9 | 7 | 1 | 1 | 0 | 0 | 1 | 3 | 173 | 151 | 450 |
| | | | | 11—27 | 153 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 8 | 70 | 290 |
| | | | | 28—47 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| | | | | ≥48 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | | | | All speeds | **184** | **131** | **9** | **7** | **1** | **1** | **0** | **0** | **2** | **3** | **182** | **221** | **741** |

# UPPER AIR CLIMATOLOGICAL DATA

## Table B 1.—MONTHLY MEANS, ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

### DECEMBER — 1970

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 0000 U.T. | Surface | 28 | *1019mb. | *1025mb. | *1014mb. | 28 | 12.2 | 15.9 | 8.0 | 28 | 8.0 |
| | 1000 | 28 | 184 | 236 | 144 | 28 | 14.1 | 16.8 | 8.3 | 28 | 8.0 |
| | 850 | 28 | 1538 | 1585 | 1497 | 27 | 5.7 | 11.9 | — 1.9 | 27 | — 4.8 |
| | 700 | 28 | 3112 | 3187 | 3019 | 28 | — 0.1 | 5.8 | —13.8 | 26 | —16.2 |
| | 600 | 26 | 4327 | 4419 | 4178 | 26 | — 8.0 | — 2.6 | —18.3 | 25 | —22.1 |
| | 500 | 25 | 5722 | 5840 | 5516 | 25 | —17.7 | —12.1 | —28.0 | 25 | —30.7 |
| | 400 | 24 | 7349 | 7505 | 7077 | 24 | —29.6 | —23.6 | —41.5 | 22 | —41.5 |
| | 300 | 21 | 9331 | 9502 | 8985 | 21 | —45.0 | —41.8 | —51.3 | 19 | —54.3 |
| | 250 | 20 | 10527 | 10710 | 10168 | 20 | —52.9 | —50.6 | —56.5 | 17 | —61.0 |
| | 200 | 20 | 11948 | 12121 | 11622 | 19 | —58.7 | —52.6 | —63.5 | 7 | —64.1 |
| | 150 | 19 | 13742 | 13890 | 13465 | 19 | —61.2 | —53.5 | —65.6 | 4 | —65.0 |
| | 100 | 16 | 16214 | 16390 | 1[illegible]990 | 16 | —65.1 | —56.9 | —70.2 | — | — |
| | 70 | 10 | 18416 | 18580 | 18180 | 10 | —64.5 | —62.1 | —67.7 | — | — |
| | 60 | 6 | 19423 | 19570 | 19330 | 6 | —63.7 | —61.1 | —66.2 | — | — |
| | 50 | 6 | 20518 | 20673 | 20437 | 6 | —61.1 | —59.1 | —64.0 | — | — |
| | 40 | 2 | 21965 | 21990 | 21940 | 2 | —61.0 | —59.8 | —62.3 | — | — |
| | 30 | 2 | 23662 | 23687 | 23638 | 2 | —60.4 | —57.4 | —63.3 | — | — |
| | 20 | 1 | 26295 | — | — | 1 | —61.6 | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Helwan 0000 U.T. | Surface | 28 | *1001mb. | *1009mb. | *1000mb. | 28 | 11.2 | 15.9 | 7.4 | 28 | 6.4 |
| | 1000 | 28 | 172 | 217 | 140 | 28 | 11.2 | 14.0 | — 7.3 | 28 | 5.9 |
| | 850 | 28 | 1520 | 1558 | 1466 | 27 | 6.3 | 13.4 | — 1.4 | 29 | — 4.2 |
| | 700 | 28 | 3016 | 3163 | 3008 | 28 | — 0.2 | 4.5 | —10.4 | 28 | —12.9 |
| | 600 | 28 | 4315 | 4404 | 4198 | 28 | — 7.1 | — 0.8 | —11.8 | 28 | —19.0 |
| | 500 | 28 | 5709 | 5826 | 5570 | 28 | —16.8 | —11.4 | —22.2 | 28 | —27.5 |
| | 400 | 28 | 7419 | 7482 | 7180 | 28 | —28.8 | —24.3 | —35.0 | 28 | —37.9 |
| | 300 | 27 | 9343 | 9487 | 9121 | 27 | —44.4 | —39.8 | —49.7 | 27 | —53.0 |
| | 250 | 27 | 10542 | 10692 | 10299 | 27 | —52.4 | —46.9 | —57.9 | 26 | —60.0 |
| | 200 | 25 | 11959 | 12109 | 11713 | 25 | —59.4 | —54.1 | —64.3 | 13 | —63.6 |
| | 150 | 23 | 13744 | 13878 | 13525 | 23 | —62.7 | —56.2 | —68.3 | 6 | —64.4 |
| | 100 | 22 | 16217 | 16350 | 16049 | 22 | —65.9 | —56.9 | —72.0 | — | — |
| | 70 | 16 | 18386 | 18526 | 18240 | 16 | —65.0 | —61.7 | —69.1 | — | — |
| | 60 | 16 | 19348 | 19500 | 19210 | 16 | —59.5 | —58.7 | —65.8 | — | — |
| | 50 | 15 | 20444 | 20616 | 20306 | 15 | —62.0 | —58.5 | —64.9 | — | — |
| | 40 | 12 | 21921 | 22100 | 21760 | 12 | —59.7 | —52.2 | —63.6 | — | — |
| | 30 | 12 | 23631 | 23883 | 23470 | 12 | —57.5 | —52.7 | —60.9 | — | — |
| | 20 | 9 | 26246 | 26498 | 26101 | 9 | —53.8 | —51.0 | —56.9 | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Aswan 0000 U.T. | Surface | 31 | *994mb. | *999mb. | *991mb. | 31 | 11.5 | 13.5 | 7.5 | 31 | 1.0 |
| | 1000 | 31 | 142 | 185 | 117 | — | — | — | — | — | — |
| | 850 | 31 | 1511 | 1532 | 1478 | 31 | 12.4 | 18.8 | 1.6 | 31 | — 4.2 |
| | 700 | 31 | 3121 | 3158 | 3058 | 31 | 5.3 | 10.6 | — 0.2 | 31 | —12.0 |
| | 600 | 31 | 4366 | 4418 | 4280 | 31 | — 1.4 | 3.0 | — 7.2 | 30 | —17.8 |
| | 500 | 31 | 5795 | 5873 | 5720 | 31 | —11.3 | — 6.8 | —15.1 | 30 | —26.3 |
| | 400 | 31 | 7471 | 7548 | 7347 | 31 | —22.9 | —16.4 | —28.2 | 31 | —35.7 |
| | 300 | 28 | 9321 | 9648 | 9399 | 28 | —38.9 | —33.0 | —43.7 | 24 | —49.6 |
| | 250 | 27 | 10746 | 10890 | 10604 | 27 | —47.9 | —42.0 | —53.1 | 23 | —57.3 |
| | 200 | 23 | 12201 | 12367 | 12044 | 23 | —57.1 | —53.0 | —60.8 | 16 | —65.1 |
| | 150 | 16 | 14002 | 14171 | 13858 | 16 | —64.5 | —60.1 | —71.2 | — | — |
| | 100 | 14 | 16448 | 16612 | 16329 | 14 | —71.4 | —63.7 | —76.1 | — | — |
| | 70 | 9 | 18555 | 18727 | 18452 | 9 | —68.9 | —59.0 | —74.4 | — | — |
| | 60 | 3 | 19557 | 19660 | 19430 | 3 | —65.8 | —63.1 | —70.2 | — | — |
| | 50 | 3 | 20636 | 20727 | 20514 | 3 | —65.4 | —62.8 | —69.0 | — | — |
| | 40 | 1 | 21893 | — | — | 1 | —62.3 | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the element has been observed during the month.
The atmospheric pressure corrected to the elevation of the radiosonde station.

## UPPER AIR CLIMATOLOGICAL DATA

### Table B 1 (*contd.*) – MONTHLY MEANS, ABSOLUTE HIGHER AND LOWER VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

### DECEMBER – 1970

| Station | Pressure Surface (Millibar) | Altitude of Pressure Surface (gpm) | | | | Temperature (°C) | | | | Dew Point (°C) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N | Mean | Highest | Lowest | N | Mean | Highest | Lowest | N | Mean |
| Mersa Matruh 1200 U.T. | Surface | 28 | *1018mb. | *1024mb. | *1013mb. | 28 | 17.3 | 20.7 | 14.0 | 28 | 8.0 |
| | 1000 | 28 | 182 | 230 | 137 | 28 | 15.8 | 19.0 | 12.7 | 28 | 6.6 |
| | 850 | 28 | 1535 | 1576 | 1493 | 28 | 5.1 | 10.8 | 0.3 | 28 | — 4.5 |
| | 700 | 27 | 3105 | 3167 | 3044 | 27 | — 0.6 | 5.0 | — 9.5 | 27 | —13.9 |
| | 600 | 27 | 4322 | 4409 | 4231 | 27 | — 8.2 | — 2.6 | —12.8 | 26 | —20.5 |
| | 500 | 27 | 5714 | 5822 | 5602 | 27 | —17.7 | —12.7 | —20.3 | 27 | —29.6 |
| | 400 | 23 | 7342 | 7480 | 7218 | 23 | —29.4 | —25.1 | —33.6 | 21 | —40.5 |
| | 300 | 19 | 9332 | 9490 | 9181 | 19 | —44.6 | —40.6 | —50.0 | 18 | —54.4 |
| | 250 | 18 | 10538 | 10690 | 10351 | 18 | —53.0 | —49.8 | —58.2 | 15 | —62.2 |
| | 200 | 18 | 11956 | 12098 | 11757 | 18 | —58.1 | —52.0 | —64.4 | 6 | — 65.0 |
| | 150 | 16 | 13757 | 13866 | 13592 | 16 | —61.0 | —55.7 | —66.9 | — | — |
| | 100 | 10 | 16253 | 16318 | 16142 | 10 | —64.4 | —58.6 | —67.8 | — | — |
| | 70 | 6 | 18445 | 18483 | 18373 | 6 | —63.8 | —60.1 | —67.1 | — | — |
| | 60 | 3 | 19460 | 19500 | 19420 | 3 | —61.0 | —59.0 | —63.4 | — | — |
| | 50 | 3 | 20582 | 20681 | 20510 | 3 | —58.1 | —55.6 | —60.5 | — | — |
| | 40 | 1 | 22150 | — | — | 1 | —56.6 | — | — | — | — |
| | 30 | 1 | 23718 | — | — | 1 | —55.0 | — | — | — | — |
| | 20 | 1 | 26345 | — | — | 1 | —49.3 | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |
| Helwan 1200 U.T. | Surface | 31 | *1002mb. | *1009mb. | *999mb. | 31 | 18.3 | 24.4 | 13.4 | 31 | 5.6 |
| | 1000 | 31 | 161 | 214 | 132 | 29 | 17.8 | 24.0 | 12.0 | 29 | 5.5 |
| | 850 | 31 | 1520 | 1570 | 1474 | 31 | 7.1 | 15.6 | — 0.6 | 31 | —6.2 |
| | 700 | 31 | 3101 | 3203 | 3006 | 31 | 1.3 | 9.8 | — 7.3 | 31 | —14.5 |
| | 600 | 30 | 4328 | 4467 | 4200 | 30 | —6.5 | 2.8 | —12.9 | 30 | —21.1 |
| | 500 | 30 | 5730 | 5913 | 5577 | 30 | —15.6 | —9.0 | —21.9 | 30 | —29.1 |
| | 400 | 30 | 7378 | 7599 | 7190 | 30 | —27.5 | —23.0 | —33.8 | 30 | —38.6 |
| | 300 | 30 | 9375 | 9640 | 9148 | 30 | —42.9 | —38.8 | —49.1 | 30 | —52.7 |
| | 250 | 30 | 10588 | 10852 | 10322 | 30 | —52.0 | —49.7 | —57.4 | 30 | —61.0 |
| | 200 | 28 | 12012 | 12271 | 11721 | 28 | —58.7 | —52.9 | —62.3 | 16 | —65.9 |
| | 150 | 27 | 13802 | 14048 | 13561 | 27 | —62.0 | —56.0 | —68.0 | 6 | —67.2 |
| | 100 | 24 | 16303 | 16508 | 16111 | 24 | —65.6 | —60.3 | —71.1 | — | — |
| | 70 | 24 | 18497 | 18659 | 18330 | 24 | —63.9 | —59.7 | —68.0 | — | — |
| | 60 | 22 | 19335 | 19640 | 19280 | 22 | —62.6 | —59.1 | — 66.4 | — | — |
| | 50 | 21 | 20552 | 20736 | 20360 | 21 | — 60.8 | — 54.3 | —64.9 | — | — |
| | 40 | 18 | 22030 | 22240 | 21820 | 18 | —57.6 | —54.4 | — 61.0 | — | — |
| | 30 | 17 | 23765 | 23968 | 23537 | 17 | —55.1 | —52.1 | —58.1 | — | — |
| | 20 | 11 | 26376 | 26594 | 26108 | 11 | —51.6 | —48.0 | —56.0 | — | — |
| | 10 | 1 | 31022 | — | — | 1 | —40.2 | — | — | — | — |
| Aswan 1200 U.T. | Surface | 29 | *993mb. | *998mb. | *990mb. | 29 | 22.0 | 26.9 | 16.4 | 29 | 3.2 |
| | 1000 | 29 | 131 | 175 | 106 | — | — | — | — | — | — |
| | 850 | 29 | 1512 | 1543 | 1486 | 29 | 12.5 | 17.0 | 2.8 | 29 | —6.4 |
| | 700 | 29 | 3124 | 3168 | 3056 | 29 | 5.5 | 9.2 | 2.8 | 29 | —13.8 |
| | 600 | 28 | 4369 | 4427 | 4269 | 28 | —1.3 | 4.4 | — 7.0 | 28 | —19.3 |
| | 500 | 27 | 5799 | 5868 | 5686 | 27 | —10.3 | — 7.5 | —14.9 | 27 | — 26.7 |
| | 400 | 25 | 7481 | 7557 | 7381 | 25 | —22.0 | —19.6 | —27.2 | 23 | —37.1 |
| | 300 | 25 | 9532 | 9601 | 9419 | 25 | —38.2 | —34.6 | —42.9 | 22 | — 50.2 |
| | 250 | 24 | 10761 | 10837 | 10625 | 24 | —47.3 | —42.4 | —52.7 | 20 | — 58.5 |
| | 200 | 23 | 12206 | 12269 | 12046 | 23 | —56.7 | —51.5 | —62.5 | 15 | — 66.8 |
| | 150 | 18 | 14011 | 14107 | 13835 | 18 | —63.4 | —56.8 | — 73.7 | 3 | —70.6 |
| | 100 | 8 | 16463 | 16610 | 16325 | 8 | —70.3 | —65.7 | —73.5 | — | — |
| | 70 | 3 | 18608 | 18719 | 18541 | 3 | —70.2 | —64.7 | —73.3 | — | — |
| | 60 | 3 | 19553 | 19660 | 19500 | 3 | —65.0 | —63.8 | —66.5 | — | — |
| | 50 | 3 | 20646 | 20780 | 20576 | 3 | —62.9 | —61.1 | —63.9 | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the element has been observed during the month.

* The atmospheric pressure corrected to the elevation of the radiosonde station.

## Table B 2.—MEAN AND EXTREME VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE, THE HIGHEST WIND SPEED IN THE UPPER AIR

### DECEMBER — 1970

| | Station | Freezing Level | | | | | | | | | First Tropopause | | | | | | | | | Highest wind speed | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Mean | | | Highest | | | Lowest | | | Mean | | | Highest | | | Lowest | | | | | | |
| | | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Dew point (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Temperature (°C) | Altitude (gpm) | Pressure (mb.) | Direction (000—360) | Speed in Knots |
| 0000 U.T. | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | M. Matruh (A) | 2820 (27) | 733 (27) | —12.8 (26) | 4000 | 623 | —13.2 | 1280 | 876 | — 3.5 | 11686 (19) | 213 (19) | —60.1 (19) | 13659 | 156 | —65.5 | 8210 | 338 | —49.3 | 9760 | — | 280 | 112 |
| | Helwan . . . | 2914 (28) | 719 (28) | —11.0 (28) | 3940 | 635 | —22.7 | 1330 | 868 | — 2.0 | 12805 (23) | 180 (23) | —63.0 (23) | 15980 | 105 | —72.8 | 10186 | 258 | —45.4 | 6600 | 444 | 270 | 150 |
| | Aswan . . (A) | 3974 (31) | 631 (31) | —15.8 (30) | 4910 | 565 | —25.0 | 1710 | 830 | — 5.7 | 15182 (7) | 128 (7) | —69.7 (7) | 18020 | 78 | —73.9 | 13000 | 176 | —65.3 | 9420 | 304 | 238 | 140 |
| 1200 U.T. | | (N) | (N) | (N) | | | | | | | (N) | (N) | (N) | | | | | | | | | | |
| | M. Matruh (A) | 2864 (27) | 730 (27) | —10.6 (27) | 3930 | 639 | — 8.2 | 1570 | 848 | — 1.3 | 12192 (14) | 196 (14) | —61.5 (14) | 14500 | 135 | —67.5 | 10351 | 250 | —58.2 | 11550 | 251 | 230 | 145 |
| | Helwan . . . | 3039 (31) | 708 (31) | —13.0 (31) | 4120 | 620 | —15.0 | 1260 | 875 | — 4.8 | 12552 (25) | 188 (25) | —62.6 (25) | 16190 | 103 | —67.3 | 11000 | 233 | —56.3 | 6400 | 458 | 185 | 162 |
| | Aswan . (A) | 4097 (28) | 621 (28) | —18.0 (28) | 4680 | 579 | —13.5 | 2120 | 784 | —11.8 | 13163 (6) | 179 (6) | —62.6 (6) | 15500 | 118 | —69.8 | 12000 | 202 | —60.0 | 11710 | 215 | 270 | 137 |

N = The Number of cases the element has been observed during the month.

**Table B 8.—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.**

**MERSA MATRUH (A)—DECEMBER 1970**

| Station | Pressure Surface (Millibar) | Wind between specified ranges of direction (000–360°) | | | | | | | | | | | | | | | | | | | | | | | | Number of calm winds | Total number of observations (TN) | Mean scalar wind speed (knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/134 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 5 | 17 | 0 | — | 2 | 8 | 0 | — | 0 | — | 5 | 5 | 5 | 6 | 4 | 14 | 5 | 10 | 0 | — | 0 | — | 2 | 11 | 0 | 28 | 10 |
| | 1000 | 4 | 23 | 0 | — | 0 | — | 0 | — | 2 | 10 | 1 | 8 | 2 | 6 | 1 | 3 | 1 | 17 | 3 | 18 | 2 | 18 | 3 | 17 | 0 | 19 | 16 |
| | 850 | 2 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 6 | 1 | 10 | 3 | 15 | 1 | 13 | 4 | 21 | 7 | 24 | 0 | 19 | 19 |
| | 700 | 3 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 21 | 4 | 28 | 2 | 24 | 6 | 30 | 0 | 17 | 25 |
| | 600 | 3 | 25 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 47 | 1 | 16 | 4 | 35 | 4 | 34 | 0 | 13 | 32 |
| | 500 | 1 | 18 | 1 | 41 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 30 | 4 | 46 | 4 | 35 | 0 | 13 | 36 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 49 | 5 | 46 | 4 | 37 | 0 | 12 | 44 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 70 | 1 | 42 | 5 | 67 | 2 | 62 | 0 | 9 | 63 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 76 | 1 | 48 | 6 | 76 | 0 | — | 0 | 8 | 73 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 44 | 1 | 67 | 0 | — | 0 | 2 | 56 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 72 | 1 | 67 | 0 | — | 0 | 2 | 70 |
| | 100 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 3 | 16 | 0 | — | 2 | 7 | 3 | 8 | 5 | 9 | 1 | 9 | 0 | — | 2 | 10 | 2 | 10 | 2 | 15 | 7 | 15 | 1 | 15 | 0 | 28 | 12 |
| | 1000 | 2 | 16 | 1 | 7 | 1 | 8 | 4 | 9 | 4 | 8 | 0 | — | 0 | — | 1 | 4 | 3 | 15 | 2 | 21 | 6 | 19 | 3 | 24 | 0 | 27 | 15 |
| | 850 | 3 | 22 | 5 | 5 | 1 | 3 | 1 | 18 | 0 | — | 0 | — | 1 | 14 | 0 | — | 5 | 15 | 5 | 15 | 3 | 25 | 3 | 21 | 0 | 27 | 15 |
| | 700 | 2 | 15 | 1 | 5 | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 20 | 2 | 30 | 5 | 23 | 6 | 24 | 4 | 31 | 3 | 30 | 0 | 25 | 25 |
| | 600 | 1 | 49 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 29 | 5 | 35 | 5 | 28 | 7 | 35 | 1 | 30 | 0 | 23 | 32 |
| | 500 | 1 | 52 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 22 | 6 | 53 | 6 | 42 | 5 | 50 | 1 | 27 | 0 | 21 | 46 |
| | 400 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 6 | 68 | 8 | 55 | 3 | 62 | 1 | 39 | 0 | 18 | 60 |
| | 300 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 78 | 5 | 64 | 2 | 84 | 0 | — | 0 | 11 | 72 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 135 | 6 | 66 | 1 | 65 | 0 | — | 0 | 8 | 74 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 6 | 78 | 1 | 71 | 0 | — | 0 | 7 | 77 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 76 | 3 | 69 | 1 | 66 | 0 | — | 0 | 5 | 71 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 33 | 0 | 1 | 33 |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

N = The number of cases the wind has been observed from the range of direction during the month.

TN = The total number of cases the wind has been observed for all directions during the month.

**Table B 8 (*contd.*)—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.**

**HELWAN — DECEMBER 1970**

| Station | Pressure Surface (Millibar) | Wind between specified ranges of direction (000–360°) | | | | | | | | | | | | | | | | | | | | | | | | Number of calm winds | Total number of observations (TN) | Mean scalar wind speed (knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/135 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | ff) m | | | |
| 0000 U.T. | Surface | 2 | 4 | 10 | 6 | 3 | 6 | 1 | 2 | 1 | 1 | 1 | 3 | 0 | — | 1 | 4 | 0 | — | 0 | — | 1 | 4 | 0 | — | 8 | 28 | 4 |
| | 1000 | 3 | 12 | 10 | 12 | 5 | 14 | 1 | 3 | 1 | 1 | 1 | 7 | 0 | — | 1 | 12 | 0 | — | 0 | — | 3 | 9 | 2 | 13 | 1 | 28 | 10 |
| | 850 | 5 | 13 | 4 | 15 | 0 | — | 2 | 11 | 0 | — | 0 | — | 1 | 17 | 0 | — | 2 | 14 | 4 | 18 | 3 | 26 | 7 | 18 | 0 | 28 | 16 |
| | 700 | 3 | 25 | 0 | — | 1 | 12 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 32 | 7 | 29 | 8 | 33 | 4 | 22 | 0 | 26 | 28 |
| | 600 | 1 | 18 | 1 | 22 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 42 | 10 | 49 | 7 | 36 | 3 | 36 | 0 | 26 | 41 |
| | 500 | 2 | 30 | 1 | 15 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 69 | 12 | 72 | 4 | 37 | 5 | 45 | 0 | 25 | 52 |
| | 400 | 2 | 51 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 58 | 8 | 76 | 4 | 70 | 3 | 28 | 0 | 18 | 63 |
| | 300 | 2 | 78 | 1 | 24 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 65 | 3 | 103 | 2 | 34 | 2 | 54 | 0 | 11 | 67 |
| | 250 | 1 | 75 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 91 | 0 | — | 4 | 78 | 0 | 9 | 83 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 88 | 1 | 105 | 0 | 4 | 92 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 47 | 0 | — | 0 | 1 | 47 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 54 | 0 | — | 0 | 1 | 54 |
| | 70 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 3 | 7 | 3 | 7 | 3 | 8 | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 6 | 2 | 2 | 4 | 6 | 5 | 7 | 5 | 5 | 2 | 31 | 6 |
| | 1000 | 2 | 8 | 6 | 9 | 4 | 8 | 0 | — | 1 | 5 | 0 | — | 0 | — | 1 | 4 | 1 | 2 | 4 | 6 | 5 | 13 | 4 | 6 | 1 | 29 | 8 |
| | 850 | 1 | 22 | 6 | 14 | 1 | 4 | 0 | — | 1 | 7 | 3 | 12 | 0 | — | 0 | — | 1 | 8 | 2 | 20 | 10 | 16 | [illegible] | 23 | 0 | 31 | 16 |
| | 700 | 3 | 20 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 4 | 0 | — | 2 | 21 | 4 | 37 | 5 | 29 | 9 | 27 | 6 | 37 | 0 | 30 | 29 |
| | 600 | 1 | 3 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 5 | 3 | 32 | 10 | 41 | 7 | 42 | 7 | 39 | 0 | 29 | 38 |
| | 500 | 1 | 52 | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 130 | 0 | — | 0 | — | 2 | 16 | 11 | 72 | 9 | 49 | 3 | 32 | 0 | 27 | 57 |
| | 400 | 2 | 54 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 110 | 1 | 138 | 8 | 83 | 8 | 45 | 1 | 52 | 0 | 21 | 69 |
| | 300 | 2 | 46 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 77 | 4 | 97 | 3 | 41 | 0 | 12 | 65 |
| | 250 | 1 | 46 | 1 | 18 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 50 | 2 | 52 | 3 | 48 | 0 | 8 | 45 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 69 | 4 | 60 | 2 | 54 | 0 | 7 | 60 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 74 | 2 | 36 | 0 | 6 | 62 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 72 | 3 | 71 | 1 | 43 | 0 | 6 | 67 |
| | 70 | 0 | — | 0 | — | 0 | — | 1 | 35 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 47 | 0 | — | 0 | 3 | 43 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 71 | 0 | — | 0 | — | 0 | 1 | 71 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 50 | 0 | — | 0 | — | 0 | 1 | 50 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**N** = The number of cases the wind has been observed from the range of direction during the month.

**TN** = The total number of cases the wind has been observed for all directions during the month.

**Table B 3** (*contd.*)— **NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.**

**ASWAN (A) — DECEMBER 1970**

| Station | Prussure Surface (Millibar) | Wind between specified ranges of direction (000—360)° | | | | | | | | | | | | | | | | | | | | | | | | Number of calm winds | Total number of observations (TN) | Mean speed wind (knots) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 345/014 | | 015/044 | | 045/074 | | 075/104 | | 105/135 | | 135/164 | | 165/194 | | 195/224 | | 225/254 | | 255/284 | | 285/314 | | 315/344 | | | | |
| | | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | N | (ff) m | | | |
| 0000 U.T. | Surface | 23 | 8 | 3 | 10 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 13 | 4 | 22 | 0 | 31 | 10 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 8 | 11 | 6 | 12 | 3 | 10 | 3 | 6 | 1 | 3 | 0 | — | 0 | — | 0 | — | 1 | 18 | 1 | 10 | 1 | 2 | 6 | 9 | 0 | 30 | 10 |
| | 700 | 3 | 13 | 1 | 12 | 0 | — | 2 | 10 | 0 | — | 0 | — | 0 | — | 1 | 12 | 1 | 14 | 6 | 17 | 12 | 17 | 4 | 12 | 0 | 30 | 15 |
| | 600 | 0 | — | 3 | 17 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 29 | 14 | 28 | 8 | 31 | 2 | 28 | 0 | 30 | 28 |
| | 500 | 0 | — | 2 | 27 | 1 | 13 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 60 | 17 | 45 | 5 | 37 | 0 | — | 0 | 30 | 40 |
| | 400 | 0 | — | 2 | 34 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 5 | 63 | 17 | 60 | 6 | 32 | 0 | — | 0 | 30 | 53 |
| | 300 | 1 | 58 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 109 | 18 | 65 | 7 | 47 | 0 | — | 0 | 28 | 63 |
| | 250 | 1 | 52 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 19 | 78 | 4 | 63 | 1 | 48 | 0 | 25 | 74 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 86 | 10 | 84 | 2 | 72 | 2 | 62 | 0 | 15 | 80 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 80 | 11 | 77 | 2 | 58 | 1 | 74 | 0 | 15 | 74 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 31 | 9 | 41 | 0 | — | 0 | — | 0 | 10 | 40 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 21 | 1 | 35 | 0 | — | 0 | 4 | 25 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 34 | 0 | — | 0 | — | 0 | 1 | 34 |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 1200 U.T. | Surface | 19 | 11 | 6 | 11 | 0 | — | 0 | — | 1 | 7 | 0 | — | 1 | 5 | 0 | — | 0 | — | 0 | — | 1 | 20 | 1 | 7 | 0 | 29 | 10 |
| | 1000 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 850 | 9 | 9 | 0 | — | 2 | 10 | 2 | 19 | 4 | 6 | 1 | 3 | 0 | — | 0 | — | 1 | 7 | 1 | 2 | 2 | 8 | 7 | 13 | 0 | 29 | 10 |
| | 700 | 2 | 13 | 2 | 11 | 1 | 10 | 0 | — | 0 | — | 0 | — | 2 | 14 | 0 | — | 1 | 6 | 7 | 16 | 9 | 18 | 4 | 17 | 0 | 28 | 16 |
| | 600 | 1 | 11 | 0 | — | 3 | 15 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 11 | 14 | 28 | 7 | 30 | 2 | 17 | 0 | 28 | 25 |
| | 500 | 0 | — | 1 | 38 | 1 | 7 | 1 | 11 | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 23 | 18 | 54 | 3 | 40 | 0 | — | 0 | 27 | 39 |
| | 400 | 0 | — | 1 | 52 | 1 | 9 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 4 | 51 | 18 | 58 | 1 | 53 | 0 | — | 0 | 25 | 57 |
| | 300 | 0 | — | 1 | 55 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 74 | 16 | 71 | 6 | 48 | 0 | — | 0 | 25 | 65 |
| | 250 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 88 | 16 | 78 | 5 | 65 | 1 | 74 | 0 | 24 | 76 |
| | 200 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 3 | 102 | 12 | 85 | 4 | 74 | 1 | 84 | 0 | 20 | 84 |
| | 150 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 2 | 96 | 7 | 80 | 1 | 60 | 1 | 67 | 0 | 11 | 80 |
| | 100 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 77 | 1 | 47 | 2 | 32 | 1 | 20 | 0 | 5 | 42 |
| | 70 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 30 | 1 | 8 | 0 | 2 | 19 |
| | 60 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 19 | 1 | 15 | 0 | 2 | 17 |
| | 50 | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 0 | — | 1 | 12 | 0 | — | 0 | 1 | 12 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 20 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 10 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

**N** = The number of cases the wind has been observed from the range of direction during the month.

**TN** = The total number of cases the wind hasbeen observed for all directions during the month.

# REVIEW OF AGRO-METEOROLOGICAL STATIONS

## MERSA MATRUH — DECEMBER 1970

For the month as a whole, the daily mean air temerature was slightly below normal while the daily mean relative humidity was slightly above normal. The total monthly rainfall was 17.1 mm against 33.9 mm for normal.

The prevailing weather was cold and the daily maximum air temperatures were below normal the whole month apart from the 3rd and the period from the 28th to the 31st. The lowest maximum air temperature for the month (14.0°C) occurred on the 12th, together with the maximum daily rainfall (10.3 mm). The highest maximum air temperature (21.8°C) was reported on the 3rd.

The extreme maximum soil temperatures were lower than the corresponding values of last December at 2,5 & 50 cm, depths with departures between 2.6°C at 2 cm and 0.3°C at 50 cm. At 10, 20 & 100 cm depths the extreme soil maxima were higher than last December with small departures between 0.1, 0.7°C. The extreme minimum soil temperatures were lower than the corresponding values of last December at all depths between 2,100 cm and the departures ranged between 0.3°C at 2 cm and 1.8°C at 10 cm.

The daily mean values of actual sunshine duration and wind speed at 1.5 m. were less than the corresponding values of December 1969 by 1.8 hour and 0.4 m/sec. respectively.

## TAHRIR — DECEMBER 1970

For the month as a whole, the daily mean air temperature was below average while the daily mean relative humidity was above average. The total monthly rainfall was only 3.1 mm against 8.2 mm for average.

The prevailing weather was cold and the daily maximum air temperatures were below normal the whole month apart from the two short periods : (1st—3rd) and (29th—31st). The lowest maximum air temperature for the month (15.6°C) occurred on the 13th together with the maximum daily rainfall (1.8 mm). The highest maximum air temperature (23.9°C) was reported on the 3rd. The minimum air temperature at 5 cm above ground fell below 0.0°C on the 16th only, when its value was — 0.2°C.

The extreme maximum and minimum soil temperatures were lower than the corresponding values of last December at all depths between 2,100 cm. The departures for the extreme maxima ranged between 3.8°C at 2 cm and 1.3°C at 10 cm. The departures for the extreme minima ranged between 3.7°C at 20 cm and 1.8°C at 100 cm.

The daily mean values of actual sunshine duration, wind speed at 1.5 m and Pan evaporation were less than the corresponding values of December 1969 by 0.7 hour, 0.5 m/sec. and 1.42 mm respectively.

## BAHTIM — DECEMBER 1970

For the month as a whole, the daily mean air temperature was below the corresponding value of last December, while the daily mean relative humidity was higher. The monthly rainfal was only 0.3 mm against trace for last December.

Cold weather prevailed the whole month and maximum air temperatures were below average except on the 3rd when the highest maximum air temperature (22.7°C) was reported. The lowest maximum air temperature for the month (15.1°C) occurred on the 13th. The minimum air temprature at 5 cm above ground fell below 0.0°C on 8 days ; its values on these days are given in the following :

| Date | : | 14 | 15 | 16 | 17 | 18 | 21 | 23 | 25 |
|---|---|---|---|---|---|---|---|---|---|
| Min. Temp. | : | —1.6 | —3.0 | —4.0 | —2.5 | --1.4 | —0.8 | —0.7 | —2.9 |

The extreme maximum and minimum soil temperatures were lower than the corresponding values of last December at all depths between 2.,100 cm. The departures ranged for the extreme maximum between 0.1°C at 5 cm and 0.9°C at 50cm ; and for the extreme minima between 2.4°C at 2 cm and 0.7°C at 50 cm.

The daily mean values of actual sunshine duration, wind speed at 1.5 m and Pan evaporation were lower than the corresponding values of December 1969 by 0.8 hour, 0.4 m/sc. and 1.06 mm respectively.

## KHARGA - DECEMBER 1970

For the month as a whole, the daily mean air temperature was below normal.

The prevailing weather was generally cold and the daily maximum air temperatures were below normal except on the 22nd and in the period from the 26th till the 31st. The lowest maximum air temperature for the month (17.2°C) occurred on the 12th. The highest maximum air temperature (26.8°C) was reported on the last day of the month. The minimum air temperature at 5 cm above ground fell below 0.0°C on 3 days ; its values on these days are given in the following :

| Date | : | 15 | 17 | 29 |
|---|---|---|---|---|
| Min. Temp. (°C) | : | —0.9 | —0.6 | —0.8 |

The extreme maximum soil temperatures were lower than the corresponding values of last December at all depths between 2, 100 cm apart from the 20 cm depth where the values were equal; the departures varied between 6.1°C at 2 cm. and 1.0°C at 100 cm. The extreme minimum soil temperatures were lower than the corresponding values of last December at all depths between 2,100 cm. with departures between 0.1°C at 20 cm. and 1.1°C at 100 cm.

The daily mean wind speed was higher than the corresponding value of December 1969 by 0.6 m./sec. The daily mean values of actual sunshine duration and Pan evaporation were lower than the corresponding values of December 1969 by 0.7 hour and 0.69 mm. respectively.

## Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

### DECEMBER — 1970

| Station | Air Temperature (°C) | | | | | Mean Duration in hours of daily air temperature above the following values | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean Max. | Mean Min. | Mean of the day | Night time mean | Day time mean | 5°C | 0°C | 5°C | 10°C | 15°C | 20°C | 25°C | 30°C | 3 C | 40°C | 45°C |
| Mersa Matruh. . . | 18.3 | 9.8 | 13.7 | 12.1 | 15.3 | 24.0 | 24.0 | 24.0 | 20.2 | 8.6 | 0.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Tahrir . . . . . | 20.4 | 6.6 | 12.4 | 9.4 | 15.5 | 24.0 | 24.0 | 22.6 | 15.6 | 7.5 | 1.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Bahtim . . . . . | 19.4 | 5.3 | 11.7 | 8.7 | 14.7 | 24.0 | 24.0 | 22.0 | 14.5 | 6.6 | 0.8 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Kharga . . . . . | 21.8 | 6.0 | 14.3 | 11.2 | 17.3 | 24.0 | 24.0 | 23.3 | 18.3 | 10.6 | 3.6 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |

## Table C 2.—EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES ABOVE GROUND, ABSOLUTE MINIMUM AIR TEMPERATURE AT 5cms ABOVE GROUND OVER DIFFERENT FIELDS.

### DECEMBER — 1970

| Station | Max. Temp. at 1½ metres (°C) | | | | Min. Temp. at 1½ metres (°C) | | | | Min. Temp. at 5 cms. above (°C) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest | | Lowest | | Highest | | Lowest | | Dry soil | | Grass | |
| | Value | Date | Value | Date | Value | Date | Value | Date | Value | Date | Value | Value |
| Mersa Matruh. . . | 21.8 | 3 | 14.0 | 12 | 14.7 | 8 | 6.2 | 25 | 1.0 | 26 | — | — |
| hrir . . . . . | 23.9 | 3 | 15.6 | 13 | 12.9 | 6 | 1.0 | 16 | —0.2 | 16 | — | — |
| Bahtim . . . . . | 22.7 | 3 | 15.1 | 13 | 10.8 | 5 | 0.4 | 16 | —4.0 | 16 | — | — |
| Kharga . . . . . | 26.8 | 31 | 17.2 | 12 | 12.0 | 1 | 1.2 | 15 | —0.9 | 15 | — | — |

## Table C 3.—( SOLAR + SKY ) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL.

### DECEMBER — 1970

| Station | (Solar + Sky) Radiation gm. cal/cm² | Duration of Bright Sunshine (hours) | | | Relative Humidity | | | | Vapour pressure (mms) | | | | | | Evaporation (mms) | | Rainfall (mms) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Total Actual monthly | Total Possibly monthly | % | Mean of day | 1200 U.T. | Lowest | Date | Mean of day | 1200 U.T. | Highest | Date | Lowest | Date | Piche | Pan class A | Total Amount Monthly | Max. Fall in one day | Date |
| Mersa Matruh. . | — | 183.7 | 314.2 | 58 | 68 | 55 | 28 | 17 | 8.0 | 8.1 | 15.5 | 2 | 4.1 | 11 | 6.4 | 4.40 | 17.1 | 10.3 | 12 |
| Tahrir . . . . . | 219.8 | 228.2 | 316.9 | 72 | 75 | 52 | 34 | 23 | 8.0 | 8.4 | 12.9 | 2 | 4.5 | 16 | 3.4 | 2.62 | 3.1 | 1.8 | 13 |
| Bahtim . . . . . | 235.9 | 215.4 | 317.6 | 68 | 74 | 49 | 33 | 23 | 7.5 | 7.9 | 11.9 | 1 | 4.3 | 16 | 3.7 | 2.77 | 0.3 | 0.2 | 7 |
| Kharga . . . . . | 317.4 | 277.2 | 329.2 | 84 | 48 | 32 | 18 | 25 | 5.7 | 5.9 | 9.6 | 1 | 2.6 | 26 | 9.1 | 5.91 | 0.0 | 0.0 | — |

## Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFERENT DEPTHS (cms) IN DIFFERENT FIELDS

### DECEMBER — 1970

| Station | Highest (H) Lowest (L) | Extreme soil temperature (°C) in dry field at different depths (cms.) | | | | | | | | Extreme soil temperature (°C) in grass field at different depths (cms.) | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 | 2 | 5 | 10 | 20 | 50 | 100 | 200 | 300 |
| Mersa Matruh. | H | 22.5 | 21.9 | 20.4 | 19.6 | 19.2 | 21.8 | 23.6 | — | — | — | — | — | — | — | — | — |
| | L | 5.8 | 6.6 | 8.2 | 11.8 | 14.5 | 17.0 | 20.0 | — | — | — | — | — | — | — | — | — |
| Tahrir . . . . | H | 26.4 | 24.3 | 21.5 | 19.2 | 18.8 | 21.0 | 23.7 | 24.9 | — | — | — | — | — | — | — | — |
| | L | 4.9 | 5.8 | 7.1 | 9.9 | 13.4 | 17.1 | 20.3 | 22.7 | — | — | — | — | — | — | — | — |
| Bahtim . . . . | H | 31.3 | 24.9 | 21.6 | 20.7 | 22.7 | 24.7 | 26.6 | 26.6 | — | — | — | — | — | — | — | — |
| | L | 3.8 | 7.2 | 11.4 | 15.5 | 19.0 | 21.2 | 24.6 | 25.6 | — | — | — | — | — | — | — | — |
| Kharga . . . | H | 29.7 | 26.7 | 23.8 | 23.8 | 24.0 | 27.0 | 29.0 | 29.7 | — | — | — | — | — | — | — | — |
| | L | 3.7 | 7.0 | 11.5 | 16.4 | 20.3 | 23.5 | 27.0 | 28.6 | — | — | — | — | — | — | — | — |

## Table C 5. SURFACE WIND

### DECEMBER — 1970

| Station | Wind Speed m/sec at 1½ m | | | Days with surface wind speed at 10 metres | | | | | | | Max. Gust. (knots) at 10 metres | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean of the day | Night time mean | day time mean | ≥10 knots | ≥15 knots | ≥20 knots | ≥25 knots | ≥30 knots | ≥35 knots | ≥40 knots | value | Date |
| Mersa Matruh. | 4.1 | 3.6 | 4.5 | 31 | 25 | 15 | 6 | 3 | 1 | 0 | 41 | 11 |
| Tahrir . . . . | 1.6 | 1.0 | 2.1 | 23 | 10 | 2 | 0 | 0 | 0 | 0 | 32 | 5 |
| Bahtim . . . . | 1.6 | 0.9 | 2.2 | 17 | 5 | 0 | 0 | 0 | 0 | 0 | 22 | 5 |
| Kharga . . . | 2.9 | 1.8 | 4.1 | 31 | 21 | 5 | 0 | 0 | 0 | 0 | 28 | 1 |

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*First Under-Secretary of State*

ALY SULTAN ALY

***Chairman of the Board of Directors***

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