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MONTHLY WEATHER REPORT

VOLUME 9 NUMBER 12

DECEMBER, 1966

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THE EGYPTIAN METEOROLOGICAL AUTHORITY
CAIRO

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

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

Orders for publications should be addressed to :

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

THE DAILY WEATHER REPORT

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

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

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

THE MONTHLY WEATHER REPORT

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

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

THE AGRO-METEOROLOGICAL ABRIDGED MONTHLY REPORT

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

THE ANNUAL REPORT

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

CLIMATOLOGICAL NORMALS FOR EGYPT

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

METEOROLOGICAL RESEARCH BULLETIN

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

TECHNICAL NOTES

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

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GENERAL SUMMARY OF WEATHER CONDITIONS

DECEMBER 1966

Generally cold, rainy in north with scattered thunderstorms mainly round the 19th. Frontal rising sand and sandstorms. Several occasions of early morning mist and fog over Delta, Canal and Cairo areas.

GENERAL DESCRIPTION OF WEATHER

The prevailing weather this month was intervened with four cold waves with peaks round the 2nd, 8th, 19th & 25th respectively. Cold waves were separated by rather short warm intervals. Rain was confined to northern parts and extended southwards in particular during the 3rd week which was almost rainy and particularly thundery round the 19th. Monthly rain exceeded its normal over the northern parts of the Delta, elsewhere it was subnormal.

Frontal rising sand & sandstorms occurred mainly round 7th, 8th, 11th, 15th & 16th. Early morning mist and fog developed for many days over scattered localities in Delta, Canal & Cairo areas.

PRESSURE DISTRIBUTION

During this month, the pressure distribution over the surface map was characterized by the following pressure systems.

— Two high pressure systems one over Siberia and the other over the Atlantic.

— Deep northern low pressure systems passing through North Urasia.

— Transitory Mediterranean secondary depressions (or troughs) through middle latitudes between 30°, 45°N.

The atmospheric pressure over Egypt was oscillatory and experienced six consecutive falls round the periods (3rd—7th), (9th-11th), (13th-16th), (18th-19th), (21st-24th) and (29th-31st).

During the first period two secondary depressions developed at the southern extension of the deep low pressure system over North Europe. The first secondary originated over North Balkans on the 3rd, moved rapidly NE wards and filled north of the Black Sea on the 5th. The second secondary originated west of Italy on the 4th, remained stationary on the 5th while a shallow secondary formed over Central Mediterranean. These two secondaries amalgamated on the 6th in one large depression covering Central Mediterranean, Italy & Greece which moved slowly eastwards while deepening rapidly on the 7th causing an appreciable fall in the barometric pressure over Egypt On the 8th it started filling gradually while extending eastwards over Asia Minor where it was stationary till the 10th. On the 11th it proceeded eastwards and its troughs traversed Egypt, causing the second fall in barometric pressure.

During the third period a deep trough extended on the 13th from North Europe to Central Mediterranean and moved eastwards. On the 16th an attached rather deep secondary depression appeared over Asia Minor & Cyprus and traversed East Mediterranean round the 17th towards Iraq.

The pressure fall during the fourth period was due to the development of a secondary depression over Cyprus on the 19th which moved rapidly on the 20th towards Iraq.

During the 5th period, a deep secondary depression developed over Italy on the 21st, moved eastwards and its southern trough passed through East Meidterranean on the 24th.

The last pressure fall was experienced by a depression which originated over Central Mediterranean on the 29th and moved slowly eastwards approaching East Mediterranean area by the end of the month.

Otherwise, the atmospheric pressure in Egypt was slightly abnormal and the subtropical high pressure belt operated over North Africa.

The characteristic features of the pressure distributions over the 700, 500 mb. upper charts were confined in the two deep low pressure systems over North Urasia & North Atlantic, the secondary upper troughs or lows passing through the middle latitudes and the high pressure over the subtropical latitudes.

The highest wind speed in the upper air at Mersa Matruh, Helwan & Aswan was 169, 150 & 138 Knots on the 4th, 30th & 25th respectively.

SURFACE WIND

In the northern & central parts of the Republic, winds generally blew from W & SW directions in advance of the travelling Mediterranean troughs, and from W & NW directions in their rear. In the southern parts; winds generally blew from N & NW directions most days of the month.

Winds were generally light to moderate in most districts of the Republic. Winds were occasionally fresh and strong in western part of the northern coast, Canal Zone & Red Sea areas in association with travelling cold fronts over the Republic in general.

Gales were reported at : Sallum, Sidi Barrani and Mersa Matruh on the 7th ; Dabaa on the 19th and at Ghazza on the 17th.

TEMPERATURE

Maximum temperature remained below its normal to a moderate extent during the cold waves ; otherwise it was slightly above normal. Its values ranged between 15 °C & 21 °C in the northern parts, between 16 °C & 23 °C in the central parts and between 20°C & 28°C in the southern parts.

The absolute maximum temperature for the Republic was 37.3 °C reported at Abul Kizan on the 10th.

Minimum temperature oscillated slightly round normal in the northern parts, but remained moderately below normal in the central & southern parts in general. Its values ranged between 6 °C & 14 °C in the

northern parts and between 3 °C & 12 °C in the central & southern parts. It is worthy of mention that minimum temperature approached 0°C during several days at local places in the Western Desert & Upper Egypt areas.

The absolute minimum temperature for the Republic was -2.1°C reported at Farafra on the 10th.

PRECIPITATION

Rain fell over Lower Egypt during the cold waves and extended sometimes southwards to Cairo & north of Upper Egypt. It was generally light to moderate, though it was heavy during the period (16th—20th) and assocaited with thunderstorms round the 19th over scattered places near the northern coast. The monthly rainfall exceeded its normal values over the northern parts of the Delta and over SE Mediterranean where 62.6 mm. fell over Ghazza on the 18th, a record for December since 1954.

The highest daily rainfall was 62.6 mm. at Ghazza on the 18th.

The absolute monthly rainfall was 190.1 mm. at Ghazza.

Cairo, January 1972

Chairman (M. F. TAHA)
Board of Directors

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

DECEMBER — 1966

STATION	Atmospheric Pressure (mbs) M.S.L.		Air Temperature °C									Relative Humidity %		Bright Sunshine Duration (Hours)			Piche Evaporation (mms) Mean
			Maximum		Minimum			Dry Bulb		Wet Bulb							
	Mean	D.F. Normal or Average	(A) Mean	D.F. Normal or Average	(B) Mean	D.F. Normal or Average	$\frac{A+B}{2}$	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Mean	D.F. Normal or Average	Total Actual	Total Possible	%	
Sallum	1015.9	— 1.1	19.3	— 1.2	10.7	— 0.3	15.0	14.6	— 1.2	10.0	— 1.7	52	— 7	—	—	—	8.8
Mersa Matruh (A)	1016.5	— 1.2	19.1	— 0.7	9.6	— 1.0	14.4	13.7	— 0.8	10.3	— 1.1	62	— 6	—	—	—	7.9
Alexandria (A)	1016.5	— 1.0	20.4	— 0.1	10.4	— 0.7	15.4	15.1	— 0.2	11.8	— 0.9	65	— 7	184.7	315.6	59	4.4
Port Said (A)	1015.9	— 1.4	19.4	— 0.4	14.0	+ 0.4	16.7	16.3	0.0	13.3	— 0.4	69	— 4	204.3	515.6	65	4.7
El Arish	1016.3	— 1.2	21.4	0.0	10.9	+ 0.8	16.2	15.5	0.0	12.0	— 0.4	63	— 4	—	—	—	4.8
Ghazza	1015.8	— 1.6	20.4	0.0	11.5	— 0.1	16.0	16.1	+ 0.2	12.4	— 0.2	62	— 6	174.5	313.7	56	4.6
Tanta (A)	1016.0	— 0.7	20.6	— 0.7	9.6	+ 1.4	15.1	14.3	—0.4	11.2	— 0.5	66	— 1	211.2	316.8	67	3.5
Cairo (A)	1016.9	— 1.1	20.4	— 0.3	10.6	+ 0.2	15.5	15.4	0.0	10.4	— 1.1	49	— 12	—	—	—	9.6
Fayoum	1017.2	— 0.8	21.8	— 0.1	7.4	— 1.0	14.6	14.2	— 0.2	10.4	— 0.4	59	— 2	—	—	—	3.7
Minya (A)	1017.7	— 0.7	21.6	— 0.4	5.2	— 1.7	13.4	12.7	— 1.0	9.0	— 1.1	58	— 4	251.6	323.0	78	4.6
Assyout (A)	1017.2	— 0.8	21.2	— 1.1	8.4	— 0.4	14.8	14.2	— 1.0	9.2	— 1.0	47	— 2	—	—	—	8.3
Luxor (A)	1016.2	— 0.7	24.4	— 0.4	8.0	+ 0.4	16.2	15.7	+ 0.7	11.0	— 0.1	53	0	—	—	—	5.2
Aswan (A)	1015.8	— 0.6	24.7	— 1.2	9.9	— 0.2	17.3	17.0	— 0.8	10.4	— 0.5	38	+ 2	—	—	—	9.0
Siwa	1017.7	— 0.7	20.0	— 1.3	6.5	+ 0.4	13.2	12.7	— 0.9	8.3	— 0.9	50	— 5	—	—	—	6.2
Bahariya	1017.4	— 0.9	21.0	— 0.6	6.7	0.0	13.8	13.6	— 1.2	8.5	— 1.5	45	— 5	—	—	—	5.6
Farafra	1019.5	— 0.5	20.1	— 1.9	4.5	— 1.5	12.3	11.9	— 1.6	7.8	— 0.7	53	+ 7	—	—	—	7.1
Dakhla	1018.9	+ 1.6	22.2	— 1.1	4.0	— 2.1	13.1	12.6	— 1.7	7.3	— 1.5	41	— 3	—	—	—	7.5
Kharga	1017.1	+ 1.1	23.0	— 1.0	7.1	— 0.9	15.0	14.9	— 0.3	8.6	— 1.0	41	— 5	300.4	329.2	91	9.6
Tor	1016.1	— 0.5	22.9	+ 0.4	11.8	+ 1.0	17.4	17.5	+ 0.1	12.3	— 0.5	51	— 5	—	—	—	9.8
Hurghada	1015.3	— 1.1	23.1	+ 0.6	12.1	+ 0.4	17.6	17.6	+ 0.4	11.9	— 0.7	46	— 9	—	—	—	12.5
Qeser	1016.0	— 0.3	23.8	— 0.3	15.5	— 0.3	19.6	19.8	— 0.1	14.1	— 0.9	50	— 3	—	—	—	9.5

Table A2. — MAXIMUM AND MINIMUM AIR TEMPERATURES

DECEMBER — 1966

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	23.2	6	15.7	7	0	0	0	0	0	10.5	—	15.7	6	6.5	25	12	0	0	0
Mersa Natruh (A)	24.4	6	14.4	18	0	0	0	0	0	—	—	13.8	2	6.7	30	15	0	0	0
Alexandria (A)	26.3	6	14.6	19	1	0	0	0	0	—	—	15.8	2	6.2	15,28	13	0	0	0
Port Said (A)	25.4	6	12.8	19	1	0	0	0	0	12.4	—	18.8	6	10.1	19,20	0	0	0	0
El Arish	32.0	6	15.4	19	3	1	0	0	0	9.1	—	18.0	7	6.2	31	11	0	0	0
Ghazza	29.9	6	14.7	19	2	0	0	0	0	10.3	—	21.9	7	8.2	28	7	0	0	0
Tanta	26.8	6	11.5	19	1	0	0	0	0	—	—	13.7	5	6.1	9	20	0	0	0
Coiro (A)	30.0	19	13.5	19	2	0	0	0	0	—	—	15.0	7	6.6	31	11	0	0	0
Fayoum	28.2	6	16.8	19	3	0	0	0	0	6.0	—	14.8	7	3.8	26	23	5	0	0
Minya (A)	29.0	7	17.4	18	3	0	0	0	0	3.1	—	11.5	7	0.0	9	29	16	0	0
Assyout (A)	33.3	7	17.0	25	3	1	0	0	0	6.3	—	16.6	7	2.6	16,26	27	8	0	0
Luxor (A)	32.4	7	19.0	18	14	2	0	0	0	5.2	—	17.3	7	3.5	30	24	8	0	0
Aswan (A)	34.4	7	18.5	19	14	4	0	0	0	—	—	19.9	7	4.2	27,28	19	2	0	0
Siwa	23.5	2,5	16.8	24	0	0	0	0	0	4.1	—	10.4	18	—0.7	15	27	10	1	0
Bahariya	26.2	6	17.0	25	3	0	0	0	0	5.3	—	12.1	5	0.2	9	28	9	0	0
Farafra	27.4	6	16.7	9,19	1	0	0	0	0	3.8	—	10.0	5	—2.1	10	30	16	1	0
Dakhla	33.4	7	17.8	27	4	2	0	0	0	—	—	12.3	7	1.0	26	29	23	0	0
Kharga	33.1	7	18.9	18	6	2	0	0	0	5.1	—	15.8	1	1.8	26	24	9	0	0
Tor	29.6	6,7	19.0	20	6	0	0	0	0	—	—	23.9	7	6.0	28	9	0	0	0
Hurghada	27.9	7	19.7	18	5	0	0	0	0	10.8	—	24.4	7	8.3	21	7	0	0	0
Quseir	28.0	7	20.3	26	8	0	0	0	0	14.9	—	20.4	7	11.7	26	0	0	0	0

Table A 3.—SKY COVER AND RAINFALL

DECEMBER — 1966

Station	Mean Sky Cover Oct.					Rainfall mms.										
	00 U.T.	06 U.T.	12 U.T.	18 U.T.	Daily Mean	Total Amount	D. From Normal	Max. Fall in one day		Number of Days with Amount of Rain						
								Amount	Date	<0.1	≥0.1	≥1.0	≥5.0	≥10	≥25	≥50
Sallum (A)	2.9	3.5	4.6	2.2	3.2	5.4	—14.7	2.7	27	0	7	2	0	0	0	0
Mersa Matruh (A)	2.5	4.3	4.5	3.6	3.7	18.6	—13.3	7.8	18	0	7	5	1	0	0	0
Alexandria (A)	4.5	4.6	5.3	4.7	4.6	63.5	+ 7.4	30.1	18	0	12	8	3	2	1	0
Port Said (A)	2.6	3.8	3.2	3.0	3.2	20.7	+ 1.8	5.8	19	0	9	6	2	0	0	0
El Arish	3.6	4.1	3.4	3.6	2.9	9.2	—13.4	3.8	19	0	6	4	0	0	0	0
Ghazza	3.8	3.7	4.0	2.8	3.6	190.1	+125.4	62.6	18	1	8	7	5	5	3	1
Tanta	2.1	4.1	3.7	1.5	2.1	17.8	+ 7.8	12.1	20	0	7	4	1	1	0	0
Cairo (A)	2.5	3.9	3.5	2.2	3.1	2.4	— 5.6	1.3	19	0	4	1	0	0	0	0
Fayoum	—	2.6	3.5	2.7	—	Tr.	— 4.6	tr.	18,20	2	0	0	0	0	0	0
Minya (A)	1.7	2.6	2.4	2.2	2.1	0.0	— 0.7	0.0	—	0	0	0	0	0	0	0
Assyout (A)	1.3	2.7	2.4	1.5	1.8	0.0	Tr.	0.0	—	0	0	0	0	0	0	0
Luxor (A)	0.7	1.5	2.0	1.4	1.3	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0
Aswan (A)	0.5	1.3	1.7	1.1	1.1	0.0	— 0.2	0.0	—	0	0	0	0	0	0	0
Siwa	1.9	2.9	3.1	2.6	2.5	0.0	— 2.1	0.0	—	0	0	0	0	0	0	0
Bahariya	1.1	2.5	3.2	2.1	2.2	0.0	— 1.2	0.0	—	0	0	0	0	0	0	0
Farafra	—	2.4	3.3	2.3	—	0.0	— 0.3	0.0	—	0	0	0	0	0	0	0
Dakhla	0.4	1.6	2.4	0.9	1.4	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0
Kharga	0.3	1.6	2.1	0.4	1.2	0.0	— 0.3	0.0	—	0	0	0	0	0	0	0
Tor	1.8	3.0	2.7	2.4	1.8	0.3	— 3.4	0.3	7	1	1	0	0	0	0	0
Hurghada	0.8	1.8	2.2	1.6	1.6	0.0	— 2.2	0.0	—	0	0	0	0	0	0	0
Quseir	0.8	2.0	1.7	0.9	1.6	0.0	— 0.1	0.0	—	0	0	0	0	0	0	0

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

DECEMBER — 1966

Station	Precipitation				Frost	Thunderstorm	Mist Vis ≥ 1000 metres	Fog Vis < 1000 Metres	Haze Vis ≥ 1000 Metres	Thick Haze Vis < 1000 Metres	Dust or Sandrising Vis ≥ 1000 Metres	Dust or Sandstorm Vis < 1000 Metres	Gale	Clear Sky	Cloudy Sky
	Rain	Snow	Ice. Pellets	Hail											
Sallum	7	0	0	0	0	0	0	0	0	0	5	3	1	9	3
Mersa Matruh (A)	7	0	0	0	0	0	2	0	0	0	9	2	1	8	2
Alexandria (A)	12	0	0	0	0	2	7	2	4	0	6	0	0	3	5
Port Said (A)	9	0	0	0	0	1	0	0	0	0	4	0	0	12	4
Al Arish	6	0	0	0	0	3	0	0	2	0	9	1	0	11	7
Ghazza	8	0	0	0	0	4	0	0	1	0	3	0	1	8	4
Tanta	7	0	0	0	0	0	4	1	0	0	0	0	0	12	2
Cairo (A)	4	0	0	0	0	0	3	1	13	0	6	0	0	10	4
Fayoum	0	0	0	0	0	0	0	0	0	0	0	0	0	—	—
Minya (A)	0	0	0	0	0	0	4	2	3	0	1	0	0	17	1
Assyout (A)	0	0	0	0	0	0	1	1	5	0	3	0	0	—	—
Luxor (A)	0	0	0	0	0	0	0	0	0	0	1	0	0	—	—
Aswan (A)	0	0	0	0	0	0	0	0	2	0	6	0	0	23	0
Siwa	0	0	0	0	0	0	0	0	0	0	3	0	0	14	1
Bahariya	0	0	0	0	0	0	0	0	0	0	2	0	0	16	0
Farafra	0	0	0	0	0	0	0	0	1	0	2	0	0	—	—
Dakhala	0	0	0	0	0	0	0	0	1	0	2	0	0	25	0
Kharga	0	0	0	0	0	0	0	0	0	0	1	0	0	24	0
Tor	1	0	0	0	0	0	0	0	3	0	7	0	0	15	0
Hurghada	0	0	0	0	0	0	0	0	0	0	2	0	0	21	0
Qaseir	0	0	0	0	0	0	0	0	4	0	2	0	0	22	0

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

DECEMBER — 1966

Station	Calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345 / 014	015 / 044	045 / 074	075 / 104	105 / 134	135 / 164	165 / 194	195 / 224	225 / 254	255 / 284	285 / 314	315 / 344	All directions
Sallum	6	12	0	1–10	1	10	16	9	5	7	6	18	47	74	38	9	240
				11–27	0	14	1	0	0	0	5	40	92	262	53	8	475
				28–47	0	0	0	0	0	0	0	2	9	0	0	0	11
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**1**	**24**	**17**	**9**	**5**	**7**	**11**	**60**	**148**	**336**	**91**	**17**	**726**
Mersa Matruh (A)	1	0	0	1–10	14	9	6	3	5	18	22	27	67	52	11	10	244
				11–27	15	3	9	1	1	1	6	3	150	214	51	23	487
				28–47	0	0	0	0	0	0	0	0	1	7	2	2	12
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**29**	**12**	**15**	**4**	**6**	**19**	**28**	**70**	**188**	**273**	**64**	**35**	**743**
Alexandria (A)	24	0	0	1–10	29	16	41	29	24	33	44	116	44	17	10	18	418
				11–27	3	2	0	0	1	1	1	63	98	60	42	30	301
				28–47	0	0	0	0	0	0	0	0	0	1	0	0	1
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**32**	**18**	**41**	**29**	**25**	**34**	**45**	**179**	**139**	**78**	**52**	**48**	**720**
Port Said (A)	15	8	0	1–10	16	26	33	14	21	29	36	63	81	25	17	10	371
				11–27	19	32	12	4	11	1	1	113	118	30	0	0	341
				28–47	0	0	0	0	0	1	0	1	5	2	0	0	9
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**35**	**58**	**45**	**18**	**32**	**31**	**37**	**177**	**204**	**57**	**17**	**10**	**721**
Tanta	67	0	0	1–10	25	32	30	32	14	14	33	31	32	209	130	58	640
				11–27	0	0	0	0	0	0	0	0	0	8	26	3	37
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**25**	**32**	**30**	**32**	**14**	**14**	**33**	**31**	**32**	**217**	**156**	**61**	**677**
Fayoum	25	3	14	1–10	105	91	17	19	6	26	44	82	125	53	68	35	671
				11–27	1	1	0	0	0	0	1	1	7	16	4	0	31
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**106**	**92**	**17**	**19**	**6**	**26**	**45**	**83**	**132**	**69**	**72**	**35**	**702**
Minga	17	72	4	1–10	97	17	3	0	13	64	33	16	29	36	72	206	586
				11–27	21	0	0	0	0	3	0	0	0	1	27	13	65
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**118**	**17**	**3**	**0**	**13**	**67**	**33**	**16**	**29**	**37**	**99**	**219**	**651**
Asyout	5	1	7	1–10	6	6	6	11	19	22	8	3	103	268	173	40	665
				11–27	5	0	0	0	2	3	3	1	6	1	32	13	66
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**11**	**6**	**6**	**11**	**21**	**25**	**11**	**4**	**109**	**269**	**205**	**53**	**731**
Luxor	2	85	58	1–10	65	36	18	13	18	30	104	72	21	60	80	78	595
				11–27	0	0	0	0	0	0	1	1	0	0	2	0	4
				28–47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**65**	**36**	**18**	**13**	**18**	**30**	**105**	**73**	**21**	**60**	**82**	**78**	**599**

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

DECEMBER — 1966

Station	calm (hours)	Variable (hours)	Unrecorded (hours)	Wind speed in knots	Number in hours of occurrences of wind blowing from the ranges of directions indicated												
					345/014	015/044	045/074	075/104	105/134	135/164	165/194	195/224	225/254	255/284	285/314	315/344	All directions
Aswan	4	0	1	1—10	267	194	8	6	11	9	7	4	2	1	19	43	571
				11—27	73	77	0	0	1	1	2	0	0	0	2	12	168
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**340**	**271**	**8**	**6**	**12**	**10**	**9**	**4**	**2**	**1**	**21**	**55**	**739**
Siwa	17	23	0	1—10	3	6	13	38	23	28	52	54	169	172	71	11	640
				11—27	0	0	0	0	1	0	2	5	6	28	22	0	64
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**3**	**6**	**13**	**38**	**24**	**28**	**54**	**59**	**175**	**200**	**93**	**11**	**704**
Dakhla	16	2	10	1—10	37	30	15	17	15	20	38	28	65	103	175	148	691
				11—27	4	1	0	0	0	0	0	0	0	0	11	9	25
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**41**	**31**	**15**	**17**	**15**	**20**	**38**	**28**	**65**	**103**	**186**	**157**	**716**
kharga	38	19	22	1—10	178	81	32	19	10	9	16	6	10	18	40	113	532
				11—27	98	11	0	0	0	0	0	0	1	0	5	18	133
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**276**	**92**	**32**	**19**	**10**	**9**	**16**	**6**	**11**	**18**	**45**	**131**	**665**
Hurghada	12	0	0	1—10	15	9	8	6	0	1	3	5	6	14	41	6	114
				11—27	78	4	0	0	9	24	9	0	0	52	282	153	611
				28—47	0	0	0	0	0	0	0	0	0	0	0	7	7
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**93**	**13**	**8**	**6**	**9**	**25**	**12**	**5**	**6**	**66**	**323**	**166**	**732**
Quseir	0	3	1	1—10	65	40	4	8	2	3	8	5	19	223	108	26	511
				11—27	62	0	0	0	10	15	0	0	2	40	41	59	229
				28—47	0	0	0	0	0	0	0	0	0	0	0	0	0
				≥48	0	0	0	0	0	0	0	0	0	0	0	0	0
				All speeds	**127**	**40**	**4**	**8**	**12**	**18**	**8**	**5**	**21**	**263**	**149**	**85**	**740**

Table B 1.—UPPER AIR CLIMATOLOGICAL DATA

DECEMBER — 1966

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	27	1016m.b.*	1022m.b.*	1009m.b.*	27	11.8	15.8	9.2	27	7.2
	1000	27	164	213	104	27	13.3	18.0	8.9	27	7.4
	850	27	1516	1574	1483	27	5.7	14.4	0.4	25	— 2.7
	700	27	3087	3172	3021	27	— 1.1	5.6	— 8.4	13	—11.6
	600	27	4304	4477	4196	27	— 8.3	— 4.2	—17.4	8	—15.4
	500	27	5693	5879	5542	27	—18.0	—14.4	—25.8	10	—22.6
	400	27	7323	7525	7122	27	—30.2	—25.3	—38.1	10	—33.4
	300	24	9305	9533	9070	24	—44.2	—41.2	—47.4	—	—
	200	15	11926	12058	11709	15	—57.8	—49.4	—63.6	—	—
	150	8	13719	13848	13628	8	—62.2	—58.2	—66.6	—	—
	100	2	16169	16203	16135	2	—63.1	—61.2	—65.0	—	—
	70	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 0000 U.T.	Surface	23	1001 m.b.*	1004m.b.*	995m.b.*	23	12.7	19.4	8.2	23	3.1
	1000	23	144	174	95	17	12.0	16.5	8.4	17	3.8
	850	23	1502	1541	1477	23	7.4	15.4	1.0	18	— 3.2
	700	23	3085	3139	3055	23	1.2	7.5	— 4.2	5	—11.3
	600	23	4308	4383	4215	23	— 6.4	— 2.5	—12.0	5	—16.7
	500	23	5709	5805	5612	22	—16.2	—12.3	—21.3	5	—20.4
	400	23	7352	7467	7223	23	—27.7	—23.8	—35.0	7	—28.8
	300	23	9357	9491	9173	23	—42.7	—38.0	—48.3	2	—36.8
	200	23	11999	12133	11796	23	—57.5	—51.5	—62.6	—	—
	150	23	13782	13936	13623	23	—64.1	—56.4	—72.8	—	—
	100	19	16224	16415	16069	19	—69.6	—65.8	—75.0	—	—
	70	15	18369	18600	18190	15	—66.8	—61.2	—71.6	—	—
	60	13	19295	19480	19106	13	—64.6	—61.3	—67.4	—	—
	50	11	20422	20602	20212	11	—60.8	—57.0	—64.2	—	—
	40	9	21790	21916	21602	9	—57.9	—54.1	—61.9	—	—
	30	8	23608	23724	23419	8	—53.6	—49.2	—55.8	—	—
	20	6	26236	26376	26034	6	—47.8	—43.3	—52.4	—	—
	10	—	—	—	—	—	—	—	—	—	—
Aswan 0000 U.T.	Surface	24	991m.b.*	995m.b.*	988m.b.*	24	14.0	22.9	7.0	24	3.6
	1000	24	116	151	34	—	—	—	—	—	—
	850	24	1498	1534	1473	24	13.5	19.2	3.1	21	— 0.4
	700	24	3112	3178	3056	24	7.0	12.0	2.0	7	—11.1
	600	24	4363	4444	4285	24	0.0	4.1	— 4.6	6	—17.5
	500	24	5799	5895	5705	24	— 9.3	— 6.2	—13.9	3	—22.8
	400	24	7487	7601	7379	24	—21.4	—17.8	—25.1	4	—31.2
	300	24	9545	9685	9425	24	—36.9	—33.8	—40.8	6	—44.8
	200	20	12235	12399	12091	20	—56.4	—50.4	—60.1	—	—
	150	19	14023	14181	13894	19	—65.8	—60.9	—71.0	—	—
	100	18	16425	16564	16306	18	—74.8	—71.0	—81.9	—	—
	70	11	18544	18650	18420	11	—72.6	—69.0	—76.7	—	—
	60	9	19457	19580	19323	9	—69.4	—65.0	—74.0	—	—
	50	8	20542	20686	20456	8	—65.6	—63.0	—67.9	—	—
	40	7	21895	21989	21816	7	—61.4	—58.8	—65.8	—	—
	30	7	23701	23776	23629	7	—54.6	—51.2	—60.7	—	—
	20	6	26334	26399	26296	6	—49.0	—45.7	—51·2	—	—
	10	—	—	—	—		—	—	—	—	—

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

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

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

DECEMBER — 1966

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	28	*1015m.b.	*1022m.b.	*1006m.b.	28	18.6	22.0	13.2	28	8.4
	1000	28	159	215	97	28	17.1	21.3	12.2	28	7.4
	850	28	1517	1578	1461	28	5.9	13.0	— 9.5	25	— 3.1
	700	28	3093	3170	3039	28	— 0.6	5.8	— 8.9	13	—12.5
	600	27	4310	4402	4231	27	— 8.0	— 3.6	—15.9	6	—18.3
	500	27	5701	5812	5594	27	—17.1	—13.6	—22.8	5	—22.5
	400	26	7335	7472	7194	26	—29.5	—24.2	—34.8	4	—32.0
	300	24	9327	9494	9144	24	—43.8	—39.7	—48.2	—	—
	200	20	11971	12123	11802	20	—57.5	—48.9	—63.3	—	—
	150	8	13764	13903	13617	8	—60.5	—57.0	—62.4	—	—
	100	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—
Helwan 1200 U.T.	Surface	23	*1000m.b.	*1004m.b.	*993m.b.	23	20.2	28.6	16.6	23	3.3
	1000	23	136	174	83	14	19.0	22.4	16.4	14	2.5
	850	23	1506	1547	1472	23	9.4	16.5	2.9	17	— 1.2
	700	23	3095	3149	3031	23	2.2	6.9	— 5.9	6	—14.9
	600	23	4322	4392	4232	23	— 5.6	— 1.8	—13.6	5	—17.3
	500	22	5730	5811	5603	22	—15.0	—10.5	—19.2	7	—22.5
	400	22	7378	7487	7212	22	—27.2	—23.5	—33.6	6	—29.1
	300	22	9392	9522	9174	22	—42.2	—37.7	—46.1	1	—56.5
	200	21	12056	12157	11845	21	—56.3	—50.3	—60.4	—	—
	150	19	13854	13969	13689	19	—62.9	—55.1	—71.7	—	—
	100	14	16319	16463	16232	14	—67.9	—63.0	—72.6	—	—
	70	12	18465	18510	18400	12	—65.2	—62.7	—68.0	—	—
	60	10	19402	19460	19360	10	—62.2	—59.1	—66.2	—	—
	50	10	20536	20606	20478	10	—59.1	—47.3	—64.0	—	—
	40	8	21954	22026	21917	8	—54.3	—50.3	—57.3	—	—
	30	8	23813	23912	23766	8	—51.6	—49.7	—53.5	—	—
	20	6	26476	26532	26400	6	—44.4	—43.0	—46.1	—	—
	10	1	31102	—	—	1	—48.0	—	—	—	—
Aswan 1200 U.T.	Surface	22	*991m.b.	*994m.b.	*986m.b.	22	24.8	34.0	18.6	21	6.9
	1000	22	110	142	68	—	—	—	—	—	—
	850	22	1506	1533	1485	22	15.2	24.2	5.0	18	—1.3
	700	22	3128	3161	3075	22	8.0	12.1	1.2	6	—11.6
	600	22	4381	4429	4307	22	1.0	5.6	— 3.4	1	—17.7
	500	22	5821	5884	5727	22	— 8.6	— 5.1	—13.3	3	—23.9
	400	22	7512	7596	7394	22	—20.6	—16.8	—24.8	3	—32.5
	300	22	9574	9683	9427	22	—35.8	—32.1	—40.1	1	—39.8
	200	22	12281	12437	12096	22	—55.1	—47.9	—59.0	—	—
	150	21	14077	14297	13906	21	—65.1	—57.3	—70.6	—	—
	100	16	16494	16781	16414	16	—73.4	—69.8	—76.4	—	—
	70	10	18599	18888	18480	10	—71.7	—70.0	—76.2	—	—
	60	8	19494	19579	19432	8	—67.9	—64.5	—70.4	—	—
	50	8	20608	20685	20539	8	—62.0	—60.5	—64.0	—	—
	40	5	22033	22077	21955	5	—56.6	—54.5	—58.2	—	—
	30	5	23881	23927	23795	5	—51.7	—50.9	—52.3	—	—
	20	4	26568	26645	26457	4	—41.1	—37.9	—44.2	—	
	10	—	—	—	—	—	—	—	—	—	

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

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

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

DECEMBER — 1966

	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)										
	Meiss Matruh (A)	2639 (27)	739 (27)	-6.4 (18)	3890	636	—	1550	834	0.0	11180 (6)	225 (6)	-58.6 (6)	12751	175	-70.1	10200	260	-53.1	14200	—	240	110
	Helwan.	3150 (23)	697 (23)	-10.8 (10)	4050	625	—	1630	834	-3.9	13164 (18)	167 (18)	-64.3 (18)	16218	100	-67.3	10720	239	-52.9	8960	324	270	150
	Aswan . . . (A)	4317 (24)	608 (24)	-16.5 (7)	5020	554	—	3340	677	-20.2	15180 (15)	126 (15)	-72.0 (15)	16552	100	-72.8	12280	202	-60.3	10300	—	270	136
1200 U.T.		(N)	(N)	(N)							(N)	(N)	(N)										
	Meiss Matruh (A)	2815 (28)	727 (28)	-6.8 (14)	3870	638	—	1740	826	-0.4	10971 (11)	236 (11)	-55.5 (11)	12270	186	-58.6	9000	313	-44.4	11830	204	254	169
	Helwan	3382 (23)	678 (23)	-10.7 (8)	4180	612	-14.2	2020	793	-2.3	13090 (17)	177 (17)	-62.6 (17)	17600	80	-68.0	9360	298	-44.2	11070	234	280	146
	Aswan . . . (A)	4515 (22)	591 (22)	-18.0 (3)	5260	541	-16.3	3570	658	—	15254 (14)	126 (14)	-71.2 (14)	16781	100	-70.0	11460	227	-53.8	11680	216	260	138

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

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

MERSA MATRUH (A) DECEMBER — 1966

Time	Pressure Surface (Millibar.)	Wind between specified ranges of direction (000—360)°																								Number of Calm winds	Total Number of Observations (T N)	Mean Scalar wind Speed (Knots)
		345/014		015/044		045/074		075/104		105/134		135/164		165/164		195/224		225/254		255/284		285/314		315/344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	0	—	0	—	0	—	0	—	0	—	0	—	2	4	3	10	7	14	13	18	1	19	0	—	1	27	14
	1000	0	—	0	—	0	—	0	—	1	5	0	—	0	—	3	9	4	12	3	25	1	7	0	—	0	12	14
	850	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	16	3	31	1	13	0	—	0	7	22
	700	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	600	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	500	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	400	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	300	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	200	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	150	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Sufrace	0	—	2	8	1	16	0	—	0	—	0	—	0	—	2	19	5	13	9	21	5	24	4	20	0	28	18
	1000	1	21	2	9	0	—	0	—	0	—	1	26	1	27	1	30	5	17	7	27	5	23	0	—	0	23	22
	850	0	—	1	14	0	—	0	—	0	—	0	—	1	13	4	23	5	18	6	30	5	22	0	—	0	22	23
	700	1	7	0	—	0	—	0	—	0	—	0	—	0	—	1	28	9	36	4	35	5	22	1	29	0	21	30
	600	1	8	0	—	0	—	0	—	0	—	0	—	0	—	1	49	8	48	3	49	4	39	1	51	0	18	44
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	65	7	69	4	45	3	59	1	17	0	16	58
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	74	3	51	3	40	0	—	0	12	60
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	56	1	92	1	124	0	—	0	6	73
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	116	0	—	0	—	0	—	0	2	116
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	107	0	—	0	—	0	—	0	2	107
	100	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

N — number of cases the wind has been observed for all directions during the month.

TN— The number of cases the elemnet has been observed during the month.

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

HELWAN — DECEMBER 1966

Time	Pressure Surface (Millibar)	Wind between specified ranges of direction (000—360)°																								Number of Calm winds	Total Number of Observations (TN)	Mean Scalar wind Speed (Knots)
		345/014		015/044		045/074		075/104		105/134		135/164		165/194		195/224		225/254		255/284		285/314		315/344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	3	8	4	8	4	10	2	6	4	5	0	—	0	—	0	—	2	8	2	12	0	—	0	—	2	23	6
	1000	3	11	2	19	5	16	0	—	3	5	0	—	0	—	0	—	1	12	1	6	0	—	1	6	1	17	11
	850	2	12	3	11	1	5	0	—	0	—	1	8	0	—	2	16	5	19	6	15	2	20	1	8	0	23	15
	700	1	8	0	—	0	—	1	4	0	—	0	—	0	—	2	40	6	24	8	22	5	23	0	—	0	23	23
	600	1	10	0	—	0	—	0	—	0	—	0	—	0	—	3	21	8	30	7	26	4	36	0	—	0	23	28
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	30	8	48	10	46	2	38	1	15	0	23	43
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	61	14	57	0	—	0	—	0	22	59
	300	6	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	68	12	71	1	95	0	—	0	14	73
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	8	112	0	—	0	—	0	8	112
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	122	0	—	0	—	0	4	122
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	107	0	—	0	—	0	1	107
	70	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	60	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	4	8	2	15	1	16	0	—	0	—	0	—	0	—	2	12	6	10	3	8	1	5	4		0	23	9
	1000	6	10	2	22	0	—	0	—	0	—	0	—	0	—	0	—	1	13	1	12	3	7	1		0	14	12
	850	0	—	3	11	3	11	1	3	0	—	1	4	2	12	3	27	2	17	7	15	1	16	0	—	0	23	14
	700	1	12	0	—	1	9	1	7	0	—	0	—	2	13	4	16	6	23	6	24	2	19	0	—	0	23	19
	600	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	26	8	31	6	30	3	22	1	6	0	22	28
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	49	6	43	10	42	4	28	0	—	0	22	40
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	55	2	72	16	58	2	46	0	—	0	21	58
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	80	10	64	0	—	0	—	0	14	69
	200	1	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	80	7	91	0	—	0	—	0	8	90
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	79	2	80	0	—	0	—	0	3	80
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	122	0	—	0	—	0	2	122
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	100	0	—	0	—	0	1	100
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	82	0	—	0	—	0	1	82
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

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

ASWAN (A) — DECEMBER 1966

Time	Pressure Surface (Millibar.)	Wind between specified ranges of direction (000—360)°																								Number of Calm winds	Total Number of Observations (T N)	Mean Scalar wind Speed (Knots)
		345 / 014		015 / 044		045 / 074		075 / 104		105 / 134		135 / 164		165 / 194		195 / 224		225 / 254		255 / 284		285 / 314		315 / 344				
		N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m	N	(ff) m			
0000 U.T.	Surface	9	7	7	10	0	—	3	5	0	—	0	—	1	5	1	16	0	—	0	—	0	—	3	9	0	24	8
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	1	9	2	7	2	8	2	7	0	—	1	5	1	7	1	13	4	8	3	7	6	10	1	7	0	24	8
	700	0	—	0	—	0	—	0	—	0	—	0	—	2	18	3	23	6	13	10	20	1	6	1	12	0	23	18
	600	0	—	1	22	0	—	0	—	0	—	0	—	0	—	2	21	9	24	10	32	1	39	0	—	0	23	28
	500	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	39	11	36	11	41	0	—	0	—	0	23	39
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	7	52	16	52	0	—	0	—	0	23	52
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	6	62	17	63	0	—	0	—	0	23	63
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	89	13	75	4	73	0	—	0	19	76
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	59	15	80	2	78	0	—	0	19	78
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	5	41	10	41	0	—	0	—	0	15	41
	70	0	—	0	—	0	—	0	—	0	—	0	—	1	14	0	—	1	13	4	24	0	—	0	—	0	[illegible]	21
	60	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	14	1	42	0	—	0	4	21
	50	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	33	3	7	0	—	0	—	0	4	13
	40	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	20	0	—	0	1	20
	30	0	—	0	—	0	—	0	—	0	—	1	1	0	—	0	—	0	—	0	—	0	—	0	—	0	1	1
	20	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	10	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
1200 U.T.	Surface	8	13	6	8	1	4	1	8	0	—	1	2	2	6	0	—	0	—	0	—	0	—	1	10	2	22	9
	1000	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	850	2	4	1	1	2	6	1	5	2	6	1	16	2	12	1	10	2	5	0	—	3	10	5	9	0	22	8
	700	1	4	0	—	0	—	0	—	0	—	0	—	2	9	3	10	3	22	9	19	3	12	1	13	0	22	15
	600	0	—	0	—	0	—	0	—	1	20	0	—	0	—	2	24	7	26	10	29	1	15	1	23	0	22	26
	500	1	27	0	—	0	—	0	—	0	—	0	—	0	—	2	46	9	36	9	44	1	29	0	—	0	22	39
	400	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	39	9	54	11	58	1	40	0	—	0	22	55
	300	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	4	62	18	65	0	—	0	—	0	22	65
	200	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	75	19	83	1	58	0	—	0	22	81
	150	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	3	84	12	73	2	59	0	—	0	17	74
	100	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	1	35	9	34	0	—	0	—	0	10	38
	70	0	—	0	—	0	—	0	—	0	—	0	—	0	—	0	—	2	16	2	14	1	10	0	—	0	5	14
	60	1	7	0	—	1	10	0	—	0	—	0	—	0	—	0	—	1	10	0	—	0	—	0	—	0	3	9
	50	0	—	0	—	0	—	0	—	1	10	0	—	0	—	0	—	0	—	1	7	0	—	1	7	0	3	8
	40	0	—	0	—	0	—	1	4	0	—	0	—	0	—	0	—	1	6	0	—	0	—	0	—	0	2	5
	30	0	—	0	—	0	—	0	—	1	14	0	—	0	—	0	—	0	—	0	—	1	5	0	—	0	2	10
	20	0	—	—	—	—	—	0	—	1	13	0	—	1	16	0	—	0	—	0	—	0	—	0	—	0	2	14
	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

EL-KASR — DECEMBER 1966

This month was slightly cooler than normal. Mean daily air temperature at 2 metres height above ground was 0.5°C below normal. The month was characterised by a moderate cold wave in the period 17th — 20th with peak on 18th which was associated with the lowest maximum air temperature for the month and the largest amount of rainfall in one day. Two light warm spells occurred on 6th and 23rd and the first spell was associated with the absolute maximum air temperatures for the month.

The extreme maximum soil temperatures at depths between 0.3 and 100 cm. depth were higher than the corresponding values of December 1965 by 3.2 — 0.7°C. The extreme minimum soil temperatures at 0.3, 1, 5, 50 and 100 cm were higher than the corresponding values of last December by 1.0 — 0.1°C while at depths 2, 10 and 20 cm the values were lower than the corresponding values of December 1965 by 0.9 — 0.1°C.

The mean daily wind speed at 2 metres height above ground was higher than the corresponding value of last December by 0.4 m/sec. Mean daily values of Piche evaporation and pan evaporation were higher than the corresponding values of December 1965 by 1.6 and 0.49 mm. respectively. Total actual duration of bright sunshine was 3 hours lower than the corresponding value of last December.

TAHRIR — DECEMBER 1966

This month was slightly warmer and more humid than December 1965. The mean daily air temperature and relative humidity at 2 metres height above ground were higher than the corresponding values of last December by 0.1°C and 3% respectively. Total rainfall was 2.3 mm. higher than the corresponding value of December 1965. The month was characterised by a moderate heat wave in the period 5th — 7th and three cold waves in the periods 8th-12th, 16th-21st and 24th—31st. The heat wave had the peak on 6th which was associated with the absolute maximum temperature of the month.

The extreme maximum soil temperatures in the dry field at depths between 0.3 and 100 cm. were higher than the corresponding values of last December by 3.7 — 1.3°C The extreme minimum soil temperatures at depths 0.3, 2, 5 and 10 cm. were lower than the corresponding values of December 1965 by 1.0 — 0.1°C while at 1, 20, 50 and 100 cm. depths the values were higher than the corresponding values of last December by 1.0 — 0.1 °C.

The mean daily wind speed at 2 metres above ground was 0.1 m/sec lower than the corresponding value of December 1965. Mean daily Piche and Pan evaporation were 0.7 and 0.05 mm. lower than the corresponding values of last December. Total actual duration of bright sunshine was 23.2 hours lower than the corresponding value of December 1965.

GIZA — DECEMBER 1966

This month was mild and drier than normal. Mean daily air temperature and relative humidity at 2 metres height above ground were lower than normal by 0.1°C and 6% respectively. Total rainfall was 5 mm below normal. The month was characterised by a moderate heat wave in the period 5th-7th with peak on 7th which was associated with the absolute maximum air temperature for the month. Except for the period of the heat wave and for the 29th when the maximum air temperature was about 0.5°C above normal, the daily values of maximum air temperature were below normal. Two moderate cold waves prevailed in the periods 8th-11th and 16th-21st.

The extreme maximum soil temperatures in the dry field at depths between 0.3 and 100 cm depths were higher than the corresponding values of December 1965 by 1.0-1.9°C. The extreme minimum soil temperatures at 0.3, 1,2 and 20 cm were lower than the corresponding values of last December by 0.2-1.5°C while at 5, 10, 50 and 100 cm depths the values were higher than the corresponding values of December 1965 by 0.3-1.0°C.

The mean daily wind speed at 2 metres above ground was 0.1 m/sec lower than the corresponding value of last December. Mean daily values of Piche evaporation, pan evaporation and potential evapotranspiration were higher than the corresponding values of December 1965 by 0.2, 0.39 and 0.3mm respectively. Total duration of bright sunshine was 16.8 hours lower than the corresponding value of last December.

KHARGA — DECEMBER 1966

This month was slightly cooler than normal. Mean daily air temperature at 2 metres height above ground was 0.2°Cbelow normal. Total rainfall was zero i.e. 0.3 mm. below normal. The month was characterised by a pronounced heat wave in the period 4th - 7th with peak on 7th which was associated with the absolute maximum air temperature of the month. Three modrate cold waves occurred in periods 8th-14th, 16th-21st and 25th-31st.

The extreme maximum soil temperatures at depths between 0.3 and 100 cm. were higher than the corresponding values of December 1965 by 4.0°C — 1.0°C. The extreme minimum soil temperatures at depths between 0.3 and 20 cm. were lower than the corresponding values of last December by 2.8 — 0.3 °C while at 50 and 100 cm. the values were higher than the corresponding values of December 1965 by 0.2 and 1.1°C respectively.

The mean daily wind speed at 2 metres height above ground was 0.2 m/sec higher than the corresponding value of last December. Mean daily values of Piche evaporation and pan evaporation were higher than the corresponding values of December 1965 by 2.7 and 1.14 mm. respectively. Total actual duration of bright sunshine was 6.6 hours lower than the corresponding value of last December.

Table C 1.—AIR TEMPERATURE AT 2 METRES ABOVE GROUND

DECEMBER — 1966

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
El Kasr	19.5	9.3	14.0	12.2	16.3	24.0	24.0	24.0	21.1	8.3	1.6	0.0	0.0	0.0	0.0	0.0
Tahrir	20.5	8.9	14.3	16.9	12.4	24.0	24.0	24.0	18.6	8.8	3.4	0.9	0.0	0.0	0.0	0.0
Giza	20.9	9.0	14.4	12.7	16.7	24.0	24.0	24.0	20.0	9.9	2.2	0.3	0.0	0.0	0.0	0.0
Kharga	23.0	7.1	14.9	12.4	10.0	24.0	24.0	23.2	18.3	12.2	4.6	0.8	0.2	0.0	0.0	0.0

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

DECEMBER — 1966

STATION	Max. Temp. at 2 metres				Min. Temp. at 2 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
El Kasr	23.7	6	14.8	18	12.6	2	5.2	30	3.8	30	—	—
Tahrir	28.0	6	13.3	19	13.9	5	4.2	15	1.7	15	—	—
Giza	28.5	7	16.0	19	13.9	7	3.9	27	0.2	24	-1.5	9
Kharga	33.1	7	18.9	18	15.8	1	1.8	26	-0.8	27	—	—

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

DECEMBER — 1966

STATION	Solar+Sky Radiation gm. cal/cm²	Duration of Bright Sunshine (hours)			Relative Humidity %						Vapour Pressure (mms)						Evaporation (mms)		Rainfall (mms)		
		Total Actual	Total Possible monthly	%	Duration in hours >90 %	Duration in hours >80 %	Mean of day	1200 U.T.	Lowest	Date	Mean of day	1200 UT	Highest	Date	Lowest	Date	Piche	Pan class (E)	Total Amount monthly	Max. fall in one day	Date
El Kasr.	210.0	213.4	314.5	68	—	—	68	49	23	8,10	7.7	8.1	19.7	6	3.1	9	12.5	5.54	23.7	7.4	18
Tahrir .	268.7	214.5	315.9	68	4	8	70	56	25	15	8.4	8.6	14.8	5	3.6	11	7.5	4.60	19.5	7.7	19
Giza . .	269.1	219.0	317.6	70	2.0	5.8	64	44	23	8	7.7	7.5	14.4	7	3.6	8	2.4	3.72	0.9	0.5	20
Kharga.	313.0	300.4	329.2	91	0.4	2.2	44	30	12	9	5.5	6.1	13.8	7	2.0	9	14.9	7.05	0.0	0.0	—

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

DECEMBER — 1966

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.)									
		0.3	1	2	5	10	20	50	100	200	300	0.3	1	2	5	10	20	50	100	200	300
El Kasr	H	28.0	25.6	25.2	23.4	21.2	19.8	20.3	22.0	23.1	—	—	—	—	—	—	—	—	—	—	—
	L	5.0	6.5	6.3	8.1	8.2	11.4	14.7	17.8	21.1	—	—	—	—	—	—	—	—	—	—	—
Tahrir	H	32.5	31.3	27.6	27.2	24.7	22 2	22.2	23.8	25.7	26 1	—	—	—	—	—	—	—	—	—	—
	L	4.3	5.3	4.8	8.3	9.8	12.3	15.7	18.8	22 2	24.1	—	—	—	—	—	—	—	—	—	—
Giza	H	37.9	35.8	36.0	26.0	23.4	22.8	24.4	26.3	27.3	27.0	24.2	22.4	21.8	19.6	19.0	19.4	21.4	22.6	23.8	—
	L	2.0	3.1	4.1	9.4	13.9	16.4	18.4	22.3	25.4	26.4	3.4	6.6	6.7	9.5	11.3	13.2	16.4	18.9	22.2	—
Kharga	H	—	—	34.0	31.0	27.0	26.4	28.0	29.0	30.1	30.0	—	—	—	—	—	—	—	—	—	—
	L	—	—	3.2	6.8	12.5	16.4	20.6	28.9	28.1	29.3	—	—	—	—	—	—	—	—	—	—

Table C 5.—SURFACE WIND

DECEMBER — 1966

STATION	Wind Speed m/sec at 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 konts	≥25 knots	≥30 knots	≥35 knots	≥40 knots	value	Date
El Kasr	4.8	4.3	5.6	—	—	—	—	—	—	—	—	—
Tahrir	2.6	2.0	3.4	23	14	8	3	0	0	0	40	17
Giza	2.1	1.5	2.9	20	5	0	0	0	0	0	24	7,17
Kharga	3.0	2.1	4.1	23	13	2	0	0	0	0	30	7

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