THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME ~~18~~ 20 NUMBER 1

JANUARY, 1977

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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 several 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 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

CONTENTS

	PAGE
Foreword	1
Introduction	3,4
Explanation of the Tables	5-12
List of Stations Appearing in the Report	13
General Summary of Weather Conditions	14

SURFACE DATA

Table A1.—Monthly values of the Atmospheric pressure, Air Temperature, Relative Humidity, Bright Sunshine, Duration and Piche Evaporation	15
„ A2.—Maximum and Minimum Air Temperatures	16
„ A3.—Sky Cover and Rainfall	17
„ A4.—Number of Days of Occurrence of Miscellaneous Weather Phenomena	18
„ A5.—Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded Within Specified Ranges	19-20

UPPER AIR DATA

Table B1.—Monthly Means and Monthly Absolute Higher & Lower Values of Altitude, air Temperature & Dew point at Standard and Selected Pressure Surfaces	21,22
„ B2.—Mean and Extreme values of The Freezing Level and The Tropopause; The Highest Wind Speed in The Upper Air	23
„ B3.—Number of Occurrences of Wind Direction Within Specified Ranges and The Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces	24-26

AGRO-METEOROLOGICAL DATA

Monthly Review of Agro-Meteorological Stations	27
Table C1.—Air Temperature at 1½ Metres Above Ground	29
„ C2.—Absolute Values of Air Temperature at 1½ Metres Above Groud, Absolute Minimum Air Temperature at 5 cms Above Ground Over Different Fields	29
„ C3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity and Vapour Pressure at 1½ Metres Above Ground, Evaporation and Rainfall	29
„ C4.—Extreme Soil Temperature at Different Depths in Different Fields	30
„ C5.—Surface wind	30

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 infromation 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 Egypt 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.

In order to explain how the tables included in these Monthly Weather Reports have been compiled, detailed notes are included in the Report of January giving informations about the instruments used and their exposure, the methods of observations and the methods of computing the means and frequencies.

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 monthly mean values, monthly totals, monthly frequencies and monthly absolute values. More specific climatological data have to be requested from the Meteorological Authority.

Starting from the Report of January 1958, the Monthly Weather Report of Egypt carries serial reference in volume and number ; each year carries a serial number in volume, Number I, being for January and 12 for Deoember. The reference number of January 1958 is volume I, number I.

Cairo, December 1980

Chairman (A. F. HASAN)
Board of Directors

INTRODUCTION AND EXPLANATION OF THE TABLES

For the purpose of this Monthly Weather Report, the Arab Republic of Egypt 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 are based on upper air observations. The data included in Tables C1, C2, C3, C4 & C5, are based on observaions taken at the Agro-Meteorological stations at Bahtim, Tahrir, Mersa Matruh and Kharga. The observation fields at Mersa Matruh and Kharga are considered for the moment as dry and bare fields. At Bahtim and Tahrir there are grass fields covered with Libia in addition to the dry and bare fields.

The soil characteristics of these fields are:

	MERSA MATRUH	TAHRIR	BAHTIM	KHARGA
Top soil type . .	Not available at present	Pure sand	Permeable clay	Sandy loam granular non-compact
Top soil depth .	,,	More than 3 metres	More than 1.5 metre	20 cms.
Sub soil type . .	,,	Pure sand	Clay loam and loam	Platy clay non-compact
Slope of ground and its direction. .	,,	½% towards East & North	Flat (0–0.3%)	Flat (0–0.3%)
Level of Water table	,,	More than 5 metres	1.0–1.5 met. approximately	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,

—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. 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. 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 beside monthly mean values in a separate column.

Relative Humidity :

The relative humidity at a certain hour is derived from the values of the dry and wet bulb temperatures using Jelinek's Psychrometer Tables (Leipzig 1911). The mean monthly relative humidity is the arithmetic mean over the month of its daily hourly values,. 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 possilbe 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 centimeters above ground just touching the grass tops if there is any. Grass minimum thermometres 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 (00,06,12 &18UT)are compted from their cor responding 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, 06, 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, thunderstorm, mist, fog, haze, thick haze, dust or sandrising, dust or sandstorm, gale, clear sky & cloudv 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 during 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 counted 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 sandstorm.

—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 28/.

—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 stations. 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 nu nber 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 W. M. O, 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 range of direction during the month irrespective of their speed.

UPPER AIR DATA

TABLE B1.—**Monthly Means and Monthly Absolute Higher & Lower Values of Altitude air Temperature & Dew point at Standard and Selected Pressure Surface**

The routine upper air observations are taken at 0000 and 1200 UT, 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. Whenever it is not posible to obtain a complete set of daily values, a useful monthly mean value may be obtained as the mean of available values, taking in consideration; (a) number of missing observations not more than 10, and (b) there is no continuous period of 5 days wtihout an assigned value.

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 pressure 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 U.T. 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 B1.

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

—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 tropopaus 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 tropopause.

—The 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 numbe 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 cise of table B1, follows the general lines recommended by the Commission for Climatology of the World Meteorological Organization REC. 34 (CCL-1). 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 for the hour of observation indicated the followng data :

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

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

—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 agrometeorological elements that have been observed at each agrometeorological station includes a general summary of pronounced weather phenomena that prevailed during the month together with a comparison between the monthly values and average values specified elements that are of great interest to agriculturists as well as to agrometeorologists. For recently operated stations departure from last year values appears 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 centimetres 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 mean values. The mean air temperature of a day is the mean of the eight values of the dry bulb temperature 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 heir 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 s 165 centimetres approximately above the ground.

TABLE C2.—**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 different 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 1½metres inculde the Highest & Lowest limits of the daily corresponding routine values during the month.

The thermometres 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 whité outside and black inside, and centered on the thermometer bulbs.

TABLE C3.—**(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity Vapour Pressure at 1½ meters above Ground, Evaporation & Rainfall.**

The monthly total values of Bright Sunshine duration, & 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 mean values for the month

The (Solar + Sky) Radiation is obtained from the records of a Robitzsch Actinograph ; the Robitzch values at Bahtim, Tahrir and Kharga are regularly compared with the records of an Eppley pyrheliometer installed at the station. The sensitive elements of the Robitzsch Actiongraph and of the Eppley phyrheliometer 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 evaluation 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 Wetterdients 1955. The relative humidity and vapour pressure values for Mersa Matruh are drived from the readings of unventitlated dry and wet bulb mercury thermometers freely exposed in the screen, using the Jelineks Psychrometer Tables (Leipzig 1911). No corrections are applied for the wind speeds or the atmospheric 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 Matruh and Kharga where these values are obtained from visual readings of the dry and wet bulb thermometers.

The mean 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 secondary 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 Commisision 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 except 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 30 cm high made of metal wire mesh of one cm, 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 C4.—**Extreme Soil Temperature at Different Depths (cms) in different Fields**

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

The soil temperature readings are taken in different fields at the specified depths ranging 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 Kharga where the observations are as appropriate but extend in the period between 1800 and 0600 U.T.

— at 0600 U.T. and every three hours for the 2,5 and 10 cm 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 C5.—**Surface Wind**

The monthly values of the daily mean, the night time mean and of the day time mean of the surface wind speed are the arithmetic means 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 $1\frac{1}{2}$ metres above the ground.

The number of days with surface wind speed reaching or exceeding specified values of velocities ($\geq$10 Knots, $\geq$15 Knots, $\geq$20 Knots, $\geq$25 Knots, $\geq$30 Knots, $\geq$35 Knots and $\geq$40 Knots) for 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 wind records during the whole month. The daily records of the Dine Pressure Tube Anemograph are used, the highest gust refers to the highest excursion made by the velocity pen on the records during the month. The head of the instrument 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 H or IIa (metres)	Altitude of the Station Hp (metres)	Altitude of the barometric Cistern (metres)	Height of Wind recording instrument (metres) above building	Height of Wind recording instrument (metres) above ground	Synoptic Observations 00	03	06	09	12	15	18	21	hourly Observations (H) Half hourly obs. ns (h) (0000—2400)	Upper airobservations P (Pilot Ballon) W (Radio Wind) R (Radio Sonde) 00	06	12	18	Remarks
Mediterranean	Sallum	62 300	31 33	25 11	4.0	6.0	5.2	10.0	14.0	×	×	×	×	×	×	×	×	H	P	—	P	—	
	Mersa Matruh (A)	306	31 20	27 13	30.7	30.0	30.0	10.0	17.5	×	×	×	×	×	×	×	×	H	RW	W	RW	W	
	Alexandria (A)	318	31 12	29 57	—3.35	6.78	6.45	10·0	22.08	×	×	×	×	×	×	×	×	H	P	—	P	—	
	Port Said (A)	333	31 17	32 14	1.1	6.1	2.7	—	—	×	×	×	×	×	×	×	×	H	P	—	P	—	
	El Arish	336	31 07	33 45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Ghazza	338	31 30	34 27	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Lower Egypt	Tanta	348	30 47	31 00	7 31	14.85	12 51	10.0	12.0	×	×	×	×	×	×	×	×	H	—	—	—	—	
Cairo Area	Cairo (A)	366	30 08	31 24	111.54	74.[illegible]	64.72	—	10.0	×	×	×	×	×	×	×	×	h	—	—	—	—	
	Helwan	378	29 52	31 20	139.20	140.68	140.68	—	10.0	×	×	×	×	×	×	×	×	—	RW	W	RW	W	
Upper Egypt	Fayoum	381	29 18	30 51	23.43	—	—	10.0	13.8	—	—	×	×	×	×	×	—	H	—	—	—	—	
	Minya (A)	387	28 05	30 44	39.0	40.5	44.2	10.0	20.15	×	×	×	×	×	×	×	×	H	P	—	P	—	
	Assyout (A)	393	27 11	31 06	71.08	69.6	69.6	15.0	20.0	×	×	×	×	×	×	×	×	H	—	—	—	—	
	Luxor (A)	405	25 40	32 42	95.0	88.45	88.45	10.0	21.0	×	×	×	×	×	×	×	×	H	P	—	P	—	
	Aswan (A)	414	23 58	32 47	200.0	193.5	198.96	10.0	15.0	×	×	×	×	×	×	×	×	H	RW	W	RW	W	
Western Desert	Siwa	417	29 12	25 29	—15.0	-13.26	-13.26	10.0	14.6	×	×	×	×	×	×	×	×	H	P	—	P	—	
	Bahariya	420	28 20	28 54	128.0	129.5	129.5	—	—	×	×	×	×	×	×	×	×	H	P	—	P	—	
	Farafra	423	27 03	27 58	90.0	92.1	92.1	—	—	—	—	×	×	×	×	×	—	H	—	—	P	—	
	Dakhla	432	25 29	29 00	106.21	111.27	107.75	10.0	14.7	×	×	×	×	×	×	×	×	H	P	—	P	—	
	Kharga	435	25 27	30 32	77.79	72.75	78.68	10.2	14.2	×	×	×	×	×	×	×	×	H	P	—	P	—	
Red Sea	Tor	459	28 14	33 37	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	Hurghada	462	27 17	33 46	1.0	2.75	2.75	10.0	15.0	×	×	×	×	×	×	×	×	H	—	—	P	—	
	Quseir	465	26 08	34 18	8.7	10.83	10.0	10.0	14.4	×	×	×	×	×	×	×	×	H	—	—	—	—	

GENERAL SUMMARY OF WEATHER CONDITIONS

JANUARY 1977

Generally cold during the first three weeks, warm the rest of the month, Subnormal rainfall.

PRESSURE DISTRIBUTION

During the first week the Siberian anticyclone ridge extended Swards through Central Mediterranean, and a trough extended from Arabia through East Mediterranean.

In the rest of the month pressure was mainly characterized by the transit of four depressions through East Mediterranean on the 11th, 15th, 19th and 26th.

The daily mean atmospheric pressure over Egypt during the month was above normal.

SURFACE WIND

Surface winds were mostly SW-ly to NW-ly in the north and N-ly to NW-ly in the south, generally light to moderate but fresh to strong during few days.

TEMPERATURE

Three cold waves prevailed most of the first three weeks, and two warm spells the rest of the month. The departures of maximum and minimum air temperatures from normal were generally slight to moderate.

The highest and lowest maximum air temperatures were respectively 29.0°C at Kharga on the 26th and 13.2°C at Port-Said on the 6th.

The highest and lowest maximum air temperatures were respectively 15.3°C at Aswan on the 26th and 0.2°C at Minya on the 9th.

PRECIPITATION

Rain fell over the Mediterranean district during several days, and over Lower Egypt & Cairo during few days. Rain was generally light, but heavy in few days over scattered places at the Mediterranean coast.

The monthly rianfall amounts were markedly subnormal.

The maximum daily rainfall was 15.5 mm on the 18th at Alexandria.

The maximum monthly rainfall was 38.9 mm at Alexandria.

OTHER WEATHER PHENOMENA

Early morning mist developed during several days over scattered places in Delta and Cairo.

Chairman (M. S. EL DIN HARB)

Board of Directors

Cairo, March 1979

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

JANUARY —1977

STATION NAME	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.	1018.9	1.8	19.9	1.1	10.5	1.2	15.2	14.6	1.0	10.2	0.2	56	— 4	—	—	—	5.8
Mersa Matruh(A)	1019.2	1.8	18.0	—0.1	8.8	0.5	13.4	13.2	0.4	9.9	0.2	68	2	194.9	311.3	63	6.2
Alexandria. (A)	1019.1	1.4	19.1	0.6	8.8	—0.3	13.9	13.5	0.0	10.6	—0.3	69	0	205.5	321.9	64	2.6
Port Said. . (A)	1018.8	1.5	17.2	—0.8	11.1	—0.2	14.1	14.0	—0.3	11.7	—0.1	76	3	224.2	321.9	70	4.2
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta.	1019.3	1.6	19.2	—0.3	6.1	—0.3	12.6	12.0	0.1	9.6	—0.2	74	— 1	197.3	312.4	63	2.3
Cairo . . . (A)	1019.4	1.5	19.0	—0.1	8.7	—0.1	13.8	13.5	—0.2	9.7	—0.2	60	2	—	—	—	8.4
Fayoum.	—	—	20.5	0.1	5.1	—1.3	12.8	12.7	—0.1	9.4	0.0	65	4	—	—	—	3.3
Minia. . . .(A)	1019.7	1.0	20.7	0.1	3.9	0.0	12.3	11.9	0.1	8.5	0.4	55	6	247.2	328.3	75	4.2
Assyout. . . (A)	1019.7	1.3	19.4	—1.3	4.6	—2.1	12.0	11.9	1.5	7.7	—0.7	56	9	—	—	—	5.0
Luxor. . . . (A)	1018.0	0.8	22.5	—0.7	5.7	0.2	14.1	14.0	0.0	9.6	0.2	41	3	—	—	—	3.9
Aswan. . . . (A)	1017.7	0.7	22.5	—1.5	8.3	—0.6	15.4	15.1	—0.8	9.0	0.1	34	2	304.0	336.1	90	9.9
Siwa.	1019.1	0.5	19.7	0.1	4.3	—0.5	12.0	11.7	0.0	7.3	—0.6	52	— 6	256.2	315.2	81	6.4
Bahariya.	1019.7	0.9	20.5	0.3	5.6	0.6	13.0	12.9	0.8	8.1	0.3	50	— 6	—	—	—	5.3
Farafra.	1021.8	1.9	20.7	0.2	4.6	0.7	12.6	12.4	0.7	7.8	1.2	50	3	—	—	—	5.5
Dakhla	1020.6	1.8	21.6	0.1	3.2	—0.6	12.4	12.0	—0.1	7.4	0.2	52	6	—	—	—	6.4
Kharga	1018.8	0.0	21.8	—0.6	6.3	0.7	14.0	15.0	1.4	9.2	1.2	48	3	290.7	333.5	87	5.8
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada. . . .	1017.7	1.1	20.8	—0.1	10.5	0.9	15.6	15.6	0.1	10.4	—0.5	48	— 6	275.7	330.1	84	9.8
Quseir	1017.3	0.8	22.0	—0.4	14.3	0.5	18.1	17.9	0.0	12.2	—0.4	47	— 6	6.0	10.6	57	6.6

Table A 2.— MAXIMUM AND MINIMUM AIR TEMPERATURE

JANUARY — 1977

Station	Maximum Temperature °C									Grass Min. Temp.		Maximum 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
Elsallum	26.4	31	15.1	5	02	00	00	00	00	9.3	—	14.3	26	6.0	19	14	00	00	00
Mersa Matro . (A)	24.0	30	13.8	20	00	00	00	00	00	7.4	—	14.0	26	4.6	9	21	01	00	00
Alexaddria . . (A)	23.0	30	14.0	20	00	00	00	00	00	6.2	—	14.8	27	4.8	9	22	01	00	00
Port Said . . (A)	22.0	25	13.2	6	00	00	00	00	00	10.3	—	14.7	27	8.6	9	07	00	00	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	26.5	30	14.8	20	02	00	00	00	00	—	—	10.0	27	1.6	14	29	10	00	00
Cairo	25.6	25	14.7	6	01	00	00	00	00	—	—	11.8	3	5.0	8	21	00	00	00
Fayoum	26.1	31	16.3	6	01	00	00	00	00	1.9	—	11.6	27	2.2	13	30	16	00	00
Minya . . . (A)	25.2	25	14.1	7	01	00	00	00	00	0.1	—	8.0	27	0.2	9	31	23	00	00
Assyout . . . (A)	25.6	25	16.6	6	02	00	00	00	00	3.2	—	8.5	26	1.2	9	31	17	00	00
Luxor . . . . (A)	28.8	26	15.8	7	03	00	00	00	00	1.9	—	12.9	26	2.4	9	27	13	00	00
Aswan . . . (A)	28.4	30	15.2	6	04	00	00	00	00	—	—	15.3	26	4.0	7	26	01	00	00
Siwa.	27.5	24	15.3	6	01	00		00	00	3.7	—	10.0	5	0.4	21	29	21	00	00
Baharia	26.7	23	15.3	6,7	01	00	00	00	00	4.8	—	1205	27	1.8	9	30	14	00	00
Farafra	25.9	25	15.6	6	01	00	00	00	00	2.6	—	11.9	27	1.2	22	27	16	00	00
Dakhla	28.5	26	15.3	6,7	05	00	00	00	00	3.2	—	11.0	27	—0.5	21	30	23	02	00
Kharga.	29.5	26	15.4	6	03	00	00	00	00	3.4	—	11.0	26,27	2.8	17	28	10	00	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurgada	25.0	26	16.5	6	00	00	00	00	00	—	—	14.7	27	6.2	7	11	00	00	00
Quseir	23.4	13,27	18.0	6	00	00	00	00	00	12.3	—	07.7	26	19.2	7	00	00	00	00

Table A. 3 - SKY COVER AND RAIN FALL

JANUARY — 1977

Station	Mean Sky Cover Oct.					Rain Fall mms										
	00 U.T.	60 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	Dev. From Normal	Max. Fall in one day		Number of Dayswith Amountof Rain						
								Amount	Date	<.1	>=.1	>=1	>=5	>=10	>=25	>=50
Elsallum	4.5	4.0	4.3	3.5	4.1	1.1	— 17.9	0.7	17	01	03	00	00	00	00	00
Mersa Matroh (A)	2.9	4.1	3.6	2.8	3.5	4.5	— 21.9	3.0	19	20	06	01	00	00	00	00
Alexandria (A)	3.1	4.6	5.5	4.0	4.1	38.9	— 13.7	15.5	18	00	12	06	03	01	00	00
Port Said (A)	2.8	3.4	3.6	3.0	3.1	21.5	9.1	8.6	6	02	09	05	02	00	00	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1.7	2.4	3.9	2.0	2.5	4.3	— 6.2	1.0	4,19	00	08	20	00	00	00	00
Cairo	1.8	2.8	4.2	2.9	2.8	0.4	— 4.8	0.4	5	01	01	00	00	00	00	00
Fayoum	—	2.2	3.7	1.4	—	0.0	— 1.5	—	—	00	00	00	00	00	00	00
Minya (A)	1.7	3.0	3.8	2.3	2.5	0.0	— 0.1	—	—	00	00	00	00	00	00	00
Assyout (A)	0.5	1.5	2.2	1.0	1.2	0.0	0.0	—	—	00	00	00	00	00	00	00
Luxor (A)	0.7	1.5	1.7	1.5	1.3	0.0	— 0.3	—	—	00	00	00	00	09	00	00
Aswan (A)	0.5	1.3	1.3	0.7	0.9	0.0	0.0	—	—	00	00	00	00	00	00	00
Sewa	2.7	1.5	2.8	1.7	2.1	0.0	— 0.8	—	—	00	00	00	00	00	00	00
Aaharia	1.4	2.3	3.3	1.9	2.2	0.0	— 0.3	—	—	00	00	00	00	00	00	00
Fa:afra	—	2.2	2.2	2.1	—	0.0	— 0.4	—	—	00	00	00	00	00	00	00
Dakhla	0.5	1.5	2.1	0.9	1.2	0.0	— 0.2	—	—	00	00	00	00	00	00	00
Kharga	0.7	1.1	1.8	0.4	1.2	TR	—	TR	9	01	00	00	00	00	00	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurgada	1.2	2.9	2.5	1.0	1.0	TR	—	TR	25	10	00	00	00	00	00	00
Quseir	0.6	2.2	2.6	1.4	1.6	0.4	0.4	0.4	1	01	01	00	00	00	00	00

Table A 4.— DAYS OF DCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

JANUARY — 1977

Station	Precipitation		Frost	Thunderstorm	Mist Vis ≥ 1000 metres	Fig 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 Tky	Cloudy Sky
	Rain	Snow											
Sallum	04	00	00	00	02	00	00	07	00	00	00	04	05
Mersa Matruh (A)	08	00	00	00	02	00	00	03	00	01	00	11	07
Alexandria (A)	13	00	00	01	07	00	00	01	00	00	00	09	10
Port Said (A)	12	00	00	00	03	00	00	00	00	00	00	11	02
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	09	00	00	00	13	00	00	01	00	00	00	13	01
Cairo (A)	02	00	00	00	12	00	10	03	00	00	00	12	03
Fayoum	00	00	00	00	01	00	00	00	00	00	00	14	03
Minya (A)	00	00	00	00	21	02	04	01	00	00	00	14	01
Assyout (A)	00	00	00	00	00	00	00	01	00	00	00	21	00
Luxor (A)	00	00	00	00	00	00	17	05	00	00	00	23	01
Aswan (A)	00	00	00	00	00	00	01	06	00	00	00	27	00
Siwa	00	00	00	00	00	00	00	01	00	00	00	15	02
Bahariya	00	00	00	00	00	00	00	00	00	00	00	16	02
Farafra	00	00	00	00	00	00	00	00	00	00	00	17	01
Dakhla	00	00	00	00	00	00	00	00	00	00	00	24	00
Kharga	00	00	00	00	00	00	00	01	00	00	00	25	01
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	00	00	00	00	00	00	00	05	00	00	00	21	01
Quseir	01	00	00	00	00	00	00	00	00	00	00	22	00

Table A5—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

SEPTEMBER—1976

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 / 245	255 / 284	285 / 314	315 / 344	All direction
Sallum	08	00	00	1—10	44	35	28	17	06	22	27	18	24	89	91	129	530
				11—27	00	00	08	00	00	01	03	06	08	88	76	16	206
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	44	35	36	17	06	23	30	24	32	177	167	145	736
Mersa Matruh	02	00	00	1—10	60	23	07	14	42	60	40	85	111	35	25	00	562
				11—27	28	00	00	01	05	05	05	21	37	13	12	52	179
				28—47	00	00	00	00	00	00	00	00	01	00	00	00	01
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	88	23	07	15	47	65	45	106	149	84	37	112	742
Alexandria	09	02	00	1—10	20	58	36	41	62	30	25	103	40	36	67	99	619
				11—27	01	07	00	00	03	00	00	23	27	16	19	20	116
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	21	65	36	41	42	30	25	126	67	52	86	119	733
Cairo. A. P.	98	01	00	1—10	31	42	28	58	42	18	67	60	49	64	58	21	539
				11—27	01	06	01	04	00	16	10	24	26	07	05	07	107
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	32	48	29	62	42	34	77	48	75	71	63	28	645
El Fayoum	53	05	00	1—10	122	89	29	11	07	19	36	75	105	65	53	64	680
				11—27	00	00	50	00	00	00	00	02	03	05	00	01	11
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	122	89	29	11	07	19	36	77	108	70	53	65	686
El Minia	26	00	00	1—10	193	47	13	04	05	60	22	12	27	22	54	151	610
				11—27	74	01	00	00	00	01	04	02	03	01	08	14	108
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	267	48	13	04	05	16	26	14	30	23	62	165	718
Assuit	04	00	00	1—10	96	60	14	08	11	19	31	29	30	46	99	133	576
				11—27	94	13	00	00	00	00	02	02	00	09	10	34	164
				28—48	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	190	73	14	08	11	19	33	31	30	55	109	167	740
Luxor	9	1	0	1—10	92	83	32	34	28	48	90	52	40	48	57	99	703
				11—27	00	00	00	00	00	00	00	00	00	00	03	04	07
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	92	83	32	34	28	48	90	52	40	48	60	103	710

Table A5—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES SEPTEMBER—1976

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	number in hours of occurrences wind blowing form 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
Aswan	10	00	00	1—10	317	72	08	02	01	04	05	02	05	12	28	117	573
				11—27	117	07	01	00	00	00	00	00	00	01	12	32	170
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	434	79	09	02	01	04	05	02	05	13	40	149	743
Siwa	25	01	00	1—10	18	16	18	53	61	16	25	11	51	183	84	57	639
				11—27	03	09	03	06	00	10	07	02	00	14	17	09	80
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	21	25	21	59	16	71	32	13	51	197	101	66	718
El Dakhla	53	14	00	1—10	50	32	34	13	23	20	31	37	45	105	116	144	664
				11—27	02	00	00	00	00	00	00	00	00	03	02	20	27
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	52	32	34	13	23	20	31	37	45	108	811	164	677
El Kharga	00	01	00	1—10	269	135	28	11	11	13	10	05	10	22	29	95	639
				11—27	66	18	00	00	00	00	00	00	00	00	00	21	105
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	335	153	28	11	11	13	10	05	10	22	29	116	743
El Hurghada	00	00	00	1—10	16	16	13	16	06	03	01	08	17	114	67	17	289
				11—27	10	10	00	00	00	00	00	00	01	197	135	107	450
				28—47	00	00	00	00	00	00	00	00	00	00	01	04	05
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	26	11	13	16	06	03	01	08	18	311	203	128	744
El Quseir	00	00	00	1—10	106	35	16	02	05	07	06	01	17	202	173	34	607
				11—27	61	00	00	00	01	00	00	00	00	00	27	48	137
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	167	35	16	02	06	07	09	01	17	202	200	82	744

UPPER AIR CLIMATOLOGICAL DATA

Table B 1.—MONTHLY MEAN AND MONTHLY ABSOLUTE HIGHEST AND LOWEST VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

JANUARY— 1977

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	30	1016m.b.*	1023m.b.*	1009m.b.*	30	11.4	16.2	08.0	30	04.6
	1000	30	165	219	102	30	12.1	16.0	08.2	30	05.7
	850	30	1506	1554	1419	30	30.5	12.4	—02.9	29	—02.0
	700	29	3063	3147	2936	29	—30.6	05.2	—11.3	29	—14.3
	600	29	4266	4390	4101	29	—10.8	—04.0	—17.7	29	—22.1
	500	28	5643	5799	5468	28	—19.9	—15.0	—24.3	29	—30.5
	400	28	7296	7451	7078	28	—31.8	—26.5	—37.0	28	—41.4
	300	27	9226	9465	9034	27	—46.3	—41.1	—51.3	28	—54.1
	250	25	10422	10675	10210	25	—53.3	—50.1	—56.7	26	—61.8
	200	23	11604	12109	11405	23	—58.4	—50.9	—65.1	25	—63.9
	150	18	13641	13939	13426	18	—59.8	—56.8	—62.4	13	—67.7
	100	16	16166	16413	15955	16	—64.5	—55.9	—71.7	5	—
	70	13	18344	18513	18135	13	—65.4	—60.0	—72.5	—	—
	60	10	19274	19400	19120	10	—63.8	—59.1	—70.0	—	—
	50	9	20361	20472	20224	0	—62.0	—58.1	—67.1	—	—
	40	6	21745	22100	21300	6	—58.2	—55.0	—60.7	—	—
	30	5	23566	23675	23496	5	—54.5	—49.3	—57.3	—	—
	20	1	26127	—	—	1	—54.5	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	30	1002mb.*	1008mb.*	994mb.*	30	10.9	15.4	— 7.6	30	5.7
	1000	28	159	205	91	22	10.5	13.7	— 7.5	22	5.0
	850	28	1502	1551	1423	28	4.9	13.3	— 0.8	28	— 3.3
	700	28	3066	3143	2952	28	— 2.2	4.5	— 8.8	28	—14.9
	600	28	4277	4355	4146	27	— 9.2	— 3.7	—13.1	26	—21.3
	500	28	5665	5794	5524	27	—18.2	—12.9	—24.1	26	—29.0
	400	28	7298	7456	7139	28	—29.9	—25.0	—35.4	27	—40.0
	300	28	9288	9474	9108	28	—43.7	—34.1	—49.9	27	—52.3
	250	28	10495	13736	10295	27	—50.5	—42.2	—55.1	26	—58.7
	200	28	11931	12187	11743	28	—56.0	—51.0	—61.0	23	—63.4
	150	27	13738	14020	13502	27	—59.1	—55.6	—63.8	11	—65.
	100	22	16252	16481	16032	21	—64.2	—60.7	—71.8	—	—
	70	14	18433	18623	18220	14	—65.8	—61.4	—75.0	—	—
	60	10	19412	19570	19220	10	—64.8	—61.0	—74.3	—	—
	50	10	20482	20653	20407	10	—63.4	—58.5	—73.8	—	—
	40	4	22005	22140	21780	4	—63.8	—58.2	—72.9	—	—
	30	4	23655	23837	23409	4	—59.9	—55.8	—65.9	—	—
	20	3	26181	26430	25940	3	—55.2	—54.0	—5711	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 U.T.	Surface	30	996mb.*	1000mb.*	985mb.*	30	11.1	16.0	4.8	30	1.6
	1000	30	155	193	66	5	8.9	11.6	4.8	5	— 2.6
	850	29	1518	1557	1455	29	9.4	15.8	1.5	29	— 5.8
	700	29	3114	3166	3042	29	— 3.0	7.8	— 2.7	29	—13.9
	600	27	4493	4414	4276	27	— 3.9	— 1.2	— 9.8	27	—18.2
	500	27	5768	3838	5665	27	—12.9	— 9.5	—16.0	27	—25.6
	400	27	7434	7520	7327	27	—24.4	—21.2	—27.7	27	—34.4
	300	26	9470	9576	9319	26	—39.5	—34.7	—45.5	26	—47.6
	250	26	10694	10817	10512	26	—48.1	—44.1	—52.1	26	—55.3
	200	26	12142	12272	11942	26	—55.4	—50.5	—60.2	24	—62.8
	150	23	13942	14055	13842	23	—63.3	—39.3	—69.9	—	—
	100	17	16389	16531	16192	17	—73.1	—68.7	—77.3	—	—
	70	8	18459	18565	18232	8	—79.2	—72.9	—84.3	—	—
	60	2	19420	19470	19370	2	—68.0	—67.3	—72.2	—	—
	50	2	20438	20456	20419	2	—65.7	—62.0	—68.4	—	—
	40	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—

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

* — pressure corrected to the elevation of the radiosonde station.

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

JANUARY—1977

Station	Pressure Surface (Milibar)	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	* 1016mb.	* 1023mb.	* 1006mb.	31	16.7	23.4	12.6	31	06.6
	1000	31	161	222	078	31	15.2	22.2	04.6	31	04.8
	850	31	1511	1555	1416	31	05.1	18.6	03.0	31	—06.1
	700	31	3073	3180	2954	31	—02.1	08.8	—07.9	31	—15.2
	600	31	4283	4434	4147	31	—09.6	00.0	—15.5	31	—24.3
	500	31	5668	5864	5533	31	—18.7	—10·0	—22.7	31	—32.0
	400	31	7294	7544	7163	30	—30.6	—22.0	—38.6	30	—43.6
	300	30	9274	9586	9134	30	—14.9	—38.4	—50.2	30	—55.2
	250	27	10482	10813	10314	27	—52.4	—46.4	—59.9	16	—62.5
	200	23	11920	12247	11766	23	—58.8	—51.6	—75.3	11	—64.8
	150	17	13730	14095	13579	17	—59.6	—53.3	—68.3	7	—64.3
	100	15	16268	16609	16107	14	—64.1	—51.1	—74.0	—	—
	70	11	18434	18734	18317	11	—64.5	—59.7	—73.5	—	—
	60	6	19365	19490	19300	6	—63.5	—59.3	—70.2	—	—
	50	6	20446	20500	20411	6	—60.8	—58.7	—63.3	—	—
	40	1	21900	—	—	1	—59.2	—	—	—	—
	30	1	23623	—	—	1	—56.6	—	—	—	—
	20	1	26246	—	—	1	—43.4	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan (A) 1200 U.T.	Surface	30	* 1002mb.	* 1007 mb.	* 993mb.	30	17.7	24.4	12.4	30	4.2
	1000	30	154	197	81	24	17.3	24.3	12.2	24	4.3
	850	30	1513	1562	1447	30	6.0	14.9	— 0.7	30	— 4.0
	700	30	3082	3173	3008	30	— 1.3	7.4	— 6.9	29	—15.3
	600	30	4301	4425	4219	30	— 7.6	0.6	—12.4	29	—21.3
	500	30	5696	5866	5600	30	—16.2	— 8.4	—20.8	29	—29.1
	400	30	7342	7556	7223	30	—27.7	—21.0	—33.5	30	—38.3
	300	29	9349	9696	9200	29	—41.2	—35.1	—46.7	29	—51.4
	250	29	10569	10944	10411	29	—48.1	—42.0	—52.8	29	—57.6
	200	29	12027	12395	11855	29	—53.7	—47.9	—59.1	29	—62.6
	150	29	13860	14251	13619	29	—55.9	—48.7	—61.1	22	—64.3
	100	27	16428	16798	16237	27	—59.0	—51.5	—64.5	5	—66.5
	70	22	18665	18697	18449	22	—59.0	—47.0	—65.2	—	—
	60	19	19678	19960	19460	19	—57.8	—45.0	—65.6	—	—
	50	19	20803	21156	20565	19	—54.4	—42.8	—59.5	—	—
	40	14	22354	22750	22080	14	—51.9	—40.1	—57.8	—	—
	30	14	24150	24666	23867	14	—45.3	—31.9	—50.9	—	—
	20	8	26918	27466	26505	8	—38.7	—28.5	—43.8	—	—
	10	1	31767	—	—	1	—28.5	—	—	—	—
Aswan (A) 1200 U.T.	Surface	31	* 995mb.	* 999mb.	* 985 mb.	31	22.6	28.0	17.2	31	3.4
	1000	31	148	155	60	—	—	—	—	—	—
	850	31	1528	1562	1470	31	11.2	19.4	3.3	30	— 9.1
	700	30	3134	3201	3065	30	4.4	9.7	0.1	30	—16.1
	600	28	4379	4461	4271	28	2.1	0.8	—01.4	28	—21.1
	500	27	5806	5902	5725	26	—11.6	— 7.6	—18.4	25	—29.2
	400	27	7484	7583	7322	26	—23.0	—19.3	—26.8	25	—38.3
	300	25	9532	9632	9364	25	—37.6	—33.1	—42.3	25	—49.4
	250	25	10770	10897	10604	25	—45.6	—52.0	—40.3	25	—56.1
	200	24	12229	12361	12088	24	—54.0	—47.3	—58.0	23	—65.5
	150	21	14048	14193	13900	21	—63.0	—55.8	—70.8	2	—70.8
	100	17	16521	16657	16372	17	—70.7	—60.3	—74.7	—	—
	70	6	18643	18733	18511	6	—74.7	—63.2	—80.8	—	—
	60	2	19610	19650	19570	2	—68.5	—61.4	—75.6	—	—
	50	2	20696	20754	20637	1	—63.0	—59.9	—66.1	—	—
	40	1	21970	—	—	—	—61.6	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The Number of casses the elemeIt has beec observed during the month.
* The atmospheric pressure corrected to the elevation of the radiosonde station.

TABLE B2—MEAN AND EXTREE VALUES OF THE FREEZING LEVEL AND THE TROPOPAUSE THE HIGHEST WIND SPEED IN THE UPPER AIR. JANUARY 1977

	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)	Altiude (gpm)	Pressure (mb)	Direction (000—360)°	Speed in Knot
		(N)	(N)	(N)							(N)	(N)	(N)										
0000 UT	Mersa Matruh .	2223 (29)	776 (29)	— 6.6 (28)	3900	639	— 6.7	1230	872	— 3.9	11398 (16)	216 (16)	—59.1 (16)	12950	169	—68.7	10230	254	—54.9	4540	—	270	90
0000 UT	Helwan. . . .	2425 (28)	762 (28)	— 9.4 (27)	3780	643	—19.2	1340	864	—	11962 (24)	204 (24)	—58.7 (24)	15460	119	—67.3	9960	267	—53.2	16290	—	240	150
0000 UT	Aswan.	3678 (29)	654 (29)	—15.6 (29)	4260	610	—14.7	2770	730	—10.9	14601 (7)	144 (7)	—69.7 (7)	18650	69	—82.0	10950	237	—61.7	13445	—	285	146
		(N)	(N)	(N)							(N)	(N)	(N)										
1200 UT	Mersa Matruh.	2445 (31)	762 (31)	—10.4 (30)	4434	758	—11.0	1600	840	— 1.0	12119 (16)	202 (16)	—59.8 (16)	14190	137	—67·9	10300	265	—50.4	10200	260	210	132
1200 UT	Helwan. . . .	2666 (30)	742 (30)	— 9.9 (30)	4510	594	—26.0	1420	856	— 9.9	12052 (28)	202 (28)	—55.1 (28)	14170	143	—55.7	10290	260	—48.5	10310	265	255	145
1200 UT	Aswan. . . .	3927 (28)	636 (28)	—19.4 (28)	4650	590	—25.0	2720	734	—14.2	15625 (6)	121 (6)	—69.8 (6)	18600	71	—80.3	12550	188	—60.0	8800	364	235	156

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

TableB3 (*contd.*)— **NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.**

M. MATRUH (A) — JANUARY 1977

Observation	Pressure Surface (Millibar)	Wind within 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		235/254		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	14	0	—	0	—	0	—	2	13	2	09	2	08	6	10	10	10	0	—	0	—	6	15	0	30	11
	1000	1	12	0	—	0	—	0	—	4	22	1	09	0	—	0	—	8	18	6	16	1	19	6	29	0	27	20
	850	0	—	0	—	0	—	0	—	1	14	2	10	2	03	1	06	3	13	4	17	10	19	4	17	0	27	16
	700	0	—	0	—	0	—	0	—	0	—	0	—	1	33	1	17	3	25	11	20	8	23	3	16	0	27	21
	600	1	18	0	—	0	—	0	—	0	—	0	—	1	11	2	21	2	22	13	32	7	32	1	10	0	27	28
	500	1	23	1	18	0	—	0	—	0	—	0	—	0	—	2	33	2	38	12	40	5	33	0	—	0	23	36
	400	0	—	1	24	0	—	0	—	0	—	0	—	0	—	1	30	0	49	2	40	4	44	1	20	0	11	39
	300	1	37	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	43	1	42	0	3	47
	250	0	—	0	—	0	—	0	—	—	—	0	—	0	—	0	—	—	—	1	48	0	—	1	20	0	2	34
	200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	3	11	3	10	0	—	1	13	1	15	2	16	1	15	2	04	3	20	1	25	4	13	10	13	0	31	13
	1000	2	14	0	—	0	—	1	13	3	10	1	22	2	12	0	—	3	17	5	22	7	26	6	17	0	30	19
	850	0	—	0	—	0	—	0	—	1	16	0	—	2	12	4	16	6	16	4	16	7	19	6	15	0	30	16
	700	1	05	0	—	0	—	0	—	0	—	0	—	0	—	3	26	3	28	11	23	6	20	5	19	0	29	22
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	36	5	32	31	29	9	27	1	18	0	30	29
	500	1	35	0	—	0	—	0	—	0	—	0	—	0	—	2	28	7	38	9	40	5	32	1	24	0	25	36
	400	1	57	0	—	0	—	0	—	0	—	0	—	0	—	2	43	4	52	6	50	4	52	0	—	0	17	50
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	68	3	74	4	64	2	79	0	—	0	11	71
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	74	5	92	1	87	0	—	0	8	87
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	85	3	77	1	92	0	—	0	5	82
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	78	0	—	0	—	0	3	78
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	61	0	—	0	—	0	2	61
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	44	0	—	0	—	0	1	44
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N= The number ofcases 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 B3—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES. HELWAN — JANUARY 1977

Station	Pressure Surface (Milibar)	Wind between ranges of direction (000—360°)																								Number of Calm winds	Total number of observations (TN)	Mean scalar wind speedknots
		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	6	6	7	6	0	—	4	11	3	5	2	4	0	—	0	—	1	11	0	—	1	5	4	3	2	30	6
	1000	6	6	6	7	0	—	2	8	2	0	0	—	0	—	0	—	0	—	0	—	1	7	6	6	0	23	6
	850	4	14	3	14	0	—	0	—	1	5	2	14	0	—	0	—	3	23	6	16	5	15	3	15	0	28	16
	700	1	24	0	—	1	8	0	—	0	—	0	—	1	19	2	14	6	31	6	24	8	20	3	28	0	28	23
	600	1	6	0	—	0	—	0	—	0	—	0	—	0	—	2	14	5	31	5	35	13	36	1	45	0	27	33
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	47	9	34	8	45	1	46	0	26	41
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	23	3	46	13	59	6	74	2	36	0	25	58
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	38	3	49	6	84	6	60	1	15	0	17	63
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	90	7	83	5	81	2	48	0	16	79
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	85	1	122	3	63	2	84	1	28	0	8	74
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	100	1	50	1	139	0	—	0	—	0	3	98
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	29	0	1	29
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	5	7	1	10	1	10	1	10	0	—	3	3	1	6	4	6	0	—	5	6	5	5	4	7	0	30	6
	1000	1	2	1	10	1	12	1	10	1	10	2	8	1	6	3	5	0	—	4	7	4	6	5	10	0	24	7
	850	5	11	1	9	1	11	1	13	0	—	1	8	1	13	3	13	2	14	3	20	6	13	6	16	0	30	14
	700	1	6	0	—	0	—	0	—	0	—	0	—	1	17	2	30	4	14	6	20	11	24	5	15	0	30	20
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	60	6	29	9	36	10	32	4	23	0	30	32
	500	1	44	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	51	12	46	9	41	2	23	0	30	44
	400	2	48	0	—	0	—	0	—	0	—	0	—	0	—	2	54	3	75	13	61	7	52	1	33	0	28	58
	300	1	69	0	—	0	—	0	—	0	—	0	—	0	—	1	22	6	87	10	71	4	62	1	40	0	23	70
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	71	4	94	4	68	1	85	0	14	78
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	104	4	82	3	79	0	—	0	9	86
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	113	2	110	2	62	0	—	0	5	91
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	124	1	65	1	54	0	—	0	3	81
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	59	0	—	0	1	59
	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 3.—(*contd.*) NUMBER OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

ASWAN JANUARY—1976

Time	Pressure Surface (Millibar.)	Wind within 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	16	12	5	10	3	8	0	—	0	—	0	—	0	—	1	15	0	—	0	—	0	—	2	10	0	30	11
	1000	4	12	1	12	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	5	12
	850	3	15	11	15	3	12	2	6	0	—	0	—	1	11	0	—	1	14	2	10	0	—	6	16	0	29	14
	700	3	23	1	11	1	11	0	—	0	—	0	—	0	—	1	25	1	12	7	26	9	20	6	16	0	29	20
	600	2	20	1	12	0	—	0	—	0	—	0	—	0	—	0	—	2	39	9	32	9	30	2	19	0	25	29
	500	2	25	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	56	15	43	5	47	1	27	0	24	42
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	60	16	66	5	51	1	20	0	23	60
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	14	82	4	68	1	24	0	19	76
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	123	14	96	3	60	0	—	0	18	91
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	13	104	2	50	0	—	0	15	96
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	87	2	68	0	—	0	9	83
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	42	2	48	0	—	0	4	45
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	24	0	—	0	1	24
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	16	0	—	0	1	16
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
1200 U.T.	Surface	17	13	6	11	2	9	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	4	5	10	0	31	11
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	4	14	5	11	4	14	3	9	0	—	0	—	0	—	2	9	0	—	0	—	2	17	11	13	0	31	13
	700	2	22	3	16	6	—	0	—	0	—	0	—	0	—	2	12	2	18	6	26	8	20	7	17	0	30	20
	600	3	18	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	28	12	38	8	27	1	29	0	28	29
	500	1	24	0	—	0	—	0	—	0	—	0	—	0	—	1	66	6	40	10	50	7	42	2	26	0	27	44
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	79	16	56	5	53	2	26	0	26	62
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	126	16	86	4	89	2	99	0	24	85
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	124	15	109	4	62	1	89	0	23	102
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	117	16	116	3	60	0	—	0	20	108
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	12	102	3	64	0	—	0	15	94
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	45	1	26	0	—	0	6	42
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	10	0	—	0	—	0	1	10
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	—	0	—	0	—	0	—	0	1	21
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	21	0	—	1	16	0	—	0	1	06
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

The total Number of cases the wind has been observed for all directions during the month

REVIEW OF AGRO METEOROLOGICAL STATIONS

MERSA MATRUH — JANUARY 1977

The mean daily air temperature and relative humidity were slightly above normal. The total monthly rainfall was only 4.5 mm. (26.3 mm. lower than normal).

The month was intervened by two cold waves in the periods (3rd-9th) & (18th-20th) and two warm spells in the periods (23rd & 24th & (29th-31st). The second cold wave gave rise to the lowest maximum air temperature (31.8°c) on the 20th. The second warm spell gave rise to the highest maximum temperature (24.0°c) on the 30th. The lowest minimum temperature was 4.6°c (on the 9th).

The mean daily actual sunshine duration was slightly lower than average. The mean daily wind speed at 1.5 met. height was slightly higher than anerage.

The highest maximum soil temperatures were higher than the corresponding values of last January at all depths with departures between 2.5°c at 2 cm.) & 0.4°c (at 100 cm.). The lowest minimum soil temperatures were also higher than last January at all depths and the departures varied between 2.5°c (at 10 cm.) & 0.6°c (at 100 cm.).

TAHRIR — JANUARY 1977

The mean daily air temperature was below normal, while the mean daily relative humidity was above normal. The total monthly rainfall was only 2.6 mm. (5.6 mm. below normal).

The month was intervened by two cold waves in the periods (4th-9th) & (16th-21st) and two warm spells in the periods (25th) & (28th131st). The first cold wave gave rise to the lowest maximum temperature (16.2°c) on the 6th and also the lowest minimum temperature (0.8°c) on the 9th. The first warm spell gave rise to the highest maximum temperature (28.3°c) on the 25th.

Minimum air temperature at 5 cm. above dry field fell below 0°c (—0.2°c) on the 9th. Lt 5 cm. above the grass field it fell below 0°c during 7 days (8th, 9th, 10th, 13th, 22nd, 24th, & 25th); its values in these days ranged between —0.6°c & —2.4°c).

The mean daily actual sunshine duration, wind speed at 1.5 met. and pan evaporation were lower than normal by 0.5 hour, 0.5 met./sec. & 0.99 mm. respectively.

The highest maximum soil temperatures were lower than average at 2,5,20 & 50cm. depths with departures between 1.3°c & 0.1°c; higher than normal at 10, 100cm. depths by 1.4° & 0.8°c respectively. The lowest minimum soil temperatures were lower than normal at depths between 2 & 20cm. with departures between 1.5°c & 0.1°c; higher than normal at 50, 100cm. depths by 0.7°c & 0.3°c respectively.

BAHTIM — JANUARY 1977

The mean daily air temperature was below average and the mean daily relative humidity was nearly the same average. The total monthly rainfall was only 0.4mm. (6,4mm. below average).

Four cold waves prevailed the whole month apart from two light warm spells in the periods (24th & 25th) & (29th-31st). The highest maximum tempe rature was 24.0°c (on the 25th) and the lowest maximum was 14.5°c (on the 6th).

A significant feature of this month is that minimum air temperature at 5cm. above both the dry and grass fields fell below 0°c during 10 days (8th, 9th, 10th, 13th, 14th, 22nd, 23rd, 24th, 25th & 31st); its values in these days varied between —0.4°c & —2.9°c in the dry field and between —1.0°c & —3.7°c in the grass field.

The mean daily actual sunshine duration was higher than average by 0.4 hour. The mean daily wind speed at 1.5 met. height and pan evaporation were slightly lower than average.

The highest maximum soil temperatures were higher than average at 2,5,10 cm. depths with departures between 5.5°c (at 2 cm.) & 0.4°c (at 10 cm.); lower than average at 20,50, 100 cm. depths with departures between 0.3°c & 0.9°c. The lowest minimum soil temperatures were lower than average at all depths with departures between 1.4°c (at 2cm.) & 0.4°c (at 10 cm.).

ASUIT — JANUARY 1977

The mean daily air temperature was 12.3°c and the mean daily relative humidity was 65%.

The month was intervened by two cold waves in the periods (5th-10th) & (19th-21st) and two warm spells in the periods (23rd-26th) & (29th-31st). The first cold wave rise to the lowest maximum temperature (16.3°c) on the 7th. The second warm spell gave rise to the highest maximum temperature (26.6°c) one the 30th.

A significant feature of this month is that minimum air temperature at 5 cm. above soil fell below 0°C during 18 days; its values in these days ranged between —0.1° & —3.2°C.

KHARGA — JANUARY 1977

The mean daily air temperature and relative humidity were above average.

The month was intervened by three cold waves in the periods (1st-10th), (14th-16th) & (19th-21st) and two warm spells in the periods (25th & 26th) & (29th-31st) During the first cold wave the lowest maximum temperature (15.4°C) was reported on the 6th and minimum air temperature at 5 cm. above soil fell below 0°c (—0.1°c) on the 8th. The first warm spell gave rise to the highest maximum temperature (29.0°c) on the 26th.

The mean daily actual sunshine duration, wind speed at 1.5 met. height and pan evaporation were slightly below average.

The highest maximum soil temperatures were higher than average at all depths with departures between 7.3°c (at 2 cm.) & 0.1°c (at 50 cm.). The lowest minimum soil temperatures were higher than average at 2,5,50,100 cm. depths with departures between 1.4° & 0.4°c; lower than average at 10,20 cm depths by 1.3° & 1.4°c.

able C 1.— AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

JANUARY — 1977

STATION	Air Temperature (°C)					Duratio in hours to the nearest half hour oi air emperature above the following values										
	Mean Max.	Mean Min.	Mean of the day	Day time mean	Night 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. . . .	18.2	8.8	13.2	11.7	15.1	24.0	24.0	18 5	7.1	0.8	0.2	0.0	0.0	0 0	0.0	0.0
Thrira	20.6	5.3	11.8	8 7	14.9	25.0	21.1	1455	6.5	0.9	0.1	0.0	0.0	0.0	0.0	0.0
Bahtim	19.1	5.3	11.7	8.8	14.5	24.0	21.5	15.1	6.3	0.9	0.0	0.0	0.0	0.0	0.0	0.0
Assiut	21.0	4.6	12.3	8.8	15.7	24.0	23.1	13.5	7.1	1.7	0.0	0.0	0.0	0.0	0.0	0.0
Kharga	21.8	6.3	15.0	12.2	17.7	24.0	24.0	23.8	19 5	11.7	4.1	0.5	0.0	0.0	0.0	0.0

Table C 2.— EXTREME VALUES OF AIR TEMPERATURE AT 1½ METRES AEOVE GROUND, ABSOLUTE MINIMUMAIR TEMPERATURE AT ABOVE GROUND OVER DIFFERENT FIELDS.

JANUARY — 1977

STATION	Max. Temp. at 1½ Metres				M n. Temp. at 1½ Metres				Min. Temp at 5 cms above			
	Highest		Lowest		Highest		Lowest		Dry Soil		Grass	
	al ue	VDaje	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
M. Matruh. . . .	24.8	30	13 8	20	14 0	26	6 4	9	—2.9	23	—	—
Tahrir	28.3	25	16.3	6	10.7	3	0.8	9	—0.2	9	—2.3	10
Bahtim	24.3	25	14.5	6	9.8	3	0.6	10	—2.9	10	—3.7	10
Assiut	26.2	30	16.3	6	7.5	10	2.3	9	—3.2	8	—	—
Kharga	29.0	26	15.4	6	11.0	26.27	2.8	17	—0.1	8	—	—

Table C 3.- SOLAR + SKY RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY &VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVBORATION A RAINFALL.

JANUARY — 1977

STATION	(Solar + Sky Radiation gm. cal/cm²	Duration of Bright Sunshine			Relative Humidity %				Vapour Pressure (mms)						Evaporation(mms)		RainFall (mms)		
		Total Actual	Tota lPossible	%	Mean of dry	1200 U.T.	Lowest	Date	Mian of dry	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pac Class(A)	Toral Amount	Max. Fall inone day	Date
M. Matruh	215.3	04 4	321.0	63	67	54	25	10	76	8.1	12.2	25	3.9	10	6.2	—	5.4	3.0	19
Tahrir . .	273.7	208.1	323.0	64	74	50	21	25	7.5	7.8	12.3	26	3.7	18	2.8	2.92	2.6	0.6	19
Bahtim .	279.2	224.4	324.5	69	71	49	24	25	7.1	7.4	11.2	27	3.5	12	3.6	32.5	0.4	0.2	6
Assiut. .	—	275.8	331 0	83	65	44	24	30	6.9	7.6	10.9	27	4.5	9	2.9	28.3	0	0	—
Kharga. .	382.5	290.7	334.3	87	48	37	24	14	6.0	6.9	9.5	26	3.7	19	5.8	58.1	0	0	—

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

JUNE — 1977

STATION	Highest (H) Lowest (L)	Dry Eiecd								Grass							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	30
M.Matruh	H	24.2	22.6	19.8	17.1	17.4	19.0	22.4	—	—	—	—	—	—	—	—	—
	L	6.7	6.5	10.0	12.2	14.8	17.4	20.8	—	—	—	—	—	—	—	—	—
Tahrir	H	26.3	22.7	21.9	17.8	16.7	19.0	21.8	23.5	18.4	17.8	15.9	14.9	15.1	16.3	19.2	—
	L	4.4	4.7	6.1	9.4	14.2	16.7	19.7	21.7	7.7	8.1	9.5	11.2	12.8	14.7	17.3	—
Bahtim	H	34.4	26.1	19.9	17.9	18.6	20.4	23.3	23.7	22.2	17.6	15.6	14.3	15.7	18.2	21.0	—
	L	2.7	5.7	10.3	13.6	17.1	18.6	22.0	22.9	4.0	6.2	8.4	11.5	14.2	16.4	19.5	—
Assiut	H	31.1	24.9	21.2	18.6	19.8	21.3	23.3	24.5	—	—	—	—	—	—	—	—
	L	6.1	8.8	11.2	15.0	18.3	19.6	21.8	23.8	—	—	—	—	—	—	—	—
Kharga	H	38.9	32.5	28.5	23.0	21.8	24.9	27.6	29.1	—	—	—	—	—	—	—	—
	L	5.3	7.0	9.9	14.2	20.2	23.0	26.0	28.0	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

JUNE — 1977

STATION	Wind Speed m/sec (2 metres)			Days with surface wind speed at (10 metres)							Nax.Gust 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 (konts)	≥15 (konts)	≥20 (konts)	≥25 (konts)	≥30 (konts)	≥35 (knots)	≥40 (knots)	Value (knots)	Dat
M.Matruh . .	3.8	3.3	4.4	28	15	8	3	1	0	0	40	18
Tahrir	1.8	1.2	2.3	29	17	5	2	1	1	0	39	18
Bahtim	1.9	1.3	2.4	15	4	1	0	0	0	0	30	18
Assiut	—	—	—	—	—	—	—	—	—	—	—	—
Kharga. . . .	2.1	1.2	2.9	26	15	3	1	0	0	0	30	27

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MONTHLY WEATHER REPORT

VOLUME 18 20 NUMBER 2

FEBRUARY, 1977

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 several 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 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 1620 NUMBE

FEBRUARY, 1977

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

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

CONTENTS

PAGE

General Summary of Weather Conditions 1

SURFACE DATA

Table A1.—Monthly values of the Atmospheric Pressure, Air Temperature, Relative Humidity, Bright Sunshine Duration, and Piche Evaporation 2

,, A2.—Maximum and Minimum Air Temperatures 3

,, A3.—Sky Cover and Rainfall 4

,, A4.—Number of Days of Occurrence of Miscellaneous Weather Phenomena . . . 5

,, A5.—Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded Within Specified Ranges 6,7

UPPER AIR DATA

Table B1—Monthly Means and Monthly Absolute Highest & Lowest Values of Altitude, Air Temperature & Dew point at Standard and Selected Pressure Surfaces. . . 8,9

,, B2.—Mean and Extreme values of The Freezing Level and The Tropopause. The Highest Wind Speed in The Upper Air 10

,, B3.—Number of Occurrences of Wind Direction within Specified Ranges and The Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces. 11–13

AGRO-METEOROLOGICAL DATA

Reviews of Agro-meteorological Stations 14,15

Table C1.—Air Temperature at 1½ metres above Ground 16

,, C2.—Extreme Values of Air Temperature at 1½ metres above Ground, Absolute Minimum Air Temperature at 5 Cms Above Ground over Different Fields 16

,, C3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity and Vapour Pressure at 1½ Metres Above Ground, Evaporation and Rainfall. . . 16

,, C4.—Extreme Soil Temperature at Different Depths in Different Fields 17

,, C5.—Surface wind 17

Note—For explanatory nots on the tables please refer to Volume number 1 (January 1975).

GENERAL SUMMARY OF WEATHER CONDITIONS

FEBRUARY 1977

Warm winter weather intervened by two cold waves. Subnormal rainfall.

PRESSURE DISTRIBUTION

Five depressions passed through east Mediterranean on the 4th, 8th, 14th, 18th & 27th.

In the rear of the depressions, high pressure built over East Mediterranean & NE Africa.

The mean atmospheric pressure during the month was above normal, except at Kharga where it was slightly below normal.

SURFACE WIND

The most prevailing winds were generally light to moderate : SW-ly to NW-ly in the north and N-ly to NW-ly in the south.

Winds were fresh to strong during several days in scattered places.

TEMPERATURE

The month was mainly Characterized by three pronounced warm spells which prevailed most days of the month.

Two light cold spells occurred during the periods (5th-10th) & (16th-21st).

Maximum air temperatures showed moderate to large departures above normal during the warm spells, and slight departures below normal during the cold spells.

Minimum air temperatures sohwed frequent moderate variaitons above and below normal.

The highest and lowest maximum air temperatures reported were respectively 34.5°C at Aswan on the 16th and 14.3°C at Mersa Matruh on the 5th.

The highest and lowest minimum air temperatures reported were respectively 18.0°C at Aswan on the 16th and 0.8°C at Dakhla on the 1st.

PRECIPITATION

The first cold spell was associated with scattered rain over the northern parts. Rain was light in general, but heavy over few places in the Mediterranean district on the 5th.

The monthly rainfall amounts were markedly below normal.

The maximum daily rainfall reported was 15.2 mm at Alexandria on the 5th.

The maximum monthly rainfall reported was 17.3 mm at Alexandria.

OTHER WEATHER PHENOMENA

The morning mist developed during several days over scattered place in Lower Egypt & Cairo.

Risnig sand was reported during some days in few scattered places.

Cairo, April 1979

Chairman (M.S. ELDIN HARB)

SURFACE DATA

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

FEBRUARY 1977

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	DF Normal or Average	Mean	D.F Normal or Average	Total Actua	Total Possible	%	Mean
Sallum	1019.0	2.0	22.1	2.2	11.3	1.3	16.7	16.2	1.8	10.8	0.2	50	—8	—	—	—	7·2
Mersa Matruh (A)	1019.5	2.3	20.1	1.3	9.0	0.6	14.5	14.2	0.9	10.5	0.2	65	0	246.0	310.3	79	6.4
Alexandria (A)	1019.3	1.8	21.7	2 4	9.8	0.4	15.7	15.4	1.2	12.0	0.9	67	0	237.2	310.5	76	3.2
Port Said (A)	1018.4	1.5	19.3	0.6	13.4	1.4	16.3	16.0	1.1	13.4	1.4	74	4	272.3	310.4	88	5 0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1019.1	2.0	22.5	1.7	6.3	—0.4	14.4	13.7	0.9	10.7	0.6	72	—2	240 0	310 9	77	2.8
Cairo	1019·3	1.8	23.2	2.4	10.3	0.8	16 7	16.3	1.4	11.3	0 8	55	0	—	—	—	12.8
Fayoum	—	—	24.8	2.4	7.2	—0.4	16.0	15.6	0.9	11.2	1.0	59	6	—	—	84	4.7
Minya (A)	1018.5	0.8	25.0	2.5	5.9	0.6	15.4	15.1	1.6	10.3	1.3	56	3	264.1	313.8	—	6.8
Assyout (A)	1018.8	1.6	24.3	1.6	7.2	—0.4	15.7	15.5	0.6	9.2	—0.1	42	1	—	—	—	9.0
Luxor (A)	1016.9	0.8	28.0	2.5	8.6	1.8	18.3	17.9	1.9	11.8	1.7	48	4	—	—	—	5.6
Aswan (A)	1016.5	0.7	28.8	2 4	12.1	2.0	20.4	20.1	2 3	11.2	1.8	30	—1	281.2	306 5	92	15.3
Siwa	1019.0	0.8	23.2	1.4	5.9	—0 2	14.5	14.3	0.7	8.7	—0.1	46	—7	275.4	312.6	88	7.3
Bhariya	1019.3	1.3	24.5	2.4	7.7	1 3	16.1	15.8	2.0	9.6	0.8	43	—10	—	—	—	7.6
Farafra	1021.0	1.5	24.4	1.8	6.7	1.4	15.5	15.3	1.6	9.0	1.5	41	—2	—	—	—	8.1
Dakhla	1019 6	1.6	26.2	2.4	6.5	1.1	16.3	16.1	1.9	9.1	0.9	38	—2	—	—	—	10.8
Kharga	1017·6	0.2	26.9	2.3	10.5	3.2	18.7	19.3	3.8	11.3	2.4	40	1	284.8	316.6	90	9.6
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1017 0	1.2	23.7	2.3	12.3	2.2	18.0	18.1	1.8	12.3	1.0	47	—4	280.3	314.6	89	12.7
Quseir	1016.4	0.8	24.2	1.4	15.7	1 5	19.9	19.8	1.4	14.2	1.6	51	0	—	—	—	7.1

Table A 2.—MAXIMUM & MINIMUM AIR TEMPERATURE

FEBRUARV — 1977

Station name	Maximum Temperature									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	25	15.1	5	09	00	00	00	00	10,5	—	16.9	2	6.9	7	09	00	00	00
Mersa Matruh (A)	26.2	26	14.3	4	02	00	00	00	00	7,3	—	12.5	72	5.4	25	21	00	00	00
Alexandria (A)	31 5	14	16.7	6	04	01	00	00	00	11 1	—	14.1	28	5.9	1,11	15	00	00	00
Port Said (A)	27 8	3	15 5	6	02	00	00	00	00	12,7	—	16.0	3	9.9	6	01	00	00	00
Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	31.0	14	16 8	6	08	01	00	00	00	—	—	11.2	4	3.4	16	27	07	00	00
Cairo (A)	30 0	14	17 0	6	09	00	00	00	00	—	—	13.8	4	6.0	1	12	00	00	00
Fayoum	32.0	14	18.8	5	13	04	00	00	00	4,4	—	12.3	28	3.4	10	23	07	00	00
Minya (A)	32.2	26	19 8	9	12	04	00	00	00	2.7	—	9.8	16	2.7	2	28	09	00	00
Assyout (A)	32.0	14	17.5	6	14	05	00	00	00	5,5	—	11.8	15,28	2.6	1	25	06	00	00
Luxor (A)	34.0	3,27	19.4	6	20	10	00	00	00	3,6	—	14.0	15	4.0	10	20	02	00	00
Aswan (A)	34 5	16	21.2	7	21	11	00	00	00	—	—	18.0	16	7.4	7	06	00	00	00
Siwa	29.2	26	18.0	6	09	00	00	00	00	4,7	—	9.6	28	3.3	12,23	28	09	00	00
Bahariya	32.2	14	18 0	5	10	06	00	00	00	6,9	—	11.8	8	3.5	10	24	03	00	00
Farafra	32 7	26	18.0	5	10	04	00	00	00	5,0	—	11.2	28	2.3	12	26	08	00	00
Dakhla	34.6	27	18.7	6	14	07	00	00	00	6,1	—	12.2	19	0.8	1	21	10	00	00
Kharga	35.4	27	20.1	6	15	08	00	00	00	7,7	—	17.3	28	4.2	1	12	01	00	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	28.5	15	19.9	9	06	00	00	00	00	—	—	16.8	16	9.0	1	05	00	00	00
Quseir	27 0	27	21 0	10	08	00	00	00	00	13,2	—	19.0	24	13.1	11	00	00	00	00

TABLE A 3.—SKY COVER AND RAINFALL

FEBRUARY — 1977

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	2.0	2.4	3.4	2.3	2.4	2.0	—8.0	1.5	5	0	02	01	0	0	0	0
Mersa Matruh (A)	1.8	3.5	3.6	2.9	3.0	3.5	—12.6	3.2	5	1	02	01	0	0	0	0
Alexandria (A)	2.8	3.1	3.6	3.2	3.2	17.3	—9.1	15.2	5	0	04	02	1	1	0	0
Port Said (A)	1.1	3.0	2.6	1.5	2.0	1.2	—10.1	0.5	8	0	04	01	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	6	—	04	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	6	—	01	—	—	—	—	—
Tanta	0.8	1.8	2.9	0.8	1.6	4.1	—3.1	3.1	—	0	4	01	0	0	0	0
Cairo (A)	1.9	3.3	2.9	1.6	2.4	0.3	—3.6	0.3	—	0	1	0	0	0	0	0
Fayoum	—	1.9	1.8	0.9	—	0.0	1.1	0.0	—	0	0	0	0	0	0	0
Minya (A)	0.8	1.8	1.9	0.9	1.2	0.0	—0.5	0.0	—	0	0	0	0	0	0	0
Assyout (A)	0.1	1.0	1.0	0.4	0.6	0.0	—2.2	0.0	—	0	0	0	0	0	0	0
Luxor (A)	0.2	0.8	1.7	0.8	0.8	0.0	—0.0	0.0	—	0	0	0	0	0	0	0
Aswan (A)	0.1	0.5	0.9	0.2	0.5	0.0	—0.0	0.0	—	0	0	0	0	0	0	0
Siwa	1.0	0.6	2.2	1.2	1.1	0.0	2.6	0.0	—	0	0	0	0	0	0	0
Bahariya	0.9	2.1	1.6	0.7	1.3	0.0	1.2	0.0	—	0	0	0	0	0	0	0
Farafra	—	1.1	1.0	0.5	—	0.0	0.4	0.0	—	0	0	0	0	0	0	0
Dakhla	0.1	1.1	0.8	0.5	0.6	0.0	0.4	0.0	—	0	0	0	0	0	0	0
Kharga	0.2	0.9	0.8	0.3	0.6	0.0	—0.4	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.2	1.1	1.7	0.3	0.9	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Quseir	0.0	0.7	1.3	0.5	0.7	0.0	0.1	0.0	—	0	0	0	0	0	0	0

ETable A 4.--DAYFS OF OCCURRENCE OF MISCCLLANEOUS WEATHER PHENOMENA

FEBRUARY -- 1977

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											
allum	02	0	0	0	00	0	0	6	0	1	0	15	2
ersa Matruh (A)	03	0	0	0	03	1	1	8	0	0	0	10	2
lexandria . (A)	04	0	0	0	02	6	3	3	0	0	0	9	2
ort Said . (A)	02	0	0	0	03	0	0	2	0	0	0	13	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—
hazza	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	02	0	0	0	14	0	1	2	1	0	0	17	1
Cairo . . . . (A)	01	0	0	0	3	2	6	4	0	1	0	12	1
Fayoum	0	0	0	0	01	0	0	0	0	0	0	20	0
Minya . . . . (A)	0	0	0	0	08	0	8	5	0	0	0	20	0
Assyout . . . . (A)	0	0	0	0	00	0	0	10	0	0	0	27	0
Luxor . . . . (A)	0	0	0	0	00	0	21	7	1	0	0	23	0
Aswan . . . (A)	0	0	0	0	00	0	1	6	0	0	0	27	0
Siwa	0	0	0	0	0	0	0	3	0	0	0	21	0
Bahariya	0	0	0	0	0	0	0	3	1	0	0	20	0
Farafra	0	0	0	0	0	0	0	2	0	0	0	23	0
Dakhla	0	0	0	0	0	0	1	10	0	0	0	26	0
Kharga	0	0	0	0	0	0	1	9	0	0	0	25	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	0
Hurghada	0	0	0	0	0	0	1	7	0	1	0	25	0
Qusoir	0	0	0	0	0	0	2	3	0	0	0	25	0

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

FEBRUARY — 1977

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurr nces of wind blowing from the ranges of directions indicated												
					345/014	510/044	045/074	075/104	105/134	135/164	165/194	195/224	225/254	255/284	285/314	315/344	All directions
El Sallum	11	01	00	1—10	23	12	56	29	16	22	20	30	38	67	114	63	490
				11—27	11	00	00	00	00	02	00	04	09	32	78	34	170
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**34**	**12**	**56**	**29**	**16**	**24**	**20**	**34**	**47**	**99**	**192**	**97**	**660**
Mersa Notroh (A)	22	00	00	1—10	34	17	12	22	63	37	25	35	57	51	25	51	429
				11—27	02	09	00	04	02	01	10	22	35	25	77	34	221
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	36	**26**	**12**	**26**	**65**	**38**	**35**	**57**	**92**	76	**102**	**85**	650
Alexandria	07	00	00	1—10	37	71	34	46	28	45	21	39	09	22	69	106	527
				11—27	01	04	00	00	00	00	00	11	24	42	46	10	138
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	38	**75**	**34**	**46**	**28**	**45**	**21**	**50**	**33**	64	**62**	116	**665**
Cairo A.P.	53	00	00	1—10	58	70	40	40	17	15	18	26	28	50	42	50	454
				11—27	28	22	04	09	05	00	15	25	30	08	08	11	165
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**86**	**92**	**44**	**49**	**22**	**15**	**33**	**51**	58	**58**	**50**	**61**	**619**
El Fayoum (A)	23	01	00	1—10	150	168	23	15	14	04	23	46	82	31	22	41	619
				11—27	03	17	00	00	00	00	09	02	02	04	00	00	29
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**153**	**158**	**23**	**15**	**14**	**04**	**24**	48	**84**	**35**	**22**	**41**	**648**
El Minia	09	00	00	1—10	126	28	13	03	09	42	12	09	24	30	42	93	431
				11—27	165	05	00	00	00	05	00	03	02	08	25	19	232
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**291**	**33**	**13**	**03**	**09**	**47**	**12**	**12**	**26**	**38**	**67**	**112**	**663**
Assuit (A)	00	00	00	1—10	58	41	15	04	11	24	13	21	28	27	38	67	347
				11—27	165	17	00	00	01	14	09	05	04	10	23	77	325
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**223**	**58**	**15**	**04**	12	**38**	**22**	**26**	**32**	**37**	**61**	**144**	**672**
Luxor (A)	16	02	00	1—10	74	73	50	27	30	21	46	59	38	50	80	96	644
				11—27	00	00	00	07	00	00	00	00	00	00	01	02	10
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**74**	**73**	**50**	**34**	**30**	**21**	**46**	**59**	28	**50**	**81**	**98**	654

TABLE A 5— (CONTD) NUMBEA IN HOURS OF OCCURRENCE OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIEDRANGES

FEBRUARY — 1977

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurences of Yind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 184	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Aswan	00	03	00	1—10	274	44	12	19	09	03	03	07	05	06	18	45	345
				11—27	182	29	15	06	01	00	00	01	00	00	24	66	324
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeds	**356**	**73**	**27**	**25**	**10**	**03**	**03**	**08**	**05**	**06**	**42**	**111**	**669**
Sewa	62	00	00	1—10	17	18	19	57	66	62	38	19	23	68	64	46	497
				11—27	11	03	06	00	01	01	01	00	02	13	42	33	113
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeds	**28**	**21**	**25**	**57**	**67**	**63**	**39**	**19**	**25**	**81**	**106**	**79**	**610**
El-Dakhla	21	03	00	1—10	36	30	23	26	22	22	14	25	38	46	100	107	489
				11—27	30	21	00	00	00	01	00	00	02	12	28	65	159
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeds	**66**	**51**	**23**	**26**	**22**	**23**	**14**	**25**	**40**	**58**	**128**	**172**	**648**
El-Kharga	00	02	00	1—10	151	83	23	11	12	05	10	05	03	15	44	88	450
				11—27	151	25	00	00	00	00	02	00	09	00	04	38	220
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeds	**302**	**108**	**23**	**11**	**12**	**05**	**12**	**05**	**03**	**15**	**48**	**126**	**670**
El-Hurgada	00	01	00	1—10	22	27	14	04	07	06	08	07	15	118	71	13	312
				11—27	25	01	00	03	03	04	00	00	00	57	177	85	355
				28—47	00	00	00	00	00	00	00	00	00	00	03	01	04
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeds	**47**	**28**	**14**	**07**	**10**	**10**	**08**	**07**	**15**	**175**	**251**	**99**	**671**
El-Quseir	00	00	00	1—10	109	20	12	05	09	06	10	06	18	134	159	49	547
				11—27	51	01	00	00	00	00	00	00	00	07	09	67	135
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeds	**160**	**21**	**12**	**05**	**09**	**06**	**10**	**06**	**18**	**141**	**168**	**116**	**672**

UPPER AIR CLIMATOLOGICAL DATA

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

FEBRUARY — 1977

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 UT	Surface	28	* 1016m.b.	* 1023m.b.	* 1007m.b.	28	12.0	15.2	09.3	28	06.0
	1000	28	165	221	086	28	12.9	16.8	09.6	28	06.0
	850	28	1515	1588	1406	28	07.1	15.2	−00.3	27	−04.0
	700	28	3094	3198	2962	28	−00.7	06.1	−08.1	27	−15.3
	600	28	4308	4443	4156	28	−08.3	−02.2	−16.1	27	−20.4
	500	28	5693	5862	5515	28	−17.8	−11.8	−26.1	27	−28.8
	400	27	7224	7533	7116	27	−30.1	−23.9	−35.7	26	−39.6
	300	27	9321	9578	9062	27	−45.1	−38.0	−50.0	25	−53.8
	350	26	10530	10808	10260	26	−52.5	−45.4	−58.1	24	−60.2
	200	26	11949	12253	11687	26	−55.9	−50.3	−63.9	19	−62.9
	150	25	13764	14029	13507	25	−59.7	−54.3	−63.1	7	−65.6
	100	25	16254	16480	15997	25	−67.2	−60.5	−75.8	—	—
	70	22	18400	18542	18097	22	−67.8	−59.5	−76.9	—	—
	60	18	19367	19570	19050	18	−64.6	−58.4	−73.0	—	—
	50	18	20458	20654	20125	18	−62.1	−57.1	−69.4	—	—
	40	15	21915	22130	21650	15	−60.0	−56.1	−70.5	—	—
	30	12	23684	23854	23477	12	−56.7	−53.5	−60.2	—	—
	20	6	26296	26479	26053	6	−52.2	−47.5	−55.0	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 UT	Surface	28	* 1002m.b.	* 1009m.b.	* 991m.b.	28	13.3	17.2	8.8	28	4.2
	1000	28	160	219	66	22	13.1	16.9	8.6	22	5.5
	850	28	1518	1575	1428	28	9.0	18.9	0.2	28	−6.6
	700	28	3105	3202	2983	27	0.7	8.8	−9.2	27	−16.1
	600	28	4330	4459	1462	27	−6.4	−0.2	−16.0	27	−23.9
	500	28	5734	5891	5512	28	−15.6	−9.9	−25.0	28	−31.0
	400	28	7382	7579	7094	28	−27.6	−22.0	−36.8	28	−40.1
	300	28	9391	9640	9048	28	−42.0	−37.0	−48.5	27	−53.1
	250	27	10603	10867	10259	27	−49.0	−42.0	−55.6	27	−58.7
	200	27	12056	12326	11732	27	−53.0	−48.9	−59.5	26	−63.2
	150	26	13895	14132	13592	26	−57.5	−54.7	−61.5	20	−65.9
	100	18	16372	16549	16142	18	−64.9	−59.8	−69.6	2	−68.8
	70	8	18534	18662	18352	8	66.5	−63.0	−74.0	—	—
	60	7	19491	19620	19320	7	−65.3	−61.1	−71.6	—	—
	50	7	20585	20750	20434	7	−61.7	−55.7	−68.8	—	—
	40	3	21990	22060	21881	3	−62.8	−59.7	−65.5	—	—
	30	1	23782	—	—	1	−59.1	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 1200 UT	Surface	28	* 995m.b.	* 1000m.b.	* 987m.b.	23	15.1	21.2	9.2	28	1.9
	1000	27	149	193	82	3	10.5	11.2	10.0	3	0.7
	850	28	1530	1564	1489	28	12.8	18.1	3.3	28	−2.8
	700	27	3133	3181	3079	27	4.3	9.2	0.6	27	−14.5
	600	26	4377	4438	4298	26	−1.9	2.0	−7.6	26	−20.4
	500	26	5582	5882	5695	26	−11.5	−8.4	−16.9	26	−28.4
	400	24	7476	7575	7355	24	−23.3	−18.3	−27.2	24	−37.7
	300	24	9524	9655	9422	24	−37.2	−30.4	−41.7	24	−44.2
	250	24	10764	10907	10652	24	−44.7	−38.5	−49.0	24	−55.4
	200	24	12226	12368	12111	24	−54.1	−47.5	−56.9	24	−64.1
	150	23	14035	14147	13894	23	−64.1	−59.4	−68.9	1	−72.0
	100	22	16458	16575	16264	22	−74.4	−68.8	−78.0	—	—
	70	11	18517	18594	18383	11	−76.2	−70.7	−82.1	—	—
	60	5	19496	19520	19470	5	−70.1	−68.1	−70.7	—	—
	50	5	20562	20578	20524	5	−64.7	−63.2	−67.0	—	—
	40	2	21955	22040	21870	2	−59.7	−58.7	−60.7	—	—
	30	2	23766	23769	23764	2	−56.3	−56.0	−56.6	—	—
	20	1	26394	—	—	1	−52.7	—	—	—	—
	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 HIGHEST AND LOWEST VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

February — 1977

Station	Pressure Surface Milliban	Altitude of Pressure Surface (gpm.)				Temperature (°C)				Dew point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 1200 VT	Surface	28	* 1016 m.b.	* 1022m.b.	* 1003m.b.	28	18.3	23.8	15.8	28	8.2
	1000	28	165	214	54	28	16.9	23.5	10.7	28	6.7
	850	28	1525	1584	1445	28	7.8	16.4	— 0.4	28	— 8.0
	700	28	3106	3203	2973	28	0.4	9.0	— 10.0	28	—16.5
	600	28	4324	4457	4147	28	— 7.3	0.2	—17.0	28	—23.5
	500	28	5718	5887	5491	28	—16.9	—10.3	—25.8	28	—31.2
	400	28	7356	7564	7071	28	—29.0	—22.5	—36.6	28	—41.9
	300	28	9349	9614	9011	28	—43.4	—35.7	—49.7	28	—55.1
	250	28	10556	10854	10221	28	—50.9	—42.1	—58.1	28	—61.6
	200	27	12000	12313	11691	27	—54.7	—50.0	—61.6	20	—64.4
	150	25	13837	14115	13556	25	—57.7	—46.1	—65.2	11	—67.3
	100	22	16347	16595	16124	22	—65.6	—58.6	—75.7	—	—
	70	19	18500	18705	18287	19	—64.7	—58.9	—75.1	—	—
	60	15	19461	19650	19190	15	—63.3	—58.0	—71.4	—	—
	50	15	20565	20755	20287	15	—60.4	—54.5	—70.0	—	—
	40	8	22019	22200	21650	8	—57.1	—52.5	—62.5	—	—
	30	6	23898	23973	23737	6	—51.9	—48.7	—54.0	—	—
	20	4	26588	26632	26483	4	—46.7	—44.0	—48.5	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface	28	* 1001m.b.	* 1008m.b.	* 990m.b.	28	21.7	28.8	13.2	28	05.1
	1000	28	153	206	152	21	21.0	28.4	13.4	21	05.6
	850	28	1531	1595	1457	26	10.8	19.0	01.7	26	—05.1
	700	27	3128	3222	3034	27	02.9	10.2	—05.5	27	—15.7
	600	27	4324	4479	4234	27	—04.0	01.9	—10.9	27	—21.7
	500	27	5775	5914	5612	27	—13.6	—07.3	—20.8	27	—30.3
	400	27	7436	7607	7228	26	—25.5	—19.8	—31.5	26	—39.0
	300	27	9436	9685	9207	27	—40.0	—34.9	—44.9	27	—51.4
	250	25	10692	10931	10415	25	—47.5	—39.0	—51.3	25	—57.8
	200	25	12151	12380	11875	25	—51.0	—44.9	—57.0	25	—61.5
	150	25	14017	14247	13868	25	—54.7	—50.6	—63.8	23	—64.1
	100	23	16582	16787	16342	23	—60.9	—55.2	—64.4	3	—66.8
	70	21	18800	18961	18573	21	—61.2	—56.0	—66.5	—	—
	60	18	19790	20000	19550	18	—59.4	—55.3	—63.1	—	—
	50	18	20909	21161	20682	18	—56.5	—51.3	—60.9	—	—
	40	10	22477	22740	22220	10	—51.5	—44.1	—54.3	—	—
	30	8	24302	24601	24112	8	—44.6	—36.1	—48.4	—	—
	20	5	27089	27479	26818	5	—37.7	—26.3	—43.1	—	—
	10	2	31767	31958	31576	2	—31.1	—26.9	—35.3	—	—
Aswan 1200 U.T.	Surface	28	* 994m.b.	* 999m.b.	* 988m.b.	28	28.1	35.2	20.4	28	3.9
	1000	28	140	184	84	—	—	—	—	—	—
	850	28	1543	1575	1499	28	15.5	21.2	5.4	28	—6.9
	700	27	3148	3196	3093	27	6.6	13.1	0.6	27	—16.3
	600	27	4408	4459	4318	27	0.4	4.0	—8.3	27	—23.2
	500	27	5842	5918	5718	27	—9.6	—[illegible].0	—13.8	27	—30.3
	400	27	7527	7638	7386	27	—22.0	—16.0	—24.9	27	—39.9
	300	27	9583	9732	9356	27	—35.7	—29.0	—40.6	27	—51.3
	250	26	10836	10992	10716	26	—42.8	—34.9	—49.4	26	—57.4
	200	25	12305	12464	12156	25	—52.3	—43.7	—57.2	25	—65.5
	150	23	14122	14270	13973	23	—62.4	—58.7	—65.3	—	—
	100	21	16568	16705	16440	21	—72.5	—68.8	—76.7	—	—
	70	12	18641	18795	18533	12	—72.0	—68.0	—74.0	—	—
	60	8	19597	19780	19480	8	—68.8	—64.5	—72.3	—	—
	50	8	20662	20835	20530	8	—64.3	—62.8	—66.8	—	—
	40	5	22102	22221	22000	5	—58.6	—56.0	—62.1	—	—
	30	4	23832	23928	23762	4	—55.4	—53.9	—56.9	—	—
	20	3	26434	2[illegible]472	26392	3	—48.9	—48.1	—49.6	—	—
	10	—	—	—	—	—	—	—	—	—	—

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

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

FEBRUARY — 1977

	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)	3890 (28)	719 (28)	−13.3 (27)	4050	629	−8.6	1060	887	—	12215 (24)	203 (24)	−59.7 (24)	18220	74	−71.4	9960	266	−51.3	6314	457	200	89
	Helwan	3183 (28)	698 (28)	−15.2 (26)	4420	602	−22.8	1460	848	−17.0	11463 (22)	225 (22)	−54.5 (22)	17950	79	−71.7	9180	299	−46.2	12400	195	240	150
	Aswan . . . (A)	4018 (26)	629 (26)	−17.8 (26)	4760	578	−19.2	3079	700	−17.7	15844 (9)	114 (9)	−73.2 (9)	17940	79	−82.3	12625	189	−52.2	12100	212	260	140
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	3141 (28)	701 (28)	−15.6 (28)	4460	599	−20.3	1400	856	−4.4	11639 (22)	221 (22)	−57.1 (21)	17280	88	−72.6	8360	332	−45.2	10450	250	210	130
	Helwan	3546 (27)	668 (27)	−16.7 (26)	4700	580	−24.3	1880	811	−2.2	12303 (24)	205 (24)	−53.8 (24)	17960	82	−65.4	9880	276	−48.5	16740	101	310	153
	Aswan . . . (A)	4319 (27)	611 (27)	−22.3 (27)	5100	554	−25.0	2060	798	−11.0	16666 (9)	100 (9)	−70.1 (9)	18270	76	−76.5	14760	133	−72.0	11800	214	255	150

N — The number of cases the element 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**

0000 U.T. — FEBRUARY 1977

Time	Pressure Surface (Millibar)	Wind within 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.	furface	3	8	5	8	1	9	1	15	0	—	0	—	1	10	0	—	1	10	4	19	4	20	8	14	0	38	13
	1000	1	8	4	8	0	—	1	28	1	4	1	13	0	—	1	13	1	19	2	22	9	23	4	13	0	25	17
	850	1	12	1	8	0	—	0	—	1	12	0	—	1	15	5	18	4	18	6	18	4	15	2	16	0	25	16
	700	1	27	0	—	0	—	1	5	0	—	1	27	1	20	2	40	6	22	4	21	6	21	2	15	0	24	22
	600	2	22	0	—	0	—	0	—	0	—	0	—	2	14	2	26	9	39	4	15	2	28	2	35	0	23	26
	500	1	20	0	—	0	—	0	—	0	—	0	—	2	48	4	38	7	33	7	30	0	—	2	43	0	23	35
	400	0	—	0	—	0	—	0	—	0	—	0	—	2	46	1	34	5	38	4	30	0	—	2	52	0	14	38
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	77	1	40	2	29	1	13	2	55	0	8	47
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	130	1	37	4	42	0	—	2	61	0	8	57
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	58	3	68	0	—	2	69	0	7	66
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	50	3	70	2	38	0	—	0	6	56
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	30	3	30	0	—	0	—	0	4	30
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	38	0	—	0	—	0	2	38
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	26	0	—	0	—	0	2	26
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	11	0	—	1	9	0	2	10
	40	0	—	0	—	0	—	0	—	1	11	0	—	0	—	0	—	0	—	1	30	0	—	0	—	0	2	20
	30	0	—	0	—	1	9	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	9
	20	0	—	0	—	1	4	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	4
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	2	06	1	08	0	—	1	—	5	08	3	08	0	—	5	10	4	10	5	13	3	15	0	—	0	28	10
	1000	0		2	12	1	08	1	27	4	14	3	11	1	33	1	32	1	40	6	18	4	20	0	—	0	24	18
	850	1	14	0	—	0	—	1	09	1	15	1	06	2	18	3	15	1	18	2	16	7	20	2	14	0	24	17
	700	0	—	0	—	0	—	0	—	1	05	0	—	1	37	3	25	7	24	4	20	4	21	2	18	0	22	22
	600	0	—	0	—	0	—	0	—	0	—	0	—	1	11	6	26	5	19	3	25	4	31	1	30	0	20	26
	500	0	—	0	—	0	—	0	—	0	—	0	—	1	38	5	34	6	35	1	17	4	35	2	34	0	19	34
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	33	4	39	0	—	1	19	1	19	0	7	32
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	55	1	26	1	26	0	—	1	34	0	4	35
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	53	1	24	0	—	0	—	0	2	38
	200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed within the range of direction during the month.
N = 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 – FEBRUARY 1977

	Pressure surface (millibar)	Wind within 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	3	6	9	10	2	10	0	—	0	—	2	6	1	15	2	4	0	—	0	—	0	—	8	7	1	28	8
	1000	2	11	10	13	1	5	1	13	1	3	1	6	0	—	0	—	0	—	0	—	0	—	6	8	0	22	10
	850	0	—	6	18	1	10	1	15	1	8	0	—	2	21	3	13	4	19	2	17	3	28	5	15	0	28	18
	700	3	18	0	—	0	—	0	—	0	—	1	28	2	20	3	16	4	31	8	28	5	16	2	16	0	28	22
	600	0	—	1	39	0	—	0	—	0	—	1	39	0	—	3	27	7	42	10	27	3	36	3	30	0	28	33
	500	1	38	1	10	0	—	0	—	0	—	1	33	0	—	4	41	7	37	7	43	2	32	3	25	0	26	36
	400	0	—	1	14	0	—	0	—	1	48	0	—	0	—	3	56	8	50	5	50	3	44	3	51	0	24	49
	300	1	35	0	—	0	—	0	—	0	—	0	—	0	—	2	69	7	68	5	72	2	52	1	50	0	18	65
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	79	5	94	4	68	1	68	0	16	80
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	110	4	94	3	73	0	—	0	12	95
	150	1	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	98	1	104	1	118	0	—	0	4	104
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 T.U.	Surface	5	8	5	11	0	—	0	—	0	—	2	8	0	—	4	10	1	5	4	8	1	9	5	9	1	28	8
	1000	4	12	5	12	0	—	0	—	0	—	0	—	0	—	2	10	0	—	3	9	1	9	5	9	1	21	10
	850	6	12	0	—	2	11	0	—	0	—	2	14	1	15	3	14	6	16	5	21	0	—	2	8	0	27	15
	700	3	11	1	20	0	—	0	—	0	—	1	9	1	37	8	28	3	15	7	24	2	31	1	25	0	27	23
	600	1	41	1	21	0	—	0	—	0	—	0	—	0	—	5	48	7	28	6	32	5	36	2	52	0	27	32
	500	2	36	0	—	0	—	0	—	0	—	0	—	0	—	6	47	7	35	6	34	2	21	2	48	0	25	38
	400	1	55	0	—	0	—	0	—	0	—	0	—	0	—	4	51	8	50	3	50	4	39	1	39	0	21	48
	300	1	72	0	—	0	—	0	—	0	—	0	—	0	—	1	33	7	59	5	68	3	67	2	55	0	19	61
	250	1	80	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	72	10	65	1	87	2	56	0	19	68
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	108	6	94	2	75	1	59	0	14	93
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	62	0	—	5	83	0	—	1	87	0	7	80
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	97	0	—	2	89	1	153	0	—	0	4	107
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	104	0	—	0	—	0	—	0	1	104
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	92	0	—	0	—	0	—	0	1	92
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed within 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. NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

ASWAN — FEBRUARY 1977

Time	Pressure Surface Millibar	Wind within specided 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	13	7	10	3	9	3	11	0	—	0	—	0	—	0	—	0	—	0	—	1	10	3	12	0	28	11
	1000	1	13	1	12	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	10	0	3	12
	850	2	12	5	13	6	11	4	15	2	4	1	20	0	—	0	—	1	18	0	—	5	17	2	11	0	28	13
	700	2	10	3	15	3	22	1	15	1	11	3	16	0	—	1	22	2	12	3	29	5	19	2	15	0	26	17
	600	1	13	1	29	1	16	2	17	0	—	0	—	1	17	2	33	4	30	11	24	1	34	2	26	0	26	24
	500	0	—	3	24	0	—	0	—	0	—	1	16	0	—	1	6	8	36	7	41	2	36	2	16	0	24	32
	400	2	22	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	50	6	52	3	45	2	23	0	21	45
	300	1	18	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	93	10	67	3	68	3	25	0	21	64
	250	1	16	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	96	13	88	4	56	0	—	0	20	79
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	87	17	87	1	62	0	—	0	20	85
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	54	11	70	4	52	0	—	0	17	64
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	12	5	39	1	25	1	14	0	10	36
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	24	3	18	2	11	0	—	0	—	0	6	17
	60	0	—	0	—	0	—	0	—	0	—	1	20	0	—	0	—	0	—	0	—	1	10	0	—	0	2	15
	50	0	—	0	—	0	—	0	—	0	—	0	—	1	9	0	—	1	5	0	—	0	—	0	—	0	2	7
	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	16	0	—	0	—	0	1	16
	30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	16	0	1	15
	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	26	0	—	0	1	16
	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	—
1200 U.T.	Surface	13	11	1	13	3	9	1	12	0	—	4	10	0	—	0	—	0	—	0	—	2	14	4	14	0	28	11
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	1	8	3	10	6	10	4	11	2	12	2	12	0	—	0	—	2	18	1	13	3	12	4	16	0	28	11
	700	1	12	2	20	2	22	3	11	2	17	1	7	0	—	1	27	2	12	6	20	5	13	2	20	0	27	16
	600	1	66	2	24	0	—	1	21	2	16	0	—	1	9	3	23	3	36	6	22	6	30	2	12	0	27	25
	500	1	23	0	—	1	6	0	—	0	—	0	—	1	42	4	16	5	42	10	36	4	34	1	45	0	27	33
	400	1	55	0	—	0	—	0	—	0	—	0	—	0	—	1	21	10	50	11	57	2	26	2	27	0	27	48
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	18	6	90	12	70	3	61	2	25	0	24	68
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	112	13	86	4	78	1	18	0	23	87
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	114	17	94	2	66	0	—	0	21	89
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	99	11	80	3	49	0	—	0	18	74
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	49	6	32	2	28	1	22	0	11	34
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	18	0	—	0	—	0	5	18
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	13	1	10	1	10	1	8	0	4	10
	50	0	—	1	10	0	—	1	10	0	—	0	—	0	—	1	9	0	—	1	25	0	—	0	—	0	4	14
	40	0	—	0	—	1	10	1	9	0	—	0	—	0	—	0	—	0	—	1	14	0	—	0	—	0	3	11
	30	0	—	0	—	0	—	1	13	0	—	0	—	0	—	0	—	1	26	0	—	0	—	0	—	0	2	20
	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	16	0	—	0	—	0	—	0	—	0	1	16
	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	—	—	—	—	—	—	—	—	—	—	—

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

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

MONTHLY REVIEW OF AGROMETEOROLOGICAL STATIONS

MERSA MATRUH — FEBRUARY 1977

The mean daily air temperature was above normal and the mean daily relative humidity was nearly the same as normal. The total monthly rainfall was only 3.5 mm. (12.0 mm. below normal).

The month was intervened by two cold waves in the periods (4th — 9th) & (15th — 22nd) and three warm spells in the periods (1st — 3rd), (10th — 14th) & (24th. — 27th). The first cold wave gave rise to the lowest maximum temperature (14.3°C) on the 5th. The last warm spell gave rise to the highest maximum temperature (26.2°C) on the 26th.

The mean daily actual sunshine duration was higher than average by 1.5 hour. The mean daily wind speed at 1.5 met. height was lower than average by 0.7 met./sec.

The highest maximum soil temperatures were higher than the corresponding values of February 1976 at all depths with departures between 3.8°C (at 2 cm.) & 1.2°C (at 100 cm.). The lowest minimum soil temperatures were also higher than February 1976 at all depths with departures between 1.8°C (at 2 cm) & 3.8°C (at 20 cm.).

TAHRIR — FEBRUARY 1977

The mean daily air temperature was above normal and the mean daily relative humidity was nearly the same as normal. The total monthly rainfall was only 1.2 mm. (3.3 mm. below normal).

The month was characterized by three warmspells in the periods (1st — 4th), (10th — 15th) & (23rd — 28th). The second warm spell gave rise to the highest maximum temperature (33.3°C) on the 14th. A cold spell occurred in the period (5th-8th) giving the lowest maximum temperature (17.7°C) on the 6th. Minimum air temperature at 5 cm. above the grass field fell below 0°C (-0.1°C) on the 1st.

The mean daily actual sunshine duration was higher than normal by 0.9 hour. The mean daily wind speed at 1.5 met. height and pan evaporation were slightly lower than normal.

The highest maximum soil temperatures in the dry field were higher than normal at all depths; the departures varied between 0.4°C (at 5 cm.) & 1.4°C (at 10 cm.). The lowest minimum soil temperatures were higher than normal at all depths except its value at 5 cm. which was lower than normal by 0.1°C; the departures varied between 0.2°C (at 10 cm.) & 1.7°C (at 50 cm.).

BAHTIM — FEBRUARY 1977

The mean daily air temperature and relative humidity were slightly above average. No rain was reported except 0.5 mm. on the 6th.

The month was intervened by two cold waves in the periods (4th-9th) & (16th-22nd) and three warm spells in the periods (1st-3rd), (11th-14-th) & (25th-27th). The first cold wave gave rise to the lowest maximum tempreature (16.3°C) on the 6th. The second warm spell gave rise to the highest maximum temperature (29.8°C) on the 14th.

Minimum air temperature at 5cm. above the dry field fell below 0°C on the 10th, 11th & 13th when its value were between -0.8° & -0.4°C. At 5 cm. above the grass field it fell below 0°C on the 1st, 10th, 11th, 12th, 13th & 25th when its values were between -2.4°C and -0.3°C.

The mean daily actual sunshine duration, wind speed at 1.5 met. height and pan evaporation departed slightly from average.

The highest maximum soil temperatures in the dry field were higher than average at depths between 2 & 50 cm. with departures between 4.9°C (at 5 cm.) & 0.3°C (at 50cm.); and lower than avarage at 100cm. by 0.2°C. The lowest minimum soil temperautres were higher than average at 2, 10, 20, 50 cm. depths with departures between 0.3°C & 9°C; the same as average at 5 cm.; lower than average at 100 cm. by 0.2°C.

ASSYOUT — FEBRUARY 1977

Mean maximum temperature was 25.4°C and mean minimum temperature was 6.6°C. Mean daily relative humidity was 60%.

The month was characterized by three warm spells in the periods (1st-3rd), (12th-16th) & (23rd - 28th) and two cold spells in the periods (4th-9th) & (21st, 22nd). The first cold spell gave rise to the lowest maximum temperature (18.7°C) on the 6th. The last warm spell gave rise to be highest maximum temperature (31.8°C) on the 26th.

A characteristic feature of this month is that minimum air temperature at 5 cm. above soil fell below 0°C on the 1st, 2nd, 5th, 7th, 10th, 11th, 12th,13th; its values in these days varied between -2.2°C and -0.4°C.

KHARGA — FEBRUARY 1977

The mean daily air temperature was above normal and the mean daily relative humidity was nearly the same as normal.

The month was intervened by three warm spells in the periods (1st - 3rd), (12th - 16th) & (25th - 28th) and two cold spells in the periods (1st - 3rd), (12th - 16th) & (25th-28th) and two cold spels in the periods (4th - 10th) & (18th - 22nd). The first cold spell gave rise to the lowest maximum temperature (20.1°C) on the 6th. The last warm spell gave rise to the highest maximum temperature (35.4°C) on the 27th.

The mean daily actual sunshine duration, wind speed at 1.5 met. height and pan evaporation departed slightly from normal.

The highest maximum soil temperatures were higher than normal at all depths with departures between 6.4°C (at 2 cm.) & 0.7°C (at 50 cm.). The lowest minimum soil temperatures were also higher than normal at all depths with departures between 2.3°C (at 2cm.) & 0.3°C (at 10 cm.).

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

FEBRUARY — 1977

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°
Marsa Matruh	20.0	9.0	14.2	11.9	16.6	24.0	24.0	24.0	20.0	9.3	2.2	0.1	0.0	0.0	0.0	0.0
Tahrir	24.2	6.8	14.5	10.7	18.2	24.0	24.0	23.2	17.0	10.4	4.1	1.0	0.1	0.0	0.0	0.0
Bahtim	22.4	5.7	13.8	9.9	17.7	24.0	24.0	22.6	16.4	9.6	3.7	0.8	0.0	0.0	0.0	0.0
Asiut	25.4	6.6	15.3	11.4	19.3	24.0	24.0	24.0	17.5	10.5	5.0	1.8	0.2	0.0	0.0	0.0
Kharga	26.9	10.5	19.3	16.4	22.1	24.0	24.0	23.9	22.7	18.4	10.1	3.9	1.2	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.

FEBRUARY — 1977

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	26.2	26	14.3	5	12.5	27	5.4	25	2.6	25	—	—
Tahrir	33.3	14	17.7	6	12.5	4	3.3	1	1.8	1	0.1	1
Bahtim	29.8	14	16.3	6	11.0	4	1.3	2	—0.8	10,11	—2.4	1
Asiut	31.8	26	18.7	6	10.7	15	3.4	10	—2.2	1	—	—
Kharga	35.4	27	20.1	6	17.3	28	4.2	1	1.0	1	—	—

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

FEBRUARY - 1977

Station	solars+ 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	316.5	246.0	309.0	79	65	52	17	11	7.7	8.4	13.1	3	3.7	14,27	6.4	—	3.5	3.2	5
Tahrir	374.3	247.0	311.1	79	67	42	12	14	7.8	8.0	11.1	4	3.8	3	4.2	4.69	1.2	1.1	4
Bahtim	388.2	234.7	311.7	75	68	44	16	14	7.7	8.2	12.1	26	3.8	3	4.7	4.53	0.5	0.5	6
Asiut	—	274.4	315.1	87	60	39	13	26	7.6	8.5	11.5	15	4.2	2	4.3	4.40	0.0	0.0	—
Kharga	487.8	284.3	316.8	90	40	29	9	27	6.3	7.1	9.2	23	2.7	28	9.6	8.99	0.0	0.0	

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

FEBRUARY — 1977

STATION	Highest (A) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil tmperature (°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	26.7	25.6	22.4	18.4	17.6	18.2	20 2	—	—	—	—	—	—	—	—	—
	L	8.2	8.8	12.0	13.8	16.0	17.5	20.0	—	—	—	—	—	—	—	—	—
Tahrir	H	35.1	29.5	26.5	21.8	19.7	19.0	19.8	21.5	21.3	20.3	19.5	17.9	17.4	17.4	18.0	—
	L	7.5	7.8	9.5	13.3	16.0	17.4	19.6	21.0	9.5	10.2	10.8	12.6	14.5	15.5	17.3	—
Bahtim	H	40.6	31.8	24.1	20.6	19.3	19.4	22.0	22.9	28.2	22.2	19.2	16.7	16.4	17.1	19.4	—
	L	7.2	8.2	12,5	15.5	17.4	18.8	21.3	22.3	7.3	8.6	10.4	12.9	14.8	16.5	18.8	—
Asiut.	H	36.7	30.3	25.6	22.1	20.7	20.6	21.8	23.7	—	—	—	—	—	—	—	—
	L	7.9	10.8	13,4	16.5	18.9	19.6	21.3	23.0	—	—	—	—	—	—	—	—
Kharga	H	45.7	38.5	34.0	27.2	23.6	24.0	25.9	28.0	—	—	—	—	—	—	—	—
	L	7.4	9.5	12.4	17.3	21.4	23.3	25.4	27.2	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

FEBRUARY — 1977

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 konts	≥20 knots	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value knots	Date
M. Matruh . .	3.6	2.8	4.4	25	21	9	4	1	0	0	40	5
Tahrir . .	2.1	1.4	2.8	27	19	5	3	1	0	0	36	5,6
Bahtim. . . .	2.2	1.4	3.0	18	12	2	0	0	0	0	28	10
Asiut	—	—	—	—	—	—	—	—	—	—	—	—
Kharga . . .	2.9	2.2	3.6	28	17	10	3	0	0	0	33	18

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THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME 20 NUMBER 3

MARCH, 1977

A.
of Commerce

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 several 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 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

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

CONTENTS

PAGE

General Summary of Weather Conditions 1

SURFACE DATA

Table A1.—Monthly values of the Atmospheric Pressure, Air Temperature, Relative Humidity, Bright Sunshine Duration, and Piche Evaporation 2

„ A2.—Maximum and Minimum Air Temperatures 3

„ A3.—Sky Cover and Rainfall 4

„ A4.—Number of Days of Occurrence of Miscellaneous Weather Phenomena . . . 5

„ A5.—Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded Within Specified Ranges 6,7

UPPER AIR DATA

Table B1.—Monthly Means and Monthly Absolute Highest & Lowest Values of Altitude, Air Temperature & Dew point at Standard and Selected Pressure Surfaces. . . . 8.9

„ B2.—Mean and Extreme values of The Freezing Level and The Tropopause. The Highest Wind Speed in The Upper Air 10

„ B3.—Number of Occurrences of Wind Direction within Specified Ranges and The Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces. 11–13

AGRO-METEOROLOGICAL DATA

Reviews of Agro-meteorological Stations 14,15

Table C1.—Air Temperature at 1½ metres above Ground 16

„ C2.—Extreme Values of Air Temperature at 1½ metres above Ground, Absolute Minimum Air Temperature at 5 Cms Above Ground over Different Fields 16

„ C3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity and Vapour Pressure at 1½ Metres Above Ground, Evaporation and Rainfall. . . 16

„ C4.—Extreme Soil Temperature at Different Depths in Different Fields 17

„ C5.—Surface wind 17

Note—For explanatory nots on the tables please refer to Volume number 1 (January 1975).

General Summary of Weather Conditions

MARCH 1977

Three cold waves during the first three weeks, the first of which gave rise to records for lowest maximum temp. Warm weather during the last week.

PRESSURE DISTRIBUTION

Five depressions passed through East Mediterranean on the 1*st*, q*th*, 14*th*, 19*th*, &27*th*.

Apart from these, high prssure over Europe extended over the Mediterranean & NE Africa.

The mean atmospheric pressure over Egypt was markedly above normal.

SURFACE WIND

Surface winds were generally light to moderate N-ly & NW-ly, changing to W-ly & Sw-ly during several days.

Fresh to strong winds were experienced in scattered places during some days.

TEMPERATURE

Three cold waves prevailed most of the first three weeks. The first wave was the coldest and gave rise to records for lowest maximum air temperatures at many places.

In the last week two warm spells were experienced.

Maximum and minimum air temperatures showed slight to moderate departures below normal during the cold waves, and above normal otherwise.

The highest and lowest maximum air temperatures reported were respectively 35.3°C at Aswan on the 24*th* and 11.5°C at Tanta on the 3*rd*.

The highest and lowest minimum air temperatures reported were respectively 19.9°C at Quseir on the 15th and 0.8°C at Fayoum on the 4*th*.

PRECIPITATION

Light to moderate rain fell during the cold waves over the north of the country.

The monthly rainfall amounts were generally above normal.

The maximum daily rainfall was 8.1 mm at Mersa Matruh on the 2*nd*.

The maximum monthly rainfall was 25.2mm at Mersa Matruh.

OTHER WEATHER PHENOMENA

Rising sand occurred during several days over scattered places.

Early morning mist developed in some days over scattered places in Delta, Cairo & Middle Egypt.

Cairo, April 1979

Chairman (M. S. ELDIN HARB)

Board of Directors

SURFACE DATA

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

MARCH — 1977

STATION	Atmospheric Pressure (mbs) M.S.L.		Air Temperature oC									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
Salum	1020.5	5.3	20.9	—0.5	10.6	— 0.6	15.7	15.3	— 0.5	10.8	— 0.8	57	0	—	—	—	5.6
Mersa Matruh (A)	1019.7	4.2	18.7	—1.6	10.3	— 0.2	14.5	14.5	— 0.5	10.1	— 1.4	59	— 4	274.6	371.8	74	5.5
Alexandria (A)	1019.5	3.8	20.6	—0.6	10.8	— 0.4	15.7	15.5	— 0.4	12.2	— 0.1	68	4	267.1	371.9	72	3.2
Port Said	1018.4	3.3	19.0	—1.3	13.2	— 0.3	16.1	15.8	— 0.7	13.2	0.0	74	6	273.3	371.9	73	4.9
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1018.9	3.5	21.5	—1.9	7.5	— 0.9	14.5	13.8	— 1.2	11.1	— 0.7	74	4	284.7	371.9	77	2.8
Cairo (A)	1019.2	4.0	22.8	—1.1	11.0	— 0.5	16.9	16.3	— 1.2	11.9	— 0.2	59	10	—	—	—	10.7
Fayoum	—	—	24.5	—1.1	8.6	— 1.6	16.5	16.4	— 1.3	12.3	0.3	62	15	—	—		5.8
Minya (A)	1018.2	2.9	24.8	—1.0	7.5	— 0.4	16.1	16.1	— 0.5	11.0	— 0.1	55	7	314.1	372.2	84	8.4
Assyout (A)	1019.6	3.8	23.4	—3.2	7.8	— 2.9	15.0	15.8	— 2.7	9.7	— 1.3	44	11	—		—	10.5
Luxor (A)	1016.3	2.8	28.3	—1.2	9.9	— 0.9	19.1	19.0	— 1.1	11.9	— 0.4	41	6	—	—	—	6.8
Aswan (A)	1016.0	2.7	28.2	—2.1	12.3	— 1.4	20.2	20.1	— 1.6	10.3	— 0.9	22	— 2	321.5	372.7	86	16.5
Siwa	1020.0	4.2	23.7	—1.3	7.5	— 1.2	15.6	15.7	— 1.0	9.9	— 0.5	47	2	317.7	372.2	85	9.7
Bahariya	1019.5	4.0	23.9	—1.6	8.5	— 0.6	16.2	16.3	— 0.8	10.1	— 0.4	45	— 1	—	—	—	7.9
Farafra	1021.4	4.9	24.3	—1.8	7.5	— 1.0	15.9	16.1	— 1.2	10.9	1.2	52	20	—	—	—	9.0
Dakhla	1020.1	4.7	25.2	—2.4	6.6	— 2.2	15.9	16.0	— 2.0	8.9	— 1.4	36	3	—	—	—	11.5
Kharga	1017.7	2.6	26.6	—2.1	10.9	0.0	18.7	19.2	— 0.3	11.5	0.6	41	10	326.3	372.4	88	10.5
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1016.2	2.7	23.5	—0.1	13.7	1.2	18.6	18.9	— 0.2	12.7	— 0.5	44	— 6	322.6	372.3	87	15.2
Quseir	1015.1	1.4	24.1	—0.5	16.4	0.1	20.2	20.2	— 0.3	14.0	— 0.2	46	— 3	—	—	—	9.2

Table A 2.--MAXIMUM AND MINIMUM AIR TEMPERATURES

MARCH— 1977

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	31.1	30	12.9	3	5	1	0	0	0	9.9	—	18.2	31	4.2	3	12	1	0	0
Mersa Matruh (A)	26.3	30	11.6	3	1	0	0	0	0	8.5	—	14.8	22	5.0	3	17	0	0	0
Alexandria (A)	26.3	31	13.4	3	2	0	0	0	0	9.8	—	15.8	25	6.7	3	11	0	0	0
Port Said (A)	28.5	27	12.0	3	1	0	0	0	0	12.5	—	17.5	25	7.6	3	4	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	27.2	29	11.5	3	8	0	0	0	0	—	—	12.8	26	4.0	13	25	3	0	0
Cairo (A)	28.8	31	13.8	3	9	0	0	0	0	—	—	15.4	27	5.6	4	8	0	0	0
Fayoum	31.6	24	15.5	3	13	2	0	0	0	6.7	—	13.8	25	0.8	4	21	4	0	0
Minya (A	32.2	31	16.4	3	14	2	0	0	0	4.5	—	11.0	23.25	1.2	4	26	5	0	0
Assyout (A)	33.2	31	14.5	3	11	1	0	0	0	5.9	—	13.2	25	2.5	4	26	4	0	0
Luxor (A)	35.0	24,31	18.5	4	23	11	0	0	0	4.7	—	15.8	28	4.0	5	16	2	0	0
Aswan (A)	35.3	24	17.8	4	25	10	2	0	0	—	—	19.7	24	5.6	5	7	0	0	0
Siwa	31.6	30	14.2	3	14	2	0	0	0	5.8	—	12.7	31	3.5	4,10	26	5	0	0
Bahariya	31.7	31	14.3	3	11	2	0	0	0	7.9	—	14.6	31	3.6	4	24	5	0	0
Farafra	31.3	31	15.9	2	15	2	0	0	0	5.8	—	13.2	31	2.5	4	27	7	0	0
Dakhla	35.2	31	16.9	3	15	4	1	0	0	6.5	—	11.5	8	—0.3	4	23	9	1	0
Kharga	35.2	31	17.8	4	21	6	1	0	0	8.7	—	26.8	31	3.5	5	12	1	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	28.0	27	17.6	4	6	0	0	0	0	—	—	18.4	26	8.0	5	3	0	0	0
Quseir	26.7	27	18.0	4	9	0	0	0	0	14.1	—	19.8	15	12.1	4	0	0	0	0

Table A 3. SKY COVER AND RAINFALL

MARCH — 1977

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	1.9	2.9	3.2	1.8	2.6	10.1	0.3	6.4	2	00	05	03	01	00	00	00
Mersa Matruh (A)	2.9	4.2	3.5	2.8	3.4	25.2	14.0	8.1	2	00	07	05	03	00	00	00
Alexandria (A)	2.9	3.9	4.9	3.2	3.6	18.4	6.0	6.8	3	02	07	04	02	00	00	00
Port Said (A)	1.2	2.3	2.4	2.2	2.0	14.9	6.2	5.5	18	00	06	04	01	00	00	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	0.4	1.6	3.7	0.9	1.9	22.3	16.1	7.8	17	00	05	05	02	00	00	00
Cairo (A)	1.8	2.0	2.8	2.0	2.2	4.1	1.7	1.8	16.17	00	04	02	00	00	00	00
Fayoum		1.5	1.7	0.8	—	3.4	2.9	1.7	16.17	00	02	02	00	00	00	00
Minya	0.3	0.9	1.6	0.8	0.9	Tr	—	Tr.	16	01	00	00	00	00	00	00
Assyout (A)	0.2	0.3	0.7	0.5	0.4	0.0	0.0	—	—	00	00	00	00	00	00	00
Luxor (A)	0.8	1.2	1.3	0.9	1.0	0.0	— 0.1	—	—	00	00	00	00	00	00	00
Aswan (A)	0.7	2.1	2.0	1.4	1.5	0.0	0.0	—	—	00	00	00	00	00	00	00
Siwa	0.1	0.8	2.0	0.8	0.8	0.4	0.2	0.2	0.2 1.16	00	01	00	00	00	00	00
Bahariya	0.5	0.9	1.4	0.7	0.8	Tr	—	Tr.	17	01	00	00	00	00	00	00
Farafra	—	0.7	0.7	0.1	—	0.0	0.1	—	—	00	00	00	00	00	00	00
Dakhla	0.2	0.7	1.0	0.4	0.5	0.0	0.0	—	—	00	00	00	00	00	00	00
Kharga	0.2	0.5	1.0	0.5	0.6	0.0	0.0	—	—	00	00	00	00	00	00	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.1	0.7	1.3	0.8	0.8	0.0	— 0.4	—	—	00	00	00	00	00	00	00
Quseir	0.5	1.2	1.3	0.8	0.9	0.0	— 0.3	—	—	00	00	00	00	00	00	00

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

MARCH — 1977

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											
Sallum	5	0	0	0	0	0	2	8	0	1	0	15	2
Mersa Matruh (A)	6	0	0	1	3	1	1	9	1	1	0	8	4
Alexandria (A)	6	0	0	1	5	1	0	0	0	0	0	7	3
Port Said (A)	4	0	0	1	1	0	0	1	0	0	0	20	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—
Gharza	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	5	0	0	0	9	0	0	0	0	0	0	20	0
Cairo (A)	4	0	0	0	8	4	4	3	0	0	0	13	0
Fayoum	2	0	0	0	0	0	0	0	0	0	0	20	1
Minya (A)	0	0	0	0	9	0	1	4	0	0	0	27	0
Assyout (A)	0	0	0	0	1	0	0	6	0	0	0	29	0
Luxor (A)	0	0	0	0	0	0	19	8	0	2	0	23	0
Aswan (A)	0	0	0	0	0	0	0	7	0	0	0	19	0
Siwa	2	0	0	0	0	0	0	1	0	0	0	27	0
Bahariya	0	0	0	1	0	0	0	2	0	0	0	25	0
Farafra	0	0	0	0	0	0	4	1	1	0	0	28	0
Dakhla	0	0	0	0	0	0	0	8	0	0	0	26	0
Kharga	0	0	0	0	0	0	0	6	0	0	0	26	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	0	7	0	0	0	27	0
Quseir	0	0	0	0	0	0	0	1	0	0	0	24	0

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

MARCH — 1977

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing Within 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	10	00	00	1—10	46	53	83	43	14	10	09	05	12	44	132	92	543
				11—27	04	01	26	00	01	02	00	00	03	21	70	63	191
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**50**	**54**	**109**	**43**	**15**	**12**	**09**	**05**	**15**	**65**	**202**	**155**	**734**
Mersa Matruh. . (A)	12	00	00	1—10	23	13	12	15	20	05	26	24	54	27	39	37	295
				11—27	19	39	05	23	18	00	05	16	43	51	121	97	437
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**42**	**52**	**17**	**38**	**38**	**05**	**31**	**40**	**97**	**78**	**160**	**134**	**732**
Alexandria . . . (A)	05	00	00	1—10	45	101	27	25	14	02	21	54	17	27	79	95	525
				11—27	09	20	02	00	00	00	01	13	19	51	70	28	213
				28—47	00	00	00	00	00	00	00	00	00	01	00	00	01
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**54**	**121**	**29**	**25**	**14**	**02**	**22**	**67**	**36**	**79**	**149**	**123**	**739**
Cairo . . . . . (A)	27	00	00	1—10	59	82	39	30	22	12	13	32	39	58	48	46	480
				11—27	49	41	06	04	00	02	11	24	32	36	18	14	237
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**108**	**123**	**45**	**34**	**22**	**14**	**24**	**56**	**71**	**94**	**66**	**60**	**717**
Fayoum	05	00	02	1—10	145	197	22	00	02	03	06	27	66	63	63	64	658
				11—27	02	49	11	00	00	00	00	00	10	04	02	01	79
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**147**	**246**	**33**	**00**	**02**	**03**	**06**	**27**	**76**	**67**	**65**	**65**	**735**
Minya . . . . . (A)	13	00	00	1—10	138	52	04	02	01	12	19	05	08	19	47	87	394
				11—27	254	12	00	00	00	00	00	00	05	06	31	29	337
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**392**	**64**	**04**	**02**	**01**	**12**	**19**	**05**	**13**	**25**	**78**	**116**	**731**
Assuit	00	00	00	1—10	89	49	06	00	00	00	00	01	18	24	41	91	322
				11—27	243	43	02	00	00	00	00	00	00	00	22	01	419
				28—47	00	00	00	00	00	00	00	00	00	00	00	30	03
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**332**	**92**	**08**	**00**	**00**	**00**	**00**	**04**	**18**	**24**	**63**	**203**	**744**
Luxor . . . . . (A)	25	00	00	1—10	46	64	15	17	11	29	71	77	42	52	99	103	706
				11—27	00	00	00	01	00	00	00	00	00	00	03	9	13
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**46**	**64**	**15**	**18**	**11**	**29**	**71**	**77**	**42**	**52**	**102**	**192**	**719**

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

MARCH — 1977

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing within 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
Aswan . (A) . . .	00	01	00	1-10	199	39	01	00	01	01	00	00	02	07	33	94	377
				11-27	225	30	00	00	00	00	00	00	00	01	24	86	336
				28-47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**424**	**69**	**01**	**00**	**01**	**01**	**00**	**00**	**02**	**08**	**57**	180	**743**
Siwa	65	00	00	1-10	21	50	47	48	39	30	16	08	27	111	69	51	517
				11-27	04	22	09	02	11	03	00	00	00	09	57	44	161
				28-47	00	00	00	00	00	00	00	00	00	00	00	01	01
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**25**	**72**	**56**	**05**	**50**	**33**	**16**	**08**	**27**	**120**	**126**	96	679
Dakhla	10	03	00	1-10	78	33	13	15	06	01	07	22	42	77	123	154	571
				11-27	61	04	00	00	00	00	00	00	00	01	70	87	160
				28-47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**139**	**37**	**13**	**15**	**06**	**01**	**07**	**22**	**42**	**78**	**130**	241	731
Kharga	00	03	00	1-10	210	77	06	09	05	03	01	02	02	05	49	122	491
				11-27	179	18	00	00	00	00	00	00	00	00	09	44	250
				28-47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**389**	**95**	**06**	**09**	**05**	**03**	**01**	**02**	**02**	**05**	**58**	166	741
Hurghada	01	00	00	1-10	21	16	01	01	00	11	00	01	00	67	66	21	205
				11-27	28	00	00	00	00	00	00	00	00	101	250	156	535
				28-47	00	00	00	00	00	00	00	00	00	00	03	00	03
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**94**	**16**	**01**	**01**	**00**	**11**	**00**	**01**	**00**	**168**	**319**	177	743
Quseir	00	00	00	1-10	103	37	08	01	03	06	03	04	09	60	191	93	518
				11-27	92	00	00	00	00	00	00	00	00	07	20	107	226
				28-47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**195**	**37**	**08**	**01**	**03**	**06**	**03**	**04**	**09**	**67**	**211**	200	744

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

MARCH — 1977

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 (A) 0000 U.T.	Surface	29	1017mb.*	1024mb.*	1008mb.*	29	12.7	17.2	8.2	29	7.8
	1000	29	169	227	96	29	12.3	17.0	7.5	29	7.8
	850	29	1518	1569	1451	29	5.7	16.2	— 3.3	29	— 5.3
	700	29	3089	3200	2973	29	— 2.6	5.6	—13.7	29	—16.2
	600	28	4292	4429	4130	28	—10.2	— 2.5	—23.7	28	—23.6
	500	28	5672	5826	5434	28	—19.6	—12.6	—33.7	28	—32.4
	400	28	7294	7488	6974	28	—31.1	—24.7	—42.3	28	—42.7
	300	27	9275	9518	8914	27	—44.9	—38.9	—50.7	27	—54.7
	250	27	10476	10742	10166	27	—51.1	—41.7	—60.1	26	—60.0
	200	27	11918	12182	11608	27	—53.8	—45.9	—63.3	22	—62.2
	150	24	13754	13988	13488	24	—56.6	—51.5	—62.7	15	—66.4
	100	22	16280	16490	16054	22	—64.3	—59.7	—71.7	—	—
	70	18	18461	18661	18258	18	—64.4	—60.1	—71.7	—	—
	60	11	19455	19630	19280	11	—61.9	—53.6	—67.3	—	—
	50	9	20557	20731	20435	9	—61.5	—59.0	—66.3	—	—
	40	6	22055	22180	21920	6	—59.3	—55.3	—64.8	—	—
	30	6	23794	23934	23658	6	—57.3	—53.9	—59.8	—	—
	20	3	26345	26423	26289	3	—53.2*	—50.9	—57.1	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	31	1002m.b.*	1009 m.b.*	995m.b.*	31	12.5	17.1	4.0	31	7.3
	1000	30	159	214	96	20	11.8	17.6	3.8	19	— 6.4
	850	30	1510	1568	1455	29	6.6	15.5	— 3.1	29	— 4.1
	700	30	3083	3208	2973	30	— 0.7	7.0	—12.3	30	—16.0
	600	30	4302	4453	4144	30	— 7.8	0.5	—17.8	30	—23.5
	500	30	5695	5885	5488	29	—18.0	—10.5	—29.7	29	—31.3
	400	30	7329	7550	7055	29	—29.3	—23.9	—38.8	29	—41.3
	300	30	9333	9589	9005	30	—42.4	—38.8	—48.0	30	—52.9
	250	30	10548	10814	10293	30	—48.7	—42.3	—54.5	30	—58.3
	200	28	11997	12263	11643	28	—52.4	—46.5	—59.1	28	—61.6
	150	26	13849	14083	13474	26	—56.6	—51.7	—64.7	22	—65.1
	100	24	16392	16551	16000	24	—63.5	—58.2	—69.7	3	—69.3
	70	17	18553	18756	18169	17	—66.4	—63.3	—71.8	—	—
	60	11	19489	19700	19140	11	—65.4	—62.3	—67.9	—	—
	50	11	20574	20782	20259	11	—63.2	—60.3	—65.3	—	—
	40	6	22020	22130	21950	6	—61.0	—59.4	—62.8	—	—
	30	6	23733	23824	22680	6	—61.7	—58.0	—67.1	—	—
	20	4	26242	26348	26151	4	—58.4	—57.7	—95.4	—	—
	10	—	—	—	—	—	—	—	—	—	—
aswan 0000 U.T.	Surface	31	994m.b.*	1005m.b.*	987m.b.*	31	15.1	22.0	7.8	31	— 1.4
	1000	31	145	234	70	4	10.6	15.2	7.9	4	— 1.9
	850	31	1521	1573	1484	31	12.6	18.7	2.2	31	— 7.2
	700	31	3132	3186	3084	31	4.9	8.5	1.3	31	—15.9
	600	31	4374	4423	4320	31	— 2.5	0.8	— 6.1	31	—15.3
	500	31	5795	5858	5726	31	—11.9	— 1.7	—22.0	31	—30.0
	400	31	7334	7539	7382	31	—23.4	—19.6	—27.4	30	—37.6
	300	31	9505	9588	9247	31	—36.3	—30.6	—43.2	29	—46.7
	250	30	10752	10832	10606	29	—46.7	—39.1	—50.5	28	—55.7
	200	27	12207	12292	12063	27	—55.3	—50.7	—59.6	27	—63.9
	150	24	14010	14097	13907	24	—63.3	—59.1	—72.4	3	—66.0
	100	18	16467	16535	16408	18	—70.9	—69.0	—74.3	—	—
	70	10	18586	18651	18518	10	—70.8	—69.0	—75.2	—	—
	60	4	19512	19560	19470	4	—67.5	—65.8	—69.0	—	—
	50	4	20605	20657	20565	4	—63.9	—61.4	—67.7	—	—
	40	2	22040	22080	22000	2	—59.4	—57.3	—61.5	—	—
	30	2	23733	23789	23678	2	—58.6	—57.8	—59.3	—	—
	20	1	26245	—	—	1	—53.9	—	—	—	—
	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 B1. MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES.

MARCH — 1977

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	1017*mb.	1024*mb	1010*mb.	31	17.5	23.0	10.5	31	90.5
	1000	31	172	236	114	31	16.1	22.0	09.2	31	07.7
	850	31	1530	1596	1464	31	07.1	18.8	01.1	31	05.5
	700	31	3107	3187	3005	31	—.07	08.7	12.1	31	—16.8
	600	31	4323	4437	4171	31	—8.2	01.2	—18.9	31	—24.6
	500	31	5714	5861	5531	31	—17.6	—12.4	—26.1	31	—32.7
	400	31	7347	7529	7131	31	—29.7	—22.9	—39.7	31	—43.2
	300	30	9333	9476	9096	30	—43.3	—38.4	—48.3	30	—55.4
	250	30	10546	10688	10351	30	—49.4	—42.3	—54.7	30	—60.9
	200	30	11999	12148	11766	30	—51.8	—40.5	—58.7	27	—62.8
	150	27	13860	14081	13656	27	—54.9	—45.4	—62.9	22	—65.6
	100	24	16427	16751	16265	24	—61.4	—51.3	—69.3	—	—
	70	22	18620	19061	18393	21	—63.4	—53.4	—68.1	—	—
	60	18	19562	19740	19400	18	—61.7	—51.9	—66.1	—	—
	50	18	20706	21242	20577	18	—59.0	—50.1	—66.7	—	—
	40	10	22183	22760	21980	10	—54.3	—47.9	—58.3	—	—
	30	8	24015	24622	23807	8	—49.7	—45.3	—55.3	—	—
	20	5	26734	27352	26467	5	—46.2	—42.0	—47.1	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface	31	1001*mb.	1008*mb.	993*mb.	31	21.3	27.8	10.9	31	04.0
	1000	29	151	210	080	17	19.5	27.2	10.9	17	02.8
	850	29	1526	1577	1470	29	09.1	18.3	01.0	28	03.6
	700	29	3114	3183	3000	29	01.8	09.6	10.6	29	—16.8
	600	29	4343	4449	4189	29	05.2	0.5	—14.7	29	—24.1
	500	28	5747	5901	5534	28	—14.7	—6.9	—23.1	27	—31.9
	400	28	7401	7603	7180	28	—26.1	—19.4	—30.0	28	—39.3
	300	28	9427	9677	9128	28	—	—35.3	—44.5	28	—52.1
	250	28	10655	10921	10371	28	—39.6	—37.7	—50.1	28	—57.6
	200	27	12135	12401	11882	27	—45.8	—42.7	—57.6	26	—60.6
	150	25	14016	14262	13773	25	—49.1	—46.2	—56.0	25	—63.0
	100	24	16618	16892	16393	24	—51.6	—49.1	—62.1	8	—67.5
	70	19	18885	19152	18684	19	—56.4	—47.0	—65.1	—	—
	60	17	19914	20180	19690	17	—56.7	—41.5	—61.6	—	—
	50	17	21045	21333	20812	17	—54.3	—35.2	—57.7	—	—
	40	11	22570	22870	22360	11	—51.4	—41.8	—51.7	—	—
	30	11	24389	24655	24141	11	—47.8	—34.8	—45.6	—	—
	20	6	27088	27406	26892	6	—41.5	—33.1	—38.9	—	—
	10	—	—	—	—	—	—36.5	—	—	—	—
Aswan (A) 1200 U.T.	Surface . .	30	994*m.b.	1004*m.b.	987m.b.	30	27.4	34.0	17.8	30	—0.8
	1000 . .	30	142	227	76	3	21.7	26.0	17.4	3	1.8
	850 . .	30	1542	1586	1507	30	14.4	29.3	5.2	30	—10.7
	700 . .	30	3160	3199	3122	30	6.7	10.8	—0.6	30	—17.6
	600 . .	30	4410	4456	4358	30	—0.9	3.3	—4.4	30	—23.5
	500 . .	30	5841	5897	5767	30	—10.4	—7.7	—15.3	30	—30.3
	400 . .	30	7522	7594	7414	30	—21.8	—17.6	—28.1	30	—39.3
	300 . .	27	9583	9670	9440	27	—35.4	—29.4	—42.0	26	—51.8
	250 . .	27	10830	10946	10681	27	—42.1	—40.0	—49.0	26	—57.1
	200 . .	24	12294	12419	12135	24	—53.5	—47.5	—57.6	23	—66.5
	150 . .	22	14122	14229	13958	22	—61.0	—55.7	—66.8	5	—71.2
	100 . .	16	16597	16693	16444	16	—69.0	—65.0	—73.5	—	—
	70 . .	8	18706	18798	18611	8	—72.6	—68.5	—80.3	—	—
	60 . .	2	19660	19710	19610	2	—66.9	—65.8	—68.0	—	—
	50 . .	2	20724	20758	20690	2	—62.0	—61.7	—62.3	—	—
	40 . .	1	22270	—	—	1	—53.8	—	—	—	—
	30 . .	1	24040	—	—	1	—47.9	—	—	—	—
	20 . .	1	26743	—	—	1	—45.8	—	—	—	—
	10 . .			—	—	—	—	—	—	—	—

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

* The atmospheric pressure corrected to the elevaion 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

March — 1977

	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.	2573 (29)	751 (29)	—12.4 (29)	4000	632	—26.9	970	902	—1.7	10848 (24)	240 (24)	—54.7 (24)	15680	109	—65.6	8140	340	—50.7	11260	228	265	75
	Helwan . . .	2868 (30)	725 (30)	—13.0 (30)	4500	596	—22.1	1020	902	—0.3	11796 (27)	218 (27)	—54.5 (27)	18330	73	—69.7	7270	390	—37.2	11560	208	185	142
	Aswan	3901 (31)	637 (31)	—19.7 (31)	4480	593	—22.0	2710	736	—21.4	15368 (9)	120 (9)	—69.3 (9)	16930	93	—72.3	13680	156	—63.0	11650	220	285	145
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh.	2884 (31)	724 (31)	—14.3 (31)	4250	613	—23.5	1300	867	—11.3	10720 (28)	243 (28)	—52.6 (28)	13500	160	—64.2	8940	308	—45.5	11360	218	265	98
	Helwan . .	3354 (28)	685 (28)	—17.8 (28)	4960	565	—21.4	1150	887	—2.2	10725 (24)	246 (24)	—47.8 (24)	13410	172	—53.8	9820	283	—42.9	11790	226	240	128
	Aswan . . .	4213 (30)	615 (30)	—22.8 (30)	4960	564	—29.9	2930	718	—15.9	15212 (7)	132 (7)	—65.8 (7)	18550	73	—74.5	12320	199	—57.8	11090	251	250	145

N — The number of cases the element 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 MARSA MATRAH (A) MARCH — 1977

Time	Pressure Surface Millibar	Wind between rangoe of direct on (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	2	15	1	12	0	—	2	6	1	10	1	8	0	—	2	10	8	12	3	10	5	13	2	14	2	29	10
	1000	1	21	1	21	0	—	3	10	1	20	0	—	0	—	2	13	4	23	8	24	6	21	2	12	0	28	20
	850	3	14	1	27	0	—	0	—	0	—	0	—	2	20	2	20	3	18	7	24	7	27	3	21	0	28	22
	700	0	—	3	5	0	—	0	—	0	—	0	—	0	—	1	39	4	29	11	22	8	25	1	35	0	28	23
	600	1	30	0	—	1	36	0	—	2	4	0	—	0	—	1	66	3	45	11	23	6	20	2	16	0	27	25
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	8	6	32	10	26	5	27	2	12	0	24	26
	400	1	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	48	4	28	4	22	1	25	0	11	26
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	35	1	19	1	41	1	46	0	8	35
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	41	4	50	0	—	0	—	0	5	47
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	30	0	—	0	—	0	—	0	1	30
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	52	0	—	—	—	0	—	0	1	52
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	3	12	4	11	1	10	2	14	0	—	0	—	0	—	1	07	1	20	3	19	6	19	10	16	0	31	15
	1000	2	23	1	19	1	08	2	17	0	—	0	—	0	—	0	—	2	18	4	33	10	28	8	19	0	30	24
	850	1	10	2	12	2	12	1	14	1	11	0	—	1	18	1	15	6	14	6	24	8	18	2	16	0	31	17
	700	2	10	3	10	1	31	1	10	0	—	0	—	0	—	0	—	3	28	11	25	7	19	2	35	0	30	22
	600	1	25	0	—	2	08	0	—	1	03	0	—	0	—	0	—	4	26	13	27	6	28	2	23	0	29	25
	500	1	11	0	—	0	—	0	—	0	—	0	—	1	01	1	11	6	45	8	36	8	23	0	—	0	25	28
	400	0	—	1	—	0	—	0	—	0	—	0	—	0	—	2	12	6	38	3	25	2	28	0	—	0	14	28
	300	0	—	0	—	1	08	0	—	0	—	0	—	0	—	2	28	1	26	5	34	1	39	0	—	0	10	31
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	20	3	56	4	55	0	—	0	—	0	9	49
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	29	3	55	3	64	0	—	0	—	0	7	55
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	43	2	48	0	—	0	—	0	—	0	3	46
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	37	0	—	0	—	0	—	0	1	37
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	25	0	—	0	—	0	—	0	1	25
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

THE NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

ASWAN MARCH 1977

	Pressure Surface (Millibar)	Wind within 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			
0000UT	Surface	5	6	8	10	2	5	4	9	0	—	2	4	0	—	0	—	0	—	0	—	0	—	7	5	3	31	6
	1000	2	12	7	13	2	6	2	12	0	—	1	10	—	—	—	—	—	—	—	—	—	—	5	7	1	20	10
	850	1	18	6	14	0	13	2	12	0	—	1	5	0	—	1	12	2	21	8	20	6	13	3	13	0	30	15
	700	2	10	1	6	0	05	1	6	0	—	0	—	0	—	2	22	4	24	9	23	7	26	3	18	0	29	21
	600	0	—	—	—	0	—	0	—	0	—	1	4	0	—	5	28	9	32	9	27	4	24	1	35	0	29	28
	500	0	—	—	—	0	—	0	—	0	—	0	—	2	28	5	37	6	43	9	34	3	32	3	31	0	28	36
	400	0	—	—	—	0	—	0	—	0	—	0	—	1	52	3	55	12	44	6	41	2	40	1	67	0	26	46
	300	0	—	—	—	0	—	0	—	0	—	0	—	0	—	2	20	10	60	9	57	1	78	0	—	0	23	56
	250	0	—	—	—	0	—	0	—	0	—	0	—	0	—	1	38	13	55	6	76	0	78	0	—	0	21	66
	200	0	—	—	—	0	—	0	—	0	—	0	—	0	—	2	27	9	69	2	68	0	—	0	—	0	13	70
	150	0	—	—	—	0	—	0	—	0	—	0	—	0	—	1	31	8	71	1	—	0	—	0	—	0	10	67
	100	0	—	—	—	0	—	0	—	0	—	0	—	0	—	0	—	4	76	0	—	0	—	0	—	0	4	76
	70	0	—	—	—	0	—	0	—	0	—	0	—	0	—	0	—	1	90	0	—	0	—	0	—	0	1	90
	60	0	—	—	—	0	—	0	—	0	—	0	—	0	—	0	—	1	64	0	—	0	—	0	—	0	1	64
	50	0	—	—	—	0	—	0	—	0	—	0	—	0	—	0	—	1	59	0	—	0	—	0	—	0	1	59
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200UT	Surface	6	13	2	10	1	18	0	—	1	04	0	—	1	60	0	—	3	11	9	09	1	16	7	11	0	31	11
	1000	4	12	2	11	1	18	0	—	0	—	0	—	0	—	1	80	1	12	4	10	1	15	4	12	0	18	12
	850	2	12	3	18	1	09	0	—	1	16	1	10	0	—	1	23	4	18	7	14	3	06	6	18	0	29	15
	700	2	11	1	31	0	—	1	07	1	08	0	—	0	—	0	—	6	24	8	22	7	23	3	13	0	29	20
	600	0	—	1	13	0	—	0	—	0	—	1	10	0	—	2	36	6	30	11	26	5	28	2	19	0	28	27
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	35	10	38	12	32	3	28	0	—	0	28	34
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	22	2	59	10	46	10	39	3	66	1	13	0	27	48
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	53	9	61	8	59	3	76	0	—	0	21	60
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	11	42	4	66	1	31	1	28	0	17	63
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	9	60	3	70	1	—	0	—	0	12	61
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	65	1	99	0	—	0	—	0	9	68
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	65	4	56	0	—	0	—	0	5	44
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	84	0	—	0	—	0	—	0	1	84
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	100	0	—	0	—	0	—	0	100	100
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N=The number of cases the wind has been observed within 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. NUMBER OF OCCURRENCES F WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

HELWAN (A) - MARCH 1977

Time	Pressure Surface (Millibars)	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 G.M.T.	Surface	22	13	3	11	1	14	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	10	4	13	0	31	12
	1000	3	12	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	20	0	4	14
	850	5	13	10	17	7	13	0	—	0	—	0	—	0	—	0	—	1	12	2	6	3	14	3	22	0	31	15
	700	2	12	3	14	0	—	1	11	0	—	0	—	0	—	2	29	3	19	12	20	7	18	1	12	0	31	18
	600	1	27	0	—	0	—	0	—	1	17	0	—	0	—	2	31	6	41	16	27	4	26	1	21	0	31	29
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	16	10	47	17	33	1	40	1	31	0	31	37
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	14	59	14	57	2	38	1	34	0	31	57
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	14	87	14	86	1	91	0	—	0	29	77
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	12	96	15	100	1	100	0	—	0	28	98
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	96	11	91	0	—	0	—	0	18	96
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	68	9	64	0	—	0	—	0	13	66
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	39	5	42	1	37	0	—	0	7	40
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	16	0	—	1	50	0	—	0	—	0	2	33
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	18	0	—	0	—	0	—	0	—	0	1	18
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 G.M.T.	Surface	20	12	1	20	1	10	0	—	0	—	0	—	0	—	0	—	0	—	1	6	0	—	7	14	0	30	12
	1000	2	12	1	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	15
	850	3	11	9	13	2	14	1	14	1	7	0	—	0	—	0	—	0	—	2	12	4	15	8	16	0	30	11
	700	1	17	2	16	1	8	0	—	0	—	1	9	0	—	1	12	7	27	7	17	5	13	5	11	0	30	17
	600	2	24	0	—	1	16	0	—	0	—	0	—	1	21	1	16	8	39	13	28	4	17	0	—	0	30	28
	500	1	25	0	—	0	—	0	—	0	—	0	—	0	—	1	14	16	43	10	33	1	13	1	25	0	30	37
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	34	13	69	13	55	2	38	1	—	0	29	60
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	83	14	88	9	78	2	89	1	73	0	27	84
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	85	11	97	13	90	1	124	0	92	0	27	94
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	93	12	97	1	110	0	100	0	21	96
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	70	10	63	1	66	0	—	0	14	65
	100	0	—	0	—	0	—	0	—	0	—	0	—	1	30	0	—	1	10	2	24	0	—	0	—	0	4	22
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	16	0	—	0	—	0	2	16
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	13	0	—	0	1	13
	50	0	—	0	—	0	—	0	—	0	—	1	11	0	—	0	—	0	—	0	—	0	—	0	—	0	1	11
	40	0	—	0	—	0	—	0	—	1	5	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	5
	30	0	—	0	—	0	—	0	—	0	—	1	22	0	—	0	—	0	—	0	—	0	—	0	—	0	1	22
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

(ff) The total number of cases the wind has been observed for all directions during the month.

REVIEW OF AGRO-METEOROLOGICAL STATIONS

MERSA MATRUH — MARCH 1977

The mean daily air temperature and relative humidity were slightly below normal. The total monthly rainfall was 25.2 mm 13.5 mm. above normal).

Three cold waves previaled most days of the month. The first wave gave rise to both the lowest maximum temprature (11.6°C) and the lowest minimum temperature (5.0°C) on the 3rd. The month was intervened by three light warm spells on the (13th), (26th) & (29th-31st). The last spell gave rise to the highest maximum temperature (26.3°C) on the 30th.

The mean daily actual sunshine duration was higher than average by 1.0 hour. The mean daily wind speed at 1.5 met. height was nearly the same as average.

The highest maximum soil temperatures were lower than March 1976 at depths between 2 & 20 cm. higher at 50 & 100 cm. depths ; the departures varied between 0.1° & 0.4°C. The lowest minimum soil temperatures were lower than March 1976 at depths between 2, 50 cm. with departures between 0.1°C (at 5 cm.) and 1.2°C (at 20 cm.).

TAHRIR — MARCH 1977

The mean daily air temperature was below normal and the mean daily relative humidity was above normal. The total monthly rainfall was 11.5 mm. (8.7 mm. above normal).

Three cold waves prevailed most of the first three weeks. The first wave gaves rise to the lowest maximum temperature (12.2°C) on the 3rd. The second wave gave rise to the lowest minimum temperature (4.0°C) on the 10th.

During the last week two warm spells were experienced. The first spell gave rise to both the highest maximum temperature (28.8°C) on the 26th and the highest minimum temperature (13.6°C) on the 25th.

The mean daily actual sunshine duration was higher than normal by 0.7 hour. The mean daily wind speed at 1.5 met. height and pan evaporation were lower than normal by 0.3 met sec. and 1.90 mm. respectively.

The highest maximum soil temperatures were lower than normal at 2 & 5 cm. depths by 3.5° & 1.3°C respectively ; higher than normal at depths between 10 & 100 cm. with departures between 1.3° & 0.5°C. The lowest minimum soil temperature were lower than normal at depths between 2 & 50 cm. with departures between 3.1°C (at 2cm.) & 0.1°C (at 50 cm.) ; the same as normal at 100 cm. depth.

BAHTIM — MARCH 1977

The mean daily air temperature was lower than average, and the mean daily relative humidity was higher than average. The total monthly rainfall was 2.3 mm. (0.5 mm. lower than average.).

Three cold waves prevailed most of the first three weeks. The first wave gave rise to the lowest maximum temperature (12.6°C) on the 3rd. Minimum air temperature at 5 cm. above the grass field fell below 0°C on the 10th, 11th, 12th &20th ; its values in these days ranged between —0.2°C & —0.8°C.

Two warm spells occurred during the last week. The first spell gave rise to the highest maximum temperature (27.5°C) on the 24th.

The mean daily actual sunshine duration was higher than average by 0.9 hour. The mean daily wind speed at 1.5 met. height and pan evaporation were slightly lower than average.

The highest maximum soil temperatures were higher than average at depths between 2 & 50 cm. with departures between 3.5°C (at 2 cm.) & 0.5°C (at 50 cm.) ; lower than average at 100 cm. by 0.2°C. The lowest minimum soil temperatures were lower than average at depths between 2 &20 cm. with departures 2.1°C (at 2 cm) & 0.8°C at 20 cm) ; the same as average at 50 cm. and lower than) average at 100 cm. by 0.1°C.

ASSYOUT — MARCH 1977

The mean maximum temperature was 26.0°C and the mean minimum temperature was 7.5°C the mean daily relative humidity was 61%.

Three cold waves prevailed most of the first three weeks. The first wave gave rise to the lowest temperature (35.2°C) and the highest minim minimum temperature (16.8°C) on the 31st.
maximum temperature (15.6°C) on the 3rd. Minimum air temperature at 5 cm. above soil fell below 0°C on the 3rd, 4th, 5th & 10th ; its values in these days ranied between —1.1°C & —4.3°C.

The month was intervenes by five light warm spells on the (7th), (14th), (22nd - 24th), (27th) & (29th-31st). The last spell gave rise to the highest maximum temperature (35.4°C) on the 31st.

KHARGA — MARCH 1977

The mean daily air temperature was below average and the mean daily relative humidity was above average.

Three cold waves prevailed during the first three weeks. The first wave gave rise to the lowest Maximum temperature (17.8°C) on the 4th and the lowest minimum temperature (3.5°C) on the 5th.

Three light warm spells occurred during the last week. The last spell gave rise to the highest maxi-

The mean daily actual sunshine duration was the same as average. The mean daily wind speed at 1.5 met. height and pan evaporation were slightly lower than average

The highest maximum soil temperatures were higher than average at depths between 2 & 20 cm. With departures between 1.8°C & 0.4°C; lower than average by 0.7°C at 50 cm.; the same as average at 100 cm. The lowest minimum soil temperature were lower than average at depths between 2 & 20 cm. With departures between 2.0°C & 3.6°C; the same as average at 50 cm.; higher than average at 50 cm.; higher than average at 100 cm. by 1.0°C.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND
MARCH — 1977

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 . .	18.7	10.3	14.5	12.6	1.63	24.0	24.0	24.0	21.1	10.3	1.3	0.1	0.0	0.0	0.0	0.0
Tahri	23.2	8.1	14.8	11.3	18.3	24.0	24.0	23.8	18.7	10.5	4.6	0.8	0.0	0.0	0.0	0.0
Bahtim	22.1	7.1	14.4	10.5	18.3	24.0	24.0	23.7	17.8	10.0	4.3	0.8	0.0	0.0	0.0	0.0
Asuit	26.0	7.5	15.8	11.4	20.1	24.0	24.0	23.6	18.7	11.4	5.9	2.3	0.3	0.0	0.0	0.0
Kharga	26.0	10.9	19.3	16.1	22.4	24.0	24.0	24.0	22.7	18.0	10.2	4.0	0.8	0.0	0.0	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
MARCH — 1977

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 . . .	26.3	30	11.6	3	14.8	22	5.0	3	4.0	3,21	—	—
Tahrir	28.8	26	12.2	3	13.6	25	4.0	10	1.2	10	0.0	10
Bahtim	27.5	24	12.6	3	11.8	26	4.0	11,13	0.6	11	—0.8	11
Asuit	35.4	31	15.6	3	12.3	15	2.0	4	—4.3	4	—	—
Kharga	35.2	31	17.8	4	16.8	31	3.5	5	0.3	5	—	—

Table C 3.—(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL
MARCH — 1977

STATION	(Solar+Sky) Radiation g.n. cal/cm²	Duration of Bright Sunshine (hour.)			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
Mersa Matruh	403.0	275.8	371.4	74	59	49	25	17,30	7.3	7.5	14.1	8	3.2	17	5.5	—	25.2	8.1	2
Tahrir. . .	473.3	289.0	371.7	78	69	46	25	27	8.5	8.4	13.2	24	4.4	12	4.3	5.32	11.5	6.4	16
Bahtim . .	491.7	285.4	371.9	77	69	44	19	27	8.2	8.3	13.3	24	4.6	4	5.1	5.58	2.3	1.0	3
Asuit . . .	—	331.2	372.3	89	61	38	12	30	7.9	8.3	13.7	25	4.0	5	5.0	5.45	0.0	0.0	—
Kharga .	479.1	325.9	372.7	87	41	29	13	27	6.6	7.1	10.3	15,22	3.2	3	10.5	11.04	0.0	0.0	—

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

MARCH 1977

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	29.6	28.1	24.4	20.8	19.0	18.8	20.5	—	—	—	—	—	—	—	—	—
	L	7.2	7.7	9.0	11.8	14.4	17.5	19.6	—	—	—	—	—	—	—	—	—
Tahrir . . .	H	36.9	33.0	30.8	25.6	22.3	20.9	20.8	21.3	26.3	24.4	23.9	20.9	20.2	19.4	19.0	—
	L	7.6	7.9	9.6	13.5	16.7	18.2	19.9	21.1	10.1	10.6	10.4	12.9	15.0	16.2	18.0	—
Bahtim . . .	H	44.4	35.4	28.2	23.6	21.6	20.6	21.3	22.2	30.4	26.2	23.9	20.8	19.2	18.4	18.9	—
	L	8.5	9.9	13.0	16.5	18.8	19.3	21.2	21.8	7.4	9.7	11.3	13.9	16.0	17.2	18.8	—
Asuit.	H	50.7	38.3	31.3	25.7	22.7	21.8	21.5	22.9	—	—	—	—	—	—	—	—
	L	9.2	11.5	13.2	17.8	20.2	20.5	21.3	22.6	—	—	—	—	—	—	—	—
Kharga . . .	L	47.6	40.7	34.1	28.4	25.0	24.7	25.5	27.2	—	—	—	—	—	—	—	—
	H	5.8	8.4	11.7	17.0	22.3	24.0	25.2	26.8	—	—	—	—	—	—	—	—

TABLE C 5.—SURFACE WIND

MARCH 1977

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	4.3	3.3	5.2	31	28	15	10	5	1	1	48	3
Tahrir . . .	2.4	1.5	3.3	31	25	5	5	0	0	0	35	18
Bahtim . . .	2.4	1.5	4.4	30	24	2	2	0	0	0	34	3
Asuit. . . .	—	—	—	—	—	—	—	—	—	—	—	—
Kharga . . .	3.2	2.1	4.3	31	31	11	2	0	0	0	32	15

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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 ~~18~~ 20 NUMBER 4

APRIL, 1977

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THE EGYPTIAN METEOROLOGICAL AUTHORITY

CAIRO

CONTENTS

PAGE

General Summary of Weather Conditions 1

SURFACE DATA

Table A1.—Monthly values of the Atmospheric Pressure, Air Temperature, Relative Humidity, Bright Sunshine Duration, and Piche Evaporation 2

" A2.—Maximum and Minimum Air Temperatures 3

" A3.—Sky Cover and Rainfall 4

" A4.—Number of Days of Occurrence of Miscellaneous Weather Phenomena . . . 5

" A5.—Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded Within Specified Ranges 6,7

UPPER AIR DATA

Table B1—Monthly Means and Monthly Absolute Highest & Lowest Values of Altitude, Air Temperature & Dew point at Standard and Selected Pressure Surfaces. 8,9

" B2.—Mean and Extreme values of The Freezing Level and The Tropopause. The Highest Wind Speed in The Upper Air 10

" B3.—Number of Occurrences of Wind Direction within Specified Ranges and The Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces. 11-13

AGRO-METEOROLOGICAL DATA

Reviews of Agro-meteorological Stations 14,15

Table C1.—Air Temperature at 1½ metres above Ground 16

" C2.—Extreme Values of Air Temperature at 1½ metres above Ground, Absolute Minimum Air Temperature at 5 Cms Above Ground over Different Fields 15

" C3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity and Vapour Pressure at 1½ Metres Above Ground, Evaporation and Rainfall. . . 16

" C4.—Extreme Soil Temperature at Different Depths in Different Fields 17

" C5.—Surface wind 17

Note—For explanatory nots on the tables please refer to Volume number 1 (January 1975).

GENERAL SUMMARY OF WEATHER CONDITIONS

APRIL 1977

Changeable weather. Three variant khamsin heat waves,

PRESSURE DISTRIBUTION

The East Mediterranean area was mainly characterized by the transit of three desert Khamsin depressions on the *4th*, 11th & *22nd* and two Mediterranean depressions on the *17th* & *27th*.

Mean atmospheric pressure over Egypt during the month was mainly below normal except in the for south and some places in the west where it was slightly above normal.

SURFACE WIND

Light to moderate NE to NW wind prevailed most of the month. During the Khamsin waves, winds were generally SW-ly &W-ly, fresh to strong at times.

TEMPERATURE

The month was intervened by three Khamsin heat waves of short to moderate duration and light to moderate intensity ; their peak round the *2nd*, *11th* & *21st*. The second wave : was the most intense in the north ; and the last wave was the most intense in the south.

A part from these, weather was mild and maximum air temperatures moderately below normal.

Minimum air temperature variations were generally parallel to maximum temperature variations and their departures from normal were slight to moderate.

The highest and lowest maximum temperaltures were respectively 43.0°C at Kharga on the 11th and 17.0°C at Mersa Matruh on the 14th.

The highest and lowest minimum temperatures were respectively 23.4°C at Aswan on the *12th* and 2.8°C at Dakhla on the *15th*.

PRECIPITATION

Light to moderate rain fell over scattered places in the north during several days after the break down of heat waves.

The monthly rainfall amounts departed slightly from normal.

The maximum daily and monthly rainfall amounts were respectively 6.6 mm at Salhm on the *13th* and 11.4mm at Port-Said.

OTHER WEATHER PHENOMENA

Scattered rising sand and few sandstorms were reported during several days in assoc-iation with Khamsin heat waves.

Early morning mist developed during few days over Delta, Canal & Cairo.

Cairo, March 1979

Chairman (M. S. EL DIN HARB)

Board of Directors.

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

APRIL — 1977

STATION	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Pich 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	1012.3	—1.8	24.4	0.7	13.4	—0.2	18.9	18.4	0.3	12.7	—1.0	51	—8	—	—	—	7.5
Sidi Barrani (A)	1012.4	—2.0	22.2	—0.4	12.6	0.5	17.4	17.4	0.1	12.6	—0.9	60	—4	257.2	388.4	66	8.5
Alexandria (A)	1012.4	—2.2	24.7	0.7	14.0	0.5	19.3	18.7	0.3	14.1	—0.5	59	—6	273.6	388.4	70	4.8
Port Said (A)	1012.0	—1.8	22.7	0.1	15.1	—0.9	18.9	18.4	—0.3	14.8	—0.7	68	—2	259.3	388.4	67	6.1
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1012.1	—1.8	26.4	—1.1	11.3	0.4	18.8	18.1	—0.4	13.6	—0.2	62	—1	270.0	388.0	70	5.2
Cairo (A)	1012.3	—1.2	27.8	—0.5	14.9	0.8	21.3	21.1	0.2	14.0	—0.4	46	1	—	—	—	17.4
Fayoum	—	—	29.5	—0.4	12.3	—1.1	20.9	20.7	—0.7	14.2	0.0	50	9	—	—	—	8.0
Minya (A)	1012.1	—0.9	30.4	—0.2	11.9	—0.1	21.1	21.3	0.1	13.6	—0.3	43	2	293.3	385.3	76	11.9
Assyout (A)	1012.7	0.5	28.8	—2.9	12.4	—2.7	20.6	21.0	—2.4	11.8	—1.6	30	5	—	—	—	13.9
Luxor (A)	1011.2	0.5	32.7	—2.0	14.4	—1.1	23.5	23.8	—1.7	14.5	—0.5	33	6	—	—	—	8.7
Aswan (A)	1011.0	0.5	33.3	—2.1	17.0	—1.2	25.1	25.2	—1.4	13.2	—0.3	19	—1	311.5	368.7	84	18.0
Siwa	1012.3	—1.6	29.2	—0.7	12.8	0.1	21.0	21.0	—0.2	12.6	—0.5	35	—6	305.1	386.4	79	13.0
Bahariya	1012.3	—1.1	29.5	—0.9	13.4	0.4	21.4	21.6	0.0	12.6	—0.6	32	—9	—	—	—	12.1
Farafra	1014.6	0.5	30.8	—0.3	13.1	0.2	21.9	22.2	0.2	13.0	0.5	31	4	—	—	—	13.4
Dakhla	1013.6	0.7	31.4	—1.2	10.8	—3.0	21.1	21.6	—1.6	12.2	—0.9	30	4	—	—	—	15.4
Kharga	1011.8	—0.8	32.6	—0.8	14.0	—1.8	23.3	24.1	—0.3	13.6	0.3	32	7	313.0	382.9	82	13.3
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1010.7	—0.6	26.8	0.3	16.9	0.8	21.8	22.2	0.3	14.7	—1.0	40	—11	302.7	384.7	79	14.6
Quseir	1010.3	—0.8	27.0	0.0	19.1	—0.2	23.0	23.2	—0.1	16.2	—0.5	46	—4	—	—	—	9.6

Table A 2 — MAXIMUM AND MINIMUM AIR TEMPERATURE

APRIL — 1977

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	37.3	10	18.2	18	11	4	2	0	0	13.0	—	16.8	2	9.0	14	2	0	0	0
Mersa Matruh (A)	38.4	10	17.0	14	5	2	1	0	0	11.0	—	16.9	11	9.1	15	2	0	0	0
Alexandria (A)	37.0	10	19.0	14	11	1	1	0	0	12.6	—	18.0	11	10.2	16	0	0	0	0
Port Said (A)	33.6	11	18.6	5	6	1	0	0	0	14.8	—	18.1	3	12.6	23,28,29	0	0	0	0
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	35.4	11	18.8	14	17	6	2	00	00	—	—	15.8	22	7.8	20	8	00	00	00
Cairo (A)	38.1	11	18.8	14	21	9	2	00	00	—	—	20.7	10	11.3	29	0	00	00	00
Fayoum	38.0	11,22	20.0	14	25	11	3	0	0	9.8	—	15.9	3	8.4	15,16	3	0	0	0
Minya (A)	41.2	22	21.0	14	25	17	4	1	0	9.0	—	18.0	11	7.6	15	4	0	0	0
Assyout (A)	40.0	11	19.6	14	22	12	3	0	0	10.1	—	20.6	11	6.2	15	5	0	0	0
Luxor (A)	41.0	11	24.6	14	29	22	10	1	0	10.1	—	21.0	12	9.8	15	1	0	0	0
Aswan (A)	39.3	22	26.6	24	30	25	11	0	0	—	—	23.4	12	11.9	15	0	0	0	0
Siwa	40.8	10	20.8	13	25	11	4	1	0	11.1	—	19.2	11	8.0	15	7	0	0	0
Bahariya	39.4	11	20.4	14	22	14	5	0	0	13.0	—	21.8	11	9.3	16	2	0	0	0
Farafra	39.7	11	20.2	14	27	17	6	0	0	11.4	—	19.0	11	6.4	15	4	0	0	0
Dakhla	42.2	11	21.1	14	26	16	8	2	0	11.0	—	19.1	12	2.8	15	14	2	0	0
Kharga	43.0	11	22.8	14	29	19	11	2	0	12.1	—	20.6	21	6.0	15	2	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	31.5	22	22.9	13	23	2	0	0	0	—	—	22.7	12	11.9	15	0	0	0	0
Quseir	32.7	12	23.7	24	24	4	0	0	0	17.0	—	23.0	12	15.3	15	0	0	0	0

TABLE A3 SKY COVER AND RAIN FALL

APRIL 1977

Station Name	Mean Sky Cover					Rain Fall mms.										
	00 U.T	06 U.T	12 U.T	18 U.T	Daily Mean	Total Amount	D.F.N	Max. In Dne Day		Number Of Days With Amount Of Rain						
								Value	Date	<0.1	≧0.1	≧1.0	≧5.0	≧10	≧25	≧50
Elsallum	2.6	3.2	4.3	3.1	3.2	7.4	4.9	6.6	13	01	03	01	01	00	00	00
Mersa Matroh	2.8	4.2	3.8	3.5	3.5	5.4	3.1	2.5	13	00	03	02	00	00	00	00
Alexandria	3.2	4.2	4.8	4.2	4.0	1.3	—1.6	0.7	14	00	03	00	00	00	00	00
Port Said	2.5	3.5	2.9	2.7	2.9	11.4	8.9	5.3	28	00	05	03	01	00	00	00
Tanta	1.5	3.5	3.7	1.7	2.5	1.2	—0.5	0.8	23	00	03	00	00	00	00	00
Cairo A.P.	2.2	2.4	3.4	1.9	2.7	2.6	1.7	2.6	12	00	01	01	00	00	00	00
El-Fayoum	—	3.0	2.9	1.4	—	2.9	2.4	2.9	12	00	01	01	00	00	00	00
El-Minia	1.6	2.4	2.6	1.9	2.1	0.5	0.3	0.5	12	00	01	00	00	00	00	00
Assuit	0.5	1.1	1.7	1.1	1.0	TR	—	TR	12.13	02	00	00	00	00	00	00
Luxo	0.6	1.7	2.3	1.3	1.4	0.0	0.0	—		00	00	00	00	00	00	00
Aswan	0.2	1.6	1.6	1.5	1.2	0.0	—0.7	—		00	00	00	00	00	00	00
Sewa	1.0	1.7	2.4	1.8	1.8	TR	—	TR	12	01	00	00	00	00	00	00
El- Baharia	1.5	2.5	3.1	2.4	2.1	2.6	1.8	2.6	12	00	01	01	00	00	00	00
El-Farafra	—	1.4	1.2	0.7	—	0.0	—0.3	—	—	00	00	00	00	00	00	00
El-Dakhla	0.1	0.6	1.0	0.2	0.5	0.0	—0.2	—	—	00	00	00	00	00	00	00
El-Kharga	0.0	0.8	1.6	0.4	0.7	0.0	—0.1	—	—	00	00	00	00	00	00	00
El-Hurgada	1.1	1.4	2.2	2.0	1.7	0.0	—0.1	—	—	00	00	00	00	00	00	00
El-Quseir	0.3	1.2	1.4	1.1	1.0	0.0	—0.1	—	—	00	00	00	00	00	00	00

Table A 4. DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

APRIL — 1977

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											
Sallum	2	0	0	0	0	0	0	15	0	1	0	12	4
Mersa Matruh (A)	3	0	0	1	3	0	1	15	1	5	1	8	4
Alexandria (A)	4	0	0	0	1	1	4	7	0	2	0	5	2
Port Said (A)	7	0	0	0	1	0	0	7	0	0	0	10	1
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	3	0	0	0	5	0	1	2	0	0	0	14	2
Cairo (A)	2	0	0	0	7	1	5	11	0	1	0	11	2
Fayoum	1	0	0	0	0	0	1	4	0	0	0	14	4
Minya (A)	1	0	0	0	4	0	7	10	1	0	0	15	1
Assyout (A)	0	0	0	0	0	0	7	12	0	4	1	23	0
Luxor (A)	0	0	0	0	0	0	23	17	0	3	0	21	1
Aswan (A)	0	0	0	0	1	0	5	13	0	2	0	22	1
Siwa	0	0	0	0	0	0	1	7	0	0	0	19	
Bahariya	1	0	0	0	0	0	1	7	0	0	0	15	1
Farafra	0	0	0	0	0	0	3	8	0	0	0	22	0
Dakhla	0	0	0	0	0	0	0	8	0	0	0	28	0
Kharga	0	0	0	0	0	0	5	13	0	0	0	26	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0	0	0	0	0	0	4	8	0	1	1	19	0
Quseir	0	0	0	0	0	0	4	5	0	0	0	22	0

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

APRIL — 1977

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	325 / 344	ALL DIR
Sallum	10	00	00	1—10	28	33	61	59	27	09	07	04	09	28	56	54	375
				11—27	09	05	14	08	00	01	03	11	25	56	17	131	334
				28—47	00	00	00	00	00	00	00	00	00	00	01	00	01
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**37**	**38**	**75**	**67**	**27**	**10**	**10**	**15**	**34**	**84**	**128**	**185**	**710**
Mersa Matroh	05	00	00	1—10	12	08	24	32	31	07	03	13	30	26	09	14	209
				11—27	18	04	14	45	19	05	17	37	52	53	136	85	485
				28—47	00	00	00	00	00	00	00	00	06	00	15	00	21
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**30**	**12**	**38**	**77**	**50**	**12**	**20**	**50**	**88**	**79**	**160**	**99**	**715**
Al Exandria	01	00	00	1—10	39	38	66	32	44	38	27	20	08	37	96	52	497
				11—27	01	1	05	01	00	00	02	08	29	44	91	40	222
				28—47	00	0	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	0	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**40**	**39**	**71**	**33**	**44**	**38**	**29**	**28**	**37**	**81**	**187**	**92**	**719**
Cairo	12	01	00	1—10	30	45	26	11	13	09	33	27	44	104	49	37	428
				11—27	08	40	17	08	19	19	23	24	59	39	13	05	274
				28—47	00	00	00	00	00	00	00	00	02	00	00	00	02
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**38**	**85**	**43**	**19**	**32**	**28**	**56**	**51**	**105**	**143**	**62**	**42**	**704**
El Fayoum	09	13	01	1—10	103	157	28	14	09	17	34	56	64	60	51	46	639
				11—27	00	02	00	00	00	00	03	09	14	21	09	00	58
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**103**	**159**	**28**	**14**	**09**	**17**	**37**	**65**	**78**	**81**	**60**	**46**	**697**
El Minia	12	01	00	1—10	152	48	16	02	07	80	17	12	14	19	55	84	506
				11—27	80	04	00	00	00	07	14	04	04	16	37	35	201
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**232**	**52**	**16**	**02**	**07**	**87**	**31**	**16**	**18**	**35**	**92**	**119**	**707**
Assuit	01	00	00	1—10	77	54	15	04	06	08	22	26	40	33	82	89	456
				11—27	61	00	00	00	00	03	22	14	05	07	50	88	260
				28—47	00	00	00	00	00	00	00	01	04	03	05	00	13
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**138**	**54**	**15**	**04**	**06**	**11**	**44**	**41**	**49**	**43**	**137**	**177**	**719**

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

APRIL—1977

Staion	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	number in hours of occurrences of wind blowing within the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 314	285 / 314	315 / 344	All directions
Luxor.	26	00	00	1—10	23	60	44	42	26	21	59	23	34	65	89	119	614
				11—27	02	06	03	03	00	0	00	02	04	04	28	27	80
				28—47	00	00	00	00	00	0	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	0	00	00	00	00	100	00	00
				All speeds	**25**	**66**	**47**	**46**	**26**	**21**	**59**	**34**	**38**	**69**	**17**	**164**	**694**
Aswan	00	01	00	1—10	245	49	17	07	04	16	15	07	08	17	34	103	522
				11—27	83	04	00	00	00	05	00	02	00	01	27	75	197
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**328**	**53**	**17**	**07**	**04**	**21**	**15**	**09**	**08**	**08**	**61**	**178**	**719**
Siwa	37	12	00	1—10	27	26	22	59	41	21	24	18	26	65	60	32	421
				11—27	05	11	01	18	18	05	00	12	03	39	78	48	248
				28—47	00	00	00	00	00	00	00	00	00	02	00	00	02
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**32**	**37**	**23**	**77**	**59**	**26**	**34**	**30**	**29**	**106**	**138**	**80**	**671**
Dakhla	19	06	00	1—10	58	27	28	51	22	18	37	34	38	18	83	124	568
				11—27	12	02	00	00	00	00	01	00	01	09	29	73	127
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**70**	**29**	**28**	**51**	**22**	**18**	**38**	**34**	**39**	**57**	**112**	**197**	**695**
Kharga	07	04	00	1—10	209	106	23	08	06	15	21	09	11	18	39	95	560
				11—27	61	16	00	00	00	00	01	05	02	00	13	51	149
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**270**	**122**	**23**	**08**	**06**	**15**	**22**	**14**	**13**	**18**	**52**	**146**	**709**
Hurgada	02	03	00	1—10	26	27	18	16	17	26	07	09	12	120	78	12	367
				11—27	65	12	02	03	03	06	00	00	00	46	116	90	343
				28—47	00	00	00	00	00	00	00	00	00	00	00	04	04
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**91**	**39**	**20**	**19**	**20**	**32**	**07**	**09**	**12**	**166**	**194**	**106**	**715**
Quseir	05	02	00	1—10	144	56	19	10	11	20	23	08	24	99	134	106	654
				11—27	20	00	00	00	00	00	00	00	00	09	05	25	59
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**164**	**56**	**19**	**10**	**11**	**20**	**23**	**08**	**24**	**108**	**139**	**131**	**713**

U PPER AIR CLIMATOLOGICAL DATA

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

APRIL— 1977

	Pressure Surface Millibar	Altitude of Pressure Surface (gpm)				Temperature (°C)				Dew point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mea
Mersa Matruh 0000 U.T.	Surface	30	*1010mb.	*1016mb.	*1002mb.	30	15.9	25.0	11.0	30	7.7
	1000	30	114	164	45	30	15.9	26.8	11.6	30	7.1
	850	30	1487	1557	1422	30	10.9	22.6	0.9	30	— 2.1
	700	30	3075	3197	2971	30	1.1	8.0	— 7.0	30	—12.8
	600	30	4296	4452	4156	30	— 6.5	— 1.0	—15.4	30	—19.0
	500	30	5695	5884	5504	30	—15 9	—11.1	—22.7	30	—27.4
	400	29	7345	7568	7172	29	—27.6	—19.6	—40.0	29	—38.7
	300	27	9352	9644	8975	27	—41.6	—35.4	—47.1	25	—50.3
	250	25	10568	10890	10193	25	—49.3	—41.5	—57.1	24	—57.8
	200	24	12004	12337	11688	24	—56.0	—45.8	—61.7	20	—63.8
	150	21	13814	14109	13582	21	—59.3	—55.2	—66.8	11	—67.8
	100	19	16352	16889	16124	19	—64.4	—57.7	—73.5	—	—
	70	16	18507	18682	18324	16	—63.5	—56.6	—69.6	—	—
	60	15	19483	19650	19310	15	—61.2	—55.7	—66.9	—	—
	50	14	20594	20761	10424	14	—59.3	—54.9	—64.1	—	—
	40	12	22052	22280	21700	12	—56.8	—53.5	—61.0	—	—
	30	10	23855	24016	23683	10	—55.0	—50.8	—58.9	—	—
	20	6	26459	26626	26303	6	—52.8	—49.0	—57.7	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface . . .	30	*996m.b.	*1003m.b.	990m.b.	30	16.9	25.2	9.8	30	10.0
	1000 . . .	30	110	163	53	6	15.4	19.0	9.7	6	5.2
	850 . . .	30	1482	1537	1427	29	10.7	22.1	3.1	28	— 1.9
	700 . . .	30	3076	3204	2978	30	2.9	19.9	— 9.9	30	—13.1
	600 . .	29	4313	4463	4162	29	— 4.6	— 0.7	—17.1	27	—20.3
	500 . . .	27	5730	5880	5508	27	—13.6	— 5.4	—24.0	26	—28.3
	400 . . .	27	7390	7591	7122	27	—24.8	—18.3	—29.9	26	—37.2
	300 . . .	27	9424	9676	9118	27	—39.6	—32.3	—44.0	26	—50.0
	250 . . .	26	10645	10936	10466	26	—47.5	—42.3	—55.5	25	—56 3
	200 . . .	24	12101	12407	11950	24	—54.8	—49.1	—61.0	20	—62.8
	150 . . .	23	13918	14201	63654	23	—58.5	—52.4	—65.0	13	—66.3
	100 . . .	19	16413	16661	16216	19	—63.4	—58.7	—67.3	—	—
	70 . . .	12	18586	18860	18445	12	—63.9	—61.2	—69.4	—	—
	60 . . .	12	19550	19770	19300	12	—62.2	—55.9	—67.5	—	—
	50 . . .	12	20637	20827	20281	12	—61.0	—59.0	—65.5	—	—
	40 . .	9	22180	22840	21920	9	—58.2	—56.7	—62.5	—	—
	30 . . .	9	23864	23937	23766	9	—57.5	—54.4	—65.0	—	—
	20 . . .	5	26483	26556	26334	5	—55.5	—51.9	—66.1	—	—
	10 . . .	1	31090	—	—	1	—47.0	—	—	—	—
Aswan 0000 U.T.	Surface . . .	30	*989m.b.	*997m.b.	*982m.b.	30	19.6	25.4	12.5	30	0.9
	1000 . . .	29	103	167	35	—	—	—	—	—	—
	850 . . .	29	1497	1536	1449	29	15.6	22.0	4.8	29	— 2.7
	700 . . .	29	3112	3176	3085	29	7.6	11.7	4.3	29	—13.1
	600 . . .	29	4376	4429	4329	29	— 0.9	3.3	— 3.7	29	—18.8
	500 . . .	28	5812	5899	5754	28	— 9.5	— 5.3	—15.9	28	—26.2
	400 . . .	28	7499	7603	7404	28	—21.9	—15.4	—29.4	27	—35.2
	300 . . .	26	9558	9693	9441	26	—36.7	—30.5	—42.1	26	—47.5
	250 . . .	26	10770	10877	10345	26	—46 0	—42.4	—50.5	26	—55.4
	200 . . .	24	12260	12409	12144	24	—54 4	—49.3	—58.4	22	—63.1
	150 . . .	20	14057	14198	13966	20	—64.3	—59 0	—70.3	3	—69.8
	100 . . .	11	16518	16628	16447	11	—71 5	—67.3	—76.7	—	—
	70 . . .	4	18556	18613	18507	4	—75 0	—71.3	—78.0	—	—
	60 . . .	2	19500	19550	19450	2	—68 4	—64 7	—72.0	—	—
	50 . . .	2	20545	20603	20487	2	—63.3	—61.3	—65.3	—	—
	40 . . .	1	22030	—	—	1	—59.3	—	—	—	—
	30 . . .	—	—	—	—	—	—	—	—	—	—
	20 . . .	—	—	—	—	—	—	—	—	—	—
	10 . . .	—	—	—	—	—	—	—	—	—	—

N = Number of observations of the specified pressure surface.

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

UPPER AIR CLIMATOLOGICAL DATA

Table B 1 — MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHEST & LOWEST VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

APRIL 1977

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	1010*mb.	1015*mb.	1004*mb.	30	20.7	30.0	16.3	30	8.5
	1000	30	118	155	62	30	19.7	29.6	16.5	30	6.5
	850	30	1494	1544	1418	30	11.5	21.8	2.6	30	— 4.6
	700	30	3089	3163	2952	30	2.4	9.6	— 9.3	30	—15.8
	600	30	4325	4448	4126	30	— 5.2	0.5	—17.3	30	—23.8
	500	29	5730	5837	5472	29	—14.5	— 9.7	—26.1	29	—30.5
	400	29	7382	7550	7053	29	—26.3	—19.9	—33.0	28	—41.2
	300	28	9417	9630	9076	28	—40.5	—36.7	—47.3	28	—54.4
	250	28	10636	10878	10272	28	—48.9	—42.0	—53.5	28	—62.1
	200	28	12079	12336	11719	28	—55.2	—46.0	—61.0	26	—67.9
	150	26	13902	14120	13592	26	—58.6	—51.9	—67.3	15	—69.6
	100	24	16427	16631	16175	24	—62.2	—55.3	—70.1	—	—
	70	20	18626	18841	18388	20	—62.4	—56.5	—68.3	—	—
	60	18	19615	19820	19370	18	—60.7	—57.0	—67.0	—	—
	50	18	20731	20985	20475	18	—57.7	—48.0	—62.5	—	—
	40	4	22278	22450	22180	4	—53.9	—50.9	—57.4	—	—
	30	4	24056	24286	23920	4	—50.4	—46.0	—54.5	—	—
	20	4	26736	27026	26558	4	—45.8	—40.0	—49.7	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface	30	995*mb.	1003*mb.	987*mb.	30	26.3	35.3	16.6	30	2.8
	1000	28	99	166	21	3	24.8	26.4	22.0	3	0.6
	850	28	1500	1577	1435	28	14.1	23.0	4.4	27	— 2.5
	700	28	3106	3177	2993	28	4.2	12.4	— 6.5	27	—13.5
	600	28	4347	4442	4197	28	— 2.4	5.2	—12.6	27	—21.3
	500	28	5772	5891	5579	28	—11.2	— 3.7	—22.3	27	—28.4
	400	26	7453	7613	7191	25	—22.2	—15.0	—34.8	24	—37.1
	300	24	9511	9711	9181	24	—36.6	—29.8	—42.3	24	—49.2
	250	24	10758	10986	10433	24	—43.9	—38.2	—49.6	23	—56.0
	200	23	12240	12492	11933	23	—50.1	—41.7	—55.3	21	—61.2
	150	21	14096	14330	13833	21	—54.0	—48.2	—63.3	21	—54.8
	100	19	16665	16821	16492	19	—56.9	—52.0	—63.4	3	—65.7
	70	14	18929	19102	18768	14	—57.8	—53.8	—63.9	—	—
	60	12	19968	20160	19830	12	—55.7	—50.7	—65.4	—	—
	50	12	21085	21267	20981	12	—51.1	—47.1	—56.1	—	—
	40	7	22654	22880	22560	7	—45.6	—41,7	—47.5	—	—
	30	7	24516	24746	24422	7	—40.0	—33.9	—43.4	—	—
	20	5	27301	27450	27239	5	—32.8	—22.4	—37.2	—	—
	10	2	32200	32260	322139	2	—25.4	—22.8	—28.0	—	—
Aswan 1200 U.T.	Surface	28	989*mb.	996*mb.	982*mb.	28	33.0	39.6	26.0	28	1.2
	1000	28	96	158	27	—	—	—	—	—	—
	850	28	1519	1550	1484	28	18.3	26.1	11.6	28	— 8.3
	700	28	3153	3195	3119	28	9.4	14.9	4.8	28	—16.8
	600	28	4415	4454	4371	28	1.7	8.0	— 4.8	28	-22.4
	500	28	5859	5933	5787	28	— 7.9	— 1.7	—13.0	28	—30.3
	400	26	7560	7668	7499	26	—19.5	—16.4	—25.3	26	—39.2
	300	24	9634	9779	9539	24	—35.2	—30.5	—40.3	24	—50.2
	250	24	10881	10967	10770	24	—44.2	—41.1	—50.4	24	—59.7
	200	22	12352	12528	12220	22	—52.7	—47.3	—59.0	21	—66.5
	150	15	14184	14321	14060	15	—62.5	—56.8	—67.8	3	70.6
	100	11	16641	16759	16567	11	—70.8	—67.2	—73.4	—	—
	70	3	18815	18868	18734	3	—71.6	—67.2	—74.6	—	—
	60	2	19746	19820	19670	2	—69.4	—68.1	—70.6	—	—
	50	2	20820	20884	20756	2	—66.2	—63.3	—69.1	—	—
	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 AT THE FREEZING LEVEL AND THE TROPOPAUSE. THE HIGHEST WIND SPEED IN THE UPPER AIR

APRIL — 1977

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
	(N)	(N)	(N)							(N)	(N)	(N)										
Mersa Matruh (A)	3158 (30)	698 (30)	—11.3 (30)	4230	616	—10.7	1600	837	— 4.2	11856 (20)	209 (20)	—58.1 (20)	13620	158	—70.2	8100	344	—47.2	10157	264	300	83
Helwan . (A)	3441 (30)	670 (30)	—14.1 (30)	5100	552	—18.7	1930	802	— 0.2	12510 (19)	139 (19)	—57.1 (19)	16180	104	—69.3	9200	296	—44.9	13570	158	245	145
Aswan . . . (A)	4352 (29)	606 (29)	—18.9 (29)	4850	567	—11.0	3710	650	—19.1	15280 (3)	125 (3)	—71.6 (3)	15920	110	—72.2	14240	149	—67.3	12400	194	250	143
	(N)	(N)	(N)							(N)	(N)	(N)										
Mersa Matruh (A)	3408 (30)	677 (30)	—15.8 (30)	4500	595	—24.2	1720	820	—10.4	12587 (25)	196 (25)	—58.0 (24)	18250	77	—63.5	8800	317	—40.0	7866	375	305	92
Helwan . . . (A)	3794 (28)	617 (28)	—13.5 (27)	5260	540	— 5.9	1870	810	— 1.7	11781 (18)	223 (18)	—51.3 (18)	15700	120	—60.0	6150	464	—23.4	8960	330	270	140
Aswan . . . (A)	4688 (28)	581 (28)	—23.8 (28)	5630	520	—25.0	3800	644	—27.8	15547 (3)	122 (3)	—69.2 (3)	16360	104	—70.0	13970	155	—67.4	12450	198	280	140

Table B3.— NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

Mersa Matruh APRIL 1977

Time	Pressure Surface (Millibar)	Wind within ranges of direction (000—260°)																								Number of Calm winds	Total Number of Observations (T.N)	Mean Scalar 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	2	14	0	—	2	9	1	5	3	9	2	10	2	16	2	14	4	12	6	10	2	22	4	14	0	30	12
	1000	1	22	0	—	2	12	1	11	3	15	2	11	3	22	2	22	3	23	5	18	4	22	3	22	0	29	19
	850	1	23	0	—	1	27	1	21	0	—	0	—	2	29	0	—	7	24	8	25	5	27	4	24	0	29	25
	700	0	—	1	7	0	—	2	15	0	—	0	—	1	22	2	40	8	32	6	27	5	32	3	34	0	28	29
	600	0	—	0	—	0	—	0	—	1	3	0	—	2	26	2	36	9	38	6	29	3	44	3	24	0	26	33
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	37	10	35	3	30	1	45	0	19	35
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	37	3	29	3	34	0	—	0	11	32
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	47	2	40	2	50	0	—	0	7	46
	250	0	—	0	—	1	6	0	—	0	—	0	—	0	—	1	44	0	—	2	56	1	66	0	—	0	5	45
	200	0	—	0	—	0	—	0	—	0	—	1	6	0	—	0	—	0	—	1	60	0	—	0	—	0	2	66
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	58	0	—	0	—	0	1	58
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 T.U.	Surface	4	11	1	10	1	15	5	15	0	—	0	—	0	—	1	18	1	32	4	18	7	21	6	16	0	30	17
	1000	1	14	1	18	2	17	3	21	0	—	0	—	0	—	1	14	2	24	3	24	12	26	3	19	0	28	23
	850	0	—	0	—	3	14	0	—	1	14	0	—	0	—	5	19	6	27	4	27	7	21	2	18	0	28	22
	700	0	—	0	—	0	—	1	14	0	—	1	9	0	—	2	36	7	28	10	30	6	27	1	33	0	28	28
	600	0	—	0	—	0	—	1	8	0	—	1	16	1	5	1	51	7	31	7	34	5	38	3	30	0	26	31
	500	1	15	0	—	0	—	0	—	0	—	1	13	1	8	2	32	5	34	6	37	6	39	0	—	0	22	33
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	56	3	31	7	32	1	70	0	—	0	12	37
	300	0	—	0	—	0	—	1	8	0	—	0	—	0	—	0	—	0	—	5	43	1	87	0	—	0	7	44
	250	0	—	0	—	1	14	0	—	0	—	0	—	0	—	0	—	1	51	3	57	2	50	0	—	0	7	48
	200	0	—	0	—	0	—	0	—	0	—	0	—	1	20	0	—	1	48	3	55	0	—	0	—	0	5	47
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	33	1	28	3	72	0	—	0	—	0	5	56
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	29	1	43	0	—	0	—	0	3	34
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	11	0	—	1	20	0	—	0	—	0	2	16
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	50	0	—	0	—	0	—	0	1	50
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	20	0	—	0	—	0	1	20
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

T.N. = The total number of cases the wind 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.

HELWAN — APRIL 1977

Time	Pressure Surface (Millibar)	Wind within specified ranges of direction (000—360)°																								Number of Calm winds	Total Number of Observations (TN)	Maen 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	4	5	10	5	9	3	8	0	—	3	3	0	—	3	7	0	—	2	4	0	—	6	6	1	30	7
	1000	0	—	2	15	2	12	0	—	0	—	1	4	0	—	0	—	1	4	0	—	0	—	0		0	6	10
	850	1	13	2	17	0	—	0	—	0	—	0	—	1	17	4	23	2	28	5	16	11	18	4	19	0	30	19
	700	0	—	1	26	0	—	0	—	0	—	0	—	3	23	2	22	6	29	9	26	5	28	4	24	0	30	26
	600	2	18	0	—	0	—	0	—	0	—	0	—	1	17	1	31	7	29	6	33	7	34	3	37	0	27	31
	500	1	21	0	—	0	—	0	—	0	—	0	—	0	—	4	51	7	38	6	37	7	30	1	43	0	26	37
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	43	4	46	11	48	6	58	1	48	0	24	50
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	53	9	74	6	67	0	—	0	20	66
	250	0	—	0	—	0	—	0	—	0	—	1	13	0	—	0	—	5	59	5	64	4	59	0	—	0	15	59
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	27	3	63	6	73	2	92	0	—	0	12	70
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	74	3	85	2	96	0	—	0	8	84
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	50	1	81	0	—	0	—	0	2	66
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	—	—	—	—	—	—	—
	10	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—		—	—	—	—	—	—	—	—
1200 U.T.	Surface	1	5	3	10	1	14	0	—	1	7	3	6	1	11	7	10	2	8	4	12	2	6	5	8	0	30	9
	1000	1	11	0	—	0	—	0	—	0	—	2	5	0	—	0	—	0	—	0	—	0	—	0	—	0	3	7
	850	0	—	1	19	2	8	1	5	0	—	0	—	1	10	7	20	4	18	5	14	4	11	3	12	0	28	15
	700	0	—	1	24	0	—	0	—	1	6	1	6	2	21	4	22	7	26	1	15	9	26	2	18	0	28	22
	600	1	28	0	—	0	—	0	—	1	3	0	—	0	—	6	27	6	27	7	36	6	36	0	—	0	27	31
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	38	8	32	9	40	5	59	1	30	0	26	41
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	55	6	61	9	55	5	35	0	—	0	22	52
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	50	4	64	7	64	3	27	0	—	0	16	61
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	56	3	59	6	72	1	44	0	—	0	12	64
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	56	6	76	1	40	0	—	0	11	66
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	70	2	70	2	72	1	99	0	—	0	6	76
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	33	1	73	0	—	0	—	0	2	53
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N — The number of cases the wind has been observed within 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. NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

ASWAN APRIL 1977

Time	Pressure Surface (Millibar)	Wind between specified ranges of direction (000—360)°																								Number of Calm winds	Total Number of Observations (TN)	Mean Scalar wind
		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	21	12	2	10	0	—	0	—	1	10	0	—	1	6	0	—	1	10	0	—	0	—	4	10	0	30	11
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	8	18	3	21	2	13	0	—	0	—	0	—	0	—	0	—	0	—	1	6	7	16	8	13	0	29	15
	700	4	18	2	12	0	—	0	—	0	—	1	4	0	—	0	—	3	24	5	21	7	21	4	15	0	26	20
	600	2	24	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	27	5	35	9	25	4	19	0	26	27
	500	1	39	0	—	0	—	0	—	0	—	0	—	0	—	2	26	7	43	4	34	8	32	3	21	0	25	36
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	47	6	52	7	77	9	38	2	44	0	25	49
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	79	11	62	6	56	3	63	0	23	66
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	89	10	85	6	63	3	74	0	22	78
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	99	3	110	6	82	7	82	1	82	0	18	88
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	66	4	75	6	63	1	74	0	14	68
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	40	1	60	2	36	1	52	0	6	44
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 T.U.	Surface	11	10	2	7	0	—	0	—	0	—	0	—	2	8	0	—	—	—	1	6	0	—	12	12	0	28	11
	1000	—	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	2	6	5	10	1	6	2	12	1	3	0	—	0	8	0	—	0	—	3	10	3	13	11	15	0	28	12
	700	6	14	0	—	0	—	0	—	1	—	0	—	1	—	2	32	5	38	6	16	3	22	5	17	0	28	21
	600	2	12	0	—	0	—	0	—	0	—	0	—	0	—	1	22	6	32	7	28	6	26	6	17	0	28	25
	500	1	35	0	—	0	—	0	—	0	—	0	—	0	—	1	39	7	44	8	41	8	24	2	14	0	27	34
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	45	7	47	7	38	1	49	0	23	46
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	69	4	109	10	67	5	62	2	70	0	22	68
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	94	9	92	7	64	2	65	0	21	80
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	90	8	90	6	83	0	—	0	17	88
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	60	3	74	4	83	0	—	0	10	74
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	42	1	49	1	33	0	4	42
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N= The number of cases the wind has been odserved 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.

REVIEW OF AGRO - METEOROLOGICAL STATIONS

MERSA MATRUH — APRIL 1977

The mean daily air temperature was the same a normal and the mean daily relative humidity was slightly blow normal. The total monthly rainfall was 5.4mm. (3.1mm. above normal.)

The month was intervened by three short Khamsin heat waves in the Periods (9th & 10th), (16th) and (21st & 22nd). The first wave gave rise to the highest maximum temperature (38.4c) on the 10th. Otherwise, mild weather was experienced.

The mean daily actual sunshine duration was lower than average 0.7 hour. The mean daily wind speed at 1.5met. beight was higher than average by 0.7 met./sec.

The highest maximum soil temperatures were higher than the corresponding values of April 1976 at depths between 2 & 20 cm. with departures between 1.6°c (at 10cm.) & 0.8c (at 20cm.) ; lower than April 1976 at 50 & 100cm. depths by 0.3C. The lowest minimum soil temperatures were lower than April 1976 at depths between 2 & 20 cm. with departures between 2.2C (at 2cm.) & 1.0C (at 20cm.) ; higher at 50 & 100cm. depths by 1.2 & 0.6C respectively.

TAHRIR — APRIL 1977

The mean daily air temperature was nearly the same as normal and the mean daily relative humidity was below normal. The rtotal monthly rainfall was only 0.3mm. (1.5mm. below normal).

The month was characterized by five variant Khamsin heat waves in the periods (1st & 2nd), (6th-11th), (17th), (22nd) & (26th). The second wave gave rise to the highest maximum temperature (38.5C) and also the highest minimum temperature (17.6C) on the 11th. In the rest of the month weather was generally mild.

The mean daily wind speed at 1 5 met. beight was mearly the same as normal. The mean daily actual sunshine duration and pan evaporation were lower than normal by 0.7 hour and 0.53mm. respectively.

The highest maximum soil temperatures were lower than normal at all depths with departurer between 3.8C (at 2cm.) & 0.2C (at 50cm.). The lowest minimum soil temperatures were lower than normal at 20cm. depth by 0.2C ; and higher at depths between 5 & 100cm. with departures betweens 1.9C(at 20cm.)

BAHTIM — APRIL 1977

The mean daily air temperature was slightly above average and the mean daily relative humidity was below average. The total monthly rainfall was2.2mm. (1.8mm. below average).

Five Khamsin heat waves were experienced in the periods (1st & 2nd). (7th-11th), (17th). (22nd) and (26th). The second wave rise to the highest maxmum temperature (36.3C) on the 11th. In the rest of the month. weather was mild.

The mean daily actual sunshine duration was lower than average by 0.7 hour. The mean daily wind speed and pan evapration were nearly the same as average.

The highest maximum soil temperatures were higher than average at 2 & 5cm. depths by 0.4 and 0.7C respectively, and lower than avarage at depths between 10 & 100 cm. with departures between 1.6C (at 10cm.) & 0.1°C (at 100cm.) The lowest minimum soil temperatures were than average at 2cm. depth by 0.1C ; higher than average at depths between 5 & 100cm. with departures between 1.5°C (at 5cm.) and 0.1°C (at 100cm.).

ASSYOUT — APRIL 1977

The mean maximum temperature was 30.2°C and the mean minimum temperature was 12.0°C. The mean daily relative humidity was 43%. No rain was reported exceptlt 0.1mm. on the 13th and 0.2mm. on the 14th.

Three Khamsin heat waves were experienced in the periods (1st & 2nd), (7th-11th) & (19th-22nd). The last wave gave rise to the highest maximum temperature (40.6°C) on the 22nd.

Apart from the heat waves, weather was mild. The lowest maximum temperature was 18.6°C (an the 13th). The lowest minimum temperature was 6.5°C (an the 15th).

KHARGE - APRIL 1977

The mean daily air temperature was below average and the mean daily relative humidity was above average.

Three Khamsin heat waves occurred in the Periods (1st & 2nd), (8th - 12th) and (18th - 22nd) The second wave gave rise to the highest maximum temperature (43.0°C) on the 11th. In the rest of the month, mild °eather was experienced.

The mean daily actual sunshine duration was the same as average. The mean daily wind speed at 1.5 met. height and pan evaporation were lower than average by 1.3 met./sec and 3.27 mm. respectively.

The highest maximum soil temperatures were higher than average at depths between 2 & 20cm. with departures between 0.9°C (at both 2 & 5 cm.)and 3.0°C (at 10cm) : lower than average at. 50cm. depth by 0.9°C : the same as average at 100cm. The lowest minimum soil temperatures were lower than average at depths between 2 & 20cm. with departures between 2.4°C (at 5cm.) & 0.4°C (at 20cm.) : higher than average at 50cm. by 0.1°C, same as average at 100 cm.

TABLE C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND
APRIL 1977

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 . . .	22.2	12.7	17.4	15.5	18.6	24.0	24.0	24.0	23.7	16.9	4.4	1.2	0.4	0.1	0.0	0.0
Tahrir	28.2	12.3	19.4	15.6	21.8	24.0	24.0	24.0	23.8	17.4	9.7	4.4	1.0	0.3	0.0	0.0
Bahtim	27.1	11.0	18.9	14.6	21.5	24.0	24.0	24.0	23.4	15.6	9.3	4.1	0.9	0.1	0.0	0.0
Assiut	30.2	12.0	20.9	16.5	23.7	24.0	24.0	24.0	23.5	18.7	11.4	6.1	2.5	0.5	0.0	0.0
Kharga	32.5	14.0	24.1	20.3	26.6	24.0	24.0	24.0	23.8	21.6	16.4	10.5	5.2	1.7	0.3	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.
APRIL 1977

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	38.4	10	17.0	14	16.9	11	9.1	15	7.5	15	—	—
Tahrir	38.5	11	20.2	14	17.6	11	8.6	19	7.0	19	6.4	4
Bahtim	36.3	11	18.4	14	16.6	22	7.3	16	4.4	16	3.0	16
Assiut	40.6	22	18.6	13	19.7	11	6.5	15	1.4	15	—	—
Kharga	43.0	11	22.8	14	20.6	21	6.0	15	4.8	15	—	—

TABLE C 3.—(SOLAR + SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL.
APRIL 1977

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	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 UT	Highest	Date	Lowest	Date	Piche	Pan class(A)	Total Amount	Max. Fall in one day	Date
M. Matruh . .	469.8	257.2	388.5	66	60	50	3	10	8.7	8.9	12.6	7/11	1.4	10	8.5	—	5.4	2.5	13
Tahrir . . .	524.6	276.0	387.6	71	56	34	9	10	8.8	8.2	14.7	9	2.8	11	7.3	8.55	0.3	0.2	13
Bahtim	572.6	270.1	387.2	70	57	33	10	11	8.7	8.1	14.0	9	2.3	10	7.5	8.00	2.2	1.5	12
Assiut . . .	—	305.2	383.9	79	43	25	8	11	7.2	6.7	11.0	6	3.9	11	7.7	7.62	0.3	0.2	14
Kharga	641.6	312.5	382.5	82	31	22	8	2	6.7	7.4	11.7	22	1.6	3	13.3	12.81	0.0	0.0	—

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

APRIL — 1977

STATION	Highest (H) Lowest (L)	Dry Field								Grass							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
M.Matruh	H	43.0	32.5	28.2	23.8	21.3	20.2	20.5	—	—	—	—	—	—	—	—	—
	L	12.0	13.0	13.0	16.2	19.0	19.0	19.7	—	—	—	—	—	—	—	—	—
Tahrir	H	44.3	37.9	33.9	28.8	25.7	23.2	22.9	22.4	30.1	28.5	25.8	23.2	22.4	21.5	21.2	—
	L	15.5	16.5	16.8	20.1	21.2	21.1	20.6	21.3	16.3	16.4	16.6	18.0	19.9	19.5	19.1	—
Bahtim	H	48.3	38.4	30.4	26.3	23.9	22.7	21.9	21.9	34.0	28.3	24.6	21.4	20.3	19.8	19.6	—
	L	16.4	17.4	18.8	21.6	21.7	20.7	21.3	21.8	15.0	15.2	16.0	17.7	18.5	18.5	18.9	—
Assiut	H	59.0	44.7	35.1	29.1	25.4	24.0	22.5	22.8	—	—	—	—	—	—	—	—
	L	18.2	17.6	18.9	22.3	22.9	21.7	21.4	22.4	—	—	—	—	—	—	—	—
Kharga	H	53.8	46.7	41.4	34.0	28.3	27.2	26.3	26.9	—	—	—	—	—	—	—	—
	L	10.3	12.8	18.0	22.8	25.1	24.8	25.3	26.7	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

APRIL — 17

STATION	Wind Speed m/sec (2 metres)			Days with surface wind speed at (10 metres)							Max. Gust 10 metres	
	Mean of the day	Night time mean	Day time mean	≧10 (konts)	≧15 (konts)	≧20 (konts)	≧25 (konts)	≧30 (konts)	≧35 (konts)	≧40 (konts)	Value (konts)	Date
M.Matruh . .	5.0	4.0	6.0	30	29	23	14	9	4	1	49	23
Tahrir. . . .	2.7	2.0	3.4	29	23	11	6	2	2	0	42	23
Bahti m . . .	2.5	1.7	3.2	29	20	12	5	1	0	0	35	14
Assiut . . .	—	—	—	—	—	—	—	—	—	—	—	—
Kharga . . .	2.5	1.8	3.3	29	21	9	1	0	0	0	32	28

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The Chairman

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues several 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 MONTHLY WEATHERT REPORT

First issued in 1909, the Monthly Weather Re port 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 pre vailed 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 ~~18~~ 20 NUMBER 5

MAY, 1977

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

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

CONTENTS

PAGE

General Summary of Weather Conditions 1

SURFACE DATA

Table A1.—Monthly values of the Atmospheric Pressure, Air Temperature, Relative Humidity, Bright Sunshine Duration, and Piche Evaporation 2

,, A2.—Maximum and Minimum Air Temperatures 3

,, A3.—Sky Cover and Rainfall 4

,, A4.—Number of Days of Occurrence of Miscellaneous Weather Phenomena . . . 5

,, A5.—Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded Within Specified Ranges 6,7

UPPER AIR DATA

Table B1—Monthly Means and Monthly Absolute Highest & Lowest Values of Altitude, Air Temperature & Dew point at Standard and Selected Pressure Surfaces. . . . 8,9

,, B2.—Mean and Extreme values of The Freezing Level and The Tropopause. The Highest Wind Speed in The Upper Air 10

,, B3.—Number of Occurrences of Wind Direction within Specified Ranges and The Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces. 11–13

AGRO-METEOROLOGICAL DATA

Reviews of Agro-meteorological Stations 14,15

Table C1.—Air Temperature at 1½ metres above Ground 16

,, C2.—Extreme Values of Air Temperature at 1½ metres above Ground, Absolute Minimum Air Temperature at 5 Cms Above Ground over Different Fields 16

,, C3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity and Vapour Pressure at 1½ Metres Above Ground, Evaporation and Rainfall. . . 16

,, C4.—Extreme Soil Temperature at Different Depths in Different Fields 17

,, C5.—Surface wind 17

Note—For explanatory notes on the tables please refer to Volume 18 number 1 (January 1975).

GENERAL SUMMARY OF WEATHER CONDITIONS

MAY 1977

Mild most of the first three weeks; abnormally hot the rest of the month

PRESSURE DISTRIBUTION

The pressure over Egypt was mainly influenced by the transit of five desert depressions on the 11*th*, 16*th*, 26*th*, 28*th* & 31*st* and the monsoon low pressure over Arabia & the Arabian gulf.

The mean atmospheric pressure during the month was arround normal with deviations between —1.0 and +0.6 mb.

SURFACE WIND

Light to moderate NE to NW winds prevailed most of the month. By the transit of desert depressions, winds were generally fresh S-ly, strong at times in scattered places.

TEMPERATURE

This month was characterized by five heat waves. The first and second waves were of moderate intensity and short periods round the 10th & 16th. The last three waves were excessive and prevailed from the 23rd till the end of the month.

A part from the heat waves, weather was mild with subnormal maximum and minimum temperatures.

The highest and lowest maximum temperatures were respectively 48.0°C at Kharga on the 31 st and 20.2°C at Mersa Matruh on the 13th.

The highest and lowest minimum temperatures were respectively 29.6°C at Kharga on the 30th and 8.4°C at Dakhla on the 1st.

PRECIPITATION

Light rain was reported round the 11*th* in scattered places in the north.

The monthly rainfall amounts were subnormal.

The maximum daily rainfall was 2.5 mm at Mersa Matruh on the 8th.

The maximum monthly rainfall was 2.7mm at Mersa Matruh.

OTHER WEATHER PHENOMENA

Scattered risings and occurred during seveeral days mainly by the break down of heat waves.

Early morning mist developed during few days in scattered places in lower Egypt and Cairo.

Cairo, March 1979

Chairman (M. S. ELDIN HARB)

Board of Directors

SURFACE DATA

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

MAY—1977

STATION	Atmospheric Pressure mbs. M.S.L		Air Temperature °C									Relative Humidity %		Bright Sunshine			Piche Evaporation mms. Mean
			Maximum		Minimum			Dry Bulb		Wet Bulb							
	Mean	D.F. Norma 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	%	
Sallum.	1013.5	0·0	27.7	1.6	17·9	1 3	22.8	22.2	1.3	16.3	0.0	55	—7	—	—	—	8.0
Mersa Matruh (A)	1013·8	0.2	26.3	0.9	16 1	1.3	21.2	20.8	0·7	16.6	0.2	69	1	324.5	426.3	76	7.9
Alexandria . . (A)	1013.4	0.1	28.4	1.7	17.0	0 5	22 7	22.2	0.9	17.6	0·1	64	—3	318.8	425.9	75	5.1
Port Said. . . (A)	1012.8	0 0	25.0	0.6	19.2	- 0 2	22.1	21 7	—0.2	18.4	—0.5	72	1	322.7	426.1	76	5.7
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chazza.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta.	1012·6	—0.2	32.0	0.3	14.5	0.0	23 2	22.8	0.2	16.8	0.2	57	0	339.9	425.2	80	6.3
Cairo. . . . . (A)	1012.3	0 6	33 2	1.0	18.6	1.2	25.9	25 8	1.2	17.1	0,1	43	0	—	—	—	20.2
Fayoum., ...	—	—	35 4	2 1	16.6	—0.4	26 0	26.1	1.2	17.9	1.5	46	5	—	—	—	9.8
Minya. . . . . (A)	1010,3	—1·0	36.2	1.4	17.3	0 9	26.7	27.0	1.2	17.2	0.6	37	1	345.3	419 9	82	16.5
Assyout. . . . . (A)	1010 9	0 3	35.5	—0.5	18.5	- 0 6	27.0	27.6	—0.2	15 6	—0.3	25	2	—	—	—	19.4
Luxor. . . . . (A)	1009.1	0.2	39.0	—0 1	19.8	—0.4	29.4	29.7	—0.4	17,9	0.5	28	4	—	—	—	11.3
Aswan. . . . . (A)	1008.8	0·4	39.1	—0.6	22.5	—0.1	30 8	31.1	—0.1	16.2	0.7	16	—1	369.0	412.3	89	21,4
Siwa.	1012.0	—0 9	35.6	1.5	17.5	0.6	26.5	26.9	1.3	16.2	0,7	32	—6	331.2	421.9	79	16.8
Bahariya	1011.5	—0.6	35.9	1.5	18 6	1.2	27.2	27.5	1.5	16.2	0.4	30	—8	—	—	—	14.0
Farafra.	1012·5	—0.3	36.8	1.9	18 8	1.7	27.8	27.8	1.9	15,8	1.0	25	—2	—	—	—	17.4
Dakhla.	1011.5	0.5	37 2	0·6	17.2	—2.0	27.2	27.7	—0 3	15.4	—0.2	24	0	—	—	—	18.6
Kharga.	1009.8	—0.7	38.5	1.0	20.9	0.1	29.7	30.3	1.3	16 0	0.5	22	—1	364.8	414.9	88	18.0
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada.	1009 4	0.1	30.9	0.9	21.1	0.7	26.0	26.3	0.7	17.5	—0.6	39	—5	363,8	418.3	87	17,4
Quseir.	1008.8	—0.5	30.3	0.3	22.7	—0,1	26.5	26,7	0.1	18.8	0.0	44	—5	—	—	—	10.8

Table A 2.– MAXIMUM AND MINIMUM AIR TEMPERATURE

MAY — 1977

Station	Maximum Temperature °C									Grass Min. Temp.		Maximum 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
Elsallum	42.5	30	21.2	13	22	06	05	02	00	16.9	—	23.0	25	13.6	3	00	00	00	00
Mersa Matro . (A)	41.8	28	20.2	13	11	07	04	01	00	14.3	—	20.4	31	11.0	2	00	00	00	00
Alexaddria . . (A)	38.3	25	23.2	12	19	09	05	00	00	14.6	—	22.0	26	11.3	14	00	00	00	00
Port Said . . (A)	3.4	26	20.0	3	11	05	00	00	00	18.4	—	24.1	31	15.8	5	00	00	00	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	42.6	31	25.6	12	31	17	10	01	00	—	—	20.8	31	10.2	14	00	10	00	00
Cairo	45.4	31	27.0	13	31	19	09	04	01	—	—	28.8	26	14.0	5	00	00	00	00
Fayoum	45.2	31	29.5	7,13,14	31	28	15	08	01	14.8	—	22.4	31	12.2	16	00	00	00	00
Minya . . . (A)	46.8	31	30.2	14	31	31	17	08	01	14.6	—	24.6	29	12.2	1	00	00	00	00
Assyout . . . (A)	45.7	31	28.6	13	31	26	15	08	01	16.8	—	25.5	29	11.4	1	00	00	00	00
Luxor . . . . (A)	46.0	29	33.6	4	31	31	24	13	01	14.9	—	24.8	12	13.5	1	00	00	00	00
Aswan . . . (A)	45.4	29	33.4	15	31	31	27	14	01	—	—	29.2	30	17.4	1	00	00	00	00
Siwa	45.7	31	22.8	11	30	26	17	07	01	15.9	—	22.8	28,30	11.9	1	00	00	00	00
Baharia	46.4	31	29.3	12	31	27	14	08	02	17.9	—	27.4	31	13.4	1	00	00	00	00
Farafra	46.2	31	30.3	12	31	31	15	08	03	17.3	—	26.7	29	10.6	1	00	00	00	00
Dakhla	47.6	31	30.5	13	31	31	18	09	04	17.0	—	24.7	30	8.4	1	00	00	00	00
Kharga	48.0	31	32.5	13	31	31	20	11	04	19.0	—	29.6	30	11.2	1	00	00	00	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurgada	38.6	26	26.4	3	31	13	04	00	00	—	—	27.6	30	15.7	1	00	00	00	00
Quseir	38.3	29	26.2	4	31	13	03	00	00	19.4	—	27.3	30	18.0	1	00	00	00	00

Table A. 3 – SKY COVER AND RAIN FALL

MAY — 1977

Station	Mean Sky Cover Oct.					Rain Fall mms										
	00 U.T.	60 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	Dev. From Normal	Max. Fall in one day		Number of Dayswith Amountof Rain						
								Amount	Date	<.1	>=.1	>=1	>=5	>=10	>=25	>=05
Elsallum	2.8	2.9	3.6	3.4	3.1	0.0	— 3.9	—	—	00	00	00	00	00	00	00
Mersa Matroh (A)	2.1	2.5	2.9	3.1	2.6	2.7	0.4	2.5	8	00	03	00	00	00	00	00
Alexandria (A)	1.7	2.7	3.5	3.1	2.6	0.9	— 0.8	0.9	11	00	01	00	00	00	00	00
Port Said (A)	1.6	2.7	1.8	1.7	1.9	1.9	—0.7	1.9	11	00	01	01	00	00	00	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	1.4	2.1	2.0	1.4	1.7	1.0	— 2.9	1.0	11	00	01	01	00	00	00	00
Cairo	1.6	1.5	1.5	1.7	1.5	0.2	— 0.5	0.2	12	00	01	00	00	00	00	00
Fayoum	—	1.0	1.4	1.3	—	TR	— —	TR	11	01	00	00	00	00	00	00
Minya (A)	0.9	1.3	1.0	0.9	1.1	1.0	0.9	1.0	12	00	01	01	00	00	00	00
Assyout (A)	0.2	0.8	0.7	0.9	0.6	0.0	0.0	—	—	00	00	00	00	00	00	00
Luxor (A)	0.4	0.5	0.6	0.4	0.5	0.0	— 0.1	—	—	00	00	00	00	00	00	00
Aswan (A)	0.1	0.4	0.4	0.1	0.2	0.0	0.0	—	—	00	00	00	00	00	00	00
Sewa	0.8	1.8	1.8	2.2	1.5	1.8	— 0.2	1.8	11	00	01	01	00	00	00	00
Aaharia	0.7	1.1	1.9	1.8	1.3	0.0	— 0.1	—	—	00	00	00	00	00	00	00
Farafra	—	0.8	1.1	1.2	—	0.0	0.0	—	—	00	00	00	00	00	00	00
Dakhla	0.3	0.4	0.6	0.4	0.4	0.0	— 0.1	—	—	00	00	00	00	00	00	00
Kharga	0.0	0.1	0.6	0.4	0.4	0.0	— 0.3	—	—	00	00	00	00	00	00	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurgada	0.2	0.6	0.9	0.5	0.6	0.0	— 0.4	—	00	00	00	00	00	00	00	00
Quseir	0.1	0.5	0.6	0.5	0.4	0.0	— 0.1	—	00	00	00	00	00	00	00	00

Table A 4.— DAYS OF OCCURENCE OF MISCELLANEOUS WEATHER PHENOMENA

MAY — 1977

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											
Sallum	00	00	00	00	00	01	01	09	00	00	00	14	06
Mersa Matruh (A)	04	00	00	00	09	02	04	09	00	03	00	13	03
Alexandria (A)	01	00	00	00	02	02	02	01	00	00	00	10	01
Port Said (A)	02	00	00	00	00	00	00	00	00	00	00	19	01
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	02	00	00	00	02	00	00	01	00	00	00	18	01
Cairo (A)	01	00	00	00	09	00	05	03	00	00	00	23	02
Fayoum	00	00	00	00	00	00	00	02	00	01	00	26	02
Minya (A)	01	00	00	01	00	00	13	09	01	01	00	25	02
Assyout (A)	00	00	00	00	00	00	03	10	00	02	01	28	01
Luxor (A)	00	00	00	00	00	00	13	03	00	00	00	29	00
Aswan (A)	00	00	00	00	00	00	01	06	00	01	00	31	00
Siwa	01	00	00	00	00	00	01	00	00	00	00	21	01
Bahariya	00	00	00	00	00	00	00	04	00	00	00	25	01
Farafra	00	00	00	00	00	00	02	02	00	01	01	24	02
Dakhla	00	00	00	00	00	00	00	06	00	02	00	30	00
Kharga	00	00	00	00	00	00	00	06	00	02	01	29	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	00	00	00	00	00	00	00	09	00	02	00	28	00
Quseir	00	00	00	00	00	00	00	01	00	00	00	30	00

Table A5—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

MAY—1977

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 / 245	255 / 284	285 / 314	315 / 344	All direction
Sallum	16	01	00	1—10	48	91	164	76	32	16	08	10	15	26	62	53	602
				11—27	00	18	36	02	00	01	02	10	21	21	02	13	126
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**48**	**109**	**200**	**78**	**32**	**17**	**10**	**20**	**36**	**47**	**64**	**66**	**728**
Mersa Matruh	14	00	01	1—10	45	49	15	12	23	18	23	27	33	50	44	122	461
				11—27	15	45	16	26	28	13	11	09	02	09	26	64	264
				28—47	00	00	00	00	00	00	03	01	00	00	00	00	04
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**60**	**94**	**31**	**38**	**51**	**31**	**37**	**37**	**35**	**59**	**70**	**186**	**729**
Alexandria	07	02	00	1—10	117	128	67	42	50	29	12	16	17	13	51	165	709
				11—27	02	08	01	00	00	00	00	00	00	01	06	10	28
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**119**	**136**	**68**	**42**	**50**	**29**	**12**	**16**	**17**	**14**	**57**	**175**	**737**
Cairo. A. P.	14	05	00	1—10	137	104	35	22	02	03	05	06	20	65	35	80	519
				11—27	65	40	17	30	15	02	03	04	00	01	07	27	211
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**202**	**144**	**52**	**52**	**17**	**05**	**08**	**10**	**20**	**66**	**42**	**107**	**730**
El Fayoum	02	03	00	1—10	231	232	61	16	09	14	10	23	22	20	17	36	694
				11—27	09	35	00	00	00	00	00	01	02	00	00	01	48
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**240**	**267**	**61**	**16**	**09**	**14**	**10**	**24**	**24**	**20**	**17**	**37**	**742**
El Minia	40	11	00	1—10	211	77	04	11	09	27	18	04	05	09	11	64	461
				11—27	176	41	03	03	00	06	04	02	00	00	00	08	241
				28—47	02	00	00	00	00	00	00	00	00	00	00	00	02
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**389**	**118**	**07**	**14**	**09**	**33**	**22**	**04**	**05**	**09**	**11**	**72**	**704**
Assuit	00	00	00	1—10	105	48	22	13	14	12	14	12	12	24	54	113	443
				11—27	109	11	02	01	06	05	08	03	00	09	16	136	297
				28—48	02	00	00	00	00	00	00	00	00	00	00	02	04
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**216**	**59**	**24**	**14**	**20**	**17**	**22**	**15**	**12**	**24**	**70**	**251**	**744**
Luxor	46	00	00	1—10	68	99	44	29	15	22	50	34	32	64	103	128	688
				11—27	00	07	00	01	00	00	00	00	00	01	00	01	10
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**68**	**106**	**44**	**30**	**15**	**22**	**50**	**34**	**32**	**65**	**103**	**129**	**698**

Table A5—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

MAY—1977

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	number in hours of occurrences wind blowing form 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
Aswan	00	02	00	1—10	238	74	23	07	05	04	06	04	08	09	47	120	547
				11—27	108	24	02	00	00	03	01	02	01	05	29	22	197
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	346	98	25	07	05	07	07	06	09	14	76	142	744
Siwa	39	06	00	1—10	13	71	94	128	88	63	21	19	18	50	21	19	611
				11—27	01	37	08	05	11	07	03	03	04	07	00	02	94
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	14	108	102	133	99	70	24	22	22	57	27	21	705
El Dakhla	17	10	00	1—10	97	36	22	59	35	45	29	24	38	39	75	138	647
				11—27	50	14	00	03	03	01	00	00	00	00	02	06	77
				28—47	03	00	00	00	00	00	00	00	00	00	00	00	03
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	150	50	22	62	38	46	29	24	38	39	75	144	727
El Kharga	04	06	09	1—10	228	84	22	10	08	18	05	03	04	06	35	94	523
				11—27	149	31	00	00	00	00	00	00	00	00	01	33	214
				28—47	03	00	00	00	00	00	00	00	00	00	00	00	03
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	380	115	22	10	08	18	05	03	04	06	36	127	740
El Hurghada	21	01	00	1—10	28	26	21	18	20	20	07	00	13	77	87	23	341
				11—27	77	13	02	01	02	00	00	00	00	47	132	102	376
				28—47	00	00	00	00	00	00	00	00	00	07	03	02	06
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	105	39	23	19	22	20	07	00	13	125	222	127	723
El Quseir	00	02	00	1—10	193	33	08	08	05	10	08	08	12	63	163	173	686
				11—27	23	00	00	00	01	00	00	00	00	00	00	35	58
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	216	33	08	08	05	10	08	08	12	63	163	208	744

UPPER AIR CLIMATOLOGICAL DATA

Table B 1.—MONTHLY MEAN AND MONTHLY ABSOLUTE HIGHEST AND LOWEST VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

MAY — 1977

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	30	1011m.b.*	1014m.b.*	1006m.b.*	30	18.6	26.3	14.0	30	12.4
	1000	80	123	148	81	30	18.1	27.2	10.8	30	11.9
	850	30	1514	1579	1475	30	15.3	25.3	7.0	30	—10.0
	700	30	3131	3207	3039	30	5.1	14.2	— 3.7	30	— 7.4
	600	30	4370	4471	4246	30	— 3.7	1.8	— 9.9	30	—14.8
	500	30	5784	5900	5627	30	—13.9	— 8.3	—20.0	30	—23.6
	400	30	7440	7568	7243	30	—26.4	—21.7	—36.1	30	—35.9
	300	30	9452	9620	9209	30	—42.4	—37.6	—46.7	30	—50.0
	250	30	10659	10852	10398	30	—51.6	—47.0	—55.3	30	—58.6
	200	30	12080	12293	11826	30	—58.8	—53.5	—62.3	17	—64.5
	150	28	13891	14100	13675	28	—59.1	—52.5	—65.7	10	—64.1
	100	27	16416	16604	16242	27	—62.8	—56.5	—68.0	—	—
	70	19	18589	18721	18386	19	—63.4	—58.0	—67.7	—	—
	60	14	19549	19710	19340	14	—62.4	—56.0	—66.6	—	—
	50	13	20635	20817	20422	13	—61.0	—54.3	—67.1	—	—
	40	8	22169	22310	21880	8	—57.0	—52.1	—63.6	—	—
	30	8	23920	24137	23567	8	—53.7	—49.7	—59.4	—	—
	20	1	26659	—	—	1	—49.2	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	31	996mb.*	1000mb.*	991mb.*	31	21.2	30.5	15.8	31	9.1
	1000	30	111	140	60	2	20.6	24.9	16.2	2	7.2
	850	31	1507	1546	1454	30	16.8	26.6	9.8	30	— 1.7
	700	31	3133	3213	3056	30	6.8	13.3	1.5	30	—10.7
	600	30	4383	4479	4291	30	— 1.3	4.1	—6.1	30	—15.7
	500	30	5812	5919	5702	30	—11.2	— 6.5	—15.0	30	—24.1
	400	30	7486	7621	7363	30	—23.7	—19.7	—28.2	30	—36.4
	300	29	9525	9684	9385	29	—39.8	—35.8	—45.2	29	—50.6
	250	29	10745	10918	10602	29	—48.7	—43.8	—57.4	29	—58.7
	200	29	12191	12343	12048	29	—56.1	—51.2	—62.1	28	—65.1
	150	28	14011	14181	13860	28	—58.4	—53.2	—65.0	16	—65.7
	100	25	16540	16743	16405	25	—62.5	—58.1	—65.5	—	—
	70	19	18728	18895	18578	18	—63.7	—61.3	—67.0	—	—
	60	15	19692	19889	19540	15	—63.2	—60.2	—65.7	—	—
	50	15	20790	20981	20625	15	—61.6	—57.1	—64.6	—	—
	40	10	22243	22520	22050	10	—59.0	—55.9	—62.1	—	—
	30	10	23975	24252	23768	10	—57.3	—54.7	—61.7	—	—
	20	5	26672	26881	26465	5	—52.0	—50.1	—53.3	—	—
	10	—	—	—	—	—	—	—	—	—	—
Asswan 0000 U.T.	Surface	30	988mb.*	992mb.*	982mb.*	30	25.1	34.0	19.4	30	1.3
	1000	30	85	122	35	—	—	—	—	—	— —
	850	30	1510	1546	1468	30	21.2	28.6	15.1	30	— 2.0
	700	30	3155	3212	3107	30	8.9	12.7	4.3	30	—11.1
	600	30	4413	4481	4358	30	0.5	5.4	— 2.8	30	—18.6
	500	30	5849	5938	5771	30	—10.0	— 5.9	—14.8	30	—28.9
	400	29	7532	7639	7431	28	—22.8	—18.9	—26.0	28	—39.0
	300	28	9581	9729	9457	28	—38.4	—32.1	—41.0	28	—51.8
	250	27	10815	10990	10696	27	—46.1	—41.0	—49.6	27	—58.3
	200	27	12276	12470	12174	27	—53.8	—50.1	—57.9	27	—65.1
	150	26	14092	14273	13976	26	—62.7	—58.9	—66.4	3	—68.6
	100	24	16537	16703	16406	24	—71.5	—65.8	—79.0	—	—
	70	16	18642	18824	18518	16	—71.3	—65.6	—75.6	—	—
	60	12	49635	19810	19510	12	—65.9	—63.5	—67.8	—	—
	50	12	20702	20887	20584	12	—59.7	—57.3	-62.6	—	—
	40	8	22220	22440	22060	8	—56.4	—53.0	—58.5	—	—
	30	8	23942	24147	23805	8	—54.1	—52.7	—57.5	—	—
	20	4	26594	26811	26474	4	—47.4	—44.2	—50.8	—	—
	10	—	—	—	—	—	—	—	—	—	—

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

* — pressure corrected to the elevation of the radiosonde station.

UPPER AIR CLIMATOLOGICAL DATA

Table B1 (*contd*).—MONTHLY MEANS, ABSOLUTE HIGHEST & LOWEST VALUES OF ALTITUOE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

MAY — 1977

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	1011m.b.*	1015m.b.*	1006m.b.*	30	24.2	36.6	17.5	30	14.0
	1000	30	126	158	85	30	23.5	39.0	17.8	30	11.6
	850	30	1529	1566	1491	30	16.8	26.2	8.2	30	— 0.2
	700	30	3154	3222	3073	30	6.7	19.7	— 3.1	29	— 8.9
	600	28	4398	4477	4285	28	— 2.7	3.2	— 9.9	28	—16.2
	500	28	5819	5914	5665	28	—12.4	— 6.1	—20.3	28	—26.0
	400	28	7480	7604	7278	28	—25.0	—15.3	—39.3	28	—37.5
	300	27	9502	9691	9253	27	—40.3	—31.1	—44.9	27	—50.0
	250	26	70101	10968	10483	26	—49.4	—38.4	—54.7	26	—59.9
	200	24	12160	12468	11841	24	—57.0	—44.3	—61.5	17	—66.6
	150	22	13889	14378	13812	22	—57.9	—48.3	—64.3	8	—64.7
	100	20	16527	17084	16387	20	—59.7	—42.3	—65.0	—	—
	70	17	18715	19516	18463	17	—61.2	—38.3	—68.5	—	—
	60	12	19769	20680	19500	12	—55.6	—36.4	—67.2	—	—
	50	12	20914	20980	20686	12	—55.9	—35.0	—64.3	—	—
	40	7	22176	22510	22100	7	—53.8	—49.7	—60.9	—	—
	30	7	24139	24259	23931	6	—46.4	—44.7	—52.0	—	—
	20	3	26693	26903	26281	3	—47.7	—43.9	—51.8	—	—
	10	1	31116	—	—	1	—49.8	—	—	—	—
Helwan 1200 U.T.	Surface	31	995m.b.*	1000m.b.*	991m.b*	31	32.0	44.0	25.4	31	3.5
	1000	30	99	144	57	2	28.8	32.2	25.4	—	—
	850	29	1324	1570	1478	28	19.0	33.0	9.3	28	— 2.6
	700	29	3161	3254	3093	28	8.3	17.1	2.1	28	—12.7
	600	28	4416	4533	4322	28	— 0.0	5.8	— 9.0	28	—18.8
	500	28	5852	5988	5728	28	— 9.6	— 5.7	—15.0	28	—26.9
	400	28	7539	7701	7380	28	—22.0	—18.6	—28.6	28	—39.8
	300	28	9593	9789	9418	28	—37.4	—33.3	—42.5	28	—52.3
	250	28	10829	11037	10650	27	—45.8	—42.0	—50.8	72	—58.8
	200	26	12283	12441	12120	26	—52.7	—46.1	—55.9	26	—64.9
	150	25	14141	14299	13982	25	—53.2	—45.9	—58.8	25	—65.9
	100	23	16750	16868	16592	23	—56.4	—51.7	—60.7	13	—68.6
	70	15	18999	19122	18895	15	—57.3	—51.3	—60.3	—	—
	60	12	20018	20120	19930	12	—54.7	—50.2	—59.0	—	—
	50	12	21161	21248	21060	12	—51.6	—48.9	—55.7	—	—
	40	9	22709	22820	22650	9	—48.0	—45.0	—54.4	—	—
	30	9	24540	24649	24458	9	—42.0	—40.1	—44.1	—	—
	20	5	27331	27420	27267	5	—35.3	—33.1	—38.2	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan (A) 1200 U.T.	Surface	30	988mb.*	992mb.*	983m b*	30	38.1	45.0	32.4	30	2.6
	1000	30	81	121	34	—	—	—	—	—	—
	850	30	1533	1569	1488	30	24.1	31.3	16.9	30	— 6.8
	700	29	3190	3249	3136	29	11.1	14.4	8.6	29	—16.1
	600	29	4457	4520	4392	29	2.1	6.5	— 0.9	29	—22.9
	500	29	5901	5965	5824	29	— 8.8	— 3.1	—12.0	29	—31.2
	400	27	7591	7682	7488	27	—21.5	—14.9	—24.6	27	—42.2
	300	26	9651	9802	9528	26	—36.4	—28.6	—39.9	26	—54.6
	250	26	10894	11092	10764	26	—44.3	—35.3	—49.0	24	—60.9
	200	24	12371	12619	12243	24	—52.2	—44.3	—57.5	21	—67.0
	150	24	14202	14501	14092	24	—60.0	—53.7	—65.3	—	—72.0
	100	22	16687	17059	16579	22	—69.1	—63.0	—73.0	—	—
	70	19	18799	18939	18690	19	—69.0	—64.3	—73.0	—	—
	60	13	19768	19900	19670	13	—63.2	—61.3	—65.8	—	—
	50	13	20858	20998	20862	13	—57.3	—54.0	—60.7	—	—
	40	8	22335	22500	22100	8	—53.9	—51.0	—55.6	—	—
	30	6	24168	24308	24089	6	—48.9	—44.6	—51.9	—	—
	20	1	26791	—	—	1	—41.4	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—

N The number of casses 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

MAY 1977

	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
0000U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh(A)	3783 (3—)	648 (30)	—10.9 (30)	4690	581	—13.2	2410	754	—1.0	12211 (27)	198 (25)	—60.9 (24)	13890	151	—66.4	10900	237	—55.5	9030	312	200	90
	Helwan	4149 (31)	619 (31)	—15.4 (31)	5000	557	—20.8	3300	676	—12.8	12526 (25)	191 (25)	—58.2 (25)	14410	143	—63.6	11270	227	—52.5	13630	155	230	136
	Aswan . . (A)	4474 (30)	596 (30)	—19.0 (30)	5150	552	—28.0	4050	625	—21.4	16171 (15)	109 (15)	—71.9 (15)	18540	072	—71.4	13960	154	—64.8	12630	186	230	130
1200U.T.		N	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh	4018 (28)	632 (28)	—13.5 (28)	5000	563	—14.2	2520	750	—4.8	12165 (22)	200 (22)	—58.5 (22)	14080	150	—64.3	10480	214	—50.0	9792	284	240	90
	Helwan . . .	4396 (28)	603 (28)	—18.6 (28)	5360	541	—25.9	3360	620	—19.6	12215 (23)	205 (23)	—53.0 (23)	13510	166	—57.4	9030	325	—34.0	9410	301	220	130
	Aswan	4749 (29)	581 (29)	—24.5 (29)	5660	568	—25.8	4260	610	—24.2	16430 (17)	108 (17)	—69.3 (17)	18500	074	—72.0	11510	227	—51.7	11910	213	240	128

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

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

M. MATRUH (A) — MAY 1977

Observation	Pressure Surface (Millibar)	Wind within 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		235/254		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	2	3	7	1	8	0	—	3	15	4	8	3	5	1	5	2	6	5	9	2	5	4	9	0	30	8
	1000	2	16	4	9	0	—	1	15	3	20	4	14	0	—	0	—	1	17	5	11	4	10	5	11	0	29	12
	850	2	18	3	22	0	—	0	—	1	28	0	—	2	17	1	15	4	23	5	18	7	16	4	26	0	29	20
	700	4	32	1	18	0	—	0	—	0	—	0	—	1	32	1	19	9	28	5	29	5	27	3	25	0	29	28
	600	2	22	1	38	0	—	1	9	0	—	0	—	0	—	3	24	5	37	9	33	4	20	3	23	0	28	28
	500	3	25	0	—	0	—	0	—	0	—	0	—	0	—	2	18	7	29	12	35	1	11	3	19	0	28	39
	400	2	8	0	—	0	—	0	—	0	—	0	—	0	—	2	54	8	30	9	37	4	26	1	40	0	26	32
	300	1	11	0	—	0	—	0	—	0	—	0	—	1	42	2	50	2	48	10	31	3	27	1	13	0	20	33
	250	1	21	0	—	0	—	0	—	0	—	0	—	2	47	0	—	2	20	7	34	1	24	1	17	0	14	31
	200	0	—	0	—	1	7	0	—	0	—	0	—	0	—	0	28	3	26	3	34	0	—	1	15	0	8	25
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	34	1	42	4	30	0	—	0	—	0	7	31
	100	0	—	0	—	0	—	0	—	0	—	0	—	1	12	2	17	0	—	1	29	0	—	0	—	0	4	27
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	—	0	—	0	—	0	—	0	—	0	1	17
	60	0	—	0	—	0	—	0	—	0	—	1	16	0	—	0	—	0	—	0	—	0	—	0	—	0	1	16
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	6	12	7	11	1	10	1	20	1	18	0	—	0	—	1	19	1	20	0	—	2	19	10	12	0	30	13
	1000	7	11	5	12	1	12	0	—	1	16	0	—	0	—	1	20	3	18	0	—	4	21	7	15	0	29	15
	850	4	16	2	10	0	—	0	—	0	—	0	—	1	8	4	26	6	22	4	16	5	13	3	15	0	29	17
	700	6	34	2	16	0	—	0	—	0	—	0	—	0	—	1	14	9	29	4	22	6	22	1	20	0	29	26
	600	3	30	1	19	0	—	0	—	0	—	0	—	1	36	2	28	5	35	6	34	6	19	3	24	0	27	28
	500	3	17	0	—	0	—	0	—	0	—	0	—	0	—	2	33	6	32	7	38	6	28	3	28	0	27	30
	400	2	28	0	—	0	—	1	2	0	—	0	—	0	—	2	26	5	31	7	30	5	34	1	15	0	23	29
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	38	5	32	5	36	2	30	4	25	0	18	32
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	52	2	38	3	28	3	41	3	29	0	13	37
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	30	2	22	3	29	1	41	1	23	0	8	28
	150	0	—	0	—	0	—	0	—	0	—	0	—	1	24	0	—	1	38	0	—	0	—	0	—	0	2	31
	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 for all directions during the month.

Table B3—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.

HELWAN — MAY 1977

Station	Pressure Surface (Milibar)	Wind between ranges of direction (000—360°)																								Number of Calm winds	Total number of observations (TN)	Mean scalar wind speedknots
		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	7	6	11	9	1	12	7	8	1	2	0	—	0	—	0	—	0	—	1	7	1	5	2	6	2	31	8
	1000	0	—	1	12	0	—	1	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	11
	850	2	18	10	19	1	12	0	—	0	—	0	—	0	—	0	—	3	16	1	17	6	18	7	14	0	30	17
	700	6	15	4	10	0	—	0	—	0	—	0	—	0	—	0	—	3	25	3	12	9	22	4	22	0	29	18
	600	3	15	0	—	0	—	0	—	0	—	0	—	0	—	4	39	2	11	4	24	12	31	4	13	0	29	26
	500	2	25	0	—	0	—	0	—	0	—	0	—	0	—	4	37	2	14	9	31	8	26	4	25	0	29	28
	400	3	19	0	—	0	—	0	—	0	—	0	—	0	—	2	53	3	29	6	32	10	38	3	25	0	27	34
	300	1	49	0	—	0	—	0	—	0	—	0	—	0	—	4	41	2	28	6	53	7	54	5	29	0	25	45
	250	0	—	0	—	0	—	0	—	0	—	0	—	1	32	0	—	2	26	7	56	4	46	7	38	0	21	44
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	31	7	61	3	46	4	43	0	15	51
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	58	2	58	2	53	0	—	0	6	56
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	83	1	27	0	—	0	—	0	2	55
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	26	0	—	0	—	0	1	26
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	—	—	0	—	1	25	0	—	0	—	0	1	25
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	5	9	9	10	0	—	0	—	0	—	2	6	0	—	1	8	3	8	5	8	1	10	5	9	0	31	9
	1000	0	—	2	8	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	8
	850	6	11	7	17	1	12	1	14	0	—	0	—	0	—	0	—	3	17	2	16	5	12	4	10	0	29	13
	700	0	—	5	10	2	16	0	—	0	—	0	—	0	—	2	21	3	16	2	31	7	17	7	16	0	28	17
	600	2	20	3	14	0	—	0	—	0	—	0	—	0	—	1	14	4	39	4	16	8	23	6	17	0	28	22
	500	4	22	0	—	1	16	0	—	0	—	0	—	0	—	2	44	4	32	7	36	8	28	2	22	0	28	30
	400	1	32	0	—	0	—	0	—	0	—	0	—	0	—	1	81	5	48	9	29	8	36	4	32	0	28	37
	300	2	57	0	—	0	—	0	—	0	—	0	—	0	—	1	128	4	57	8	41	9	47	2	52	0	26	51
	250	1	42	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	55	9	44	7	56	3	82	0	23	54
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	56	8	42	2	52	3	60	0	16	49
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	79	8	49	4	60	0	—	0	13	55
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	31	1	31	2	34	0	—	0	5	33
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	31	0	—	1	12	0	—	0	3	31
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been obsersed 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 WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

ASWAN MAY—1977

Time	Pressure Surface (Millibar.)	Wind within 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	11	3	12	4	12	1	6	1	8	0	—	0	—	0	—	0	—	0	—	1	10	5	12	0	30	11
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	2	16	8	17	3	27	0	—	0	—	0	—	0	—	0	—	1	13	1	14	4	14	10	14	0	29	16
	700	6	20	1	5	2	12	0	—	0	—	1	12	0	—	0	—	2	27	3	16	4	23	2	6	0	21	17
	600	1	11	1	12	2	6	1	3	1	7	0	—	0	—	0	—	1	32	4	20	4	22	0	—	0	15	17
	500	0	—	2	7	0	—	0	—	0	—	1	3	0	—	1	32	0	—	6	25	2	32	2	7	0	14	20
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	40	3	14	5	23	3	22	0	—	0	13	23
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	75	6	52	4	33	2	32	0	—	0	13	45
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	78	7	64	3	43	2	38	0	—	0	13	56
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	10	74	2	56	0	—	0	—	0	12	72
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	9	61	2	49	0	—	0	—	0	11	59
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	27	4	31	1	48	2	28	0	—	0	8	32
	70	0	—	1	10	0	—	1	22	1	16	1	12	0	—	0	—	1	6	1	21	0	—	1	12	0	7	14
	60	0	—	0	—	1	28	3	20	2	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	6	18
	50	0	—	0	—	1	18	5	14	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	6	15
	40	1	35	1	12	2	19	1	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	5	21
	30	0	—	0	—	0	—	3	33	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	33
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	17	11	3	10	1	14	0	—	0	—	0	—	0	—	0	—	0	—	2	8	4	6	3	13	0	30	11
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	8	12	4	16	2	16	1	7	0	—	0	—	0	—	0	—	0	—	3	7	4	13	8	10	0	30	12
	700	1	18	5	12	4	16	1	15	0	—	1	5	0	—	1	7	5	20	4	18	4	20	3	22	0	29	16
	600	0	—	4	6	2	24	1	15	0	—	0	—	0	—	0	—	6	24	8	17	2	17	5	16	0	28	17
	500	1	10	2	18	0	—	0	—	0	—	1	32	0	—	1	59	7	27	8	19	4	19	3	9	0	27	22
	400	1	24	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	42	10	22	6	18	2	14	0	27	26
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	10	54	8	40	5	40	1	19	0	25	43
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	12	70	7	46	4	50	3	31	0	24	48
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	12	75	4	59	3	65	2	46	0	20	68
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	58	10	58	1	35	1	—	0	14	56
	100	0	—	0	—	0	—	0	—	0	—	0	—	1	10	2	21	3	26	3	29	2	16	0	17	0	12	22
	70	0	—	0	—	4	21	0	—	2	—	1	16	0	—	0	—	1	10	0	—	0	—	1	—	0	6	18
	60	0	—	0	—	0	—	2	16	2	23	0	—	0	—	0	—	1	15	0	—	0	—	0	—	0	5	19
	50	0	—	0	—	0	—	4	18	0	—	0	—	0	—	0	—	0	—	1	23	0	—	0	—	0	5	19
	40	0	—	0	—	0	—	2	25	1	28	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	26
	30	0	—	0	—	0	—	1	38	—	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	38
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

The total Number of cases the wind has been observed for all directions during the month

REVIEW OF AGRO METEOROLOGICAL STATIONS

MERSA MATRUH — OCTOBER 1977

The mean daily air temperature was above normal and the mean daily relative humidity was nearly the same as normal. The total monthly rainfall was 2.7mm. (0.3mm. below normal).

Weather was mild during the first three weeks apart from a short heat wave on the 15th & 16th.

From the 24th till the end of the month three excessive heat waves prevailed, the second of which gave rise to the highest maximum temperature (41. 8°c) on the 28th.

The mean daily actual sunshine duration and wind speed at 1.5 met. height were slightly below average.

The highest maximum soil temperatures were higher than the corresponding values of May 1976 at all depths with departures between 3.6°c (at 2cm.) and 0.7°c (at 100cm.). The lowest minimum soil temperatures were lower than May 1976 at a depths with departures between 1.2°c (at 5cm.) and 0.2°c (at 100cm.).

TAHRIR — MAY 1977

The mean daily air temperature was above normal and the mean daily relative humidity was below normal. No rain was reported except 1.5mm. on the 11th (3.4mm. below normal).

Weather was mild during the first and second weeks apart from a short heat wave on the 9th & 10th.

During the second half of the month, five heat waves prevailed, the last three of which were excessive and prevailed from the 22nd till the end of the month. The last heat wave gave rise to both the highest maximum temperature (45.2°c) and the highest minimum temperature (21.9°c)on the 31st.

The mean daily actual sunshine duration, wind speed at 1.5 met. height and pan evaporation were slightly below normal.

The highest maximum soil temperatures were higher than normal at all depths with departures between 3.2°c (at 10cm) & 0.6°c (at 100cm). The lowest minimum soil temperatures were lower than normal at all depths except those at 2 & 20cm. which were higher than normal, the departures varied between 0.1° & 0.8°c.

BAHTIM — MAY 1977

The mean daily air temperature was above average and the mean daily relative humidity was below average No rain was reported except 0.4mm. on the 11th.

Weather was mild during the first three weeks apart from two short heat waves on the (9th & 10th) and (16th).

The period from the 23rd till the end of the month was characterized by three excessive heat waves, the last of which gave rise to the highest maximum temperature (44.4°c) and the highest minimum temperature (20.4°c) on the 31st.

The mean daily actual sunshine duration was slightly higher than average. The mean daily wind speed at 1.5 met. height and pan evaporation were slightly lower than average.

The highest maximum soil tmperatures were higher than average at all depths with departures between 4.1°c (at 2 cm.) and 0.6°c (at 100 cm.). The lowest minimum soil temperatures were higher than average at depths between 2 & 20 cm. with departures between 2.0°c (at 2 cm.) & 0.7°c (at 20 cm.) but lower than average by 0.2°c at both 50 & 100 cm. depths.

ASSYOUT —MAY 1977

The mean daily maximum temperature was 37.0 °c and the mean daily minimum temperature was 17.0°c. The mean daily relative humidity was 36%.

Weather was mild during the first and second weeks, intervened by a heat wave in the period (9th 11th).

The second half of the month was characterized by a moderate heat wave in the period (16th-19th) and a prolonged excessive heat wave which prevailed from the 22nd till the end of the month giving rise to both the highest maximum temperature (47. 0°c) and the highest minimum temperature (24.8°c) on the 31st.

KHARGA —MAY 1977

The mean daily air temperature was above norm al and the mean daily relative humidity was nearly the same as normal.

Weather was generally mild during the first three weeks intervened by two heat waves in the periods (9th-11th) & (17th).

An excessive heat wave prevailed from the 22nd till the end of the month giving rise to the highest maximum temperature (48.0°) on the 31st and the highest munimum temperature (29.6°c) on the 30th.

The mean daily actual sunshine duration was higher than normal by 0.3 hour. The mean daily wind speed at 1.5 met. height and pan evaporation were lower than normal by 1.1 met/sec. and 3.13 mm. respectively.

able C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

MAY — 1977

STATION	Air Temperature (°C)					Duratio in hours to the nearest half hour of 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. . . .	26.3	16.1	20.9	18.3	21 8	24.0	24.0	24 0	24.0	22.1	12.5	3.3	1 0	0 4	0.0	0.0
Thrira	33.7	15.3	23.6	18 9	25.4	24.0	24.0	24.0	24.0	22.1	15.9	9.7	4.3	1.5	0.2	0.0
Bahtim	32.8	14.2	23.5	18.4	25.4	24.0	24.0	24.0	24.0	20.9	15.1	9.7	4.5	1.6	0.5	0.0
Assiut	37 0	17 0	26.9	21.4	28.7	24.0	24 0	24.0	24.0	23.1	18.5	13.2	7.5	3.7	1.5	0.0
Kharga	38.5	20.9	30.3	25.9	31.8	24.0	24.0	24.0	24.0	23.7	22.8	18.0	11.9	5.4	2.5	0.6

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

MAY — 1977

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. . . .	41.8	28	20.2	13	20 4	31	11.0	2	7.5	2	—	—
Tahrir	45.2	31	27.8	12·13	21 9	31	9.8	14	8.0	14	6.8	14
Bahtim	44.4	31	27.1	12	20.4	29 31	10.4	15	7.8	14	6.3	15
Assiut	47.0	31	30.4	13	24.8	31	11.6	1	7.4	1	—	—
Kharga	48.0	31	32.5	13	29.6	30	11.2	1	9.2	1	—	—

Table C 3.—SOLAR + SKY RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY & VAPOUR PRESSURE AT 2 METRES ABOVE GROUND, EVBORATION A RAINFALL.

MAY — 1977

STATION	(Solar+Sky Radiation gm. cal/cm²	Duration of Bright Sunshine			Relative Humidity %				Vapour Pressure (mms)						Evaporation(mms)		RainFall (mms)		
		Total Actual	Total Possible	%	Mean of dry	1200 U.T.	Lowest	Date	Mian of dry	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan Class(A)	Total Amount	Max. Fall in one day	Date
M. Matruh	529.2	325.1	426.5	76	68	56	13	28	12.3	12.4	17.9	31	6.2	16.25	7.5	—	0.0	0.0	—
Tahrir . .	620.1	344.8	424.5	81	55	31	10	31	11.0	10.0	16.7	29	6.1	16	7.5	9.70	1.5	1.5	11
Bahtim . .	618.0	336.6	423.5	79	53	29	11	26	10.2	9.6	16.9	11	4.7	16	9.7	10.52	0.4	0.4	11
Assiut. .	—	364.4	417.1	87	36	19	9	263,1	8.7	7.8	13.0	11	4.9	16	11.2	10.68	0.0	0.0	—
Kharga .	682.5	362.9	414.0	88	22	15	5	28	6.7	7.1	14.0	31	3.6	10	18.2	16.90	0.0	0.0	—

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

MAY — 1977

STATION	Highest (H) Lowest (L)	Dry Eiecd								Grass							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	30
M.Matruh	H	41.2	39.2	32.1	28.4	25.6	23.2	21.4	—	—	—	—	—	—	—	—	—
	L	17.9	17.5	18.1	19.1	20.0	20.2	20,3	—	—	—	—	—	—	—	—	—
Tahrir	H	54.1	47.7	41.8	35.9	31.5	28.0	24.8	23.9	33.9	33.9	30.7	28.6	28.1	25.9	23,7	—
	L	21.1	20.3	20.5	23.5	24.0	23.0	22.4	22.5	18.6	18.5	18.0	19.6	21.1	21.4	21.2	—
Bahtim	H	56.0	46.4	39.1	32.9	29.3	26.1	23.1	22.2	44.8	34.8	32.2	27.6	24.8	22.4	20.6	—
	L	24.1	22.2	23.2	25.3	24.0	22.7	22.0	21.9	20.4	19.6	19.6	20.8	20.5	19.8	19,7	—
Assiut . . .	H	65.2	51.4	42.0	35.4	29.9	26.9	23.7	23.1	—	—	—	—	—	—	—	—
	L	26.2	23.1	23.0	25.8	25.2	24.0	22.5	22·7	—	—	—	—	—	—	—	—
Kharga	H	61.3	54.2	48.4	40.6	33.0	30,4	27.5	27.4	—	—	—	—	—	—	—	—
	L	15.0	18.6	21.7	26.0	27.3	27.2	26.4	26.8	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

MAY — 1977

STATION	Wind Speed m/sec (2 metres)			Days with surface wind speed at (10 metres)							Max.Gust 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 (konts)	≥15 (konts)	≥20 (konts)	≥25 (konts)	≥30 (konts)	≥35 (knots)	≥40 (knots)	Value (knots)	Date
M.Matruh . .	3.6	2.7	4.6	31	30	15	5	2	0	0	39	16
Tahrir	2.2	1.5	2.9	30	21	5	1	1	0	0	36	31
Bahtim	2.2	1.4	3.0	28	19	7	1	0	0	0	30	22
Assiut	—	—	—	—	—	—	—	—	—	—	—	—
Kharga. . . .	2.9	2.4	3.4	30	24	8	2	2	1	0	46	12

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

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

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

THE MONTHLY WEATHERT 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 surfaee, 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

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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.

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THE ARAB REPUBLIC OF EGYPT

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
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CONTENTS

PAGE

General Summary of Weather Conditions 1

SURFACE DATA

Table A1.—Monthly values of the Atmospheric Pressure, Air Temperature, Relative Humidity, Bright Sunshine Duration, and Piche Evaporation 2

" A2.—Maximum and Minimum Air Temperatures 3

" A3.—Sky Cover and Rainfall 4

" A4.—Number of Days of Occurrence of Miscellaneous Weather Phenomena . . . 5

" A5.—Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded Within Specified Ranges 6,7

UPPER AIR DATA

Table B1—Monthly Means and Monthly Absolute Highest & Lowest Values of Altitude, Air Temperature & Dew point at Standard and Selected Pressure Surfaces. 8,9

" B2.—Mean and Extreme values of The Freezing Level and The Tropopause. The Highest Wind Speed in The Upper Air 10

" B3.—Number of Occurrences of Wind Direction within Specified Ranges and The Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces. 11–13

AGRO-METEOROLOGICAL DATA

Reviews of Agro-meteorological Stations 14,15

Table C1.—Air Temperature at 1½ metres above Ground 16

" C2.—Extreme Values of Air Temperature at 1½ metres above Ground, Absolute Minimum Air Temperature at 5 Cms Above Ground over Different Fields 16

" C3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity and Vapour Pressure at 1½ Metres Above Ground, Evaporation and Rainfall. . . 16

" C4.—Extreme Soil Temperature at Different Depths in Different Fields 17

" C5.—Surface wind 17

Note—For explanatory notes on the tables please refer to Volume 18 number 1 (January 1975).

GENERAL SUMMARY OF WEATHER CONDITIONS

JUNE 1977

An intense heat wave most of the first week. Mild weather during the second week. Three moderate heat waves during the third and fourth weeks.

PRESSURE DISTRIBUTION

The atmospheric pressure was mainly influenced by the following :

— Two desert depressions passing through north Egypt on the 5*th* & 16*th*.

— Monsoon low pressure over the Arabian Gulf, Arabia & North Sudan.

— Weak high pressure over Central Mediterranean and NE Africa.

The monthly mean atmospheric pressure was below normal.

SURFACE WIND

Light to moderate NE to NW winds prevailed most of the month.

Fresh to strong SW-ly winds were experienced during few days mainly by the break down of heat waves.

TEMPERATURE

This month was characterized by an excessive heat wave during the first week, and three moderate heat waves most of the third and fourth weeks.

A part form these heat waves, mild summer weather prevailed with subnormal maximum and minimum temperatures mainly during the second week.

The highest and lowest maximum temperattres were respectsvely 48.5 at Kharga os the 5*th* and 23.8°C at Mersa Matruh on the 7*th*.

The highest and lowest minimum temperatures were respectively 29.5°C at Farafra on the 4*th* and 14.7°C at Dakhla on the 11*th*.

WEATHER PHENOMENA

No rain was reported during the month,.

Rising sand occurred during several days in scattered places.

Early morning mist developed in some days over scattered places in Lower Egypt and Cairo.

Cairo, January 1977

Chairman M.S. ELDIN HARB

Board of Directors

SURFACE DATA

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

JUNE 1977

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	DF Normal or Average	Mean	D.F Normal or Average	Total Actua	Total Possible	%	Mean
El Sallum	1011 4	—1.4	30.2	0.5	19.9	0 0	25.0	24.7	0.2	18.7	—1.1	56	—5	—	--	—	9.2
Mersa Matruh	1011.2	—1.5	28.1	0.0	18.9	0.4	23.5	23.4	0.0	19.1	—0.5	69	0	355.3	425.0	85	6.9
Alexandria	1010.8	—1.3	30.2	1 3	20.5	0.3	25.3	25.1	0.7	20.8	0.3	68	—1	346.1	424.6	82	4.7
Port Said	1009.6	—1.4	28.3	—0.2	22.1	—0.3	25.2	24.8	—0.1	21.4	0.1	73	2	335.8	424 8	79	5 6
Tanta	1009.6	—1.7	33.3	—0.6	18.2	0.5	25.7	25.4	—0.2	19.9	0.3	62	3	336.1	422.6	80	6.2
Cairo	1009 9	— 1.0	34.9	0.0	20 8	0.6	27.8	27.7	0.5	20.0	0.4	50	4	—	—	—	17.0
Fayoum	—	—	37.2	0.2	19.8	—0.7	28.5	28.4	—0.2	20.2	0.7	48	9	—	—	—	10.1
Minya (A)	1009.0	—0.9	37.3	0.7	20.0	0.9	28 6	28.9	1.0	19 4	0 4	41	1	361 0	416 5	87	16.7
Assyout (A)	1008.3	—0.6	37.1	—0.7	21.7	0.1	29.4	29.9	0.1	17.5	—0.7	26	—1	—	—	—	19.6
Luxor (A)	1006.8	0.0	41.4	0.2	23.2	0.7	32.3	32.4	0.0	19.6	0.3	27	3	—	—	—	12.6
Aswan (A)	1006 4	—0.3	41.7	—0.2	25.6	0.9	33.6	33.9	0.5	17 9	0.5	15	—3	368.9	407.6	91	22.4
Siwa	1010.4	—1.7	37.6	0.2	20.4	0.5	29.0	29.3	0.4	18.0	—0 2	32	—6	367.5	419.4	88	18.1
Bhariya	1009.3	—1.6	37.8	1 0	20.9	1.0	29.3	29.5	1.0	18.0	—0 5	31	—8	—	—	—	14.6
Farafra	1010.6	—1.0	38.6	1.1	21.6	1.4	30 1	30.3	1.2	17.3	0.2	24	—2	—	—	—	19.8
Dakhla	1009 7	—0.1	39.6	1.2	21.7	—0.7	30.6	31.3	0.8	17.2	—0.5	20	—5	—	—	—	22.1
Kharga	1007.7	—1.3	40.3	1.4	23.7	0.1	32.0	32.4	0.9	17.9	0.1	24	—0	368.6	410.6	90	18.8
Hurghada	1006 6	—0.5	32.5	0.3	24.3	0.6	28.4	28.6	0.2	20.0	—0.3	42	—5	369.4	415.2	89	22.0
Quseir	1005.6	—1.6	32.4	0.3	25.6	0.2	29.0	29.2	0.4	21.2	0.4	47	2	—	—	—	11.0

TABLE A2.— MAXIMUM AND MINIMUM AIR TEMPERATURE

JUNE — 1977

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	37.4	16	24 3	7	27	15	03	00	00	19.0	—	22.7	27	16 7	8	00	00	00	00
Mersa Matruh (A)	42 0	4	23.8	7	26	04	03	01	00	17.3	—	22.4	28	15.4	8	00	00	00	00
Alexandria (A)	40.2	4	26 6	8	30	12	02	01	00	18.0	—	24.4	5	17.0	23	00	00	00	00
Port Said (A)	31.7	20	25.0	8	29	06	00	00	00	21.3	—	25.6	5	20.3	10	00	00	00	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	40.0	17	28.4	19	30	27	09	00	00	—	—	22.5	5	14.8	8	00	00	00	00
Cairo (A)	43.2	5	30 5	8	30	30	13	02	00	—	—	29.4	5	17.2	8	00	00	00	00
Fayoum	44.2	5	32 0	9	30	30	21	07	00	18.0	—	22.4	28	16.3	7	00	00	00	00
Minya (A)	46 4	5	31.4	7	30	30	21	07	01	17 4	—	25.6	5	16.2	10	00	00	00	00
Assyout (A)	46 9	1	31.0	10	30	30	20	08	02	21.6	—	27.3	2	17.3	10	00	00	00	00
Luxor (A)	48.0	2	35.6	19	30	30	30	16	05	16.5	—	27.8	6	20.0	8,15	00	00	00	00
Aswan (A)	47.3	6	37.4	20	30	30	30	18	04	—	—	29.3	2	21.4	10	00	00	00	00
Siwa	46.3	4	31.8	6	30	30	19	09	01	19.1	—	27.4	4	16.4	10	00	00	00	00
Bahariya	47.0	5	31.8	7	30	30	21	08	02	20.2	—	27.5	4	16 8	9	00	00	00	00
Farafra	47.8	1	33.1	7	30	30	22	09	03	20.1	—	29.5	4	16.2	10	00	00	00	00
Dakhla	48.2	1,5	34.6	10	30	30	27	13	04	21.6	—	27.3	26	14 7	11	00	00	00	00
Kharga	48.5	5	34.3	10	30	30	28	14	03	21.6	—	28.6	4	16.5	11	00	00	00	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	38.7	3	29.0	10	30	27	06	00	00	—	—	27.4	26	21.7	11,14	00	00	00	00
Quseir	37.2	28	29.0	8	30	27	05	00	00	21.4	—	29.3	18	23.2	9	00	00	00	00

TABLE A 3.—SKY COVER AND RAINFALL

JUEN — 1977

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	1.6	1.4	1.6	0.5	1.3	0.1	— 0.3	0.1	4	0	01	0	0	0	0	0
Mersa Matruh (A)	1.3	2.7	1.0	2.3	1.7	0.0	— 2.4	0 0	—	0	0	0	0	0	0	0
Alexandria (A)	2.2	1.9	2.9	2 6	2.4	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Port Said (A)	1.5	2.5	0.4	1.4	1.3	0.0	0.0	0.	—	0	0	0	0	0	0	0
El Arish	-	—	—	—	—	—	—	—	—	—	0	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	0	—	—	—	—	—
Tanta	0.9	2.0	1.1	0.2	1.0	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Cairo (A)	1.4	2.9	0.8	0.8	1.3	0.0	—0.2	0.0	—	0	0	0	0	0	0	0
Fayoum	—	1.6	0.8	0 8	—	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Minya (A)	0.8	1.0	0.9	0.9	0.8	0 0	0.0	0.0	—	0	0	0	0	0	0	0
Assyout (A)	0.1	0.2	0.3	0.2	0.2	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Luxor (A)	0.3	0.3	0.4	0.4	0.3	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Aswan (A)	0.0	0.2	0.4	0.2	0.2	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Siwa	0.7	0 4	0.3	0.6	0.5	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Bahariya	0.5	0.8	0.6	0.7	0.7	0.0	- 0.3	0.0	—	0	0	0	0	0	0	0
Farafra	—	0.5	1.6	0 4	—	0.0	—0.1	0.0	—	0	0	0	0	0	0	0
Dakhla	0.0	0.0	0.2	0 2	0.1	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Kharga	0.0	0.0	0.2	0.1	0.1	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.3	0.4	0.4	0.4	0.4	0.0	0.0	0.0	—	0	0	0	0	0	0	0
Quseir	0.0	0.2	0.5	0.2	0.2	0.0	0.0	0.0	—	0	0	0	0	0	0	0

Table A 4.—DAYES OF OCCURRENCE OF MISCCLLANEOUS WEATHER PHENOMENA

JUNE — 1977

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											
Sallum	01	00	00	00	04	00	00	07	00	00	00	22	00
Mersa Matruh (A)	00	00	00	00	08	05	04	16	00	01	00	19	00
Alexandria . (A)	00	00	00	00	01	03	00	01	00	00	00	15	00
Port Said . (A)	00	00	00	00	00	00	00	02	00	00	00	21	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	00	00	00	00	04	00	00	00	00	00	00	26	00
Cairo . . . . (A)	00	00	00	00	14	03	07	03	00	01	00	23	00
Fayoum	00	00	00	00	00	00	01	02	00	00	00	25	00
Minya . . . . (A)	00	00	00	00	01	00	10	04	01	00	00	24	00
Assyout. . . . (A)	00	00	00	00	00	00	01	06	00	01	00	29	00
Luxor . . . . (A)	00	00	00	00	00	00	12	04	00	01	00	28	00
Aswan . . . . (A)	00	00	00	00	00	00	00	06	00	00	00	30	00
Siwa	00	00	00	00	00	00	00	01	00	00	00	27	00
Bahariya	00	00	00	00	00	00	00	02	00	00	00	25	00
Farafra	00	00	00	00	00	00	02	02	00	01	00	25	00
Dakhla	00	00	00	00	00	00	00	10	00	00	00	30	00
Kharga	00	00	00	00	00	00	00	07	00	00	00	30	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	00	00	00	00	00	00	00	06	00	00	00	28	00
Quseir	00	00	00	00	00	00	00	01	00	00	00	29	00

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

JUNE — 1977

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing within 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	20	00	00	1—10	55	91	50	47	36	13	04	10	04	14	67	127	518
				11—27	17	27	10	00	00	00	00	01	03	02	01	121	182
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**72**	**118**	**60**	**47**	**36**	**13**	**04**	**11**	**07**	**16**	**68**	**248**	**700**
Mersa Matruh (A)	20	01	00	1—10	05	17	10	12	08	08	08	09	55	84	48	76	341
				11—27	00	12	07	15	07	02	05	04	01	17	182	107	359
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**05**	**29**	**17**	**27**	**15**	**10**	**13**	**13**	**56**	**101**	**230**	**183**	**699**
Alexandria (A)	06	01	00	1—10	54	42	13	06	16	17	07	12	08	21	94	211	502
				11—27	01	08	09	01	00	00	00	00	00	05	56	132	212
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**55**	**50**	**22**	**07**	**16**	**17**	**07**	**12**	**08**	**26**	**150**	**343**	**713**
Cairo (A)	38	06	00	1—10	27	52	15	14	03	02	03	03	29	81	116	170	570
				11—27	76	15	01	02	07	00	00	00	01	05	21	33	112
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**103**	**67**	**16**	**16**	**10**	**02**	**03**	**03**	**30**	**86**	**137**	**203**	**676**
Fayoum	00	00	00	—10	314	264	13	07	07	07	10	08	07	12	08	38	695
				11—27	01	18	00	00	00	00	05	01	00	00	00	00	25
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**315**	**282**	**13**	**07**	**07**	**07**	**15**	**09**	**07**	**12**	**08**	**38**	**720**
Minya (A)	08	05	00	1—10	262	115	01	00	00	20	17	02	06	06	09	45	488
				11—27	104	105	00	00	00	00	05	01	01	00	01	07	224
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**366**	**220**	**01**	**00**	**00**	**20**	**22**	**03**	**07**	**06**	**10**	**52**	**707**
Assyout (A)	08	00	00	1—10	80	27	05	07	08	15	06	14	10	20	58	125	375
				11—27	134	07	00	00	01	05	07	09	01	04	23	145	345
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**214**	**34**	**05**	**07**	**09**	**20**	**13**	**23**	**11**	**24**	**81**	**279**	**720**

Table A 5 *(contd.)*— NUMBER IN HOURS OF OCCURENCES OF CONCURRENT SURFACS WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES JUNE — 1977

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 DIR
Luxor . . . . . (A)	30	00	00	1—10	52	42	12	13	14	32	76	37	30	75	140	142	665
				11—27	0	03	0	0	0	0	4	01	0	01	07	14	25
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	00
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	00
				All speeds	52	45	12	13	14	32	76	37	30	76	147	156	690
Aswan . . . . .(A)	33	0	0	1—10	207	45	07	04	09	23	22	03	04	23	92	10 5	546
				11—27	97	00	00	00	00	00	00	00	00	11	23	3 8	169
				28—47	02	00	00	00	00	00	00	00	00	00	00	0 0	02
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	306	45	07	04	09	23	22	03	04	34	115	143	715
Siwa	85	0	0	1—10	109	117	63	94	45	21	07	05	12	28	37	100	642
				11—27	11	09	10	01	04	00	00	00	00	02	08	17	62
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	120	126	73	95	49	21	07	05	12	30	45	117	700
Dakhla	24	17	0	1—10	107	93	18	23	16	13	23	15	25	36	68	197	592
				11—27	52	13	00	00	00	01	04	04	00	01	01	47	123
				28—47	00	03	00	00	00	00	00	00	00	00	00	00	03
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	159	55	18	23	16	14	27	19	25	37	69	244	706
Kharga	13	0	0	1—10	195	54	18	10	13	19	08	12	03	17	42	92	487
				11—27	179	09	00	00	00	00	00	04	00	00	04	34	230
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	374	63	18	10	13	19	08	16	03	17	46	126	731
Hurghada	7	4	0	1—10	18	34	09	07	23	19	03	06	09	84	47	31	292
				11—27	29	25	03	00	05	02	00	00	00	41	157	147	409
				28—47	00	00	00	00	00	00	00	00	00	00	13	04	17
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	47	59	12	07	28	21	03	06	09	125	217	182	716
Quseir	3	3	0	1—10	194	40	14	12	08	21	15	06	09	59	90	127	600
				11—27	55	00	00	00	00	00	00	00	00	00	01	58	114
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	249	40	14	12	08	21	15	06	09	59	91	185	709

UPPER AIR CLIMATOLOGICAL DATA

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

JUNE — 1977

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 UT	Surface	30	* 1009m.b.	* 1014m.b.	* 1005m.b.	30	21.4	28.2	18.4	30	16.4
	1000	30	110	149	072	30	21.6	28.1	18.5	30	16.7
	850	30	1516	1563	1478	30	18.4	29.2	10.8	30	03.7
	700	30	3154	3212	3092	30	08.5	14.0	03.6	30	—07.0
	600	30	4410	4523	4347	30	—00.1	03.4	—03.9	30	—13.5
	500	30	5844	5964	5768	30	—09.2	—03.0	—13.9	30	—23.2
	400	30	7530	7656	7423	30	—21.3	—15.7	—25.9	30	—34.6
	300	30	9595	9767	9440	30	—35.1	—29.0	—43.9	30	—47.2
	350	30	10845	10975	10661	30	—43.2	—35.3	—53.4	30	—54.5
	200	30	12321	12547	12120	30	—51.6	—45.4	—59.5	30	—61.7
	150	30	14152	14398	13937	30	—60.2	—55.5	—66.9	14	—68.4
	100	29	16620	16848	16395	29	—68.5	—60.5	—76.0	—	—
	70	22	18759	18978	18581	22	—67.1	—61.1	—74.0	—	—
	60	19	19697	19920	19500	19	—64.1	—60.1	—72.0	—	—
	50	15	20819	21045	20661	15	—60.2	—56.9	—64.5	—	—
	40	11	22270	22400	22050	11	—55.9	—54.4	—57.5	—	—
	30	8	24062	24145	23923	8	—52.4	—50.9	—53.8	—	—
	20	5	26722	26768	26674	5	—49.5	—47.5	—51.7	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 UT	Surface	30	* 994m.b.	* 999m.b.	* 987m.b.	30	23.4	32.3	19.0	30	13.5
	1000	24	089	131	036	—	—	—	—	—	—
	850	24	1496	1515	1469	24	18.6	29.5	11.3	24	00.5
	700	24	3140	3189	3048	24	10.1	16.1	05.3	24	—09.0
	600	23	4406	4479	4329	23	02.0	06.1	—02.0	23	—17.0
	500	23	5855	5935	5769	23	—07.2	—01.3	—10.7	23	—25.0
	400	23	7561	7662	7457	23	—18.1	—12.1	—24.4	22	—35.1
	300	21	9669	9805	9523	21	—30.7	—26.1	—38.7	21	—43.4
	250	17	10929	11103	10775	17	—38.3	—34.3	—46.2	17	—52.3
	200	14	12363	12635	12266	14	—46.9	—42.5	—54.0	13	—59.4
	150	14	14298	14535	14122	14	—57.3	—54.1	—59.6	9	—68.3
	100	11	16785	16989	16586	11	—68.5	—61.8	—72.3	—	—
	70	7	18896	19079	18736	7	—67.1	—61.5	—71.3	—	—
	60	6	19860	20060	19680	6	—65.2	—63.3	—67.4	—	—
	50	6	20946	21149	20796	6	—61.4	—59.9	—64.7	—	—
	40	2	22529	22619	22144	2	—57.2	—55.4	—59.0	—	—
	30	1	24186	—	—	1	—56.7	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 2330 UT	Surface	29	* 986m.b.	* 988m.b.	* 983m.b.	25	28.4	33.2	24.0	25	3.8
	1000	29	67	85	40	—	—	—	—	—	—
	850	29	1505	1530	1465	25	23.5	28.0	18.5	25	— 0.4
	700	29	3163	3213	3112	25	10.8	14.0	6.6	25	— 5.5
	600	29	4427	4488	4383	28	1.4	5.0	— 2.5	28	—17.2
	500	29	5875	5936	5832	25	— 6.5	— 2.1	—12.3	25	—25.8
	400	29	7588	7649	7540	25	—16.5	— 5.3	—23.7	25	—35.3
	300	29	9692	2777	5608	25	—31.5	—26.8	—40.0	25	—47.4
	250	29	10956	11061	10824	25	—41.3	—36.2	—48.8	25	—55.6
	200	29	12439	12561	12270	25	—51.8	—45.0	—56.4	25	—64.0
	150	29	14257	14393	14080	25	—63.4	—55.5	—66.1	24	—65.5
	100	28	16661	16796	16526	28	—76.8	—71.4	—81.1	—	—
	70	21	18724	18865	18610	21	—73.7	—66.8	—85.6	—	—
	60	12	19686	19870	15600	12	—67.1	—63.1	—71.0	—	—
	50	12	20760	20865	20660	12	—60.3	—58.5	—63.2	—	—
	40	8	22283	22420	22155	8	—58.4	—55.7	—66.5	—	—
	30	8	24016	24125	23515	8	—52.6	—51.6	—54.1	—	—
	20	1	26550	—	—	1	—50.7	—	—	—	—
	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 HIGHEST AND LOWEST VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

JUNE — 1977

Station	Pressure Surface Milliban	Altitude of Pressure Surface (gpm.)				Temperature (°C)				Dew point (°C)	
		N	Mean	Highest	Lowest	N	Mean	Highest	Lowest	N	Mean
Mersa Matruh 1200 VT	Surface. . .	30	* 1010 m.b	* 1014m.b.	* 1003m.b.	30	27.1	41.0	23.3	30	17.2
	1000 . . .	30	113	150	56	30	26.0	41.2	21.4	30	14.3
	850 . . .	30	1525	1555	1495	30	19.2	31.6	1.2	30	1.1
	700 . . .	30	3164	3230	3109	30	10.0	19.5	4.7	30	—10.5
	600 . . .	28	4425	4511	4348	28	1.4	5.9	— 4.3	28	—18.0
	500 . . .	28	5866	5963	5747	28	— 8.3	— 2.0	—19.1	28	—26.7
	400 . . .	28	7577	7685	7361	28	—19.9	—13.1	—30.9	28	—37.6
	300 . . .	28	9634	9813	9359	28	—33.1	—27.0	—41.0	28	—49.0
	250 . . .	28	10892	11103	10582	28	—41.3	—36.2	—50.2	28	—55.4
	200 . . .	28	12380	12613	12043	28	—50.1	—45.3	—59.0	27	—60.6
	150 . . .	27	14226	14461	13891	27	—59.0	—52.7	—62.0	15	—69.3
	100 . . .	27	16711	16911	16406	27	—67.7	—58.9	—76.0	—	—
	70 . . .	25	18868	19082	18589	25	—65.1	—58.8	—74.1	—	—
	60 . . .	17	19835	20100	19530	7	—61.1	—56.4	—69.2	—	—
	50 . . .	16	20930	21230	20458	16	—58.0	—51.2	—68.3	—	—
	40 . . .	10	22529	22800	22350	10	—53.2	—48.4	—57.4	—	—
	30 . . .	10	24276	24610	24003	10	—49.3	—45·0	—53.7	—	—
	20 . . .	8	26968	27355	26657	7	—45.0	—41.0	—49.1	—	—
	10 . . .	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface . . .	30	* 993	* 998	* 988	30	33.7	44.6	28.5	30	7.9
	1000 . . .	26	18	124	64	—	—	—	—	—	—
	850 . . .	26	1520	1561	1474	26	21.1	28.9	13.8	26	2.0
	700 . . .	26	3173	3244	3077	26	11.8	17.8	2.5	26	—11.1
	600 . . .	26	4447	4527	4325	26	4.1	8.2	0.6	26	—17.[illegible]
	500 . . .	25	5904	5988	5759	25	— 4.8	0.9	—10.0	25	—25.0
	400 . . .	23	7627	7748	7453	23	— 155	— 9.3	—19.4	23	—35.0
	300 . . .	20	9744	9917	9565	20	—27.7	—20.1	—35 9	20	—45 0
	250 . . .	18	11038	11235	10862	18	—34.7	—28.1	—44.5	18	—51.2
	200 . . .	17	12582	12806	12402	17	—42.3	—37.4	—52.9	17	—57.5
	150 . . .	14	14501	14757	14294	14	—51.2	—44.7	—55.9	13	—64.4
	100 . . .	8	17013	17289	16896	8	—62.2	—58.8	—66.8	1	—70.7
	70 . . .	6	19244	19519	19062	6	—58.0	—55.5	—66.0	—	—
	60 . . .	4	20245	20570	20040	4	—54.2	—49.0	—61.2	—	—
	50 . . .	4	21391	21739	21157	4	—48.5	—41.6	—52.7	—	—
	40 . . .	4	22918	23060	22700	4	—42.6	—33.6	—48.2	—	—
	30 . . .	4	24600	24808	24319	4	—35.2	—27.6	—42.9	—	—
	20 . . .	2	27495	27685	27305	2	—32.8	—28.6	—37.0	—	—
	10 . . .	—	—	—	—	—	—	—	—	—	—
Aswan 1200 U.T.	Surface . .	29	* 986mb.	* 987mb.	* 983mb.	29	40.6	47.0	36	29	03·9
	1000 . . .	29	060	074	370	—	—	—	—	—	—
	850 . . .	29	1524	1552	1484	29	26.3	32.8	19.9	28	— 5.9
	700 . . .	28	3191	3252	3134	28	12.8	17.0	10.4	27	—15.7
	600 . . .	28	4463	4533	4409	28	03.3	05.6	00.1	27	—23.0
	500 . . .	28	9519	5980	5872	28	—05.1	01.2	—10.3	27	—30.3
	400 . . .	28	7642	7690	7585	28	—15.4	—08.9	—23.6	27	—38.0
	300 . . .	27	9647	9848	9647	27	—30.0	—25.0	—39.4	26	—49.6
	250 . . .	26	11032	11139	10877	26	—39.6	—35.6	—48.1	25	—57.7
	200 . . .	25	12525	12651	12335	25	—50.0	—46.3	—53.8	25	—642
	150 . . .	24	14368	14501	14229	24	—61.7	—56.5	—63.8	5	—72.5
	100 . . .	24	16802	16937	16680	24	—74.3	—60.1	—79.7	—	—
	70 . . .	22	18871	18981	18774	22	—72.0	—67.6	—81.5	—	—
	60 . . .	12	19833	19939	19749	12	—66.0	—62.3	—69.1	—	—
	50 . . .	12	20912	21011	20828	12	—59.0	—52.3	—66.3	—	—
	40 . . .	5	22373	22520	22260	5	—54.3	—53.3	—54.8	—	—
	30 . . .	3	24226	24283	24144	3	—50.6	—49.7	—51.5	—	—
	20 . . .	—	—	—	—	—	—	—	—	—	—
	10 . . .	—	—	—	—	—	—	—	—	—	—

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

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

JUNE — 1977

	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 inKnots
0000 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	4394 (30)	602 (3.)	—13·6 (03)	4970	564	—12.5	3810	643	—155	15162	135	—66.3	18300	77	—68.3	11450	224	—54.2	11880	212	250	67
	Helwan	4760 (23)	576 (23)	—18.6 (23)	5680	518	—28.0	4040	624	—12.8	16276 (7)	110 (7)	—678 (7)	17690	87	—69.5	13790	158	—57.2	13050	179	230	150
	Aswan . . . (A)	4631 (28)	586 (28)	—18.0 (28)	5180	547	—22.0	4120	622	—8.7	17058 (15)	94 (15)	—78.8 (15)	17690	86	—80.7	16330	106	—78.2	19020	68	110	70
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	4645 (28)	582 (28)	—19.9 (28)	5370	534	—11.8	3960	633	—125	15742 (22)	123 (22)	—67.3 (22)	18120	82	—74.1	11850	214	—50.0	6250	439	255	77
	Helwan	5124 (25)	555 (25)	—21.0 (25)	6100	496	—23.4	4200	608	—17.2	16283 (6)	115 (6)	—60.1 (6)	18380	84	—62.3	13600	168	—51.9	13210	181	220	150
	Aswan . . . (A)	5006 (28)	562 (28)	—225 (28)	5780	510	—26.0	4500	597	—22.7	17205 (18)	94 (18)	—76.7 (18)	17870	82	—755	161150	114	—73.2	12450	200	240	170

N — The number of cases the element 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**

0000 U.T.— JUNE 1977

Time	Pressure Surface (Millibar)	Wind within 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			
T.U. 0000	Surface of station	1	05	1	06	0	—	1	02	2	11	1	08	2	05	0	—	3	06	10	10	6	15	3	11	0	30	10
	1000	1	11	1	08	0	—	1	06	2	12	1	05	1	05	1	08	1	08	11	15	8	16	2	17	0	30	13
	850	4	16	0	—	0	—	0	—	—	—	0	—	1	14	2	07	1	08	1	30	11	20	10	18	0	30	19
	700	0	—	0	—	0	—	0	—	—	—	0	—	0	—	1	19	3	21	9	25	11	19	6	28	0	30	23
	600	1	19	0	—	0	—	0	—	—	—	0	—	0	—	0	—	4	32	9	31	11	27	4	36	0	29	30
	500	0	—	0	—	0	—	0	—	—	—	0	—	0	—	0	—	4	40	11	34	9	31	4	23	0	28	32
	400	0	—	0	—	0	—	0	—	—	—	0	—	0	—	0	—	3	28	13	32	3	35	1	24	0	20	31
	300	0	—	0	—	0	—	0	—	—	—	0	—	0	—	0	—	4	40	4	47	0	—	0	—	0	8	44
	250	0	—	0	—	0	—	0	—	—	—	0	—	0	—	1	17	1	52	0	—	—	—	0	—	0	2	34
	200	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
T.U. 0000	atstion fo ecafruS	4	11	1	8	1	8	2	10	0	—	0	—	0	—	0	—	0	—	0	—	11	18	11	14	0	30	14
	1000	3	13	1	4	2	11	0	—	0	—	0	—	0	—	0	—	0	—	2	20	18	14	4	14	0	30	15
	850	0	—	1	9	0	—	1	40	0	—	1	11	0	—	0	—	2	15	11	16	8	18	6	25	0	30	19
	700	1	20	1	27	0	—	0	—	0	—	0	—	0	—	3	19	5	33	4	28	9	24	7	35	0	30	28
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	16	5	45	6	28	9	29	7	31	0	28	32
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	28	6	41	8	32	7	28	4	27	0	26	32
	400	0	—	0		0	—	0	—	0	—	0	—	0	—	1	29	9	34	9	32	4	36	2	23	0	22	33
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	39	3	33	4	37	0	—	0	—	0	8	36
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	59	1	44	0	—	0	—	0	3	54
	200	0	—	0	—	—	—	—	—	—	—	0	—	0	—	0	—	0	—	1	43	0	—	0	—	0	1	43
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed within 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, NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

HELWAN — JUNE 1977

Pressure surface (millibar)		Wind within 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			
1200 T.U.	Surface	6	08	8	08	1	08	1	12	0	0	0	—	0	—	0	—	0	—	0	—	2	07	11	07	1	30	7
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	4	24	2	15	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	19	5	17	11	16	0	24	18
	700	3	34	1	27	0	—	0	—	0	—	0	—	0	—	1	21	4	37	4	20	5	26	6	17	0	24	26
	600	2	41	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	48	2	33	11	26	4	25	0	22	31
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	47	3	37	5	49	7	27	4	24	0	20	34
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	41	5	48	6	38	4	32	2	49	0	18	41
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	66	6	54	2	48	2	54	0	13	56
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	98	3	76	0	—	0	—	1	45	0	5	74
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	118	0	—	1	69	0	—	0	5	108
	150	0	—	0	—	0	—	0	—	0	—	—	—	0	—	0	—	1	62	0	—	1	65	0	—	0	2	64
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0000 T.U.	Surface	6	10	2	11	0	—	0	—	0	—	0	—	0	—	1	11	2	4	6	10	2	8	11	10	0	30	10
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	11	12	1	8	1	10	0	—	0	—	0	—	0	—	0	—	2	14	1	8	05	13	5	15	0	26	14
	700	2	17	2	13	0	—	0	—	0	—	0	—	0	—	3	20	1	12	5	20	7	22	6	14	0	26	18
	600	0	—	1	19	0	—	0	—	0	—	0	—	0	—	1	35	4	16	6	26	8	25	6	18	0	26	22
	500	0	—	2	29	0	—	0	—	0	—	0	—	0	—	0	—	6	30	5	31	6	36	5	27	0	24	31
	400	1	32	0	—	0	—	0	—	1	36	0	—	0	—	0	—	7	42	7	43	2	32	3	31	0	21	39
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	56	6	57	2	38	1	24	0	16	52
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	60	7	62	3	40	0	—	0	—	0	12	61
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	85	1	68	2	56	0	—	0	9	77
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	61	3	91	1	18	0	—	0	—	0	5	70
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	12	0	—	0	—	0	1	12
	70	0	—	0	—	0	—	0	—	0	—	0	—	1	11	0	—	0	—	0	—	0	—	0	—	0	1	11
	60	0	—	0	—	0	—	0	—	0	—	1	30	0	—	0	—	0	—	0	—	0	—	0	—	0	1	30
	50	0	—	0	—	0	—	0	—	1	44	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	44
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

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

ASWAN — JUNE 1977

Time	Pressure Surface Millibar	Wind within specided 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	15	12	3	12	1	6	2	11	1	8	0	—	0	—	0	—	0	—	0	—	—	7	21	1	0	29	12
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	7	32	7	16	1	22	0	—	1	7	1	26	0	26	0	—	0	—	0	—	15	5	13	1	0	29	17
	700	2	17	3	14	0	—	0	—	2	4	0	—	1	—	1	6	1	18	9	18	21	1	52	2	0	28	14
	00	1	11	2	13	2	7	0	—	0	—	0	—	2	—	2	17	2	20	4	20	10	4	20	0	0	27	17
		2	21	0	—	1	17	2	9	0	—	1	7	2	7	2	6	4	22	4	22	18	4	13	0	0	27	17
	[illegible]	3	15	2	14	3	12	1	19	0	—	1	32	0	28	0	—	0	16	4	81	26	2	20	0	0	26	21
	300	0	—	1	8	4	19	0	—	1	15	1	13	0	13	0	—	4	16	5	16	35	1	16	1	0	26	21
	250	1	18	0	—	1	11	3	11	2	20	1	15	2	15	2	17	3	14	2	19	31	0	—	—	0	26	20
	200	0	—	0	—	0	—	2	18	2	16	2	41	4	18	4	16	4	57	1	41	57	0	—	—	0	24	26
	150	0	—	0	—	1	11	1	40	3	17	3	18	5	28	5	22	7	23	3	57	24	0	—	—	0	22	28
	100	0	—	0	—	0	—	3	13	8	20	3	23	3	20	2	22	2	—	5	23	22	0	—	—	0	12	20
	70	0	—	0	—	1	—	3	13	9	29	0	20	0	—	0	—	0	—	2	—	—	0	—	—	0	10	27
	60	0	—	0	—	2	38	4	28	4	28	0	—	0	—	0	—	0	—	0	—	—	0	—	—	0	27	28
	50	0	—	1	41	2	33	5	27	0	—	0	—	0	—	0	—	0	—	0	—	—	0	—	—	0	7	30
	40	0	—	0	—	0	44	7	28	0	—	0	—	0	—	0	—	0	—	0	—	—	0	—	—	0	1	34
	30	0	—	0	—	0	—	5	31	0	—	0	—	0	—	0	—	0	—	0	—	—	0	—	—	0	—	38
	20	—	—	—	—	—	—	1	38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	12	10	2	10	0	—	2	08	0	—	1	70	0	—	1	05	3	—	14	2	09	4	4	14	1	29	29
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	4	15	2	16	0	—	3	07	1	40	1	04	1	05	1	06	3	18	13	5	14	7	7	16	0	29	13
	700	4	15	2	08	0	—	0	—	1	40	0	—	1	06	2	05	8	12	16	4	14	2	2	16	0	28	13
	600	2	24	3	09	3	05	1	3	0	—	0	—	0	—	1	0	8	36	12	2	16	0	0	—	0	28	15
	500	3	14	1	11	2	16	2	12	1	07	0	—	0	—	1	28	4	42	16	5	18	1	1	19	0	27	16
	400	1	05	1	12	1	16	1	14	1	09	0	—	0	—	3	22	2	50	18	6	19	3	3	25	0	27	20
	300	1	38	1	15	2	16	3	10	1	13	0	—	0	—	4	17	3	90	31	4	25	2	2	38	0	26	22
	250	0	—	0	—	1	16	1	16	0	—	1	18	1	41	1	03	2	112	22	2	32	3	3	31	0	25	24
	200	0	—	0	—	0	—	3	19	2	22	2	12	2	52	5	92	0	114	20	3	43	1	1	56	0	24	29
	150	0	—	1	15	0	—	3	22	2	34	2	25	5	23	3	82	0	99	38	2	25	0	0	—	0	23	29
	100	0	—	0	—	0	—	3	24	3	24	3	32	3	22	2	61	0	49	—	0	—	0	0	—	0	21	23
	70	0	—	0	—	0	—	4	34	0	30	0	22	2	—	0	—	0	—	—	0	—	0	0	—	0	12	34
	60	0	—	0	—	0	—	8	03	0	34	0	—	0	—	0	—	0	13	—	0	—	0	0	—	0	7	35
	50	0	—	0	—	0	—	3	36	0	34	0	—	0	—	0	—	0	—	—	0	—	0	0	—	0	5	35
	40	0	—	0	—	0	—	2	36	0	36	0	—	0	—	0	—	0	—	—	0	—	0	0	—	0	3	40
	30	0	—	0	—	0	—	1	30	0	36	0	—	0	—	0	—	0	26	—	0	—	0	0	—	0	2	35
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

MONTHLY REVIEW OF AGRO METEOROLOGICAL STATIONS

MERSA MATRUH — JUNE 1977

The mean daily air temperature and relative hu midity were nearly the same as normal.

Mild summer weather prevailed the whole mon th apart from three short heat waves in the periods (4th & 5th), (16th) & (27th). The first wave. gave rise to the highest maximum temperature (42.°C) on the (4th).

The mean daily actual sunshine duration was higher than average by 0.5 hour. The mean daily wind speed at 1.5 met. height was nearly the same as average.

The highest maximum soil temweratures were hig her than the corresponding values of June 1976 at all depths except at 20 cm. where it was lower by 0.2°C; the departures vatied between 3.6°C (at 2 cm.) and 0.2°C (at 550 cm.). The lowest minimum soil temperatures were higher than June 1976 at all depths with de°partures between 0.4°C & 0.9°C.

TAHRIR — JUNE 1977

The mean daily air temperature and relative humidity were nearly the same as normal.

The month was characterized by four heat waves in the periods (1st-5th), (14th-17th), (21st-23rd) & (27th). The second wave gave rise to the highest maximum temperature (42.0°C) on the 17th. In the rest of the month mild summer weather was experienced.

The mean daily actual sunshine duration, wind speed at 1.5 met. height and pan evaporation were lower than normal by 0.5 hour, 0.1 met/sec. and 1.60 mm. respectively.

The highest maximum soil temperatures were lower than average at all depths except those at 10 and 50 cm. which were higher than average; the departures varied bet°een 0.1°C & 0.8°C. The lowest minimum soil temperatures were higher than average at all depths with departures between 0.1°C (at 5 cm.) & 1.7°C (at 50 cm.).

BAHTIM — JUNE 1977

The mean daily air temperature and relative hu midity were nearly the same as average.

Weather was characterized by an intense heat w ave in the period 1st-5th) and three short heat waves on the 17th, 23nd & 27th. The first wave gave rise to both the highest maximum temperature (43.3°C) and the highest minimum (21.2°C) on the 5th. Apart from these waves mild summer weather prevailed.

The mean daily wind speed at 1.5 met. height, actual sunshine duration and pan evaporation were lower than average by 0.6 met./sec, 0.6 hour and 1.61 mm. respectively.

The highest maximum soil temperatures were higher than average at all depths with departures between 2.5°c (at 5 cm.) and 0.6°c (at 10 cm.). The lowest minimum soil temperatures were also higher than average at all depths with departures between 2.1°c (at 50 cm.) and 0.7°c (at 100 cm.).

ASSYOUT — JUNE 1977

Mean maximum temperature was 38.6°c, mean minimum temperature was 20.7°C, and meas daily relative humidity was 35%.

The month was characterized by three heat waves in the periods (1st-6th), (17th) & (22nd-28th). The first wave was the most intense and gave rise to the highest maximum temperature (47.2°c) on the 1st and also the highest minimum (27.2°C) on the 5th. Apart from these waves mild summer weather was experienced.

KHARGA — JUNE 1977

The mean daily air temperature and relative humidity were nearly the same as average.

Weather was characterized by three heat waves in the periods (1st-6th), (17th & 18th) & (22nd-28th). The first wave was the most intensea and (48.5°C) on the 5th and also the highest minimum (28.6°C) on the 4th. In the rest of the month, mild summer weather was experienced.

The mean daily wind speed at 1.5 met. height, actual sunshine duration and pan evaporation were lower than average by 1.9 met./sec., 0.1 hour and 5. 93 mm. respectively.

The highest maximum soil temperatures were higher than average at all depths except at 50 cm. where it was lower by 0.3°c, the departures varied between 4.1°c (at 10 cm.) & 0.4°c (at 100 cm.). The lowest minimum soil temperatures were lower than average at depths between 2 & 20 cm. with departures between 2.1°c (at 10 cm) & 0.3°c (at 20 cm.), higher than average at 50 & 100 cm. depths by 0.8° & 0.5°C respectively.

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

JUNE — 1977

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. .	28.1	18.9	23.5	21.0	24.3	24.0	24.0	24.0	24.0	24.0	19.8	7.3	0.8	0.3	0.1	0.0
Tahrir	35.3	18.3	25.9	21.8	27.5	24.0	24.0	24.2	24.0	24.0	20.0	12.1	6.2	1.5	0.1	0.0
Bahtim	34 6	17.7	26.1	21.8	27.8	24.0	24.0	24.0	24.0	23.9	19.6	12.5	6.8	1.5	0.1	0.0
Asiut	38.6	20.7	29.5	25.3	31.0	24.0	24.0	24.0	24.0	24.0	23.0	16.7	10.3	5.2	1.3	0.1
kharga	40.3	23.7	32.3	28.6	33.7	24.0	24.0	24.0	24.0	24.0	23.8	21.4	14.1	7.8	2.8	0.6

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 — 1977

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 . . .	42.0	4	23.8	7	22.4	28	15.4	8	13.3	2	—	—
Tahrir	42.0	17	30.4	6	22.6	5	14.6	14	12.8	14	12.0	14
Bahtim	43.3	5	30.4	7.8	21.2		13.9	9	11.1	9	10.2	8
Asiut	47.2	1	32.8	10	27.2	5	16.6	14	10.3	16	—	—
Kharga	48.2	5	34.3	10	28.6	4	16.5	11	14.2	11	—	—

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

JUNE — 1977

Station	solars + 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 . .	576.4	459.3	425.3	84	69	56	19	4	14.6	14.9	18.7	5	6.8	27	7.3	—	0.0	0.0	—
Tahrir . . .	657.8	354.1	422.3	84	59	33	15	17	13.8	12.4	18.7	23,25 30	8.0	5	7.3	10.65	0.0	0.0	—
Bahtim	662.7	342.7	421.8	81	56	32	14	4,17	13.2	12.1	18.5	21.27	7.4	4	10.1	11.45	0.0	0.0	—
Asiut	—	375.6	413.7	91	35	19	8	1	9.9	8.7	15.5	20	5.4	26	12.4	12.79	0.0	0.0	—
Kharga	717.9	367.7	410.7	90	25	16	5	2	8.4	8.5	14.9	16	3.5	18	18.8	17.93	0.0	0.0	—

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

JUNE 1977

STATION	Highest (A) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil tmperature (°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	44.1	41.1	34.3	29.2	27.0	25.2	23.0	—	--	—	—	—	—	—	—	—
	L	23.4	22.7	22.9	24.6	24.8	23.2	21.4	—	--	—	—	—	—	—	—	—
Tahrir	H	53.9	47.5	42.4	36.4	32.7	30.1	27.3	25.9	36.2	34.6	32.5	29.6	29.4	27.7	25.9	—
	L	27.9	25.8	26.0	29.2	30.1	28.3	25.0	25.0	22.3	22.4	22.6	23.6	26.1	26.2	23.9	—
Bahtim	H	57.1	47.8	39.4	34.9	31.6	28.9	24.8	23.2	49.4	37.2	33.2	28.8	26.7	24.7	22.1	—
	L	29-3	27.4	27,6	30.4	29.3	26.3	23.2	22.4	20.3	21.4	22.3	24.4	24.8	22.6	20.7	—
Asiut.	H	64.0	51.9	43.3	35.8	31.4	28.8	25.4	23.9	—	—	—	—	—	—	—	—
	L	29.9	29.1	28,6	30.8	29.8	26.9	23.7	23.1	—	—	—	—	—	—	—	—
Kharga	H	06.3	53.8	48.0	41.0	34.1	32.2	29.4	28.1	—	—	—	—	—	—	—	—
	L	19.7	23.1	26.4	31.2	32,4	30.5	27.7	27.4	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

JUNE 1977

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at 10 metres							Max, Gust(kno) at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 konts	≥20 knots	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value knots	Date
M. Matruh .	4.3	3.2	5.5	30	25	11	4	0	0	0	30	5,17,27
Tahrir . .	2.4	1.6	3.1	30	19	2	0	0	0	0	38	5
Bahtim. . . .	2.2	1.4	3.0	27	18	3	1	0	0	0	32	
Asiut	—	—	—	—	—	—	—	—	—	—	—	—
Kharga . . .	3.2	2.5	4.0	30	23	11	2	0	0	0	32	7

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The Chairman

M. H. El-Said

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

PUBLICATIONS OF THE METEOROLOGAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues several 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 MONTHLY WEATHERT 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

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THE EGYPTIAN METEOROLOGICAL AUTHORITY

CAIRO

CONTENTS

PAGE

General Summary of Weather Conditions 1

SURFACE DATA

Table A1.—Monthly values of the Atmospheric Pressure, Air Temperature, Relative Humidity, Bright Sunshine Duration, and Piche Evaporation 2

" A2.—Maximum and Minimum Air Temperatures 3

" A3.—Sky Cover and Rainfall 4

" A4.—Number of Days of Occurrence of Miscellaneous Weather Phenomena . . . 5

" A5.—Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded Within Specified Ranges 6,7

UPPER AIR DATA

Table B1—Monthly Means and Monthly Absolute Highest & Lowest Values of Altitude, Air Temperature & Dew point at Standard and Selected Pressure Surfaces. . . . 8,9

" B2.—Mean and Extreme values of The Freezing Level and The Tropopause. The Highest Wind Speed in The Upper Air 10

" B3.—Number of Occurrences of Wind Direction within Specified Ranges and The Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces. 11–13

AGRO-METEOROLOGICAL DATA

Reviews of Agro-meteorological Stations 14,15

Table C1.—Air Temperature at 1½ metres above Ground 16

" C2.—Extreme Values of Air Temperature at 1½ metres above Ground, Absolute Minimum Air Temperature at 5 Cms Above Ground over Different Fields 16

" C3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity and Vapour Pressure at 1½ Metres Above Ground, Evaporation and Rainfall. . . 16

" C4.—Extreme Soil Temperature at Different Depths in Different Fields 17

" C5.—Surface wind 17

Note—For explanatory notes on the tables please refer to Volume 18 number 1 (January 1975).

GENERAL SUMMARY OF WEATHER CONDITIONS

JULY 1977

Generaly mild at coast, hot in Lower Egypt & Cairo, extremely hot in Upper Egypt, Abnormal humidity in the northern parts.

PRESSURE DISTRIBUTION

The prevailing pressure systems were the monsoon low pressure Arabia & Iraq and weak high pressure extending from Europe through Central Mediterranean. The trough over Iraq showed five westward elongations through East Mediterranean, during which the pressure over Egypt reached consecutive minima round the 3rd, 11th, 18th, 24th, & 28th.

The monthly mean pressure was normal.

SURFACE WIND

Light to moderate NE to NW winds prevailed most of the month. Surface winds freshened during few days in scattered places.

TEMPERATURE

Weather was mainly characterized by five heat waves, light at coast and moderate inland. The heat waves were associated with abnormal humidity in the northern parts. Neverthless the month was intervened by short mild periods.

Maximum air temperatures showed slight to moderate departures above normal during the heat waves, and slight departures below normal during the mild periods.

Minimum air temperatures showed slight departures above normal most days of the month.

The highest and lowest maximum air temperatures were respectively 46.4°C at Kharga on the 12th and 27.3 at Mersa Matruh on the 2nd and the 15th.

The highest and lowest minimum air temperatures were respectively 30.0°C at Kharga on the 19th and 18.4°C at Alexandria on the 7th.

PRECIPITATION

No rain was reported, apart from 2 mm. over Alexandria on the 2nd which is a record since the year 1942.

OTHER WEATHER PHENOMENA

Early morning mist developed frequently over Lower Egypt & Cairo.

Chairman (M. S. EL DIN HARB)

Board of Directors

Cairo, March 1980

SURFACE DATA

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

JULY — 1977

STATION	Atmospheric Pressure (mbs) M.S.L.		Air Temperature oC									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	1009.6	—0.8	32.6	1.7	22.5	1 1	27.5	27 2	1.3	20.8	— 0.4	56	— 9	—	—	—	11.2
Mersa Matruh (A)	1090.0	—1.0	29.0	—0.1	21.2	0.8	25.1	25.3	0.4	21.3	— 0.2	72	— 2	371.5	432.6	86	6.5
Alexandria. . (A)	1008.1	—1.0	30.8	1.0	23.1	0 5	26.9	26 6	0 6	22.8	0.5	72	0	360.0	333.3	83	4.1
Port Said	1006.6	—1.2	30.8	0.0	24.3	0.3	27.3	26.8	0.3	23.4	0.4	74	1	350.3	432.5	81	5.1
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo . . . (A)	1007.4	—0.7	35.1	0.2	22.2	0.7	28.6	28.1	0.8	22.0	— 0.8	60	6	—	—	—	11.7
Fayoum	—	—	38.6	1 9	21.0	— 0.1	29.8	29.4	0.3	21.8	1.1	53	7	—	—		9.3
Minya . . . (A)	1006.0	—1.3	37.4	0.7	21.1	0.9	29.2	29.2	0.7	20.9	0.7	48	3	385.4	425.5	91	14.1
Assyout . . (A)	1006.3	—0.5	37.1	0.4	22.3	0.0	29.7	30.1	0.4	19.4	— 0.1	35	0	—		—	19.2
Luxor . . . (A)	1004.3	—0 6	41.5	0.7	23.9	0.5	32.7	32.7	0.0	20.6	0.7	30	3	—	—	—	11.1
Aswan . . . . (A)	1004.0	—1.1	42.2	0.5	26.1	0 5	34.1	34.2	0 4	18.7	0.6	18	— 3	385.7	417.1	92	20.5
Siwa	1009.0	—0.9	39.1	1.5	22.2	1.3	30.6	30.9	1.5	19.9	0.5	37	— 4	379.8	428.1	89	19.0
Bahariya	1007.0	—1.3	38.2	1.2	21.6	0.8	29.9	29.9	0.8	19.7	0.2	39	— 3	13 6	13 8	44	12 6
Farafra	1008.3	—1.1	38.6	1.3	22.6	1.4	30.6	30.7	1.3	18.4	0 6	27	— 2	—	—	—	19.0
Dakhla	1006.9	—1.0	39.2	0.8	23.0	0.3	31.1	31.5	0 7	18.1	— 0.2	23	— 2	—	—	—	22.7
Kharga	1005.2	—1.9	40.4	1.3	24.4	1.2	32.4	32.9	1.4	19.5	1 2	29	3	383.3	420.1	91	18 4
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada . . .	1003.8	—0.7	32.9	0.0	26.1	1.2	29.5	29.8	0 5	21.8	0.4	47	— 4	390 5	423.6	92	18 6
Quseir	1003.2	—1.8	32.7	—0.2	25·9	— 0.3	29.3	29.7	— 0 1	22.4	0 3	51	— 1	—	—	—	9.3

Table A 2.—MAXIMUM & MINIMUM AIR TEMPERATURE

JULY — 1977

Station name	Maximum Temperature									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	41.7	11	28.4	3	31	24	05	01	00	21.6	—	26.0	11	19.8	16	00	00	00	00
Mersa Matruh (A)	34.0	7,11	27.3	2,51	31	05	00	00	00	20.1	—	23.8	12	18.8	16	00	00	00	00
Alexandria (A)	35.0	7	28.4	2, 5	31	23	00	00	00	21 4	—	25.7	11	18.4	7	00	00	00	00
Port Said (A)	33.6	18	27.8	6	31	16	00	00	00	23.5	—	26.1	31	22.0	4,6	00	00	00	00
Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo (A)	39.0	11	31.2	3	31	31	14	00	00	—	—	24.4	12	20.0	5	00	00	00	00
Fayoum	43.9	11	33.3	3	31	31	29	10	00	19.5	—	23.4	18	18.8	2	00	00	00	00
Minya (A)	41.8	11	33 4	4	31	31	28	04	00	19.4	—	23.8	18	19.0	7	00	00	00	00
Assyout (A)	43.2	12	32.0	4	31	31	26	06	00	21.4	—	24.4	12	20.6	4	00	00	00	00
Luxor (A)	45.2	12,13	36.0	4	31	31	31	23	02	17.8	—	26.2	14	20.8	8	00	00	00	00
Aswan (A)	45.6	13	37.7	4	31	11	31	28	01	—	—	29.1	20	22.0	5	00	00	00	00
Siwa	44.5	18	34.0	3	31	31	29	11	00	20.0	—	26.1	11	19.6	15	00	00	00	00
Bahariya	43.6	18	32.9	3	31	31	29	08	00	21.0	—	25.4	12	19.0	7,24	00	00	00	00
Farafra	43.4	11	33.0	4	31	31	29	09	00	20.9	—	26.4	12	19.5	24	00	00	00	00
Dakhla	44 6	12	34.6	4	31	31	30	09	00	23.0	—	28.8	18	18.8	24	00	00	00	00
Kharga	46.4	12	35.7	4	31	31	31	14	01	22.8	—	30.0	19	19.7	25	00	00	00	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	37.4	12	30.1	1	31	31	03	00	00	—	—	27.7	20,26	24.1	16	00	00	00	00
Quseir	35.4	11	30.9	3	31	31	02	00	00	22.0	—	27.4	13	23.3	30	00	00	00	00

Table A 8.—SKY COVER AND RAINFALL

JULY — 1977

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	0.5	0.2	0.6	0.1	0.4	0.0	0.0	—	—	00	00	00	00	00	00	00
Mersa Matruh (A)	1.0	2.2	0.9	1.8	1.3	0.0	0 0	—	—	00	00	00	00	00	00	00
Alexandria . . (A)	2.4	2.9	3.5	1.4	2.4	2.0	2.0	2.0	2	00	01	01	00	00	00	00
Port Said . . (A)	1.2	2.2	0.2	0.5	1.0	0.0	0.0	—	—	00	00	00	00	00	00	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo . . . . (A)	1.4	3.5	0.7	0.2	1.3	0.0	0.0	—	—	00	00	00	00	00	00	00
Fayoum	—	0.9	0.2	0.1	—	0.0	0.0	—	—	00	00	02	00	00	00	00
Minya	0.2	0.9	0.0	0.0	0.2	0 0	0.0	—	—	00	00	00	00	00	00	00
Assyout . . . (A)	0.0	0.2	0.0	0.0	0.0	0.0	0.0	—	—	00	00	00	00	00	00	00
Luxor . . . . (A)	0.0	0.0	0.2	0.2	0.1	0.0	0 0	—	—	00	00	00	00	00	00	00
Aswan . . . . (A)	0.0	0.1	0.3	0.1	0.1	0.0	0.0	—	—	00	00	00	00	00	00	00
Siwa	0.0	0.0	0.0	0.1	0.9	0.0	0.0	—	—	00	00	00	00	00	00	00
Bahariya	0.0	0.5	0.4	0.2	0.2	0.0	0.0	—	—	00	00	00	00	00	00	00
Farafra	—	0.0	0.1	0.0	—	0.0	0.0	—	—	00	00	00	00	00	00	00
Dakhla	0.0	0.0	0.2	0.1	0.1	0.0	0.0	—	—	00	00	00	00	00	00	00
Kharga	0.0	0.1	0.1	0.1	0.0	0.0	0.0	—	—	00	00	00	00	00	00	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0.0	0.0	0.1	0.1	0.1	0.0	0.0	—	—	00	00	00	00	00	00	00
Quseir	0.0	0.0	0.2	0.1	0.1	0.0	0.0	—	—	00	00	00	00	00	00	00

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

JULY — 1977

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											
Sallum	00	00	00	00	05	00	00	15	00	00	00	30	00
Mersa Matruh (A)	00	00	00	00	15	01	06	20	00	03	00	24	00
Alexandria (A)	01	00	00	00	00	01	00	00	00	00	00	11	00
Port Said (A)	00	00	00	00	01	00	00	00	00	00	00	28	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo (A)	00	00	00	00	24	04	03	00	00	00	00	24	00
Fayoum	00	00	00	00	00	00	00	00	00	00	00	29	00
Minya (A)	00	00	00	00	00	00	00	00	00	00	00	30	00
Assyout (A)	00	00	00	00	00	00	01	00	00	00	00	31	00
Luxor (A)	00	00	00	00	00	00	06	01	00	00	00	31	00
Aswan (A)	00	00	00	00	00	00	00	01	00	00	00	31	00
Siwa	00	00	00	00	00	00	00	07	00	00	00	31	00
Bahariya	00	00	00	00	00	00	00	01	00	00	00	31	00
Farafra	00	00	00	00	00	00	00	01	00	00	00	31	00
Dakhla	00	00	00	00	00	00	00	05	00	00	00	31	00
Kharga	00	00	00	00	00	00	00	00	00	00	00	31	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	00	00	00	00	00	00	00	04	00	00	00	31	00
Quseir	00	00	00	00	00	00	00	00	00	00	00	30	00

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

JULY— 1977

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing Within 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
EL Salulm.	03	01	03	1—10	97	107	12	14	08	01	02	07	06	11	37	127	430
				11—27	36	31	05	00	00	00	00	00	00	02	07	227	308
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	133	138	17	14	08	01	02	07	06	13	44	354	734
Mersa Matroh. . (A)	02	00	00	1—10	04	03	01	01	01	00	05	00	50	132	81	73	351
				11—27	19	00	00	00	00	00	00	05	00	28	265	93	391
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	04	03	01	01	01	00	05	05	50	160	346	166	742
Alexandria . . . (A)	00	00	00	1—10	25	04	00	00	00	00	03	02	02	22	109	322	489
				11—27	01	00	02	00	00	00	00	00	00	04	81	169	255
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	26	04	00	00	00	00	03	02	02	26	190	491	744
Cairo A.P. . . (A)	27	01	00	1—10	61	21	02	04	00	00	00	04	33	143	235	172	676
				11—27	07	00	00	00	00	00	00	00	00	04	13	17	41
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	68	21	02	04	00	00	00	04	33	147	248	189	716
EL-Fayoum	00	01	01	1—10	285	354	20	01	00	00	00	00	00	02	30	44	737
				11—27	00	06	00	00	00	00	00	00	00	00	00	00	06
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	285	360	20	01	00	00	00	00	00	02	30	44	741
EL Minia . . . (A)	02	00	00	1—10	361	228	00	00	00	00	00	00	00	00	03	22	614
				11—27	52	76	00	00	00	00	00	00	00	00	00	00	128
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	413	304	00	00	00	00	00	00	00	00	03	22	742
Assuit	00	00	00	1—10	207	49	01	00	00	00	00	00	02	08	34	167	468
				11—27	208	03	00	00	00	00	00	00	00	00	01	64	276
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	415	52	01	00	00	00	00	00	02	08	35	231	744
Luxor . . . . . (A)	06	01	00	1—10	55	35	13	16	13	22	91	68	46	116	149	100	731
				11—27	00	00	00	00	00	00	00	00	00	01	02	04	07
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	55	35	13	16	13	22	91	68	46	117	115	104	731

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

JULY— 1977

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing within 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
Aswau . (A) . . .	02	07	00	1-10	111	30	09	07	10	21	56	15	13	56	120	112	567
				11-27	42	02	00	00	01	16	02	01	02	05	63	41	175
				28-4	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥47	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeqs	153	32	09	07	11	37	58	16	15	61	183	153	742
SEewa	24	00	02	1-10	158	154	61	27	06	03	08	06	09	18	29	101	580
				11-27	20	76	01	00	00	00	00	00	00	00	11	30	138
				28-47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speefls	178	230	62	27	06	03	08	06	09	18	40	131	716
El-Dakhla	00	07	00	1-10	106	26	14	05	06	06	08	12	32	48	98	235	603
				11-27	52	13	01	00	00	00	00	00	00	00	00	75	141
				28-47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeqs	158	39	15	05	06	06	08	12	32	48	98	310	737
El-kharga	00	01	00	1-10	286	41	13	11	12	07	08	03	04	10	38	153	587
				11-27	114	15	00	00	00	00	00	00	00	00	00	28	157
				28-47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeqs	400	56	13	11	12	07	08	03	04	10	38	181	743
El-Hurgafla . . .	04	00	00	1-10	17	40	13	02	10	29	02	03	03	89	96	29	333
				11-27	25	40	00	00	00	00	00	00	02	43	145	152	407
				28-47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeqs	42	80	13	02	10	29	02	03	05	132	241	181	740
El-Quseir	11	08	00	1-10	191	27	24	12	12	13	23	10	10	44	116	141	634
				11-27	76	02	00	00	00	00	00	00	00	00	00	21	99
				28-47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeqs	297	29	24	12	12	13	23	10	10	44	116	162	725

UPPER AIR CLIMATOLOGICAL DATA

Table B 1—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHEST & LOWEST VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

JULY 1977

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	31	*1008m.b.	*1012m.b.	*1005m.b.	31	23.3	25.2	20.5	31	19.9
	1000	31	098	132	070	31	22.8	24.6	20.8	31	19.7
	850	31	1510	1551	1471	31	18.9	27.4	08.4	31	04.7
	700	31	3155	3226	3076	31	10.8	14.0	05.3	31	—05.0
	600	31	4423	4487	4322	31	03.0	06.7	—02.3	31	—13.5
	500	31	5878	5975	5753	31	—05.7	—01.7	—10.3	31	—22.0
	400	31	7598	7706	7429	31	—16.0	—11.9	—23.9	31	—31.0
	300	30	9701	9826	9469	30	—29.8	—27.1	—32.7	30	—43.1
	250	29	10980	11120	10725	29	—38.5	—36.5	—40.0	29	—50.7
	200	29	12480	12622	12241	29	—49.0	—47.2	—51.1	29	—58.1
	150	27	14318	14464	14121	27	—61.1	—55.4	—63.7	6	—68.1
	100	24	16769	16894	16610	24	—73.3	—66.7	—77.2	—	—
	70	17	18855	18951	18695	17	—69.6	—62.2	—80.6	—	—
	60	14	19841	19980	19660	14	—64.2	—57.9	—69.6	—	—
	50	14	20926	21026	20735	14	—60.8	—55.5	—64.1	—	—
	40	10	22357	22550	22120	10	—56.8	—55.0	—59.6	—	—
	30	7	24165	24269	23955	7	—55.1	—50.5	—64.0	—	—
	20	2	26660	26746	26575	2	—51.8	—51.0	—52.6	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 UT	Surface	31	*992 m.b.	*996 m.b.	*987m.b.	31	24.1	27.4	21.6	31	18.3
	1000	27	67	105	29	—	—	—	—	—	—
	850	27	1484	1514	1463	27	20.0	24.8	16.1	27	2.7
	700	27	3134	3185	3057	26	12.3	16.0	7.8	26	— 8.5
	600	27	4413	4462	4349	26	5.4	9.0	0.8	26	—14.6
	500	27	5884	5946	5814	27	— 2.8	2.1	— 7.3	27	—22.0
	400	27	7626	7711	7519	27	—12.1	— 6.8	—17.7	17	—30.0
	300	27	9772	9861	9627	27	—26.0	—23.2	—32.0	26	—41.4
	250	26	11070	11166	10921	26	—35.0	—32.0	—39.8	25	—49.5
	200	25	12603	12702	12444	25	—45.3	—42.1	—49.4	25	—58.3
	150	22	14487	14606	14297	21	—57.1	—53.9	—61.9	16	—67.4
	100	16	16981	17136	16759	15	—70.3	—63.0	—76.1	—	—
	70	8	19009	19108	18829	8	—72.0	—67.8	—74.8	—	—
	60	7	19999	20050	19920	7	—67.2	—65.0	—71.1	—	—
	50	7	21076	21146	20985	7	—63.7	—61.8	—66.0	—	—
	40	5	22550	22600	22470	5	—59.3	—57.2	—61.7	—	—
	30	3	24232	24268	24185	03	—57.9	—54.5	—63.1	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 UT	Surface	31	*983m.b.	*987m.b.	*990m.b.	31	28.5	33.0	25.2	31	6.3
	1000	31	47	79	13	—	—	—	—	—	—
	850	31	1486	1508	1454	31	23.2	27.8	17.8	31	1.7
	700	31	3143	3181	3104	31	11.2	14.1	7.3	31	— 7.8
	600	31	4414	4456	4369	31	4.3	11.7	0.7	31	—16.1
	500	31	5895	5928	5838	31	— 2.7	0.6	— 5.3	31	—24.2
	400	31	7621	7679	7562	31	—13.3	—10.7	—15.8	31	—31.8
	300	31	9751	9826	9699	31	—28.3	—27.0	—33.7	31	—24.2
	250	30	11029	11116	10972	30	—38.6	—35.5	—42.9	30	—50.7
	200	30	12531	12624	12455	30	—49.9	—47.5	—51.8	30	—61.5
	150	30	14362	14474	14265	30	—63.0	—60.3	—65.9	—	—
	100	29	16767	16906	16645	29	—77.7	—72.8	—80.9	—	—
	70	23	18816	18954	18661	23	—74.7	—66.8	—85.5	—	—
	60	16	19787	19900	19660	16	—66.5	—61.3	—71.0	—	—
	50	16	20868	20997	20742	16	—61.5	—58.2	—66.3	—	—
	40	13	22358	22470	22230	13	—58.4	—55.7	—62.8	—	—
	30	12	24106	24239	23949	12	—54.2	—46.5	—56.0	—	—
	20	5	26742	26839	26635	5	—51.4	—48.0	—56.7	—	—
	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. — MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

JULY—1977

Station	Pressure Surface (Milibar)	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	26	1008mb.	1011mb.	1004mb.	26	28.0	31.0	27.0	26	19.8
	1000	26	100	125	064	26	27.7	29.8	25.0	26	19.1
	850	26	1520	1550	1492	26	20.6	27.1	41.1	26	00.9
	700	26	3173	3226	3112	26	11.8	16.8	05.2	26	—08.6
	600	26	4446	4513	4366	26	04.3	10.0	01.7	26	—17.2
	500	26	5905	5990	5794	26	—04.7	—00.4	—10.9	26	—24.7
	400	24	7626	7735	7467	24	—15.2	—11.5	—23.1	23	—34.8
	300	24	9747	9866	9542	24	—28.5	—26.5	—34.1	23	—45.6
	250	23	11025	11158	10828	23	—36.2	—23.0	—41.7	22	—51.7
	200	22	12534	12683	12346	22	—47.4	—43.3	—49.7	21	—49.7
	150	21	14385	14543	14183	21	—60.3	—54.5	—61.7	8	—70.6
	100	19	16831	16909	16658	19	—71.8	—64.7	—75.3	—	—
	70	14	18928	18988	18783	14	—68.8	—62.1	—76.5	—	—
	60	12	19904	19960	19750	12	—63.8	—59.0	—68.6	—	—
	50	12	20996	21064	20854	12	—58.5	—55.3	—65.9	—	—
	40	5	22414	22490	22360	5	—53.6	—51.2	—55.0	—	—
	30	3	24213	24294	24124	3	—48.1	—42.0	51.2	—	—
	20	1	26494	—	—	1	—47.3	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan (A) 1200 U.T.			*	*	*						
	Surface	31	990mb.	994 mb.	986mb.	31	34.4	39.2	29.4	31	11.8
	1000	31	55	86	12	—	—	—	—	—	—
	850	31	1502	1531	1467	29	22.8	28.7	14.6	29	4.7
	700	30	3164	3211	3084	30	14.2	19.4	6.4	30	—11.6
	600	30	4151	4499	4351	30	7.8	11.8	— 0.5	29	—17.8
	500	30	5931	6000	5751	30	0.1	6.9	— 9.0	30	—24.4
	400	26	7692	7794	7472	26	—9.2	— 0.1	—20.9	26	—31.1
	300	25	9866	99[illegible]4	9594	25	—21.6	—15.0	—26.7	25	—41.4
	250	24	11190	11331	10894	23	—30.1	—22.8	—34.5	22	—46.9
	200	22	12753	12930	12431	22	—41.2	—32.7	—51.0	21	—58.6
	150	21	14670	14907	14311	21	—51.6	—45.0	—56.0	21	—64.7
	100	19	17226	17527	16821	19	—63.3	—60.1	—67.8	—	—
	70	13	19379	19600	18971	13	—63.8	—58.0	—72.5	—	—
	60	10	20343	20590	19920	10	—57.5	—51.8	—63.0	—	—
	50	10	21468	21717	21051	10	—50.8	—43.9	—58.6	—	—
	40	9	23042	23700	22570	9	—45.3	—36.0	—50.0	—	—
	30	8	24893	25237	24411	8	—38.7	—32.3	—43.9	—	—
	20	2	27519	27724	27314	2	—35.9	—35.0	—36.8	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan (A) 1200 U.T.			*	*	*						
	Surface	28	984mb.	986mb.	979 mb.	28	40.2	43.4	35.5	28	7.0
	1000	28	40	65	15	—	—	—	—	—	—
	850	28	1503	1528	1471	28	26.4	30.4	21.0	28	— 2.7
	700	28	3170	3206	3137	28	13.2	16.9	9.5	28	—12.2
	600	28	4448	4490	4404	28	6.6	12.0	2.5	28	—18.6
	500	27	5928	5982	5855	27	— 0.9	3.6	— 5.5	27	—25.5
	400	26	7677	7747	7586	26	—11.5	— 9.0	—13.9	26	—30.2
	300	26	9824	9910	9723	26	—27.0	—24.0	—28.3	26	—45.8
	250	25	11115	11217	11007	25	—36.1	—34.0	—39.4	25	—53.8
	200	25	12628	12730	12507	25	—47.7	—45.0	—50.0	25	—63.0
	150	25	14479	14621	14333	25	—60.6	—57.5	—62.5	8	—71.3
	100	24	16903	17071	16740	24	—74.9	—71.8	—78.4	—	—
	70	22	18982	19195	18805	22	—70.7	—64.9	—75.8	—	—
	60	18	19930	20150	19810	18	—64.6	—61.6	—70.1	—	—
	50	18	21039	21275	20883	18	—58.5	—53.8	—65.7	—	—
	40	5	22518	22800	22000	5	—54.4	—53.4	—56.3	—	—
	30	5	24385	24595	24220	5	—49.8	—45.9	—53.9	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—

N = The Number of casses the elemelt has beec observed during the month.
* The atmospheric pressure corrected to the elevation of the radiosonde station.

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

JULY — 1977

	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
		(N)	(N)	(N)							(N)	(N)	(N)										
0000 U.T.	M. Matruh (A)	4968 (31)	562 (31)	—16.5 (31)	5680	517	—29.1	4100	617	—22.7	16248 (17)	114 (17)	—72.0 (17)	18300	78	—80.1	9420	307	—37.7	10540	264	215	66
0000 U.T.	Helwan . . .	5450 (27)	529 (27)	—19.0 (27)	6500	467	—25.0	4540	587	—21.4	17355 (8)	099 (8)	—70.9 (8)	18350	079	—75.7	15200	137	—60.0	15560	125	210	95
0000 U.T.	Aswan . . (A)	5266 (31)	542 (31)	—20.4 (31)	6040	494	—22.7	3900	638	—5.3	17410 (19)	091 (19)	—79.8 (19)	18150	078	—80.0	16350	109	—72.4	14950	136	130	85
1200 U.T.	M. Matruh (A)	5156 (26)	554 (26)	—20.5 (26)	6050	496	—15.9	4360	600	—13.8	16436 (13)	111 (13)	—70.2 (13)	17880	87	—75.3	10770	252	—42.5	3165	698	300	71
1200 U.T.	Helwan . . .	5977 (29)	499 (29)	—24.6 (29)	7190	433	—25.9	4180	615	—19.6	17584 (11)	95 (11)	—64.4 (11)	19820	066	—67.7	16520	115	—59.0	16430	107	270	130
1200 U.T.	Aswan . (A)	5736 (27)	513 (27)	—25.0 (27)	6460	471	—25.9	4900	566	—21.4	17218 (22)	095 (22)	—75.5 (22)	18350	078	—80.3	15770	124	71.7	15600	125	130	93

N = The number of cases the element 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
MARSA MATRAH (A) JULY — 1977

Time	Pressure Surface Millibar	Wind between rangoe of direet on (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	0	—	0	—	0	—	0	—	0	—	0	—	1	08	0	—	1	06	14	09	10	13	5	10	0	31	10
	1000	1	10	0	—	0	—	0	—	0	—	0	—	1	08	1	12	0	—	14	13	10	18	4	12	0	31	14
	850	9	24	1	36	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	28	5	20	14	322	0	31	23
	700	11	28	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	27	2	22	6	30	10	29	0	31	28
	600	6	32	1	35	1	38	0	—	2	—	0	—	0	—	0	—	2	31	3	31	12	26	6	23	0	31	28
	500	0	—	2	36	0	—	0	—	0	—	0	—	0	—	0	—	1	44	6	30	8	29	11	26	0	28	28
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	14	3	29	4	34	5	17	4	35	0	18	26
	300	0	—	0	—	0	—	0	—	0	—	0	—	1	15	2	28	3	25	0	—	0	—	1	26	0	7	25
	250	0	—	0	—	0	—	0	—	0	—	0	—	2	18	0	—	1	58	0	—	0	—	1	25	0	4	30
	200	0	—	0	—	0	—	0	—	0	—	0	—	2	32	0	—	0	—	0	—	0	—	0	—	0	2	32
	150	0	—	0	—	0	—	0	—	0	—	1	51	1	51	0	—	0	—	0	—	—	—	0	—	0	2	51
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	2	16	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	13	20	11	16	0	26	17
	1000	1	22	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	21	16	20	8	17	0	26	19
	850	5	21	0	—	0	—	0	—	1	04	0	—	0	—	0	—	0	—	3	18	8	22	9	17	0	26	19
	700	6	26	2	34	0	—	0	—	0	—	0	—	0	—	1	08	0	—	3	25	3	41	10	32	0	25	30
	600	6	29	1	42	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	38	9	26	7	27	0	25	29
	500	3	21	1	36	0	—	0	—	0	—	0	—	0	—	0	—	1	20	2	32	8	20	7	21	0	22	22
	400	0	—	0	—	0	—	0	—	0	—	1	06	1	09	1	17	3	27	4	28	1	23	4	28	0	15	24
	300	0	—	0	—	0	—	0	—	0	—	0	—	2	25	0	—	3	32	2	24	2	20	0	—	0	9	26
	250	0	—	0	—	0	—	0	—	0	—	0	—	1	17	0	—	0	—	1	11	0	—	0	—	0	2	14
	200	0	—	0	—	0	—	0	—	0	—	0	—	1	30	0	—	1	15	0	—	0	—	0	—	0	2	23
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	19	0	—	0	—	0	—	0	1	19
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	—
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed within 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 B3.— NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

HELWAN 1200 JULY 1977

Time	Pressure Surface (Millibar)	Wind within ranges of direction (000—260°)																								Number of Calm winds	Total Number of Observations (T.N)	Mean Scalar 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	16	5	1	5	0	—	1	2	0	—	0	—	0	—	0	—	0	—	0	—	1	7	12	5	0	31	5
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	6	12	6	15	10	14	1	15	0	—	0	—	0	—	0	—	0	—	0	—	3	13	1	11	0	27	14
	700	4	10	7	19	7	14	0	—	0	—	0	—	0	—	0	—	1	26	2	12	4	14	2	11	0	27	15
	600	3	11	11	16	3	12	0	—	0	—	0	—	1	13	0	—	1	2	2	24	4	14	2	22	0	26	15
	500	4	23	5	13	3	17	0	—	0	—	0	—	0	—	0	—	0	—	5	12	6	19	3	19	0	26	22
	400	5	30	3	17	0	—	0	—	1	19	0	—	0	—	0	—	2	14	7	21	4	19	4	23	0	24	26
	300	1	9	3	21	0	—	0	—	0	—	1	11	0	—	1	19	4	21	6	29	6	37	2	17	0	21	27
	250	0	—	1	9	0	—	0	—	0	—	1	12	0	—	2	30	5	30	8	27	2	36	2	26	0	18	26
	200	0	—	1	26	0	—	0	—	0	—	0	—	1	8	2	23	4	41	8	22	2	26	0	—	0	10	32
	150	0	—	1	30	0	—	0	—	0	—	0	—	0	—	2	40	4	44	1	14	0	—	2	10	0	5	37
	100	0	—	0	—	0	—	0	—	0	—	0	—	1	35	0	—	2	20	1	66	0	—	1	42	0	2	24
	70	0	—	1	27	0	—	0	—	0	—	1	21	0	—	0	—	0	—	0	—	0	—	0	—	0	1	18
	60	0	—	0	—	0	—	0	—	0	—	1	18	0	—	0	—	0	—	0	—	0	—	0	—	0	1	15
	50	0	—	0	—	—	—	0	—	1	15	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 T.U.	Surface	6	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	7	5	7	17	10	0	31	9
	1000	—	—	—	—	9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	3	9	9	12	8	12	1	10	0	—	0	—	0	—	0	—	1	10	2	16	1	12	5	10	0	31	11
	700	4	15	5	14	4	12	1	22	0	—	0	—	0	—	0	—	1	18	5	16	2	16	4	12	0	30	14
	600	5	19	6	10	2	12	1	12	0	—	0	—	0	—	0	—	1	18	3	17	3	18	7	13	0	30	14
	500	3	18	4	12	2	16	0	—	0	—	0	—	0	—	0	—	1	4	3	20	7	17	6	14	0	26	16
	400	1	4	3	18	0	15	0	—	0	—	0	—	0	—	1	5	1	13	7	21	7	21	3	18	0	25	13
	300	2	7	1	19	1	—	0	—	0	—	0	—	0	—	2	20	3	31	9	27	4	31	2	23	0	23	25
	250	1	25	0	—	1	4	0	—	0	—	0	—	0	—	2	32	6	35	9	30	1	38	2	12	0	22	29
	200	0	—	0	—	0	11	0	—	0	—	0	—	1	18	3	29	6	37	7	23	0	—	1	12	0	19	27
	150	0	—	0	—	0	—	0	—	1	4	2	15	0	—	2	38	5	24	1	84	1	72	0	—	0	12	32
	100	0	—	0	—	0	—	0	—	1	20	2	19	3	32	1	29	0	—	2	58	1	48	0	—	0	10	34
	70	0	—	0	—	0	—	0	—	2	96	3	26	1	11	0	—	0	—	1	106	0	—	0	—	0	7	55
	60	0	—	0	—	0	—	1	42	1	71	3	29	0	—	0	—	0	—	0	—	0	—	0	—	0	5	40
	50	0	—	0	—	0	—	0	—	2	30	2	28	0	—	0	—	0	—	0	—	0	—	0	—	0	4	29
	40	0	—	0	—	0	—	0	—	3	38	1	16	0	—	0	—	0	—	0	—	0	—	0	—	0	4	32
	30	0	—	0	—	—	—	0	—	1	28	0	—	0	—	0	—	0	—	—	—	0	—	0	—	0	1	28
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

T.N. = The total number of cases the wind 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

ASWAN JULY 1977

	Pressure Surface (Millibar)	Wind within ranges of direction (000—360)°																								Number of Calm winds	Total number of observations (TN)	Mean scalar Wind apeed (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)	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		(ff) m			
0000UT	Surface	15	12	0	—	0	—	0	—	0	—	0	—	1	5	1	10	1	10	0	—	6	9	7	12	0	31	11
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	10	14	0	—	2	13	1	4	1	4	1	2	0	—	0	—	1	7	6	14	4	16	5	14	0	31	13
	700	0	—	2	8	2	8	1	4	1	21	1	11	2	8	3	8	6	10	7	10	4	7	1	12	0	30	9
	600	1	7	2	8	0	—	2	14	1	21	3	6	1	12	3	12	6	14	4	11	5	8	2	8	0	30	11
	500	3	11	3	11	2	10	4	8	1	5	0	—	1	13	1	5	5	9	5	12	2	6	3	8	0	30	9
	400	1	8	2	12	12	16	1	10	4	8	2	6	1	9	2	14	2	16	0	—	0	—	2	3	0	29	12
	300	0	—	2	6	5	14	5	15	6	12	1	19	4	—	3	18	1	6	2	14	0	—	0	—	0	29	14
	250	0	—	1	11	2	14	9	17	7	18	3	18	3	13	1	16	0	—	2	6	0	—	0	—	0	28	16
	200	0	—	—	—	1	23	12	21	7	26	4	19	4	13	0	—	0	—	0	—	0	—	0	—	0	28	21
	150	0	—	—	—	1	35	10	26	12	38	4	22	1	16	0	—	0	—	0	—	0	—	0	—	0	28	31
	100	0	—	—	—	1	36	5	51	15	43	4	32	0	24	0	—	0	—	0	—	0	—	0	—	0	25	43
	70	0	—	—	—	0	—	10	42	4	29	2	28	0	—	0	—	0	—	0	—	0	—	0	—	0	16	37
	60	0	—	—	—	3	38	10	34	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	13	35
	50	0	—	—	—	3	39	9	39	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	12	39
	40	0	—	—	—	1	43	9	44	0	—	0	—	0	—	0	—	0	—	—	—	0	—	0	—	0	10	44
	30	0	—	—	—	2	42	4	53	0	—	0	—	0	—	0	—	0	—	—	—	0	—	0	—	0	6	48
	20	0	—	—	—	0	—	1	37	1	57	0	—	0	—	0	—	0	—	—	—	0	—	0	—	0	2	47
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200UT	Surface	3	9	1	10	3	8	0	—	2	8	2	10	2	8	0	—	0	—	0	—	9	9	5	11	1	28	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	2	6	0	—	0	—	1	6	1	10	3	10	1	7	3	5	0	—	5	12	10	13	2	12	0	28	10
	700	0	—	0	—	0	—	1	10	0	—	0	—	0	—	2	10	5	20	11	13	6	12	2	10	0	28	13
	600	0	—	2	8	4	8	0	—	0	—	1	8	1	4	6	15	1	18	7	12	3	08	3	9	0	28	11
	500	3	11	5	8	3	5	2	8	0	—	1	16	2	12	2	13	1	10	5	9	0	—	2	4	0	26	9
	400	1	14	3	13	7	12	5	13	1	10	2	5	0	—	1	17	3	13	0	—	3	5	0	—	0	26	11
	300	0	—	1	17	8	18	6	16	5	20	1	17	2	18	2	16	0	—	0	—	0	—	1	5	0	26	17
	250	0	—	0	—	6	19	6	19	8	27	3	21	0	—	2	12	0	—	0	—	0	—	0	—	0	25	21
	200	0	—	0	—	4	20	6	26	10	25	2	25	1	17	1	24	0	—	0	—	0	—	0	—	0	24	25
	150	0	—	0	—	2	20	5	38	14	33	2	24	1	18	0	—	0	—	0	—	0	—	0	—	0	24	32
	100	0	—	0	—	0	—	8	46	10	49	3	39	0	—	0	—	0	—	0	—	0	—	0	—	0	21	45
	70	0	—	0	—	0	—	11	42	5	34	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	16	40
	60	0	—	0	—	1	40	9	40	3	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	13	40
	50	0	—	0	—	0	—	7	41	0	—	0	—	—	—	0	—	0	—	0	—	0	—	0	—	0	7	41
	40	0	—	0	—	0	—	1	31	3	44	0	—	—	—	0	—	0	—	0	—	0	—	0	—	0	4	40
	30	0	—	0	—	1	34	0	—	0	—	0	—	—	—	0	—	0	—	0	—	0	—	0	—	0	1	34
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N=The number of cases the wind has been observed within the range of 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 — JULY 1977

The mean daily air temperature and relative humidity were nearly the same as normal.

The month was intervened by three light heat waves in the periods (7th), (10th & 11th), (29th & 30th). Otherwise weather was mild.

The mean daily actual sunshine duration and wind speed at 1.5 met. height were nearly the same as average.

The highest maximum soil temperatures were lower than the corresponding values of July 1976 at all depths with departures between 1.9°C (at 10 cm.) and 0.1°C (50 & 100 cm.). The lowest mini mum soil temperatures were the same as July 1976 at 2 cm. depth and higher at depths between 5 & 100 cm. with departures between 0.3° & 1.2°C.

TAHRIR — JULY 1977

The mean daily air temperature was slightly above normal and the mean daily relative humidity was the same as normal.

The month was characterized by five heat wave in the periods (7th), (9th—12th), (16th—18th), (23rd & 24th) and (29th—31st). The last wave gave rise to the highest maximum temperature (39.6°C) on the 31st.

The mean daily actual sunshine duration, wind speed at 1.5 met. height and pan evaporaton were lower than normal by 0.6 hour, 0.1 met/sec. and 0.49 mm. respectively.

The highest maximum soil temperatures in the dry field were lower than average at 2 cm. depth by 0.7°C, higher than average at other depths between 5 & 100 cm. with departures between 1.3°C (at 10 cm.) and 0.1°C (at 100 cm.). The lowest minimum soil temperatures were lower than average at 2 & 5 cm. depths by 1.1° & 1.0°C; higher than average at 10, 20, 50 sm. depths with departures between 0.5° and 0.6°C; the same as average at 100 cm.

BAHTIM — JULY 1977

The mean daily air temperature was slightly above average and the mean daily relative humidity was the sam as average.

The month was intervened by four heat waves in the periods (10—12th), (17th & 18th), (24th) & (29th—31st). The first heat wave gave rise to the highest maximum temperature (37.4°C) on the 11th and the highest minimum temperature (22.6°C) on the 9th. In the rest of the month, mild summer weather prevailed.

The mean daily actual sunshine duration, wind speed at 1.5 met. height were slightly below average. The mean daily pan evaporation was slightly above average.

The highest maximum soil temperatures in the dry field were higher than average at all depths with departures between 3.2°C (at 5 cm.) and 1.1°C (at 100 cm.). The lowest minimum soil temperatures were also higher than average at all depths with departures between 2.4°C (at 2 cm.) and 1.0°C (at 100 cm.).

ASSYOUT — JULY 1977

Mean maximum air temperature was 38.1°C and mean minimum air temperature was 21.2°C. Mean daily relative humidity was 43%.

The month was characterized by four heat waves in the periods (17th & 8th), (10th—13th), (16th—19th) and (30th & 31st) The third waves gave rise to the highest maximum temperature (44.6°C) on the 18th. Apart from the heat waves, mild summer weather was experienced.

KHARGA — JULY 1977

The mean daily air temperature and relative humidity were slightly above average.

The month was characterized by four heat waves in the periods (8th—13th), (17th—19th), (25th) (30th & 31st). The first wave gave rise to the highest maximum temperature (46.4°C) on the 12th. Apart from the heat waves, mild summer weather was experienced.

The mean daily actual sunshine duration was the same as average. The mean daily wind speed at 1.5 met. height and pan evaporation were lower than average by 0.9 met/sec. and 1.52 mm.

The highest maximum soil temperatures were higher than average at all depths except at 50 cm. where it was lower than average by 0.5°C., the departures varied between 3.6°C (at 10 cm.) and 0.3°C (at 100 cm.). The lowest minimum soil temperature were higher than average at all depths except at 10 cm. where it was lower than average by 0.3°C; the departures varied between 1.0° & 0.1°C.

Table C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND
JULY— 1977

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	29.0	21.2	25.3	23.2	26.9	24.0	24.0	24.0	24.0	24.0	23.6	12.2	0.8	0.0	0.0	0.0
Tahrir	35.9	21.1	27.2	23.4	30.0	24.0	24.0	24.0	24.0	24.0	23.6	13.2	7.5	1.5	0.0	0.0
Bahtim	34.1	19.8	26.5	22.6	29.6	24.0	24.0	24.0	24.0	24.0	22.1	13.0	7.1	0.8	0.0	0.0
Assiut	38.1	21.2	29.2	25.3	32.4	24.0	24.0	24.0	24.0	34.4	24.0	16.6	9.8	4.6	0.5	0.0
Kharga	40.4	24.4	33.0	29.4	36.0	24.0	24.0	24.0	24.0	24.0	24.0	22.6	15.7	9.2	2.4	0.1

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— 1977

STATION	Max. Temp. at 1½ metres (°C)				Min Temp. at 1½ metres. (°C)				Min. Temp. at 5 cms. above groun			
	Highest		Lowest		Highest		Lowest		Dry soil		Grass	
	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date	Value	Date
M. Matruh.....	43.0	7,11	27.3	2,15	23.8	12	18.8	16	17.7	6	—	—
Tahrir	39.6	31	31.6	4	23.8	18	17.6	7,6	15.9	6	14.8	14
Bahtim	37.4	11	30.8	3	22.6	9	16.4	7	13.6	7	11.4	7
Assiut	44.6	18	32.8	4	23.5	12,18	19.7	22	15.9	22.23	—	—
Kharga	46.4	12	35.7	4	30.0	19	19.7	25	17.4	25	—	—

Table C 3 — (SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL.
JULY— 1977

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 UT	Highest	Date	Lowest	Date	Piche	Pan class (A)	Total Amount Monthly	Max. Fall in one day	Date
M. Matruh	568.8	371.6	433.5	86	72	60	26	11	17.2	17.3	22.8	30	8.2	7	6.5	—	0.0	0.0	—
Tahrir....	661.6	367.1	431.4	85	67	39	26	29	17.3	15.5	22.6	18	12.0	29	6.2	10.98	0.0	0.0	—
Bahtim ...	663.8	349.4	429.9	81	67	41	32	7	16.8	15.9	22.9	17	12.2	7	6.7	10.40	0.0	0.0	—
Assiut ...	—	396.2	422.9	94	43	25	12	18	12.3	11.5	21.0	18	7.4	7	11.9	12.31	0.0	0.0	—
Kharga ...	705.3	383.4	419.2	91	29	20	12	24	10.5	10,7	17.5	18	6.5	24	18.0	18.48	0.0	0.0	—

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

JULY —1977

STATION	Highest (H) Lowest (L)	Dry Field								Grass							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
M. Matruh . . .	H	40.7	38.7	33.9	30.4	28.2	26.5	24.4	—	—	—	—	—	—	—	—	—
	L	25.1	24.6	24.6	26.2	26.4	25.2	23.0	—	—	—	—	—	—	—	—	—
Tahrir	H	53.9	49.0	43.7	38.2	34.0	31.3	28.8	27.5	37.4	36.0	33.3	31.0	30.8	29.3	22.7	—
	L	27.2	26.3	28.0	30.6	31.6	30.0	27.3	61.1	24.3	24.8	24.9	25.8	28.1	27.6	26.0	—
Bahtim	H	56.6	49.2	41.6	36.8	33.5	30.7	26.4	24.0	48.6	38.7	34.6	31.0	28.5	26.5	23.4	—
	L	31.3	29.8	30.2	32.7	31.6	29.0	24.9	23.3	25.2	25.0	25.6	27.2	26.5	24.7	22.2	—
Assiut	H	61.7	50.4	42.0	35.7	31.6	29.7	26.6	24.8	—	—	—	—	—	—	—	—
	L	32.1	29.5	29.9	32.0	31.0	28.9	25.4	24.1	—	—	—	—	—	—	—	—
Kharga	H	60.5	53.4	47.5	41.0	34.8	33.3	30.5	29.0	—	—	—	—	—	—	—	—
	L	23.2	26.2	29.5	33.2	33.4	32.2	29.3	28.2	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

JULY— 1977

STATION	Wind Speed m/sec (2 metres)			Days with surface wind speed at (10 metres)							Na .. Gust 10 metres	
	Mean of the day	Night time mean	Day time mean	≧10 (konts)	≧15 (konts)	≧20 (konts)	≧25 (konts)	≧30 (konts(	≧35 (konts)	≧40 (konts)	Value (konts)	Date
M. Matruh. .	4.3	3.2	5.4	31	29	13	3	0	0	0	32	2
Tahrir. . . .	2.4	1.7	3.1	31	16	1	0	0	0	0	27	3
Bahtim . . .	1.8	1.1	2.4	25	6	0	0	0	0	0	19	3,6,15, 16
Assiut . . .	—	—	—	—	—	—	—	—	—	—	—	—
Kharga . . .	3.1	2.4	3.8	31	18	6	0	0	0	0	30	7

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
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PUBLICATIONS OF THE METEOROLOGAL AUTHORITY OF THE ARAB REPUBLIC OF EGYPT—CAIRO

In fulfilment of its duties, the Egyptian Meteorological Authority issues several 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 MONTHLY WEATHERT 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.

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

CONTENTS

PAGE

General Summary of Weather Conditions . . . . . .

SURFACE DATA

Table A1.—Monthly values of the Atmospheric Pressure, Air Temperature, Relative Humidity, Bright Sunshine Duration, and Piche Evaporation 2

" A2.—Maximum and Minimum Air Temperatures 3

" A3.—Sky Cover and Rainfall 4

" A4.—Number of Days of Occurrence of Miscellaneous Weather Phenomena . . . 5

" A5.—Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded Within Specified Ranges 6,7

UPPER AIR DATA

Table B1—Monthly Means and Monthly Absolute Highest & Lowest Values of Altitude, Air Temperature & Dew point at Standard and Selected Pressure Surfaces. . . . 8,9

" B2.—Mean and Extreme values of The Freezing Level and The Tropopause. The Highest Wind Speed in The Upper Air 10

" B3.—Number of Occurrences of Wind Direction within Specified Ranges and The Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces. 11–13

AGRO-METEOROLOGICAL DATA

Reviews of Agro-meteorological Stations 14,15

Table C1.—Air Temperature at 1½ metres above Ground 16

" C2.—Extreme Values of Air Temperature at 1½ metres above Ground, Absolute Minimum Air Temperature at 5 Cms Above Ground over Different Fields 16

" C3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity and Vapour Pressure at 1½ Metres Above Ground, Evaporation and Rainfall. . . 16

" C4.—Extreme Soil Temperature at Different Depths in Different Fields 17

" C5.—Surface wind 17

Note—For explantory notes on the tables please refer to Volume 18 number 1 (January 1975).

GENERAL SUMMARY OF WEATHER CONDITIONS

AUGUST 1977

Generally mild & humid at the coast, hot in the middle parts and extremely hot in the southern parts.

PRESSURE DISTRIBUTION

The prevailing pressure systems were the monsoon low pressure over Iraq & Arabia and week high pressure over Central Mediterranean & Libya.

The mean monthly atmospheric pressure over Egypt was generally below normal except for some scattered stations where it was equal or slightly above normal.

SURFACE WIND

Light to moderate N-ly and NW-ly winds prevailed most days of the month, and freshened during few days in scattered places.

TEMPERATURE

The month was intervened by three heat waves mainly pronounced in interior districts with their peaks round the 2*nd*, 8*th* & 25*th*.

Maximum and minimum temperatures showed slight to moderate departures above normal most days of the month, and slight departures below normal in few days.

The highest and lowest maximum temperatures **were respectively 46.2°C at Aswan on** the 26*th* and 27.9°C at Sallum on the 26*th*.

The highest and lowest minimum temperatures were respectively 30.2°C at Kharga **on the 4*th* and 18.0°C at Minya on the 17*th*.**

WEATHER PHENOMENA

No rain was reported as usual.

Early morning mist developed frequently over scattered places in Lower Egypt, Cairo and north of Middle Egypt.

Lipht rising sand was reported several days in scattered places in the Western Desert, Uppet Egypt. and Red Sea Districts.

Cairo, May 1981

Chairman (M.A.BADRAN)
Board of Directors

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

AUGUST — 1977

STATION	Atmospheric Presure (mbs) M.S.L		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evap.
			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	1009.2	—1.1	31.1	0.0	22.5	0.7	26.8	26.5	0.2	21.6	—0.2	65	—1	—	—	—	8.2
Mersa Matruh. (A)	1010.1	0.0	29 2	—0.7	21.1	0.0	25.1	25.5	—0.1	21.9	0.1	74	1	362.6	411.2	88	6.7
Alexandria . (A)	1009.3	—0.1	31.5	0.9	23.1	0.2	27.3	27.0	0.5	22.9	0.1	69	—2	346.9	411.1	84	4.4
Port Said . . (A)	1007.9	—0.3	30.6	—0.1	25.7	1.0	28.1	27.7	0.5	23.7	0.1	70	—2	340.1	411.2	83	4.8
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo . . . . (A)	1008.5	—0.1	34 8	0.2	22.1	0.3	28.4	27.8	0.0	22.1	0.4	62	5	—	—	—	11.7
Fayoum	—	—	37.9	1.0	21.4	—0.2	29.6	29.1	0.3	22.0	0.6	55	5	—	—	—	8 6
Minya . . . . (A)	1007.6	0.0	37.0	0.6	20.6	0.2	28.8	28.7	0.5	21.1	0.4	52	2	369.7	406.7	91	12.2
Assyout. . . . (A)	1007.1	0.0	36.5	—0.3	21.8	—0.6	29.1	29.4	—0.2	19.1	—0.7	36	—1	—	—	—	17.6
Luxor . . . . (A)	1005.5	0.2	41.1	0.0	23.5	—0.1	32.3	32.1	—0.5	20.7	0.7	33	6	—	—	—	10.1
Aswan . . . . (A)	1005.4	0.0	41.9	0.1	26.2	0.3	34.0	34.1	0.2	19.1	0.8	19	—3	339.1	401.4	84	21.2
Siwa	1009.2	—0.9	37.7	0.2	21.5	0.5	29.6	29.8	0.5	19.9	0.1	40	—4	374.9	408.2	92	12.2
Bahariya	1008 0	—0.6	37.9	0.6	21.8	0.6	29.8	29.9	0.7	19.7	—0.2	39	—4	—	—	—	12.1
Farafra	1009.3	—0.2	38.6	1.0	22.1	0.8	30.3	30.4	0.9	18.3	0.2	28	—2	—	—	—	16.8
Dakhla	1008.0	0.0	39.2	0.6	21.8	—0.7	30.5	30.8	0.2	18.1	—0.3	26	0	—	—	—	20.0
Kharga	1006.3	—1.1	40.0	0.4	23.1	0.3	31.5	32 3	0.9	19.4	0.9	31	4	368.6	403.2	91	16.8
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1004.1	—0 8	33.3	0.0	26 1	0.9	29.7	29 9	0.2	22.3	0.3	49	—1	367.4	405.5	91	19.1
Quseir	1003.9	—0.3	33.2	—0.3	26 8	0.1	30.0	30.2	—0.1	23.6	1.3	56	6	—	—	—	8.5

Table A 2 — MAXIMUM AND MINIMUM AIR TEMPERATURE

AUGUST — 1977

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	35.2	15	27.9	26	31	20	01	00	00	21.6	—	24.4	2	19.8	31	00	00	00	00
Mersa Matruh (A)	32.2	24	28.2	29.30	31	03	00	00	00	19.6	—	24.9	27	18.1	23,24	00	00	00	00
Alexandria . (A)	33.4	24	29.9	26	31	30	00	00	00	21.1	—	25.6	5	18.6	23'31	00	00	00	00
Port Said . (A)	32.8	1	28.4	26.27	31	22	00	00	00	25.0	—	27.6	24	24·5	27,28	00	00	00	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo . . . (A)	40.2	25	31.6	27		31	11	01	00	—	—	24.3	2	20.1	22	00	00	00	00
Fayoum.	43.8	25	34.9	27	31	31	30	04	00	19.8	—	23.9	2	20.0	18,22,27	00	00	00	00
Minya . . . (A)	41.6	2	33.8	27	31	31	25	05	00	18.6	—	23.0	24	18.0	17	00	00	00	00
Assyout. . . (A)	41.3	25	32.6	28	31	31	24	05	00	21 1	—	23.7	2	19.8	17	00	00	00	00
Luxor . . . (A)	45.1	3	37.8	28	31	31	31	03	01	17.6	—	26.0	3	19.8	8	00	00	00	00
Aswan . . . (A)	46.2	26	39.2	31	31	31	31	30	01	—	—	30.0	5,15	22.7	30	00	00	00	00
Siwa	42.4	24	33.3	29	31	31	26	03	00	19.8	—	23.1	19	19.0	24,30	00	00	00	00
Bahariya	42.6	25	34.2	27	31	31	27	07	00	20.3	—	24.7	8	19.5	17	00	00	00	00
Farafra	43.5	25	33.7	27	31	31	29	07	00	20.3	—	25.1	3	18.5	22	00	00	00	00
Dakhla	43.8	2	34.2	28	31	31	29	07	00	21.6	—	27.5	1	17.0	23	00	00	00	00
Kharga	45.4	2	35.8	28	31	31	31	13	02	21.4	—	30.2	26	19.0	30,31	00	00	00	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada . . .	35.9	3	31.1	27	31	31	01	00	00	—	—	27.9	4	23.9	21	00	00	00	00
Quseir	35.4	3	31.8	6	31	31	01	00	00	23.1	—	28.9	5	24.9	30	00	00	00	00

TABLE A3 SKY COVER AND RAIN FALL

AUGUST 1977

Station Name	Mean Sky Cover					Rain Fall mms.										
	00 U.T	06 U.T	12 U.T	18 U.T	Daily Mean	Total Amount	D.F.N	Max. In One Day		Number Of Days With Amount Of Rain						
								Value	Date	<0.1	≧0.1	≧1.0	≧5.0	≧10	≧25	≧50
Elsallum	0.7	0.7	0.8	0.6	0.7	0.0	0.0	—	—	00	00	00	00	00	00	00
Mersa Matroh	1.5	2.4	0.9	1.9	1.6	0.0	0.0	—	—	00	00	00	00	00	00	00
Alexandria	1.8	2.5	2.9	1.3	2.1	0.0	0.0	—	—	00	00	00	01	00	00	00
Port Said	1.4	2.2	0.3	1.0	1.2	0.0	0.0	—	—	00	00	00	00	00	00	00
Cairo A.P.	1.8	3.5	0.3	0.0	1.2	0.0	0.0	—	—	00	00	00	00	00	00	00
El-Fayoum	—	0.6	0.0	0.0	—	0.0	0.0	—	—	00	00	00	00	00	00	00
El-Minia	0.0	1.2	0.0	0.0	0.2	0.0	0.0	—	—	00	00	00	00	00	00	00
Assuit	0.0	0.2	0.2	0.0	0.0	0.0	0.0	—	—	02	00	00	00	00	00	00
Luxo	0.0	0.3	0.9	0.3	0.2	0.0	—1.0	—	—	00	00	00	00	00	00	00
Aswan	0.3	0.6	0.0	0.6	0.7	0.0	0.0	—	—	00	00	00	00	00	00	00
Sewa	0.0	0.3	0.0	0.0	0.1	0.0	0.0	—	—	00	00	00	00	00	00	00
El- Baharia	0.0	0.7	0.0	0.1	0.1	0.0	0.0	—	—	00	00	00	00	00	00	00
El-Fara.ra	—	0.0	0.1	0.0	—	0.0	0.0	—	—	00	00	00	00	00	00	00
El-Dakhla	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—	—	00	00	00	00	00	00	00
El-Kharga	0.0	0.3	0.1	0.0	0.1	0.0	0.0	—	—	00	00	00	00	00	00	00
El-Hurgada	0.0	0.3	0.2	0.0	0.1	0.0	0.0	—	—	00	00	00	00	00	00	00
El-Quseir	0.1	0.1	0.2	0.0	0.1	0.0	0.0	—	—	00	00	00	00	00	00	00

Table A 4.– DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

AUGUST — 1977

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											
Sallum	00	00	00	00	04	00	00	03	00	00	00	27	00
Mersa Matruh (A)	00	00	00	00	19	02	02	13	00	00	00	22	00
Alexandria (A)	00	00	00	00	02	00	00	00	00	00	00	16	00
Port Said (A)	00	00	00	00	00	00	00	00	00	00	00	23	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo (A)	00	00	00	00	23	04	02	00	00	00	00	24	00
Fayoum	00	00	00	00	00	00	00	01	00	00	00	31	00
Minya (A)	00	00	00	00	05	00	02	02	00	00	00	31	00
Assyout (A)	00	00	00	00	00	00	00	02	00	00	01	31	00
Luxor (A)	00	00	00	00	00	00	11	01	00	00	00	31	00
Aswan (A)	00	00	00	00	00	00	03	07	00	00	00	26	00
Siwa	00	00	00	00	00	00	01	03	00	00	00	31	00
Bahariya	00	00	00	00	00	00	00	00	00	00	00	31	00
Farafra	00	00	00	00	00	00	01	00	00	00	00	31	00
Dakhla	00	00	00	00	00	00	00	04	00	00	00	31	00
Kharga	00	00	00	00	00	00	00	01	00	00	00	31	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	00	00	00	00	00	00	00	15	00	00	00	31	00
Quseir	00	00	00	00	00	00	00	01	00	00	00	31	00

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

AUGUST — 1977

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	325 / 344	ALL DIR
Sallum	01	01	00	1—10	78	129	42	34	05	00	02	03	04	20	39	191	548
				11—27	04	59	01	00	00	00	00	00	00	00	07	124	195
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**82**	**188**	**43**	**34**	**05**	**00**	**02**	**03**	**04**	**20**	**46**	**315**	**742**
Mersa Matroh	05	00	00	1—10	88	12	05	05	11	12	02	11	72	88	83	210	549
				11—27	01	00	00	00	00	00	00	00	00	01	82	106	190
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**99**	**12**	**05**	**05**	**11**	**12**	**02**	**11**	**72**	**89**	**165**	**316**	**739**
Al Exandria	06	00	00	1—10	135	36	03	07	02	03	11	11	03	01	65	281	558
				11—27	09	02	00	00	00	00	00	00	00	00	27	142	180
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**144**	**38**	**03**	**07**	**02**	**03**	**11**	**11**	**03**	**01**	**92**	**423**	**738**
Cairo	20	00	00	1—10	77	83	17	02	00	01	00	01	06	95	159	156	597
				11—27	32	09	01	00	00	00	00	00	01	04	21	59	127
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**109**	**92**	**18**	**02**	**00**	**01**	**00**	**01**	**07**	**99**	**180**	**215**	**724**
El Fayoum	01	01	00	1—10	332	315	17	01	02	00	00	05	04	06	13	36	731
				11—27	02	09	00	00	00	00	03	00	00	00	00	00	11
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**334**	**324**	**17**	**01**	**02**	**00**	**00**	**05**	**04**	**06**	**13**	**36**	**743**
El Minia	17	00	00	1—10	449	164	10	02	01	01	03	00	00	01	05	36	672
				11—27	23	32	00	00	00	07	00	00	00	00	00	00	55
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**472**	**196**	**10**	**02**	**01**	**01**	**03**	**00**	**00**	**01**	**05**	**36**	**727**
Assuit	00	00	00	1—10	187	49	04	00	00	01	04	06	13	18	62	173	517
				11—27	201	12	00	00	00	00	00	00	00	00	00	14	227
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**388**	**61**	**04**	**00**	**00**	**01**	**04**	**06**	**13**	**18**	**62**	**187**	**744**

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

AUGUST — 1977

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing within 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)	61	00	00	1—10	17	13	05	10	17	18	66	84	56	139	149	103	677
				11—27	00	00	00	00	00	00	00	00	00	00	01	05	06
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				> 48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	17	13	05	10	17	18	66	84	56	139	150	108	683
Aswan . . . . (A)	00	06	00	1—10	115	24	06	07	04	26	30	16	17	36	103	134	524
				11—27	60	03	00	00	00	10	05	05	03	10	40	85	220
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	175	27	06	07	04	36	35	20	20	40	143	219	738
Siwa.	35	00	00	1—10	93	063	89	60	23	11	05	05	05	25	53	120	652
				11—27	05	35	03	00	00	00	00	00	00	00	04	10	57
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	98	198	92	60	23	11	05	05	05	25	57	130	728
Dakhla.	06	10	00	1—10	93	27	07	04	05	02	11	24	26	70	152	217	864
				11—27	33	04	00	00	00	00	00	00	00	00	00	53	90
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	126	30	07	04	05	02	11	24	26	70	152	270	728
Kharga.	11	02	00	1—10	222	53	26	16	06	02	04	06	07	16	54	115	529
				11—27	130	04	00	00	00	00	00	00	00	00	04	66	204
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	352	57	26	16	06	02	04	06	07	16	58	181	731
Hurghada	12	00	00	1—10	19	36	07	03	09	19	08	02	03	74	80	33	293
				11—27	26	05	00	00	00	00	00	02	00	15	215	176	349
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	45	45	07	30	09	19	08	04	03	89	295	209	732
Quseir	08	03	00	1—10	164	56	08	13	21	17	29	18	18	38	89	144	615
				11—27	67	01	00	00	00	00	00	00	00	00	00	50	118
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	733	57	08	13	21	17	29	18	18	38	89	194	733

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

OUGUST — 1977

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	1008mb.*	1011mb.*	1004mb.*	31	24.1	26.5	21.7	31	19.0
	1000	31	100	125	63	31	23.8	25.9	21.6	31	20.1
	850	31	1513	1548	1476	31	19.1	25.6	11.6	31	6.8
	700	31	3156	3209	2951	31	12.0	15.4	7.8	31	— 5.3
	600	30	4430	4487	4215	30	4.8	13.5	2.3	30	—12.7
	500	30	5892	5988	5671	30	— 4.4	0.7	— 7.6	30	—19.6
	400	30	7614	7727	7402	30	—15.6	—12.9	—17·8	29	—30.3
	300	30	9727	9848	9517	30	—29.6	—25.5	—31.7	30	—42.8
	250	30	11004	11126	10797	30	—38.9	—35.9	—42.0	30	—51.4
	200	29	12503	12626	12297	29	—49.8	—45.5	—59.0	29	—60.5
	150	29	14334	14469	14047	29	—61.6	—56.8	—65.3	2	—65.6
	100	24	16780	16918	16502	24	—73.9	—67.6	—77.9	—	—
	70	8	18913	19077	18816	8	—68.6	—63.5	—72.1	—	—
	60	5	19914	20010	19860	5	—65.3	—62.9	—68.4	—	—
	50	5	21019	21151	20947	5	—60.9	—56.9	—63.0	—	—
	40	2	22510	22600	22420	2	—58.4	—58.3	—58.6	—	—
	30	2	24282	24371	24192	2	—55.0	—54.4	—55.7	—	—
	20	1	26980	—	—	1	- 52.4	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	31	993m.b.*	999m.b.*	987m.b.*	31	24.2	28.0	22.2	31	19.5
	1000	30	072	104	026	—	—	—	—	—	—
	850	30	1489	1513	1449	30	21.3	27.3	16.9	30	03.2
	700	30	3151	3189	3090	30	10.4	18.8	07.5	30	—05.1
	600	30	4433	4478	4349	29	06.1	09.4	02.0	29	—13.0
	500	30	5905	5958	5800	30	—02.3	02.1	—06.2	30	—20.1
	400	30	7648	7786	7538	30	—12.8	- 09.2	—16.1	30	—28.3
	300	28	9779	9879	9669	28	—26.6	—25.0	—28.8	28	—39.7
	250	27	11071	11201	10959	27	—35.2	—30.0	—37.6	26	—47.7
	200	27	12594	12758	12476	27	—45.4	—41.8	—48.8	26	—56.5
	150	25	14460	14660	14328	25	—57.1	—53.8	—60.0	21	—66.6
	100	14	16912	17069	16466	14	—69.6	—64.2	—75.7	—	—69.3
	70	4	19085	19029	19021	4	—68.4	- 65.7	—73.2	—	—
	60	1	20680	—	—	1	—62.0	—	—	—	—
	50	1	21116	—	—	1	—59.2	—	—	—	—
	40	1	22600	—	—	1	—55.5	—	—	—	—
	30	1	24368	—	—	1	—52.6	—	—	—	—
	20	1	27008	—	—	1	—48.9	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
aswan 0000 U.T.	Surface	31	985m.b.*	987m.b.*	982m.b.*	31	28.6	33.8	25.0	31	7.1
	1000	31	58	79	34	—	—	—	—	—	—
	850	31	1499	1567	1462	31	24.2	28.6	19.4	31	— 2.4
	700	31	3164	3211	3108	31	13.2	17.8	9.2	31	— 6.8
	600	31	4439	4489	4378	31	3.4	5.7	— 2.1	31	—11.3
	500	30	5896	5952	5858	30	— 6.0	— 2.5	—10.2	30	—20.6
	400	29	7618	7657	7585	29	—15.7	—12.5	—20.4	29	—32.5
	300	29	9735	9781	9676	29	—29.7	—24.3	—31.5	29	—44.6
	250	28	11010	11081	10957	28	—39.3	—34.6	—42.2	28	—53.2
	200	28	12505	12594	12437	28	—50.6	—48.6	—54.4	28	—62.2
	150	26	14328	14598	14237	26	—63.3	—61.3	—66.7	—	—
	100	24	16731	16809	16616	24	—76.8	—71.8	—79.4	—	—
	70	21	18696	18870	18718	21	—71.4	—65.6	—84.4	—	—
	60	17	19761	19960	19650	17	—66.4	—60.6	—72.4	—	—
	50	16	20827	20920	20703	16	—62.3	- 58.6	—69.2	—	—
	40	10	22305	22370	22170	10	—58.8	—57.1	—60.3	—	—
	30	11	24050	24127	23924	11	- 55.3	- 51.5	—59.0	—	—
	20	3	26647	26767	26524	3	—48.3	—47.7	—48.7	—	—
	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.(*cont.*)—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

OUGUST — 1977

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	31	*1009m.b.	*1011m.b.	*1005m.b.	31	28.5	30.0	26.5	31	20.8
	1000	31	104	126	73	31	27.8	30.2	25.4	31	19.6
	850	30	1507	1543	1502	30	20.4	23.8	15.8	30	3.1
	700	30	3176	3203	3147	30	12.4	14.8	9.0	30	−6.2
	600	30	4453	4487	4417	30	5.4	8.2	0.8	30	−15.2
	500	29	5929	5962	5872	29	−3.4	2.1	−6.3	29	−22.4
	400	28	7654	7700	7595	28	−14.6	−12.0	−18.3	28	−32.3
	300	28	9780	9834	9695	28	−28.2	−22.7	−31.1	27	−43.6
	250	27	11063	11127	10993	27	−38.7	−33.5	−40.1	26	−51.4
	200	24	12569	12657	12451	24	−48.1	−46.3	−51.0	24	−60.5
	150	24	14413	14507	25277	24	−60.7	−58.5	−62.1	11	−69.2
	100	22	16866	16982	16727	22	−71.5	−60.9	−75.4	—	—
	70	18	18966	19090	18820	18	−68.8	−60.1	−81.0	—	—
	60	7	19933	20000	19710	7	−64.0	−58.2	−71.3	—	—
	50	5	21082	21111	21045	5	−57.6	−52.3	−59.7	—	—
	40	4	22572	22660	22500	4	−52.8	−45.5	−55.0	—	—
	30	4	24380	24511	24310	4	−47.8	−37.3	−51.5	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface	31	*991m.b.	*995m.b.	*987m.b.	31	34.4	39.3	30.2	31	13.4
	1000	28	063	085	023	—	—	—	—	—	−2
	850	28	1510	1546	1442	28	22.7	28.5	16.4	27	−3.2
	700	28	3177	3221	3101	28	14.9	18.2	09.9	28	−10.5
	600	28	4468	4523	4411	28	08.0	10.6	03.4	28	−17.2
	500	28	5951	6017	5881	28	00.2	04.7	−03.7	28	−23.2
	400	27	7709	7788	7614	26	−10.1	−06.2	−14.6	26	−31.1
	300	26	9877	9969	9794	25	−23.3	−18.2	−25.3	24	−41.6
	250	26	11181	11283	11106	25	−31.8	−28.7	−34.0	24	−48.6
	200	25	12740	12836	12628	25	−41.9	−38.6	−45.6	24	−57.0
	150	25	14640	14766	14516	22	−52.4	−49.0	−55.8	20	−65.0
	100	17	17192	17255	16978	17	−63.0	−57.7	−70.2	—	—
	70	7	19434	19560	19377	7	−59.7	−51.2	−65.6	—	—
	60	5	20644	20980	20340	5	54.4	−47.0	−58.1	—	—
	50	4	21596	21622	21475	4	−47.8	−41.6	−53.0	—	—
	40	2	23249	23360	23138	2	−36.7	−35.0	−38.4	—	—
	30	1	25313	—	—	1	−27.4	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 1200 U.T.	Surface	29	*985m.b.	*987m.b.	*982m.b.	29	40.7	44.0	36.4	29	7.7
	1000	29	51	74	08	—	—	—	—	—	—
	850	29	1516	1544	1465	29	26.6	30.7	24.5	29	−2.1
	700	28	3191	3238	3132	28	14.7	17.0	9.4	28	−11.0
	600	27	4473	4531	4396	27	5.2	7.8	1.4	26	−17.8
	500	25	5938	5993	5878	25	−4.6	−1.2	−7.5	52	−25.8
	400	24	7669	7718	7590	24	−13.8	−8.4	−19.5	24	−35.3
	300	23	9891	9888	9726	23	−27.7	−24.9	−32.2	23	−46.5
	250	22	11091	11169	11038	22	−37.5	−34.9	−41.1	22	−54.6
	200	22	12598	12713	12515	22	−49.9	−45.2	−52.9	22	−63.7
	150	22	14402	14589	14046	22	−61.7	−56.8	−64.7	—	—
	100	21	16866	17069	16804	21	−75.6	−71.7	−79.3	—	—
	70	20	18945	19137	18643	20	−70.2	−64.1	−74.2	—	—
	60	16	19941	20060	19829	16	−64.3	−56.7	−68.5	—	—
	50	16	21016	21153	20969	16	−61.0	−55.0	−68.1	—	—
	40	13	22509	22680	22480	13	−55.8	−52.4	−59.9	—	—
	30	13	24256	24456	24135	13	−52.9	−49.5	−56.7	—	—
	20	6	26837	16891	26763	6	−52.0	−40.1	−49.5	—	—
	10	1	31504	—	—	1	−45.0	—	—	—	—

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

AUGUST — 1977

	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. .	5157 (30)	550 (30)	—16.5 (30)	5988	500	—3.5	4465	600	—8.0	17076 (7)	97 (7)	—73.7 (7)	18000	[illegible]	—74.0	16130	111	—74.9	5640	530	340	42
	Helwan . . .	5502 (30)	528 (30)	—19.0 (30)	6200	483	—23.4	4600	582	—23.5	16688 (2)	103 (2)	—67.1 (2)	16867	100	—66.7	16510	106	—67.5	13320	182	270	80
	Aswan	4916 (30)	569 (30)	—13.0 (30)	5900	528	—28.0	4160	620	—12.2	16892 (18)	100 (18)	—78.0 (18)	19420	89	—79.9	15120	130	—72.2	25800	023	090	68
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	M. Matruh. .	5367 (29)	537 (29)	—20.0 (29)	5800	509	— 9.9	4630	588	—30.3	16503 (12)	106 (12)	—71.4 (12)	17210	095	—73.2	15980	115	—69.7	15150	—	210	59
	Helwan . . .	5968 (28)	500 (28)	—23.4 (28)	6660	461	—23.4	5100	550	—15.5	17047 (6)	103 (6)	—63.3 (6)	17750	91	—65.6	16470	113	—60.0	13050	—	260	55
	Aswan . . .	5189 (25)	551 (25)	—21.5 (25)	5760	513	—23.5	4750	580	— 8.2	17129 (20)	96 (20)	—76.8 (20)	18270	78	—80.4	15970	117	—70.8	16450	106	130	70

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

Table B3. 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 1977

Time	Pressure Surface (Millibar)	Wind within 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	4	0	—	0	—	1	2	1	2	1	5	0	—	0	—	2	8	4	8	6	9	13	10	1	31	8
	1000	1	6	0	—	0	—	1	7	0	—	1	12	0	—	0	—	0	—	3	12	4	15	10	15	0	30	13
	850	2	13	0	—	1	5	0	—	0	—	0	—	0	—	0	—	0	—	1	7	6	12	10	16	0	20	14
	700	2	14	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	10	1	18	3	11	0	8	12
	600	2	19	1	16	0	—	0	—	0	—	0	—	0	—	0	—	1	16	0	—	1	11	1	9	0	6	14
	500	1	14	1	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	16	1	9	0	—	0	5	14
	400	0	—	1	13	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	10	1	7	1	29	0	5	14
	300	0	—	1	11	0	—	0	—	0	—	0	—	0	—	0	—	1	32	1	11	0	—	0	—	0	3	18
	250	1	20	—	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	20
	200	—	20	0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	4	8	2	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	8	5	14	19	15	0	31	14
	1000	2	4	1	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	16	18	12	17	0	31	16
	850	1	16	0	—	0	—	0	—	0	—	1	5	0	—	0	—	0	—	7	14	13	15	9	11	0	31	13
	700	5	9	1	11	0	—	1	18	0	—	0	—	0	—	1	26	3	18	3	9	11	14	6	12	0	31	13
	600	7	11	2	6	0	—	0	—	0	—	0	—	1	6	1	9	3	15	7	16	5	10	4	6	0	30	11
	500	3	7	1	16	3	8	1	12	0	—	1	7	2	4	2	11	5	12	6	10	2	15	2	7	0	28	10
	400	0	—	1	8	1	7	1	10	1	9	1	17	1	29	4	27	5	22	6	14	2	14	1	20	0	24	18
	300	0	—	1	10	0	—	0	—	1	12	2	14	2	19	6	24	6	26	3	18	0	—	0	—	0	21	21
	250	0	—	0	—	0	—	0	—	1	6	1	22	4	14	5	33	4	31	3	23	0	—	1	10	0	19	24
	200	0	—	1	7	0	—	0	—	0	—	2	24	1	15	9	27	1	38	3	27	0	—	0	—	0	17	25
	150	1	14	0	—	0	—	0	—	0	—	4	20	4	22	5	31	1	38	0	—	0	—	0	—	0	15	25
	100	0	—	0	—	0	—	0	—	5	23	1	41	2	18	3	16	0	—	0	—	0	—	1	10	0	12	21
	70	1	18	0	—	0	—	0	—	1	3	1	19	0	—	1	26	0	—	0	—	0	—	0	—	0	4	16
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed within 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. NUMBER OF OCCURRENCE3 OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES HELWAN AUGUST 1977

Time	Pressure Surface (Millibar)	Wind between specified ranges of direction (000—360)°																								Number of Calm winds	Total Number of Observations (TN)	Mean Scalar wind
		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	16	07	8	07	1	09	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	07	4	14	0	31	7
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	7	12	6	12	9	12	2	14	1	07	0	—	0	—	1	04	0	—	1	10	1	08	2	06	0	30	11
	700	0	—	3	12	5	08	0	—	3	11	0	—	3	14	1	16	2	06	2	06	5	09	6	06	0	30	9
	600	1	09	4	11	4	10	2	10	1	07	1	11	0	—	3	05	4	08	2	06	5	11	2	12	0	29	9
	500	0	—	6	07	3	13	1	08	2	08	2	10	1	03	0	—	1	09	3	16	7	11	3	17	0	29	11
	400	1	08	3	14	1	23	3	10	1	14	1	13	1	03	2	09	0	—	6	18	6	12	3	17	0	28	13
	300	2	21	1	19	1	06	2	04	0	—	0	—	1	23	1	13	4	20	8	19	2	16	4	13	0	26	17
	250	0	—	3	25	0	—	2	06	0	—	0	—	1	18	2	20	4	16	5	24	5	17	1	20	0	23	19
	200	1	30	1	34	1	05	1	11	0	—	2	17	2	22	1	38	5	28	4	15	3	27	0	—	0	21	23
	150	0	—	0	—	0	—	0	—	0	—	0	—	2	32	1	16	4	32	2	14	0	—	0	—	0	9	26
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 T.U.	Surface	14	11	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	08	4	06	3	10	9	10	0	31	09
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	6	08	5	14	5	08	4	11	1	05	0	—	0	—	0	—	0	—	2	06	2	10	3	9	0	28	09
	700	4	12	3	07	1	11	2	06	0	—	1	11	0	—	1	21	2	11	5	08	5	10	4	10	0	28	10
	600	1	03	5	07	2	04	1	08	1	06	1	22	0	—	1	10	5	10	4	12	3	10	4	14	0	28	10
	500	1	15	2	08	5	11	1	15	0	—	2	10	0	—	2	12	2	18	4	12	5	11	4	12	0	28	12
	400	1	12	4	11	1	13	4	10	0	—	1	11	0	—	4	14	0	—	3	16	5	20	3	19	0	26	15
	300	2	14	0	—	0	—	1	24	2	07	2	06	1	04	3	16	2	16	5	16	4	20	3	11	0	25	14
	250	0	—	0	—	0	—	0	—	2	18	2	10	2	12	3	13	1	20	8	18	1	47	1	15	0	20	17
	200	0	—	0	—	0	—	0	—	1	08	2	21	1	20	3	18	3	14	2	30	1	21	1	01	0	14	18
	150	0	—	0	—	0	—	0	—	2	20	1	29	1	17	1	35	3	11	2	30	1	30	0	—	0	11	22
	100	0	—	0	—	0	—	0	—	1	21	1	23	0	—	1	40	1	09	0	—	0	—	0	—	0	4	23
	70	0	—	0	—	0	—	1	32	1	26	0	—	1	18	0	—	0	—	0	—	0	—	0	—	0	3	25
	60	0	—	0	—	0	—	1	29	1	35	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	32
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N= The number of cases the wind has been odserved 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.—NUMBER OF OCCURRENCES F WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

ASWAN (A) – AUGUST 1977

Time	Pressure Surface (Millibar.)	Wind between ranges of direction (000—360)																								Number of Calm winds	Total number of Observations (TN)	Mean scalar winc 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	14	12	1	10	0	—	1	5	0	—	0	—	1	12	0	—	0	—	2	8	1	10	11	11	0	31	11
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0	—	—
	850	9	11	0	—	0	—	0	—	1	4	2	4	0	—	2	10	3	12	2	14	7	10	5	13	0	31	10
	700	0	—	1	6	2	3	1	7	1	7	1	10	4	7	2	10	6	20	4	13	5	10	0	—	0	31	11
	600	0	—	0	—	0	—	2	10	3	6	2	12	7	7	6	9	7	19	2	10	2	6	1	12	0	31	12
	500	3	6	1	6	0	—	3	6	1	11	4	7	1	13	5	14	3	12	2	8	4	14	3	8	0	30	9
	400	1	10	6	11	0	—	7	12	5	13	2	12	3	8	5	10	2	5	1	8	1	14	0	—	0	29	11
	300	2	12	2	14	7	15	5	13	3	18	3	11	0	—	1	9	2	12	2	6	0	—	1	4	0	29	13
	250	0	—	1	11	6	15	8	17	5	22	3	13	1	16	2	13	1	20	1	9	0	—	0	—	0	28	16
	200	0	—	0	—	4	13	0	19	8	24	2	22	1	11	2	10	0	—	0	—	0	—	0	—	0	26	19
	150	0	—	0	—	5	20	11	30	3	43	3	24	3	32	2	12	0	—	0	—	0	—	0	—	0	25	29
	100	0	—	0	—	1	40	12	35	7	40	2	26	0	—	0	—	0	—	0	—	0	—	0	—	0	22	36
	70	0	—	0	—	0	—	14	37	2	29	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	16	36
	60	0	—	0	—	0	—	13	33	1	32	0	—	0	—	0	—	0	—	1	24	0	—	0	—	0	15	32
	50	0	—	0	—	4	32	6	37	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	10	35
	40	0	—	0	—	1	27	7	38	1	35	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	9	36
	30	0	—	0	—	0	—	4	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	4	40
	20	0	—	0	—	0	—	1	37	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	37
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	7	11	0	—	0	—	1	5	0	—	2	8	2	1	1	10	1	15	4	12	8	11	3	14	0	29	11
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	0	—	1	2	0	—	0	—	0	—	0	—	2	8	1	8	3	11	4	14	13	15	5	15	0	29	13
	700	0	—	0	—	1	8	0	—	0	—	1	4	1	8	4	18	11	18	8	15	2	28	0	—	0	28	17
	600	0	—	0	—	1	6	1	6	0	—	1	8	3	14	8	18	5	15	6	14	1	13	0	—	0	26	15
	500	0	—	1	8	0	—	0	—	3	9	2	12	5	15	5	18	5	7	0	—	3	12	1	9	0	25	12
	400	2	21	3	9	3	11	6	12	3	15	4	9	1	17	0	—	1	3	1	9	0	—	0	—	0	24	12
	300	0	—	0	—	4	18	4	18	8	14	3	21	1	4	1	5	1	12	1	13	0	—	0	—	0	23	15
	250	0	—	0	—	4	19	4	15	8	21	2	15	1	15	0	—	0	—	2	8	0	—	1	4	0	22	17
	200	1	11	1	15	1	10	5	25	9	26	4	11	0	—	1	23	0	—	0	—	1	4	0	—	0	22	21
	150	0	—	0	—	1	29	10	25	5	34	5	27	0	—	0	—	0	—	0	—	0	—	0	—	0	22	27
	100	0	—	0	—	0	—	14	42	5	38	1	31	0	—	0	—	0	—	0	—	0	—	0	—	0	21	40
	70	0	—	0	—	0	—	18	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	18	40
	60	0	—	0	—	0	—	15	37	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	15	37
	50	0	—	0	—	0	—	11	38	3	28	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	14	34
	40	0	—	0	—	0	—	4	38	6	34	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	10	36
	30	0	—	0	—	0	—	6	52	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	6	52
	20	0	—	0	—	1	50	1	43	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	46
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

MONTHLY REVIEW OF AGRO - METEOROLOGICAL STATIONS

MERSA MATRUH — AUGUST 1977

The mean daily air temperature and relative humidity were nearly the same as normal.

Mild summer weather prevailed the whole month apart from a light heat wave on the 23rd & 24th giving the highest maximum temperature (32.2°C) on the 24th.

The mean daily actual sunshine duration and wind speed at 1.5 met. height were lower than average by 0.2 hour and 1.1 met./sec. respectively.

The highest maximum soil temperatures were higher than the corresponding values of August 1976 at all depths except those at 10 & 20 cm. which were lower: the departures varied between 0.2° and 0.6°C. The lowest minimum soil temperatures were lower than August 1976 at 2 cm. depth by 0.1°C and higher at other depths between 5 and 100cm. with departures between 1.1°C (at 20cm.) and 0.2°C (at 100 cm.).

TAHRIR — AUGUST 1977

The mean daily air temperature and relative humidity were nearly the same as normal.

Four heat waves prevailed most days of the month. The first wave gave rise to the highest maximum temperature (39.6°C) on the 1st. The month was intervened by short periods of mild summer weather.

The mean daily actual sunshine duration was the same as normal. The mean daily wind speed at 1.5 met. height and pan evaporation were slightly below normal.

The highest maximum soil temperatures were lower than average at 2 & 5 cm. depths by 0.7° & 0.5°C respectively, and higher than average at other depths between 10 & 100 cm. with departures between 1.2° and 0.1°C. The lowest minimum soil temperatures were higher than average at all depths at 5 cm. where it was lower than average, the departures varied between 1.0°c and 0.1°C.

BAHTIM — AUGUST 1977

The mean daily air temperature was slightly above average, and the mean daily relative humidity was nearly the same as average.

The month was intervened by four heat waves in the periods (1st & 2nd), (7th & 8th), (23rd—25th) and (31st). The third wave gave rise to the highest maximum temperature (36.8°C) on the 25th. Apart from the heat waves mild summer weather prevailed.

The mean daily wind speed at 1.5 met. height was higher than average by 1.23 met./sec. The mean daily actual sunshine duration was lower than average by 0.2 hour. The mean daily pan evaporation was the same as average.

The highest maximum soil temperatures were higher than average at all depths with departures between 0.7°C (at 2 cm.) and 2.5°C (at 5 cm.) The lowest minimum soil temperatures were lower than average at 2 cm. depth by 0.5°C; and higher than average at other depths between 5 and 100 cm. with departures between 0.1°C (at 5 cm.) and 1.3°C (at 50 cm.).

ASSYOUT — AUGUST 1977

The mean maximum air temperature was 36.9°C and the mean minimum air temperature was 20.5°C. The mean daily relative humidity was 52%.

The month was characterized by three heat waves in the periods (1st—4th), (8th & 9th) and (22nd —25th). The first wave gave rise to the highest maximum temperature (41.4°C) on the 3rd. In the rest of the month mild summer weather was experienced.

KHARGA - AUGUST 1977

The mean daily air temperature and relative humidity were slightly above average.

The month was intervened by four heat waves in the periods (1st—5th), (8th— & 9th), (18th & 19th) and (22nd—26th). The first wave gave rise to the highest maximum temperature (45.4°C) on the 2nd. Apart from the heat waves mild summer weather was experienced.

The mean daily actual sunshine duration, wind speed at 1.5 met. height and pan exaporation were lower than average by 0.2 hour, 0.9 met./sec. and 2.40 mm. respectively.

The highest maximum soil temperatures were higher than average at all depths except at 50 cm. which was lower than average by 0.1°C; the departures varied between 4.4°C (at 10 cm.) and 0.2°C (at 100 cm.). The lowest minimum soil temperatures were higher than average at 2, 5, 50, 100 cm. depths with departures between 0.7° & 0.2°C; lower than average at 10 cm. by 1.1°C; the same as average at 20 cm.

TABLE C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND
AUGUST 1977

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	29.2	21.1	25.5	23.5	27.2	24.0	24.0	24.0	24.0	24.0	23.5	13.1	0.4	0.0	0.0	0.
Tahrir	35.7	20.3	26.8	23.1	29.7	24.0	24.0	24.0	24.0	24.0	22.7	13.2	7.3	0.7	0.0	0.
Bahtim	33.7	19.0	26.0	22.0	29.1	24.0	24.0	24.0	24.0	24.0	21.0	12.2	6.7	0.4	0.0	0.
Assiut	36.9	20.5	28.1	24.1	31.3	24.0	24.0	24.0	24.0	24.0	23.3	14.8	8.9	3.0	0.1	0.
Kharga	40.0	23.1	32.3	28.9	35.4	24.0	24.0	24.0	24.0	24.0	23.8	21.4	14.6	8.5	2.0	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 1977

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	32.2	24	28.2	29.30	24.9	27	18.1	23.24	17.1	30	—	—
Tahrir	39.6	1	32.2	27	22.5	2	16.3	25	14.9	25	14.0	25
Bahtim	36.8	25	31.4	10.27	22.0	7	17.0	17.22	14.6	22	13.4	30
Assiut	41.4	3	32.8	28	22.6	3.25	17.5	17	13.4	17	—	—
Kharga	45.4	2	35.8	28	30.2	4	19.0	30.31	16.6	30	—	—

TABLE C 3.—(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL.
AUGUST 1977

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	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 UT	Highest	Date	Lowest	Date	Piche	Pan class(A)	Total Amount	Max. Fall in one day	Date
M. Matruh	518.3	362.5	411.9	88	74	61	38	24	18.0	18.2	22.2	15	12.2	26	6.2	—	0.0	0.0	—
Tahrir	62.44	363.0	410.2	88	69	40	24	1	17.4	15.6	23.2	1	10.4	15	5.8	10.19	0.0	0.0	—
Bahtim	606.3	336.4	409.6	82	70	43	32	2	17.0	16.2	21.7	24	9.8	25	6.1	9.68	0.0	0.0	—
Assiut	—	377.3	405.0	93	52	33	18	2	14.1	14.2	23.6	24	8.6	22	9.7	10.88	0.0	0.0	—
Kharga	663.7	368.6	402.9	92	31	20	13	2.25	10.7	10.9	16.7	18	6.2	23	16.8	17.29	0.0	0.0	—

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

AUGUST 1977

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	40.7	39.1	34.2	30.4	28.8	27.2	24.5	—	—	—	—	—	—	—	—	—
	L	24.2	24.0	25.1	27.1	28.0	26.4	24.2	—	—	—	—	—	—	—	—	—
Tahrir . . .	H	53.9	48.2	43.5	38.2	34.5	31.7	29.5	28.2	39.9	36.9	33.4	31.6	31.5	30.1	28.5	—
	L	28.0	26.2	27.0	31.2	32.0	31.1	28.7	27.5	24.8	24.6	25.4	26.6	28.5	28.6	27.7	—
Bahtim . . .	H	56.2	48.8	41.4	36.4	33.6	31.3	27.5	25.2	44.6	37.6	34.4	31.0	28.9	27.2	24.4	—
	L	28.2	28.2	29.9	32.7	32.5	30.8	26.3	24.2	23.7	24.1	25.1	27.2	27.6	26.5	23.4	—
Asuit.	H	61.7	49.9	42.0	36.4	32.2	30.1	27.3	25.5	—	—	—	—	—	—	—	—
	L	30.9	28.3	29.2	31.8	31.3	29.5	26.6	24.8	—	—	—	—	—	—	—	—
Kharga . . .	L	60.3	54.3	47.9	41.8	35.6	33.7	31.2	29.7	—	—	—	—	—	—	—	—
	H	22.5	26.0	28.4	33.0	34.1	33.4	30.5	28.8	—	—	—	—	—	—	—	—

TABLE C 5.—SURFACE WIND

AUGUST 1977

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	3.1	1.9	4.2	31	19	5	0	0	0	0	27	5
Tahrir . . .	2.2	1.4	3.0	30	15	2	0	0	0	0	26	16
Bahtim . . .	1.8	1.1	2.5	27	7	0	0	0	0	0	20	24
Asuit. . . .	—	—	—	—	—	—	—	—	—	—	—	—
Kharga . . .	2.7	1.6	3.8	31	22	10	1	1	0	0	34	16

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The Chairman

M. H. El-Saïd

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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 several 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 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

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
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CONTENTS

PAGE

General Summary of Weather Conditions 1

SURFACE DATA

Table A1.—Monthly values of the Atmospheric Pressure, Air Temperature, Relative Humidity, Bright Sunshine Duration, and Piche Evaporation 2

" A2.—Maximum and Minimum Air Temperatures 3

" A3.—Sky Cover and Rainfall 4

" A4.—Number of Days of Occurrence of Miscellaneous Weather Phenomena . . . 5

" A5.—Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded Within Specified Ranges 6,7

UPPER AIR DATA

Table B1—Monthly Means and Monthly Absolute Highest & Lowest Values of Altitude, Air Temperature & Dew point at Standard and Selected Pressure Surfaces. 8.9

" B2.—Mean and Extreme values of The Freezing Level and The Tropopause. The Highest Wind Speed in The Upper Air 10

" B3.—Number of Occurrences of Wind Direction within Specified Ranges and The Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces. 11–13

AGRO-METEOROLOGICAL DATA

Reviews of Agro-meteorological Stations 14,15

Table C1.—Air Temperature at 1½ metres above Ground 16

" C2.—Extreme Values of Air Temperature at 1½ metres above Ground, Absolute Minimum Air Temperature at 5 Cms Above Ground over Different Fields 16

" C3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity and Vapour Pressure at 1½ Metres Above Ground, Evaporation and Rainfall. . . 16

" C4.—Extreme Soil Temperature at Different Depths in Different Fields 17

" C5.—Surface wind 17

Note—For explanatory notes on the tables please refer to Volume 18 number 1 (January 1977).

GENERAL SUMMARY OF WEATHER CONDITIONS

SEPTEMBER 1977

Generally mild in the northerin & middle parts, rather hot in the southern parts during the first and second thirds. Two heat waves most of the last third.

PRESSURE DISTRIBUTION

The monsoon low pressure over Iraq & Arabia prevailed the whole month.

High pressure extended over the Mediterranean and NE Africa during the first and second thirds of the month.

The last third was characterized by two Mediterranean depressions : the first passed through Greece on the 21*st* and continued its track northeastwards; and the second filled up over Central Mediterranean on the 25*th*, and a desert depression passing through the Western Desert while filling on the 29*th* & 30*th*.

The mean pressure was generally above normal.

SURFACE WIND

Light to moderate N ly & NW ly winds prevailed most days of the month. Winds freshened during few days in scattered places.

TEMPERATURE

During the first and second thirds of the month weather was generally mild in the northem & middle parts, rather hot in the southern parts and maximum air temperatures were slightly below normal.

The last third of the month was characterized by two heat waves, and maximum air temperatures were moderately above normal in general.

Minimum air temperatures showed irregular departures below and above normal, slight or moderate.

The highest and lowest maximum air temperatures were respectively 43.6°C at Aswan on the 29*th* and 30*th* and 26.0°C at Sallum on the 26*th* and at Mersa Matruh on the 12*th*, 26*th* & 27*th*.

The highest and lowest minimum air temperatures were respectively 25.8°C at Kharga on the the 26*th* and 15.5°C at Dakhla on the 20th.

PRECIPITATION

No rain was reported except in some places in the Mediterranean district on the 12*th* & 30*th*.

The maximum daily and monthly rainfall amounts were respectively 11.9 mm at Sallum of the 30*th*.

OTHER WEATHER PHENOMENA

Early morning mist developed during several days in scattered places in Lower Egypt, Cairo & north of Middle Egypt.

Rising sand was reported during few days in scattered places.

Chairman (M. S. EL DIN HARB)
Board of Directors

Cairo , March 1975

SURFACE DATA

TableA 1.—MEAN VALUES OF THE ATMOSPHERIC PRESSURE, AIR TEMPERATURE, RELATIVE HUMIDITY, BRIGHT SUNSHINE DURATION & PICHE EVAPORATION

SEPTEMPER 1977

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	1011.1	—2·6	30.1	0.8	21.0	0.6	25.5	25.0	0.3	19.[illegible]	—0.6	60	—6	—	—	—	7.2
Mersa Matruh. (A)	1014.2	0.7	27.8	—0.9	19.5	—0.2	23.6	23.9	—0.4	20.5	0.4	75	7	314.3	370.7	85	6.9
Alexandria (A)	1013.9	0.9	30.6	1.1	21.4	0.2	26.0	25.7	0.4	21.0	—0.1	65	—3	310.9	370.6	84	4.5
Port Said. (A)	1013.0	1.0	29.0	—0.2	24.0	0.3	26.5	26.1	0.0	21.7	—0.4	67	—2	307.4	370.7	83	5.1
El Arish.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo. (A)	1013.2	1.1	32.9	0.5	20.7	0.7	26.8	26.2	0.3	20.3	0.1	59	2	—	—	—	12.6
Fayoum.	1012.4	1.2	34.8	0.5	19.3	—0.6	27.0	26.8	0.1	20.3	0.2	56	3	—	—	—	7.2
Minya. (A)	1011.9	1.5	34.5	1.0	18.4	—0.1	26.4	26.3	0.5	19.5	0.1	54	—1	327.9	369.6	89	10.6
Assyout. (A)	1009.6	1.3	34.1	—0.8	19.5	—0.6	26.8	26.9	—0.5	17.8	—0.8	39	—1	—	—	—	17.2
Luxor (A)	1009.3	1.1	38.3	—0.3	20.6	—0.9	29.4	29.5	—0.6	19.5	0.2	37	3	—	—	—	9.0
Aswan. (A)	1013.3	—0.2	39.2	—0.7	23.2	—0.1	31.2	31.0	—0.5	17.5	0.1	21	—5	335.2	368.6	91	21.1
Siwa	—	—	34.9	0.2	19.7	1.0	27.3	27.4	0.7	18.9	0.4	44	—3	330.6	369.8	89	11.1
Bahariya.	1012.7	0.5	35.0	0.8	19.7	0.4	27.3	27.3	0.7	18.7	—0.1	44	—6	—	—	—	8.9
Farafra.	1013.8	0.3	35.6	0.9	20.1	1.1	27.8	27.7	0.9	17.5	0.7	34	—2	—	—	—	13.9
Dakhla.	1012.4	1.2	36.0	0.4	19.0	—1.2	27.5	27.8	0.0	17.5	0.1	33	1	—	—	—	18.0
Kharga.	1010.7	0.3	37.4	0.7	22.6	1.0	30.0	30.1	1.1	19.1	1.2	37	5	324.3	369.0	98	16.0
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada.	1009.0	0.9	31.2	0.1	23.7	0.6	27.4	27.7	0.1	19.9	—1.0	45	—10	332.3	369.4	90	18.3
Quseir	1008.8	0.5	31.6	0.0	25.0	0.0	28.3	28.3	—0.1	21.4	0.2	52	—2	—	—	—	9.0

Table A 2.- MAXIMUM AND MINIMUM AIR TEMPERATURES

SEPTEMBER — 1977

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	39.1	24	26.0	26	30	13	02	00	00	20.4	—	23.0	25	17.9	15	00	00	00	00
Mersa Matruh (A)	36.4	24	26.0	12,26,27	30	02	01	00	00	18.5	—	22.0	4,25	16.5	21	00	90	00	00
Alexandria (A)	33.4	25	29.0	13,27	30	23	00	00	00	18.8	—	24.3	2,8	17.5	28	00	00	00	00
Port Said (A)	33.7	25	27.4	27	30	02	00	00	00	23.4	—	25.5	30	22.8	11	00	00	00	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo (A)	38.6	25	30.6	27	30	30	02	00	00	—	—	24.4	25	18.7	28	00	00	00	00
Fayoum	38.7	25	32.0	17	30	30	10	00	00	17.1	—	21.4	10	16.4	17	00	00	00	00
Minya (A	39.5	25	31.8	17,19	30	30	10	00	00	16.3	—	20.5	26	17.0	17	00	00	00	00
Assyout (A)	38.2	30	30.5	17	30	30	09	07	00	18.7	—	21.5	6	17.6	20	90	00	00	00
Luxor (A)	43.0	30	36.0	12,15	30	30	30	00	00	15.6	—	23.4	21	18.2	23	00	00	00	00
Aswan (A)	43.6	29,30	36.5	13	30	30	30	00	00	—	—	25.5	30	20.6	18	00	00	00	00
Sewa	39.3	30	30.5	13	30	30	16	00	00	18.0	—	23.9	6	17.3	19	00	00	00	00
El-Baharia	39.3	30	31.8	12	30	30	13	00	00	19.1	—	22.4	6	17.9	13	00	00	00	00
El-Farafra	39.0	30	32.2	13	30	30	17	00	00	18.3	—	23.0	6	17.9	19	00	00	00	00
El-Dhla	41.2	30	32.7	13	30	30	20	10	00	18.8	—	22.8	7	15.5	20	00	00	00	00
El-kharga	43.1	24	34.3	14	30	30	29	40	00	20.6	—	25.8	26	18.6	5	00	00	00	00
El-Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
El-Hurgada	33.2	10	29.2	17	30	29	00	00	00	—	—	26.0	8	23.2	22	00	00	00	00
El-Quseir	33.0	1,10	29.8	19	30	24	00	00	00	21.2	—	26.6	6	21.1	17	00	00	00	00

Table A. 3 SKY COVER AND RAIN FALL

SEPTEMPER — 1977

Station	Mean Sky Cover Oct.					Rain Fell mms										
	00 U.T.	60 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	Dev. From Normal	Max. Fall in one day		Number of Dayswith Amountof Rain						
								Amount	Date	<.1	>=.1	>=1	>=5	>=10	>=25	>=05
Elsallum	2.4	2.5	3.2	1.7	2.3	11.9	10.3	11.9	30	01	01	01	01	01	00	00
Mersa Matro (A)	1.6	2.4	2.4	1.2	2.0	0.0	—1.3	—	—	00	03	00	00	00	00	00
Alexandria (A)	1.8	3.0	4.3	2.3	2.7	0.0	—1.2	—	—	00	01	00	00	00	00	00
Port Said (A)	1.7	1.7	0.9	1.4	1.5	0.0	—0.3	—	—	00	01	00	00	00	00	00
Gairo A.P.	1.0	1.6	1.4	0.6	1.3	0.0	0.0	—	—	00	00	00	00	00	00	00
El-Fayoum	—	0.7	0.2	0.2	—	0.0	0.0	—	—	00	00	00	00	00	00	00
El Minia (A)	0.0	0.1	0.3	0.2	0.2	0.0	0.0	—	—	00	00	00	00	00	00	00
Assuit (A)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	—	—	00	00	00	00	00	00	00
Luxor (A)	0.0	0.2	0.0	0.1	0.1	0.0	0.0	—	—	00	00	00	00	00	00	00
Aswan (A)	0.1	0.0	0.2	0.1	0.1	0.0	0.0	—	—	00	00	00	00	00	00	00
Sewa (A)	0.4	0.3	0.6	0.5	0.4	0.0	—0.1	—	—	00	00	00	00	00	00	00
El-Baharia	0.0	0.5	1.1	0.2	0.4	0.0	—0.1	—	—	00	00	00	00	00	00	00
El Farafra	—	0.1	0.4	0.2	—	0.0	0.0	—	—	00	00	00	00	00	00	00
El Dakhla (A)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—	—	00	00	00	00	00	00	00
El-Kharga (A)	0.0	2.0	0.1	0.0	0.0	0.0	0.0	—	—	00	00	00	00	00	00	00
El Hurgada (A)	0.0	0.0	0.0	0.1	0.0	0.0	0.0	—	—	00	00	00	00	00	00	00
ElOuseir	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—	—	00	00	00	00	00	00	00

Table A. 4 DAYS OF OCCURENCE OF MISCELLANEOUS WEATHER PHENOMENA

SEPTEMPER — 1977

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 Tky	Cloudy Sky
	Rain	Snow											
Sallum	01	00	00	00	01	00	00	05	00	00	00	13	00
Mersa Matruh (A)	01	00	00	00	08	00	00	07	00	02	00	15	00
Alexandria (A)	00	00	00	00	02	01	01	00	00	00	00	09	00
Port Said (A)	00	00	00	00	00	00	00	00	00	00	00	21	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	00	00	00	00	11	01	02	01	00	00	00	22	20
Cairo (A)	00	00	00	00	00	00	00	00	00	00	00	30	00
Fayoum	—	—	—	—	—	—	—	—	—	—	—	—	00
Minya (A)	00	00	00	90	04	00	04	00	00	00	00	30	00
Assyoot (A)	00	00	00	00	00	00	00	03	00	00	00	30	00
Luxor (A)	00	00	00	00	00	00	03	01	00	00	00	30	00
Aswan (A)	00	00	00	00	00	00	00	00	00	00	00	30	00
Siwa	00	00	00	00	00	00	00	00	00	00	00	28	00
Bahariya	00	00	00	00	02	00	00	00	00	00	00	30	00
Farafra	00	00	00	00	00	00	00	00	00	00	01	29	00
Dakhla	00	00	00	00	00	00	00	01	00	00	00	30	00
Kharga	00	00	00	00	00	00	00	02	00	00	00	30	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	00	00	00	00	00	00	00	05	00	00	00	30	00
Quseir	00	00	00	00	00	00	00	00	00	00	00	30	00

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

SEPTEMPER 1977

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing within 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	12	00	00	1 –10	52	91	92	51	19	08	01	02	03	19	78	190	606
				11—27	01	11	16	15	01	00	01	03	09	03	13	29	102
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**53**	**102**	**108**	**66**	**20**	**08**	**02**	**05**	**12**	**22**	**91**	**219**	**708**
Mersa Matruh (A)	06	00	00	1—10	47	11	19	11	24	07	10	25	86	64	60	158	522
				11—27	04	06	24	10	03	00	00	01	01	04	74	65	192
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**51**	**17**	**43**	**21**	**27**	**07**	**10**	**26**	**87**	**68**	**134**	**223**	**714**
Alexandria . . (A)	01	03	00	1—10	116	66	35	17	08	08	21	17	08	14	76	237	617
				11—27	03	16	01	00	00	00	00	00	02	07	18	52	99
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**113**	**82**	**36**	**17**	**08**	**08**	**21**	**17**	**10**	**21**	**94**	**289**	**716**
Cairo . . . (A)	17	01	00	1—10	85	93	38	25	08	00	00	04	08	39	96	147	543
				11—27	41	57	19	01	02	00	00	00	01	03	08	27	159
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**126**	**150**	**57**	**26**	**10**	**00**	**00**	**04**	**09**	**42**	**104**	**174**	**702**
Fayoum	01	03	00	1—10	299	310	12	01	00	00	01	01	06	14	23	27	607
				11—27	00	21	01	00	00	00	00	00	00	00	00	00	22
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**299**	**331**	**13**	**01**	**00**	**00**	**01**	**01**	**06**	**14**	**23**	**27**	**716**
Minia	05	01	00	1—10	547	92	01	00	00	00	01	00	01	01	02	32	678
				11—27	18	19	00	00	00	00	00	00	00	00	00	00	37
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**565**	**111**	**01**	**00**	**00**	**0**	**01**	**00**	**01**	**01**	**02**	**32**	**714**
Asuit	00	00	00	1—10	177	42	03	00	01	01	00	01	11	05	29	116	386
				11—27	266	37	00	00	00	00	00	00	00	00	00	36	334
				28—47	00	00	00	00	00	00	00	00	00	00	00	01	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**443**	**79**	**03**	**00**	**01**	**01**	**00**	**01**	**11**	**05**	**29**	**140**	**720**

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

SEPTEMBER — 1977

Staion	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	number in hours of occurrences of wind blowing within the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 314	285 / 314	315 / 344	All directions
Luxor.	26	00	00	1—10	46	31	17	22	12	34	116	80	35	65	110	135	703
				11—27	00	00	03	00	00	00	00	00	00	00	00	00	03
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**46**	**31**	**17**	**22**	**12**	**34**	**116**	**80**	**35**	**65**	**110**	**138**	**706**
Aswan	00	02	00	1—10	339	61	02	01	00	00	00	00	01	03	65	86	560
				11—27	95	07	00	00	00	00	00	00	00	00	28	30	160
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**434**	**68**	**02**	**01**	**00**	**00**	**00**	**00**	**01**	**03**	**93**	**116**	**718**
Siwa	13	00	00	1—10	45	92	75	9	66	31	19	15	12	62	92	77	687
				11—27	00	06	02	02	05	01	00	00	00	00	02	02	22
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**54**	**98**	**77**	**94**	**71**	**32**	**19**	**15**	**12**	**62**	**94**	**79**	**707**
Dakhla	02	02	00	1—10	138	58	13	07	08	06	09	28	47	56	87	215	674
				11—27	21	05	00	00	00	00	00	00	00	00	29	18	44
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**159**	**63**	**13**	**07**	**08**	**06**	**09**	**28**	**47**	**56**	**87**	**233**	**716**
Kharga	04	01	00	1—10	263	04	13	05	02	01	01	00	00	25	39	87	444
				11—27	212	26	00	00	00	00	00	00	00	00	30	30	272
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**479**	**66**	**13**	**05**	**02**	**01**	**01**	**00**	**00**	**25**	**25**	**117**	**715**
Hurgada	00	00	00	1—10	13	24	01	00	00	00	00	00	01	100	104	33	276
				11—27	23	14	00	00	00	00	00	00	00	46	138	180	444
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**36**	**38**	**01**	**00**	**00**	**00**	**00**	**00**	**01**	**144**	**287**	**213**	**720**
Quseir	03	00	00	1—10	112	17	02	00	01	03	03	02	03	48	153	145	489
				11—27	140	06	00	00	00	00	00	00	00	00	03	79	228
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**252**	**23**	**02**	**00**	**01**	**03**	**03**	**02**	**03**	**48**	**156**	**224**	**717**

UPPER AIR CLIMATOLOGICAL DATA

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

SEPTEMBER — 1977

	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	27	* 1012mb.	* 1015mb.	* 1008mb.	27	23.2	26.2	19.4	27	17.6
	1000	27	129	128	98	27	22.6	25.8	18.7	27	16.9
	850	27	1528	1560	1500	27	16.1	21.2	8.6	27	5.2
	700	27	3154	3202	3099	27	6.7	10.2	1.7	27	— 6.0
	600	27	4407	4466	4349	27	0.1	4.6	— 3.0	27	—14.5
	500	27	5846	5908	5776	27	— 8.8	— 4.9	—12.5	27	—22.0
	400	26	7544	7641	7446	26	—19.7	—15.2	—24.5	25	—32.8
	300	24	9620	9716	9477	24	—34.1	—29.5	—39.0	24	—46.3
	250	23	10872	10989	10699	23	—42.3	—38.8	—48.9	25	—53.6
	200	23	12349	12489	12149	23	—51.1	—45.4	—55.9	22	—61.0
	150	22	14179	14329	13961	22	—61.2	—57.0	—64.4	3	—70.9
	100	22	16639	16788	16437	22	—69.5	—64.6	—74.3	—	—
	70	11	18820	18928	18710	11	—64.2	—60.6	—67.1	—	—
	60	3	19857	19900	19800	3	—63.1	—61.0	—65.2	—	—
	50	3	20960	20986	20918	3	—59.7	—57.2	—62.5	—	—
	40	2	22445	22460	22430	2	—57.1	—55.1	—59.1	—	—
	30	2	24217	24236	24198	2	—55.0	—53.8	—56.2	—	—
	20	1	26820	—	—	1	—50.3	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface . . .	* 30	* 997m.b.	* 1000m.b.	993m.b.	30	22.4	24.6	20.4	30	16.9
	1000 . . .	26	113	140	076	1	20.4	—	—	1	16.2
	850 . . .	26	1517	1550	1487	25	17.5	20.5	13.7	25	—04.4
	700 . . .	26	3153	3190	3114	26	09.9	13.8	— 3.7	26	—08.5
	600 . .	26	4420	4461	4358	26	— 3.8	— 7.0	—01.9	26	—15.4
	500 . . .	26	5879	4927	5805	26	—05.0	—01.5	—10.3	26	—22.8
	400 . . .	26	7599	7651	7504	26	—16.4	—10.4	—22.2	26	—32.3
	300 . .	26	9707	9800	9554	26	—30.0	—24.4	—36.1	26	—43.8
	250 . . .	25	10985	11104	10804	25	—38.3	—33.6	—43.0	25	—51.4
	200 . . .	24	12488	12636	12279	24	—48.1	—44.4	—52.0	24	—59.6
	150 . . .	20	14344	14482	14104	20	—58.3	—54.1	—62.9	14	—68.0
	100 . . .	13	16791	16996	16580	12	—68.0	—60.3	—71.6	—	—
	70 . . .	6	18902	19039	18730	6	—66.1	—61.4	—69.0	—	—
	60 . . .	3	19860	19980	19700	3	—63.5	—60.6	—65.2	—	—
	50 . . .	3	20963	21089	20790	3	—61.1	—58.3	—62.6	—	—
	40 . .	1	22230	—	—	1	—59.5	—	—	—	—
	30 . . .	1	23990	—	—	1	—56.3	—	—	—	—
	20 . . .	—	—	—	—	—	—	—	—	—	—
	10 . . .	—	—	—	—	—	—	—	—	—	—
Aswan 0000 U.T.	Surface . . .	30	* 989m.b.	* 991m.b.	* 986m.b.	30	25.7	20.2	21.5	30	7.2
	1000 .	29	95	116	69	—	—	—	—	—	—
	850 . . .	30	1522	1564	1492	30	21.9	27.5	16.5	30	2.1
	700 . .	30	3175	3230	3126	30	10.8	13.3	6.6	30	— 8.2
	600 . . .	30	4441	4499	4387	29	— 1.9	6.8	— 1.5	29	—13.9
	500 . . .	30	5891	5932	5842	29	— 6.0	— 1.3	—13.5	29	—23.4
	400 . . .	30	7612	7667	7548	30	—16.5	—12.6	—20.0	30	—33.2
	300 . . .	30	9711	9792	1631	30	—31.7	—27.8	—34.7	30	—46.0
	250 . . .	30	10972	11072	10808	30	—41.5	—37.3	—47.2	30	—54.0
	200 . . .	30	12457	12579	12355	30	—52.3	—49.3	—54.2	30	—63.1
	150 . . .	30	14270	14416	14145	30	—64.5	—62.1	—68.2	—	—
	100 . . .	30	16666	16835	16476	30	—76.6	—66.4	—81.2	—	—
	70 . . .	21	18736	18877	18493	21	—70.2	—65.0	—78.9	—	—
	60 . . .	14	19685	19800	19430	14	—65.2	—60.0	—70.4	—	—
	50 . . .	14	20774	20888	20503	14	—61.2	—51.4	—66.0	—	—
	40 . . .	11	22304	22470	22200	11	—59.6	—56.9	—62.8	—	—
	30 . . .	10	23958	24120	23653	10	—57.3	—55.6	—59.1	—	—
	20 . . .	11	26591	26632	26503	4	—51.9	—50.6	—23.6	—	—
	10 . . .	—	—	—	—	—	—	—	—	—	—

N = Number of observations of the specified pressure surface.

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

UPPER AIR CLIMATOLOGICAL DATA

Table B 1 —MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHEST & LOWEST VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

SEPTEMBER 1977

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	*1012.mb.	*1015mb.	*1009mb.	28	27.6	33.4	25.6	28	19.0
	1000	28	130	158	106	28	25.9	30.0	23.1	28	17.0
	850	28	1536	1536	1503	28	17.2	22.2	12.6	28	5.3
	700	28	3160	3232	3110	28	7.5	12.6	1.3	28	— 4.0
	600	28	4418	4484	4345	28	5.0	6.4	— 4.3	28	—13 4
	500	26	5858	5936	5776	28	— 8.2	— 2.5	—15.7	28	—22 1
	400	26	7558	7650	7443	26	—19.4	—14.4	—28.1	25	—32.0
	300	23	9646	9764	9473	26	—32.6	—27.4	—39.0	23	—43.4
	250	23	10924	11054	10811	23	—40.6	—36.3	—46.5	22	—51.0
	200	22	12414	12569	12271	23	—49.7	—44.0	—54 9	22	—59.0
	150	19	14270	14524	14081	22	—59.6	—52.5	—63.9	9	—65.9
	100	15	16733	16969	16591	19	—68.8	—63.1	—72.3	—	—
	70	20	18899	19183	18723	15	—64.6	—59.3	—70 0	—	—
	60	4	20035	20200	19960	4	—60.4	—56 6	—63.9	—	—
	50	4	21138	21319	21067	4	—56.9	—53 7	—59.0	—	—
	40	1	22580	—	—	1	—54.5	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface	30	*996mb.	*1002mb.	*987mb	30	31.7	37.0	29.2	30	12.0
	1000	29	101	999	993	—	—	—	—	—	—
	850	29	1534	127	1499	28	19.9	27.1	13.6	27	— 4.9
	700	29	3181	1575	3128	29	11.5	18.3	05.8	29	—10.4
	600	28	4453	3247	4379	28	04.8	09.2	—00.6	28	—18.7
	500	27	5920	4528	5822	27	—03.4	00.3	—08.8	26	—25.3
	400	26	7650	5979	7539	26	—14.1	—08.1	—20.0	25	—34.1
	300	26	9779	7742	9646	25	—27.1	—20.0	—31.6	25	—44.8
	250	25	11077	9800	10932	25	—35.0	—28.1	—40.0	24	—51.5
	200	24	12606	12766	12451	24	—44.3	—39.2	—48.7	21	—59.2
	150	22	14493	14677	14331	22	—54.6	—51.1	—59.4	—	—67.5
	100	19	17028	19541	16841	19	—63.0	—58.8	—70.1	—	—
	70	13	19286	20540	19027	13	—57.4	—50 1	—61.0	—	—
	60	5	20398	21730	20160	5	—49.8	—40.1	—54.5	—	—
	50	5	21556	23380	21288	5	—44.7	—32.7	—52.3	—	—
	40	4	23078	25320	22850	4	—42.4	—33.0	—47.2	—	—
	30	3	24949	—	24678	3	—34.6	—25.2	—41.0	—	—
	20	1	27693	—	—	1	—30.7	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 1200 U.T.	Surface	30	*988mb.	*990mb.	*985mb.	30	38.4	43.5	35.8	30	7.2
	1000	30	83	102	55	—	—	—	—	—	—
	850	30	1537	1576	1507	30	21.6	30.2	21.2	30	2.7
	700	30	3201	3248	3151	30	13.1	14.8	8.4	30	—12.6
	600	30	4476	4521	4423	30	4.0	8.0	1.1	30	-19.2
	500	30	5933	5974	5888	30	— 4.2	— 0.6	—10.7	30	—27.1
	400	29	7660	7706	7599	29	—14.9	—10.7	—19.1	29	—35.8
	300	28	9780	9840	9682	28	—29.7	—26.4	—34.1	28	—47.6
	250	28	11059	11147	10942	28	—39.2	—35.7	—41.9	28	—55.5
	200	28	12554	12657	12420	28	—50.4	—48.6	—52.6	28	—64.4
	150	28	14379	14484	14225	28	—63.0	—60.7	—66.0	—	—
	100	28	16800	16904	16655	28	—74.6	—72.1	—79.5	—	—
	70	28	18898	19031	18755	28	—67.8	—62.9	—73.3	—	—
	60	27	19871	20040	19720	27	—63.4	—75.6	—67.8	—	—
	50	27	20965	21154	20850	27	—59.5	—53.3	—67.9	—	—
	40	15	22450	22560	22264	15	—55.7	—46.9	—58.7	—	—
	30	12	24216	24329	24092	12	—52.4	—47.3	—55.9	—	—
	20	6	26911	27009	26780	6	—49.2	—45.2	—50.1	—	—
	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 AT THE FREEZING LEVEL AND THE TROPOPAUSE. THE HIGHEST WIND SPEED IN THE UPPER AIR

SEPTEMBER — 1977

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
	(N)	(N)	(N)							(N)	(N)	(N)										
Mersa Matruh (A)	4384 (27)	604 (27)	—14.5 (27)	5300	540	—18.1	3440	674	—15.0	15840 (13)	116 (13)	—68.1 (13)	17050	94	—57.6	12920	178	—59.2	2940	—	270	37
Helwan . . . (A)	5091 (26)	553 (26)	—18.3 (26)	5700	516	— 9.1	4030	599	—10.7	15886 (7)	116 (7)	—67.1 (7)	16780	99	—76.1	14490	146	—60.0	17150	95	245	95
Aswan . . . (A)	4867 (30)	569 (30)	—15.6 (30)	5870	534	—22.7	4330	613	— 4.8	16456 (21)	105 (21)	—76.5 (21)	17440	88	—76.5	15300	126	—74.1	26470	—	095	58
	(N)	(N)	(N)							(N)	(N)	(N)										
Mersa Matruh (A)	4538 (30)	596 (30)	—13.2 (30)	5500	528	—10.8	3800	645	—16.8	15851 (25)	118 (25)	—69.0 (24)	17010	98	—72.2	13100	176	—60.0	11000	247	215	100
Helwan. . . (A)	2316 (28)	539 (28)	—22.4 (27)	6000	449	—25.9	4240	611	—21.4	15949 (18)	122 (18)	—59.6 (18)	17380	98	—66.3	12840	194	—45.2	19640	68	230	150
Aswan . . . (A)	6197 (28)	551 (28)	—22.2 (28)	6100	490	—25.9	4497	600	—19.1	16507 (3)	106 (3)	—74.7 (3)	17360	91	—78.5	15300	127	—71.6	27350	—	075	56

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

M. MATRUH (A) — SEPTEMBER 1977

Observation	Pressure Surface (Millibar)	Wind within 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		235/254		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	10	0	2	—	7	1	18	2	11	0	—	0	—	0	—	7	8	4	6	3	15	7	7	0	27	8
	1000	0	—	0	1	—	8	0	—	0	—	0	—	0	—	0	—	0	—	5	12	5	12	3	11	0	14	12
	850	1	4	0	0	—	—	0	—	0	—	0	—	0	—	0	—	1	22	3	17	4	19	5	12	0	14	15
	700	0	—	0	0	—	—	0	—	0	—	0	—	0	—	0	—	1	25	0	—	0	—	0	—	0	1	25
	600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	250	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	6	10	4	14	0	—	1	16	0	—	0	—	0	—	0	—	0	—	0	—	7	16	10	13	0	28	13
	1000	4	14	0	—	0	—	0	—	0	—	1	15	0	—	—	—	0	—	1	24	13	18	7	14	0	26	16
	850	2	22	0	—	0	—	0	—	0	—	1	13	1	7	2	20	3	16	6	17	7	18	4	15	0	26	17
	700	4	16	0	—	0	—	0	—	0	—	0	—	0	—	1	13	5	20	9	19	4	15	2	20	0	25	18
	600	1	8	0	—	0	—	0	—	0	—	0	—	1	10	4	15	9	23	6	17	2	10	2	21	0	25	17
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	30	16	22	5	12	1	17	1	8	0	24	20
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	35	14	29	1	20	2	23	0	13	0	23	30
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	41	12	47	2	30	0	—	0	—	0	21	43
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	46	11	55	2	34	0	—	0	—	0	19	48
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	45	10	48	2	40	0	—	0	—	0	16	46
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	41	7	43	1	28	0	—	0	—	0	15	41
	100	—	—	0	—	0	—	0	—	0	—	0	—	0	—	5	20	2	32	0	—	1	47	0	—	0	8	26
	70	—	—	0	—	0	—	0	—	2	22	1	21	2	12	3	—	0	—	0	—	0	—	0	—	0	5	18
	60	—	—	0	—	1	24	0	—	0	—	0	—	0	—	—	—	0	—	0	—	0	—	0	—	0	1	2
	50	—	—	0	—	0	—	0	—	0	—	1	22	0	—	—	—	0	—	0	—	0	—	0	—	0	1	22
	40	—	—	0	—	0	—	0	—	0	—	1	20	2	—	—	—	0	—	0	—	0	—	0	—	0	1	20
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table B 3. NUMBER OF OCCURRENCE3 OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

HELWAN SEPTEMBER 1977

Time	Pressure Surface (Millibar)	Wind between specified ranges of direction (000—360)°																								Number of Calm winds	Total Number of Observations (TN)	Mean Scalar wind
		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	06	11	09	1	12	1	09	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	5	1	30	70
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	6	14	9	12	2	10	2	16	1	04	0	—	0	—	1	04	0	—	2	13	1	06	2	14	0	26	12
	700	6	06	5	09	0	—	0	—	0	—	1	04	0	—	1	02	0	—	2	08	5	16	6	09	0	26	10
	600	3	08	2	08	0	—	1	02	0	—	1	27	0	—	0	—	0	—	9	18	9	16	1	11	0	26	15
	500	1	20	0	—	0	—	0	—	0	—	1	17	0	—	0	—	1	28	8	26	11	21	4	17	0	26	22
	400	1	23	0	—	0	—	0	—	0	—	1	18	0	—	0	—	1	48	14	29	7	22	2	16	0	26	26
	300	0	—	0	—	0	—	0	—	1	41	0	—	0	—	0	—	1	43	15	39	6	35	1	28	0	24	38
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	49	14	47	6	32	1	44	0	22	43
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	58	13	45	2	42	0	—	0	15	47
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	39	2	32	2	42	0	—	0	7	38
	100	0	—	0	—	0	—	—	—	—	—	0	—	0	—	—	—	1	94	0	—	0	—	0	—	0	1	94
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 T.U.	Surface	7	10	6	11	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	59	2	10	10	08	0	30	10
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	5	09	11	11	8	11	1	11	1	—	0	—	0	—	0	—	0	—	0	—	0	—	4	15	0	29	11
	700	7	11	1	18	4	08	0	—	0	—	0	—	0	—	0	—	1	23	6	15	6	11	4	10	0	29	13
	600	3	16	1	23	0	—	0	—	0	—	0	—	0	—	0	—	4	22	10	16	6	18	4	09	0	28	16
	500	2	16	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	23	12	27	8	21	3	19	0	26	23
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	14	31	9	21	3	17	0	26	28
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	29	12	39	7	34	1	38	0	23	36
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	36	0	—	19	44	3	42	0	—	0	23	43
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	59	13	42	3	30	0	—	0	20	43
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	56	10	49	1	40	0	—	0	14	50
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	25	0	—	4	58	0	—	0	—	0	5	52
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	149	0	—	0	—	0	—	0	1	149
	60	—	—	—	—	—	—	—	—	0	—	—	—	0	—	—	—	—	—	—	—	—	—	0	—	0	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N= The number of cases the wind has been odserved 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 WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

SEPTEMBER — 1977

Time	Pressure Surface (Millibar.)	Wind within 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	18	11	2	11	2	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	12	6	10	0	30	11
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	6	12	4	12	3	10	4	14	0	—	1	2	0	—	0	—	1	3	1	7	4	14	5	16	0	29	13
	700	0	—	2	4	1	11	1	11	0	—	0	—	0	—	6	15	8	15	4	17	3	11	1	8	0	26	14
	600	2	6	0	—	1	11	0	—	0	—	1	9	1	4	11	15	6	19	2	11	2	10	0	—	0	26	14
	500	1	6	0	—	2	12	0	—	3	10	1	6	2	10	5	15	4	12	3	19	3	11	1	23	0	25	12
	400	2	11	0	—	1	15	0	—	1	3	1	5	1	8	3	13	8	14	7	17	1	14	1	19	0	26	14
	300	0	—	0	—	1	4	0	—	0	—	2	8	1	10	8	19	8	16	3	14	1	8	2	10	0	26	14
	250	0	—	1	9	1	5	1	5	1	6	2	12	2	14	8	16	6	22	2	9	0	—	2	10	0	26	15
	200	1	11	0	—	1	19	1	18	1	19	2	8	8	18	6	19	6	20	0	—	0	—	1	8	0	27	18
	150	0	—	0	—	1	13	1	17	2	18	5	18	7	30	6	23	2	16	2	24	0	—	1	8	0	27	22
	100	0	—	0	—	0	—	1	30	6	22	9	24	4	22	2	22	0	—	1	3	0	—	0	—	0	23	22
	70	0	—	0	—	0	—	9	24	3	16	3	16	0	—	0	20	0	—	1	20	0	—	0	—	0	16	21
	60	0	—	0	—	2	30	8	22	2	24	1	21	0	—	0	—	0	—	0	—	0	—	0	—	0	13	24
	50	0	—	0	—	0	—	9	24	2	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	11	33
	40	0	—	1	—	1	21	9	28	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	10	27
	30	0	—	0	—	1	40	2	42	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	41
	20	0	—	0	—	0	—	1	58	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	—	1	28
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	17	9	0	—	1	5	0	—	0	—	0	—	0	—	0	—	0	—	3	11	2	9	6	11	1	30	9
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	1	9	3	8	2	6	1	2	0	—	2	2	0	—	2	2	3	5	1	8	10	12	5	12	0	30	9
	700	0	—	0	—	0	—	3	8	0	—	0	—	0	—	17	19	3	23	5	19	2	14	0	—	0	30	18
	600	1	3	1	4	0	—	2	15	0	—	2	14	5	17	6	19	11	29	1	15	1	11	0	—	0	30	17
	500	1	6	1	7	2	20	3	11	1	5	2	11	4	8	5	9	4	15	2	18	4	9	1	8	0	30	11
	400	0	—	2	8	2	16	5	14	0	—	1	8	1	10	4	12	8	17	2	20	4	11	0	—	0	29	14
	300	0	9	1	9	1	6	3	18	1	8	3	8	2	9	6	16	5	18	2	18	2	16	1	14	0	28	13
	250	0	15	0	—	0	—	5	11	1	14	3	9	3	14	3	17	7	18	3	12	2	11	0	—	0	28	14
	200	0	—	0	—	0	—	3	16	3	14	4	13	4	26	8	20	3	19	1	20	0	—	2	10	0	28	18
	150	0	—	0	—	1	17	3	15	6	20	3	29	8	25	5	24	1	20	1	42	0	—	0	—	0	28	23
	100	0	—	0	—	1	14	6	22	10	23	5	28	4	24	1	7	1	17	0	—	0	—	0	—	0	28	23
	70	0	—	0	—	2	22	20	29	4	23	2	20	0	—	0	—	0	—	0	—	0	—	0	—	0	28	27
	60	0	—	0	—	1	14	15	28	8	29	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	24	24
	50	0	—	0	—	0	—	13	31	5	31	0	—	0	—	0	—	0	—	1	—	0	—	0	—	0	17	31
	40	0	—	0	—	0	—	9	33	1	34	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	10	33
	30	0	—	0	—	0	—	5	33	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	5	33
	20	2	—	0	—	0	—	2	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	9	—	0	2	40
	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 1977

The mean daily air temperature was nearly the same as normal and the mean daily relative humidity was above normal.

Mild weather prevailed the whole month apart from two short heat waves on the 24th & 28th. The highest maximum temperature was 36.4C reported on the 24th.

The mean daily actual sunshine duration, wind speed at 1.5met. height were lower than average by 0.7 hour and 0.5 met. / sec. respectively.

The highest maximum soil temperatures were lower than the corresponding values of September 1976 at depths between 2 & 20 cm. with departures between 2.8°C (at 5 cm.) and 0.4°C. (at 20 cm.); higher at 50 & 100 cm. depths by 0.5 & 0.6°C. The lowest minimum soil temperatures were higher than September 1976 at all depths with departures between 5.0°C (at 10cm.) and 1.2°C (at 100 cm.).

TAHRIR — SEPTEMBER 1977

The mean daily air temperature and relative humidity were nearly the same as normal.

Mild weather prevailed from the 1st till the 19th apart from a light heat wave on the 11th & 12th. The rest part of the month was characterized by two heat waves in the periods (20th—25th) and (29th September 1976 at all depths with departures between 40.2°C reported on the 25th.

The mean daily actual sunshine duration, wind speed at 1.5 met. height and pan evaporation were nearly the same as normal.

The highest maximum soil temperatures were lower than average at depths between2 & 20 cm. with departures between 3.6C (at 2 cm.) and 0.8C(at 20 cm.) ; higher at 50 cm. depth by 0.7C; the same as average at 100 cm. depth. The lowest minimum soil temperatures were lower than average at 2 & 5 cm. depths by 0.3 & O.8C; higher thanaverage at 10,20,50 cm. depths with departures between O.1 & O.6C; the same as average at 100cm.depth.

BAHTIM — SEPTEMBER 1977

The mean daily air temperature and relative humidity were nearly the same as average.

Mild weather prevailed during the first and second thirds of the month. The last third was characterized by two heat waves in the periods (21st-25th)and (29th & 30th). The highest maximum temperature was 38.6°C reported on the 25th.

The mean daily actual sunshine duration and wind speed at 1.5 met. height were nearly the same as average. The mean daily pan evaporation was higher than average by 1.06 mm;

The highest maximum soil temperatures were the same as average at 2, 10 cm. depths; higher than average at 5, 20, 50 100 cm. depths with departures between 1.4°C & 0.6 c; The lowest minimum soil temperatures were lower than average at 2cm. depth by 0.1c; higher than average at 5, 10, 100 cm. depths with departures between 0.4c & 0.6c; The same as average at 20 & 50 cm. depths.

ASSYOUT — SEPTEMBER 1977

The mean maximum temperature was 25.4°C and the mean minimum temperature was 18.0C. The mean daily relative humidity was 50%.

Mild weather prevailed from the 1st till the 20th. The last third of the month was characterized by two heat waves, the first of which gave rise to the highest maximum temperature (39.6°C) on the 25th.

KHARGA — SEPTEMBER 1977

The mean daily air temperature and relative humidity were nearly the same as average.

Mild weather prevailed during the first and second thirds of the month. A prolonged heat wave prevailed from the 21st till the end of the month giving the highest maximum temperature (43.1°C) on the 30th.

The mean daily actual sunshine duration, wind speed at 1.5 met. height and pan evaporation were lower than average by 0.1 hour, 0.9 met/sec. and 2.24 mm. respectively.

The highest maximum soil temperatures were higher than average at all depths except at 50cm. Where it was lower by 0.4C°; the departures varied between 1.1C and 0.1°C. The lowest minimum soil temperatures were higher than average at 2, 5, 100cm. depths with departures between 1.3 & 0.1C; lower than average at 10 cm. depthes by 0.3C, the same as average at 20 & 50 cm. depths.

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

SEPTEMBER — 1977

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 . .	27.8	19.5	24.0	22.0	26.0	24.0	24.0	24.0	24.0	24.0	12.2	8.9	0.4	0.1	0.0	0.0
Tahri	33.9	17.7	24.7	22.7	28.7	24.0	24.0	24.0	24.0	24.0	18.3	10.8	4.1	0.2	0.0	0.0
Bahtim	32.8	17.2	24.7	20.5	28.9	24.0	24.0	24.0	24.0	24.0	17.6	11.3	4.2	0.3	0.0	0.0
Asuit	35.4	18.0	26.0	21.7	30.4	24.0	24.0	24.0	24.0	24.0	19.7	11.9	7.1	1.1	0.0	0.0
Kharga	37.4	22.6	30.1	26.9	33.3	24.0	24.0	24.0	24.0	24.0	23.6	20.1	11.7	4.2	0.4	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

SEPTEMBER — 1977

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 . . .	36.4	24	26.0	12,26,27	20.0	4,25	16.5	21	13.2	24	—	—
Tahrir	40.2	25	31.5	27	19.7	23	14.7	19	13.2	19	12.2	19
Bahtim	38.6	25	30.3	27	19.6	26	14.9	19	12.2	19	10.2	19
Asuit	39.6	25	32.0	17	19.5	2,4	16.3	17	12.4	29	—	—
Kharga	43.1	30	34.2	17	25.8	26	18.6	9	16.4	17	—	

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

SEPTEMBER — 1977

STATION	(Solar+Sky) Radiation gm. cal/cm²	Duration of Bright Sunshine (hour .)			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 cl ass	Total Amount Monthly	Max. fa l- in one day	
Mersa Matruh	427.8	312.8	371.2	84	74	63	22	24	16.5	17.2	22.8	20	9.4	24	6.9	—	0.0	0.0	—
Tahrir. . .	509.9	312.2	370.7	84	68	40	16	25	15.2	14.0	20.2	25	8.0	25	5.2	8.06	0.0	0.0	—
Bahtim . .	554.9	312.7	370.6	84	66	38	14	25	14.7	13.3	22.4	6	8.2	25	6.9	9.23	0.0	0.0	—
Asuit . . .	—	—	369.2	—	50	27	14	25	11.9	0.6	16.2	2	6.9	26	8.7	9.40	0.0	0.0	—
Kharga .	598.9	335.4	368.9	91	37	24	14	25,26,	11.2	11.2	15.8	15	6.3	10	15.4	16.32	0.0	0.0	—

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

SEPTEMBER — 1977

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
M. Matruh	H	40.2	37.5	32.9	29.6	28.5	27.2	25.5	—	—	—	—	—	—	—	—	—
	L	21.6	21.4	23.4	25.7	26.4	26.2	24.4	—	—	—	—	—	—	—	—	—
Tahrir. . .	H	47.0	42.5	38.9	34.4	32.6	31.1	29.4	28.4	36.8	31.8	30 4	28.8	30.0	29.3	28.3	—
	L	23.7	22.4	24.0	28.0	29.4	29.5	28.6	28.1	22.1	12.5	22.7	24.2	26.3	27.2	27.4	—
Bahtim . .	H	51.9	45.4	38 4	34.7	32.7	31.1	27.8	25.9	29.4	32.8	30.0	28.4	27.7	26.7	24.6	—
	L	25.4	25.0	27.1	29.7	30.2	30.2	27.5	25.4	23.4	23.0	24.2	25.6	26.3	26.2	24.2	—
Asiut. .	H	59.9	46.4	39.2	34.3	31.5	30.1	27.5	26.2	—	—	—	—	—	—	—	—
	L	28.2	26.2	26.9	29.6	30.2	29.3	27.3	25.6	—	—	—	—	—	—	—	—
Kharga . .	H	54.1	47.5	24.4	42.4	34.2	33.5	31.4	30.2	—	—	—	—	—	—	—	—
	L	21.5	24.1	26.7	26 7	32.2	32.5	31.2	29.7	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

SEPTEMBER — 1977

STATION	Wind Speed m/sec at $1^1/_2$ 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
M. Matruh	3.1	1.9	4.3	30	24	7	3	0	0	0	33	30
Tahrir.	1.9	1.0	2.9	30	15	0	0	0	0	0	26	28
Bahtim..	2.0	1.5	2.8	25	11	2	1	0	0	0	31	29
Asiut	—	—	—	—	—	—	—	—	—	—	—	—
Kharga.	3.4	2.6	4.3	30	24	01	2	0	0	0	33	6

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MONTHLY WEATHER REPORT

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OCTOBER, 1977

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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 several 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 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 BRIDGED 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 ~~18~~ 20 NUMBER 10

OCTOBER, 1977

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

THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

CONTENTS

PAGE

General Summary of Weather Conditions 1

SURFACE DATA

Table A1.—Monthly values of the Atmospheric Pressure, Air Temperature, Relative Humidity, Bright Sunshine Duration, and Piche Evaporation 2

" A2.—Maximum and Minimum Air Temperatures 3

" A3.—Sky Cover and Rainfall 4

" A4.—Number of Days of Occurrence of Miscellaneous Weather Phenomena . . . 5

" A5.—Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded Within Specified Ranges 6,7

UPPER AIR DATA

Table B1—Monthly Means and Monthly Absolute Highest & Lowest Values of Altitude, Air Temperature & Dew point at Standard and Selected Pressure Surfaces. 8,9

" B2.—Mean and Extreme values of The Freezing Level and The Tropopause. The Highest Wind Speed in The Upper Air 10

" B3.—Number of Occurrences of Wind Direction within Specified Ranges and The Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces. 11-13

AGRO-METEOROLOGICAL DATA

Reviews of Agro-meteorological Stations 14,15

Table C1.—Air Temperature at 1½ metres above Ground 16

" C2.—Extreme Values of Air Temperature at 1½ metres above Ground, Absolute Minimum Air Temperature at 5 Cms Above Ground over Different Fields 16

" C3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity and Vapour Pressure at 1½ Metres Above Ground, Evaporation and Rainfall. . . 16

" C4.—Extreme Soil Temperature at Different Depths in Different Fields 17

" C5.—Surface wind 17

Note—For explanatory notes on the tables please refer to Volume 18 number 1 (January 1977).

GENERAL SUMMARY OF WEATHER CONDITIONS

OCTOBER 1977

Three heat waves during the first half of the month. Mild weather in general during the second half, rainy at west.

PRESSURE DISTRIBUTION

High pressure extended over the Mediterranean & NE Africa most days of the month.

Two secondary depressions passed through the western coast of Egypt on the 10*th* & 15*th* moving NE wards.

The mean atmospheric pressure was above normal.

SURFACE WIND

Surface winds were generally light to moderate : N ly & NW ly most days of the month; W ly & SW ly in few days.

Winds were fresh to strong during several days in scattered places.

TEMPERATURE

The first half of the month was intervened by three moderate heat waves.

During the second half weather was mild in general and maximum & minimum temperatures showed moderate departures below normal.

The highest and lowest maximum temperatures were respectively 43.6°C at Aswan on the 1*st* and 18.4 at Mersa Matruh on the 19*th*.

The highest and lowest minimum temperatures were respectively 26.0°C at Hurgada on the 1st and at Aswan on the 2*nd* and 9.7 mm at Minya on the 20*th*.

PRECIPITATION

Light to moderate rain fell over scattered places in north of the country during the second half of the month.

Rain was heavy in few days over some places in the Mediterranean coast.

The monthly rainfall amounts were above normal in general.

The maximum daily rainfall was 8.4 mm. at Alexandria on the 27*th*.

The maximum monthly rainfall was 26.0 at Alexandria.

OTHER WEATHER PHENOMENA

Early morning mist developed frequently over scattered places in Lower Egypt, Cairo and north of Middle Egypt.

Light rising sand was reported during several days in scattered places.

Chairman (M. Ali Badran)

Cairo

Board of Director

SURFACE DATA

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

OCTOBER — 1977

STATION	Atmospheric Pressure mbs. M.S.L		Air Temperature 'C									Relative Humidity %		Bright Sunshine			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	%	
Sallum.	1019.1	3.2	25.5	—1.8	16.6	—1.3	21.0	20.6	—1.7	15.5	—2.5	85	—5	—	—	—	7.0
Mersa Matruh (A)	1013.3	2.1	23.8	—3.1	16.6	—0.4	20.2	20.3	—1.4	16.0	—1.8	66	—1	236.2	353.5	67	8.9
Alexandria . . (A)	1017.6	1.7	26.3	—1.4	16.7	—1.1	21.5	21.2	—1.4	16.9	—1.9	64	—3	271.8	353.6	77	4.4
Port Said. . . (A)	1016.5	1.5	25.4	1.8	21.0	—0.6	23.2	22.9	—1.2	18.6	—1.6	65	—4	283.2	353.5	80	6.2
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Chazza.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta. . . . . ,	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo. , , , , , (A)	1016.8	1.7	28.2	—1.6	16.4	—1.4	22.3	21.8	—1.6	16.6	—1.5	59	2	—	—	—	10.4
Fayoum., , , , . . .	—	—	29.6	—1.6	15.1	—2.0	22.3	22.2	—1.7	17.0	—1.0	59	5	—	—	—	5.9
Minya. , , , , , (A)	1016.0	2.0	29.3	—2.0	14.2	—1.6	21.7	21.5	—1.7	15.9	—1.4	56	2	312.1	356.1	88	9.2
Assyout. . . , , (A)	1015.5	1.4	28.6	—2.7	14.9	—2.9	21.7	21.7	—2.6	14.4	—2.6	43	—2	—	—	—	13.2
Luxor. . , . . . (A)	1013.2	1.5	33.5	—1.8	15.9	—1.8	24.7	24.5	—1.9	16.4	—1.4	42	1	—	—	—	8.8
Aswan. . . . . .(A)	1012.9	2.0	34.1	—2.7	18.7	—1.9	26.4	26.2	—2.2	14.9	—0.9	25	—4	333.4	359.3	93	18.5
Siwa.	1018.0	2.0	28.0	—3.1	13.9	—1.3	20.9	20.9	—2.0	14.4	—1.6	48	—1	308.6	355.4	87	8.7
Bahariya	1017.0	2.2	28.8	—2.4	14.4	—1.5	21.6	21.5	—1.8	15.2	—1.4	50	—2	—	—	—	7.4
Farafra.	1018.2	2.0	29.4	—1.9	15.2	—0.1	22.3	22.0	—1.1	14.4	—0.1	42	2	—	—	—	10.4
Dakhla.	1016.1	1.0	30.7	—2.2	15.5	—1.2	23.1	23.1	—1.3	14.3	—1.2	36	—2	—	—	—	14.1
Kharga.	1014.5	1.0	31.6	—2.3	17.4	—0.9	24.5	24.6	—1.2	17.0	—1.1	49	14	326.4	358.2	91	12.3
Tor.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada.	1013.1	1.1	28.1	—0.9	19.8	—0.3	23.9	24.1	—0.6	17.9	—1.2	52	—6	320.4	356.9	90	15.3
Quseir.	1012.6	0.5	28.3	—1.4	21.2	—1.3	24.7	24.7	—1.4	18.7	—0.9	54	—2	—	—	—	8.1

Table A 2. – MAXIMUM AND MINIMUM AIR TEMPERATURE

OCTOBER — 1977

Station	Maximum Temperature °C									Grass Min. Temp.		Maximum 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
Elsalum	35.4	13	20.1	18	12	03	01	00	00	15.8	—	22.3	13	12.9	21	00	00	00	00
Mersa Matro . (A)	33.7	14	18.4	19	08	02	00	00	00	15.7	—	20.3	1	12.0	31	00	00	00	00
Alexaddria . . (A)	31.8	14	22.4	31	19	01	00	00	00	14.4	—	21.4	15	11.6	22	00	00	00	00
Port Said . . (A)	31.5	10	22.2	21	16	01	00	00	00	20.2	—	24.6	11	17.4	29	00	00	00	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo	35.3	10	24.5	27	28	07	00	00	00	—	—	21.3	1	13.2	25,28,31	00	00	00	00
Fayoum	36.4	1	25.0	19	30	17	03	00	00	12.1	—	20.0	1	11.0	29	00	00	00	00
Minya . . . (A)	36.8	1	25.2	21	31	15	03	00	00	12.0	—	19.8	2	9.7	20	00	00	00	00
Assyout . . . (A)	38.2	1	23.7	20	22	10	02	00	00	14.2	—	19.9	2	10.2	20	00	00	00	00
Luxor . . . . (A)	43.0	1	27.6	29	31	19	13	00	00	11.7	—	22.6	2,3	11.2	23	00	00	00	00
Aswan . . . (A)	43.6	1	27.2	29	31	22	14	00	00	—	—	26.0	2	13.1	30,31	00	00	00	00
Siwa	36.1	14	23.2	30	25	07	02	00	00	12.1	—	20.0	1	9.8	22	00	00	00	00
Baharia	37.0	10	24.5	22	29	11	03	00	00	13.9	—	19.6	1	10.1	31	00	00	00	00
Farafra	37.3	1	24.8	29	30	13	03	00	00	13.4	—	19.4	2	10.7	31	00	00	00	00
Dakhla	39.7	1	25.2	25	31	17	05	00	00	15.5	—	23.5	11	10.1	27	00	00	00	00
Kharga	43.2	1	26.2	20,21,30	31	17	06	00	00	15.0	—	24.8	1	11.6	29	00	00	00	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurgada	33.1	1	25.0	21	30	04	00	00	00	00	—	26.0	1	15.6	27	00	00	00	00
Quseir	31.4	1	25.7	20	31	02	00	00	00	00	—	25.0	2	17.6	28	00	00	00	00

TABLE A 3 SKY COVER AND RAIN FALL

OCTOBER — 1977

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
Elsallum	3 0	3 6	3.5	2.3	3.1	4.8	— 13.1	2.7	29	00	04	02	00	00	00	00
Mersa Matroh	3.2	5.1	4.1	3.0	3.9	8.8	— 8.6	4.8	16	00	06	02	00	00	00	00
Alexandria	2.9	4.3	5.0	3 4	3.9	26.0	15.7	8.4	27	01	07	07	02	00	00	00
Port Said	2 1	2.8	2.1	2.4	2.4	7 3	0.0	4.0	19	01	04	02	00	00	00	00
Tanta	—	—	—	—	—	—	—	Tr.	—	—	—	—	—	—	—	—
Cairo (A)	1.1	1.8	2.8	1.4	1.8	Tr.	—	—	17	01	00	00	00	00	00	00
Fayoum	—	0 2	1.2	0 8	—	0.0	0.0	—	—	00	00	00	00	00	00	0
Minya (A)	0.2	0.0	1.2	0.2	0.4	0 0	0.0	—	—	00	00	00	00	00	00	00
Assyout (A)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	—	—	00	00	00	00	00	00	00
Luxor (A)	0.0	0.1	0.1	0.1	0.1	0.0	—0.1	—	—	00	00	00	00	00	00	00
Aswan (A)	0.0	0.1	0.2	0.0	0.1	0.0	0.0	—	—	00	00	00	00	00	00	00
Siwa	0.8	1 0	2.2	1.3	1.2	0 0	0.4	—	—	00	00	00	00	00	00	00
Baharya	0.4	0 6	1.7	0.5	0.8	0 0	0.4	—	—	00	00	00	00	00	00	00
Farafa	—	0 4	0.6	0 1	—	0 0	0.0	—	—	00	00	00	00	00	00	00
Dakha	0.0	0 0	0.2	0 0	0.0	0.0	0.0	—	—	00	00	00	00	00	00	00
Kharga	0.0	0.0	0.0	0.0	0.0	0.0	0.0	—	—	00	00	00	00	00	00	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	0 0	0.2	0.1	0.2	0.1	0.0	0.0	—	—	00	00	00	00	00	00	00
Quseir	0.0	0.2	0.2	0.3	0.1	0.0	0.0	—	—	00	00	00	00	00	00	00

Table A 4.—DAYES OF OCCURRENCE OF MISCCLLANEOUS WEATHER PHENOMENA

OCTOBER — 1977

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											
Sallum	05	00	00	00	00	00	00	03	00	00	00	08	02
Mersa Matruh (A)	04	00	00	00	01	00	01	05	00	02	00	04	04
Alexandria . (A)	07	00	00	00	01	02	00	00	00	00	00	03	01
Port Said . (A)	04	00	00	01	01	00	00	01	00	00	01	13	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo . . . . (A)	00	00	00	00	04	01	10	02	00	00	00	16	00
Fayoum	00	00	00	00	00	00	03	00	00	00	00	26	
Minya . . . . (A)	00	00	00	00	11	00	00	03	00	00	00	30	00
Assyut. . . . (A)	00	00	00	00	00	00	17	02	00	00	00	31	00
Luxor . . . . (A)	00	00	00	00	00	00	00	05	00	00	00	31	00
Aswan . . . . (A)	00	00	00	00	00	00	00	01	00	00	00	31	00
Siwa	00	00	00	00	00	00	00	01	00	00	00	23	00
Bahariya	00	00	00	00	00	00	00	00	00	00	00	30	00
Farafra	00	00	00	00	00	00	00	00	00	00	00	30	00
Dakhla	00	00	00	00	00	00	00	01	00	00	00	30	00
Kharga	00	00	00	00	00	00	00	04	00	00	00	31	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	00	00	00	00	00	00	00	09	00	00	00	31	00
Quseir	00	00	00	00	00	00	00	00	00	00	00	30	00

Table A5—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES

OCTOBER—1977

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 / 245	255 / 284	285 / 314	315 / 344	All direction
Sallum	03	00	00	1—10	80	80	84	17	11	07	05	10	19	17	71	235	639
				11—27	03	02	01	00	00	00	00	11	21	11	13	43	105
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**83**	**82**	**85**	**17**	**11**	**07**	**05**	**21**	**40**	**28**	**84**	**278**	**741**
Mersa Matruh	04	00	00	1—10	136	26	10	09	14	07	23	35	76	36	72	175	619
				11—27	18	13	02	00	00	09	11	04	04	05	28	27	121
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**154**	**49**	**12**	**09**	**14**	**16**	**34**	39	80	**41**	**100**	**202**	**740**
Alexandria	02	03	00	1—10	118	100	35	24	26	16	24	43	16	09	24	220	58
				11—27	19	21	01	00	00	00	00	01	05	03	08	26	84
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**137**	**121**	**36**	**24**	**26**	**16**	**24**	**44**	**21**	**12**	**32**	**246**	**739**
Cairo. A. P.	39	01	00	1—10	120	95	47	19	07	04	13	20	30	53	57	83	549
				11—27	47	46	07	01	00	00	00	00	13	14	03	25	156
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**167**	**141**	**54**	**20**	**07**	**04**	**13**	**20**	**43**	**67**	**60**	**108**	**704**
El Fayoum	02	00	00	1—10	244	330	17	00	00	00	02	10	22	19	21	55	720
				11—27	00	16	05	00	00	00	00	00	00	01	00	00	22
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**244**	**346**	**22**	**00**	**00**	**00**	**02**	**10**	**22**	**20**	**21**	**55**	**742**
El Minia	18	00	00	1—10	391	58	00	03	01	01	01	01	02	01	12	69	540
				11—27	100	71	00	00	00	00	00	00	00	00	00	15	186
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**491**	**129**	**00**	**03**	**01**	**01**	**01**	**01**	**02**	**01**	**12**	**84**	**726**
Assuit	00	00	00	1—10	84	21	02	00	01	01	03	04	05	13	46	120	300
				11—27	251	23	00	00	00	00	00	03	00	00	05	165	444
				28—48	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**333**	**44**	**02**	**00**	**01**	**01**	**03**	**04**	**05**	**13**	**51**	**285**	**744**
Luxor	02	00	05	1—10	38	28	22	25	17	30	109	103	37	62	106	155	732
				11—27	00	00	00	00	00	00	01	00	00	00	00	04	05
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**38**	**28**	**22**	**25**	**17**	**30**	**110**	**103**	**37**	**62**	**106**	**159**	**732**

Table A5—NUMBER IN HOURS OF OCCURRENCES OF CONCURRENT SURFACE WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES OCTOBER—1977

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	number in hours of occurrences wind blowing form 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
Aswan	00	03	00	1—10	320	94	04	03	01	03	02	00	01	01	16	79	524
				11—27	131	27	00	00	00	00	00	00	00	00	31	28	217
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	451	121	04	03	01	03	02	00	01	01	47	107	741
Siwa	22	00	00	1—10	91	107	58	40	40	25	13	08	08	64	125	120	699
				11—27	01	04	01	00	02	03	04	01	00	00	09	00	23
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	92	111	59	40	40	28	17	09	08	64	134	120	722
El Dakhla	03	02	00	1—10	138	36	15	03	02	06	12	13	31	62	116	204	496
				11—27	59	18	01	00	00	00	00	00	00	00	00	23	101
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	197	54	16	03	02	06	12	13	31	62	116	227	739
El Kharga	00	00	00	1—10	255	50	18	05	05	02	02	01	00	05	13	140	496
				11—27	198	27	00	00	00	00	00	00	00	00	01	23	248
				28—47	03	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	453	77	18	05	05	02	02	01	00	05	13	163	744
El Hurghada	01	00	00	1—10	10	12	02	01	00	04	03	00	01	81	61	32	207
				11—27	31	13	02	00	00	00	00	00	01	86	218	185	534
				28—47	00	00	00	00	00	00	00	00	00	07	02	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	41	25	02	01	00	04	03	02	02	167	281	217	743
El Quseir	04	01	00	1—10	89	30	08	01	00	01	02	02	04	62	176	86	461
				11—27	133	09	00	00	00	00	00	00	00	01	00	126	278
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	222	39	08	01	00	01	02	02	04	63	185	212	739

UPPER AIR CLIMATOLOGICAL DATA

Table B 1.—MONTHLY MEAN AND MONTHLY ABSOLUTE HIGHEST AND LOWEST VALUES OF ALTITUDE, AIR TEMPERATURE AND DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

OCTOBER — 1977

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	30	1015m.b.*	1020m.b.*	1010m.b.*	30	19.9	23.8	16.0	30	12.9
	1000	30	157	190	114	30	18.9	23.9	15.2	30	12.5
	850	30	1531	1558	1485	30	10.7	19.7	4.2	30	— 1.7
	700	30	3133	3187	3059	30	4.0	10.0	— 1.3	30	—10.3
	600	30	4369	4435	4286	30	— 3.9	4.2	— 8.0	28	—16.8
	500	29	5743	5883	5688	29	—13.9	— 8.0	—18.3	29	—26.5
	400	29	7436	7574	7330	29	—26.3	—18.4	—34.1	28	—36.0
	300	27	9463	9655	9328	27	—40.3	—32.0	—45.7	26	—49.8
	250	27	10684	10915	10521	27	—48.0	—39.5	—52.8	26	—57.0
	200	27	12136	12395	11945	27	—54.1	—49.0	—58.8	26	—62.9
	150	26	13949	14212	13778	26	—60.2	—44.9	—63.4	12	—67.5
	100	20	16454	16676	16298	20	—65.5	—59.1	—71.6	—	—
	70	18	18640	18872	18479	18	—64.0	—54.2	—68.8	—	—
	60	15	19583	19800	19490	15	—63.4	—59.4	—68.0	—	—
	50	14	20691	20906	20541	14	—61.6	—58.8	—67.2	—	—
	40	11	22115	22400	21930	11	—58.6	—55.9	—61.7	—	-
	30	9	23914	24146	23715	9	—56.5	—52.8	—60.1	—	—
	20	4	26470	26796	26297	4	—51.7	—47.5	—54.3	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	31	1000mb.*	1005mb.*	995mb.*	31	18.4	23.2	14.9	31	13.0
	1000	30	144	182	094	21	17.9	21.1	13.4	21	12.8
	850	30	1527	1572	1464	30	13.3	25.6	06.2	30	1.9
	700	30	3140	3219	3041	30	05.6	13.2	00.7	30	—08.9
	600	30	4386	4476	4262	30	—02.2	02.9	—07.5	30	—15.6
	500	30	5810	5935	5703	30	—12.0	—06.3	—16.9	30	—24.2
	400	28	7484	7627	7323	28	—24.0	—17.6	—29.7	28	—35.1
	300	27	9534	9719	9332	27	—37.9	—32.0	—43.0	27	—48.3
	250	26	10771	10915	10582	26	—44.4	—40.3	—52.3	25	—54.5
	200	26	12230	12470	12012	26	—51.5	—47.9	—58.0	22	—61.3
	150	25	14090	14312	13823	25	—59.3	—55.0	—68.7	14	—66.3
	100	17	16607	16746	16316	17	—64.9	—58.3	—71.4	—	—
	70	8	18759	19004	18505	8	—64.5	—59.5	—68.7	—	—
	60	6	19743	19990	19615	6	—63.2	—58.9	—66.1	—	—
	50	6	20843	21117	20715	6	—61.2	—58.1	—62.9	—	—
	40	4	22342	22540	22230	4	—58.4	—57.0	—60.0	—	—
	30	4	24097	24348	23953	4	—56.3	—54.5	—58.2	—	—
	20	2	26651	26659	26643	2	—52.6	—51.3	—53.8	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 U.T.	Surface	31	992mb.*	998mb.*	987mb.*	31	21.5	29.0	14.6	31	4.7
	1000	31	121	176	79	—	—	—	—	—	— —
	850	31	1528	1561	1500	30	17.8	27.1	10.3	30	1.0
	700	31	3160	3210	3110	30	7.2	11.4	0.8	30	—10.4
	600	31	4412	4467	4351	31	— 0.5	3.5	— 4.1	31	—19.2
	500	31	5850	5900	5773	31	— 8.6	— 5.6	—11.7	31	—27.2
	400	31	7547	7626	7458	31	—20.0	—16.1	—22.3	31	—35.8
	300	31	9624	9724	9513	31	—34.4	—31.6	—38.2	31	—48.1
	250	31	10875	10984	10751	31	—43.4	—41.1	—46.1	31	—55.7
	200	30	12348	12460	12213	30	—53.6	—50.7	—55.5	30	—64.5
	150	29	14151	14261	14013	29	—64.9	—60.7	—68.8		
	100	29	16563	16671	16447	29	—73.8	—69.0	—77.4	—	—
	70	26	18678	18886	18613	26	—68.1	—62.8	—74.4	—	—
	60	19	19634	19750	19600	19	—64.5	—59.4	—67.7	—	—
	50	19	20728	20844	20597	19	—61.5	—57.8	—65.0	—	—
	40	14	22176	22330	21970	14	—59.5	—57.0	—61.8	—	—
	30	14	23925	24071	23750	14	—56.6	—54.6	—60.8	—	—
	20	11	26527	26694	26340	11	—52.0	—49.0	—54.8	—	—
	10	—	—	—	—	—	—	—	—	—	—

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

* = pressure corrected to the elevation of the radiosonde station.

UPPER AIR CLIMATOLOGICAL DATA

Table B1 (*contd*).— MONTHLY MEANS, ABSOLUTE HIGHEST & LOWEST VALUES OF ALTITUOE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

OCTOBER — 1977

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	1015m.b.*	1020m.b.*	1010m.b.*	30	23.3	33.0	17.2	30	13.5
	1000	30	157	197	115	30	21.8	34.1	15.8	30	12.3
	850	30	1536	1585	1485	30	11.0	20.0	3.6	30	0.0
	700	30	3137	3233	3064	30	3.8	9.6	— 6.7	30	—14.7
	600	30	4373	4487	4288	30	— 3.6	2.0	— 9.1	30	—18.7
	500	29	5787	5913	5682	29	—13.7	— 7.1	—19.5	29	—27.7
	400	29	7444	7591	7308	29	—25.7	—19.0	—31.5	29	—39.4
	300	28	9465	9673	9298	28	—40.5	—32.5	—46.6	28	—52.4
	250	27	10693	10933	10497	27	—47.7	—40.3	—52.8	26	—59.1
	200	26	12152	12433	11923	26	—53.3	—47.8	—56.6	26	—63.5
	150	25	13994	14285	13758	25	—59.0	—52.1	—63.6	18	—66.9
	100	23	16489	16770	16295	23	—63.6	—56.1	—70.6	—	—
	70	21	18657	18796	18539	21	—62.7	—58.1	—67.1	—	—
	60	17	19606	19782	19300	17	—61.1	—57.9	—64.9	—	—
	50	16	20743	20896	20647	16	—59.5	—55.2	—62.9	—	—
	40	12	22227	22400	22020	12	—56.5	—52.5	—60.0	—	—
	30	11	23994	24184	23907	11	—52.3	—46.5	—56.7	—	—
	20	5	26629	26800	26576	5	—48.3	—44.5	—51.0	—	—
	10	1	31179	—	—	1	—43.3	—	—	—	—
Helwan 1200 U.T.	Surface	31	999m.b.*	1002m.b.*	994m.b*	31	26.9	33.2	22.3	31	10.3
	1000	29	134	172	096	13	25.1	28.6	22.3	13	09.5
	850	29	1536	1559	1501	27	13.5	23.6	05.2	27	03.4
	700	28	3150	3221	3068	28	06.2	12.3	00.8	28	—13.5
	600	27	4397	4485	4288	27	—01.2	04.4	—07.0	27	—18.8
	500	25	5832	5940	5689	25	—10.5	— 5.5	—16.8	25	—27.3
	400	24	7506	7667	7339	24	—22.7	—17.5	—29.3	24	—37.0
	300	24	9561	9762	9359	23	—36.2	—28.9	—41.6	23	—49.2
	250	24	10808	11032	10584	24	—43.2	—36.7	—50.4	23	—55.2
	200	23	12296	12530	12125	23	—48.9	—44.7	—53.5	23	—59.9
	150	23	14162	14405	13876	23	—54.9	—51.1	—59.3	23	—65.2
	100	23	16727	16920	16446	23	—59.4	—54.4	—66.8	6	—66.6
	70	17	18976	19144	18838	17	—54.0	—50.3	—61.7	—	—
	60	9	20010	20160	19930	9	—55.6	—52.5	—59.0	—	—
	50	9	21148	21305	21004	9	—52.7	—46.5	—56.1	—	—
	40	7	22687	22800	22600	7	—48.4	—44.4	—52.2	—	—
	30	7	24522	24642	24361	7	—43.8	—40.1	—46.5	—	—
	20	4	27387	27594	27247	4	—37.6	—35.9	—31.1	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan (A) 1200 U.T.	Surface	31	991mb.*	996mb.*	987m b*	31	34.1	43.0	27.4	31	6.4
	1000	31	110	158	71	—	—	—	—	—	—
	850	31	1545	1572	1524	31	20.7	29.6	13.2	31	— 3.9
	700	30	3190	3238	3141	30	9.6	13.6	5.4	30	—13.9
	600	29	4448	4509	4306	29	1.6	5.0	— 2.3	29	—20.7
	500	28	5896	5953	5740	28	— 6.8	— 3.6	—10.0	28	—28.7
	400	28	7609	7677	7432	28	—17.8	—13.8	—21.0	28	—37.5
	300	27	9703	9796	9603	27	—32.3	—29.0	—35.3	27	—49.5
	250	27	10966	11076	10857	27	—41.3	—38.6	—45.4	27	—57.0
	200	27	12450	12571	12334	27	—52.0	—50.5	—54.1	27	—65.5
	150	27	14271	14401	14141	27	—62.7	—58.1	—65.5	2	—70.6
	100	26	16711	16811	16612	26	—72.0	—66.2	—77.0	—	—
	70	24	18827	18974	18671	24	—67.7	—61.1	—73.1	—	—
	60	15	19815	19940	19720	15	—63.6	—59.2	—67.1	—	—
	50	15	20913	21047	20803	15	—59.2	—55.4	—62.6	—	—
	40	14	22399	22550	22120	14	—55,8	—53.7	—58.5	—	—
	30	13	24180	24329	24058	13	—53.0	—50.4	—55.5	—	—
	20	9	26813	26919	26703	9	—48.2	—44.9	—50.0	—	—
	10	4	31458	31560	31373	4	—38.4	—35.4	—40.2	—	—

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

OCTOBER — 1977

	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
0000U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh(A)	3697 (3—)	655 (30)	—11.8 (30)	4910	566	—16,3	2300	770	—2.1	13480 (21)	176 (21)	—61.1 (21)	16660	99	—67,3	10100	266	—51,5	8602	—	315	90
	Helwan	3985 (30)	634 (30)	—13.1 (30)	5000	590	—13.2	2920	715	—13.2	13783 (12)	164 (12)	—59,9 (12)	17020	93	—67,5	9920	276	—45.7	16070	111	290	150
	Aswan . . (A)	4277 (31)	611 (31)	—17.3 (31)	4930	563	—24.3	3250	693	—5,2	16198 (25)	108 (25)	—74.4 (25)	17880	79	—78,5	14500	141	—70.2	12600	188	270	115
1200U.T.		N	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh	3590 (30)	663 (30)	—13.6 (30)	4750	575	—16,4	2100	790	—1.8	13805 (22)	162 (22)	—60.5 (22)	18714	76	—68.4	10770	245	—52.3	13350	167	250	100
	Helwan . . .	4168 (27)	619 (27)	—17.6 (27)	5120	553	—16,7	2660	735	—11.7	14185 (20)	159 (20)	—56.6 (20)	17860	86	—65.4	9720	286	—45.0	15890	123	275	150
	Aswan	4708 (29)	556 (29)	—22,0 (29)	5320	535	—25.1	4000	632	—22.0	16394 (25)	107 (25)	—72.7 (25)	17850	83	—70.0	15420	125	—73,1	13050	181	270	122

= number of cases the element 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**

0000 U.T.— OCTOBER 1977

Time	Pressure Surface (Millibar)	Wind within 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			
T.U. 0000	Surface of station	9	10	1	5	1	18	0	—	2	12	1	10	0	—	2	6	3	7	2	8	2	8	7	13	0	30	10
	1000	6	12	0	—	0	—	0	—	1	25	3	9	0	—	0	—	2	7	2	8	6	14	8	20	0	28	14
	850	6	9	1	12	0	—	0	—	0	—	1	14	1	6	0	—	1	8	4	24	4	19	10	17	0	28	15
	700	2	15	0	—	2	3	0	—	0	—	0	—	0	—	2	18	5	19	3	25	8	24	5	15	0	27	19
	600	1	19	1	9	0	—	0	—	0	—	0	—	0	—	2	21	6	27	7	23	6	27	4	13	0	27	22
	500	0	—	0	—	0	—	1	9	0	—	1	6	0	—	0	—	7	29	11	28	5	31	0	—	0	25	27
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	12	35	8	31	2	46	1	9	0	23	33
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	37	10	35	0	—	0	—	0	17	35
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	52	5	44	0	—	0	—	0	13	49
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	41	3	44	0	—	0	—	0	6	43
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	47	0	—	0	—	0	—	0	1	47
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
T.U. 0000	atstion fo ecafruS	10	11	3	11	0	—	0	—	0	—	1	11	1	9	0	—	0	—	1	6	5	16	9	12	0	30	12
	1000	4	10	1	7	0	—	0	—	0	—	1	14	1	9	0	—	0	—	4	12	9	16	8	14	0	28	14
	850	3	10	1	7	1	6	0	—	1	5	0	—	2	17	1	3	4	14	5	20	5	15	5	15	0	28	14
	700	3	9	1	12	0	—	1	10	0	—	1	7	0	—	3	18	2	10	5	31	6	27	6	16	0	28	18
	600	2	14	1	3	0	—	0	8	0	—	0	—	0	—	1	23	4	19	4	35	12	23	3	23	0	28	22
	500	0	—	0	—	0	—	0	—	1	12	0	—	0	—	1	40	6	28	6	27	8	24	3	18	0	25	25
	400	0	—	0		0	—	0	8	0	—	0	—	0	—	1	38	3	31	10	28	5	23	1	39	0	21	27
	300	1	10	0	—	0	—	0	—	0	—	0	—	0	—	1	20	5	32	7	44	2	44	0	—	0	16	37
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	60	8	41	2	46	0	—	0	11	45
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	62	3	58	0	—	0	—	0	6	60
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	54	2	63	0	—	0	—	0	4	58
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed within 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, *NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES*

HELWAN OCTOBER 1977

	Pressure surface (millibar)	Wind within 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			
1200 T.U.	Surface	9	07	12	10	2	10	0	—	0	—	0	—	0	—	0	—	0	—	1	06	1	04	6	04	1	31	8
	1000	9	08	7	09	3	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	06	0	21	8
	850	4	12	5	17	9	13	1	09	0	—	1	09	0	—	1	03	0	—	0	—	3	14	6	13	0	30	13
	700	6	16	8	13	0	—	3	06	0	—	0	—	0	—	0	—	0	—	2	22	6	16	5	18	0	30	15
	600	5	17	4	18	0	—	0	—	1	2	0	—	0	—	0	—	1	20	2	28	10	20	7	19	0	30	19
	500	4	22	0	—	1	05	0	—	0	—	0	—	0	—	0	—	1	27	3	29	11	25	9	21	0	29	23
	400	1	47	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	35	10	36	9	26	0	27	33
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	10	48	7	35	7	43	0	24	43
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	10	54	6	50	7	55	0	23	53
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	76	9	54	3	64	0	17	63
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	80	1	62	6	70	2	70	0	10	70
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	89	0	2	89
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
0000 T.U.	Surface	13	10	3	10	0	—	0	—	0	—	0	—	0	—	1	05	0	—	6	10	1	09	7	09	0	31	10
	1000	8	9	1	12	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	11	0	—	2	04	0	13	9
	850	2	10	11	11	6	07	1	15	0	—	0	—	0	—	1	06	0	—	1	12	5	11	2	10	0	29	10
	700	3	12	5	12	1	06	1	14	0	—	0	—	0	—	1	04	0	—	7	14	4	12	6	15	0	28	14
	600	3	21	3	14	1	05	1	07	0	—	0	—	0	—	1	06	0	—	4	16	10	19	3	14	0	26	16
	500	2	25	1	11	0	—	0	—	1	10	0	—	0	—	1	26	1	04	5	33	7	24	6	18	0	24	23
	400	1	21	0	—	0	—	0	—	1	05	0	—	0	—	0	—	0	—	6	34	7	27	9	30	0	24	29
	300	1	25	1	35	0	—	1	17	0	—	0	—	0	—	0	—	0	—	5	53	10	45	6	44	0	24	44
	250	0	—	1	84	0	—	0	—	0	—	0	—	0	—	0	—	0	—	9	63	7	53	6	51	0	23	58
	200	1	95	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	69	12	52	4	87	0	21	64
	150	0	—	0	—	0	—	2	84	0	—	0	—	0	—	0	—	0	—	4	66	9	62	2	74	0	16	66
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	69	1	129	0	5	81
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed within 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. NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES

ASWAN — OCTOBER 1977

Time	Pressure Surface Millibar	Wind within specided 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	13	4	12	0	—	0	—	0	—	1	1	0	—	0	—	0	—	0	—	0	—	6	11	0	31	10
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	5	14	5	14	4	17	1	10	1	7	0	—	0	—	0	—	1	6	2	6	4	8	7	13	0	30	12
	700	0	—	0	—	1	20	1	17	1	18	2	9	0	—	6	10	1	11	5	12	9	28	4	14	0	30	17
	600	3	9	2	8	1	13	0	—	0	—	1	25	0	—	1	35	5	28	11	21	6	26	0	—	0	30	20
	500	0	—	1	4	2	6	1	15	0	—	2	4	0	—	0	—	6	30	11	35	5	37	2	11	0	30	27
	400	0	—	0	—	1	17	0	—	1	6	0	—	0	—	2	14	7	45	16	45	3	30	0	—	0	30	40
	300	0	—	0	—	0	—	1	10	0	—	0	—	0	—	1	26	13	52	14	63	2	36	0	—	0	31	54
	250	0	—	0	—	0	—	0	—	0	—	1	7	1	18	2	27	10	68	16	68	1	38	0	—	0	31	61
	200	0	—	0	—	0	—	0	—	0	—	0	—	1	12	4	24	12	68	9	77	1	30	0	—	0	27	61
	150	0	—	0	—	0	—	0	—	0	—	0	—	1	18	4	20	8	61	10	61	1	27	0	—	0	24	51
	100	0	—	0	—	1	12	0	—	1	6	3	18	1	13	1	12	3	33	7	32	1	9	0	—	0	18	24
	70	0	—	0	—	1	18	0	—	2	19	2	16	1	9	1	10	0	—	1	10	0	—	0	—	0	8	15
	60	0	—	2	8	0	—	2	15	2	10	0	—	1	9	0	—	0	—	0	—	0	—	0	—	0	7	11
	50	0	—	2	10	2	13	2	18	1	9	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	7	13
	40	0	—	0	—	1	9	3	13	2	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	6	12
	30	0	—	0	—	2	11	4	18	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	6	15
	20	0	—	0	—	0	—	1	20	3	25	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	4	24
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	18	11	0	—	1	6	0	—	0	—	0	—	1	4	0	—	0	—	0	—	3	7	8	10	0	31	10
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	5	10	3	12	0	—	4	6	1	3	0	—	1	12	3	7	1	8	4	12	2	13	7	14	0	31	11
	700	0	—	1	15	2	9	2	14	1	9	1	6	0	—	5	14	6	14	3	16	6	13	3	16	0	30	13
	600	1	9	3	10	1	12	2	12	1	8	0	—	0	—	0	—	9	20	5	22	4	20	3	8	0	29	16
	500	0	—	2	14	3	11	0	—	0	—	0	—	0	—	0	—	8	34	11	32	2	26	1	5	0	27	28
	400	0	—	1	4	0	—	1	10	0	—	0	—	0	—	1	16	11	42	9	53	4	26	0	—	0	27	40
	300	0	—	0	12	0	—	0	—	1	5	0	—	1	10	1	12	9	54	13	63	2	39	0	—	0	27	52
	250	0	—	0	—	1	70	0	—	0	—	0	—	0	—	1	15	10	64	14	63	1	30	0	—	0	27	61
	200	0	—	0	—	0	—	0	—	0	—	0	—	1	13	2	12	11	71	11	70	2	34	0	—	0	27	61
	150	1	24	0	—	0	—	0	—	0	—	1	10	2	14	1	31	7	68	10	53	1	28	0	—	0	23	50
	100	1	7	0	—	0	—	0	—	2	6	3	12	1	18	0	—	4	28	6	33	0	—	0	—	0	17	23
	70	0	—	0	—	1	14	6	19	1	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	8	17
	60	0	—	0	—	0	—	5	21	3	18	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	8	20
	50	0	—	0	—	1	15	3	21	2	18	2	14	0	—	0	—	0	—	0	—	0	—	0	—	0	8	18
	40	0	—	0	—	0	—	4	21	2	18	1	10	0	—	0	—	0	—	0	—	0	—	0	—	0	7	18
	30	0	—	0	—	0	—	3	19	2	22	0	—	0	—	0	18	0	—	0	—	0	—	0	—	0	6	18
	20	0	—	0	—	1	22	1	20	2	16	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	4	18
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

MONTHLY REVIEW OF AGRO METEOROLOGICAL STATIONS

MERSA MATRUH — OCTOBER 1977

The mean daily air temperature was below normal and the mean daily relative humidity was the same as normal. The total monthly rainfall was 8.4 mm. against 18.7 mm. for normal.

The prevailing weather was generally mild apart from a short heat wave on the 13th & 14th giving the highest maximum temperature (33.7°C) on the 14th. The lowest maximum temperature was 18.4°C (on the 19th). The lowest minimum temperature was 12.0°C (on the 31st).

The mean daily actual sunshine duration was lower than average by 1.1 hour. The mean daily wind speed at 1.5 met. height was nearly the sameas average.

The highest maximum soil temperatures were higher than the corresponding values of October 1976 at all depths with departures between 3.1°C (at 2 cm.) and 0.9°C (at 10 cm.). The lowest minimum soil temperatures were lower than October 1976 at all depths with departures between 2.4°C (at 2 cm.) and 0.1°C (at 100 cm).

TAHRIR — OCTOBER 1977

The mean daily air temperature and relative humidity were slightly below normal. No rain was reported except trace on the 27th, against 2.4 mm. for normal.

Mild weather prevailed the whole month apart from two short heat waves in the periods (9th & 10th) and (13th, 14th & 15th).

The first wave yielded the highest maximum temperature (36.1°C) on the 10th. The lowest maximum temperature was 24°C (on the 19th). The lowest minimum temperature was 8.6°C (on the 31st).

The mean daily actual sunshine duration, windspeed at 1.5 met. height and pan evaporation showed slight departures from normal.

The highest maximum soil temperatures were lower than normal at 2.5.10 & cm. depths with departures between 4.2°C (at 2 cm.) & 0.4°C (at 20 cm.); higher than normal at 50 cm. by 0.6°C; the same as normal at 100 cm. The lowest minimum soil temperatures were lower than normal at all depths with departures between 2.7°C (at 5 cm.) & 0.7°C (at 100 cm.).

BAHTIM — OCTOBER 1977

The mean daily air temperature and relative humidity were slightly below average.

Mild weather prevailed the whole month apart from three short heat waves on the (1*st*), 10*th*) and (14*th* & 15*th*). The highest maximum temperature was 34.3°C (on the 10th & 15th). The lowest maximum temperature was 24.6°C (on the 19th). The lowest minimum temperature was 9.0°C (on the 29*th*).

The mean daily actual sunshine duration, wind speed at 1.5 met. height and pan evaporation were slightly below average.

The highest maximum soil temperatures were lower than average at 2 cm. depth by 0.2°C, higher than average at other depths between 5 & 100 cm. with departures between 2.0°C (at 5 cm.) & 0.2°C (at 20 & 50 cm.). The lowest minimum soil temperatures were lower than average at all depths with departures between 1.9°C (at 5 cm.) & 0.5°C (at 100 cm.).

ASSYOUT — OCTOBER 1977

Mean maximum temperature was 30.4°C and mean minimum temperature was 13.8°C. Mean daily relative humidity was 52%.

Three heat waves were experienced during the perivds (1*st* & 2*nd*), (9*th* - 11*th*) & (13th - 16*th*). The first wave gave rise to the highest maximum temperature (39.4°C) on the 1*st*. In the rest of the month mild weather prevailed. The lowest maximum temperature was 25.2°C (on the 27*th*). The lowest minimum temperature was 10.3°C (on the 20*th*).

KHARGA — OCTOBER 1977

The mean daily air temperature was below normal and the mean daily relative humidity was above normal.

Three heat waves were experienced in the periods (1*st* & 2*nd*), (10*th* & 11*th*) & (13th - 15th). The first wave gave rise to the highest maximum temperature (43.2°C) on the 1*st*. In the rest of the month weather was generally mild. The lowest maximum temperature was 26.0°C (on the 20*th*). The lowest minimum temperature was 11.6°C (on the29th).

The mean daily actual sunshine duration, wind speed at 1.5 met. height and pan evaporation were slightly below normal.

The highest maximum soil temperatures were higher than average at all depths with departures between 5.0°C (at 5 cm.) and 0.1°C (at 100 cm.). The lowest minimum soil temperatures were lower than average at all depths, and the departures varied between 2.6°C (at 10 cm.) and 0.6°C (at 100 cm.).

able C 1.– AIR TEMPERATURE AT 1½ METRES ABOVE GROUND

OCTOBER — 1977

STATION	Air Temperature (°C)					Duratio in hours to the nearest half hour of air ·emperature 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. . . .	23.8	16.6	20 4	18.0	21 9	24.0	24.0	24 0	24.0	22.6	12.1	1.5	0 4	0 0	0.0	0.0
Thrira	29.3	13.1	20 2	16 5	24.0	24.0	24.0	24.0	23.7	18.9	11.5	4.2	0.6	0.0	0.0	0.0
Bahtim	28.0	13,3	20.5	16.9	24.3	24.0	24.0	24.0	23.9	19.4	12.2	0.5	0.1	0.0	0.0	0.0
Assiut	30.4	13 8	21.4	17.4	25.5	24.0	24 0	24.0	24.0	19.9	12.7	6.4	2.1	0.3	0.0	0.0
Kharga	31.6	17.3	24.6	21.8	27.7	24.0	24.0	24.0	24.0	23.2	18.4	11.1	4.3	1.0	0.2	0.0

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

OCTOBER — 1977

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. . . .	33.7	14	18.4	19	20.3	1	12 0	31	10 0	31	—	—
Tahrir	36.1	10	24.9	19	18.6	1	8.6	31	6 8	29	6.2	22
Bahtim	34.3	10,15	24.6	19	18.9	1	9.0	29	5.9	31	4.4	12
Assiut	39.4	1	25.2	27	19.3	2	10.3	20	5.2	29	—	—
Kharga	43.2	1	26.0	20	24.8	1	11.6	29	8.8	22	—	—

Table C 3.—SOLAR + SKY RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY &VAPOUR PRESSURE AT 2 METRES ABOVE GROUND, EVBORATION A RAINFALL.

OCTOBER — 1977

STATION	(Solar+Sky Radiation gm. cal/cm²	Duration of Bright Sunshine			Relative Humidity %				Vapour Pressure (mms)						Evaporation(mms)		RainFall (mms)		
		Total Actual	Total Possible	%	Mean of dry	1200 U.T.	Lowest	Date	Mian of dry	1200 U.T.	Highest	Date	Lowest	Date	Piche	Pan Class(A)	Total Amount	Max. Fall in one day	Date
M. Matruh	281.9	236.2	353.6	67	66	57	24	14	11.6	12.0	17.3	10	8.7	9.17	7.3	—	8.4	4.8	16
Tahrir . .	434.3	295.0	354.5	83	67	42	19	10	11.6	11.1	18.5	1	7.2	22.31	4.4	6.15	T	Tr.	27
Bahtim . .	443.6	293.5	354.8	83	64	38	20	10	11.2	10.5	19.0	1	7.5	23	6.5	7.14	0	0	—
Assiut. .	—	325.7	357.4	91	52	28	14	10	9.4	8.5	15.5	1	4.9	29	7.5	7.44	0	0	—
Khara. .	517.5	326.4	358.7	91	49	34	14	1	11.0	11.3	16.5	2	7.2	20	12.4	13.26	0	0	—

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

OCTOBER 1977

STATION	Highest (A) Lowest (L)	Extreme soil temperature (°C) in dry field at different depths (cms.)								Extreme soil tmperature (°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	38.5	33.0	29.5	27.0	26.6	26.5	25 6	—	--	=	—	—	—	—	—	—
	L	14.5	14.7	17.0	19.0	21.4	23,6	24 4	—	--	—	--	—	—	—	—	—
Tahrir	H	40.7	37 8	33.6	31.0	30.0	29.5	28.7	28 1	29.5	29.0	27.5	26.4	27.2	27.3	27.4	—
	L	15.3	14.7	16.6	20.8	23.2	25.3	26.7	27.3	15.3	15.9	16.5	18.2	20.6	22.6	24.9	—
Bahtim	H	44.7	40 5	34.2	31.1	30.4	30.2	27.8	26.1	30.0	26.8	26.6	26.4	26.4	26.1	24.4	—
	L	18.1	16.8	20.2	23.6	25.9	27.1	27.3	25.9	15.4	15.8	17.4	19.4	21.6	23.3	23.9	—
Asiut	H	56.2	45.0	37.4	32.4	30.4	29.4	27.6	26.4	—	—	—	—	—	—	—	—
	L	18.9	17.7	19.6	23.2	26.1	26.8	27.0	26.3	—	—	—	—	—	—	—	—
Kharga	H	51.9	47.0	41.8	36.8	33.1	32.5	31.3	30 4	—	—	—	—	—	—	—	—
	L	13.5	16.1	19.0	23.4	27.7	29.6	30.6	30.2	—	—	—	--	—	—	—	—

Table C 5.—SURFACE WIND

OCTOBER1977

STATION	Wind Speed m/sec at 1½ metres			Days with surface wind speed at 10 metres							Max, Gust(kno) at 10 metres	
	Mean of the day	Night time mean	Day time mean	≥10 knots	≥15 konts	≥20 knots	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value knots	Date
M. Matruh	3.4	2.7	4.1	28	19	3	2	0	0	0	32	16
Tahrir	1.8	1.0	2.7	29	11	4	0	0	0	0	30	17
Bahtim	2.1	1.2	2.9	31	20	6	1	0	0	0	29	16
Asiut	—	—	—	—	—	—	-	—	—	—	—	—
Kharga	3.4	2.5	4.3	31	27	14	3	0	0	0	31	4

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THE ARAB REPUBLIC OF EGYPT

MONTHLY WEATHER REPORT

VOLUME ~~18~~ 24 NUMBER 11

NOVEMBER, 1977

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 several 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 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

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

CONTENTS

PAGE

General Summary of Weather Conditions 1

SURFACE DATA

Table A1.—Monthly values of the Atmospheric Pressure, Air Temperature, Relative Humidity, Bright Sunshine Duration, and Piche Evaporation 2

" A2.—Maximum and Minimum Air Temperatures 3

" A3.—Sky Cover and Rainfall 4

" A4.—Number of Days of Occurrence of Miscellaneous Weather Phenomena . . . 5

" A5.—Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded Within Specified Ranges 6,7

UPPER AIR DATA

Table B1—Monthly Means and Monthly Absolute Highest & Lowest Values of Altitude, Air Temperature & Dew point at Standard and Selected Pressure Surfaces. 8,9

" B2.—Mean and Extreme values of The Freezing Level and The Tropopause. The Highest Wind Speed in The Upper Air 10

" B3.—Number of Occurrences of Wind Direction within Specified Ranges and The Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces. 11–13

AGRO-METEOROLOGICAL DATA

Reviews of Agro-meteorological Stations 14,15

Table C1.—Air Temperature at 1½ metres above Ground 16

" C2.—Extreme Values of Air Temperature at 1½ metres above Ground, Absolute Minimum Air Temperature at 5 Cms Above Ground over Different Fields 16

" C3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity and Vapour Pressure at 1½ Metres Above Ground, Evaporation and Rainfall. . . 16

" C4.—Extreme Soil Temperature at Different Depths in Different Fields 17

" C5.—Surface wind 17

Note—For explanatory notes on the tables please refer to Volume 18 number 1 (January 1975).

GENERAL SUMMARY OF WEATHER CONDITIONS

NOVEMBER 1977

Generally mild weather during the first half of the month, two warm spells during the second half. Markedly subnormal rainfall.

PRESSURE DISTRIBUTION

High pressure extended over the Mediterranean & NE Africa most of the first and second weeks apart from a secondary depression which passed rapidly through East Mediterranean on the 4th.

During the third and fourth weeks two deep troughs extending from Europe through the Mediterranean moved eastwards and passed through the Black Sea area & East Mediterranean on the 18th and 28th.

The mean atmospheric pressure was generally above normal.

SURFACE WIND

The prevailing winds were generally light to moderate NEly to NWly and changed to SW ly during the passages of troughs or depressions through East Mediterranean.

Winds were fresh to strong during several days in scattered places.

TEMPERATURE

Mild weather prevailed most of the first half of the month with subnormal maximum temperatures.

During the second half two successive warm spells were experienced and maximum temperatures were moderately above normal in general.

Minimum temperatures showed irregular departures below and above normal.

The highest and lowest maximum temperatures were respectively 35.9°C at Kharga on the 25th and 20.0°C at Mersa Matruh on the 3rd & 30th.

The highest and lowest minimum temperatures were respectively 21.6°C at Port Said on the 6th and 4.0°C at Dakhla on the 21st.

PRECIPITATION

Light to moderate rain was reported in few days over scattered places in north of the country till Cairo area.

The monthly rainfall amounts were markedly below normal.

The maximum daily rainfall was 7.3 mm. on the 3rd at Mersa Matruh.

The maximum monthly rainfall was 7.7 mm. at Mersa Matruh.

OTHER WEATHER PHENOMENA

Early morning mist developed frequently over scattered places in lower Egypt, Cairo and north of Middle Egypt.

Rising sand was reported during few days in few places.

Chairman (M. S. MALIBADRAN)

Board of Directors

Cairo, March 1979

SURFACE DATA

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

NOVEMBER 1977

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	DF Normal or Average	Mean	D.F. Normal or Average	Total Actua	Total Possible	%	Mean
El Sallum	1017.3	—0.2	25.3	0.8	14.9	0.1	20.1	19.4	0.1	13.3	—1.9	49	—13	—	—	—	7.5
Mersa Matruh	1018.2	—0.4	23.5	—0.2	13.9	0.2	18.7	18.2	—0.1	13.7	—1.1	62	—6	252.2	317.1	80	7.6
Alexandria	1018.1	—0.7	25.3	0.9	13.2	1.5	19.2	18.5	—0.7	14.9	1.2	68	—2	230.7	317.4	73	3.1
Port Said	1017.1	—0.6	23.8	—0.2	18.7	—0.4	21.2	21.0	—0.1	17.0	0.6	66	—5	248.8	306.4	81	5.1
Tanta	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo	1017.7	—0.7	25.7	0.5	14.4	0.4	20.0	19.1	0.3	14.6	0.4	58	3	—	—	—	9.7
Fayoum	—	—	27.3	0.6	11.9	—1.3	19.6	19.0	—0.5	14.7	0.5	63	2	—	—	—	4.4
Minya (A)	1017.4	—0.8	26.8	0.1	10.8	—0.7	18.8	18.3	—0.2	13.7	0.3	60	0	236.4	322.9	82	5.8
Assyout (A)	1017.3	—1.1	25.9	—0.8	10.8	—2.1	18.3	19.1	—1.2	12.0	—1.6	47	—0	—	—	—	7.4
Luxor (A)	1015.6	1.0	29.0	1.1	10.4	—2.0	19.7	19.5	—1.4	13.5	1.3	50	2	—	—	—	4.7
Aswan (A)	1015.4	—1.4	29.1	—1.9	13.8	—1.9	21.4	21.2	—1.8	12.4	0.6	31	—7	310.2	329.7	94	13.8
Siwa	1017.9	—0.1	25.5	0.6	9.3	—1.1	17.4	16.8	1.0	11.6	—1.1	52	—3	272.1	321.1	85	7.6
Bhariya	1017.6	—0.3	26.5	0.2	10.8	—0.6	18.6	18.4	0.0	12.5	—0.9	49	—8	—	—	—	6.5
Farafra	1018.9	—0.4	26.5	0.5	10.3	0.0	18.4	17.9	0.1	11.5	0.7	43	—6	—	—	—	7.4
Dakhla	1017.6	—1.2	27.9	0.4	9.1	—2.1	10.5	18.0	—0.9	11.1	—1.1	41	—4	—	—	—	8.2
Kharga	1016.2	—0.1	28.8	0.2	10.7	—2.2	19.7	20.2	—0.1	14.3	0.9	56	—12	295.2	327.3	90	7.8
Hurghada	1015.2	—0.7	26.0	0.0	15.3	—0.3	20.6	20.6	—0.3	15.1	—0.7	53	—4	296.8	324.3	92	10.6
Quseir	1014.9	—0.6	26.4	—0.6	17.9	—1.5	22.1	22.0	—1.1	16.6	0.8	55	—1	—	—	—	6.5

TABLE A2.— MAXIMUM AND MINIMUM AIR TEMPERATURE

NOVEMBER — 1977

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
El-Sallum	30.9	24	21 9	10	13	01	00	00	00	13.9	—	17.8	21	11.1	30	00	00	00	00
Mersa Matroh	28.6	23	22 0	3,30	08	00	00	00	00	11.5	—	19.0	5	10 0	29	00	00	00	00
Alexandria	30.2	26	22 6	30	15	01	00	00	00	9.9	—	19.4	10	7.6	24	07	00	00	00
Port Said	29.1	26	21 6	12,24	04	00	00	00	00	18.1	—	21.6	6	16·2	13,18	00	00	00	00
ElArish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Gaza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo (A)	30.6	26	22.1	13	19	01	00	00	00	—	—	17.9	26	11.2	30	00	00	00	00
Fayoum	32.8	9	24.1	14	28	03	00	00	00	9 4	—	16.7	9	8.2	25	06	00	00	00
Minya (A)	31.4	25	23.6	30	24	02	00	00	00	7.8	—	16.4	10	6 4	21	14	00	00	[illegible]
Assyout (A)	31.6	26,25	22.5	9	18	03	00	00	00	10.4	—	15.5	11	7.0	22	10	00	00	00
Luxor (A)	33·4	25	26.4	12,15	30	08	00	00	00	6.2	—	14.6	11	6.0	23	11	00	00	00
Aswan (A)	34.0	26	25.5	15	30	08	00	00	00	—	—	16.3	7	11.4	22	00	00	00	00
Siwa	28.4	22	22.0	27	16	00	00	00	00	7.7	—	15.1	7	3.8	30	16	02	00	00
Bahariya	32.4	25	23.6	13	22	02	00	00	00	10.0	—	15.0	2	7.7	21,22	13	00	00	00
Farafra	29.9	25	23.0	29	23	00	00	00	00	8.5	—	15.5	7	6.6	23	16	00	00	00
Dakhla	34.9	26	24.6	30	27	04	00	00	00	8.9	—	13.8	6	4 0	21	17	03	00	00
Kharga	35.9	25	25.0	12	29	07	01	00	00	8.5	—	16.2	8,9,11	6.7	21	13	00	00	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	28.2	26	24.0	30	24	00	00	00	00	—	—	19.1	9	13.0	30	00	00	00	00
Quseir	29.4	27	24.8	13,29,30	27	00	00	00	00	15.8	—	20.4	6	16.3	14	00	00	00	00

TABLE A3 SKY COVER AND RAIN FALL

NOVEMBER 1977

Station Name	Mean Sky Cover					Rain Fall mms.										
	00 U.T	06 U.T	12 U.T	18 U.T	Daily Mean	Total Amount	D.F.N	Max. In One Day		Number Of Days With Amount Of Rain						
								Value	Date	<0.1	≧0.1	≧1.0	≧5.0	≧10	≧25	≧50
Elsallum	3.3	2.8	3.3	2.4	2.9	0.5	—26.5	0.4	2	00	00	00	00	00	00	00
Mersa Matroh	2.1	3.9	3.3	2.0	2.9	7.7	17.8	7.3	3	00	00	00	00	00	00	00
Alexandria	2.7	3.7	4.6	2.8	3.4	2.0	—31.2	2.0	15	00	00	00	01	00	00	00
Port Said	1.2	2.3	2.5	1.6	1.9	0.0	—9.4	—	—	00	00	00	00	00	00	00
Cairo A.P.	1.6	2.7	3.2	1.0	2.3	0.1	—3.2	0.1	3	00	00	00	00	00	00	00
El-Fayoum	—	1.9	1.9	0.6	—	0.0	—0.2	—	—	00	00	00	00	00	00	00
El-Minia	1.0	1.8	2.2	1.1	1.4	0.0	0.0	—	—	00	00	00	00	00	00	00
Assuit	0.4	1.2	0.8	0.6	0.7	0.0	0.0	—	—	02	00	00	00	00	00	00
Luxo	0.2	0.9	1.0	0.9	0.8	0.0	—0.1	—	—	00	00	00	00	00	00	00
Aswan	0.5	0.9	1.2	0.9	0.9	0.0	—0.1	—	—	00	00	00	00	00	00	00
Sewa	2.1	0.6	2.3	1.1	1.5	0.0	—0.1	—	—	00	00	00	00	00	00	00
El- Baharia	0.5	1.2	2.4	1.0	1.2	0.0	0.0	—	—	00	00	00	00	00	00	00
El-Farafra	—	0.7	1.2	1.0	—	0.0	0.0	—	—	00	00	00	00	00	00	00
El-Dakhla	0.2	0.3	1.0	0.4	0.5	0.0	0.0	—	—	00	00	00	00	00	00	00
El-Kharga	0.3	0.6	1.0	0.5	0.6	0.0	—0.1	—	—	00	00	00	00	00	00	00
El-Hurgada	0.9	0.5	1.1	0.9	0.9	0.0	—0.4	—	—	00	00	00	00	00	00	00
El-Quseir	0.3	0.9	1.1	0.6	0.7	0.0	—1.5	—	—	00	00	00	00	00	00	00

Table A 4.– DAYS OF OCCURRENCE OF MISCELLANEOUS WEATHER PHENOMENA

NOVEMBER — 1977

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											
Elsallum	02	00	00	00	01	00	00	08	00	00	00	07	00
Mersa Matroh . . .	04	00	00	00	06	00	01	13	00	01	00	09	00
Alexandria	03	00	00	01	00	02	01	01	01	00	00	05	01
Port Said	00	00	00	00	08	00	00	00	00	00	00	81	00
Cairo	01	00	00	00	00	01	13	01	00	00	00	15	00
El-Fayum	00	00	00	00	14	00	00	00	00	00	00	19	01
El-Minia	00	00	00	00	01	00	04	01	00	00	00	20	01
Assuit	00	00	00	00	00	00	00	00	00	00	01	26	00
Luxor	00	00	00	00	00	00	16	03	00	00	00	27	00
Awan	00	00	00	00	00	00	00	00	00	00	00	23	00
Sewa	00	00	00	00	00	00	00	01	00	00	00	20	00
El-Baharia	00	00	00	00	00	00	00	00	00	00	00	23	00
El-Farafra	00	00	00	00	00	00	02	00	00	00	00	25	02
El-Dakhla	00	00	00	00	00	00	02	00	00	00	00	28	00
El-kharg	00	00	00	00	00	00	01	00	00	00	00	26	00
El-Hurgda	00	00	00	00	00	00	00	00	00	00	00	25	00
El-Quseir	00	00	00	00	00	00	00	00	00	00	00	26	00

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

NOVEMBER — 1977

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	325 / 344	ALL DIR
Sallum	13	03	00	1—10	27	43	22	21	11	09	13	06	37	76	51	76	392
				11—27	02	03	02	01	00	00	00	11	103	98	58	34	312
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**29**	**46**	**24**	**22**	**11**	**09**	**13**	**17**	**140**	**174**	**109**	**110**	**707**
Mersa Matroh	13	00	00	1—10	69	40	17	16	24	24	69	83	45	15	20	105	527
				11—27	06	03	00	01	04	04	33	72	22	07	08	20	180
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**75**	**43**	**17**	**17**	**28**	**28**	**102**	**155**	**67**	**22**	**28**	**125**	**707**
Al Dabaa	10	06	00	1—10	57	06	39	40	49	49	48	87	52	12	13	54	566
				11—27	24	32	02	02	00	00	04	07	16	12	05	40	144
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**81**	**92**	**41**	**42**	**49**	**49**	**52**	**94**	**68**	**24**	**18**	**94**	**704**
Cairo	31	03	00	1—10	56	91	62	66	38	36	21	30	26	59	48	42	578
				11—27	19	40	07	06	04	08	08	06	02	02	02	07	111
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**75**	**131**	**69**	**72**	**42**	**44**	**29**	**36**	**28**	**61**	**50**	**49**	**686**
El Fayoum	10	09	00	1—10	138	235	20	17	16	16	33	51	64	35	26	31	691
				11—27	00	15	04	00	00	00	00	00	00	00	00	00	19
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**138**	**250**	**24**	**17**	**16**	**16**	**33**	**51**	**64**	**35**	**26**	**31**	**701**
El Minia	26	05	00	1—10	286	27	02	01	12	50	29	13	11	23	22	109	590
				11—27	71	22	00	00	00	00	00	00	00	00	01	10	104
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	01	00	00	00	00	00	00	00
				All speeds	**357**	**99**	**02**	**01**	**12**	**50**	**29**	**13**	**11**	**23**	**23**	**119**	**689**
Assuit	09	00	00	1—10	53	22	00	00	04	16	14	27	30	59	157	197	579
				11—27	46	00	00	00	00	11	03	01	00	01	08	62	132
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**66**	**22**	**00**	**00**	**04**	**27**	**17**	**28**	**30**	**60**	**165**	**259**	**711**

Table A 5 *(contd.)*— **NUMBER IN HOURS OF OCCURENCES OF CONCURRENT SURFACS WIND SPEED AND DIRECTION RECORDED WITHIN SPECIFIED RANGES NOVEMBER — 1977**

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 DIR
Luxor . . . . . (A)	10	00	00	1—10	55	54	51	41	29	44	98	91	24	73	43	95	698
				11—27	00	00	04	01	00	00	00	00	00	01	01	05	12
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**55**	**54**	**55**	**42**	**29**	**44**	**98**	**91**	**24**	**74**	**44**	**100**	**710**
Aswan . . . . .(A)	00	04	00	1—10	409	82	09	12	03	00	02	03	01	03	22	88	638
				11—27	00	07	01	01	00	00	00	00	00	00	07	06	82
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**409**	**89**	**10**	**13**	**03**	**00**	**02**	**08**	**01**	**03**	**29**	**94**	**716**
Siwa	21	02	00	1—10	23	55	40	43	65	47	50	46	54	106	105	41	677
				11—27	00	00	00	00	00	00	00	00	04	07	10	01	22
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**23**	**55**	**40**	**43**	**65**	**47**	**50**	**46**	**58**	**113**	**115**	**42**	**697**
Dakhla	44	04	00	1—10	58	27	15	07	12	10	12	25	47	96	177	172	662
				11—27	01	01	00	00	00	00	00	00	00	00	00	12	14
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**59**	**28**	**15**	**07**	**12**	**10**	**12**	**25**	**47**	**96**	**177**	**184**	**672**
Kharga	00	01	00	1—10	237	120	34	23	20	13	09	09	04	13	42	125	650
				11—27	43	18	00	00	00	00	00	00	00	00	00	09	70
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**280**	**138**	**34**	**23**	**20**	**13**	**09**	**09**	**04**	**13**	**42**	**134**	**718**
Hurghada	03	00	00	1—10	40	18	12	09	07	03	03	06	25	213	133	45	524
				11—27	18	01	00	00	01	00	00	00	00	27	64	82	193
				28—47	00	00	00	00	00	00	00	00	00	00	00	04	17
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**58**	**19**	**12**	**09**	**08**	**03**	**03**	**06**	**25**	**240**	**197**	**127**	**717**
Quseir	03	00	00	1—10	93	35	18	02	01	01	01	01	05	184	208	35	583
				11—27	85	03	00	00	00	00	00	00	00	00	07	39	134
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**178**	**38**	**18**	**02**	**01**	**01**	**01**	**01**	**05**	**184**	**215**	**74**	**717**

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

NOVEMBER — 1977

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	30	1015mb.*	1018mb.*	1010mb.*	30	17.2	20.2	13.2	30	10.4
	1000	30	156	182	113	30	17.3	22.7	13.2	30	10.3
	850	30	1523	1562	1480	30	8.7	16.3	3.2	30	1.6
	700	30	3115	3186	3042	30	2.4	6.8	— 2.6	30	—10.6
	600	30	4345	4436	4226	30	— 4.7	— 1.3	— 9.9	30	—11.0
	500	30	5761	5857	5658	30	—13.8	— 9.1	— 21.1	30	—24.8
	400	30	7418	7528	7300	30	—35.9	—21.5	— 33.3	30	—35.2
	300	29	9436	9570	9270	29	—41.6	—36.0	—48.9	29	—49.1
	250	29	10649	10793	10444	29	—50.4	—44.0	—57.9	29	—57.2
	200	27	12079	12261	11857	27	—57.0	—52.9	—61.7	21	—62.3
	150	25	13879	14096	13684	25	—61.7	—55.5	—68.3	6	—65.0
	100	22	16353	16619	16183	22	—66.4	—59.9	—71.5	—	—
	70	14	18489	18662	18326	14	—65.2	—57.8	—70.5	—	—
	60	9	19466	19620	19300	9	—63.4	—58.8	—67.6	—	—
	50	9	20556	20728	20361	9	—61.1	—57.4	—64.7	—	—
	40	9	22006	22200	21830	9	—55.9	—52.5	—61.3	—	—
	30	8	23678	23797	23453	8	—57.3	—54.6	—60.2	—	—
	20	5	26265	26415	26111	5	—53.6	—50.0	—50.6	—	—
	10	1	30601	—	—	1	—54.9	—	—	—	—
Helwan 0000 U.T.	Surface	30	1001m.b.*	1003m.b.*	998m.b.*	30	16.6	19.7	13.8	30	09.2
	1000	28	147	165	125	23	91.2	18.0	13.7	23	09.2
	850	28	1524	1549	1497	28	11.4	17.6	06.1	26	—01.6
	700	28	3122	3172	3080	28	03.0	08.0	—02.0	27	—13.1
	600	27	4357	4419	4300	26	—03.5	00.5	—09.2	25	—20.1
	500	27	5776	5843	5683	27	—12.5	08.6	—19.3	26	—27.5
	400	27	7441	7533	7297	27	—24.5	—20.3	—31.7	26	—37.2
	300	27	9478	9602	9297	26	—38.9	—33.9	—44.0	25	—50.0
	250	27	10709	10841	10520	26	—46.5	—40.3	—50.6	25	—57.0
	200	23	12161	12306	11994	22	—54.5	—50.1	—58.6	21	—64.0
	150	23	13980	14114	13820	22	—60.5	—57.1	—64.8	8	—68.8
	100	16	16476	16650	16330	16	—66.2	—58.7	—74.7	—	—
	70	6	18653	18716	18610	6	—66.9	—61.5	—72.3	—	—
	60	4	19633	19690	19590	4	—64.4	—60.5	—67.2	—	—
	50	4	20732	20761	20689	4	—61.4	—59.1	—63.8	—	—
	40	3	22260	22380	22180	3	—59.1	—56.9	—60.2	—	—
	30	3	23930	23972	23888	3	—57.5	—54.8	—59.0	—	—
	20	1	26451	—	—	1	—56.6	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
aswan 0000 U.T.	Surface	30	994m.b.*	997m.b.*	991m.b.*	30	16.0	19.0	13.2	30	03.5
	1000	30	144	168	117	—	—	—	—	—	—
	850	30	1530	1547	1505	30	13.8	18.8	09.5	30	—01.2
	700	30	3149	3184	3116	30	07.2	10.0	03.2	30	—12.7
	600	30	4402	4449	4360	29	00.2	04.0	—02.7	29	—18.7
	500	29	5841	5880	5797	28	—08.7	—05.9	—11.5	28	—25.7
	400	29	7532	7575	7470	28	—21.[illegible]	—17.1	—24.2	28	—35.1
	300	27	9595	9656	9502	27	—36.7	—32.9	—40.0	27	—48.0
	250	26	10832	10912	10722	26	—46.1	—42.9	—49.6	26	—56.0
	200	26	12284	12383	12158	26	—56.4	—52.3	—59.0	26	—65.2
	150	26	14067	14171	13941	26	—66.1	—63.0	—69.0	—	—
	100	23	16488	16609	16381	23	—73.1	—69.4	—77.6	—	—
	70	17	18585	18699	18513	17	—70.3	—62.5	—77.3	—	—
	60	12	19534	19640	19480	12	—68.1	—65.0	—72.0	—	—
	50	12	20606	20754	20542	12	—62.8	—56.2	—65.9	—	—
	40	8	21975	22050	21780	8	—60.3	—59.0	—62.1	—	—
	30	6	23775	23859	23720	6	—58.2	—55.5	—61.3	—	—
	20	—	—	—	—	—	—	—	—	—	—
	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.(*cont.*)—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHER & LOWER VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

NOVEMBER— 1977

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 U	Surface	29	*1014m.b.	*1018m.b.	*1009m.b.	29	22.2	27.8	17.0	29	21.1
	1000	29	151	176	107	29	21.0	26.8	15.7	29	11.2
	850	29	1527	1569	1492	28	10.6	19.7	6.0	28	— 0.4
	700	29	3125	3199	3055	29	3.4	7.8	— 3.7	28	—10.5
	600	28	4360	4452	4269	28	— 3.8	0.0	— 9.3	28	—16.7
	500	28	5775	5882	5674	28	—13.1	— 8.0	—17.1	28	—25.5
	400	28	7437	7567	7289	28	—25.2	—20.0	—31.7	28	—36.1
	300	28	9465	9637	9299	28	—39.9	—34.9	—44.3	28	—49.9
	250	27	10600	10881	10525	27	—48.1	—40.1	—52.0	26	—57.5
	200	26	12139	12338	12014	26	—56.0	—48.1	—62.5	23	—63.9
	150	26	13942	14128	13800	26	—61.4	—55.6	—69.5	6	—66.6
	100	24	16434	16595	16296	24	—65.4	—56.6	—70.8	—	—
	70	23	18592	18779	18422	23	—63.9	—57.2	—70.8	—	—
	60	15	19575	19710	19480	15	—61.9	—58.0	—67.0	—	—
	50	15	20690	20845	20558	15	—60.3	—54.1	—65.5	—	—
	40	9	22210	22400	22070	9	—58.3	—54.7	—62.7	—	—
	30	8	23940	24016	23804	8	—55.6	—50.7	—64.5	—	—
	20	5	26534	26651	26414	5	—49.5	—46.3	—51.0	—	—
	10	2	31172	31189	31155	2	—43.7	—43.0	—44.4	—	—
Helwan 1200 U.T.	Surface	30	*999m.b.	*1002m.b.	*997m.b.	30	25.0	28.7	22.0	30	8.1
	1000	26	137	158	110	16	25.0	28.6	22.0	15	8.2
	850	26	1533	1568	1503	26	13.3	21.0	7.7	26	—12.9
	700	26	3123	3201	3075	26	4.3	9.8	—2.3	26	—14.3
	600	26	4379	4458	4293	26	—1.8	2.0	—7.4	25	—20.5
	500	26	5807	5901	5694	25	—11.0	—5.6	—16.4	25	—26.6
	400	25	7491	7605	7354	25	—22.1	—17.1	—27.7	24	—37.8
	300	25	9545	9676	9354	23	—36.1	—31.4	—41.7	25	—46.8
	250	23	10514	10922	10596	23	—43.8	—37.9	—50.0	21	—55.1
	200	22	12254	12386	12068	22	—51.7	—43.0	—55.6	21	—61.8
	150	21	14111	14251	13918	21	—56.3	—50.0	—61.1	27	—65.2
	100	15	16682	16865	16480	15	—59.9	—52.8	—62.2	—	—
	70	9	18905	19175	18712	9	—58.1	—51.8	—62.7	—	—
	60	6	19908	20220	19740	6	—55.1	—49.0	—59.8	—	—
	50	6	21038	21394	20866	6	—52.6	—44.3	—56.7	—	—
	40	4	22632	23040	22420	4	—48.9	—39.7	—52.9	—	—
	30	4	24444	24899	24220	4	—44.0	—34.7	—49.0	—	—
	20	3	27257	27779	26976	3	—36.2	—28.0	—41.0	—	—
	10	1	33352	—	—	1	—18.0	—	—	—	—
Aswan 1200 U.T	Surface	30	*993m.b.	*996m.b.	*990m.b.	30	28.9	34.7	26.4	30	5.7
	1000	30	133	158	103	—	—	—	—	—	—
	850	30	1545	1576	1516	30	16.3	21.6	12.4	30	— 4.4
	700	30	3174	3223	3132	30	9.2	12.6	6.8	03	— 1.5
	600	29	4438	4499	4397	29	2.8	6.2	1.0	29	—20.2
	500	29	5890	5965	5842	29	— 6.6	— 3.8	— 9.3	29	—27.4
	400	29	5796	7687	7531	29	—18.7	—16.1	—21.2	29	—37.
	300	29	9676	9796	9581	29	—34.4	—30.5	—37.9	29	—49.
	250	29	10923	11089	10813	29	—44.1	—39.3	—47.5	29	—57.4
	200	27	12380	12467	12262	27	—54.8	—50.5	—57.5	27	—63.9
	150	27	14272	14703	14051	27	—64.2	—60.4	—70.7	—	—
	100	26	16618	16724	16481	26	—70.9	—64.5	—74.5	—	—
	70	26	18725	18834	18589	26	—70.6	—63.3	—77.0	—	—
	60	21	19687	20200	19550	21	—66.8	—62.2	—77.2	—	—
	50	21	20748	20874	20923	21	—62.5	—58.9	—65.5	—	—
	40	11	22174	22420	21530	11	—58.1	—56.1	—61.0	—	—
	30	10	23965	24110	23817	10	55.5	—52.2	—58.2	—	—
	20	5	26638	26750	26417	5	—49.2	—47.7	—51.2	—	—
	10	1	31047	—	—	1	—38.8	—	—	—	—

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

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

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

NOVEMBER — 1977

	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)	3515 (30)	668 (30)	—12.1 (30)	4200	620	—7.9	2360	764	—4.4	13127 (20)	178 (20)	—62.5 (20)	17430	87	—68.5	10050	268	—54.6	12990	170	260	116
	Helwan	3657 (27)	657 (27)	—15.9 (23)	4240	612	—11.3	2500	754	—2.2	14237 (8)	149 (8)	—63.3 (8)	16300	105	—68.0	12127	200	—48.6	15980	108	315	140
	Aswan . . . (A)	4450 (30)	598 (30)	—18.9 (30)	5100	550	—17.2	3820	642	—18.6	16532 (17)	103 (17)	—73.4 (17)	19400	62	—69.7	13390	169	—62.9	11180	238	250	110
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Mersa Matruh (A)	3713 (28)	652 (28)	—135 (28)	4400	604	—15.6	2570	751	—9.6	13331 (24)	168 (24)	—62.7 (24)	17040	89	—71.6	10100	269	—48.8	10006	281	260	123
	Helwan	3972 (28)	634 (26)	—19.1 (26)	4900	568	—22.7	2780	730	—3.5	13390 (12)	172 (12)	—57.2 (12)	14820	136	—60.0	11850	209	—555	12690	—	300	142
	Aswan . . . (A)	4733 (03)	549 (30)	—21.6 (30)	5360	539	—22.1	4370	602	—22.1	16429 (37)	107 (27)	—72.1 (27)	18820	070	—75.4	13230	178	—62.7	11600	223	260	110

N — The number of cases the element has been dur observeding 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 -- NOVEMBER 1977

Station	Pressure Surface (Millibar)	Wind within specified ranges of direction (000—360°)																								Number of calm winds	Total number of observations (TN)	Mean scalar wind speed (knots)
		345 / 014		015 / 044		450 / 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	)	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	—	2	6	0	—	2	10	0	—	3	7	12	9	1	15	2	14	0	—	4	10	1	30	9
	1000	2	11	2	14	1	3	1	16	0	—	3	12	4	11	6	19	3	12	3	19	2	17	3	17	0	30	15
	850	4	10	2	10	0	—	0	—	2	12	2	23	1	8	2	10	4	18	8	16	1	8	4	18	0	30	14
	700	2	6	2	10	0	—	0	—	0	—	2	15	2	19	1	10	8	18	6	23	4	14	3	13	0	30	17
	600	0	—	0	—	0	—	1	3	0	—	0	—	2	29	1	34	10	23	8	25	4	14	4	14	0	30	21
	500	2	10	0	—	0	—	0	—	0	—	0	—	1	23	4	25	8	32	9	27	2	26	3	18	0	29	26
	400	3	12	0	—	0	—	0	—	0	—	0	—	3	19	3	25	8	45	7	43	3	36	2	18	0	29	35
	300	0	—	2	24	0	—	0	—	0	—	0	—	1	22	2	44	7	63	6	53	4	20	2	5	0	24	44
	250	0	—	1	34	1	10	0	—	0	—	0	—	0	—	2	55	5	47	6	50	1	32	0	—	0	16	45
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	57	3	61	6	43	0	—	0	—	0	11	54
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	54	6	37	0	62	0	—	0	—	0	6	37
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	42	1	—	0	—	0	—	0	3	37
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	5	8	4	10	1	10	0	—	0	—	0	—	1	5	4	16	3	11	0	—	1	10	9	12	1	29	11
	1000	2	7	2	14	1	3	1	9	1	15	0	—	0	—	3	21	2	18	2	13	3	16	11	15	0	28	15
	850	1	10	1	5	1	8	1	6	0	—	1	22	1	8	3	15	5	14	6	12	4	12	3	9	0	27	12
	700	0	—	3	8	0	—	0	—	0	—	2	8	2	32	0	—	7	21	6	20	5	9	2	14	0	27	17
	600	2	10	2	4	0	—	0	—	1	5	0	—	1	3	3	23	6	28	7	25	2	16	3	21	0	27	20
	500	1	3	0	—	0	—	0	—	0	—	0	—	0	—	4	34	5	35	9	34	4	20	4	19	0	27	28
	400	1	30	1	7	0	—	0	—	0	—	0	—	0	—	1	19	9	50	9	41	3	14	2	22	0	26	37
	300	0	—	2	24	0	—	0	—	0	—	0	—	0	—	2	13	4	63	10	57	2	20	1	36	0	12	46
	250	0	—	1	50	0	—	0	—	0	—	0	—	0	—	2	50	5	38	6	62	1	17	0	—	0	15	48
	200	0	—	1	30	0	—	0	—	0	—	0	—	0	—	1	32	4	40	2	25	1	33	0	—	0	9	34
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	47	2	26	1	46	0	—	0	8	41
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	38	2	32	0	—	0	—	0	6	36
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	19	1	48	0	—	0	—	0	2	34
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N — The number of casee the element has been observed within 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 B3—NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES.
HELWAN —NOVEMBER 1977

Station	Pressure Surface (Milibar)	Wind between ranges of direction (000—360°)																								Number of Calm winds	Total number of observations (TN)	Mean scalar wind speedknots
		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	07	8	09	1	10	7	07	2	05	0	—	0	—	0	—	0	—	1	03	1	07	5	05	2	30	6
	1000	3	05	9	10	1	10	5	08	1	06	0	—	0	—	0	—	0	—	1	03	0	—	3	04	0	23	8
	850	0	—	2	07	5	11	6	10	1	08	1	09	1	12	1	23	3	07	1	14	2	16	5	14	0	28	11
	700	2	15	2	12	2	10	1	08	2	06	2	14	0	—	2	13	3	13	4	20	3	26	5	15	0	28	15
	600	4	22	2	15	1	07	0	—	1	08	1	17	0	—	0	—	3	15	3	18	7	26	5	16	0	27	19
	500	2	21	2	16	0	—	0	—	1	14	0	—	0	—	0	—	2	26	4	21	8	34	7	23	0	26	25
	400	2	30	1	39	0	—	0	—	1	13	0	—	0	—	0	—	3	35	2	34	12	35	5	45	0	26	35
	300	1	45	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	42	7	51	9	50	6	55	0	24	53
	250	0	—	0	—	1	86	0	—	0	—	0	—	0	—	0	—	1	101	2	85	13	64	4	61	0	21	69
	200	1	77	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	91	6	67	4	88	0	18	84
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	79	5	94	1	87	0	9	88
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	24	0	—	1	134	0	2	79
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	31	0	—	0	—	0	1	31
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	11	0	—	0	1	11
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	20	0	—	0	1	20
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	6	10	10	10	0	—	0	—	0	—	0	—	0	—	4	4	2	8	3	6	0	—	5	6	0	30	8
	1000	2	9	6	12	1	12	0	—	1	10	0	—	0	—	1	5	1	6	2	8	0	—	2	5	0	16	9
	850	4	9	6	10	2	10	3	13	2	12	0	—	0	—	0	—	1	13	1	11	3	10	4	11	0	26	10
	700	2	17	2	10	1	9	2	10	1	10	2	6	1	4	0	—	3	20	5	14	3	12	4	15	0	26	13
	600	3	15	1	13	1	17	0	—	2	9	0	—	1	3	1	40	3	23	3	29	4	23	7	21	0	26	20
	500	3	17	0	—	1	22	0	—	0	—	1	17	1	8	4	27	0	—	5	39	7	19	4	50	0	26	27
	400	0	—	2	28	0	—	0	—	0	—	0	—	0	—	3	31	2	19	7	36	7	44	4	42	0	25	37
	300	0	—	1	30	1	55	0	—	0	—	0	—	0	—	2	17	2	39	2	62	8	61	6	52	0	22	51
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	32	1	47	3	59	8	57	5	64	0	19	56
	200	1	61	0	—	0	—	0	—	0	—	0	—	0	—	1	64	1	45	1	97	6	45	4	58	0	14	63
	150	1	79	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	65	1	85	3	35	1	95	0	7	61
	100	1	49	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	39	0	—	0	2	44
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	36	0	—	0	1	36
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	53	0	—	0	1	53
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	55	0	—	0	1	55
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

TN = The number of cases the wind has been obsersed from the range of direction during the month.
N = The total number of cases the wind has been observed for all directions during the month.

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

ASSWAN (A) — NOVEMBER 1977

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			
0900 T.U.	Surface	20	11	2	14	2	11	3	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	14	1	30	11
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	6	14	7	09	5	14	3	16	0	—	0	—	0	—	0	—	0	—	2	11	3	05	1	04	0	27	11
	700	2	08	1	10	1	10	1	14	1	04	2	15	0	—	2	17	4	23	4	27	4	10	5	11	0	27	15
	600	1	29	1	10	0	—	0	—	0	—	0	—	0	—	2	18	5	34	11	25	5	19	2	11	0	27	23
	500	1	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	41	12	32	4	28	3	21	0	28	32
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	60	17	48	3	24	3	33	0	28	46
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	59	16	59	3	49	3	45	0	27	56
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	74	14	75	3	49	2	56	0	25	70
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	85	14	80	3	63	3	61	0	25	77
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	86	13	85	2	74	1	52	0	22	64
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	24	4	39	4	36	2	42	1	34	0	12	37
	70	0	—	0	—	0	—	0	—	1	11	0	—	1	19	1	15	0	—	1	29	3	11	1	12	0	8	15
	60	2	12	0	—	0	—	0	—	0	—	0	—	0	—	1	12	0	—	0	—	1	10	0	—	0	4	12
	50	0	—	0	—	0	—	2	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	10
	40	0	—	0	—	1	27	0	—	1	07	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	17
	30	0	—	0	—	0	—	1	19	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	1	19
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	13	10	7	8	1	8	2	8	0	—	0	—	1	5	0	—	0	—	0	—	0	—	4	10	3	30	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	5	13	2	5	4	12	4	10	3	10	1	5	1	3	0	—	2	6	1	8	2	16	4	14	0	29	10
	700	1	23	4	9	1	10	2	6	1	4	0	—	1	10	1	13	8	21	3	17	3	15	4	12	0	29	15
	600	2	16	2	8	0	—	0	—	0	—	0	—	0	—	1	8	7	30	10	25	4	20	2	16	0	28	22
	500	1	9	0	—	0	—	0	—	0	—	0	—	0	—	0	—	10	37	13	35	4	29	1	15	0	29	33
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	55	15	46	7	38	0	—	0	29	46
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	72	19	62	3	42	2	58	0	29	61
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	73	18	72	5	62	2	41	0	28	108
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	76	16	84	3	70	4	61	0	27	78
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	56	15	64	5	58	1	67	0	26	62
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	30	6	39	8	36	4	42	1	34	0	21	37
	70	2	11	0	—	0	—	0	—	0	—	0	—	0	—	1	5	3	11	0	—	2	18	3	21	0	11	15
	60	0	—	1	20	3	13	2	18	1	17	1	13	0	—	0	—	1	2	0	—	1	10	0	—	0	10	14
	50	0	—	0	—	0	—	4	14	1	21	0	—	1	10	0	—	1	1	0	—	0	—	0	—	1	8	11
	40	0	—	0	—	1	14	2	9	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	3	11
	30	0	—	0	—	0	—	1	11	1	12	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	2	12
	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.

MONTHLY REVIEW OF AGRO METEOROLOGICAL STATIONS

MERSA MATRUH — NOVEMBER 1977

For this month the mean daily air temperature was the same as normal, and the mean daily relative humidity was below normal. The total monthly rain fall was 7.7 mm. against 24.2 mm. for normal.

Weather was generally mild during the first half of the month. The second half was characterized by two warm spells which prevailed from the 17*th* till the 26th. The highest maximum temperature was 28.6°C on the 23*rd*.

The mean daily actual sunshine duration and wind speed at 1.5 met. height showed slight departures from normal.

The highest maximum soil temperatures were lower than the corresponding values of November 1976 at depths between 2 & 50 cm. with departures between 1.8° & 0.5°C; higher at 100 cm. by 0.1°C. The lowest minimum soil temperatures were higher than November 1976 at all depths with departures between 2.4°C (at 2 cm.). and 0.2°C (at 100 cm.).

TAHRIR — NOVEMBER 1977

The mean daily air temperature and relative humidity for this month were below normal. The total monthly rainfall was only 0.3 mm. against 3.9 mm. for normal.

During the first half of the month weather was generally mild. The second half of the month was characterized by two warm spells which prevailed from the 17*th* till the 27*th*. The highest maximum temperature was 30.4°C on both the 19*th* & 25*th*.

The mean daily actual sunshine duration, wind speed at 1.5 met. height and pan evaporation deviated slightly from normal.

The highest maximum soil temperatures were lower than normal at all depths with departures between 2.7°C (at 5 cm.) & 0.7°C (at 100 cm.). The lowest minimum soil temperatures were lower than normal at 2 & 5 cm. depths by 0.8° & 0.4°C respectively; higher at depths between 10 & 100 cm. with departures between 0.6°C (at 10 cm.) and 2.0°C (at 20 cm.).

BAHTIM — NOVEMBER 1977

For this month the mean daily air temperature was above average, while the mean daily relative humidity was below average. No rain was reported except 0.3 mm. on the 3rd againest 3.4 mm. for average.

Weather was mild during the first half of the month. The second half was characterized by two warm spells in the periods (17*th* - 19*th*) and (24*th*-26th). The highest maximum temperature was 29.0°C on the 26th.

The mean daily wind speed at 1.5 met. height was slightly below average. The mean daily actual sunshine duration and pan evaporation were higher than average by 0.5 hour and 0.44 mm. respectively.

The highest maximum soil temperatures were higher than average at depths between 2 & 10 cm. with departures between 2.8°C & 0.4°C; lower than average at depths between 20 & 100 cm. with departures between 1.5° & 0.7°C. The lowest minimum soil temperature were higher than average at depths between 2 & 50 cm. with departures between 1.7° and 0.3°C; lower than average at 100 cm. by 0.3°C.

ASSYOUT — NOVEMBER 1977

For this month the mean maximum temperature was 27.2°C, the mean minimum temperature was 10.7°C, and the mean daily relative humidity was 56%.

The month was characterized by two light heat waves in the periods (*6th* & *7th*) & (*23rd* - *26th*). The last wave gave the highest maximum temperature (32.0°C) on the 25th. In the rest of the month veather was mild.

KHARGA — NOVEMBER 1977

The mean daily air temperature was nearly the same as normal, while the mean daily relative humidity was above normal.

Mild weather prevailed during the first three weeks from the 22nd till the end of the month a pronounced heat wave prevailed giving the highest maximum temperature (35.9°C) on the 25th.

The mean daily actual sunshine duration, wind speed at 1.5 met. height and pan evaporation were lower than normal by 0.4 hour, 1.4 met./sec and 2.16 mm. respectively.

The highest maximum soil temperatures were higher than average at 2,5,10 cm. depths with departures between 2.8° & 1.2°C; lower at 20,50,100 cm. depths with departures between 1.4° & 0.7°C. The lowest minimum soil temperatures were higher than average at all depths except those at 10 &20 cm. depths which were lower; the departures varied between 0.9° & 0.1°C.

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

NOVEMBER — 1977

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. .	23.5	13.9	18.2	15.9	20 5	24.0	24.0	24.0	23.9	18.4	7.2	1.0	0.0	0.0	0.0	0.0
Tahrir	27.3	10.3	17.3	13.4	21.3	24.0	24.0	24.2	21.2	14.5	8.0	2.0	0.0	0.0	0.0	0.0
Bahtim	25 5	10 5	17.5	14 0	21.0	24.0	24.0	24.0	22.0	15.4	8.3	1.7	0.0	0.0	0.0	0.0
Assiut	27.2	10.7	18.1	14.3	21.9	24.0	24.0	24.0	23.4	15.1	7.9	2.7	0.1	0.0	0 0	0.0
kharga	28.8	10.7	20.3	16.6	24.1	24.0	24.0	24.0	22.9	18.5	12.2	6.2	0.8	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.

NOVEMBER — 1977

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 . . .	28 6	23	20.0	3,30	19.0	5	10.0	29	5.5	29	—	—
Tahrir	30 4	19,25	23.5	30	15.8	11	5.5	19	4.0	19	2.8	20
Bahtim	29.0	26	22.3	30	15.6	9	6.2	21	2.0	21	0.7	21
Assiut	32.0	25	24.2	30	15.4	9	7.4	22	0.1	22	—	—
Kharga	35.9	25	25.0	12	16.2	8,9,11	6.7	21	4.0	21	—	—

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

NOVEMBER — 1977

Station	solars + 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 . .	246.7	252.4	316.9	80	63	50	15	26	9.7	10.2	15.6	5	3.1	24	7.6	—	7.7	7.3	3
Tahrir . . .	323.8	252.6	318.8	79	71	43	16	26	10.1	9.9	14.8	10	4.6	27	3.5	4.41	0.3	0.2	3
Bahtim	357.1	257.8	319.8	80	69	42	19	26	10.0	9.8	16.1	10	5.6	26	4.5	4.70	0.3	0.3	3
Asiut	—	283.0	325.2	87	56	34	18	19	8.4	8.4	13.5	28	4.8	19	5.0	4.63	0.0	0.0	—
Kharga	435.4	295.6	328.1	90	56	37	14	27	9.6	10.5	14.9	8,9	3.0	27	7.7	7.53	0.0	0.0	—

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

NOVEMBER 1977

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	27.4	26.4	24.2	22.0	22.5	23 8	25.0	—	—	—	—	—	—	—	—	—
	L	11.8	12.2	14 5	17 0	81 6	21.7	23 5	—	—	—	—	—	—	—	—	—
Tahrir . . .	H	32.5	29.2	26.5	24.0	24.0	25.2	26 7	27.1	24.9	23.1	22.3	20.9	21.5	22.5	24.9	—
	L	10.1	10.9	13.4	17 8	20.5	22.4	24.4	25.7	11 8	12.5	13.4	15.7	17.3	19.7	22.3	—
Bahtim . . .	H	58.5	34.0	28.0	24.9	25.8	26.9	27.3	26.1	26.9	23.3	21.9	21.0	21.6	23.2	23.9	—
	L	12.4	12.7	16.7	20.1	22 7	24.2	26.1	25.6	11.6	12.6	14.8	17.1	19 2	21.1	22.7	—
Asuit.	H	47.1	35.9	28.6	25.0	26.1	26.7	26.9	26.3	—	—	—	—	—	—	—	—
	L	13.4	13.2	16.3	19.7	23.4	24.2	25 6	26 1	—	—	—	—	—	—	—	—
Kharga . . .	L	42.0	36.9	31.4	27.4	27.7	29.5	30.6	30.2	—	—	—	—	—	—	—	—
	H	8.7	11.5	15.1	19.6	24.8	27.3	29.0	29.6	—	—	—	—	—	—	—	—

TABLE C 5.—SURFACE WIND

NOVEMBER 1977

STATION	Wind Speed m/sec (at 1½ metres)			Days with surface wind speed (at 10 metres)							Max. Gust (knots) (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)	Date
Mersa. Matruh	2.6	2.0	3.2	28	19	6	1	1	0	0	35	26
Tahrir . . .	1 5	1.0	2.1	23	9	1	0	0	0	0	29	26
Bahtim . . .	1.8	1.2	2.4	26	13	0	0	0	0	0	25	8
Asuit. . . .	—	—	—	—	—	—	—	—	—	—	—	—
Kharga . . .	1 9	1.1	2 6	28	13	0	0	0	0	0	24	11

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MONTHLY WEATHER REPORT

VOLUME 20 NUMBER 12

DECEMBER, 1977

SPRING

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 several 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 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.

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CAIRO

CONTENTS

PAGE

General Summary of Weather Conditions 1

SURFACE DATA

Table A1.—Monthly values of the Atmospheric Pressure, Air Temperature, Relative Humidity, Bright Sunshine Duration, and Piche Evaporation 2

" A2.—Maximum and Minimum Air Temperatures 3

" A3.—Sky Cover and Rainfall 4

" A4.—Number of Days of Occurrence of Miscellaneous Weather Phenomena . . . 5

" A5.—Number in Hours of Occurrences of Concurrent Surface Wind Speed and Direction Recorded Within Specified Ranges 6,7

UPPER AIR DATA

Table B1—Monthly Means and Monthly Absolute Highest & Lowest Values of Altitude, Air Temperature & Dew point at Standard and Selected Pressure Surfaces. . . . ,9

" B2.—Mean and Extreme values of The Freezing Level and The Tropopause. The Highest Wind Speed in The Upper Air 10

" B3.—Number of Occurrences of Wind Direction within Specified Ranges and The Mean Scalar Wind Speed at the Standard and Selected Pressure Surfaces. 11–13

AGRO-METEOROLOGICAL DATA

Reviews of Agro-meteorological Stations 14,15

Table C1.—Air Temperature at 1½ metres above Ground 16

" C2.—Extreme Values of Air Temperature at 1½ metres above Ground, Absolute Minimum Air Temperature at 5 Cms Above Ground over Different Fields 16

" C3.—(Solar + Sky) Radiation, Duration of Bright Sunshine, Relative Humidity and Vapour Pressure at 1½ Metres Above Ground, Evaporation and Rainfall. . . 16

" C4.—Extreme Soil Temperature at Different Depths in Different Fields 17

" C5.—Surface wind 17

Note—For explanatory notes on the tables please refer to Volume 20 number 1 (January 1975).

GENERAL SUMMARY OF WEATHER CONDITIONS

DECEMBER 1977

Markedly cold winter weather — Rainfall records at Sallum, Mersa Matruh & Dabaa.

PRESSURE DISTRIBUTION

Pressure over Egypt was mainly influenced by the transit of six depressions through East Mediterranean on the *4th*, *9th* *15th*, *18th*, 21st & 27th.

The mean atmospheric pressure during the month was above normal.

SURFACE WIND

Surface winds were generally light to moderate, and blew from SW ly & NW ly directions in the north and from N ly & NW ly directions in the sourth.

Fresh to strong winds were experienced during several days in scattered places.

TEMPERATURE

Three successive cold waves prevailed the whole month apart from few days.

Both Maximum and temperatures showed marked departures below normal most days of the month.

The highest and lowest maximum temperatures were respectively 29.4°C at Aswan and 13.0°C at Mersa Matruh on 13th.

The highest and lowest minimum temperatures were respectively 17.8°C at Port Said on the 1st & 2nd and — 1.6°C at Dahkla on the 27th.

PRECIPITATION

During this month rain was frequent over north of the country till Cairo area, and its monthly amounts were above normal.

Rain was thundery and markedly heavy during few days mainly over west of the Mediterranean district where the following records were attained :

Station	Monthly record Rainfall	Normal	Daily rainfall record	Date
Sallum	17,2mm		70.5mm	12/12
Mersa Matruh	121.8mm	30.2	63.8	13/12
Dabaa	67·6	38.0	57.0	13/12

The maximum daily rainfall was 70.8 mm at Sallum on the 12th.

The maximum monthly rainfall was 121.8 mm. at Mersa Matruh.

OTHER WEATHER PHENOMENA

Rising sand was reported during several days in scattered places.

Early morning mist developed in some days over lower Egypt, Cairo and north of Middle Egypt.

Cairo, MAY 1979

Chairman M. A. BADRAN

Board of Directors

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

DECEMBER — 1977

STATION	Atmospheric Presure (mbs) M.S.L		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evap.
			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	%	
ELSALLUM	1017.2	—0.1	19.0	—1.3	10.2	—0.8	14.6	14.0	—1.2	9.6	—1.7	55	—5	—	—	—	5.4
MERSA MATRO	1018.4	—0.9	17.2	—2.5	9.5	—0.5	13.3	13.1	—1.3	9.9	—2.4	68	2	175.3	314.2	56	5.4
ALEXANDRIA	1018.0	—0.2	18.9	—1.6	10.0	—0.9	14.4	14.1	—1.2	10.9	—1.6	66	—4	181.6	314.6	58	4.5
PORT SAID	1017.4	—0.0	17.9	—2.0	12.9	—0.5	15.4	15.1	—1.2	11.8	—1.7	66	—7	223.6	314.4	71	3.8
ELARISH	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GAZA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
TANA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
CAIRO A P	1018.8	—0.8	18.8	—1.9	9.9	—0.5	14.3	14.0	—1.3	19.1	—1.2	60	1	—	—	—	6.4
EL-FAYUM	—	—	20.1	—1.8	6.5	—1.4	13.3	12.8	—1.3	9.8	—0.8	68	6	—	—	—	3.3
ELMINIA	1019.9	—1.5	20.3	—1.6	5.0	—1.6	12.6	12.3	—1.4	8.9	—1.1	64	2	247.0	322.7	77	4.1
ASSUIT	1019.7	—1.7	19.1	—3.1	5.1	—3.5	12.1	12.0	—3.0	7.5	—2.5	51	2	—	—	—	5.2
LOXER	1018.5	—1.5	22.5	—2.4	5.6	—1.9	14.0	13.5	—2.3	9.3	—1.6	57	2	3.0	10.5	28	3.6
ASWAN	1018.7	—2.2	22.4	—3.3	8.4	—2.5	15.4	14.9	—2.9	8.6	—1.9	39	—4	298.8	331.9	90	10.9
SEWA	1018.8	—0.3	19.0	—2.1	5.9	—0.5	12.4	12.0	—1.1	8.3	—0.7	60	1	259.7	319.9	81	6.7
EL-BAHARIA	1019.5	—1.0	19.4	—.44	5.7	—1.2	12.5	12.5	—1.3	8.2	—1.2	55	—4	—	—	—	5.3
EL-FARAFRA	1021.5	—1.5	20.1	—1.6	5.1	—0.5	12.6	12.3	—0.9	7.8	—0.5	51	—1	—	—	—	5.3
EL-DAKHLA	1020.6	—2.1	20.9	—2.1	2.8	—3.1	11.8	11.4	—2.4	6.2	—0.3	45	5	—	—	—	6.1
ELKHAFA	1019.3	—1.1	22.3	—1.7	5.1	—2.7	13.7	13.8	—1.5	8.4	—0.8	50	2	291.8	328.4	89	5.3
TOR	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
ELHURGADA	1017.5	—1.1	21.5	—1.1	10.9	—0.7	16.2	16.2	—0.9	10.4	—2.1	44	—12	280.0	323.5	87	10.1
ELQUESIR	1017.4	—1.2	22.4	—1.4	14.2	—1.4	18.3	18.0	—1.6	12.4	—1.8	48	—7	—	—	—	6.3

Table A 2 — MAXIMUM AND MINIMUM AIR TEMPERATURE

DECEMBER — 1977

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	25.7	1	14.2	17	01	00	00	00	00	8.9	—	15.0	2	7.0	18	14	00	00	00
Mersa Matruh (A)	23.0	2	13.0	13	00	00	00	00	00	8.0	—	13.0	3	6.0	19	18	00	00	00
Alexandria . (A)	24.0	1	16.4	25	00	00	00	00	00	7.4	—	15.0	4	4·0	20	14	01	00	00
Port Said . (A)	23.2	2	15.2	15	00	00	00	00	00	12.3	—	17.8	1,2	9.8	27	01	00	00	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo . . . (A)	23.9	2	15 4	22	00	00	00	00	00	–	—	15.5	3	5.4	25	17	00	00	00
Fayoum . . .	24.9	1	17.4	16	00	00	00	00	00	3.8	—	12.0	1	7.2	20	27	12	00	00
Minya . . . (A)	24.8	2	17.2	24	00	00	00	00	00	1.8	—	9.5	3	2.0	17,20,25	31	15	00	00
Assyout. . . (A)	25.5	11	15.0	25	01	00	00	00	00	3 4	—	9.3	2	1.1	17	31	15	00	00
Luxor . . . (A)	28 4	3	19.0	26	07	00	00	00	00	2.9	—	10.2	18	1.0	28	30	12	00	00
Aswan . . . (A)	29.4	1	17.4	27	05	00	00	00	00	—	—	14.0	1	4.3	27	22	03	00	00
Siwa	26.2	2	16.7	24,25	01	00	00	00	00	4.4	—	12.4	4	1.8	30	28	11	00	00
Bahariya	26.2	2	16.6	25	01	00	00	00	00	5.3	—	11.9	3	1.5	19	29	12	00	00
Farafra	27 4	2	17.1	25	01	00	00	00	00	3.3	—	10.5	3	0.0	17	30	16	00	00
Dakhla	27.2	11	16.5	24,25	02	00	00	00	00	2.6	—	6.8	1	−1.6	27	31	28	02	01
Kharga	28.2	3	17.9	24	06	00	00	00	00	2.8	—	9.7	8	−0.7	27	31	14	01	01
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada . . .	27.7	12	18.1	26	03	00	00	00	00	—	—	14.0	11	6 3	27	09	00	00	00
Quseir	28.0	12	19.0	26	03	00	00	00	00	11.4	—	16.7	1	11·0	27	00	00	00	00

Table A3. — SKY COVER RAIN FALL

DECEMBER — 1977

Station	Mean Sky Cover oct.					Rain Fall 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	3.6	3.5	4.1	3.8	3.8	89.7	73.1	70.8	12	03	08	04	02	02	01	01
Mersa Matruh (A)	3.4	6.4	5.5	3.7	4.3	121.8	92.5	63.8	13	02	12	07	04	03	02	01
Alexandria (A)	3.8	5.5	5.2	4.8	4.8	75.9	—23.1	27.7	13	02	13	10	05	02	01	00
Port Said (A)	1.6	3.6	2.9	2.5	2.5	16.5	— 1.1	3.7	21	00	10	06	00	00	00	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo (A)	1.8	2.6	4.0	2.6	2.6	7.8	— 1.1	1.2	13	01	05	02	01	00	00	00
Fayoum	—	2.0	3.1	[illegible].5	—	2.2	— 1.2	Tr.	13	02	03	01	00	00	00	00
Minya	1.6	2.0	2.9	2.3	2.1	Tr.	— —	—	13,14,22	03	00	00	00	00	00	00
Assyout (A)	0.2	1.0	1.3	1.1	0.8	0.0	— 0.0	50.0	—	00	00	00	00	00	00	00
Luxor (A)	0.8	2.0	2.1	1.1	1.4	50.0	50.0	0.0	2	01	01	01	01	10	10	00
Aswan (A)	0.7	2.0	2.6	1.5	1.8	0.0	0.1	—	—	00	00	00	00	00	00	00
Siwa	2.8	1.4	2.8	2.1	2.2	0.0	— 1.7	—	—	00	00	00	00	00	00	00
Bahariya	0.7	2.3	3.4	1.8	2.0	Tr.	— —	Tr.	13	01	00	00	00	00	00	00
Farafra	—	1.8	3.0	1.8	—	0.0	0.2	—	—	00	00	00	00	00	00	00
Dakhla	0.6	1.0	1.6	0.5	0.9	0.0	0.1	—	—	00	00	00	00	00	00	00
Kharga	0.6	1.2	1.8	0.7	1.0	0.0	— 0.2	—	—	00	00	00	00	00	00	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	1.0	2.6	2.7	1.1	1.8	0.0	— 1.8	—	—	00	00	00	00	00	00	00
Quseir	0.6	2.1	2.4	1.0	1.6	0.0	— 0.1	—	—	00	00	00	00	00	00	00

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

DECEMBER — 1977

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											
Sallum	08	00	00	00	00	00	00	10	00	00	01	05	05
Mersa Matruh (A)	11	00	00	01	01	00	00	09	00	04	01	04	08
Alexandria (A)	13	00	00	04	01	01	00	03	00	02	01	01	07
Port Said (A)	08	00	00	01	00	00	00	03	00	00	00	11	00
El Arish	—	—	—	—	—	—	—	—	—	—	—	—	—
Ghazza	—	—	—	—	—	—	—	—	—	—	—	—	—
Tanta	—	—	—	—	—	—	—	—	—	—	—	—	—
Cairo (A)	05	00	00	00	05	00	11	10	01	01	00	12	00
Fayoum	02	00	00	00	02	00	01	01	00	00	00	14	00
Minya (A)	00	00	00	00	15	02	05	00	00	00	00	15	00
Assyout (A)	00	00	00	00	00	00	00	01	00	00	00	26	03
Luxor (A)	00	00	00	00	00	00	19	03	00	00	00	22	00
Aswan (A)	00	00	00	00	00	00	00	01	00	00	00	18	00
Siwa	00	00	00	00	00	00	00	02	00	00	00	16	01
Bahariya	00	00	00	00	00	00	00	03	00	00	00	16	00
Farafra	00	00	00	00	00	00	01	01	00	00	00	15	01
Dakhla	00	00	00	00	00	00	00	02	00	00	00	26	00
Kharga	00	00	00	00	00	00	00	00	00	00	00	25	00
Tor	—	—	—	—	—	—	—	—	—	—	—	—	—
Hurghada	00	00	00	00	00	00	00	03	00	00	00	17	00
Quseir	00	00	00	00	00	00	00	00	00	00	00	21	00

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

DECEMBER—1977

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing Within 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
EL Salulm.	00	00	03	1—10	08	06	08	10	04	06	01	26	27	59	62	46	272
				11—27	04	04	04	00	01	02	14	19	80	168	140	26	462
				28—47	00	00	00	00	00	00	00	00	08	02	00	00	10
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**12**	**10**	**12**	**10**	**05**	**08**	**24**	**45**	**115**	**229**	**202**	**72**	**744**
Mersa Matroh . (A)	19	01	00	1—10	25	0.	02	07	15	08	64	81	79	31	18	08	348
				11—27	13	03	00	00	06	04	06	111	82	23	46	46	370
				28—47	00	00	00	00	00	00	00	00	03	04	00	00	07
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**38**	**12**	**02**	**12**	**21**	**12**	**95**	**192**	**164**	**58**	**64**	**54**	**724**
Alexandria . . . (A)	06	00	00	1—10	20	28	26	41	27	26	49	113	32	19	16	46	443
				11—27	06	02	00	00	01	00	06	62	74	33	63	38	285
				28—47	00	00	00	00	00	00	00	00	07	02	00	01	10
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**26**	**30**	**26**	**41**	**28**	**26**	**55**	**175**	**113**	**54**	**79**	**85**	**738**
Cairo A.P. . . (A)	39	01	00	1—10	35	37	27	55	32	30	88	65	45	43	31	10	499
				11—27	00	03	02	00	01	19	52	76	42	11	13	00	206
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**36**	**40**	**29**	**55**	**33**	**49**	**104**	**141**	**87**	**54**	**31**	**10**	**704**
EL-Fayoum	35	06	00	1—10	93	85	23	15	10	20	56	119	121	51	40	21	660
				11—27	00	00	00	00	00	00	00	09	33	07	00	00	48
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**93**	**85**	**23**	**15**	**10**	**20**	**56**	**128**	**154**	**58**	**40**	**21**	**703**
EL Minia . . . (A)	21	09	00	1—10	147	25	04	01	05	103	67	30	38	44	65	129	667
				11—27	13	01	00	00	00	00	00	00	03	14	17	08	56
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**160**	**26**	**04**	**01**	**05**	**103**	**67**	**30**	**41**	**58**	**82**	**137**	**714**
Assuit	01	00	00	1—10	47	11	07	01	02	18	45	64	53	83	165	105	601
				11—27	21	06	00	00	00	00	00	00	18	20	43	34	142
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**68**	**17**	**07**	**02**	**02**	**18**	**45**	**64**	**71**	**103**	**208**	**139**	**743**
Luxor . . . . . .(A)	10	00	00	1—10	44	38	35	43	38	37	102	72	54	70	75	111	719
				11—27	00	00	00	00	00	00	00	00	03	06	02	02	15
				28—47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All speeds	**44**	**38**	**35**	**43**	**38**	**37**	**102**	**72**	**57**	**76**	**79**	**113**	**734**

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

DECEMBER — 1977

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing within 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
Aswan . (A) . . .	00	00	00	1-10	336	90	05	00	00	03	09	08	09	14	04	73	587
				11-27	101	12	00	00	00	00	00	01	02	04	16	23	157
				28-4	00	00	00	00	00	00	00	00	00	00	00	00	00
				> 47	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeds	**437**	**102**	**05**	**00**	**00**	**03**	**09**	**09**	**09**	**18**	**56**	**96**	**744**
SEewa	32	00	00	1-10	08	08	11	17	39	25	36	83	61	148	127	21	539
				11-27	07	04	01	00	00	04	02	19	27	32	61	17	173
				28-47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥ 48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeds	**15**	**12**	**11**	**17**	**39**	**29**	**38**	**57**	**88**	**180**	**188**	**38**	**712**
El-Dakhla	53	06	00	1-10	27	24	07	14	07	10	26	14	47	157	165	134	637
				11-27	01	03	00	00	00	00	00	00	03	02	22	23	54
				28-47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥ 48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeds	**28**	**27**	**07**	**14**	**07**	**10**	**26**	**14**	**49**	**159**	**187**	**157**	**685**
El-kharga	11	07	00	1-10	191	97	35	28	17	15	21	07	22	42	80	142	704
				11-27	16	07	00	00	00	00	00	00	00	00	01	05	29
				28-47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥ 48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeds	**207**	**104**	**35**	**28**	**17**	**15**	**21**	**07**	**22**	**42**	**81**	**147**	726
El-Hurgafla . . .	02	00	00	1-10	23	15	08	04	04	11	10	12	24	90	92	31	324
				11-27	30	01	00	00	02	04	01	01	01	84	202	92	417
				28-47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥ 48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeds	**53**	**16**	**08**	**04**	**06**	**51**	**11**	**13**	**25**	**174**	**294**	**123**	742
El-Quseir	01	00	00	1-10	82	48	19	10	09	04	09	12	20	223	152	38	626
				11-27	49	02	00	00	00	00	00	00	02	22	08	36	117
				28-47	00	00	00	00	00	00	00	00	00	00	00	00	00
				≥ 48	00	00	00	00	00	00	00	00	00	00	00	00	00
				All Speeds	**131**	**48**	**19**	**10**	**09**	**04**	**09**	**12**	**22**	**245**	**160**	**74**	743

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

December – 1977

Station	Pressure Surface (Milibar)	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	30	* 1015mb.	* 1024mb.	* 1008mb.	30	12.2	15.2	9.0	30	7.9
	1000	30	154	226	96	30	11.8	15.4	8.4	30	7.2
	850	30	1494	1560	1451	30	3.2	8.8	— 2.5	30	— 1.2
	700	30	3047	3127	2986	30	— 4.5	3.4	—10.0	30	—14.2
	600	30	4246	4354	4170	30	—11.3	5.0	—15.5	29	—22.1
	500	29	5622	5757	5520	29	—20·8	—14.8	—26.1	29	—30.9
	400	28	7232	7399	7100	28	—33.0	—26.9	—39.0	28	—41.6
	300	28	9199	9421	9060	28	—46.2	—40.8	—51.2	28	—54.0
	250	28	10393	10634	10239	28	—52.0	—45.3	—58.6	27	—58.9
	200	27	11827	12054	11644	27	—55.7	—46.4	—64.8	21	—42.1
	150	25	13637	13848	13409	25	—57.7	—51.6	—63.7	17	—64.8
	100	24	16167	16369	15994	24	—63.2	—60.7	—65.9	—	—
	70	12	18360	18533	18176	12	—64.5	—60.5	—68.1	—	—
	60	7	19360	19470	19250	7	—63.7	—61.4	—65.7	—	—
	50	7	20452	20556	20317	7	—62.9	—59.1	—65.7	—	—
	40	3	21897	22030	21800	3	—61.0	—58.5	—63.2	—	—
	30	1	23773	—	—	1	—55.0	—	—	—	—
	20	1	26391	—	—	1	—50.5	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan (A) 0000 U.T.	Surface	31	* 1002mb.	* 1010 mb.	* 993mb.	31	10.7	16.4	07.8	31	05.4
	1000	31	158	216	086	24	10.1	16.0	07.8	24	05.1
	850	31	1500	1557	1428	31	04.2	14.0	—03.0	30	—03.0
	700	31	3062	3141	2974	31	—01.3	07.0	10.4	31	—14.4
	600	31	4369	4392	4174	31	—09.1	00.5	—15.7	31	—21.4
	500	31	5659	5824	5531	31	—18.7	—09.6	—25.8	31	—29.9
	400	31	7288	7507	7118	31	—30.2	—21.8	—37.0	31	—40.2
	300	31	9275	9527	9058	31	—43.8	—35.5	—49.2	31	—52.1
	250	31	10484	10792	10258	31	—49.6	—43.0	—58.6	31	—57.7
	200	31	11934	12250	11718	31	—54.0	—48.5	—62.2	29	—62.1
	150	29	13768	14068	13592	29	—58.3	—53.4	—65.3	20	—65.3
	100	24	16284	16517	16100	24	—64.0	—59.2	—68.8	—	—
	70	8	18472	18616	18358	8	—64.5	—59.0	—69.9	—	—
	60	6	19487	19840	19340	6	—63.6	—58.1	—69.8	—	—
	50	6	20613	21164	20428	6	—63.1	—58.0	—69.1	—	—
	40	6	22068	22640	21900	6	—62.6	—58.0	—68.3	—	—
	30	6	23768	24354	23570	6	—60.7	—55.0	—67.4	—	—
	20	2	26107	26116	26098	2	—61.3	—59.4	—63.2	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan (A) 0000 U.T.	Surface	31	* 997mb.	* 1000mb.	* 990mb.	31	10.7	15.6	4.8	31	0.6
	1000	31	166	193	93	8	8.0	9.2	7.2	8	0.5
	850	31	1525	1551	1468	31	9.1	21.6	3.9	31	—3.9
	700	31	3120	3187	3056	31	3.5	9.7	— 4.2	31	—11.8
	600	31	4356	4441	4269	30	3.8	0.6	— 8.5	30	—16.6
	500	31	5740	5873	5660	30	—13.2	— 8.3	—17.1	30	—25.6
	400	31	7438	7564	7319	31	—24.4	—20.4	—28.0	31	—34.2
	300	30	9475	9633	9353	30	—38.8	—32.1	—44.3	30	—47.2
	250	30	10714	10886	10573	30	—47.7	—41.8	—51.6	30	—55.3
	200	30	12152	12318	12006	30	—55.4	—49.3	—59.4	30	—62.3
	150	30	13951	14078	13806	30	—64.2	—55.6	—70.8	4	—64.8
	100	28	16388	16486	16260	28	—71.3	—67.9	—76.1	—	—
	70	22	18495	18681	18370	22	—71.3	—65.9	—77.0	—	—
	60	12	19443	19560	19320	12	—67.1	—65.0	—71.0	—	—
	50	12	20506	20632	20390	12	—65.8	—62.7	—68.0	—	—
	40	7	21947	22000	21850	7	—64.1	—58.2	—67.0	—	—
	30	7	23629	23711	23530	7	—59.3	—55.0	—63.4	—	—
	20	5	26175	26329	26070	5	—52.5	—48.7	—57.5	—	—
	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—MONTHLY MEANS AND MONTHLY ABSOLUTE HIGHEST & LOWEST VALUES OF ALTITUDE, AIR TEMPERATURE & DEW POINT AT STANDARD AND SELECTED PRESSURE SURFACES

DECEMBER 1977

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	29	1015m.b.*	1024m.b.*	1008m b.*	29	16 3	20.4	13.2	29	8.5
	1000	29	154	236	96	28	15.1	19.4	12.0	28	7.1
	850	29	1503	1574	1446	28	4.0	11.0	— 1.3	28	— 3.0
	700	29	3060	3153	2979	29	— 3 2	4 8	— 9 0	29	—14.3
	600	29	4265	4385	4165	29	—10 2	— 0 7	— 16.3	28	—22.6
	500	28	5645	5783	5522	29	—19 4	—12.0	—25.0	27	—30.5
	400	27	7273	7446	7125	28	—31.0	—22 7	—37.4	26	—42.0
	300	27	9216	9496	9070	27	—45.2	—38.5	—52.1	26	—55.5
	250	27	10452	10452	10260	27	—51 4	—46 9	—55 3	26	—60.8
	200	27	11890	12145	11634	27	—54 4	—45.9	—60.9	23	—62 9
	150	26	13726	13916	13515	26	—57 0	—52 0	—67.0	17	—64.7
	100	24	16270	16451	16049	24	—62.3	—55 1	—71 0	2	—72.4
	70	18	18479	18682	18227	18	—62.7	—55 0	—69.1	—	—
	60	10	19452	19600	19210	10	—62.8	—58.2	—65 4	—	—
	50	10	20543	20727	20354	10	—62.0	—55.7	—66 7	—	—
	40	3	21867	22000	21600	3	—61 9	—58.9	—65.1	—	—
	30	2	23753	23780	23726	2	—56.6	—55.0	—58.1	—	—
	20	2	26346	26380	26313	2	—53.8	—53.7	—53 9	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 UT	Surface	31	1001m.b.*	1009m.b.*	992m b.*	31	17 5	23.2	11 4	31	05 3
	1000	31	150	214	066	19	16.2	22.8	11.2	18	05.2
	850	31	1507	1562	1438	31	06.0	15 0	01.5	30	—02 9
	700	31	3075	3156	3015	31	—01.2	08.1	—08.0	31	—19 5
	600	31	4294	4413	4215	31	—07 8	02.2	—16.0	31	—22.7
	500	31	5684	5870	5567	31	—17.2	—05.9	—26.9	31	—31.2
	400	31	7324	7591	7155	31	—28.2	—15.9	—35.8	31	—40.5
	300	31	9335	9704	9107	31	—41.2	—29.3	—47.8	31	—51.4
	250	31	10552	10984	10311	30	—47.9	—38.5	—53 7	30	—58.1
	200	31	12011	12484	11795	30	—51 5	—45.3	—57 0	30	—61.4
	150	31	13867	14330	13678	30	—54.3	—50.5	—6 .2	27	—63.8
	100	26	16456	16898	16279	26	—58.5	—56.0	—66 0	12	—67.6
	70	24	18694	19148	18506	24	—59.3	—53.7	—70.7	—	—
	60	21	19688	19800	19500	12	—57.2	—53.0	—60.0	—	—
	50	21	20784	20881	20609	12	—56.0	—51.9	—61 9	—	—
	40	8	22378	22520	22000	8	—51.5	—50.0	—53.9	—	—
	30	7	24265	24953	24095	7	—47.0	—42.0	—50.1	—	—
	20	2	26971	27041	26901	2	—36 3	—33.1	—39.5	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 1200 UT	Surface	31	996m.b.*	1000m.b.*	988m.b.*	31	22.3	29 5	17 2	31	2.3
	1000	31	158	193	86	4	20.0	20.2	19.6	4	2.1
	850	31	1536	1563	1488	31	11.0	19 6	3 0	31	— 7 8
	700	31	3142	3202	3094	31	5.2	11 3	— 1.6	31	—17.0
	600	31	4385	4466	4327	31	— 1.7	2.9	— 6.7	31	—21 2
	500	31	5812	5917	5721	31	—11.2	— 2.2	—16.3	31	—27 4
	400	31	7490	7624	7401	31	—22.6	—18.8	—26.1	31	—36 6
	300	31	9541	9704	9424	31	—37.4	—32.2	—43.1	31	—49.4
	250	31	10950	11100	10642	31	—46.4	—41.0	—56.3	31	—57.4
	200	31	12251	12408	12087	31	—54.1	—48.9	—59.0	31	—64.4
	150	31	14048	14178	13934	31	—62.0	—54 6	—70.0	8	—68.6
	100	30	16518	16626	16400	30	—69.4	—65 0	—74.4	—	—
	70	26	18648	18763	18550	26	—68.4	—64.9	—73.7	—	—
	60	23	19619	19950	19530	23	—66.0	—61.8	—69 6	—	—
	50	22	20701	20810	20610	22	—63.4	—60.0	—66.0	—	—
	40	14	22358	22470	21110	14	—59.2	—55.1	—63.9	—	—
	30	14	23120	24050	23817	14	—54.7	—51.4	—60.8	—	—
	20	7	26559	26594	26447	7	—46.7	—42.1	—50.0	—	—
	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 AT THE FREEZING LEVEL AND THE TROPOPAUSE. THE HIGHEST WIND SPEED IN THE UPPER AIR

DECEMBER — 1977

	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
		(N)	(N)	(N)							(N)	(N)	(N)										
0000 U.T.	M. Matruh (A)	2136 (30)	788 (30)	— 5.3 (30)	3500	660	23.5	1280	878	— 2.3	11275 (24)	227 (24)	— 56.4 (24)	18180	74	—67.0	8880	213	—47.8	8610	325	230	110
	Helwan . . .	2443 (13)	762 (30)	— 7.0 (31)	4420	597	— 4.6	1440	858	— 2.1	10809 (21)	240 (21)	— 53.3 (21)	13740	155	—62.5	9050	313	—41.6	10610	198	275	150
	Aswan . . (A)	3668 (31)	656 (31)	— 13.4 (31)	4570	592	-14.3	2400	763	—10.4	15686 (21)	117 (21)	— 71.4 (12)	17900	77	—74.3	13340	166	— 65.5	10375	264	245	162
1200 U.T.	M. Matruh (A)	2226 (29)	781 (29)	— 6.8 (29)	4280	607	—13.5	1300	872	— 1.7	10987 (26)	233 (26)	— 55.8 (26)	13700	156	— 66.5	9030	303	—50.9	12396	184	235	135
	Helwan . .	2718 (31)	721 (31)	—11.0 (31)	4980	563	—11.0	1780	820	— 5.8	11340 (30)	229 (30)	—52.2 (30)	16060	110	—65.6	7280	385	—36.5	10610	244	275	150
	Aswan . (A)	4031 (31)	628 (31)	—19.8 (31)	5120	550	—25.1	2820	725	—22.7	16215 (26)	128 (26)	—69.8 (26)	19310	63	— 69.7	10940	241	55.2	8700	335	240	140

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

Table B3. — 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 1977

Time	Pressure Surface (Millibar)	Wind within 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 / 314				
		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	12	1	8	0	—	0	—	1	16	0	—	5	8	7	11	10	13	1	17	2	12	1	16	1	30	11
	1000	1	32	0	—	1	3	0	—	1	18	1	12	3	14	3	15	8	21	2	11	4	24	2	18	0	6	18
	850	0	—	1	8	0	—	0	—	1	20	1	28	3	12	2	25	4	30	2	31	8	17	4	13	0	26	20
	700	2	18	0	—	0	—	0	—	0	—	1	16	0	—	3	25	7	28	9	23	3	19	1	28	0	26	24
	600	2	16	0	—	0	—	0	—	0	—	0	—	1	23	3	27	9	38	6	34	2	28	2	24	0	25	32
	500	1	14	0	—	0	—	0	—	0	—	0	—	2	12	3	37	7	49	4	46	5	36	2	18	0	24	37
	400	0	—	0	—	0	—	0	—	0	—	0	—	1	14	4	48	9	55	4	31	1	32	2	31	0	21	45
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	60	5	66	3	57	1	41	2	28	0	14	56
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	68	4	58	3	66	2	32	0	—	0	11	55
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	47	6	60	1	40	0	—	0	—	0	8	56
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	49	0	—	0	—	0	—	0	3	49
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	2	12	2	9	0	—	1	14	0	—	0	—	3	10	5	17	4	18	5	19	3	16	4	16	0	29	16
	1000	2	18	1	11	0	—	1	16	0	—	0	—	3	14	6	18	4	21	4	22	4	24	3	18	0	28	19
	850	0	—	1	13	0	—	0	—	1	19	2	18	1	9	4	24	4	17	9	17	6	20	0	—	0	28	18
	700	0	—	1	24	0	—	1	25	0	—	1	—	3	19	3	22	5	24	9	28	2	20	3	22	0	28	23
	600	1	23	0	—	0	—	0	—	0	—	1	—	2	16	2	36	8	36	8	37	3	24	2	36	0	27	33
	500	1	13	0	—	0	—	0	—	0	—	1	5	0	—	3	36	7	37	6	48	4	28	2	9	0	24	35
	400	2	16	0	—	0	—	0	—	0	—	1	35	0	—	2	46	8	69	4	38	3	38	1	16	0	21	44
	300	0	—	1	41	0	—	0	—	0	—	0	35	0	—	2	56	6	74	6	44	1	30	2	22	0	18	53
	250	0	—	0	—	0	—	1	15	0	—	0	37	0	—	2	27	5	75	5	53	1	27	0	—	0	14	53
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	65	5	64	2	69	0	—	0	—	0	8	53
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	59	2	84	0	—	0	—	0	6	67
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—		38	0	—	0	—	0	—	0	2	38
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N = The number of cases the wind has been observed within 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 B3.— NUMBER OF OCCURRENCES OF WIND DIRECTION WITHIN SPECIFIED RANGES AND THE MEAN SCALAR WIND SPEED AT THE STANDARD AND SELECTED PRESSURE SURFACES HELWAN DECEMBER 1977

Time	Pressure Surface (Millibar)	Wind within ranges of direction (000—360°)																						Number of Calm wind	Total Number of Observations (T.N)	Mean Scalar wind speed (knots)
		345/014		015/043		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	03	9	08	1	05	3	06	7	04	2	04	0	—	1	13	0	—	0	—	0	—	1	03	6	31	5
	1000	5	07	6	08	4	11	1	05	5	03	2	04	0	—	0	—	0	—	0	—	0	—	1	01	0	24	6
	850	4	11	2	06	1	09	1	28	1	07	0	—	0	—	2	07	4	09	3	09	6	14	7	16	0	31	12
	700	5	15	2	18	1	11	1	40	0	—	0	—	0	—	0	—	3	17	7	16	6	28	6	20	0	31	20
	600	2	26	1	13	0	—	0	—	0	—	0	—	0	—	0	—	2	38	7	25	11	34	7	24	0	30	29
	500	2	38	1	20	1	05	0	—	0	—	0	—	0	—	0	—	1	27	7	40	13	36	5	35	0	30	35
	400	1	26	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	61	7	52	11	50	8	43	0	30	49
	300	2	55	0	—	1	19	0	—	0	—	0	—	0	—	0	—	2	72	6	57	11	66	5	50	0	72	59
	250	1	54	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	58	9	61	6	64	0	23	60
	200	1	34	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	73	7	81	2	95	0	16	83
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	103	4	97	1	70	0	8	98
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	132	0	—	0	1	132
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 T.U.	Surface	3	08	4	09	0	—	0	—	0	—	2	03	2	11	6	06	6	09	5	07	2	08	0	—	1	31	7
	1000	1	12	4	09	2	09	0	—	0	—	1	06	1	02	4	08	1	06	3	05	2	03	1	07	0	20	7
	850	2	08	2	10	2	05	2	10	0	—	0	—	0	—	2	09	6	14	7	19	2	22	6	11	0	31	13
	700	2	12	3	08	1	14	0	—	0	—	0	—	0	—	2	13	3	26	6	18	7	33	7	15	0	31	20
	600	1	28	2	15	0	—	0	—	0	—	0	—	0	—	0	—	5	25	6	30	9	37	8	22	0	31	28
	500	1	30	2	23	0	—	0	—	0	—	0	—	0	—	1	11	5	31	2	56	13	44	7	29	0	31	36
	400	3	32	0	—	0	—	0	—	0	—	0	—	0	—	1	34	2	56	5	40	11	55	6	41	0	28	46
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	51	4	78	13	61	4	61	0	24	63
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	44	4	103	10	57	4	67	0	20	67
	200	1	07	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	54	4	81	7	62	1	68	0	15	67
	150	1	08	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	60	3	84	5	72	0	—	0	12	27
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	65	2	98	0	4	82
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	77	0	1	77
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

T.N. = The total number of cases the wind 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

ASWAN (A) DECEMBER — 1977

Time	Pressure Surface Millibar	Wind between range 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	19	11	4	8	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	10	6	12	1	31	10
	1000	6	12	1	10	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	10	0	8	11
	850	4	14	5	14	1	13	1	6	0	—	2	13	1	13	0	—	0	—	1	16	8	12	7	11	0	30	12
	700	1	16	0	—	0	—	0	—	0	—	0	—	0	—	4	25	8	28	9	24	5	21	1	10	0	28	23
	600	3	23	0	—	0	—	0	—	0	—	0	—	0	—	0	—	13	43	9	42	1	24	2	29	0	28	39
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	15	60	10	50	0	—	3	25	0	28	51
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	—	10	78	15	67	2	31	1	49	0	28	68
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	—	10	105	14	76	2	66	0	—	0	26	86
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	103	9	98	3	61	0	—	0	19	94
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	95	3	62	3	65	0	—	0	10	77
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	65	1	73	0	—	0	4	68
	100	0	—	0	—	0	—	—	—	0	—	0	—	0	—	0	—	0	—	3	45	0	—	0	—	0	3	54
	70	0	—	0	—	0	—	—	—	0	—	0	—	0	—	0	—	0	—	1	35	0	—	0	—	0	1	35
	60	0	—	0	—	0	—	—	—	0	—	0	—	0	—	0	—	0	—	1	23	0	—	0	—	0	1	23
	50	0	—	0	—	0	—	—	—	0	—	0	—	0	—	0	—	0	—	1	25	0	—	0	—	0	1	25
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	18	11	0	—	1	8	0	—	0	—	0	—	1	7	0	—	0	—	3	10	1	20	6	13	1	31	11
	1000	3	12	0	—	1	8	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	4	11
	850	2	14	2	14	1	18	4	8	0	—	0	—	0	—	1	18	1	11	5	9	5	10	10	14	0	31	12
	700	3	14	0	—	0	—	0	—	0	—	0	—	1	23	1	8	9	26	11	25	4	17	2	10	0	31	22
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	38	15	40	10	32	1	18	3	16	0	31	34
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	13	14	16	12	49	2	25	2	24	0	31	50
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	17	80	11	57	3	33	0	—	0	31	67
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	12	100	14	86	4	36	0	—	0	30	85
	250	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	105	12	79	4	71	0	—	0	24	86
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	100	5	72	3	80	0	—	0	11	82
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	71	2	77	0	—	0	9	72
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	43	2	40	0	—	0	7	42
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	43	2	28	1	10	0	—	0	4	28
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	10	0	—	1	40	0	—	0	2	25
	50	0	—	0	—	0	—	0	—	0	—	0	—	1	6	0	—	0	—	1	26	0	—	0	—	0	2	16
	40	0	—	0	—	0	—	1	9	0	—	0	—	0	—	0	—	1	10	0	—	0	—	0	—	0	2	10
	30	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	25	0	—	0	—	1	18	0	—	0	2	22
	20	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	20	0	—	0	—	0	—	0	1	20
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

MONTHLY REVIEW OF AGROMETEOROLOGICAL STATIONS

MERSA MATRUH — DECEMBER 1977

The mean daily air temperature was below normal while the mean daily relative humidity was slightly above normal.

The month was markedly rainy. The total monthly rainfall was 121.8 mm. which is appreciably above normal (29.5 mm.). The maximum daily rainfall was 63.8 mm. on the 13*th*. It is worthy of mention that both the monthly and maximum daily rainfall amounts are records for Mersa Matruh since 1947.

Weather was markedly cold most days of the month. The lowest maximum temperature was 13.0°C (on the 13*th*). The lowest minimum temperature was 6.0°C (on the 19*th*).

The mean daily actual sunshine duration was lower than normal by 0.9 hour. The mean daily wind speed at 1.5 met. height was the same as normal.

The highest maximum soil temperatures were higher than December 1976 at 2,50,100cm. depths with departures between 0.6° & 0.9°C; the same at 5 cm; and lower at 10,20 cm. depths by 0.8° & 0.2°C respectively. The lowest minimum soil temperatures were lower December 1976 at all depths with departures between 3.2° & 4.4°C.

TAHRIR — DECEMBER 1977

The mean daily air temperature was below normal while the mean daily relative humidity was the same as normal. The total monthly rainfall was 9.6mm. (3.3 mm. above normal).

Cold weather prevailed most days of the month, The lowest maximum temperature was 16.8°C (on both the 15*th* & 27*th*). Minimum air temperature at 5 cm. above grass field fell below 0°C on the 8*th*, 19*th*. 20*th* & 31*st* when it ranged between -0.2° & -0.6°C.

The mean daily actual sunshine duration was lower than normal by 0.5 hour. The mean daily wind speed at 1.5 met. height and pan evaporation were slightly above normal.

The highest maximum soil temperatures were lower than normal at 2,5,20 cm. depths and higher at 10,50, & 100 cm. depths; the departures from normal ranged between 0.2° & 1.0°C.

The lowest minimum soil temperatures were lower than normal at all depths with departures between 2.5°C (at 10 cm) & 0.1°C (at 100 cm.).

BAHTIM - DECEMBER 1977

The mean daily air temperatue was below average and the mean daily relative humidity was the same as average. The total monthly rainfall was 4.9 mm. (0.3 mm. above average.).

Weather was markedly cold most days of the month. It is worthy of mention that minimum air temperature at 5 cm. above both the dry and grass fields fell below 0°C on the 8*th*, 19*th*, 20*th*, 25*th*, 29*th* & 31*st*. Its values in these days are as follo° :

Data	8	19	20	25	29	31
Min. temp. at 5 cm. above dry field.	—0.4	—2.2	—1.8	—2.3	—1.2	—0.8
Min. temp. at 5 cm. above grass field.	—1.0	—3.9	—2.3	—3.0	—2.0	—1.6

The mean daily actual sunshine duration, wind speed at 1.5 met. height and pan evaporation were higher than average by 0.7 hour, 0.3 met./sec. and 0.66 mm respectively.

The highest maximum soil temperatures were higher than average at depths between 2 & 50 cm with departures between 3.3°C (at 5 cm) & 0.2°C (at 20 cm) ; lo°er than average at 100 cm. by 0.2°C. The lowest minimum soil temperatures were lower than average at all depths with departures between 0.5° & 1.1°C.

ASSYOUT — DECEMBER 1977

The mean daily maximum temperature was 20.2°C and the mean daily minimum temperature was 5.1°C. The mean daily relative humidity was 62%.

Weather was markedly cold most days of the month. The lowest maximum temperature was 17.2°C (on the 25*th*). It is worthy of mention that minimum temperature at 5cm. above soil fell below 0°C during 18 days mostly in the second half of the month; the lowest minimum was -4.9°C (on the 27*th*).

KHARGA — DECEMBER 1977

The mean daily air temperature was below normal and the mean daily relative humidity was above normal.

Cold weather prevailed the whole month apart from two short warm spells on the (2*nd* & 3*rd*) and (10*th* & 11*th*). It is worthy of mention that minimum temperature at 5 cm above soil fell below 0°C on the 26*th*, 27*th* &28*th* when its values were —0.1°, —1.8° & 0.9°C respectively.

The mean daily actual sunshine duration was slightly above normal. The mean daily wind speed at 1.5 met. height and pan evaporation were lowerthan normal by 1.1 met./sec. and 1.63 mm.

The highest maximum soil temparatures were higher than normal at all depths at 20 cm. where it was lower by 0.1°C; the departures varied between 2.3°C (at 5 cm) & 0.2°C (at 100 cm.). The lowest minimum soil temperatures were lower than normal at all depths with departures between 2.1° (at 10 cm) & 0.1°C (at 100 cm).

TABLE C 1.—AIR TEMPERATURE AT 1½ METRES ABOVE GROUND
DECEMBER 1977

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 . . .	17.2	9.5	13.1	11.7	14.6	24.0	24.0	24.0	20.3	5.5	0 7	0.0	0.0	0.0	0.0	0.0
Tahrir	20.3	6 8	12 4	9.5	15.4	24.0	24.0	21.9	16.3	7.2	0 9	0 0	0.0	0.0	0.0	0.0
Bahtim	19 0	6 9	12.4	10 0	14.9	24.0	24.0	22.6	17.3	7 1	0 8	0 0	0 0	0 0	0 0	0 0
Assiut	20.2	5.1	12.3	9.1	15.6	24.0	24.0	23.0	14.5	7.6	1 5	0.1	0.0	0.0	0.0	0 0
Kharga	22.2	5.1	13.8	10.4	17.3	24.0	24.0	22.4	16 9	10.1	4.0	0.5	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 1977

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	23 0	2	13.0	13	13.0	3	6.0	19	4.0	19	—	—
Tahrir	25 2	2	16 8	15 27	12.9	4	1 6	20	0 2	20	— 0.6	19
Bahtim	23.6	2	16.0	22	14.0	3	0 2	25	2.4	25	— 3.9	19
Assiut	25.8	11	17.2	25	8•9	14	0.9	27	4.9	27	—	—
Kharga	28.2	3	17.9	24	9.7	8	— 0.7	27	1.8	27	—	—

TABLE C 3.—(SOLAR+SKY) RADIATION, DURATION OF BRIGHT SUNSHINE, RELATIVE HUMIDITY, VAPOUR PRESSURE AT 1½ METRES ABOVE GROUND, EVAPORATION & RAINFALL.
DECEMBER 1977

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	%	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 UT	Highest	Date	Lowest	Date	Piche	Pan class(A)	Total Amount	Max. Fall in one day	Date
M. Matruh . .	190 3	175 3	313 9	56	68	55	33	10	6.7	7.8	12 3	9	4.7	31	5.4	—	121.8	63.8	13
Tahrir	280.0	212.1	316.8	67	70	48	33	4	7.5	7.7	11.8	2	4.5	20	3.8	3.97	9.6	3.2	13
Bahtim	271 8	227.9	317.4	72	69	48	34	19	7.3	7.6	11.3	2	2.0	18	3.7	4.01	4.9	1.9	12,21
Assiut . . .	—	281 9	324 8	87	62	39	27	11	6.4	6.8	10 ε	1	3.6	21	3.6	3.28	0.0	0.0	—
Kharga	379 8	297 5	329 2	90	50	34	23	3	5.8	6.5	9.9	10	3.4	15,17	5.2	4.90	0.0	0.0	—

Table C 4.—EXTREME SOIL TEMPERATURE AT DIFFER DEPTH IN DIFFERENT FIELDS·cms

DECEMBER — 1977

STATIOL	Highest (H) Lowest (L)	Extreme soil temperature (,C) in dry field at different depths (,ms.)								Extreme soil temperature ('C) in grass fisld at different depths (·ms.)							
		2	5	10	20	50	100	200	300	2	5	10	20	50	100	200	300
M. Matruh	H	23.1	22.1	19.3	18.0	19.4	21.6	23.5	—	—	—	—	—	—	—	—	—
	L	5.9	6.0	8.1	10.0	12.0	16.0	18.6	—	—	—	—	—	—	—	—	—
Tahrir. . .	H	27.3	24.7	22.4	19.3	20.5	22.2	24.2	25.7	21.3	19.7	18.4	18.0	18.4	19.6	22.2	—
	L	4.9	5.0	6.3	10.6	14.4	17.7	21.3	23.5	7.2	8.1	9.2	11.2	12.2	15.2	19.1	—
Bahium . .	H	31.4	27.6	22.6	20.7	22.8	24.2	26.1	25.6	23.5	18.2	18.2	17.5	21.1	21.1	22.7	—
	L	4.2	6.6	10.8	14.5	18.2	20.8	24.3	25.0	4.8	9.9	9.9	12.5	18.3	18.3	21.2	—
Asiut . . .	H	39.2	29.7	23.8	21.7	23.4	24.4	25.5	26.0	—	—	—	—	—	—	—	—
	L	4.7	6.8	10.1	14.0	18.9	21.3	23.8	25.2	—	—	—	—	—	—	—	—
Kharga . .	H	36.3	31.4	26.6	23.2	25.3	27.2	29.1	29.7	—	—	—	—	—	—	—	—
	L	4.1	6.1	9.3	14.2	19.8	23.7	28.2	28.8	—	—	—	—	—	—	—	—

TableC 4.—SURFACE WIND

DECEMBER — 1977

STATION	Wind Speed m/scc at 1% metres			Days with surface wind speed at 10 metres							Max. Cust (knots)	
	Mean of the day	Night time mean	Day time mean	≧10 knots	≧15 knots	≧20 knots	≧25 knots	≧30 knots	≧35 wnots	≧40 knots	Value (knsts)	Date
M. Matruh	3.8	3.1	4.5	29	24	18	15	6	1	0	44	4
Tahrir.	2.1	1.5	2.7	26	17	11	6	3	0	0	43	4
Bahtim..	2.3	1.8	2.7	25	17	10	7	2	1	0	45	14
Asint	—	—	—	—	—	—	—	—	—	—	—	—
Kharga	1.6	0.9	2.3	22	8	0	0	0	0	0	25	29

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