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Ministry of Public Works, Egypt — Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR JANUARY 1936

The Weather

Very mild and settled with an almost complete absence of the wind and rain storms usual at this time of year; on the Mediterranean coast, the warmest January for at least twenty-eight years. The day temperature in Cairo was continuously above normal.

At the beginning of the month Egypt was under the influence of a depression over Tripoli. Warm southerly winds prevailed in Egypt; the maximum temperature recorded at Helwan reached 25° C, or 7° C above normal. The depression passed quickly to the east, but with small effect on the weather of Egypt.

On the 5th a very deep and extensive depression appeared over the foot of Italy, winds blew mainly from the south, and by the end of the first week, the depression reached Asia Minor. A well defined cold front traversed Egypt causing an appreciable fall in temperature although it remained above normal. Light rain fell near the coast and was accompanied by strong winds.

Settled weather followed for a few days. On the 9th a shallow depression was centred off Benghazi and southerly winds continued. Two days later the depression had reached the coast of Palestine and heavy rain fell at Salum, the amount registered being 11 mms. Light showers occurred also in Lower Egypt on the following days.

On the 15th, when a shallow trough of low pressure extended from the central Mediterranean towards Egypt, the weather improved and remained fine for several days Anticyclonic conditions prolonged the period of settled weather until the end of the fourth week. Morning mists were frequent during this period.

On the 27th a deep depression was situated near Malta and moved rapidly eastwards. Southerly winds again developed throughout Lower Egypt and the weather became abnormally warm. A maximum temperature of 28° C was recorded at Giza, being 9° C above normal.

The cold front of this depression passed over Egypt on the 29th when the wind reached a velocity of 70 kilometres per hour at Alexandria. Much cloud developed and light showers fell on the coast.

On the 31st another deep depression approached Egypt from the west. During its approach, the wind at Salum attained a velocity of 84 kilometres per hour from the east-southeast.

For the month as a whole the mean atmospheric pressure deviated little from the normal. The temperature was much above normal throughout Egypt, and below elsewhere. The relative humidity at Alexandria was above normal on all but five days, and was 8 per cent above normal on the average. Rainfall was considerably below normal.

TABLE SHOWING THE DEPARTURES FROM NORMAL FOR JANUARY 1936

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN. 2			
	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal
	mb.	m b.	°C.	°C.	°C.	°C.	°C.	°	mm.	mm.
I. Mediterranean	1018·6	+0·1	20·9	+2·6	11·4	+1·6	16·2	+2·1	12	—27
II. Lower Egypt	1019·2	—0·2	21·8	+1·9	7·1	+0·4	14·4	+1·2	2	—14
III. Middle Egypt	1019·4	0·0	21·9	+2·9	8·8	+1·1	15·4	+2·0	0	—6
IV. Upper Egypt	1019·6	—0·1	23·3	+2·0	7·4	+0·4	15·4	+1·2	—	—
V. Western Desert ...	1019·7	—0·2	22·5	+1·3	5·2	+0·3	13·8	+0·8	—	—
VI. Red Sea (Egypt) ...	1018·0	—0·2	23·3	+1·6	11·6	+0·6	17·4	+1·1	—	—
* VII. Red Sea (Sudan) ...	1015·7	+0·1	27·1	0·0	19·1	—0·8	23·1	—0·4	2	—5
VIII. North Sudan	1015.5	+0·2	29·5	—0·1	11·5	—1·4	20·5	—0·8	0	0
XI. Central Sudan	1014.0	+0·5	31·9	—1·2	12·2	—1·1	22·0	—1·1	0	0
X. South Sudan	1011.6	+0·6	35·8	—0·4	18·4	—0·1	27·1	—0·2	10	+9

* Port Sudan only

L. J. SUTTON
Director, Meteorological Service.

National Oceanic and Atmospheric Administration

Environmental Data Rescue Program

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State of the River

Lake Albert at Butiaba fell 9 cms. during the month. Its level on February 1st, 1936, was 39 cms. below the normal and 28 cms. below that of the corresponding day of last year.

The Bahr el Jebel at Juba fell slightly during the month, the levels being below both the normal and those of last year.

The River Sobat at Nasser fell at about normal rate until the 13th, rose until the 17th and fell again normally for the rest of the month. The levels were below both the normal and last year's during the first 20 days and almost identical with them for the rest of the month.

The White Nile at Malakal fell very rapidly during the first half of the month and about normally thereafter. On the average the levels were about 15 cms. below normal and about 60 cms. below those of last year.

The Blue Nile at Roseires fell normally for the first 14 days then rose for two days and fell again thereafter. The levels were well above both the normal and last year's throughout the month. At Khartoum the Blue Nile fell at about normal rate the levels being above normal and practically the same as last year's.

The Main Nile at Kajnarti fell normally, the levels being above normal but below last year's throughout the month.

The differences of the mean levels in January 1936 from those of January 1935 and from the normal 1906-35 were:—

STATION	Mean Differences of Levels	
	January 1936 minus January 1935	January 1936 minus Normal
	Metres	Metres
Juba	— 0·20	— 0·33
Nasser	— 0·54	— 0·34*
Malakal	— 0·61	— 0·14
Roseires	+ 0·34	+ 0·78
Khartoum	— 0·02	+ 0·25
Kajnarti	— 0·15	+ 0·26

* Nasser normal is for 1922-1935 only.

Discharges of the Nile during December, 1935

Observed by the Irrigation Department

Esna (D.S. Barrage)

(Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	73·82	1370
12	73·68	1360
19	73·04	1080
30	73·12	1130
Approx. Monthly Mean		1230

Aswân

(Measured by Sluices)
(Aswân D.S. Gauge.)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	86·95	1620
2	86·95	1620
3	86·94	1620
4	86·95	1620
5	86·94	1620
6	86·94	1620
7	86·93	1620
8	86·93	1620
9	86·94	1620
10	86·94	1620
11	86·80	1500
12	86·64	1390
13	86·48	1270
14	86·31	1160
15	86·30	1160
16	86·29	1160
17	86·29	1160
18	86·29	1150
19	86·28	1160
20	86·28	1160
[illegible]	[illegible]	1160
[illegible]	[illegible]	1160
[illegible]	[illegible]	1160
[illegible]	[illegible]	1160
25	86·29	1160
26	86·27	1160
27	86·26	1160
28	86·25	1160
29	86·33	1220
30	86·33	1210
31	86·33	1210
Approx Monthly Mean		1340
Normal Mean 1912-1934		1470

Kajnarty (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	135·35	2090
3	135·26	2110
4	135·21	2060
5	135·17	2050
7	135·05	1920
8	135·00	1910
10	134·97	1910
11	134·92	1880
13	134·77	1810
14	134·71	1740
15	134·70	1760
16	134·70	1770
17	134·70	1780

Kajnarty (*contd.*)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
19	134·73	1820
22	134·80	1870
23	134·78	1810
24	134·75	1790
25	134·70	1780
26	134·69	1770
30	134·51	1680
31	134·46	1670
Approx Monthly Mean		1850
Normal Mean 1912-1934		1760

River Atbara

(0·5 Km. U.S. Bridge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	10·05	30
12	10·06	30
18	9·98	21
24	9·87	18
Approx. Monthly Mean		25
Normal Mean 1912-1934		17

Hassanâb (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
6	11·92	1670
11	11·99	1760
17	11·94	1720
23	11·78	1530
27	11·76	1540
31	11·70	1530
Approx. Monthly Mean		1660
Normal Mean 1912-1934		1570

Tamaniât (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	11·52	1700
8	11·60	1780
14	11·59	1720
19	11·44	1620
23	11·40	1470
26	11·38	1460
Approx. Monthly Mean		1630
Normal Mean 1912-1934		1580

Khartoum (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	11·82	670
7	11·90	715
12	11·88	659*
13	11·86	636
17	11·75	583*
21	11·66	483*
25	11·62	472*
Approx. Monthly Mean		580
Normal Mean 1912-1934		495

Hillet Sherif (Blue Nile)

(Old Sennar Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11·37	607
3	11·45	710
5	11·47	739
7	11·42	704
9	11·36	653
11	11·25	624
14	11·09	540
16	11·06	507
18	11·02	499
21	11·00	485
23	10·93	458
25	10·89	436
29	10·81	405
31	10·75	377
Approx. Monthly Mean		545
Normal Mean 1912-1934		467

Gezîra Main Canal

(Kilo. 1·3)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	16·06	71
8	16·06	73
17	16·01	68
17	16·01	68
Approx. Monthly Mean		68
Normal Mean 1925-1934		58

Roseires (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	14·16	773
4	14·07	782
6	13·98	710
8	13·90	713
10	13·80	662
12	13·73	629
14	13·65	567
16	13·59	557
18	13·52	542
20	13·46	543
22	13·40	515
24	13·35	507
26	13·29	481
28	13·25	469
30	13·20	458
Approx. Monthly Mean		595
Normal Mean 1912-1934		499

Mogren (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	11·96	1010
7	12·06	1080
13	12·05	1080
18	11·93	1040
22	11·88	971
25	11·84	991
Approx. Monthly Mean		1030
Normal Mean 1912-1934		1090

Malakâl (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	12·35	1200
10	12·33	1220
15	12·30	1190
21	12·25	1150
25	12·17	1070
30	11·97	992
Approx. Monthly Mean		1150
Normal Mean 1912-1934		1120

Hillet Doleîb (River Sobât)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	13·78	765
9	13·76	751
13	13·74	715
19	13·65	684
24	13·52	603
29	13·27	465
Approx. Monthly Mean		663
Normal Mean 1912-1934		638

River Sobât (At Head)

(Nâsser Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	10·26	510
13	9·72	400
18	9·28	480†
19	9·16	468
21	8·92	433
22	8·78	429
23	8·62	408
24	8·42	380
25	8·25	372
26	8·08	356
28	7·70	322
30	7·31	273
31	7·12	247
Approx. Monthly Mean		422
Normal Mean 1929-1934		408

River Gila (At Mouth)

(Gila Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	9·59	73
12	9·17	69
Approx Monthly Mean		—
Normal Mean 1929-1934		43

River Pibor

(U.S. Gila Junction)
(Gila Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	9·59	60
12	9·17	55
Approx. Monthly Mean		—
Normal Mean 1929-1934		79

* Measured at Soba.

† From Dec. 18th the Discharge Site was transferred to Nasser and Nasser discharge includes Khor Wakau.

Discharges of the Nile during December 1935 (*continued*)

Observed by the Irrigation Department

Akôbo (River Pibor)

Day of Month	Gauge Reading m.	Disch m³. p.s.
5	14·24	14
10	14·03	15
15	13·72	9
20	13·26	8
25	12·60	8
31	11·70	6
Approx. Monthly Mean		10
Normal Mean 1929-1934		37

Bahr el Zerâf (Kilo. 3)

(Gauge at Mouth)

Day of Month	Gauge Reading m.	Disch m³. p.s.
8	12·82	167
18	12·77	164
28	12·64	166
Approx Monthly Mean		166
Normal Mean 1912-1934		160

Abu Tong (White Nile)

(Tonga Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	12·90	299
18	12·87	298
28	12·78	323
Approx. Monthly Mean		305
Normal Mean 1923-1934		295

Lake No (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	14·07	314
17	14·06	313
27	14·06	320
Approx. Monthly Mean		315
Normal Mean 1923-1934		294

Bahr el Ghazâl

(At Mouth)

(Suddite Factory Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	14·03	— 3
17	14·03	4
27	14·02	6
Approx. Monthly Mean		2
Normal Mean 1923-1934		13

Bahr el Jebel (Kilo. 3)

(Lake No Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	14·07	311
17	14·06	316
27	14·06	314
Approx. Monthly Mean		314
Normal Mean 1923-1934		287

Gigging (Bahr el Jebel)

(Western Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	28·36	131
Approx. Monthly Mean		126
Normal Mean 1931-1934		208

Gemeiza (Bahr el Jebel)

(Eastern Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	428·34	531
Approx. Monthly Mean		525
Normal Mean 1931-1934		650

Terrakekka (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	12·72	653
Approx. Monthly Mean		649
Normal Mean 1931-1934		864

Mongalla (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11·32	670
6	11·30	650
11	11·27	643
16	11·24	642
21	11·22	637
26	11·20	621
Approx. Monthly Mean		639
Normal Mean 1912-1934		826

Correction:—Halfa discharges measured on Oct. 26th and 27th should read 5050 and 4910 respectively.

Occasional Discharges

Observed by the Irrigation Department

Date	River	Site	Gauge Reading	Gauge Site	Disch. m.³ p.s.
			M.		
		River Sobât and Tributaries			
-12-1935	Sobât	D. S. Khôr Nyanding Junction	12·82	Nyanding Mouth	715
-12-1935	,,	,, ,, ,, ,, ...	12·39	,,	639
-12-1935	,,	500 mts. U.S. Nyanding Mouth	12·39	,,	633
-12-1935	Khôr Nyanding	70 ,, ,, Mouth	12·39	,,	10
-12-1935	,, Twalor	Mouth	10·24	Nâsser	56
-12-1935	,, ,,	,, ...	9·67	,,	46
-12-1935	,, Wakau	,, ...	10·26	,,	43
-12-1935	,, ,,	,, ...	9·72	,,	75
-12-1935	Akôbo	,, ...	14·37	Akôbo	28
-12-1935	,,	,, ...	13·99	,,	25
-12-1935	Agwei	,, ...	14·03	,,	13
		White Nile and Tributaries			
-12-1935	Tonga Cut	Mouth	12·90	Tonga	2
-12-1935	,,	,, ...	12·88	,,	4
-12-1935	,,	,, ...	12·82	,,	11
-12-1935	White Nile	U.S. Barboi Head, 100 mts. U.S.R.P. 10...	12·90	,,	287
-12-1935	,, ,,	,, ,, ,, ,, ,, ,, ,, ...	12·88	,,	305
-12-1935	,, ,,	,, ,, ,, ,, ,, ,, ,, ...	12·82	,,	304
-12-1935	Khôr Yergol	Mouth	14·18	Khôr Yergol	0
-12-1935	,, ,,	,, ...	14·17	,,	0
-12-1935	,, ,,	,, ...	14·14	,,	0
-12-1935	White Nile	U.S. Khôr Yergol	14·18	,,	304
-12-1935	,, ,,	,, ,, ,, ...	14·17	,,	300
	,, ,,	,, ,, ,, ...	14·14	,,	313
	Outlet on left bank	Mouth, 200 mts. U.S.R.P. 6...	14·18	,,	3
	,, ,, ,,	,, ,, ,, ,, ,, ...	14·17	,,	3
	Maya Sinyora	Mouth	14·07	Lake Nô	1
-12-1935	,, ,, ,,	,, ...	14·06	,,	2
-12-1935	,, ,, ,,	,, ...	14·06	,,	1
-12-1935	White Nile	U.S. Maya Sinyora	14·07	,,	309
-12-1935	,, ,,	,, ,, ,, ...	14·06	,,	305
-12-1935	,, ,,	,, ,, ,, ...	14·06	,,	318

P. Phillips

Director, Hydrological Service.

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Ministry of Public Works, Egypt — Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR FEBRUARY, 1936

The Weather

Like the two previous months, February was unusually mild. Throughout the winter the temperature has been almost continously, and often considerably, above normal, while rainfall has been extremely small.

A succession of heat waves, some of them accompanied by moderate khamsin conditions, was experienced during the month, in the last of which a record high temperature for February (34° C or 93° F) was reached in Cairo.

At the beginning of the month a complicated system of depressions covered the eastern Mediterranean, and strong southerly winds prevailed in Egypt. With the rapid passage of the depressions showers occurred near the coast and in parts of the Delta. On the 3rd. a deep depression was situated over Italy, with a continuous gradient of pressure from Egypt. Southerly winds blew, and the weather became warmer. At Salum the wind velocity on the 3rd. and 4th. reached 96 kilometres an hour, and sandstorms were prevalent in the western desert. On its approach the depression became shallower, and westerly winds brought a fall in temperature. The winds again blew from the south on the 11th. when a depression was centred over Greece. Sandstorms were again general, but by the following day the depression had reached Syria and northwesterly winds, at times of gale force, traversed Egypt. At Alexandria a velocity of 97 kilometres an hour was recorded and considerable damage to property and shipping resulted. For some days there were light showers throughout Lower Egypt, and the weather became cooler. The temperature again began to rise on the 15th., when a depression off Benghasi caused southerly winds in Egypt. The depression arrived north of the Delta on the 17th. and its passage was accompanied by showers which however were very light. The temperature fell slightly below normal on the 23 rd., but Egypt then came under the influence of a depression approaching from the central Mediterranean and with southerly winds the weather became steadily warmer, with moderate khamsin conditons. Towards the end of the month a depression crossed Egypt from the western desert, and the temperature in Cairo rose rapidly from a maximum of 25° C on the 26th. to 34 C on the 29th.

For the month as a whole, the barometric pressure was below normal, and the temperature above normal, in all districts of Egypt and the Sudan. Except in the southern Sudan, rainfall was everywhere below normal. In Lower Egypt showers were not infrequent, but rainfall was generally so light as to be negligible. The winter has been remarkably dificient in rainfall. From the beginning of October to the end of February less than half the normal amount has fallen at Alexandria, while in the coastal strip to the west the lack of rain is serious for the inhabitants, only about a quarter of the normal amount having been received.

TABLE SHOWING THE DEPARTURES FROM NORMAL FOR FEBRUARY 1936

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN./2			
	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal
	mb.	m b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean	1013·2	—3·8	20·5	+1·6	11·2	+1·0	15·8	+1·3	7	—18
II. Lower Egypt	1013·9	—3·3	22·2	+1·8	8·1	+1·3	15·2	+1·6	7	— 5
III. Middle Egypt	1014·2	—3·6	23·1	+2·6	10·0	+1·8	16·6	+2·2	2	— 2
IV. Upper Egypt	1015·2	—2·9	26·0	+2·7	9·6	+1·8	17·8	+2·2	—	—
V. Western Desert ...	1015·9	—1·7	26·2	+2·9	7·3	+1·4	16·8	+2·2	—	—
VI. Red Sea (Egypt) ...	1014·1	—2·4	24·9	+2·7	12·8	+1·7	18·8	+2·2	—	—
* VII. Red Sea (Sudan) ...	1013·8	—0·9	28·2	+1·0	19·5	+0·4	23·8	+0·7	0	— 3
VIII. North Sudan	1012·7	—1·4	33·1	+1·7	14·5	+0·9	23·8	+1·3	0	0
XI. Central Sudan... ...	1011·0	—1·3	35·9	+1·3	15·1	+0·8	25·5	+1·0	0	0
X. South Sudan	1009·7	—0·4	37·7	+0·4	21·0	+1·2	29·4	+0·8	25	+18

* Port Sudan only.

L. J. SUTTON
Director, Meteorological Service.

Discharges of the Nile during January, 1936

Observed by the Irrigation Department

Esna (D.S. Barrage)

(Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	73·14	1160
9	73·13	1120
16	73·25	1340
31	73·22	1250
Approx. Monthly Mean		1240
Normal Mean 1933-1935		1220

Aswân

(Measured by Sluices)
(Aswân D.S. Gauge.)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	86·33	1200
2	86·32	1210
3	86·33	1210
4	86·33	1220
5	86·34	1220
6	86·34	1220
7	86·34	1220
8	86·35	1220
9	86·35	1220
10	86·35	1220
11	86·34	1220
12	86·34	1220
13	86·33	1220
14	86·45	1300
15	86·45	1300
16	86·45	1300
17	86·51	1340
18	86·60	1410
19	86·65	1440
20	86·61	1410
21	86·56	1380
22	86·51	1350
23	86·46	1320
24	86·41	1290
25	86·41	1290
26	86·41	1290
27	86·40	1290
28	86·40	1280
29	86·41	1280
30	86·41	1280
31	86·41	1280
Approx Monthly Mean		1280
Normal Mean 1912-1935		1130

Kajnarty (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	134·43	1650
2	134·41	1630
3	134·39	1600
4	134·36	1580
5	134·34	1610
8	134·31	1530
9	134·30	1570
10	134·26	1550
11	134·24	1530
12	134·22	1530
13	134·18	1490
14	134·16	1480
15	134·16	1480

Kajnarty (*contd.*)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
16	134·12	1460
19	134·04	1430
20	134·01	1430
21	133·98	1410
22	133·95	1400
23	133·95	1400
26	133·84	1330
27	133·81	1340
28	133·78	1320
29	133·75	1320
30	133·76	1340
31	133·70	1310
Approx Monthly Mean		1470
Normal Mean 1912-1935		1360

Hassanâb (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	11·61	1410
13	11·57	1450
18	11·49	1340
24	11·37	1210
27	11·34	1240
31	11·27	1160
Approx. Monthly Mean		1350
Normal Mean 1912-1935		1220

Tamaniât (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	11·28	1430
9	11·20	1330
14	11·06	1290
20	11·00	1210
23	10·92	1120
27	10·85	1090
Approx. Monthly Mean		1250
Normal Mean 1912-1935		1190

Soba (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11·09	425
7	10·95	400
12	10·87	349
18	10·73	301
21	10·69	278
25	10·78	333
Approx. Monthly Mean		342
Normal Mean 1912-1935		268

Hillet Sherif (Blue Nile)

(Old Sennar Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	10·72	371
4	10·68	356
6	10·63	346
8	10·60	321
11	10·54	321
13	10·50	295
15	10·47	285
18	10·56	317
20	10·62	356
22	10·58	343
25	10·45	289
27	10·36	260
29	10·29	239
Approx. Monthly Mean		312
Normal Mean 1912-1935		240

Gezîra Main Canal

(Kilo. 1·3)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	15·75	58
7	15·75	58
19	15·57	46
19	15·57	50
Approx. Monthly Mean		53
Normal Mean 1926-1935		47

Roseires (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	13·15	442
3	13·11	447
5	13·06	416
7	13·03	392
9	12·98	385
11	12·96	380
13	12·94	380
15	13·02	396
17	13·06	417
19	12·96	388
21	12·85	364
23	12·80	334
25	12·74	320
27	12·70	311
29	12·66	301
31	12·64	300
Approx. Monthly Mean		373
Normal Mean 1912-1935		285

Mogren (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	11·76	998
8	11·64	956
13	11·44	953
19	11·42	894
22	11·31	829
26	11·25	760
Approx. Monthly Mean		888
Normal Mean 1912-1935		922

Malakâl (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	11.54	890
10	11.26	740
15	11.03	668
20	10.89	698
25	10.80	673
30	10.68	644
Approx. Monthly Mean		738
Normal Mean 1912-1935		819

Hillet Doleîb (River Sobât)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	12.88	300
9	12.42	193
14	12.17	152
19	12.02	181
24	11.94	139
29	11.80	133
Approx. Monthly Mean		188
Normal Mean 1912-1935		318

Nasser (River Sobat)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	6·94	229
2	6·79	214
4	6·54	184
5	6·46	179
6	6·40	174
7	6.34	169
8	6.26	162
9	6.22	159
11	6.13	151
12	6.08	146
13	6.03	142
14	6.07	151
15	6.14	161
16	6·17	160
18	6·14	162
19	6·12	158
20	6·06	152
21	6·02	144
22	5·98	143
23	5·96	140
25	5·86	128
26	5·82	125
27	5·76	122
28	5·74	117
29	5·72	115
30	5·70	114
Approx. Monthly Mean		154
Normal Mean 1929-1935		182

Akôbo (River Pibor)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	11·14	4

Bahr el Zerâf (Kilo. 3)

(Gauge at Mouth)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	12·22	165
18	11·97	164
28	11·85	163
Approx Monthly Mean		164
Normal Mean 1912-1935		154

Abu Tong (White Nile)

(Tonga Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	12·49	351
18	12·26	363
28	12·14	354
Approx. Monthly Mean		353
Normal Mean 1923-1935		324

Lake No (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	14·00	319
17	13·96	332
27	13·90	341
Approx. Monthly Mean		331
Normal Mean 1923-1935		305

Discharges of the Nile during January 1936 (*continued*)

Observed by the Irrigation Department

Bahr el Ghazâl

(At Mouth)

(Suddite Factory Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	14·01	14
17	13·94	22
27	13·90	18
Approx. Monthly Mean		18
Normal Mean 1923-1935		16

Bahr el Jebel (Kilo. 3)

(Lake No Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	14·00	319
17	13·96	327
27	13·90	331
Approx. Monthly Mean		325
Normal Mean 1923-1935		293

Gigging (Bahr el Jebel)

(Western Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	28·16	116
Approx. Monthly Mean		112
Normal Mean 1931-1935		184

Gemeiza (Bahr el Jebel)

(Eastern Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	428·18	516
Approx. Monthly Mean		492
Normal Mean 1931-1935		601

Terrakekka (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
6	12·54	644
Approx. Monthly Mean		619
Normal Mean 1931-1935		794

Mongalla (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11·19	609
6	11·17	610
11	11·16	593
16	11·15	620
21	11·13	577
26	11·11	579
Approx. Monthly Mean		594
Normal Mean 1912-1935		748

Occasional Discharges

Observed by the Irrigation Department

Date	River	Site	Gauge Reading	Gauge Site	Disch. m.³ p.s.
			M.		
		White Nile and Tributaries			
5-1-1936	Tonga Cut	Mouth	12·56	Tonga	15
15-1-1936	"	"	12·31	"	12
25-1-1936	"	"	12·18	"	7
5-1-1936	White Nile	U.S. Barboi Head, 100 mts. U.S.R.P. 10...	12·56	"	333
15-1-1936	" "	" " " " " " "	12·31	"	343
26-1-1936	" "	" " " " " " "	12·17	"	350
6-1-1936	Khôr Yergol	Mouth	13·99	Khôr Yergol	0
16-1-1936	" "	"	13·83	"	0
26-1-1936	" "	"	13·74	"	0
6-1-1936	White Nile	U.S. Khôr Yergol	13·99	"	326
16-1-1936	" "	" " "	13·83	"	350
26-1-1936	" "	" " "	13·74	"	344
6-1-1936	Outlet on left bank	Mouth, 200 mts. U.S.R.P. 6...	13·99	"	2
16-1-1936	" " "	" " " " "...	13·83	"	1
26-1-1936	" " "	" " " " "...	13·74	"	0
6-1-1936	Maya Sinyora	Mouth	14·02	Lake No	2
16-1-1936	" " "	"	13·97	"	1
26-1-1936	" " "	"	13·92	"	0
6-1-1936	White Nile	U.S. Maya Sinyora	14·02	"	337
16-1-1936	" "	" " "	13·97	"	340
26-1-1936	" "	" " "	13·92	"	353

P. Phillips

Director, Hydrological Service

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Ministry of Public Works, Egypt — Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR MARCH, 1936

The Weather

Abnormally mild, with four heat waves.

The month opened with very warm weather throughout Egypt and the Sudan, the atmospheric pressure being everywhere abnormally low. A shallow depression passed over the Delta and the day temperature was in many places 10° C. above the normal for the time of year. The passage of the depression on the 2nd was followed by north-westerly winds and a fall in temperature, but the weather again became rapidly warmer, reaching its maximum intensity on the 6th, when depressions were situated over southern Greece and the Lybian desert. By the following day these depressions had passed to the east and westerly winds prevailed in Egypt. The weather quickly became much cooler. With low pressure persisting over Syria, cool weather was maintained in Egypt until the 12th, and light scattered showers occurred.

On the 13th a depression appeared near Benghasi, moving rapidly eastwards, causing warm southeast winds and Khamsin conditions in Egypt. At Salum the wind reached a velocity of 96 kilometres per hour, with a severe duststorm. Within two days the depression passed and the weather again became cool.

Egypt came under the influence of a depression on the 19th and the temperature again rose. With its passage to Syria, a steep gradient of pressure was established from high pressure over the Balkans across the eastern Mediterranean, and strong northeasterly winds prevailed for some days. Dust storms occurred in various places, and at Helwan the wind reached 72 kilometres per hour.

On the 26th a depression was situated over the interior of Libya, and easterly winds traversed Egypt, causing mild Khamsin conditions. The depression crossed the Delta on the following day, when the temperature in Cairo rose to 33° C. (91° F.) or 7° C. above normal. Unusually hot weather was experienced in Upper Egypt. This depression had a pronounced cold sector which during the following days traversed Egypt and the Sudan to the extreme south, causing a large fall in temperature, while dust storms took place in many localities on its arrival. The effect of the cold front was very pronounced in Upper Egypt, the maximum temperature falling from 44° C. (111° F., a record for March) on the 28th to 27° C. (81° F.) on the 31st.

For the month as a whole the atmospheric pressure was below normal in all districts except along the Mediterranean coast, while the temperature was above normal throughout Egypt and the Sudan. Both in Alexandria and in Cairo the relative humidity was higher than usual. Rainfall was practically negligible throughout Egypt. In Alexandria there was no measurable rain, and from 1st October to date only 40 per cent of the normal amount has been received, while at Mersa Matruh the season's rainfall is only 21% of the normal.

TABLE SHOWING THE DEPARTURES FROM NORMAL FOR MARCH 1936

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN./2			
	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean	1016·0	+0·1	21·8	+1·0	13·5	+1·4	17·6	+1·2	1	—11
II. Lower Egypt	1016·1	—0·1	24·8	+0·7	9·9	+1·0	17·4	+0·8	1	— 4
III. Middle Egypt	1015·7	—0·6	25·8	+1·7	11·8	+1·3	18·8	+1·5	0	— 4
IV. Upper Egypt	1014·7	—1·1	29·7	+1·7	12·4	+1·5	21·0	+1·6	—	—
V. Western Desert ...	1014·7	—1·3	28·6	+0·8	10·9	+1·2	19·8	+1·0	—	—
VI. Red Sea (Egypt) ...	1013·7	—0·9	26·3	+1·3	15·2	+1·2	20·8	+1·2	—	—
* VII. Red Sea (Sudan) ...	1012·3	—0·7	30·0	+1·3	21·5	+1·8	25·8	+1·6	0	— 1
VIII. North Sudan	1009·8	—1·9	37·7	+2·3	18·5	+1·7	28·1	+2·0	0	0
XI. Central Sudan... ...	1008·5	—1·5	39·7	+2·1	18·5	+1·3	29·1	+1·7	0	— 1
X. South Sudan	1008·8	—0·4	39·0	+1·0	22·1	+0·7	30·6	+0·8	28	+ 6

* Port Sudan only.

L. J. SUTTON
Director, Meteorological Service.

State of the River

Lake Albert at Butiaba fell 2 cms. during the month. Its level on April 1, 1936, was 16 cms. below the normal and 4 cms. below that of the corresponding day of last year.

The Bahr el Jebel at Juba fell during the first week and remained steady thereafter. The levels were below the normal and a few centimetres below last year's.

Except for the period 7th to 10th, the River Sobat at Nasser fell steadily during the whole month, the level which was 41 cms. above normal at the beginning being 28 cms. below normal at the end. After the 22nd the levels were considerably below last year's.

The White Nile at Malakal fell faster than normally, the levels being above normal for the first half of the month and below normal for the second half and rather lower than last year's throughout.

The Blue Nile at Roseires fell faster than normally during the whole month, the level which was 83 cms. abov enormal at the beginning being only 39 cms. above normal at the end. The levels were above those of last year until the 26th and below them thereafter. At Khartoum the Blue Nile contiaued to rise for the first few days and then fell steadily for the rest of the month. The levels were above those of last year throughout.

The Main Nile at Kajnarti fell slowly for the first week, then rose slightly until the 17th and fell again thereafter. The level which was 7 cms. above normal at the beginning of the month was 25 cms. above normal at the end.

The differences of the mean levels in March 1936 from those of March 1935 and from the normal 1906-1935 were:—

STATION	MEAN DIFFERENCES OF LEVELS	
	March 1936 minus March 1935	March 1936 minus Normal
	Metres	Metres
Juba	— 0·05	— 0·20
Nasser	+ 0·06	+ 0·06*
Malakal	— 0·10	+ 0·01
Roseires	+ 0·36	+ 0·63
Khartoum	+ 0·19	+ 0·18
Kajnarti	+ 0·14	+ 0·25

* Nasser normal is for 1923-19 5 only.

Discharges of the Nile during February, 1936

Observed by the Irrigation Department

Esna (D.S. Barrage)

(Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
6	73·08	1180
13	72·82	1090
20	72·56	879
27	72·48	868
Approx. Monthly Mean		1030
Normal Mean 1933-1935		1150

Aswân

(Measured by Sluices)
(Aswân D.S. Gauge.)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	86·40	1280
2	86·40	1280
3	86·40	1280
4	86·34	1250
5	86·34	1250
6	86·29	1220
7	86·29	1220
8	86·29	1220
9	86·20	1170
10	86·17	1160
11	86·08	1100
12	86·07	1100
13	86·07	1100
14	85·98	1040
15	85·94	1020
16	85·86	975
17	85·87	983
18	85·87	983
19	85·86	983
20	85·86	982
21	85·89	998
22	85·89	997
23	85·78	924
24	85·76	924
25	85·75	927
26	85·75	927
27	85·75	925
28	85·69	893
29	85·69	893
Approx. Monthly Mean		1070
Normal Mean 1912-1935		953

Kajnarty (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	133·66	1290
3	133·57	1240
4	133·56	1240
5	133·53	1230
6	133·51	1210
8	133·47	1180
9	133·40	1180
10	133·35	1130
11	133·31	1140
12	133·27	1120
13	133·23	1100
16	133·03	1000
17	132·98	978
18	132·95	940
19	132·92	962

Kajnarty (*contd.*)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
21	132·85	925
22	132·80	924
24	132·72	905
25	132·70	895
26	132·70	891
27	132·67	896
28	132·64	889
29	132·63	884
Approx Monthly Mean		1050
Normal Mean 1912-1935		984

Hassanâb (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	11·06	997
10	11·02	972
15	10·94	896
19	10·90	852
23	10·87	837
28	10·90	874
Approx. Monthly Mean		933
Normal Mean 1912-1935		882

Tamaniât (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	10·64	1030
6	10·56	976
11	10·44	918
15	10·42	909
19	10·42	889
24	10·38	852
Approx. Monthly Mean		925
Normal Mean 1912-1935		868

Soba (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	10·47	277
4	10·33	256
9	10·22	229
13	10·23	241
17	10·30	249
22	10·33	233
Approx. Monthly Mean		249
Normal Mean 1912-1935		169

Hillet Sherif (Blue Nile)

(Old Sennar Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	10·20	221
4	10·17	197
6	10·17	196
8	10·20	212
10	10·21	217
12	10·29	239
15	10·28	234
17	10·34	263
19	10·39	274
22	10·44	291
25	10·54	330
27	10·54	334
29	10·47	310
Approx. Monthly Mean		255
Normal Mean 1912-1935		176

Gezîra Main Canal

(Kilo. 1·3)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
6	15·72	54
6	15·72	53
20	15·78	57
20	15·78	57
Approx. Monthly Mean		55
Normal Mean 1926-1935		47

Roseires (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	12·61	288
4	12·58	267
6	12·56	279
8	12·56	279
10	12·58	284
12	12·59	289
14	12·59	290
16	12·60	293
18	12·70	325
20	12·80	348
22	12·88	370
24	12·76	327
26	12·56	286
28	12·46	262
28	12·44	254
29	12·42	247
Approx. Monthly Mean		298
Normal Mean 1912-1935		187

Mogren (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	10·96	733
5	10·94	730
10	10·78	680
14	10·76	659
18	10·76	632
23	10·73	610
Approx. Monthly Mean		663
Normal Mean 1912-1935		697

Malakâl (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	10.57	610
10	10.56	660
15	10.56	596
21	10.58	650
25	10.63	645
Approx. Monthly Mean		630
Normal Mean 1912-1935		650

Hillet Doleib (River Sobât)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	11.70	120
9	11.68	142
13	11.67	143
19	11.68	144
24	11.75	168
29	11.66	134
Approx. Monthly Mean		142
Normal Mean 1912-1935		172

Nasser (River Sobat)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	5·70	116
2	5·72	119
3	5·72	118
4	5·76	122
5	5·79	128
6	5.86	135
8	5.92	144
9	5.91	140
10	5.91	143
11	5.90	143
12	5.88	137
13	5.87	140
15	5.84	137
16	5·94	152
17	6·08	170
18	6·18	179
19	6·22	179
20	6·24	182
22	6·16	172
23	6·10	163
24	6·02	152
25	5·91	144
26	5·82	131
27	5·74	124
29	5·59	107
Approx. Monthly Mean		143
Normal Mean 1929-1935		85

Bahr el Zerâf (Kilo. 3)

(Gauge at Mouth)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	11·74	162
19	11·72	150
28	11·72	151
Approx. Monthly Mean		156
Normal Mean 1912-1935		148

Abu Tong (White Nile)

(Tonga Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	12·05	356
19	12·00	343
28	12·00	331
Approx. Monthly Mean		346
Normal Mean 1923-9235		325

Lake No (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	13·86	360
17	13·83	333
27	13·80	335
Approx. Monthly Mean		343
Normal Mean 1923-1935		317

Discharges of the Nile during February 1936 (*continued*)

Observed by the Irrigation Department

Bahr el Ghazâl

(At Mouth)

(Suddite Factory Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	13·87	37
17	13·83	18
27	13·80	15
Approx. Monthly Mean		23
Normal Mean 1923-1935		19

Bahr el Jebel (Kilo. 3)

(Lake No. Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	13·86	332
17	13·83	323
27	13·80	316
Approx. Monthly Mean		325
Normal Mean 1923-1935		301

Gigging (Bahr el Jebel)

(Western Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	28·04	103
Approx. Monthly Mean		110
Normal Mean 1931-1935		169

Gemeiza (Bahr el Jebel)

(Eastern Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	428·09	452
Approx. Monthly Mean		475
Normal Mean 1931-1935		574

Terrakekka (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	12·43	581
Appox. Monthly Mean		608
Normal Mean 1931-1935		749

Mongalla (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11·11	558
6	11·10	570
11	11·34	643
16	11·14	561
21	11·14	560
26	11·16	564
Approx. Monthly Mean		580
Normal Mean 1912-1935		698

Occasional Discharges

Observed by the Irrigation Department

Date	River	Site	Gauge Reading	Gauge Site	Disch. m.³ p.s
			M.		
		White Nile and Tributaries			
5-2-1936	Tonga Cut	Mouth	12·07	Tonga	5
15-2-1936	"	"	12·03	"	2
25-2-1936	"	"	12·01	"	2
5-2-1936	White Nile	U.S. Barboi Head. 100 mts. U.S.R.P. 10	12·07	"	353
15-2-1936	" "	" " " " " " "	12·03	"	341
26-2-1936	" "	" " " " " " "	12·01	"	338
6-2-1936	Khôr Yergol	Mouth	13·65	Khôr Yergol	0
16-2-1936	" "	"	13·61	"	0
26-2-1936	" "	"	13·59	"	0
6-2-1936	White Nile	U.S. Khôr Yergol	13·65	"	358
16-2-1936	" "	" " "	13·61	"	332
26-2-1936	" "	" " "	13·59	"	324
6-2-1936	Outlet on left bank	Mouth, 200 mts. U.S.R.P. 6	13·65	"	0
16-2-1936	" " "	" " " " "	13·61	"	0
26-2-1936	" " "	" " " " "	13·59	"	0
6-2-1936	Maya Sinyora	Mouth	13·86	Lake No	0
6-2-1936	White Nile	U.S. Maya Sinyora	13·86	"	348
16-2-1936	" "	" " "	13·84	"	334
26-2-1936	" "	" " "	13·80	"	335
		Bahr el Zerâf			
3-2-1936	Zerâf	D.S. Tail Cut No. 2	26·45	Pole 53	119
17-2-1936	"	" " " "	26·42	"	115
1-2-1936	"	U.S. Tail Cut No. 1	28·01	T.C. 1	—22
15-2-1936	"	" " " "	27·97	"	—25
		Jebel-Zerâf Cuts			
3-2-1936	Jebel-Zerâf Cuts	Tail Cut No. 2...	26·57	H.C. 2	23
17-2-1936	" " "	" " "	26·52	"	23
1-2-1936	" " "	Tail Cut No. 1...	28·01	T.C. 1	105
15-2-1936	" " "	" " "	27·97	"	107
3-2-1936	" " "	Head Cut No. 2	26·57	H.C. 2	23
17-2-1936	" " "	" " "	26·52	"	23
1-2-1936	" " "	Head Cut No. 1	11·83	H.C. 1	105
15-2-1936	" " "	" " "	11·80	"	106
		Bahr el Jebel and Tributaries			
5-2-1936	Jebel	D.S. Buffalo Cape	11·22	Buffalo Cape	311
19-2-1936	"	" " "	11·17	"	319
4-2-1936	"	D.S. Hillet Nuer	10·77	Hillet Nuer	360
18-2-1936	"	" " "	10·73	"	331
2-2-1936	"	D.S. Peake's Channel	26·57	H.C. 2	355
16-2-1936	"	" " "	26·52	"	334
2-2-1936	"	D.S. Head Cut No. 2	26·57	"	240
16-2-1936	"	" " " "	26·52	"	253
1-2-1936	"	U.S. Head Cut No. 1	11·83	H.C. 1	391
15-2-1936	"	" " " "	11·80	"	382

Occasional Discharges (*contd.*).

(*Observed by the Irrigation Department*)

Date	River	Site	Gauge Reading	Gauge Site
		Bahr el Jebel and Tributaries (*continued*)		
6-2-1936	Jebel	D.S. Awai Tails 1 A and 1 B	10·77	Pole 86
20-2-1936	"	" " " " "	10·74	"
7-2-1936	"	Awai Tail Gauge	11·40	Awai Tail
20-2-1936	"	" " "	11·36	"
6-2-1936	"	U.S. Awai Tails 1 A and 1 B	10·77	Pole 86
20-2-1936	"	" " " " "	10·74	"
5-2-1936	"	Kenisa	10·63	Kenisa
19-2-1936	"	"	10·64	"
4-2-1936	Atem (West. Chan.)	At Jonglei	8·08	Jonglei
17-2-1936	" " "	" "	8·07	"
4-2-1936	Atem (East. Chan.)	" "	8·08	"
17-2-1936	" " "	" "	8·07	"
2-2-1936	Jebel	U.S. Atem Heads 2 A, B, C and D	10·81	Pole 114
16-2-1936	"	" " " " "	10·82	"
2-2-1936	"	D.S. Lake Papiu	10·72	Lake Papiu
16-2-1936	"	" " "	10·73	"
2-2-1936	"	U.S. Lake Papiu	10·72	"
16-2-1936	"	" " "	10·73	"
1-2-1936	"	Bor	10·40	Bor
15-2-1936	"	"	10·46	"
1-2-1936	Khor Unyam Kojie	Mouth	10·40	"
15-2-1936	" " "	"	10·46	"
29-2-1936	" " "	"	10·48	"

P. Phillips

Director, Hydrological Ser

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Ministry of Public Works, Egypt — Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR APRIL, 1936

The Weather

April was the fifth month in succession during which the weather was abnormally warm. Between 7th and 24th five heat waves, three of which were very pronounced, were experienced. The remainder of the month was on the whole fairly cool.

At the beginning Egypt was under the influence of a high-pressure system and the weather was cool and pleasant. Temperatures began to rise on 7th, and by 9th, when depressions were situated west of Benghasi and over the Aegean, easterly and southeasterly winds prevailed in Egypt. On 12th the Mediterranean depression was passing along the coast of the Delta and with southerly winds the temperature in Cairo reached 39° C.

By the following morning the depression had passed, and with the veer of the winds to the northwest the temperature fell rapidly, the maximum in Cairo being only 26° C.

On 17th a depression was situated over the Ionian Sea resulting in southerly winds and warm weather in Egypt. Its passage caused winds of gale strength and severe sandstorms generally. The temperature in Cairo reached 40°C. By 19th the depression had passed to the east and cool northerly winds prevailed throughout Egypt. Within two days however, Egypt again came under the influence of depressions, and the weather, rapidly became hot. Southerly winds of gale strength arose and a velocity of 110 kilometres per hour was recorded at Salum on 22nd. Severe sandstorms were again general. The temperature in several places was 14° or 15° C above the normal. In Cairo the maximum temperature reached 42·5° C (109°F) which is within half a degree of the record for April. By the following day the depressions had passed and the temperature fell rapidly, but an appreciable rise took place on 24th. Subsequently the weather became much cooler, and for the last week was on the whole very cool for the time of year.

Except in Lower Egypt and the Northern Sudan the barometric pressure for the month as a whole was everywhere slightly above normal, while the temperature was appreciably above normal in all districts except in the Southern Sudan. Rainfall was negligible in Egypt and about normal in the Sudan.

TABLE SHOWING THE DEPARTURES FROM NORMAL FOR APRIL 1936

DISTRICTS	Barometric Pressure		Temperature						Rainfall	
			Maximum		Minimum		Max.+Min. 2			
	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean	1014·6	+0·4	24·7	+1·4	15·6	+1.2	20·2	+1·3	0	— 4
II. Lower Egypt	1014·5	—0·4	29·4	+1·5	12·9	+1.4	21·2	+1·4	0	— 3
III. Middle Egypt	1014·5	+0·1	30·1	+1·8	14·5	+1·3	22·3	+1·6	0	— 2
IV. Upper Egypt	1013·9	+0·2	34·3	+1·6	16·7	+1·8	25·5	+1·7	—	—
V. Western Desert ...	1014·1	+0·2	33·7	+1·4	15·2	+1·6	24·4	+1·5	—	—
VI. Red Sea (Egypt) ...	1013·0	+0·6	29·5	+1·5	18·3	+1·2	23·9	+1·4	—	—
*VII. Red Sea (Sudan) ...	1012·0	+0·9	32·7	+1·2	21·8	+0·4	27·2	+0·8	4	+3
VIII. North Sudan	1009·3	—0·1	39·9	+0·7	22·1	+1·6	31·0	+1·2	0	—1
XI. Central Sudan... ...	1009·0	+0·8	40·1	0·0	21·8	+1·5	31·0	+0·8	13	+ 9
X. South Sudan	1009·7	+0·4	37·7	+0·5	21·9	—0·5	29·8	0·0	58	—10

* Port Sudan only.

L. J. SUTTON
Director, Meteorological Service.

State of the River

Lake Albert at Butiaba rose 8 centimetres during the month. Its level on May 1, 1936 was 7 centimetres below normal but 9 centimetres above that of the corresponding day of last year.

Except for the 16th when the level was a few centimetres above normal, the Bahr el Jebel at Juba fluctuated below normal during the whole month. The levels were, in general, about the same as last year's.

The River Sobat at Nasser which was 29 centimetres below normal at the beginning of the month rose rapidly until the 23rd when it was 28 centimetres above normal but fell again to normal level at the end of the month.

The White Nile at Malakal was steady until the 20th, in which period the levels were below normal and much below those of last year. During the last 10 days there was a steady rise, the level at the end of the month being a few centimetres above normal and practically the same as last year's.

The Blue Nile at Roseires rose for the first four days and then remained almost steady until the 12th. From the 12th to the 16th there was a rapid rise and on the 16th the level was 104 centimetres above normal. After this date the levels fell continuously to the end of the month, but were well above normal throughout, and except for the first few days, also above those of last year. At Khartoum the Blue Nile fluctuated slightly during the month, the levels being on the average a few centimetres below both the normal and those of last year.

At Kajnarti the Main Nile fell, on the whole, rather faster than normally and was a little below both the normal and last year's level at the end of the month.

The differences of the mean levels in April 1936 from those of April 1935 and from the normal 1906–1935 were :—

STATION	Mean Differences of Levels	
	April 1936 minus April 1935	April 1936 minus Normal
	Metres	Metres
Juba	— 0·04	— 0·21
Nasser	— 0·31	— 0·12*
Malakal	— 0·32	— 0·04
Roseires	+ 0·27	+ 0·66
Khartoum	— 0·01	— 0·10
Kajnarti	+ 0·09	+ 0·11

* Nasser normal is for 1922–1935 only.

Discharges of the Nile during March, 1936

Observed by the Irrigation Department

Esna (D.S. Barrage)

(Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	72·45	865
19	72·48	748
28	72·30	799
Approx. Monthly Mean		804
Normal Mean 1933-1935		864

Aswân

(Measured by Sluices)
(Aswân D.S. Gauge.)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	85·70	906
2	85·70	905
3	85·70	905
4	85·69	904
5	85·69	904
6	85·69	903
7	85·68	903
8	85·68	902
9	85·66	890
10	85·66	889
11	85·66	893
12	85·70	916
13	85·74	940
14	85·74	940
15	85·74	939
16	85·74	939
17	85·74	937
18	85·74	937
19	85·74	937
20	85·74	938
21	85·59	857
22	85·58	860
23	85·58	859
24	85·58	859
25	85·58	859
26	85·57	859
27	85·57	858
28	85·57	857
29	85·57	856
30	85·59	857
31	[illegible]·58	857
	Mean	896
	-1935	771

Kajnarty (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	132·62	860
2	132·61	857
8	132·52	846
11	132·54	870
12	132·55	851
13	132·55	839
14	132·58	871
16	132·65	888
17	132·64	879
19	132·52	832
20	132·47	823
21	132·44	802
22	132·45	817

Kajnarty (*contd.*)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
23	132·47	823
24	132·44	794
25	132·40	797
26	132·35	784
27	132·31	780
28	132·30	779
29	132·30	781
Approx Monthly Mean		833
Normal Mean 1912-1935		729

Hassanâb (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	10·93	883
14	10·79	827
18	10·75	766
23	10·74	755
27	10·69	729
30	10·68	734
Approx. Monthly Mean		805
Normal Mean 1912-1935		695

Tamaniât (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	10·45	941
10	10·35	842
14	10·21	793
19	10·21	783
23	10·15	776
26	10·12	739
Approx. Monthly Mean		808
Normal Mean 1912-1935		706

Soba (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	10·59	290
8	10·34	228
12	10·04	204
17	10·09	206
21	10·07	208
24	10·05	191
Approx. Monthly Mean		214
Normal Mean 1912-1935		150

Hillet Sherif (Blue Nile)

(Old Sennar Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	10·34	260
4	10·34	261
7	10·10	194
9	10·09	194
11	10·12	185
14	10·16	202
16	10·16	206
18	10·15	208
21	10·12	198
23	10·06	188
25	10·06	184
28	10·06	183
30	10·04	182
Approx. Monthly Mean		205
Normal Mean 1912-1935		150

Gezîra Main Canal

(Kilo. 1·3)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
10	15·72	53
10	15·72	55
23	16·11	74
23	16·10	75
Approx. Monthly Mean		60
Normal Mean 1926-1935		52

Roseires (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	12·37	244
3	12·30	221
5	12·24	206
7	12·20	197
9	12·21	206
11	12·16	194
13	12·10	182
15	12·06	175
17	12·04	175
19	12·06	173
21	12·00	167
23	11·92	157
25	11·86	138
27	11·82	131
29	11·78	125
31	11·74	124
Approx. Monthly Mean		176
Normal Mean 1912-1935		130

Mogren (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	10·81	637
9	10·72	605
13	10·55	596
18	10·57	572
22	10·49	563
25	10·44	529
Approx. Monthly Mean		576
Normal Mean 1912-1935		559

Malakâl (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	10·52	605
5	10·41	590
10	10·29	570
15	10·24	549
20	10·15	542
25	10·08	479
30	9·98	506
Approx. Monthly Mean		545
Normal Mean 1912-1935		577

Hillet Doleib (River Sobât)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	11·54	110
9	11·38	86
13	11·35	88
19	11·23	69
24	11·14	55
29	11·07	48
Approx. Monthly Mean		77
Normal Mean 1912-1935		115

Nasser (River Sobat)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	5·52	99
2	5·48	98
3	5·44	94
5	5·38	88
7	5·34	82
8	5·36	84
9	5·37	86
10	5·36	86
11	5·32	80
12	5·28	79
14	5·20	70
17	5·10	65
18	5·08	64
19	5·05	61
21	4·99	55
22	4·97	55
23	4·95	52
24	4·93	52
25	4·90	50
26	4·89	49
29	4·86	45
30	4·85	45
31	4·84	45
Approx. Monthly Mean		68
Normal Mean 1929-1935		62

Akôbo (River Pibor)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
Jan. 10	10·77	1
15	10·70	2
20	10·74	2
25	10·62	1
31	10·30	1
Approx. Monthly Mean		2
Normal Mean 1929-1935		10
Feb. 5	10·23	3
10	10·38	1
15	10·36	1
20	10·49	3
25	10·46	3
29	10·15	2
Approx. Monthly Mean		2
Normal Mean 1929-1935		2
Mar. 5	9·96	1
10	10·14	1
15	10·05	0
20	9·86	1
25	9·77	0
31	9·77	0
Approx. Monthly Mean		1
Normal Mean 1929-1935		1

Discharges of the Nile during March 1936 (*contd.*)

Observed by the Irrigation Department

Bahr el Zerâf (Kilo. 3)

(Gauge at Mouth)

Day of Month	Gauge Reading m.	Disch. m³. p s.
8	11·59	142
18	11·50	133
28	11·39	128
Approx. Monthly Mean		136
Normal Mean 1912-1935		141

Abu Tong (White Nile)

(Tonga Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	11·90	332
18	11·80	332
28	11·72	328
Approx. Monthly Mean		331
Normal Mean 1923-1935		314

Lake No (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	13·76	337
17	13·72	336
27	13·68	341
Approx. Monthly Mean		337
Normal Mean 1923-1935		316

Bahr el Ghazâl

(At Mouth)

(Suddite Factory Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	13·76	19
17	13·72	31
27	13·68	30
Approx. Monthly Mean		26
Normal Mean 1923-1935		15

Bahr el Jebel (Kilo. 3)

(Lake No. Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	13·76	314
17	13·72	318
27	13·68	314
Approx. Monthly Mean		315
Normal Mean 1923-1935		303

Gigging (Bahr el Jebel)

(Western Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	28·26	119
Approx. Monthly Mean		113
Normal Mean 1931-1935		167

Gemeiza (Bahr el Jebel)

(Eastern Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	428·30	504
Approx. Monthly Mean		494
Normal Mean 1931-1935		568

Terrakekka (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	12·74	636
Appox. Monthly Mean		601
Normal Mean 1931-1935		739

Mongalla (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11·38	627
6	11·24	595
11	11·21	591
16	11·18	546
21	11·17	570
26	11·16	548
Approx. Monthly Mean		575
Normal Mean 1912-1935		675

River Assua (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
20	1·10	8
25	1·00	5

Meshra Surrour

(Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
18	8·34	620
19	8·34	587
20	8·34	590
21	8·34	612
22	8·34	588
23	8·33	576

River Unyama

(Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
18	9·88	0
19	9·88	0
20	9·88	0
21	9·87	0
22	9·87	0
23	9·87	0

Occasional Discharges

(Observed by the Irrigation Department)

Date	River	Site	Gauge Reading	Gauge Site	Disch. m³. p.s.
			M.		
		White Nile and Tributaries			
5- 3-1936	Tonga Cut	Mouth	11·93	Tonga	0
15- 3-1936	,,	,, ...	11·84	,,	0
25- 3-1936	,,	,, ...	11·75	,,	0
5- 3-1936	White Nile	U.S. Barboi Head, 100 mts. U.S.R.P. 10	11·93	,,	346
15- 3-1936	,,	,, ,, ,, ,, ,, ,, ,, ...	11·84	,,	334
26- 3-1936	,,	,, ,, ,, ,, ,, ,, ,, ...	11·74	,,	329
6- 3-1936	Khor Yergol	Mouth	13·54	K. Yergol	0
16- 3-1936	,,	,, ...	13·48	,,	0
26- 3-1936	,,	,, ...	13·41	,,	0
6- 3-1936	White Nile	U.S. khor Yergol	13·54	,,	343
16- 3-1936	"	,, ,, ,, ...	13·48	,,	343
26- 3-1936	,,	,, ,, ,, ...	13·41	,,	340
6- 3-1936	Outleton left Bank	Mouth, 200 mts. U.S.R.P. 6	13·54	,,	0
16- 3-1936	,,	,, ,, ,, ,, ,, ...	13·48	,,	0
26- 3-1936	,,	,, ,, ,, ,, ,, ...	13·41	,,	0
6- 3-1936	White Nile	U.S. Maya Sinyora	13·76	Lake No	342
16- 3-1936	,,	,, ,, ,, ...	13·72	,,	336
26- 3-1936	,,	,, ,, ,, ...	13·67	,,	332
		Bahr el Zerâf			
3- 3-1936	Zerâf	D.S. Tail Cut No. 2	26·38	Pole 53	119
17- 3-1936	,,	,, ,, ,, ,, ...	26·33	,,	113
1- 3-1936	,,	U.S. Tail Cut No. 1	27·92	T.C. 1	—19
15- 3-1936	,,	,, ,, ,, ,, ...	27·89	,,	—22
		Jebel-Zerâf Cuts			
3- 3-1936	Jebel-Zerâf Cuts	Tail Cut No. 2	26·48	H.C. 2	21
17- 3-1936	,, ,, ,,	,, ,, ,, ...	26·47	,,	22
1- 3-1936	,, ,, ,,	Tail Cut No. 1	27·92	T.C. 1	105
15- 3-1936	,, ,, ,,	,, ,, ,, ...	27·89	,,	103
3- 3-1936	,, ,, ,,	Head Cut No. 2	26·48	H.C. 2	21
17- 3-1936	,, ,, ,,	,, ,, ,, ...	26·47	,,	21
[illegible]936	,, ,, ,,	Head Cut No. 1	11·76	H.C. 1	103
[illegible]936	,, ,, ,,	,, ,, ,, ...	11·73	,,	101
		Bahr el Jebel and Tributaries			
5- 3-1936	Jebel	D.S. Buffalo Cape	11·13	B. Cape	312
19- 3-1936	,,	,, ,, ,, ...	11·08	,,	319
4- 3-1936	,,	D.S. Hillet Nuer	10·67	H. Nuer	318
18- 3-1936	,,	,, ,, ...	10·62	,,	323
2- 3-1936	,,	D.S. Peake's Channel	26·48	H.C. 2	328
16- 3-1936	,,	,, ,, ,, ...	26·47	,,	319
2- 3-1936	,,	D.S. Head Cut No. 2	26·48	H.C. 2	236
16- 3-1936	,,	,, ,, ,, ,, ...	26·47	,,	238
1- 3-1936	,,	U.S. Head Cut No. 1	11·76	H.C. 1	378
15- 3-1936	,,	,, ,, ,, ,, ...	11·73	,,	359

Occasional Discharges (*contd.*)

(Observed by the Irrigation Department)

Date	River	Site	Gauge Reading	Gauge Site
			M.	
		Bahr el Jebel and Tributaries (*contd.*)		
5-3-1936	Jebel	D.S. Awai Tails 1 A and 1 B	10·70	Pole 86
19-3-1936	"	" " " " "	10·68	"
5-3-1936	"	Awai Tail Gauge	11·31	Awai Tail
19-3-1936	"	" " "	11·26	"
5-3-1936	"	U.S. Awai Tails 1 A and 1 B	10·70	Pole 86
19-3-1936	"	" " " " "	10·68	"
4-3-1936	"	Kenisa	10·63	Kenisa
18-3-1936	"	"	10·64	"
3-3-1936	Atem (West. Chan.)	At Jonglei	8·02	Jonglei
17-3-1936	" " "	" "	8·02	"
3-3-1936	Atem (East. Chan.)	" "	8·02	"
17-3-1936	" " "	" "	8·02	"
1-3-1936	Jebel	U.S. Atem Heads 2 A, B, C and D	10·84	Pole 114
15-3-1936	"	" " " " "	10·83	"
2-3-1936	"	D.S. Lake Papiu	10·75	Lake Papiu
16-3-1936	"	" " "	10·80	"
2-3-1936	Lake Papiu	Mouth	10·75	"
16-3-1936	"	"	10·80	"
2-3-1936	Jebel	U.S. Lake Papiu	10·75	"
16-3-1936	"	" " "	10·80	"
1-3-1936	"	Bor	10·51	Bor
15-3-1936	"	"	10·50	"
15-3-1936	Khor Unyam Kojie	Mouth	10·50	"

P. Phillips

Director, Hydrological Se

Govt. Press 836-1936-150 ex.

Ministry of Public Works, Egypt — Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR MAY, 1936

The Weather

Several hot periods but none intense or of long duration ; warm nights.

At the beginning of the month a trough of low pressure to the west caused warm easterly winds. Thunderstorms and sandstorms were reported in several places.

A depression passed over the Delta on the 4th, and by the following day northwesterly winds prevailed, bringing a sharp fall in temperature. Cool weather however was of short duration and on the 8th Egypt was again under the influence of approaching depressions, and the weather rapidly became warmer, the temperature in Cairo on the 9th reaching 38°C (100°F). Thunderstorms occurred in Cairo and other localities on the 10th and light showers were general for a few days. Heavy rain fell near the coast in the west, the amount recorded in one storm at Salum being 18 millimetres. The wind velocity at Alexandria reached 70 kilometres per hour. A spell of unusually cool weather followed, lasting until the 18th. During the remainder of the month short periods of warm and cool weather alternated.

With the approach of depressions from the west on the 23rd southerly winds prevailed and the night was remarkably hot. In Cairo the temperature during the night of 23/24 did not fall below 25°C (77°F) ; this was the hottest night in May since 1927. Hot weather on the 25th was followed by a sudden break, but on 28th hot southerly winds again traversed Egypt. The maximum temperature reached 38°C (11°C above the normal for the time of year) at Alexandria, and 40°C (104°F) in Cairo. The arrival of strong westerly winds, reaching gale force at times, caused a large fall in temperature, which on the following day did not exceed 30°C in Cairo. The wind reached a velocity of 70 kilometres per hour at Alexandria and rough seas were experienced throughout the eastern Mediterranean.

For the month as a whole, the barometric pressure was abnormally low in all districts while except on the coast and in the Delta, the tmeperature was above normal, but not by large amounts. Rainfall was above normal on the Mediterranean coast. Rainfall in the Sudan was normal in the South and below elsewhere.

TABLE SHOWING THE DEPARTURES FROM NORMAL FOR MAY 1936

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN./2			
	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean	1010·2	—3·2	25·4	—0·5	17·3	0.0	21·4	—0·2	7	+ 5
II. Lower Egypt	1010·1	—3·9	31·0	—1·1	15·8	+0.4	23·4	—0·4	3	+ 1
III. Middle Egypt	1009·5	—3·6	32·3	+0·1	17·7	+0·9	25·0	+0·5	0	— 1
IV. Upper Egypt	1009·1	—2·9	36·7	+0·4	20·4	+1·3	28·6	+0·8	—	—
V. Western Desert ...	1009·1	—3·2	36·3	—0·3	19·1	+0·9	27·7	+0·3	—	—
VI. Red Sea (Egypt) ...	1008·8	—2·3	32·2	+0·7	21·5	+0·4	26·8	+0·6	—	—
*VII. Red Sea (Sudan) ...	1008·2	—1·3	35·5	+0·5	23·4	—0·4	29·4	0·0	8	+ 7
VIII. North Sudan	1006·4	—2·2	43·2	+1·8	25·2	+1·1	34·2	+1·4	3	— 2
XI. Central Sudan... ...	1007·4	—1·0	42·0	+2·1	24·6	+2·1	33·3	+2·1	11	—12
X. South Sudan	1009·4	—1·4	36·6	+1·7	21·9	—0·1	29·2	+0·8	124	+ 7

* Port Sudan only.

L. J. SUTTON
Director, Meteorological Service.

State of the River

Lake Albert at Butiaba rose one centimetre during the month. Its level on June 1, 1936 was 11 centimetres below the normal and 1 centimetre below that of the corresponding day of last year.

The Bahr el Jebel at Juba fluctuated below both the normal and last year's levels during the whole month.

The River Sobat at Nasser fell for the first few days and then rose faster than normally for the rest of the month. The levels were on the average a little above normal but a little below last year's.

The White Nile at Malakal was almost steady for the first week and then rose rather faster than normally for the rest of the month. The levels were on the average a little above normal but continuously below those of last year.

The Blue Nile at Roseires rose slower than normally the level which was 39 centimetres above normal at the beginning was 14 centimetres below normal at the end of the month. The levels were on the average, more than half a metre lower than last year's. At Khartoum the Blue Nile was almost steady until the 22nd and rose at normal rate thereafter. The levels were on the average a few centimetres below normal and about 20 centimetres below last years.

The Main Nile at Kajnarti was practically steady throughout the month the levels being a little below both the normal and last year's.

The differences of the mean levels in May 1936 from those of May 1935 and from the normal 1906–1935 were :

STATION	MEAN DIFFERENCES OF LEVELS	
	May 1936 minus May 1935	April 1936 minus Normal
	Metres	Metres
Juba	— 0·26	— 0·30
Nasser	— 0·14	+ 0·11*
Malakal	— 0·17	+ 0·08
Roseires	— 0·60	+ 0·27
Khartoum	— 0·18	— 0·05
Kajnarti	— 0·10	— 0·06

* Nasser normal is for 1922–1935 only.

Discharges of the Nile during April, 1936

Observed by the Irrigation Department

Esna (D.S. Barrage)

(Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	72·28	775
10	72·22	728
16	72·21	784
28	72·35	864
30	72·35	888
Approx. Monthly Mean		793
Normal Mean 1933-1935		751

Aswân

(Measured by Sluices)
(Aswân D.S. Gauge.)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	85·50	813
2	85·49	813
3	85·49	813
4	85·49	813
5	85·49	811
6	85·48	814
7	85·48	814
8	85·47	813
9	85·47	813
10	85·47	812
11	85·49	822
12	85·51	821
13	85·51	823
14	85·52	822
15	85·51	821
16	85·51	823
17	85·51	822
18	85·50	821
19	85·50	824
20	85·51	822
21	85·61	878
22	85·61	881
23	85·61	880
24	85·65	904
25	85·66	901
26	85·66	905
27	85·65	901
28	85·64	904
29	85·63	903
30	85·64	903
Approx. Monthly Mean		844
Normal Mean 1912-1935		719

Kajnarty (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	132·21	765
2	132·21	769
3	132·19	742
4	132·19	741
6	132·18	745
7	132·15	733
8	132·11	722
9	132·07	702
10	132·05	695
11	132·05	700
15	131·91	655
16	131·88	650
17	131·86	663

Kajnarty (*contd.*)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
18	131·86	644
19	131·90	649
21	131·89	640
22	131·85	641
23	131·86	643
29	131·78	631
30	131·78	633
Approx Month'y Mean		679
Normal Mean 1912-1935		649

Hassanâb (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	10·57	648
11	10·53	656
15	10·58	733
20	10·51	661
26	10·60	691
30	10·60	704
Approx. Monthly Mean		684
Normal Mean 1912-1935		643

Tamaniât (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	9·97	664
7	9·94	644
11	9·99	675
16	9·94	659
23	10·05	682
26	10·06	695
Approx. Monthly Mean		670
Normal Mean 1912-1935		677

Soba (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	9·93	171
5	9·90	174
9	9·96	192
15	9·95	187
21	10·08	187
24	10·12	210
Approx. Monthly Mean		189
Normal Mean 1912-1935		163

Hillet Sherif (Blue Nile)

(Old Sennar Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	10·07	180
4	10·11	197
6	10·10	197
8	10·09	199
11	10·09	199
13	10·11	201
15	10·11	198
18	10·23	231
20	10·22	228
22	10·27	251
25	10·11	199
27	10·09	196
29	10·09	193
Approx. Monthly Mean		206
Normal Mean 1912-1935		196

Gezîra Main Canal

(Kilo. 1·3)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
9	14.88	22
9	14.88	24
Approx. Monthly Mean		—
Normal Mean 1926-1935		25

Roseires (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	11·76	127
4	11·94	155
6	11·94	155
8	11·93	153
10	11·96	162
12	11·97	165
14	12·07	180
16	12·38	245
18	12·25	217
20	12·06	183
22	11·98	169
24	12·04	180
26	12·01	170
28	11·90	150
Approx. Monthly Mean		170
Normal Mean 1912-1935		119

Mogren (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	10·29	488
6	10·25	468
10	10·30	484
15	10·25	461
22	10·38	490
25	10·38	487
Approx. Monthly Mean		481
Normal Mean 1912-1935		524

Malakâl (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	10·00	454
10	9·98	495
15	10·02	498
20	10·02	518
25	10·09	532
30	10·15	543
Approx. Monthly Mean		504
Normal Mean 1912-1935		537

Hillet Doleib (River Sobât)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	11·04	45
9	11·01	47
23	11·07	90
Approx. Monthly Mean		68
Normal Mean 1912-1935		95

Nasser (River Sobat)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	4·84	44
2	4·83	43
4	4·86	46
5	4·86	46
6	4·89	49
7	4·95	53
8	5·04	60
9	5·14	70
11	5·24	77
12	5·24	75
14	5·25	78
15	5·24	77
16	5·23	76
18	5·34	85
19	5·38	88
20	5·40	96
21	5·57	106
22	5·70	116
23	5·72	122
25	5·70	121
26	5·70	119
27	5·70	117
28	5·67	118
29	5·65	116
30	5·62	112
Approx. Monthly Mean		83
Normal Mean 1929-1935		93

Akôbo (River Pibor)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	9·64	0

Bahr el Zerâf (Kilo. 3)

(Gauge at Mouth)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	11·33	118
22	11·31	116
Approx. Monthly Mean		118
Normal Mean 1912-1935		132

Abu Tong (White Nile)

(Tonga Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	11·67	325
22	11·64	325
Approx. Monthly Mean		326
Normal Mean 1923-1935		308

Lake No (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	13·62	319
19	13·58	326
Approx. Monthly Mean		323
Normal Mean 1923-1935		311

Discharges of the Nile during April 1936 (*contd.*)

Observed by the Irrigation Department

Bahr el Ghazâl (At Mouth)

(Suddite Factory Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	13·61	17
19	13·58	16
Approx. Monthly Mean		17
Normal Mean 1923-1935		13

Bahr el Jebel (Kilo. 3)

(Lake No Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	13·62	310
19	13·58	312
Approx. Monthly Mean		308
Normal Mean 1923-1935		301

Gigging (Bahr el Jebel)

(Western Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	28·11	105
Approx. Monthly Mean		116
Normal Mean 1931-1935		174

Gemeiza (Bahr el Jebel)

(Eastern Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	428·12	483
Approx. Monthly Mean		507
Normal Mean 1931-1935		579

Terrakekka (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	12·46	564
Appox. Monthly Mean		617
Normal Mean 1931-1935		763

Mongalla (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11·16	570
6	11·18	577
11	11·26	599
16	11·34	636
21	11·31	613
25	11·28	619
Approx. Monthly Mean		610
Normal Mean 1912-1935		718

Occasional Discharges

(Observed by the Irrigation Department)

Date	River	Site	Gauge Reading M.	Gauge Site	Disch. m³. p.s.
		White Nile and Tributaries			
5-4-1936	Tonga Cut	Mouth	11·68	Tonga	0
15-4-1936	,,	,, ...	11·65	,,	0
5-4-1936	White Nile	U.S. Barboi Head, 100 mts. U.S.R.P. 10	11·68	,,	316
21-4-1936	,,	,, ,, ,, ,, ,, ,, ...	11·64	,,	326
6-4-1936	Khor Yergol	Mouth	13·35	K. Yergol	0
21-4-1936	,,	,, ...	13·30	,,	0
6-4-1936	White Nile	U.S. khor Yergol	13·35	,,	319
21-4-1936	,,	,, ,, ,, ...	13·30	,,	323
6-4-1936	Outlet on left Bank	Mouth, ...	13·35	,,	0
21-4-1936	,,	,, ...	13·30	,,	0
6-4-1936	White Nile	U.S. Maya Sinyera	13·61	Lake No	308
20-4-1936	,,	,, ,, ,, ...	13·58	,,	320
		Bahr el Zerâf			
3-4-1936	Zerâf	D.S. Tail Cut No. 2	26·31	Pole 53	110
17-4-1936	,,	,, ,, ,, ,, ...	26·30	,,	108
1-4-1936	,,	U.S. Tail Cut No. 1	27·86	T.C. 1	—20
15-4-1936	,,	,, ,, ,, ,, ...	27·84	,,	—20
		Jebel-Zerâf Cuts			
3-4-1936	Jebel-Zerâf Cuts	Tail Cut No. 2	26·44	H.C. 2	20
17-4-1936	,, ,, ,,	,, ,, ,, ...	26·43	,,	19
1-4-1936	,, ,, ,,	Tail Cut No. 1	27·86	T.C. 1	98
15-4-1936	,, ,, ,,	,, ,, ,, ...	27·84	,,	100
3-4-1936	,, ,, ,,	Head Cut No. 2	26·44	H.C. 2	18
17-4-1936	,, ,, ,,	,, ,, ,, ...	26·43	,,	20
1-4-1936	,, ,, ,,	Head Cut No. 1	11·70	H.C. 1	99
15-4-1936	,, ,, ,,	,, ,, ,, ...	11·67	,,	98
		Bahr el Jebel and Tributaries			
5-4-1936	Jebel	D.S. Buffalo Cape	11·02	B. Cape	306
20-4-1936	,,	,, ,, ,, ...	10·93	,,	308
4-4-1936	,,	D.S. Hillet Nuer	10·57	H. Nuer	309
18-4-1936	,,	,, ,, ...	10·56	,,	312
2-4-1936	,,	D.S. Peake's Channel	26·45	H.C. 2	323
16-4-1936	,,	,, ,, ,, ...	26·43	,,	318
31-3-1936	,,	U.S. Head of Peake's Channel	11·80	Ghab. El Inderab	403
14-4-1936	,,	,, ,, ,, ,, ,, ...	11·78	,,	401
2-4-1936	,,	D.S. Head Cut No. 2	26·45	H.C. 2	234
16-4-1936	,,	,, ,, ,, ,, ...	26·43	,,	231
1-4-1936	,,	U.S. Head Cut No. 1	11·70	H.C. 1	356
15-4-1936	,,	,, ,, ,, ,, ...	11·67	,,	353
5-4-1936	,,	D.S. Awai Tails 1 A and 1 B	10·67	Pole 86	490
19-4-1936	,,	,, ,, ,, ,, ,, ...	10·68	,,	497
5-4-1936	,,	Awai Tail Gauge	11·23	Awai Tail	488
19-4-1936	,,	,, ,, ...	11·24	,,	489

Occasional Discharges (*contd.*)

(Observed by the Irrigation Department)

Date	River	Site	Gauge Reading	Gauge Site
			M.	
		Bahr el Jebel and Tributaries (*contd.*)		
5-4-1936	Jebel	U.S. Awai Tails 1 A and 1 B	10·67	Pole 86
19-4-1936	"	" " " " "	10·68	"
4-4-1936	"	Kenisa	10·63	Kenisa
18-4-1936	"	"	10·66	"
3-4-1936	Atem (West. Chan.)	At Jonglei	8·00	Jonglei
17-4-1936	" " "	" "	8·02	"
3-4-1936	Atem (East. Chan.)	" "	8·00	"
17-4-1936	" " "	" "	8·02	"
1-4-1936	Jebel	U.S. Atem Heads 2 A, B, C and D	10·80	Pole 114
15-4-1936	"	" " " " "	10·84	"
2-4-1936	"	D.S. Lake Papiu	10·76	Lake Papiu
16-4-1936	"	" " "	10·83	"
2-4-1936	Lake Papiu	Mouth	10·76	"
16-4-1936	"	"	10·83	"
2-4-1936	Jebel	U.S. Lake Papiu	10·76	"
16-4-1936	"	" " "	10·83	"
1-4-1936	"	Bor	10·47	Bor
15-4-1936	"	"	10·52	"
1-4-1936	Khor Unyam Kojie	Mouth	10·47	"
14-4-1936	"	"	10·51	"
29-2-1936	Aliab Head 1	Mouth, kilo 670	10·74	Tombé
1-3-1936	Spill Out on left B. (Bahr el Jebel)	" " 614 approx.	10·51	Bor
9-3-1936	" In " " "	" " 603 "	10·85	Pole 114
9-3-1936	" Out " " "	" " 602·9 "	10·85	" 114
9-3-1936	" " " " "	" " 587·1 "	10·85	" 114
9-3-1936	" " " " "	" " 587·0 "	10·85	" 114
1-3-1936	" " " " "	" " 579·5 "	10·51	Bor
8-3-1936	" " " " "	" " 567·5 "	10·82	Lake Papiu
8-3-1936	" " " " "	" " 564 "	10·82	"
8-3-1936	" In " " "	" " 555·7 "	10·82	"

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Ministry of Public Works, Egypt — Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR JUNE, 1936

The Weather

Changeable during the first half, rather warm later.

A spell of cool weather was broken on the 10th by the approach of a depression along the Mediterranean with a secondary in the Libyan desert, causing hot southeasterly winds in Egypt. The temperature in Cairo on the 11th reached 45° C. (113° F.), but the heat wave was of very short duration and with the passage of the depressions by the following day an abrupt and large fall in temperature occurred. Northwesterly winds and cool weather then prevailed for a week.

For the last ten days of the month the temperature was continuously above the normal by day and night, though not by large amounts.

For the month as a whole the barometric pressure was everywhere above normal, except in the Central Sudan The mean temperature was slightly below normal except in the Sudan. Rainfall in the Central and Southern Sudan was above normal.

TABLE SHOWING THE DEPARTURES FROM NORMAL FOR JUNE 1936

DISTRICTS	Barometric Pressure		Temperature						Rainfall	
			Maximum		Minimum		Max.+Min./2			
	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean	1012·8	+0·6	29·0	+0·2	20·0	—0·4	24·5	—0·1	0	0
II. Lower Egypt	1012·4	+0·4	33·4	—1·2	17·6	—0·7	25·5	—1·0	0	0
III. Middle Egypt	1012·0	+0·4	35·0	0·0	19·4	—0·2	27·2	—0·1	0	0
IV. Upper Egypt	1010·7	+0·7	38·6	—0·4	21·4	—0·5	30·0	—0·4	—	—
V. Western Desert ...	1011·9	+1·1	38·6	—0·6	21·5	—0·2	30·0	—0·4	—	—
VI. Red Sea (Egypt) ..	1009·2	+0·8	33·6	0·0	23·8	—0·4	28·7	—0·2	—	—
*VII. Red Sea (Sudan) ...	1007·3	+0·6	38·4	—0·5	25·3	—0·4	31·8	—0·4	0	0
VIII. North Sudan	1008·1	+0·1	41·8	0·0	25·4	+0·1	33·6	0·0	6	— 5
XI. Central Sudan	1009·4	—0·3	38·8	+0·6	23·7	+0·9	31·2	+0·8	58	+ 8
X. South Sudan	1011·8	+0·1	34·4	+1.6	21·6	+0·2	28·0	+0·9	197	+52

* Port Sudan only.

RAINFALL DATA FOR JUNE 1936

Station	1936	Difference from Normal	Station	1936	Difference from Normal
	mm.	mm.		mm.	mm.
Juba	190	+ 58	Adis Ababa	—	—
Wau	310	+141	Roseires	179	+49
Malakal	91	— 42	Wad Medani...	34	— 5
El Obeid	44	+ 6	Atbara	0	— 2
El Fasher	31	+ 12	Kassala	21	— 9
Khartoum	4	— 6	Port Sudan	0	0

L. J. SUTTON
Director, Meteorological Service.

State of the River

Lake Albert at Butiaba rose 6 centimetres during the month. Its level on July 1, 1936 was 8 centimetres below the normal and 2 centimetres below that of the corresponding day of last year.

The Bahr el Jebel at Juba fluctuated above both the normal and last year's levels during the first and fourth weeks and below them for the rest of the month. Two sharp flushes were recorded on the 2nd and 25th, which were 80 and 100 centimetres respectively above the normal.

The River Sobat at Nasser rose at faster than the normal rate during the first fortnight and slower than normal rate during the second fortnight. The levels were above normal but below those of last year.

The White Nile at Malakal rose at the normal rate. The levels were a little above normal but below those of last year throughout the month.

The Blue Nile at Roseires fluctuated at a little above the normal level throughout the month. Three sharp flushes were recorded on the 7th, 17th, and 29th, which were 54, 100 and 132 centimetres respectively above the normal. The levels were much below those of last year until the 24th, but then rose sharply and became almost identical with them from the 26th. At Khartoum, the Blue Nile fell for the first few days of the month and then rose faster than normally. The levels were below normal until the last week of the month and much below last year's levels throughout the month.

The River Atbara at Khashm el Girba was still in pools until the 23rd. It then rose 2 metres in 2 days and afterwards fluctuated at about normal levels.

The Main Nile at Kajnarti rose more slowly than normally and the levels were below normal and much below those of last year.

The differences of the mean levels in June, 1936, from those of June, 1935, and from the normal 1906–1935 were :

STATION	MEAN DIFFERENCES OF LEVELS	
	June 1936 minus June 1935	June 1936 minus Normal
	Metres	Metres
Juba	— 0·07	— 0·14
Nasser	— 0·29	+ 0·49*
Malakal	— 0·26	+ 0·18
Roseires	— 0·80	+ 0·35
Khartoum	— 0·80	— 0·18
Kajnarti	— 0·98	— 0·23

* Nasser normal is for 1922–1935 only.

Discharges of the Nile during May, 1936

Observed by the Irrigation Department

Esna (D.S. Barrage)

(Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	72·62	1000
14	72·82	1120
21	72·84	1090
28	73·07	1200
Approx. Monthly Mean		1080
Normal Mean 1933-1935		958

Aswân

(Measured by Sluices)
(Aswân D.S. Gauge.)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	85·89	1040
2	85·89	1040
3	85·89	1040
4	85·89	1040
5	85·90	1040
6	85·90	1040
7	85·89	1040
8	85·89	1040
9	85·89	1040
10	85·89	1040
11	86·06	1140
12	86·07	1140
13	86·08	1140
14	86·07	1140
15	86·07	1150
16	86·07	1140
17	86·06	1140
18	86·05	1140
19	86·05	1150
20	86·13	1190
21	86·19	1230
22	86·23	1250
23	86·26	1270
24	86·27	1270
25	86·27	1270
26	86·28	1280
27	86·27	1270
28	86·28	1280
29	86·27	1270
30	86·27	1270
31	86·27	1270
Approx. Monthly Mean		1160
Normal Mean 1912-1935		818

Kajnarty (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	131·80	639
2	131·84	644
3	131·85	644
4	131·87	650
6	131·86	645
9	131·87	655
10	131·89	634
11	131·90	659
12	131·92	684
14	131·86	658
15	131·80	638
16	131·80	634
17	131·79	630

Kajnarty (*contd.*)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
20	131·87	649
21	131·87	649
23	131·86	656
24	131·85	631
25	131·87	651
26	131·87	665
29	131·85	674
30	131·82	648
31	131·74	618
Approx. Month'y Mean		650
Normal Mean 1912-1935		635

Hassanâb (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	10·55	670
11	10·57	664
17	10·57	688
20	10·53	690
25	10·52	641
30	10·64	708
Approx. Monthly Mean		678
Normal Mean 1912-1935		689

Tamaniât (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	10·02	656
8	10·04	693
13	10·04	683
16	10·02	667
21	10·00	627
26	10·10	748
Approx. Monthly Mean		686
Normal Mean 1912-1935		759

Soba (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	9·94	192
5	9·95	191
11	10·01	214
14	9·98	206
19	9·94	195
21	10·00	208
Approx. Monthly Mean		203
Normal Mean 1912-1935		228

Hillet Sherif (Blue Nile)

(Old Sennar Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	10·24	241
4	10·20	230
6	10·17	218
9	10·14	207
11	10·10	200
14	10·13	204
16	10·08	190
18	10·10	200
21	10·33	277
23	10·43	304
25	10·26	252
27	10·24	222
30	10·09	200
Approx. Monthly Mean		225
Normal Mean 1912-1935		262

Roseires (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11·81	142
3	11·90	159
5	11·93	159
7	12·00	174
9	11·92	161
11	11·94	164
13	11·99	180
15	12·13	195
17	12·52	278
19	12·62	310
21	12·42	255
23	12·37	249
25	12·17	204
27	12·10	193
29	12·27	225
31	12·25	223
Approx. Monthly Mean		205
Normal Mean 1912-1935		271

Mogren (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	10·32	512
6	10·34	489
12	10·34	500
15	10·33	491
20	10·30	511
25	10·40	522
Approx. Monthly Mean		510
Normal Mean 1912-1935		545

Malakâl (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	10·12	536
10	10·13	526
15	10·20	567
20	10·36	598
25	10·52	636
30	10·58	661
Approx. Monthly Mean		582
Normal Mean 1912-1935		589

Hillet Doleib (River Sobât)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	11·17	98
22	11·54	226
Approx. Monthly Mean		175
Normal Mean 1912-1935		163

Nasser (River Sobat)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	5·46	99
3	5·44	96
4	5·44	97
5	5·52	106
6	5·72	127
7	5·88	145
9	5·90	146
10	5·87	139

Nasser (*contd.*)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
11	5·89	140
12	5·89	140
13	5·91	143
14	6·10	166
16	6·48	209
18	6·68	234
19	6·82	251
20	6·90	255
21	6·97	270
23	7·00	265
24	6·93	260
25	6·88	251
26	6·97	268
27	7·16	293
28	7·31	300
30	7·47	330
31	7·50	330
Approx. Monthly Mean		203
Normal Mean 1929-1935		192

Bahr el Zerâf (Kilo. 3)

(Gauge at Mouth)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	11·31	116
21	11·40	107
Approx. Monthly Mean		111
Normal Mean 1912-1935		127

Abu Tong (White Nile)

(Tonga Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	11·66	329
21	11·70	310
Approx. Monthly Mean		317
Normal Mean 1923-1935		302

Lake No (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·58	316
18	13·58	320
Approx. Monthly Mean		319
Normal Mean 1923-1935		310

Bahr el Ghazâl

(At Mouth)

(Suddite Factory Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·59	18
18	13·57	12
Approx. Monthly Mean		15
Normal Mean 1923-1935		13

Discharges of the Nile during May, 1936 (*contd.*)

Observed by the Irrigation Department

Bahr el Jebel (Kilo. 3)
(Lake No Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·58	290
18	13·58	302
Approx. Monthly Mean		299
Normal Mean 1923-1935		300

Gigging (Bahr el Jebel)
(Western Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	28·39	132
15	28·81	178
Approx. Monthly Mean		168
Normal Mean 1931-1935		214

Gemeiza (Bahr el Jebel)
(Eastern Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	428·35	536
14	428·56	566
Approx. Monthly Mean		570
Normal Mean 1931-1935		662

Terrakekka (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	12·75	673
13	13·08	780
Appox. Monthly Mean		763
Normal Mean 1931-1935		910

Mongalla (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11·39	669
7	11·36	653
13	11·74	797
19	11·53	730
25	11·38	650
Approx. Monthly Mean		716
Normal Mean 1912-1935		871

Occasional Discharges

(Observed by the Irrigation Department)

Date	River	Site	Gauge Reading M.	Gauge Site	Disch. m³. p.s.
		White Nile and Tributaries			
6-5-1936	Tonga Cut	Mouth	11·66	Tonga	0
20-5-1936	,,	,, ...	11·70	,,	0
6-5-1936	White Nile	U.S. Barboi Head, 100 mts. U.S.R.P. 10	11·66	,,	314
20-5-1936	,,	,, ,, ,, ,, ,, ,, ,, ...	11·70	,,	316
6-5-1936	Khor Yergol	Mouth	13·32	K. Yergol	0
20-5-1936	,,	,, ...	13·33	,,	0
6-5-1936	White Nile	U.S. khor Yergol	13·32	,,	324
20-5-1936	,,	,, ,, ,, ...	13·33	,,	311
6-5-1936	Outleton left Bank	Mouth	13·32	,,	0
20-5-1936	,,	,, ...	13·33	,,	0
5-5-1936	White Nile	U.S. Maya Sinyora	13·69	Lake No	296
19-5-1936	,,	,, ,, ,, ...	13·58	,,	303
		Bahr el Zerâf			
1-5-1936	Zerâf	D.S. Tail Cut No. 2	26·27	Pole 53	107
26-5-1936	,,	,, ,, ,, ,, ...	26·28	,,	101
2-5-1936	,,	U.S. Tail Cut No. 1	27·82	T.C. 1	— 8
1-5-1936	,,	,, ,, ,, ,, ...	27·84	,,	—19
		Jebel-Zerâf Cuts			
1-5-1936	Jebel-Zerâf Cuts	Tail Cut No. 2	26·40	H.C. 2	19
26-5-1936	,, ,, ,,	,, ,, ,, ...	26·41	,,	19
2-5-1936	,, ,, ,,	Tail Cut No. 1	27·82	T.C. 1	104
24-5-1936	,, ,, ,,	,, ,, ,, ...	27·84	,,	106
1-5-1936	,, ,, ,,	Head Cut No. 2	26·40	H.C. 2	19
26-5-1936	,, ,, ,,	,, ,, ,, ...	26·41	,,	18
2-5-1936	,, ,, ,,	Head Cut No. 1	11·66	H.C. 1	100
24-5-1936	,, ,, ,,	,, ,, ,, ...	11·67	,,	103
		Bahr el Jebel and Tributaries			
6-5-1936	Jebel	D.S. Buffalo Cape	11·02	B. Cape	307
29-5-1936	,,	,, ,, ,, ...	10·98	,,	299
5-5-1936	,,	D.S. Hillet Nuer	10·51	H. Nuer	310
27-5-1936	,,	,, ,, ...	10·51	,,	306
3-5-1936	,,	D.S. Peake's Channel	26·40	H.C. 2	325
25-5-1936	,,	,, ,, ,, ...	26·42	,,	324
1-5-1936	,,	U.S. Head of Peake's Channel	11·77	Ghab. El Inderab	403
23-5-1936	,,	,, ,, ,, ,, ,, ...	11·78	,,	413
3-5-1936	,,	D.S. Head Cut No. 2	26·40	H.C. 2	240
25-5-1936	,,	,, ,, ,, ,, ...	26·42	,,	235
2-5-1936	,,	U.S. Head Cut No. 1	11·66	H.C. 1	353
24-5-1936	,,	,, ,, ,, ,, ...	11·67	,,	364
4-5-1936	,,	D.S. Awai Tails 1 A and 1 B	10·74	Pole 86	487
18-5-1936	,,	,, ,, ,, ,, ,, ...	10·77	,,	495
5-5-1936	,,	Awai Tail Gauge	11·26	Awai Tail	489
19-5-1936	,,	,, ,, ...	11·30	,,	487

Occasional Discharges (*contd.*)

(Observed by the Irrigation Department)

Date	River	Site	Gauge Reading	Gauge Site	Disch. m³ p.s.
			M.		
		Bahr el Jebel and Tributaries (*contd.*)			
4-5-1936	Jebel	U.S. Awai Tails 1 A and 1 B	10·74	Pole 86	181
18-5-1936	"	" " " " "	10·77	"	188
3-5-1936	"	Kenisa	10·73	Kenisa	278
17-5-1936	"	"	10·76	"	282
1-5-1936	"	U.S. Atem Heads 2 A, B, C and D	10·91	Pole 114	469
15-5-1936	"	" " " " "	10·94	"	470
2-5-1936	"	D.S. Lake Papiu	10·92	Lake Papiu	307
16-5-1936	"	" " "	10·99	"	317
2-5-1936	Lake Papiu	Mouth	10·92	"	126
16-5-1936	"	"	10·99	"	141
2-5-1936	Jebel	U.S. Lake Papiu	10·92	"	183
16-5-1936	"	" " "	10·99	"	183
1-5-1936	"	Bor	10·74	Bor	613
15-5-1936	"	"	10·82	"	626
1-5-1936	Khor Unyam Kojie	Mouth	10·74	"	-36
15-5-1936	"	"	10·82	"	-37

P. Phillips

Director, Hydrological Service

Govt. Press 3325-1936-450 ex.

Ministry of Public Works, Egypt — Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR JULY, 1936

The Weather

The weather throughout the month has been generally warm and oppressive.

The Pressure distribution was mainly of the normal summer type. From the 12th. to the 15th. inclusive, the weather in Cairo was very warm. 40° C. being recorded on the 13th. *i.e.* 5° C. above normal.

On the 23rd. an unusual shallow depression appeared near Siwa Oasis. It passed over Upper Egypt next day. A hot dry cloudless spell then set in culminating in a temperature of 41° C. (106° F) at Ezbekieh on the 24th. Temperature fell to normal conditions on the 27th., but the weather afterwards became hot again and remained so until the end of the month.

For the month as a whole the mean atmospheric pressure was below normal throughout Egypt except on the Red Red Sea Coast ; and above normal everywhere in the Sudan except the Red Sea Coast. While the temperature was much above normal in all districts except in North and Central Sudan.

The minimum temperature in Cairo was constantly above normal. It was never below normal and on only one night was as low as normal.

The weather at Alexandria was much damper than usual.

The Sudan rainfall was generally deficient.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR JULY 1936

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN./2			
	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean	1008·9	—0·4	31·4	+0·9	23·0	+0·7	27·2	+0·8	0	0
II. Lower Egypt	1008·6	—0·8	35·1	0·0	20·7	+1·1	27·9	+0·6	0	0
III. Middle Egypt	1008·4	—0·6	36·6	+1·0	22·5	+1·3	29·6	+1·2	0	0
IV. Upper Egypt	1007·7	—0·3	39·3	+0·7	24·0	+1·0	31·6	+0·8	—	—
V. Western Desert ...	1008·8	—0·4	39·3	+0·2	22·1	0·0	30·7	+0·1	—	—
VI. Red Sea (Egypt) ...	1006·4	+0·2	35·2	+1·0	25·7	+0·8	30·4	+0·9	—	—
*VII. Red Sea (Sudan) ...	1005·3	—0·1	41·9	+1·0	27·7	—0·4	34·8	+0·3	0	— 6
VIII. North Sudan	1008·9	+0·3	39·6	—0·1	24·9	+0·1	32·2	0·0	35	— 7
XI. Central Sudan... ...	1011·0	+0·6	34·9	—0·2	22·1	+0·2	28·5	0·0	120	0
X. South Sudan	1013·3	+1·0	32·5	+1·3	20·0	—0·6	26·2	+0·4	~~146~~ 152	~~—17~~ —11

* Port Sudan only.

RAINFALL DATA FOR JULY 1936

Station	1936	Difference from Normal	Station	1936	Difference from Normal
	mm.	mm.		mm.	mm.
Juba	104	— 26	Adis Ababa	—	—
Wau	17 ~~151~~	—16 ~~35~~	Roseires	165	— 15
Malakal	182	+ 9	Wad Medani...	100	— 18
El Obeid	129	+ 33	Atbara	32	+ 12
El Fasher	120	+ 8	Kassala	81	— 11
Khartoum	27	— 22	Port Sudan	0	— 6

M. HAMED MOHAMMAD
Acting Director, Meteorological Service.

State of the River

Lake Albert at Butiaba rose 6 centimetres, during the month. Its level on August, 1, 1936 was 4 centimetres below the normal but 9 centimetres above that of the corresponding day of last year.

At Juba on the Bahr el Jebel, there were three sharp flushes which reached their maxima on the 4th., 25th. and 31st., when the levels were much above both the normal and those of last year. Excluding these flushes the levels were below normal throughout the month, and the levels were about the same as those of last year.

The River Sobat at Nasser rose steadily at a rate slower than the normal. The levels were above the normal at the beginning of the month but practically normal at the end. The levels were much below those of last year throughout the month.

The White Nile at Malakal rose nearly normally; the levels were a few centimetres above normal and below those of last year throughout.

The Blue Nile at Roseires continued its fluctuating and rapid rise during the first fortnight. During this period the levels were much above the normal and nearly as high as last year. During the next week there was, however, a fall of nearly a metre which brought the level on the 22nd. nearly to the normal and was much below the corresponding day of last year. This was followed by a rapid and steady rise reaching to a peak on the 29th. when the level was 203 centimetres above the normal but still below last year's level. The level then fell away during the last two days. At Khartoum, the Blue Nile rose rapidly until the 19th. when the level was much above the normal, fell until the 25th. and then rose rapidly again to the end of the month.

The River Atbara at Khashm el Girba rose almost normally with sharp fluctuations during the month. The levels in general were a little higher than those of last year.

The Main Nile at Kajnarti was below the normal but rising at about normal rate until the 13th.; it then rose very rapidly and steadily until the 28th. and then fell a little during the last three days.

The level was 30 centimetres below the normal at the beginning of the month and 152 centimetres above it at the end.

In general the Blue Nile has risen rapidly and is well above the normal while the White Nile and River Atbara have risen about normally. It is still too early to be able to state whether the flood will be abnormally high.

The differences of the mean levels in July, 1936 from those of July, 1935 and from the normal 1906–1935 were :—

STATION	Mean Differences of Levels	
	July 1936 minus July 1935	July 1936 minus Normal
	Metres	Metres
Juba	+ 0·01	— 0·16
Nasser	— 0·44	+ 0·13*
Malakal	— 0·24	+ 0·09
Roseires	— 0·70	+ 1·35
Khartoum	— 0·51	+ 0·64
Khashm El Girba	+ 0·23	+ 0·09
Kajnarti	— 1·01	+ 0·58

* Nasser normal is for 1922–1935 only.

Discharges of the Nile during June, 1936

Observed by the Irrigation Department

Esna (D.S. Barrage)

(Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	73·22	1260
18	73·36	1330
25	73·45	1340
Approx. Monthly Mean		1310
Normal Mean 1933-1935		1270

Aswân

(Measured by Sluices)
(Aswân D.S. Gauge.)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	86·33	1310
2	86·37	1330
3	86·41	1360
4	86·42	1350
5	86·41	1350
6	86·41	1350
7	86·42	1360
8	86·42	1360
9	86·42	1350
10	86·42	1360
11	86·46	1380
12	86·47	1390
13	86·48	1390
14	86·49	1390
15	86·49	1390
16	86·53	1420
17	86·57	1440
18	86·58	1450
19	86·57	1450
20	86·58	1450
21	86·59	1450
22	86·59	1460
23	86·62	1470
24	86·61	1470
25	86·62	1470
26	86·61	1470
27	86·60	1460
28	86·59	1460
29	86·60	1460
30	86·60	1460
Approx. Monthly Mean		1410
Normal Mean 1912-1935		1060

Kajnarty (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	131·73	616
2	131·73	617
3	131·73	614
4	131·76	623
5	131·74	624
6	131·75	622
7	131·78	626
8	131·78	631
9	131·81	643
10	131·81	648
18	131·93	688
19	131·91	669
20	131·94	690

Kajnarty (*contd.*)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
21	131·98	701
22	132·02	722
23	132·06	741
24	132·06	730
28	132·27	785
29	132·38	843
30	132·45	853
Approx. Monthly Mean		688
Normal Mean 1912-1935		748

Hassanâb (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	10·62	724
12	10·67	772
17	10·84	881
22	10·93	919
24	10·96	993
27	11·21	1200
Approx. Monthly Mean		891
Normal Mean 1912-1935		979

Tamaniât (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	10·12	747
8	10·15	750
13	10·30	851
18	10·48	978
22	10·57	1050
25	10·90	1190
Approx. Monthly Mean		964
Normal Mean 1912-1935		1120

Soba (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	10·09	212
6	10·00	195
11	10·29	266
15	10·68	358
20	10·54	302
23	11·24	564
Approx. Monthly Mean		398
Normal Mean 1912-1935		502

Hillet Sherif (Blue Nile)

(Old Sennar Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	10·14	202
3	10·19	250
6	10·40	284
8	10·34	267
10	10·74	428
13	10·59	357
15	10·55	342
17	10·80	418
20	11·40	785*
22	11·09	624*
24	11·02	587*
27	11·30	740*
29	11·99	1200*
Approx. Monthly Mean		519
Normal Mean 1912-1935		606

Wad el Aies (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
11	6·26	383
13	6·14	349
16	6·36	451
18	6·73	594
20	6·96	756
22	6·56	530
24	6·84	661
26	6·84	684
28	7·63	1080
30	8·34	1600
Approx. Monthly Mean		—
Normal Mean 1912-1935		673

Roseires (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	12·60	298
4	12·52	284
6	13·10	473
8	13·00	428
10	12·81	374
12	12·73	347
14	13·02	427
16	13·34	536
18	13·92	762
20	13·28	516
22	13·68	685
Approx. Monthly Mean		627
Normal Mean 1912-1935		673

Mogren (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	10·44	563
7	10·47	577
12	10·64	599
16	10·84	634
21	10·91	661
24	11·30	617
Approx. Monthly Mean		608
Normal Mean 1912-1935		626

Rénk (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
11	10·52	703
14	10·56	708
15	10·57	731
17	10·59	702
21	10·69	721
23	10·72	750
25	10·74	655
27	10·78	752
29	10·80	765
Approx. Monthly Mean		—
Normal Mean 1928-1935		728

Malakâl (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	10·75	725
10	10·88	760
15	10·98	797
20	11·08	824
25	11·16	826
28	11·20	832
29	11·23	830
30	11·24	846
Approx. Monthly Mean		784
Normal Mean 1912-1935		751

Hillet Doleib (River Sobât)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	11·85	302
8	11·98	372
18	12·26	398
25	12·38	429
30	12·46	448
Approx. Monthly Mean		386
Normal Mean 1912-1935		337

Nasser (River Sobât)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	7·64	349
2	7·76	370
3	7·84	369
4	7·92	383
6	8·04	387
7	8·10	403
8	8·18	407
9	8·24	426
10	8·28	430
11	8·32	425
23	8·62	516†
Approx. Monthly Mean		456
Normal Mean 1929-1935		415

River Gila (At Mouth)

(Gila Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
22	8·09	81
Approx. Monthly Mean		—
Normal Mean 1929-1935		65

Akobo (River Pibor)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
21	12·70	1
Approx. Monthly Mean		—
Normal Mean 1929-1935		15

Bahr el Zerâf (Kilo. 3)

(Gauge at Mouth)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	11·63	109
23	11·80	111
Approx. Monthly Mean		110
Normal Mean 1912-1935		125

* Measured at Sennar.

† Measured at Sobât Head.

Discharges of the Nile during June, 1936 (*contd.*)

Observed by the Irrigation Department

Abu Tong (White Nile)

(Tonga Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	11·84	297
23	12·01	296
Approx. Monthly Mean		297
Normal Mean 1923-1935		296

Lake No (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·58	322
20	13·65	319
Approx. Monthly Mean		323
Normal Mean 1923-1935		311

Bahr el Ghazâl

(At Mouth)

(Suddite Factory Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·58	19
20	13·64	35
Approx. Monthly Mean		26
Normal Mean 1923-1935		10

Bahr el Jebel (Kilo. 3)

(Lake No Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·58	305
20	13·65	305
Approx. Monthly Mean		309
Normal Mean 1923-1935		304

Gigging (Bahr el Jebel)

(Western Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	28·93	191
15	28·40	134
Approx. Monthly Mean		162
Normal Mean 1931-1935		212

Gemeiza (Bahr el Jebel)

(Eastern Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	428·66	611
14	428·42	533
Approx. Monthly Mean		578
Normal Mean 1931-1935		658

Terrakekka (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	13·18	800
13	12·74	657
Appox. Monthly Mean		720
Normal Mean 1931-1935		873

Mongalla (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11·82	847
7	11·54	722
13	11·40	666
19	11·40	660
25	12·53	1160
Approx. Monthly Mean		805
Normal Mean 1912-1935		842

River Assua

(D.S. Road crossing to Nimule)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
13	1·18	12
16	1·18	11

Meshra Surrour

(Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m.3 p.s.
7	8·46	626
8	8·46	615
9	8·46	616
10	8·46	630
11	8·46	627
12	8·46	633

River Unyama

(50 mts. D.S. Unyama Gauge)

Day of Month	Gauge Reading m.	Disch. m.3 p.s.
7	10·08	8
8	10·06	4
9	10·06	5
10	10·06	7
11	10·06	6
12	10·06	4

Occasional Discharges

(Observed by the Irrigation Department)

Date	River	Site	Gauge Reading M.	Gauge Site	Disch. m³. p.s.
		River Sobât			
25-6-1936	Sobât	D.S. Khor Nyanding Junction	11·07	Nyanding Mouth	490
		White Nile and Tributaries			
6-6-1936	Tonga Cut	Mouth	11·83	Tonga	0
22-6-1936	,,	,, ...	12·00	,,	0
6-6-1936	White Nile	U.S. Barboi Head, 100 mts. U.S.R.P. 10	11·83	,,	311
22-6-1936	,,	,, ,, ,, ,, ,, ,, ,, ...	12·00	,,	300
6-6-1936	Khor Yergol	Mouth	13·40	K. Yergol	0
22-6-1936	,,	,, ...	13·52	,,	0
6-6-1936	White Nile	U.S. Khor Yergol	13·40	,,	304
22-6-1936	,,	,, ,, ,, ...	13·52	,,	302
6-6-1936	Outlet on left Bank	Mouth	13·40	,,	0
22-6-1936	,,	,, ...	13·52	,,	0
6-6-1936	White Nile	U.S. Maya Sinyora	13·58	Lake No	300
21-6-1936	,,	,, ,, ,, ...	13·65	,,	303
		Bahr el Zerâf			
1-6-1936	Zerâf	D.S. Tail Cut No. 2	26·28	Pole 53	110
23-6-1936	,,	,, ,, ,, ,, ...	26·32	,,	108
2-6-1936	,,	U.S. Tail Cut No. 1	27·84	T.C. 1	—10
21-6-1936	,,	,, ,, ,, ,, ...	27·86	,,	—10
		Jebel-Zerâf Cuts			
4-6-1936	Jebel-Zerâf Cuts	Tail Cut No. 2	26·35	H.C. 2	20
23-6-1936	,, ,, ,,	,, ,, ,, ...	26·40	,,	20
2-6-1936	,, ,, ,,	Tail Cut No. 1	27·84	T.C. 1	103
21-6-1936	,, ,, ,,	,, ,, ,, ...	27·86	,,	104
4-6-1936	,, ,, ,,	Head Cut No. 2	26·35	H.C. 2	21
23-6-1936	,, ,, ,,	,, ,, ,, ...	26·40	,,	21
2-6-1936	,, ,, ,,	Head Cut No. 1	11·68	H.C. 1	101
21-6-1936	,, ,, ,,	,, ,, ,, ...	11·70	,,	100
		Bahr el Jebel and Tributaries			
6-6-1936	Jebel	D.S. Buffalo Cape	11·00	B. Cape	303
29-6-1936	,,	,, ,, ,, ...	11·05	,,	313
5-6-1936	,,	D.S. Hillet Nuer	10·53	H. Nuer	309
24-6-1936	,,	,, ,, ...	10·60	,,	308
3-6-1936	,,	D.S. Peake's Channel	26·35	H.C. 2	322
22-6-1936	,,	,, ,, ,, ...	26·39	,,	327
1-6-1936	,,	U.S. Head of Peake's Channel	11·79	Ghab. Ellinderab	416
20-6-1936	,,	,, ,, ,, ,, ,, ...	11·82	,,	407
3-6-1936	,,	D.S. Head Cut No. 2	26·35	H.C. 2	233
22-6-1936	,,	,, ,, ,, ,, ...	26·39	,,	236

Occasional Discharges (*contd.*)

(Observed by the Irrigation Department)

Date	River	Site	Gauge Reading	Gauge Site	Disch. m³ p.s.
			M.		
		Bahr el Jebel and Tributaries (*contd.*)			
2-6-1936	Jebel	U.S. Head Cut No. 1	11·68	H.C. 1	363
21-6-1936	,,	,, ,, ,, ,, ...	11·70	,,	366
4-6-1936	,,	D.S. Awai Tails 1 A and 1 B...	10·82	Pole 86	514
18-6-1936	,,	,, ,, ,, ,, ,, ...	10·85	,,	500
5-6-1936	,,	Awai Tail Gauge	11·33	Awai Tail	490
19-6-1936	,,	,, ,, ...	11·36	,,	485
4-6-1936	,,	U.S. Awai Tails 1 A and 1 B	10·82	Pole 86	192
18-6-1936	,,	,, ,, ,, ,, ,, ...	10·85	,,	195
3-6-1936	,,	Kenisa	10·82	Kenisa	299
17-6-1936	,,	,, ...	10·86	,,	294
2-6-1936	,,	U.S. Atem Heads 2, A, B, C and D	10·99	Pole 114	476
15-6-1936	,,	,, ,, ,, ,, ,, ...	11·03	,,	479
2-6-1936	,,	D.S. Lake Papiu	11·14	Lake Papiu	337
16-6-1936	,,	,, ,, ,, ...	11·26	,,	341
2-6-1936	Lake Papiu	Mouth	11·14	,,	150
16-6-1936	,,	,, ...	11·26	,,	165
2-6-1936	Jebel	U.S. Lake Papiu	11·14	,,	184
16-6-1936	,,	,, ,, ,, ...	11·26	,,	179
1-6-1936	,,	Bor	10·76	Bor	621
15-6-1936	,,	,, ...	10·82	,,	628
1-6-1936	Khor Unyam Kojie	Mouth	10·76	,,	-36
15-6-1936	,,	,, ...	10·82	,,	-36

P. Phillips

Director, Hydrological Service

Govt. Press 4549-1936-450 ex.

Ministry of Public Works, Egypt — Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR AUGUST, 1936

The Weather

The usual summer conditions prevailed during the month. The first three days were especially hot. A maximum temperature of 39°C was recorded in Cairo on the 1st day being 4°C above normal. Towards the end of the first week, the weather cooled and light rain fell on the western part of the Delta on the 6th. (It is interesting to note that there are only 5 occasions on which rain has fallen in the Delta in August during the last 30 years).

Cooler weather was experienced during the last week.

For the month as a whole the mean atmospheric pressure was normal in Middle Egypt and Central Sudan and below normal in Lower Egypt, north and south Sudan and below normal elsewhere. The temperature was below normal in Lower Egypt and north Sudan and above normal in the remaining districts. The minimum temperature at Alexandria was constantly above normal from the 3rd to the 29th.

The Sudan rainfall was in excess everywhere except in the south Sudan.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR AUGUST 1936

DISTRICTS	Barometric Pressure		Temperature						Rainfall	
			Maximum		Minimum		Max.+Min. 2			
	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean	1010·2	+0·4	30·9	+0·6	24·1	+1·2	27·5	+0·9	0	0
II. Lower Egypt	1009·9	—0·2	34·0	—1·0	20·8	+0·8	27·4	—0·1	0	0
III. Middle Egypt	1009·6	0·0	35·3	+0·2	22·4	+0·9	28·8	+0·6	0	0
IV. Upper Egypt	1008·8	+0·3	38·5	+0·4	24·1	+1·0	31·3	+0·7	—	—
V. Western Desert ...	1009·9	+0·3	38·6	—0·3	22·3	+0·7	30·4	+0·2	—	—
VI. Red Sea (Egypt) ...	1006·7	+0·2	34·8	+0·2	26·8	+1·4	30·8	+0·8	—	—
*VII. Red Sea (Sudan) ...	1006·2	+0·2	41·3	+0·6	29·5	+0·8	35·4	+0·7	14	+10
VIII. North Sudan	1009·0	—0·2	37·5	—1·1	24·7	+0·2	31·1	—0·4	74	+11
XI. Central Sudan... ...	1010·6	0·0	33·2	—0·2	21·7	+0·4	27·4	+0·1	236	+88
X. South Sudan	1012·2	—0·1	32·1	+0·9	20·0	—0·6	26·0	+0·2	155	—18

* Port Sudan only.

RAINFALL DATA FOR AUGUST 1936

Station	1936	Difference from Normal	Station	1936	Difference from Normal
	mm.	mm.		mm.	mm.
Juba	90	— 26	Adis Ababa	302	+ 7
Wau	220	+ 10	Roseires	356	+ 140
Malakal	154	— 38	Wad Medani...	278	+ 128
El Obeid	177	+ 59	Atbara	77	+ 38
El Fasher	164	+ 26	Kassala	111	— 12
Khartoum	86	+ 10	Port Sudan	14	+ 10

M. HAMED

Acting Director, Meteorological Service.

State of the River

Lake Albert at Butiaba rose 9 centimeters during the month. Its level on September 1st 1936 was 2 centimeters below the normal but 20 centimeters above that of the corresponding day of last year.

With the exception of the readings for the 6th and 26th the Bahr el Jebel at Juba fluctuated below normal. The levels were above those of last year throughout the month.

The River Sobat at Nasser rose identically with the normal during the first 12 days and below it thereafter. The levels were below last year's throughout the month.

The White Nile at Malakal rose at a slightly slower rate than normal. The levels were below last year's throughout the month, and very slightly below the normal levels.

The Blue Nile at Roseires rose well above normal with sharp fluctuations reaching the maximum level for the month 20·70 metres on the 22nd it being then 142 centimeters above the normal. The levels were on the average 34 centimeters below those of last year.

At Khartoum the Blue Nile continued to rise with fluctations at about normal rate reaching a maximum on the 30th and falling a little on the 31st. The levels were well above normal on the average but well below those of last year.

The River Atbara at Khashm el Girba fluctuated at about both the normal and last year's levels during the whole month. A sharp peak on the 25th gave the maximum reading of 15·24 metres for the month which is 87 centimetres above the normal. After the twenty fifth the level fell with fluctuations until the end of the month.

The Main Nile at Wadi Halfa rose rapidly until the 20th .remained steady until the 26th and then rose again sharply thereafter. The levels were above the normal but below these of last year throughout the month.

General conclusion.— It appears probable. but by no means certain, that the Blue Nile and River Atbara have reached approximately their highest levels. If this is so the discharge and level at Aswan on September 2nd, will be about the maximum for this flood. Their values are 838 millions of cubic metres per day and 92·78 metres.

The differences of the mean leve's in August 1936 from those of August 1935 and from the normal 1906–1935 were :

STATION	Mean Differences of Levels	
	August 1936 minus August 1935	August 1936 minus Normal
	Metres	Metres
Juba	+ 0·27	— 0·14
Nasser	— 0·34	— 0·04*
Malakal	— 0·23	— 0·03
Roseires	— 0·34	+ 0·57
Khartoum	— 0·49	+ 0·23
Khashm El Girba	+ 0·05	— 0·12
Wadi Halfa	— 0·40	+ 0·51

* Nasser normal is for 1922–1935 only.

Discharges of the Nile during July, 1936

Observed by the Irrigation Department

Esna (D.S. Barrage)

(Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	73·45	1410
9	73·35	1340
16	72·76	1040
23	74·20	1920
30	76·75	4510
Approx. Monthly Mean		1930
Normal Mean 1933-1935		2070

Aswân

(Measured by Sluices)

(Aswân D.S. Gauge.)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	86·60	1460
2	86·60	1460
3	86·61	1460
4	86·63	1470
5	86·54	1460
6	86·52	1440
7	86·53	1450
8	86·56	1460
9	86·47	1440
10	86·27	1380
11	86·10	1350
12	86·05	1330
13	86·02	1300
14	86·01	1320
15	86·04	1360
16	86·17	1410
17	86·22	1440
18	86·40	1550
19	86·74	1770
20	87·03	1980
21	87·22	2140
22	87·40	2270
23	87·58	2410
24	87·95	2700
25	88·46	3170
26	88·95	3760
27	89·53	4390
28	89·65	4590
29	89·83	4880
30	89·89	4940
31	89·90	4880
Approx. Monthly Mean		2240
Normal Mean 1912-1935		1790

Kajnarty (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	132·52	855
2	132·53	871
3	132·52	868
4	132·55	873
5	132·62	896
8	133·02	1050
9	133·15	1110
10	133·19	1100
11	133·20	1140
11	133·21	1110
12	133·23	1120

Kajnarty (*contd.*)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
13	133·29	1150
14	133·52	1280
15	133·94	1480
16	134·47	1770
17	134·91	1970
18	135·14	2080
19	135·34	2130
20	135·53	2200
21	136·00	2640
Approx. Monthly Mean		—
Normal Mean 1912-1935		1930

River Atbara

(Kilo. 3)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	10·58	106
9	11·20	352
15	12·28	1010
22	12·47	825
26	12·53	966
30	12·99	1490
Approx. Monthly Mean		720
Normal Mean 1912-1935		656

Hassanâb (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	11·65	1530
10	12·30	1950
15	13·34	2860
23	14·14	4060
27	14·15	4100
31	14·56	4360
Approx. Monthly Mean		2910
Normal Mean 1912-1935		2330

Tamaniât (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	11·40	1600
7	11·70	1580
13	12·66	2890
20	13·61	3810
25	13·41	3580
29	13·66	4110
Approx. Monthly Mean		2970
Normal Mean 1912-1935		2560

Soba (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	12·00	962
6	12·28	978
12	13·62	2400*
19	14·80	3740*
24	14·32	3280*
28	14·74	3500*
Approx. Monthly Mean		2670
Normal Mean 1912-1935		2030

River Dinder (at Mouth)

(Hillet Idris Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
31	11·74	355
Approx. Monthly Mean		—
Normal Mean 1912-1935		138

Sennar (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	7·26	1570
4	7·11	1440
6	7·64	1920
8	7·80	2040
11	8·13	2570
13	9·28	3520
15	9·22	3100
18	9·08	3110
20	8·90	3020
22	8·94	3020
25	9·10	3310
27	9·52	3700
29	10·63	5220
Approx. Monthly Mean		3000
Normal Mean 1912-1935		2240

Wad el Aies (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	7·90	1270
4	8·19	1450
6	8·69	1750
7	8·78	1850
8	9·06	2110
9	9·46	2430
10	9·62	2610
11	9·67	2620
12	10·09	2970
13	10·70	3670
14	10·35	3340
15	10·64	3610
17	10·63	3580
19	10·26	3190
21	10·54	3250
23	10·42	3100
25	10·74	3480
27	11·14	3920
29	12·44	5510
31	12·60	6350
Approx. Monthly Mean		3140
Normal Mean 1912-1935		2150

Mogren (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11·43	609
5	12·13	569
11	12·68	438
18	13·80	207
23	13·73	216
27	13·79	626
Approx. Monthly Mean		394
Normal Mean 1912-1935		585

Renk (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	10·83	777
4	10·86	793
6	10·88	804
9	10·93	813
11	10·96	820
12	10·97	820
14	10·98	781
16	11·00	836
19	11·02	846
21	11·04	858
23	11·06	878
25	11·10	891
27	11·10	861
28	11·12	880
30	11·14	881
Approx. Monthly Mean		836
Normal Mean 1928-1935		874

Malakâl (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11.26	848
2	11.27	853
3	11·28	860
4	11·30	847
5	11·31	872
6	11·32	853
7	11·33	863
8	11·34	866
9	11·36	901
10	11·37	863
11	11·38	875
12	11·39	886
13	11·40	901
14	11·41	893
15	11·42	881
20	11·48	909
25	11·53	926
30	11·56	928
Approx. Monthly Mean		894
Normal Mean 1912-1935		918

Hillet Doleib (River Sobât)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	12·55	501
17	12·65	516
25	12·78	572
31	12·85	578
Approx. Monthly Mean		524
Normal Mean 1912-1935		494

River Sobât (At Head)

Nasser Gauge

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	8·90	535
13	9·14	566
23	9·37	608
Approx. Monthly Mean		580
Normal Mean 1929-1935		581

* Measured at 150 mts. D.S. Khartoum Bridge.

Discharges of the Nile during July, 1936 (*contd.*)

Observed by the Irrigation Department

River Gila (At Mouth)
(Gila Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	8·35	80
12	8·78	78
22	8·96	78
Approx. Monthly Mean		79
Normal Mean 1929-1935		68

River Pibor (U. S. Gila Junction) (Gila Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
12	8·78	12
22	8·97	11
Approx. Monthly Mean		—
Normal Mean 1929-1935		43

Akobo (River Pibor)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
11	13·44	15
21	13·64	6
Approx. Monthly Mean		9
Normal Mean 1929-1935		41

Bahr el Zerâf (Kilo. 3)
(Gauge at Mouth)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	11·92	119
21	12·06	119
Approx. Monthly Mean		120
Normal Mean 1912-1935		133

Abu Tong (White Nile)
(Tonga Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	12·14	297
21	12·26	300
Approx. Monthly Mean		298
Normal Mean 1923-1935		296

Lake No (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·73	339
18	13·76	345
Approx. Monthly Mean		342
Normal Mean 1923-1935		317

Bahr el Ghazâl
(At Mouth)
(Suddite Factory Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·73	12
18	13·75	20
Approx. Monthly Mean		16
Normal Mean 1923-1935		15

Bahr el Jebel (Kilo. 3)
(Lake No Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·73	333
18	13·76	329
Approx. Monthly Mean		330
Normal Mean 1923-1935		303

Gigging (Bahr el Jebel)
(Western Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	28·87	188
Approx. Monthly Mean		195
Normal Mean 1931-1935		231

Gemeiza (Bahr el J
(Eastern Channel

Day of Month	Gauge Reading m.	D m
2	428·77	
Approx. Monthly Mean		
Normal Mean 1931-1935		

Terrakekka (Bahr el

Day of Month	Gauge Reading m.	D m
1	13·11	
Appox. Monthly Mean		
Normal Mean 1931-1935		

Mongalla (Bahr el J

Day of Month	Gauge Reading m.	D m
1	11·66	
13	11·54	
19	11·44	
Approx. Monthly Mean		
Normal Mean 1912-1935		

Occasional Discharges

(Observed by the Irrigation Department)

Date	River	Site	Gauge Reading M.	Gauge Site	Disch. m³. p.s.
		River Sobât and Tributaries			
5-7-1936	Sobât	D.S. Khor Nyanding Junction	11·33	Nyanding Mouth	487
5-7-1936	,,	,, ,, ,, ,, ...	11·51		527
5-7-1936	,,	,, ,, ,, ,, ...	11·71	,,	555
1-7-1936	Akobo	Mouth...	13·77	Akobo	12
1-7-1936	,,	,, ...	13·64	,,	13
		White Nile and Tributaries			
6-7-1936	Tonga Cut	Mouth	12·14	Tonga	0
0-7-1936	,,	,, ...	12·26	,,	0
6-7-1936	White Nile	U.S. Barboi Head, 100 mts. U.S.R.P. 10	12·14	,,	319
0-7-1936	,,	,, ,, ,, ,, ,, ,, ,, ...	12·26	,,	314
6-7-1936	Khor Yergol	Mouth	13·62	K. Yergol	0
0-7-1936	,,	,, ...	13·69	,,	0
6-7-1936	White Nile	U.S. Khor Yergol	13·62	,,	318
0-7-1936	,,	,, ,, ,, ...	13·69	,,	322
6-7-1936	Outlet on left Bank	Mouth	13·62	,,	0
0-7-1936	,,	,, ...	13·69	,,	0
5-7-1936	White Nile	U.S. Maya Sinyora	13·73	Lake No	309
9-7-1936	,,	,, ,, ,, ...	13·76	,,	335
		Bahr el Zerâf			
4-7-1936	Zerâf	D.S. Tail Cut No. 2	26·34	Pole 53	109
9-7-1936	,,	,, ,, ,, ,, ...	26·37	,,	108
2-7-1936	,,	U.S. Tail Cut No. 1	27·89	T.C. 1	—15
7-7-1936	,,	,, ,, ,, ,, ...	27·92	,,	—10
		Jebel-Zerâf Cuts			
4-7-1936	Jebel-Zerâf Cuts	Tail Cut No. 2...	26·43	H.C. 2	22
9-7-1936	,, ,, ,,	,, ,, ,,...	26·46	,,	21
2-7-1936	,, ,, ,,	Tail Cut No. 1...	27·89	T.C. 1	104
7-7-1936	,, ,, ,,	,, ,, ,,...	27·92	,,	105
4-7-1936	,, ,, ,,	Head Cut No. 2	26·43	H.C. 2	22
9-7-1936	,, ,, ,,	,, ,, ,, ...	26·46	,,	22
2-7-1936	,, ,, ,,	Head Cut No. 1	11·74	H.C. 1	104
7-7-1936	,, ,, ,,	,, ,, ,, ...	11·77	,,	105
		Bahr el Jebel and Tributaries			
6-7-1936	Jebel	D.S. Buffalo Cape	11·08	B. Cape	313
1-7-1936	,,	,, ,, ,, ...	11·10	,,	317
5-7-1936	,,	D.S. Hillet Nuer	10·64	H. Nuer	316
0-7-1936	,,	,, ,, ...	10·66	,,	321
3-7-1936	,,	D.S. Peake's Channel	26·42	H.C. 2	327
8-7-1936	,,	,, ,, ,, ...	26·46	,,	340
3-7-1936	,,	D.S. Head Cut No. 2	26·42	,,	244
8-7-1936	,,	,, ,, ,, ,, ...	26·46	,,	230
2-7-1936	,,	U.S. Head Cut No. 1	11·74	H.C. 1	373
7-7-1936	,,	,, ,, ,, ,, ...	11·77	,,	373

Occasion[illegible] [illegible]harges (*contd.*)

(Observed by [illegible]gation Department)

Date	River	Site	Gauge Reading	Gauge Site	Di[illegible] m³
			M.		
		Bahr el J[illegible] [illegible]d Tributaries (*contd.*)			
1-7-1936	Jebel	U.S. Head of P[illegible] [illegible]hannel	11·85	Ghabet el Inderab	
16-7-1936	,,	,, ,, ,, ,, ...	11·89	,,	
4-7-1936	,,	D.S. Awai Tails [illegible] 1 B	10·92	Pole 86	
18-7-1936	,,	,, ,, ,, ,, ,, ...	10·94	,,	
5-7-1936	,,	Awai Tail Gauge	11·43	Awai Tail	
19-7-1936	,,	,, ,, ...	11·43	,,	
4-7-1936	,,	U.S. Awai Tails 1 A and 1 B	10·92	Pole 86	
18-7-1936	,,	,, ,, ,, ,, ,, ...	10·94	,,	
3-7-1936	,,	Kenisa	10·90	Kenisa	
17-7-1936	,,	,, ...	10·92	,,	
1-7-1936	,,	U.S. Atem Heads 2 A, B, C and D	11·08	Pole 114	
15-7-1936	,,	,, ,, ,, ,, ,, ...	11·15	,,	
2-7-1936	,,	D.S. Lake Papiu	11·28	Lake Papiu	
16-7-1936	,,	,, ,, ,, ...	11·52	,,	
2-7-1936	Lake Papiu	Mouth	11·28	,,	
16-7-1936	,,	,, ...	11·52	,,	
2-7-1936	Jebel	U.S. Lake Papiu	11·28	,,	
16-1-1936	,,	,, ,, ,, ...	11·52	,,	
1-7-1936	,,	Bor	11·10	Bor	
15-7-1936	,,	,, ...	11·16	,,	
1-7-1936	Khor Unyam Kojie	Mouth	11·10	,,	
14-7-1936	,,	,, ...	11·17	,,	

P. Phillips

Director, Hydrological Service

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Ministry of Public Works, Egypt, Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR SEPTEMBER, 1936

The Weather

The weather in Egypt in September was as usual fine. Normal conditions prevailed during the 1st week, but from the 10th to the 27th, the weather was remarkably cool, particularly during the 3rd week. Light rain fell over the western part of the Delta on the 11th and 16th.

In the Libyan Desert at Dakhla Oasis, the maximum temperature on the 16th and 17th was as low as 28° C. and 29° C. respectively being 9° C. below normal, while the minimum temperature registered at Siwa Oasis on both the 25th and 26th was only 11°C being the lowest temperature ever recorded there in September since observations began in 1911.

Cool weather came to an end when a deep depression appeared over Greece on the 28th, winds in Egypt veered to the south and the weather became exceedingly warm. The maximum temperature registered at Salum and Matruh on the last day of the month was 37°C *i.e.* 10°C above normal.

For the month as a whole the mean atmospheric pressure was above normal in all districts except in north Sudan, and Port Sudan, while the temperature was below normal everywhere except the Red Sea coast in the Sudan.

The mean minimum temperature at Siwa was 15·0° C. being the lowest on record, while the mean maximum temperature at Dakhla did not exceed 33·5° C. which is also a record. The Sudan rainfall was in excess in north and central Sudan.

At Roseires 112 mms. fell on the 6th. This is the highest amount which ever fell in one single day at Roseires in any month of the year for at least 33 years.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR SEPTEMBER 1936

DISTRICTS	Barometric Pressure		Temperature						Rainfall	
			Maximum		Minimum		Max.+Min./2			
	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean	1014·4	+1·2	29·6	+0·1	21·9	0·0	25·8	0·0	0	0
II. Lower Egypt	1014·0	+0·8	31·3	—1·7	17·4	—1·1	24·4	—1·4	0	0
III. Middle Egypt	1013·8	+1·0	32·0	—0·4	18·8	—1·0	25·4	—0·7	0	0
IV. Upper Egypt	1012·4	+1·1	34·6	—0·8	20·1	—1·0	27·4	—0·9	—	—
V. Western Desert ...	1014·1	+1·5	34·1	—2·2	18·2	—1·6	26·2	—1·9	—	—
VI. Red Sea (Egypt) ...	1010·3	+0·7	31·7	—0·8	22·6	—1·2	27·2	—1·0	—	—
*VII. Red Sea (Sudan) ...	1008·1	—0·2	38·9	+1·1	27·4	+1·1	33·2	+1·1	0	0
VIII. North Sudan	1009·4	0·0	38·7	—0·8	24·0	—0·5	31·4	—0·6	35	+14
XI. Central Sudan	1010·6	+0·2	34·8	—0·6	21·5	+0·3	28·2	—0·2	112	+37
X. South Sudan	1011·9	+0·2	32·8	+0·1	19·7	—1·0	26·2	—0·4	108	—31

* Port Sudan only.

RAINFALL DATA FOR SEPTEMBER 1936

Station	1936	Difference from Normal	Station	1936	Difference from Normal
	mm.	mm.		mm.	mm.
Juba	121	+ 5	Adis Ababa	111	— 79
Wau	117	— 47	Roseires	343	+ 184
Malakal	85	— 51	Wad Medani...	54	— 9
El Obeid	86	+ 9	Atbara	2	— 4
El Fasher	21	— 9	Kassala	127	+ 67
Khartoum	10	— 8	Port Sudan	0	0

M. HAMED

Acting Director, Meteorological Service.

State of the River

Lake Albert at Butiaba rose 11 centimeters during the month. Its level on October 1st, 1936 was one centimeter above the normal and 28 centimeters above that of the corresponding day of last year.

The Bahr el Jebel at Juba fluctuated a little below normal and the levels were above those of last year throughout the month.

The River Sobat at Nasser rose at about normal rate. The levels were a little below the normal but much lower than those of last year.

The White Nile at Malakal rose more slowly than normally. The levels were below both the normal and those of last year.

The Blue Nile at Roseires fluctuated sharply at high levels during the first eleven days reaching its maximum level 20·79 metres on the fourth which was 171 centimeters abov the normal. It then fell rapidly with small fluctuations until the end of the month when the level was about normal. The total fall was 274 centimeters in 20 days (11th–30th). During the first 13 days the levels were on the average about equal to those of last year and 93 centimeters above the normal. Afterwards the levels fell much below those of last year. At Khartoum the Blue Nile fluctuated during the first 17 days, then fell at faster than normal rate for the rest of the month. The levels were above normal throughout the month. They were about equal to those of last year during the first 17 days and much below them thereafter.

The River Atbara at Khashm el Girba fluctuated sharply above normal during the whole month. The levels were about equal to those of last year.

The Main Nile at Wadi Halfa fluctuated without any great change of level during the first 18 days and then fell faster than normally. The levels were much above normal throughout the month ; they were about equal to those of last year until the 20th and below them thereafter.

As was foreseen in the last monthly report, the peak of the flood passed Aswan on September 2nd, although a later peak on September 20 reached nearly the same level. After this last peak the river has fallen very rapidly.

The differences of the mean levels in September 1936 from those of September 1935 and from the normal 1906–1935 were :—

STATION	Mean Differences of Levels	
	September 1936 minus September 1935	September 1936 minus Normal
	Metres	Metres
Juba	+ 0·22	— 0·08
Nasser	— 0·34	— 0·10*
Malakal	— 0·19	— 0·11
Roseires	— 0·44	+ 0·58
Khartoum	— 0·13	+ 0·36
Khashm El Girba	+ 0·02	+ 0·38
Wadi Halfa	— 0·15	— 0·69

* Nasser normal is for 1922–1935 only.

Discharges of the Nile during August, 1936

Observed by the Irrigation Department

Esna (D.S. Barrage)

(Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
6	76·86	4580
14	78·24	6560
20	78·74	7160
27	79·18	8110
Approx. Monthly Mean		6520
Normal Mean 1933-1935		6430

Aswân

(Measured by Sluices)

(Aswân D.S. Gauge.)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	89·82	4760
2	89·76	4640
3	89·73	4570
4	89·81	4770
5	89·81	4670
6	89·97	5010
7	90·16	5260
8	90·40	5580
9	90·58	5820
10	90·77	6100
11	90·97	6420
12	91·08	6560
13	91·13	6660
14	91·19	6790
15	91·36	7010
16	91·47	7200
17	91·46	7190
18	91·50	7080
19	91·66	7460
20	91·80	7790
21	92·09	8380
22	92·14	8540
23	92·11	8500
24	92·07	8410
25	92·08	8410
26	92·06	8390
27	92·07	8350
28	92·15	8550
29	92·29	8830
30	92·41	9110
31	92·51	9220
Approx. Monthly Mean		6970
Normal Mean 1912-1935		6410

River Atbara

(Kilo. 3)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	13·02	934
8	13·67	2020
14	14·34	2470
19	14·26	2020
23	14·68	2760
28	14·76	2520
Approx. Monthly Mean		2140
Normal Mean 1912-1935		2080

Hassanâb (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	15·20	5860
9	15·50	5660
15	16·10	6530
20	16·13	7200
25	16·52	7530
29	16·55	8050
Approx. Monthly Mean		6660
Normal Mean 1912-1935		6070

Tamaniât (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	14·60	5230
7	14·41	5180
13	15·07	6570
17	15·08	6670
22	15·57	8040
27	15·68	8620
Approx. Monthly Mean		6810
Normal Mean 1912-1935		6270

Khartoum (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	14·97	5650
6	14·70	4690
12	15·28	6120
16	15·30	5670
21	15·82	7650
26	15·96	7930
Approx. Monthly Mean		6420
Normal Mean 1912-1935		5730

River Rahad (At Mouth)

(Abu Haraz Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	8·96	72
3	8·46	77
9	9·29	80
10	9·61	115
16	9·44	93
17	9·83	101
23	10·30	113
24	10·41	113
30	10·30	143
31	9·94	152
Approx. Monthly Mean		104
Normal Mean 1912-1935		137

River Dinder (at Mouth)

(Hillet Idris Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11·63	357
7	10·28	182
8	10·48	186
14	11·17	298
15	11·69	428
21	13·30	591
22	13·28	585
28	13·54	610
29	13·61	615
Approx. Monthly Mean		425
Normal Mean 1912-1935		389

Sennar (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11·00	5290
3	10·27	4440
5	10·42	4540
8	11·16	5630
10	11·47	5950
12	11·12	5880
15	11·08	5500
17	11·67	6340
19	12·26	7290
22	12·16	7030
24	12·32	7070
26	12·50	7250
29	12·29	6820
31	11·32	5510
Approx. Monthly Mean		6100
Normal Mean 1912-1935		5600

Gezira Main Canal

(Kilo. 1·3)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	15·92	67
4	15·93	68
20	14·69	17
20	14·69	19
Approx. Monthly Mean		36
Normal Mean 1925-1935		51

Wad el Aies (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	11·64	4690
4	11·80	4690
6	12·22	5300
8	12·80	6140
10	12·72	5890
13	12·56	5510
15	12·91	6260
17	13·01	6200
19	13·38	6960
21	13·18	6540
23	13·57	7290
25	13·45	7650
27	13·35	6960
29	13·09	6030
31	12·78	5900
Approx. Monthly Mean		6130
Normal Mean 1912-1935		5670

Mogren (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	14·62	—86
5	14·64	676
11	15·14	348
15	15·32	611
20	15·70	584
25	15·91	812
Approx. Monthly Mean		598
Normal Mean 1912-1935		591

Renk (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11·14	876
3	11·16	888
6	11·19	900
8	11·22	914
9	11·22	933
11	11·26	934
13	11·27	930
15	11·30	935
17	11·34	966
19	11·36	990
20	11·38	986
22	11·39	963
24	11·38	964
25	11·38	952
27	11·39	946
29	11·44	977
31	11·46	972
Approx. Monthly Mean		940
Normal Mean 1928-1935		1020

Malakâl (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	11.66	962
10	11.70	960
15	11·74	961
20	11·78	984
25	11·82	1010
30	11·86	1010
Approx. Monthly Mean		977
Normal Mean 1912-1935		1060

Hillet Doleib (River Sobât)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	12·97	612
17	13·05	625
25	13·12	641
31	13·18	669
Approx. Monthly Mean		625
Normal Mean 1912-1935		609

River Sobât (At Head)

(Nasser Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	9·58	640
13	9·72	654
23	9·87	665
Approx. Monthly Mean		658
Normal Mean 1929-1935		666

River Gila (At Mouth)

(Gila Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	9·07	81
12	9·22	88
22	9·38	84
Approx. Monthly Mean		85
Normal Mean 1929-1935		45

Discharges of the Nile during August, 1936 (*contd.*)

Observed by the Irrigation Department

River Pibor (U. S. Gila Junction) (Gila Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	9·07	5
12	9·22	12
22	9·38	9
Approx. Monthly Mean		13
Normal Mean 1929-1935		100

Akobo (River Pibor)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	13·70	3
11	13·87	4
21	14·01	5
Approx. Monthly Mean		7
Normal Mean 1929-1935		91

Bahr el Zerâf (Kilo. 3) (Gauge at Mouth)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	12·22	131
21	12·28	132
Approx. Monthly Mean		132
Normal Mean 1912-1935		149

Abu Tong (White Nile) (Tonga Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	12·40	292
21	12·47	307
Approx. Monthly Mean		301
Normal Mean 1923-1935		302

Lake No (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·82	339
18	13·87	341
Approx. Monthly Mean		339
Normal Mean 1923-1935		316

Bahr el Ghazâl (At Mouth) (Suddite Factory Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·80	11
18	13·86	21
Approx. Monthly Mean		17
Normal Mean 1923-1935		25

Bahr el Jebel (Kilo. 3) (Lake No Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·82	329
18	13·87	317
Approx. Monthly Mean		321
Normal Mean 1923-1935		294

Gigging (Bahr el Jebel) (Western Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
15	29·17	212
Approx. Monthly Mean		207
Normal Mean 1931-1935		265

Gemeiza (Bahr el Jebel) (Eastern Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
14	429·06	709
Approx. Monthly Mean		699
Normal Mean 1931-1935		741

Terrakekka (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
13	13·55	948
Appox. Monthly Mean		924
Normal Mean 1931-1935		1060

Mongalla (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
13	12·10	949
19	11·72	802
25	12·04	919
Approx. Monthly Mean		885
Normal Mean 1912-1935		1030

NOTE: Hassanab discharges measured on March 27th, 30th, April 7th, 11th, 15th and 20th should be replaced by the following values 754, 765, 696, 683, 718 and 665.

Occasional Discharges

(Observed by the Irrigation Department)

Date	River	Site	Gauge Reading M.	Gauge Site	Disch. m³. p.s.
		River Sobât and Tributaries			
5-8-1936	Sobât	D.S. Khor Nyanding Junction	11·89	Nyanding Mouth	596
15-8-1936	,,	,, ,, ,, ,, ...	12·04		601
25-8-1936	,,	,, ,, ,, ,, ...	12·20	,,	627
1-8-1936	Akobo	Mouth...	13·70	Akobo	16
11-8-1936	,,	,, ...	13·87	,,	18
21-8-1936	,,	,, ...	14·01	,,	18
31-8-1936	Agwei	,, ...	14·22	,,	2
		White Nile and Tributaries			
6-8-1936	Tonga Cut	Mouth	12·40	Tonga	0
20-8-1936	,,	,, ...	12·46	,,	0
6-8-1936	White Nile	U.S. Barboi Head, 100 mts. U.S.R.P. 10	12·40	,,	311
20-8-1936	,,	,, ,, ,, ,, ,, ,, ,, ...	12·46	,,	316
6-8-1936	Khor Yergol	Mouth	13·80	K. Yergol	0
20-8-1936	,,	,, ...	13·87	,,	0
6-8-1936	White Nile	U.S. Khor Yergol	13·80	,,	312
20-8-1936	,,	,, ,, ,, ...	13·87	,,	329
6-8-1936	Outleton left Bank	Mouth	13·80	,,	0
20-8-1936	,,	,, ...	13·87	,,	0
5-8-1936	White Nile	U.S. Maya Sinyora	13·83	Lake No	309
19-8-1936	,,	,, ,, ,, ...	13·87	,,	318
		Bahr el Zerâf			
4-8-1936	Zerâf	D.S. Tail Cut No. 2	26·42	Pole 53	110
18-8-1936	,,	,, ,, ,, ,, ...	26·44	,,	118
2-8-1936	,,	U.S. Tail Cut No. 1	28·00	T.C. 1	—45
16-8-1936	,,	,, ,, ,, ,, ...	28·01	,,	—11
		Jebel-Zerâf Cuts			
4-8-1936	Jebel-Zerâf Cuts	Tail Cut No. 2...	26·55	H.C. 2	22
18-8-1936	,, ,, ,,	,, ,, ,, ...	26·58	,,	21
2-8-1936	,, ,, ,,	Tail Cut No. 1...	28·00	T.C. 1	101
16-8-1936	,, ,, ,,	,, ,, ,, ...	28·01	,,	102
4-8-1936	,, ,, ,,	Head Cut No. 2	26·55	H.C. 2	22
18-8-1936	,, ,, ,,	,, ,, ,, ...	26·58	,,	23
2-8-1936	,, ,, ,,	Head Cut No. 1	11·81	H.C. 1	103
16-8-1936	,, ,, ,,	,, ,, ,, ...	11·82	,,	103
		Bahr el Jebel and Tributaries			
6-8-1936	Jebel	D.S. Buffalo Cape	11·16	B. Cape	325
20-8-1936	,,	,, ,, ,, ...	11·18	,,	326
5-8-1936	,,	D.S. Hillet Nuer	10·76	H. Nuer	339
19-8-1936	,,	,, ,, ...	10·80	,,	332
3-8-1936	,,	D.S. Peake's Channel	26·55	H.C. 2	347
17-8-1936	,,	,, ,, ,, ...	26·57	,,	355
3-8-1936	,,	D.S. Head Cut No. 2	26·55	,,	244
17-8-1936	,,	,, ,, ,, ,, ...	26·57	,,	242
2-8-1936	,,	U.S. Head Cut No. 1	11·81	H.C. 1	377
16-8-1936	,,	,, ,, ,, ,, ...	11·82	,,	387
1-8-1936	,,	U.S. Head of Peake's Channel	11·93	Ghabet el Inderab	484*
1-8-1936	,,	,, ,, ,, ,, ,, ...	11·93		438
15-8-1936	,,	,, ,, ,, ,, ,, ...	11·94	,,	472*

Occasional Discharges (*contd.*)

(Observed by the Irrigation Department)

Date	River	Site	Gauge Reading M.	Gauge Site	Disch. m³ p.s.
		Bahr el Jebel and Tributaries (*contd.*)			
4-8-1936	Jebel	D.S. Awai Tails 1 A and 1 B	10·99	Awai T.1	562
18-8-1936	,,	,, ,, ,, ,, ,, ...	11·03	,,	578
5-8-1936	,,	Awai Tail 3 Gauge	11·48	Awai Tail 3	508
18-8-1936	,,	,, ,, ...	11·51	,,	513
4-8-1936	,,	U.S. Awai Tails 1 A and 1 B	10·99	Awai T.1	211
18-8-1936	,,	,, ,, ,, ,, ...	11·03	,,	215
3-8-1936	,,	Kenisa	10·96	Kenisa	303
17-8-1936	,,	,, ...	10·97	,,	302
1-8-1936	,,	U.S. Atem Heads 2, A, B, C and D	11·16	Pole 114	504
15-8-1936	,,	,, ,, ,, ,, ,, ...	11·22	,,	517
2-8-1936	,,	D.S. Lake Papiu	11·53	Lake Papiu	374
16-8-1936	,,	,, ,, ,, ...	11·58	,,	398
2-8-1936	Lake Papiu	Mouth	11·53	,,	210
16-8-1936	,,	,, ...	11·58	,,	224
2-8-1936	Jebel	U.S. Lake Papiu	11·53	,,	173
16-8-1936	,,	,, ,, ,, ...	11·58	,,	171
1-8-1936	,,	Bor	11·13	Bor	690
15-8-1936	,,	,, ...	11·28	,,	763
1-8-1936	Khor Unyam Kojie	Mouth	11·13	,,	-50
15-8-1936	,,	,, ...	11·28	,,	-58
22-7-1936	Spill In (Bahr el Jebel)	Mouth, 400 mts. D.S. Lake Papiu	11·57	Lake Papiu	29
23-7-1936	,,	,, 50 ,, ,, R.P. 121	11·08	Bor	54
8-8-1936	,,	Mouth, 400 mts. D.S. Lake Papiu	11·54	Lake Papiu	26
9-8-1936	,,	,, 50 ,, ,, R.P. 121	11·25	Bor	63
22-7-1936	Spill Out (Bahr el Jebel)	Mouth, 2 Kms. U.S.R.P. 112	11·17	Pole 114	3
22-7-1936	,,	,, 1 ,, D.S. ,, 113	11·17	,,	11
22-7-1936	,,	,, 500 mts. ,, ,, 116	11·17	,,	14
23-7-1936	,,	,, 2 Kms. U.S. ,, 117	11·17	,,	6
23-7-1936	,,	,, 2.1 Kms. U.S. R.P. 117	11·17	,,	12
23-7-1936	,,	,, 2.5 ,, ,, ,, 117	11·17	,,	7
23-7-1936	,,	,, 300 mts. D.S. ,, 121	11·08	Bor	9
23-7-1936	,,	,, 2 Kms. ,, ,, 123	11·08	,,	10
14-7-1936	,,	,, 9.5 Kms. U.S. Bor	11·17	,,	7
14-7-1936	,,	,, 300 mts. ,, Malek Gauge	20·90	Malek	9
14-7-1936	,,	,, 400 ,, ,, ,, ,, ...	20·90	,,	4
14-7-1936	,,	,, 8 Kms. ,, Tombé	11·68	Tombé	3
8-8-1936	,,	,, 2 ,, U.S.R.P. 112	11·21	Pole 114	3
8-8-1936	,,	,, 1 ,, D.S. ,, 113	11·21	,,	10
8-8-1936	,,	,, 500 mts. ,, ,, 116	11·21	,,	13
9-8-1936	,,	,, 2 Kms. U.S. ,, 117	11·21	,,	5
9-8-1936	,,	,, 2.1 Kms. U.S.R.P. 117	11·21	,,	14
9-8-1936	,,	,, 2.5 ,, ,, ,, 117	11·21	,,	7
9-8-1936	,,	,, 300 mts. D.S. ,, 121	11·25	Bor	10
9-8-1936	,,	,, 2 Kms. ,, ,, 123	11·25	,,	13
10-8-1936	,,	,, 9.5 Kms. U.S. Bor	11·26	,,	8
10-8-1936	,,	,, 300 mts. ,, Malek Gauge	21·08	Malek	11
10-8-1936	,,	,, 400 ,, ,, ,, ,, ...	21·08	,,	6
10-8-1936	,,	,, 8 Kms. D.S. Tombé	12·00	Tombé	5
11-8-1936	,,	,, Aliab Head 1	12·00	,,	3

Correction :—Discharge observed on July 1st U.S. Atem Heads should read 495 instead of 295 which was previously published.

* These discharges were measured at a new site two kilometers U. S. the usual site. The increase in discharge is due to a spill out existing between the two sites.

P. Phillips

Director, Hydrological Service

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Ministry of Public Works, Egypt, Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR OCTOBER, 1936

The Weather

Very warm; about as warm as October 1932, which was the warmest October for at least twenty-five years. Record high temperatures were registered in several places.

A depression passing north of Egypt on the 4th caused southerly winds and hot weather. In Cairo the temperature rose to 40° C. (104° F.), a record for October for at least 28 years. The passage of the depression brought a rapid fall in temperature, but cool weather was of short duration, as another depression moving along the coast gave rise to warm easterly winds. This passed on the 9th, and by the 11th temperatures had fallen almost to normal. Subsequently the weather steadily became warmer until the 15th and high temperatures, though of decreasing intensity, were maintained for the rest of the month; during this period the winds were chiefly northeasterly.

Remarkable thunderstorms occurred on the coast in the west on the 19th and 20th resulting in a number of deaths and in considerable damage to the railway line and to property. At Mersa Matruh 37 millimetres of rain were registered.

A rainstorm was also reported in Upper Egypt on the 21st and 22nd, between Aswan and El Khatara.

On the 28th during the passage of a small depression along the coast light rain fell in some parts of Upper and Lower Egypt, accompanied in places by thunder.

For the month as a whole the atmospheric pressure was below normal except on the Mediterranean and Red Sea Coasts. The temperature was above normal throughout Egypt and the Sudan; the excess was most pronounced in Middle and Upper Egypt. Relative humidity was well above normal in Alexandria and about normal in Cairo. Rainfall in the Sudan was about normal.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR OCTOBER 1936

DISTRICTS	Barometric Pressure		Temperature						Rainfall	
			Maximum		Minimum		Max.+Min./2			
	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean	1016·5	+0·4	30·1	+2·2	20·5	+0·8	25·3	+1·5	4	− 2
II. Lower Egypt	1016·3	−0·2	32·0	+1·5	17·4	+1·1	24·7	+1·3	0	− 1
III. Middle Egypt	1015·7	−0·3	33·8	+3·9	18·8	+1·3	26·3	+2·6	0	− 1
IV. Upper Egypt	1014·4	−0·3	35·9	+3·3	19·6	+1·3	27·8	+2·3	—	—
V. Western Desert ...	1014·9	−0·5	35·6	+2·4	19·0	+1·4	27·3	+1·9	—	—
VI. Red Sea (Egypt) ...	1014·0	+0·5	31·6	+1·6	20·4	0·0	26·0	+0·8	—	—
*VII. Red Sea (Sudan) ...	1012·3	+0·5	34·4	+0·6	25·1	+0·5	29·8	+0·6	6	− 7
VIII. North Sudan	1009·5	−0·8	39·9	+1·0	23·1	+0·3	31·5	+0·6	2	− 2
XI. Central Sudan... ...	1009·3	−0·6	38·1	+0·6	21·3	+0·6	29·7	+0·6	21	+ 5
X. South Sudan	1010·7	−0·1	35·3	+1·3	21·4	+0·9	28·4	+1·1	100	+ 2

* Port Sudan only.

(Sgn.) L. J. Sutton
Director
Meteorological Service

State of the River

Lake Albert at Butiaba rose 8 centimetres during the month. Its level on November 1, 1936 was 2 centimetres above the normal and 34 centimetres above that of the corresponding day of last year.

The Bahr El Jebel at Juba fluctuated below normal during the whole month, the levels were on the average about 10 centimetres below normal but about 10 centimetres above last year's.

The River Sobat at Nasser and the White Nile at Malakal both rose rather slower than normally, the levels being below both the normal and last year's.

The Blue Nile at Roseires fell slower than normally, the level which was 21 centimetres below normal at the beginning of the month was 28 centimetres above normal at the end. During the whole month the levels were lower than those of last year. At Khartoum the Blue Nile fell rather faster than normally. The levels were on the average a little below normal but considerably below last year's.

The River Atbara at Khashm El Girba fell rather faster than normally, the levels being on the average about 10 centimetres below the normal and about 25 centimetres below last year's.

The Main Nile at Wadi Halfa fell much faster than normally, the level which was 61 centimetres above normal at the beginning of the month was normal at the end. On the average the levels were about half a metre below last year's.

The differences of the mean levels in October 1936 from those of October 1935 and from the normal 1906–1935 were :—

STATION	MEAN DIFFERENCES OF LEVELS	
	October 1936 minus October 1935	October 1936 minus Normal
	Metres	Metres
Juba	+ 0·08	— 0·13
Nasser	— 0·26	— 0·11*
Malakal	— 0·18	— 0·16
Roseires	— 0·67	+ 0·02
Khartoum	— 0·44	— 0·06
Khashm El Girba	— 0·24	— 0·10
Wadi Halfa	— 0·50	+ 0·26†

* Nasser normal is for 1922–1935 only.

† Wadi Halfa difference from normal for September 1936 should read +0·69 instead of — 0·69.

Discharges of the Nile during September, 1936

Observed by the Irrigation Department

Esna (D.S. Barrage)

(Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	79·86	9040
10	79·67	8820
17	79·85	9360
21	79·80	10200

Approx. Monthly Mean 9260
Normal Mean 1933-1935 9050

Aswân

(Measured by Sluices)

(Aswân D.S. Gauge.)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	92·65	9560
2	92·78	9700
3	92·68	9580
4	92·55	9320
5	92·47	9150
6	92·47	9180
7	92·52	9280
8	92·53	9280
9	92·52	9160
10	92·54	9160
11	92·62	9320
12	92·68	9500
13	92·73	9560
14	92·69	9470
15	92·65	9380
16	92·63	9280
17	92·68	9400
18	92·74	9540
19	92·76	9670
20	92·76	9580
21	92·68	9410
22	92·62	9200
23	92·58	9110
24	92·57	9030
25	92·51	8880
26	92·42	8720
27	92·37	8550
28	92·29	8390
29	92·21	8270
30	92·14	8120

Approx. Monthly Mean 9190
Normal Mean 1912-1935 7940

River Atbara

(Kilo. 3)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	14·68	2350
14	14·72	2280
19	14·24	1330
24	13·88	1030
29	13·48	795

Approx. Monthly Mean 1750
Normal Mean 1912-1935 1390

Hassanâb (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
9	16·58	7290
15	16·58	7890
20	16·36	7700
25	16·01	6810
30	15·63	6430

Approx. Monthly Mean 7390
Normal Mean 1912-1935 6630

Tamaniât (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	15·68	7620
7	15·94	8210
13	15·70	7890
18	15·79	7880
23	15·52	7300
28	15·14	6570

Approx. Monthly Mean 7590
Normal Mean 1912-1935 6760

Khartoum (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	15·88	6510
6	16·14	7270
12	15·90	6580
17	16·09	7140
22	15·69	6080
27	15·42	5010

Approx. Monthly Mean 6370
Normal Mean 1912-1935 5610

River Rahad (At Mouth)

(Abu Haraz Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
6	10·60	122
7	10·49	147
13	10·40	119
14	10·49	128
20	9·82	136
21	9·59	139
27	8·94	140
28	8·84	141

Approx. Monthly Mean 135
Normal Mean 1912-1935 160

River Dinder (at Mouth)

(Hillet Idris Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·57	620
5	13·55	628
11	13·22	625
12	13·39	622
18	13·44	667
19	13·43	671
25	12·95	677
26	12·93	701

Approx. Monthly Mean 655
Normal Mean 1912-1935 413

Sennar (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	12·28	6990
5	12·60	7380
7	12·02	6250
9	11·84	6000
12	12·28	6730
14	12·16	6520
16	11·76	6010
19	11·44	5540
21	10·80	4760
23	10·40	4260
26	10·23	4160
28	9·92	3890
30	9·72	3530

Approx. Monthly Mean 5620
Normal Mean 1912-1935 5040

Gezîra Main Canal

(Kilo. 1.3)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
6	14·94	26
6	14·94	24
13	16·44	98
13	16·44	96
22	16·34	88
22	16·34	86

Approx. Monthly Mean 71
Normal Mean 1925-1935 46

Wad el Aies (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	13·47	7020
4	13·37	7170
6	13·22	6470
8	13·21	6460
10	12·84	5780
12	13·59	6690
14	13·37	6360
16	12·95	5850
18	13·02	5720
20	12·56	5120
22	12·29	4750
24	11·96	4200
26	11·99	4330
28	11·68	3990
30	11·39	3650

Approx. Monthly Mean 5610
Normal Mean 1912-1935 4930

Mogren (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	15·94	1030
5	16·14	816
11	16·04	1310
16	16·14	805
21	15·94	1090
26	15·55	1530

Approx. Monthly Mean 1130
Normal Mean 1912-1935 1140

Renk (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	11·46	984
5	11·48	987
7	11·50	1000
8	11·50	1010
10	11·53	1000
12	11·54	1010
14	11·54	995
16	11·57	1030
19	11·59	1020
21	11·59	1020
23	11·58	1010
25	11·58	1050
27	11·59	1040
29	11·60	1050

Approx. Monthly Mean 1010
Normal Mean 1928-1935 1140

Malakâl (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	11.90	1030
10	11.94	1050
15	11·97	1060
20	12·00	1090
25	12·03	1070
30	12·06	1100

Approx. Monthly Mean 1060
Normal Mean 1912-1935 1160

Hillet Doleib (River Sobât)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	13·23	678
17	13·30	679
25	13·36	660
30	13·40	710

Approx. Monthly Mean 680
Normal Mean 1912-1935 696

River Sobât (At Head)

(Nasser Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	10·00	695
13	10·14	698
23	10·29	698

Approx. Monthly Mean 698
Normal Mean 1929-1935 715

River Gila (At Mouth)

(Gila Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	9·55	85
12	9·64	78
22	9·77	75

Approx. Monthly Mean 77
Normal Mean 1929-1935 25

Discharges of the Nile during September, 1936 (*contd.*)

Observed by the Irrigation Department

River Pibor (U. S. Gila Junction) (Gila Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	9·55	36
12	9·64	45
22	9·77	55
Approx. Monthly Mean		50
Normal Mean 1929-1935		143

Akobo (River Pibor)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	14·23	24
11	14·36	34
21	14·54	41
Approx. Monthly Mean		39
Normal Mean 1929-1935		109

Bahr el Zerâf (Kilo. 3) (Gauge at Mouth)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	12·40	141
21	12·50	161
Approx. Monthly Mean		151
Normal Mean 1912-1935		164

Abu Tong (White Nile) (Tonga Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	12·56	312
21	12·63	307
Approx. Monthly Mean		309
Normal Mean 1923-1935		308

Lake No (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·90	331
18	13·92	331
Approx. Monthly Mean		332
Normal Mean 1923-1935		315

Bahr el Ghazâl (At Mouth) (Suddite Factory Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·90	18
18	13·90	17
Approx. Monthly Mean		18
Normal Mean 1923-1935		37

Bahr el Jebel (Kilo. 3) (Lake No Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·90	319
18	13·92	312
Approx. Monthly Mean		315
Normal Mean 1923-1935		281

Gigging (Bahr el Jebel) (Western Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	29·12	200
15	29·19	218
Approx. Monthly Mean		210
Normal Mean 1931-1935		284

Gemeiza (Bahr el Jebel) (Eastern Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	429·02	689
14	429·08	724
Approx. Monthly Mean		705
Normal Mean 1931-1935		783

Terrakekka (Bahr el Jeb

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	13·54	90
14	13·66	97
Approx. Monthly Mean		94
Normal Mean 1931-1935		109

Mongalla (Bahr el Jeb

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	12·01	92
7	12·00	91
13	12·21	101
19	12·04	92
Approx. Monthly Mean		94
Normal Mean 1912-1935		105

River Assua (D.S Road crossing to Nimule)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
10	2·14	92

Meshra Surrour (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
9	8·80	751
10	8·82	760

River Unyama (1 Km. U. S. Mouth)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
9	10·50	15
10	10·56	21

Occasional Discharges

(Observed by the Irrigation Department)

Date	River	Site	Gauge Reading M.	Gauge Site	Disch. m³. p.s.
		River Sobât and Tributaries			
5-9-1936	Sobât	D.S. Khor Nyanding Junction	12·34	Nyanding Mouth	660
15-9-1936	,,	,, ,, ,, ,, ...	12·46		667
25-9-1936	,,	,, ,, ,, ,, ...	12·57	,,	686
5-9-1936	Khor Nyanding	Mouth...	12·34	,,	5
15-9-1936	,,	,, ...	12·46	,,	7
24-9-1936	Khor Twalor	,, ...	10·30	Nasser	4
3-9-1936	Khor Wakau	,, ...	10·00	,,	—18
13-9-1936	,,	,, ...	10·14	,,	— 2
23-9-1936	,,	,, ...	10·30	,,	10
1-9-1936	Akobo	,, ...	14·23	Akobo	17
11-9-1936	,,	,, ...	14·36	,,	17
21-9-1936	,,	,, ...	14·54	,,	18
10-9-1936	Agwei	,, ...	14·34	,,	2
20-9-1936	,,	,, ...	14·50	,,	5
30-9-1936	,,	,, ...	14·62	,,	8
		White Nile and Tributaries			
6-9-1936	Tonga Cut	Mouth	12·56	Tonga	0
20-9-1936	,,	,, ...	12·62	,,	0
6-9-1936	White Nile	U.S. Barboi Head, 100 mts. U.S.R.P. 10	12·56	,,	317
20-9-1936	,,	,, ,, ,, ,, ,, ,, ,, ...	12·62	,,	305
6-9-1936	Khor Yergol	Mouth	13·94	K. Yergol	0
20-9-1936	,,	,, ...	13·96	,,	0
6-9-1936	White Nile	U.S. Khor Yergol	13·94	,,	321
20-9-1936	,,	,, ,, ,, ...	13·96	,,	309
7-9-1936	,,	U.S. Maya Sinyora	13·91	Lake No	310
19-9-1936	,,	,, ,, ,, ...	13·92	,,	309
		Bahr el Zerâf			
4-9-1936	Zerâf	D.S. Tail Cut No. 2	26·47	Pole 53	118
2-9-1936	,,	U.S. Tail Cut No. 1	28·07	T.C. 1	— 8
		Jebel-Zerâf Cuts			
4-9-1936	Jebel-Zerâf Cuts	Tail Cut No. 2...	26·60	H.C. 2	19
2-9-1936	,, ,, ,,	Tail Cut No. 1...	28·07	T.C. 1	101
4-9-1936	,, ,, ,,	Head Cut No. 2	26·60	H.C. 2	20
2-9-1936	,, ,, ,,	Head Cut No. 1	11·84	H.C. 1	100
		Bahr el Jebel and Tributaries			
6-9-1936	Jebel	D.S. Buffalo Cape	11·19	B. Cape	313
5-9-1936	,,	D.S. Hillet Nuer	10·82	H. Nuer	335
3-9-1936	,,	D.S. Peake's Channel	26·60	H.C. 2	351
3-9-1936	,,	D.S. Head Cut No. 2	26·60	,,	239
2-9-1936	,,	U.S. Head Cut No. 1	11·84	H.C. 1	379
1-9-1936	,,	U.S. Head of Peake's Channel	11·96	Gh.of Inderab	485
18-9-1936	,,	D.S. Awai Tails 1 A and 1 B...	11·07	Awai T.1	593
19-9-1936	,,	Awai Tail 3 Gauge	11·56	Awai Tail	527
17-9-1936	,,	U.S. Awai Tails 1 A and 1 B	11·07	Awai T.1	212
17-9-1936	,,	Kenisa	11·02	Kenisa	301
15-9-1936	,,	U.S. Atem Heads 2, A, B, C and D	11·26	Pole 114	548
16-9-1936	,,	D.S. Lake Papiu	11·64	Lake Papiu	415
16-9-1936	Lake Papiu	Mouth	11·64	,,	257
16-9-1936	Jebel	U.S. Lake Papiu	11·64	,,	164
15-9-1936	,,	Bor	11·30	Bor	746
15-9-1936	Khor Unyam Kojie	Mouth	11·30	,,	63

P. Phillips

Director, Hydrological Service

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Ministry of Public Works, Egypt, Physical Department

REPORT ON THE WEATHER AND STATE OF THE RIVER FOR NOVEMBER, 1936

The Weather

As in the preceding month, the weather was much warmer than usual.

At the beginning of the month warm northeast winds prevailed. On the 6th a trough of low pressure, with depressions off Salum and in the desert southwest of Siwa Oasis, approached, causing east and southeast winds and a rise in temperature, which reached 37° C. (99° F.) in Cairo (Ezbekia) on the following day. This is the highest temperature recorded in Cairo in November since observations began in 1901. Record high temperatures were registered also at other stations.

The depressions passed Egypt on the 8th, and with northwesterly winds the warm spell broke, but high pressure soon formed over the eastern Mediterranean and mild northeasterly winds prevailed. Southeasterly winds and hot weather were again experienced, on the 19th, but were of short duration. A depression situated near Cyprus on the 21st deepened, causing northwesterly winds and heavy rain throughout northern Egypt. At Alexandria 13 millimetres were registered on that day, while on the 22nd 7 millimetres fell at Giza. At Alexandria the weather remained showery until almost the end of the month. For the last week the weather was cool, with unusually low night temperature. On the last two nights the temperature at Giza fell to 5° C.

For the month as a whole the barometric pressure was below normal, and the temperature above normal throughout Egypt and the Sudan. Rainfall was everywhere deficient except in Middle Egypt.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR NOVEMBER 1936

DISTRICTS	BAROMETRIC PRESSURE		TEMPERATURE						RAINFALL	
			MAXIMUM		MINIMUM		MAX.+MIN./2			
	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean	1017·0	−0·5	25·4	+0·8	17·1	+0·8	21·2	+0·8	11	− 11
II. Lower Egypt	1017·2	−0·6	26·8	+0·2	14·0	+0·7	20·4	+0·4	2	− 5
III. Middle Egypt	1017·1	−0·4	27·5	+1·6	15·4	+1·3	21·4	+1·4	4	+ 2
IV. Upper Egypt	1016·3	−0·7	30·3	+2·2	15·5	+1·9	22·9	+2·0	—	—
V. Western Desert ...	1016·6	−0·9	29·4	+1·2	13·5	+1·9	21·4	+1·6	—	—
VI. Red Sea (Egypt) ...	1015·4	−0·5	27·6	+0·5	17·2	+0·7	22·4	+0·6	—	—
*VII. Red Sea (Sudan) ...	1013·6	+0·1	31·4	+0·4	23·9	+0·3	27·6	+0·4	8	− 35
VIII. North Sudan	1011·0	−1·5	36·1	+1·3	19·9	+1·1	28·0	+1·2	0	0
XI. Central Sudan	1010·2	−1·0	37·3	+1·2	18·4	+0·9	27·8	+1·0	0	− 1
X. South Sudan	1009·7	−0·7	38·1	+2·6	18·2	−1·6	28·2	+0·5	3	− 14

* Port Sudan only.

L. J. SUTTON

Director, Meteorological Service.

State of the River

Lake Albert at Butiaba fell 2 cms. during the month. Its level on December 1, 1936 was 5 cms. below the normal but 32 cms. above that of the corresponding day of last year.

The Bahr el Jebel at Juba fell at about normal rate, the levels being below normal but a few centimetres above last year's.

The fall of the River Sobat at Nasser began on the 13th and was rather more rapid than usual. The levels were on the average nearly half a metre below last year's and about 25 cms. below the normal.

The White Nile at Malakal was practically steady during the month, the levels being below both the normal and those of last year.

The Blue Nile at Roseires fell at about normal rate. The levels were a few centimetres above the normal but below last year's throughout the month. At Khartoum the Blue Nile fell rather faster than normally, the levels being on the average a few centimetres below both the normal and last year's.

At Khashm el Girba the River Atbara fell at about normal rate, the levels being below both the normal and those of last year.

The Main Nile at Kajnarti fell faster than normally. The levels were on the average about 15 cms. below normal and about 40 cms. below last year's.

The differences of the mean levels in November 1936, from those of November 1935 were :—

STATION	MEAN DIFFERENCES OF LEVELS	
	November 1936 minus November 1935	November 1936 minus Normal
	Metres	Metres
Juba	+ 0·06	— 0·27
Nasser	— 0·47	— 0·25*
Malakal	— 0·19	— 0·15
Roseires	— 0·49	+ 0·18
Khartoum	— 0·22	— 0·13
Khashm El Girba	— 0·13	— 0·12
Kajnarti	— 0·41	— 0·16

* Nasser normal is for 1922–1935 only.

Discharges of the Nile during October, 1936

Observed by the Irrigation Department

Esna (D.S. Barrage)

(Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	79·25	8570
8	78·68	7260
15	78·09	6040
22	76·87	4310
29	75·48	3160
Approx. Monthly Mean		5680
Normal Mean 1933-1935		6140

Aswân

(Measured by Sluices)

(Aswân D.S. Gauge.)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	91·98	7860
2	91·94	7780
3	91·93	7670
4	91·80	7470
5	91·72	7290
6	91·62	7130
7	91·56	6940
8	91·51	6850
9	91·44	6790
10	91·32	6610
11	91·24	6480
12	91·14	6290
13	91·02	6080
14	90·92	5870
15	90·81	5710
16	90·64	5500
17	90·47	5380
18	90·29	4970
19	90·13	4810
20	89·96	4600
21	89·82	4370
22	89·63	4110
23	89·44	3840
24	89·28	3760
25	89·11	3640
26	88·94	3410
27	88·76	3230
28	88·60	3060
29	88·43	2790
30	88·26	2620
31	88·09	2490
Approx. Monthly Mean		5340
Normal Mean 1912-1935		5520

Halfa (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
Aug. 4	5·79	4830
5	6·03	4910
6	6·24	5200
8	6·53	6090
9	6·73	6470
10	6·89	6640
11	6·92	6750
12	6·95	6610
13	7·05	6980

Halfa (*contd.*)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
Oct. 15	6·44	5790
17	6·31	5570
18	6·25	5500
19	6·16	5390
20	6·06	5120
21	5·96	4950
22	5·83	4830
24	5·59	4600
25	5·51	4280
26	5·43	4170
27	5·34	4080
28	5·27	4050
29	5·21	4020
31	5·07	3750
Approx. Monthly Mean		—
Normal Mean 1912-1935		5670

River Atbara

(Kilo. 3)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·03	550
9	12·56	388
14	12·18	269
19	11·70	202
24	11·44	154
29	11·22	144
Approx. Monthly Mean		302
Normal Mean 1912-1935		290

Hassanâb (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	15·20	5950
10	14·77	4980
15	14·38	4510
20	13·84	3920
25	13·48	3020
30	13·18	3010
Approx. Monthly Mean		4410
Normal Mean 1912-1935		4500

Tamaniât (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	14·84	6020
8	14·45	5210
13	14·08	4410
18	13·52	3790
23	13·17	3290
28	12·90	3120
Approx. Monthly Mean		4260
Normal Mean 1912-1935		4360

Khartoum (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	15·16	4480
7	14·74	3820
12	14·35	3190
17	13·82	2430
22	13·51	2120
27	13·20	1740
Approx. Monthly Mean		2840
Normal Mean 1912-1935		2950

River Rahad (At Mouth)

(Abu Haraz Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	8·26	142
5	8·20	142
Approx. Monthly Mean		—
Normal Mean 1912-1935		87

River Dindêr (at Mouth)

(Hillet Idris Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	12·68	735
3	12·62	726
Approx. Monthly Mean		—
Normal Mean 1912-1935		137

Sennar (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	9·26	3060
5	8·95	2890
7	9·04	2940
10	8·50	2340
12	8·18	2110
14	8·08	1930
17	8·05	1950
19	7·83	1800
21	7·70	1680
24	7·62	1610
26	7·40	1440
28	7·30	1350
31	7·18	1210
Approx. Monthly Mean		2080
Normal Mean 1912-1935		2540

Gezîra Main Canal

(Kilo. 1.3)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
11	16·48	91
11	16·48	93
13	16·76	106
13	16·76	107
21	17·00	123
21	17·00	120*
Approx. Monthly Mean		102
Normal Mean 1925-1935		77

Wad el Aies (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	11·08	3240
4	10·87	3050
6	10·86	2980
8	10·50	2700
10	10·13	2440
12	9·90	2170
14	9·75	2070
16	9·72	2000
18	9·56	1920
20	9·40	1840

Wad el Aies (*contd.*)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
22	9·26	1720
24	9·12	1610
26	8·94	1520
28	8·87	1410
30	8·92	1420
Approx. Monthly Mean		2150
Normal Mean 1912-1935		2460

Roseires (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
14	16·15	2000
16	16·12	2030
18	15·92	1860
20	15·84	1810
22	15·70	1700
24	15·51	1570
26	15·40	1520
28	15·41	1510
30	15·28	1390
Approx. Monthly Mean		—
Normal Mean 1912-1935		2460

Mogren (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	15·34	1430
6	14·90	1370
11	14·57	1280
16	14·03	1400
21	13·70	1380
26	13·40	1290
Approx. Monthly Mean		1340
Normal Mean 1912-1935		1400

Renk (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	11·59	1060
4	11·59	1060
7	11·59	1080
9	11·60	1100
13	11·62	1070
15	11·62	1060
17	11·61	1070
19	11·61	1080
22	11·60	1080
25	11·61	1090
28	11·62	1110
30	11·62	1100
Approx. Monthly Mean		1080
Normal Mean 1928-1935		1200

Malakâl (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	12.08	1100
10	12.11	1120
15	12·12	1130
20	12·14	1120
25	12·14	1110
30	12·16	1130
Approx. Monthly Mean		1120
Normal Mean 1912-1935		1240

* Measured at kilo 1.5

Discharges of the Nile during October, 1936 (*contd.*)

Observed by the Irrigation Department

Hillet Doleib (River Sobât)

Day of Month	Gauge Reading m.	Disch m.³ p.s.
8	13·44	716
17	13·49	702
25	13·50	706
31	13·50	690
Approx. Monthly Mean		706
Normal Mean 1912-1935		761

River Sobât (At Head)
(Nasser Gauge)

Day of Month	Gauge Reading m.	Disch m.³ p.s.
3	10·38	704
13	10·42	715
23	10·44	731
Approx. Monthly Mean		716
Normal Mean 1929-1935		755

River Gila (At Mouth)
(Gila Gauge)

Day of Month	Gauge Reading m.	Disch m.³ p.s.
2	9·86	65
12	9·95	57
22	9·92	66
Approx. Monthly Mean		66
Normal Mean 1929-1935		21

River Pibor (U. S. Gila Junction) (Gila Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	9·86	70
12	9·95	86
22	9·92	74
Approx. Monthly Mean		73
Normal Mean 1929-1935		152

Akobo (River Pibor)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	14·65	62
11	14·80	68
21	14·70	40
Approx. Monthly Mean		49
Normal Mean 1929-1935		93

Bahr el Zerâf (Kilo. 3)
(Gauge at Mouth)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	12·58	154
21	12·62	150
Approx. Monthly Mean		153
Normal Mean 1912-1935		166

Abu Tong (White Nile)
(Tonga Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	12·69	303
21	12·72	305
Approx. Monthly Mean		304
Normal Mean 1923-1935		319

Lake No (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·96	334
18	13·98	315
Approx. Monthly Mean		322
Normal Mean 1923-1935		315

Bahr el Ghazâl
(At Mouth)
(Suddite Factory Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·95	23
18	13·96	16
Approx. Monthly Mean		18
Normal Mean 1923-1935		43

Bahr el Jebel (Kilo. 3)
(Lake No Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·96	318
18	13·98	305
Approx. Monthly Mean		310
Normal Mean 1923-1935		275

Gigging (Bahr el Jebel)
(Western Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
15	29·11	197
Approx. Monthly Mean		195
Normal Mean 1931-1935		250

Gemeiza (Bahr el Jebel)
(Eastern Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
14	428·93	659
Approx. Monthly Mean		653
Normal Mean 1931-1935		734

Terrakekka (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
13	13·37	872
Appox. Monthly Mean		853
Normal Mean 1931-1935		1000

Mongalla (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	12·08	940
13	11·87	854
19	11·82	828
25	11·74	816
Approx. Monthly Mean		860
Normal Mean 1912-1935		1020

Occasional Discharges

(Observed by the Irrigation Department)

Date	River	Site	Gauge Reading M.	Gauge Site	Disch. m³. p.s.
		River Sobât and Tributaries			
-10-1936	Sobât	D.S. Khor Nyanding Junction	12·68	Nyanding Mouth	712
-10-1936	,,	,, ,, ,, ,, ...	12·70		704
-10-1936	,,	,, ,, ,, ,, ...	12·73	,,	704
-10-1936	Khor Twalor	Mouth...	10·39	Nasser	8
-10-1936	,,	,, ...	10·43	,,	8
-10-1936	,,	,, ...	10·45	,,	8
-10-1936	Khor Wakau	,, ...	10·39	,,	19
-10-1936	,,	,, ...	10·42	,,	20
-10-1936	,,	,, ...	10·45	,,	24
-10-1936	Khor Geni	,, ...	14·70	Akobo	—10
-10-1936	Akobo	,, ...	14·65	,,	19
-10-1936	,,	,, ...	14·80	,,	17
-10-1936	,,	,, ...	14·70	,,	24
-10-1936	Agwei	,, ...	14·81	,,	5
-10-1936	,,	,, ...	14·72	,,	7
-10-1936	,,	,, ...	14·50	,,	5
		White Nile and Tributaries			
3-10-1936	Tonga Cut	Mouth	12·69	Tonga	8
-10-1936	,,	,, ...	12·72	,,	0
6-10-1936	White Nile	U.S. Barboi Head, 100 mts. U.S.R.P. 10	12·69	,,	306
-10-1936	,,	,, ,, ,, ,, ,, ,, ,, ...	12·72	,,	297
-10-1936	Kho Atar	Mouth	12·78	Fenikang	0
6-10-1936	Khor Yergol	,, ...	14·03	K. Yergol	0
-10-1936	,,	,, ...	13·95	,,	0
6-10-1936	White Nile	U.S. Khor Yergol	14·03	,,	303
-10-1936	,,	,, ,, ,, ...	13·95	,,	295
5-10-1936	,,	U.S. Maya Sinyora	13·96	Lake No	311
9-10-1936	,,	,, ,, ,, ...	13·99	,,	303
		Bahr el Zerâf			
0-10-1936	Zerâf	D.S. Tail Cut No. 2	26·57	Pole 53	126
4-10-1936	,,	,, ,, ,, ,, ...	26·58	,,	119
0-10-1936	,,	U.S. Tail Cut No. 1	28·22	T.C. 1	16
4-10-1936	,,	,, ,, ,, ,, ...	28·23	,,	12
		Jebel-Zerâf Cuts			
0-10-1936	Jebel-Zerâf Cuts	Tail Cut No. 2...	26·57	Pole 53	13
4-10-1936	,, ,, ,,	,, ,, ,, ...	26·58	,,	13
0-10-1936	,, ,, ,,	Tail Cut No. 1...	28·22	T.C. 1	84
4-10-1936	,, ,, ,,	,, ,, ,, ...	28·23	,,	90
9-10-1936	,, ,, ,,	Head Cut No. 2	26·68	H.C. 2	15
3-10-1936	,, ,, ,,	,, ,, ,, ,, ...	26·68	,,	15
9-10-1936	,, ,, ,,	Head Cut No. 1	11·92	H.C. 1	83
3-10-1936	,, ,, ,,	,, ,, ,, ,, ...	11·92	,,	87
		Bahr el Jebel and Tributaries			
2-10-1936	Jebel	D.S. Buffalo Cape	11·22	B. Cape	328
6-10-1936	,,	,, ,, ,, ...	11·22	,,	334
1-10-1936	,,	D.S. Hillet Nuer	10·86	H. Nuer	346
5-10-1936	,,	,, ,, ,, ...	10·85	,,	343
9-10-1936	,,	D.S. Tail of Peake's Channel	26·68	H.C. 2	362
3-10-1936	,,	,, ,, ,, ,, ,, ...	26·68	,,	371
9-10-1936	,,	D.S. Head Cut No. 2	26·68	,,	252
3-10-1936	,,	,, ,, ,, ,, ...	26·68	,,	258

Occasional Discharges (*contd.*)

(Observed by the Irrigation Department)

Date	River	Site	Gauge Reading	Gauge Site	Dis m³
			M.		
		Bahr el Jebel and Tributaries (*contd.*)			
8-10-1936	Jebel	U.S. Head Cut No. 1	11·92	H.C. 1	3
22-10-1936	,,	,, ,, ,, ,, ...	11·93	,,	3
8-10-1936	,,	U.S. Head of Peake's Channel	12·00	Gh.el Inder a	5
22-10-1936	,,	,, ,, ,, ,, ...	12·01	,,	4
3-10-1936	,,	D.S. Awai Tails 1 A and 1 B	11·07	Awai T. 1	5
17-10-1936	,,	,, ,, ,, ,, ...	11·09	,,	5
6-10-1936	,,	Awai Tail 3 Gauge	11·56	Awai Tail 3	5
18-10-1936	,,	,, ...	11·56	,,	5
3-10-1936	,,	U.S. Awai Tails 1 A and 1 B	11·07	Awai T. 1	2
17-10-1936	,,	,, ,, ,, ,, ...	11·09	,,	2
3-10-1936	,,	Kenisa	11·06	Kenisa	3
17-10-1936	,,	,, ...	11·08	,,	3
1-10-1936	,,	U.S. Atem Heads 2 A, B, C and D	11·30	Pole 114	5
15-10-1936	,,	,, ,, ,, ,, ,, ...	11·30	,,	5
2-10-1936	Jebel	D.S. Lake Papiu	11·70	Lake Papiu	42
16-10-1936	,,	,, ,, ...	11·70	,,	42
2-10-1936	Lake Papiu	Mouth	11·70	,,	27
16-10-1936	,,	,, ...	11·70	,,	27
2-10-1936	,,	U.S. Lake Papiu	11·70	,,	15
16-10-1936	,,	,, ,, ,, ...	11·70	,,	16
1-10-1936	,,	Bor	11·32	Bor	73
15-10-1936	,,	,, ...	11·32	,,	74
1-10-1936	Khor Unyam Kojie	U.S. Bor	11·32	,,	-6
15-10-1936	,,	,, ,, ...	11·32	,,	-6
22-9-1936	Spill In (Bahr el Jebel)	Mouth, 10 mts. D.S.R.P. 121	11·31	,,	10
21-9-1936	Spill Out (Bahr el Jebel)	,, 2 Kms. U.S.R.P. 112...	11·26	Pole 114	
21-9-1936	,,	,, 1 ,, D.S. ,, 113...	11·26	,,	
22-9-1936	,,	,, 1.8 ,, U.S. ,, 117...	11·26	,,	
22-9-1936	,,	,, 2 ,, ,, ,, 117...	11·26	,,	1
22-9-1936	,,	,, 2.1 ,, ,, ,, 117...	11·26	,,	
22-9-1936	,,	,, 3 ,, ,, ,, 117...	11·26	,,	
22-9-1936	,,	,, 300 mts. D.S. ,, 121...	11·30	Bor	1
22-9-1936	,,	,, 2 Kms. ,, ,, 123...	11·30	,,	1
23-9-1936	,,	,, 7 ,, U.S. Bor	11·30	,,	
23-9-1936	,,	,, 10 ,, ,, ,, ...	11·30	,,	
23-9-1936	,,	,, 18 ,, ,, ,, ...	11·30	,,	
24-9-1936	,,	,, 400 mts. ,, Malek	21·14	Malek	
24-9-1936	,,	,, 10 Kms. ,, ,, ...	21·14	,,	
24-9-1936	,,	,, 8 ,, D.S. Tombé	11·98	Tombé	

P. Phillips

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REPORT ON THE WEATHER AND STATE OF THE RIVER FOR DECEMBER, 1936

The Weather

Unusually cold,-on the coast the coldest December since 1929 ; inland, the coldest since 1922.

At the beginning of the month Egypt was under the influence of a depression over the Mediterranean, and cool south to west winds prevailed, with showers throughout Lower Egypt. On the 4th and 5th winds near the coast reached gale force, and a velocity of 85 kilometres per hour was recorded at Alexandria. A spell of settled weather with northeast winds followed. From the 12th to the 15th the nights except near the coast were very cold, being in places as much as 8° C below the normal for the time of year. In the early morning of the 13th the temperature in Cairo (Ezbekia) fell to 2° C, the lowest recorded there in December since observations began in 1909. At Giza the temperature in the mornings of the 13th and 14th fell to 1° C below freezing point, while the grass minimum on both nights was 4° C below freezing point, and hoar frost was observed.

The settled weather broke on the 17th owing to the arrival of a depression off the coast, and showers were general, with thunderstorms in places. At Siwa Oasis 21 millimetres of rain fell on the 18th and 19th, while 26 millimetres were recorded at Alexandria from the 18th to 21st. Milder weather followed, but on the 27th a depression near Cyprus deepened, resulting in strong cold southerly winds veering later to northwest. Throughout the eastern Mediterranean a severe gale lasted for three days, and at Alexandria the wind velocity on the 27th reached 106 kilometres per hour. Sandstorms were widespread in Egypt, and rainy weather prevailed until the end of the month.

For the month as a whole the pressure was slightly above normal in Egypt and below in the Sudan. The temperature was much below normal in Egypt, especially in Lower Egypt, and slightly above in the Sudan. Owing to the prevalence of northeasterly and southerly winds in the first part of the month, the relative humidity in Cairo was on the whole much below normal. Rainfall was about normal. At both Salum and Alexandria there were 15 days of rain, but no exceptionally large amounts were registered. At Alexandria the total for the month was 70 millimetres. Showers occurred in Cairo on twelve days, but were mostly very light.

TABLE SHOWING THE DEPARTURE FROM NORMAL FOR DECEMBER 1936

DISTRICTS	Barometric Pressure		Temperature						Rainfall	
			Maximum		Minimum		Max.+Min./2			
	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal	1936	Difference from Normal
	m.b.	m.b.	°C.	°C.	°C.	°C.	°C.	°C.	mm.	mm.
I. Mediterranean	1018·4	+0·3	19·0	—1·3	11·1	—0·7	15·0	—1·0	38	+ 1
II. Lower Egypt	1018·7	0·0	19·7	—2·0	7·0	—1·8	13·3	—1·9	10	— 1
III. Middle Egypt	1019·0	0·0	19·7	—1·2	8·0	—1·7	13·8	—1·4	3	— 1
IV. Upper Egypt	1019·3	+0·2	21·8	—1·1	7·9	—1·0	14·9	—1·0	—	—
V. Western Desert ...	1020·1	+0·7	20·5	—2·4	6·5	0·0	13·5	—1·2	—	—
VI. Red Sea (Egypt) ...	1017·8	+0·4	22·6	—0·9	12·0	—0·7	17·3	—0·8	—	—
*VII. Red Sea (Sudan) ...	1014·6	—0·6	27·6	—0·8	21·6	+0·2	24·6	—0·3	3	— 22
VIII. North Sudan	1013·9	—1·0	30·6	—0·1	15·0	+0·6	22·8	+0·2	0	0
XI. Central Sudan... ...	1012·4	—0·8	33·6	0·0	15·9	+1·8	24·7	+0·9	0	0
X. South Sudan	1010·7	—0·4	35·5	—0·3	19·4	+1·0	27·4	+0·4	29	+ 22

* Port Sudan only.

L. J. SUTTON

Director, Meteorological Service.

State of the River

Lake Albert at Butiaba feell 2 centimetres during the month. Its level on January 1, 1937 was 4 centimetres below the normal but 39 centimetre above that of the corresponding day of last year.

The Bahr el Jebel at Juba remained practically steady throughout the month. Its levels were below normal, but on the average, 15 centimetres above those of last year.

The River Sobat at Nasser and the White Nile at Malakal both fell faster than normally. Their levels throughout the month were below normal and much below last year's.

The Blue Nile at Roseires fell rather slower than normally the levels being above normal but below last year's throughout the month. At Khartoum the Blue Nile rose slightly during the early days of the month owing to the completion of the Sennar Reservoir filling, and then fell at normal rate. The levels were below both the normal and those of last year during the whole month.

The River Atbara at Khasm el Girba was a little below normal.

The Main Nile at Kajnarti fell at about normal rate. The levels were on the average about 30 centimetres below normal and about half a metre below those of last year.

The differences of the mean levels in December 1936 from those of December 1935 and from the normal 1906–1935 were :—

STATION	MEAN DIFFERENCES OF LEVELS	
	December 1936 minus December 1935	December 1936 minus Normal
	Metres	Metres
Juba	+ 0·15	— 0·17
Nasser	— 1·58	— 1·38*
Malakal	— 0·58	— 0·39
Roseires	— 0·42	+ 0·32
Khartoum	— 0·30	— 0·15
Khashm El Girba	— 0·11	— 0·10
Kajnarti	— 0·50	— 0·29

* Nasser normal is for 1922–1935.

Discharges of the Nile during November, 1936

Observed by the Irrigation Department

Esna (D.S. Barrage)

(Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	74·20	1970
12	74·78	2400
19	73·37	1350
26	73·30	1380
Approx. Monthly Mean		1750
Normal Mean 1933-1935		2400

Aswân

(Measured by Sluices)

(Aswân D.S. Gauge.)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	87·91	2310
2	87·75	2150
3	87·61	2040
4	87·48	1930
5	87·37	1850
6	87·27	1760
7	87·17	1690
8	87·06	1620
	87·50	2030
	87·81	2320
	88·06	2600
	88·09	2600
	87·81	2320
	87·51	2030
	87·02	1620
16	86·69	1390
17	86·68	1390
18	86·67	1390
19	86·66	1390
20	86·65	1390
21	86·65	1390
22	86·64	1390
23	86·64	1390
24	86·64	1390
25	86·63	1390
26	86·62	1390
27	86·62	1390
28	86·61	1390
29	86·76	1500
30	86·92	1620
Approx. Monthly Mean		1740
Normal Mean 1912-1935		2750

Halfa (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	4·98	3610
2	4·89	3520
4	4·76	3400
5	4·70	3440
6	4·64	3300
7	4·56	3210
8	4·48	3170
9	4·40	3030
10	4·33	2850
11	4·24	2810
12	4·20	2820
13	4·16	2790
14	4·12	2730

Kajnarty (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
16	136·03	2520
17	135·93	2500
18	135·83	2380
19	135·74	2360
21	135·58	2250
22	135·48	2200
23	135·40	2140
24	135·31	2090
25	135·26	2090
26	135·23	2090
29	135·00	1910
30	134·91	1830
Approx Monthly Mean		2650
Normal Mean 1912-1935		2860

River Atbara

(300 mts. U.S. Bridge)

(Kilo. 3 Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	10·94	101
10	10·74	75
14	10·61	66
19	10·47	55
25	10·28	43
29	10·21	41
Approx. Monthly Mean		69
Normal Mean 1912-1935		66

Hassanâb (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
6	12·75	2570
11	12·46	2260
15	12·29	2120
20	12·15	1830
26	11·91	1650
30	11·86	1650
Approx. Monthly Mean		2120
Normal Mean 1912-1935		2290

Tamaniât (Main Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	12·49	2530
8	12·18	2260
12	11·97	2060
17	11·80	1900
23	11·54	1710
27	11·50	1610
Approx. Monthly Mean		2000
Normal Mean 1912-1935		2200

Khartoum (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	12·82	1440
7	12·53	1090
11	12·31	958
16	12·16	815
22	11·88	593
26	11·77	535
Approx. Monthly Mean		857
Normal Mean 1912-1935		982

Sennar (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	6·90	1050
4	6·80	993
7	6·66	927
9	6·48	813
11	6·39	761
14	6·24	689
16	6·08	600
18	6·04	599*
21	5·98	575*
23	5·93	536*
26	5·70	425*
26	5·70	437*
28	5·53	370*
28	5·53	376*
30	5·71	449*
30	5·71	459*
Approx. Monthly Mean		695
Normal Mean 1912-1935		886

Gezîra Main Canal

(Kilo. 1,3)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	16·27	80
5	16·27	81
22	16·12	73
22	16·12	73
Approx. Monthly Mean		78
Normal Mean 1925-1935		65

Wad el Aies (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	8·82	1320
3	8·72	1240
5	8·70	1110

Roseires (Blue Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	15·06	1290
3	14·90	1220
6	14·70	1150
8	14·60	1090
10	14·50	957
12	14·40	908
15	14·24	841
17	14·16	804
19	14·08	801
21	14·00	761
23	13·92	728
25	13·84	695
27	13·76	666
28	13·72	649
30	13·65	635
Approx. Monthly Mean		894
Normal Mean 1912-1935		1020

Mogren (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	13·00	1170
6	12·75	1160
10	12·51	1060
15	12·32	1080
21	12·08	1040
25	11·98	1010
Approx. Monthly Mean		1080
Normal Mean 1912-1935		1210

Renk (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
19	11·64	1070
21	11·64	1070
24	11·64	1060
26	11·64	1070
28	11·64	1040
30	11·64	1020
Approx. Monthly Mean		1070
Normal Mean 1928-1935		1210

Malakâl (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
5	12.17	1130
10	12.17	1100
15	12·16	1100
20	12·16	1090
25	12·16	1050
30	12·12	1080
Approx. Monthly Mean		1100
Normal Mean 1912-1935		1230

Hillet Doleib (River Sobât)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
8	13·50	698
17	13·50	706
25	13·50	710
30	13·44	656
Approx. Monthly Mean		698
Normal Mean 1912-1935		779

River Sobât (At Head)

(Nasser Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	10·47	702
13	10·36	600
23	9·92	484
Approx. Monthly Mean		568
Normal Mean 1929-1935		666

River Gila (At Mouth)

(Gila Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	9·77	85
12	9·64	90
22	9·34	80
Approx. Monthly Mean		82
Normal Mean 1929-1935		34

* Measured at Hillet Sherif.

Discharges of the Nile during November, 1936 (*contd.*)

Observed by the Irrigation Department

River Pibor (U. S. Gila Junction) (Gila Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	9·77	46
12	9·64	39
22	9·34	43
Approx. Monthly Mean		43
Normal Mean 1929-1935		123

Akobo (River Pibor)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	14·50	14
11	14·34	4
21	14·10	3
Approx. Monthly Mean		6
Normal Mean 1929-1935		62

Bahr el Zerâf (Kilo. 3) (Gauge at Mouth)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	12·64	156
21	12·64	146
Approx. Monthly Mean		151
Normal Mean 1912-1935		164

Abu Tong (White Nile) (Tonga Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
7	12·74	298
21	12·73	289
Approx. Monthly Mean		296
Normal Mean 1923-1935		297

Lake No (White Nile)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·98	319
18	13·98	314
Approx. Monthly Mean		315
Normal Mean 1923-1935		304

Bahr el Ghazâl (At Mouth) (Suddite Factory Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·96	17
18	13·96	—7
Approx. Monthly Mean		4
Normal Mean 1923-1935		23

Bahr el Jebel (Kilo. 3) (Lake No Gauge)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
4	13·98	309
18	13·98	314
Approx. Monthly Mean		311
Normal Mean 1923-1935		284

Gigging (Bahr el Jebel) (Western Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
3	28·90	179
15	28·77	164
Approx. Monthly Mean		167
Normal Mean 1931-1935		216

Gemeiza (Bahr el Jebel) (Eastern Channel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
2	428·70	610
14	428·57	569
Approx. Monthly Mean		572
Normal Mean 1931-1935		677

Terrakekka (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	13·15	777
13	13·04	722
Appox. Monthly Mean		733
Normal Mean 1931-1935		890

Mongalla (Bahr el Jebel)

Day of Month	Gauge Reading m.	Disch. m³. p.s.
1	11·70	786
7	11·65	775
13	11·60	746
19	11·54	739
25	11·51	712
Approx. Monthly Mean		746
Normal Mean 1912-1935		934

Occasional Discharges

(Observed by the Irrigation Department)

Date	River	Site	Gauge Reading M.	Gauge Site	Disch. m³. p.s.
		River Sobât and Tributaries			
5-11-1936	Sobât	D.S. Khor Nyanding Junction	12·74	Nyanding Mouth	718
5-11-1936	,,	,, ,, ,, ,, ...	12·70	,,	696
5-11-1936	,,	,, ,, ,, ,, ...	12·46	,,	642
4-11-1936	Khor Twalor	Mouth...	10·47	Nasser	9
3-11-1936	Khor Wakau	,, ...	10·47	,,	24
3-11-1936	,,	,, ...	10·36	,,	40
3-11-1936	,,	,, ...	9·90	,,	84
1-11-1936	Khor Geni	,, ...	14·50	Akobo	7
1-11-1936	,,	,, ...	14·34	,,	6
1-11-1936	,,	,, ...	14·10	,,	5
1-11-1936	Akobo	,, ...	14·50	,,	23
1-11-1936	,,	,, ...	14·34	,,	22
1-11-1936	,,	,, ...	14·10	,,	23
		White Nile and Tributaries			
6-11-1936	Tonga Cut	Mouth	12·74	Tonga	0
6-11-1936	White Nile	U.S. Barboi Head, 100 mts. U.S.R.P. 10	12·74	,,	297
0-11-1936	,,	,, ,, ,, ,, ,, ,, ,, ...	12·73	,,	291
6-11-1936	Khor Atar	Mouth	12·80	Fenikang	0
0-11-1936	,,	,, ...	12·80	,,	0
6-11-1936	Khor Yergol	,, ...	13·96	K. Yergol	0
0-11-1936	,,	,, ...	14·06	,,	0
6-11-1936	White Nile	U.S. Khor Yergol	13·96	,,	299
0-11-1936	,,	,, ,, ,, ...	14·06	,,	295
5-11-1936	,,	U.S. Maya Sinyora	13·98	Lake No	308
9-11-1936	,,	,, ,, ,, ...	13·98	,,	310
		Bahr el Zerâf			
2-11-1936	Zerâf	D.S. Tail Cut No. 2	26·56	Pole 53	137
4-11-1936	,,	,, ,, ,, ,, ...	26·55	,,	144
2-11-1936	,,	U.S. Tail Cut No. 1	28·20	T.C. 1	13
4-11-1936	,,	,, ,, ,, ,, ...	28·19	,,	12
		Jebel-Zerâf Cuts			
2-11-1936	Jebel-Zerâf Cuts	Tail Cut No. 2...	26·56	Pole 53	12
4-11-1936	,, ,, ,,	,, ,, ,, ...	26·55	,,	12
2-11-1936	,, ,, ,,	Tail Cut No. 1...	28·20	T.C. 1	96
4-11-1936	,, ,, ,,	,, ,, ,, ...	28·19	,,	95
1-11-1936	,, ,, ,,	Head Cut No. 2	26·66	H.C. 2	16
3-11-1936	,, ,, ,,	,, ,, ,, ,, ...	26·66	,,	16
1-11-1936	,, ,, ,,	Head Cut No. 1	11·92	H.C. 1	95
3-11-1936	,, ,, ,,	,, ,, ,, ,, ...	11·92	,,	97
		Bahr el Jebel and Tributaries			
4-11-1936	Jebel	D.S. Buffalo Cape	11·22	B. Cape	330
6-11-1936	,,	,, ,, ,, ...	11·22	,,	327
3-11-1936	,,	D.S. Hillet Nuer	10·83	H. Nuer	346
5-11-1936	,,	,, ,, ,, ...	10·81	,,	345
1-11-1936	,,	D.S. Tail of Peake's Channel	26·66	H.C. 2	374
3-11-1936	,,	,, ,, ,, ,, ,, ...	26·66	,,	371
1-11-1936	,,	D.S. Head Cut No. 2	26·66	,,	263
3-11-1936	,,	,, ,, ,, ,, ...	26·66	,,	256

Occasional Discharges (*contd.*)

(*Observed by the Irrigation Department*)

Date	River	Site	Gauge Reading	Gauge Site	Disc m³ p.
			M.		
		Bahr el Jebel and Tributaries (*contd.*)			
10-11-1936	Jebel	U.S. Head Cut No. 1	11·92	H.C. 1	3
22-11-1936	"	" " " " "	11·92	"	3
10-11-1936	"	U.S. Head of Peake's Channel	12·00	Gh.el Inderab	5
22-11-1936	"	" " " " "	12·00	"	5
19-11-1936	"	D.S. Awai Tails 1 A and 1 B	11·06	Awai T. 1B	5
21-11-1936	"	At Awai Tail 3 Gauge	11·56	Awai Tail 3	5
19-11-1936	"	U.S. Awai Tails 1 A and 1 B	11·06	Awai T. 1B	2
18-11-1936	"	Kenisa	11·03	Kenisa	3
15-11-1936	"	U.S. Atem Heads 2 A, B, C and D	11·20	Pole 114	5
16-11-1936	"	D.S. Lake Papiu	11·43	Lake Papiu	3
16-11-1936	Lake Papiu	Mouth	11·43	"	[illegible]
16-11-1936	Jebel	U.S. Lake Papiu	11·43	"	1
15-11-1936	"	Bor	11·06	Bor	6
15-11-1936	Khor Unyam Kojie	Mouth	11·60	"	-[illegible]

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