

METEOROLOGICAL OFFICE

Gazetteer of
British Meteorological Stations
used in the preparation of
Synoptic Reports
(Overseas Supplement)

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LONDON

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MIDDLE EAST

Aboukir	Heliopolis
Amman	Ismailia
Gaza	Ramleh

IRAQ

Diwaniyah	Ramadi
Hinaidi	Rutbah
Mosul	Shaibah

ABOUKIR (EGYPT)

Latitude 31° 18' N., Longitude 30° 06' E. Height of rain-gauge above M.S.L. 37 ft. Height of anemometer vane above ground 40 ft., above roof 22 ft.

Instrumental Equipment.

Barometer (Kew pattern).
Barograph.
Microbarograph.
Rain-gauge, 8-inch.
Recording rain-gauge (hyetograph).
Nephoscope (Besson).
Sunshine recorder.
Hydrograph.

Stevenson screen (large pattern).
Thermometers—dry bulb, wet bulb, maximum, minimum, grass minimum.
Thermograph.
Anemograph, pressure-tube (direction and velocity).
Theodolites—Cary and equipment for pilot-balloon work.

General Surroundings and Site.—The R.A.F. camp lies about $\frac{1}{4}$ mile south of Aboukir village and approximately 13 miles east-north-east of Alexandria. The ground is fairly level, at about 5 ft. above M.S.L., with the exception of a chain of hillocks stretching in a line east to west with the hillock on which the Meteorological Office is situated approximately in the centre. From November to May the surface of the camp is covered with a coarse grass; this disappears from June to October. To the south is irrigated land on which are grown cotton, bananas, dates, etc., otherwise the surrounding terrain is desert sand with a few scattered palms and bushes. An almost continuous belt of palms stretches from approximately north to south on the eastern and southern boundaries of the camp. To the south-west at a distance of 3 miles are the wooded grounds of Montaza Palace.

The Meteorological Office is in the north-west portion of the camp on ground rising above the average level. The exposure is not affected by the palm groves or buildings.

Wind.—Wind direction and velocity are measured by an anemobiograph. The exposure is open in all directions.

Temperature is read from thermometers in a large Stevenson screen, the bulbs are 4 ft. 10 in. above the ground.

Visibility is generally good to excellent except on occasions of radiation fog and mist and the still rarer occasions of sand storms. The objects used for estimating visibility are :—

Object	Distance	Bearing	Nature of object
A	30 yards	—	Wire of enclosure
B	55 "	77°	Telegraph pole to east
C	100 "	183°	Southern palms
D	250 "	175°	Armoury palms
E	688 "	175°	" Works and Buildings " water tanks
F	911 "	220°	" C " Sqdn. married officers' qtrs.
G	2,150 "	230°-238°	Western Bay
h	3 miles	237°	Montaza Palace (indistinct)
i	3 "	237°	Montaza Palace (distinct)
j	6 $\frac{1}{2}$ "	—	Estimated (no object)
k, K	13 "	245°	Alexandria by night (estd. by day)
L	21 "	96°-102°	Palms on mainland to east
m	—	—	Estimated

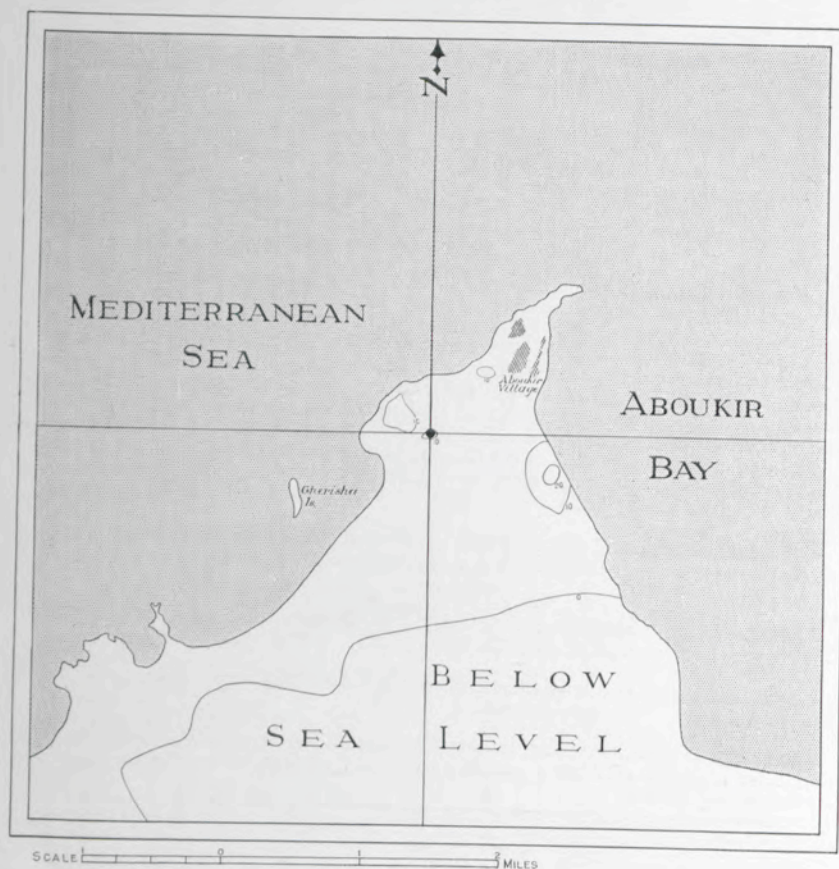
Rainfall.—The exposure of the rain-gauge and hyetograph is good from all points of the compass except north-east by east, where, owing to the limitation of the enclosure, the instruments are situated 24 ft. from the nearest building, which is 18 ft. high.

Sunshine.—Sunshine is recorded by means of a Campbell-Stokes sunshine recorder with tropical bowl. There is no obstruction.

October, 1929.

ABOUKIR

(Contours are given in metres above sea level. The cross hatching shows the area covered by buildings)



Looking N.W.

(November, 1929)

AMMAN (TRANS-JORDAN)

Latitude $31^{\circ} 57' N.$, Longitude $35^{\circ} 57' E.$ Height of rain-gauge above M.S.L. 2,594 ft.* Height of anemometer vane above ground 50 ft., above parapet of roof 20 ft.

Instrumental Equipment.

Barometer (Kew pattern).

Barograph.

Microbarograph.

Rain-gauge, 8-inch.

Recording rain-gauge (hyetograph).

Nephoscope (Besson).

Sunshine recorder.

Hygograph.

Stevenson screen (large pattern).

Thermometers—dry bulb, wet bulb, maximum, minimum, grass minimum.

Thermograph.

Anemograph—pressure-tube (direction and velocity).

Theodolites—Cary and equipment for pilot-balloon work.

General Surroundings and Site.—The Royal Air Force Camp, Amman, about $3\frac{1}{4}$ miles to east-north-east of Amman town stands on a tongue of land, an extension of the plain which forms the aerodrome. From north-east to south-west through south-east an undulating range of hills extends, the nearest point being within one mile, and the highest 500 ft. higher than the aerodrome. To west-south-west these hills drop steeply. Westwards of the camp are further lines of hills, the highest about $2\frac{1}{2}$ miles distant being about 500 ft. higher than the aerodrome. The whole of the country for some miles in all directions but north-north-east is a plain stretch of desert extending to the Jebel Druse, a range of hills some 40 miles distant.

The Meteorological Office with its instrument enclosure stands at the north-east edge of the camp. From west round through north to east the exposure is extremely open, while from east to south it is good except for the presence of the Arab village of Merka. From south to west the camp buildings probably have some masking effect. To north-north-east the exposure is exceptionally good.

Wind.—The velocity and direction of the wind are measured by a pressure-tube anemometer.

Temperature.—The thermometer bulbs are 4 ft. above the ground which is bare, reddish brown earth without any vegetation except in the spring when, for about two months, scanty coarse grass grows.

Visibility.—The visibility is sometimes reduced in the winter by low clouds on the hill tops and in summer by shimmer and dust. The objects in use for estimating visibility are :—

Object	Distance	Bearing	Nature of object
A	27 yards	329°	Nephoscope pole
B	53 "	265°	Pilot's room
C	107 "	224°	Office
D	230 "	111°	Wind indicator
E	500 "	239°	Wireless mast
F	1,000 "	40°	Pylon
G	$1\frac{1}{4}$ miles	31°	House on hill
H	$2\frac{1}{4}$ "	306°	Castle on hill
I	4 "	72°	Hill
J	7 "	70°	Hill
K	13 "	74°	Hill
L	17 "	$59-69^{\circ}$	Range of hills
m	70 miles	$40-60^{\circ}$	Jebel Druse
α	(approx.) ‡		(highest peak)

Rainfall.—The exposure is very open.

Sunshine.—The recorder has a free exposure.

*No record is available showing how this height was obtained.

‡Object α is included in the local scale as it is unusual to have a good fixed object at so great a distance.

December, 1929.

GAZA (PALESTINE)

Latitude $31^{\circ} 30' N.$, Longitude $34^{\circ} 28' E.$ Height of rain-gauge above M.S.L. 234.6 ft. Height of anemometer cups above ground 15 ft.

Instrumental Equipment.

Barometer (Kew pattern).
Barograph (medium).
Rain-gauge, 8-inch.

Stevenson screen (ordinary).
Thermometers—dry bulb, wet bulb, maximum, minimum.

General Surroundings and Site.—The Meteorological Office and instrument enclosure are situated in the extreme north-west corner of Gaza Aerodrome (Imperial Airways Service) which is $1\frac{1}{2}$ miles to the south of the town of Gaza, and 3 miles to the east of the Palestine coast. The exposure is an open one, the nearest buildings being about 25 yards to the south-east. The immediate country is practically level with a gradual slope towards west and north-west. Ridges of hills from approximately $2\frac{1}{2}$ to 12 miles distant run north-east to south-east.

The soil in the immediate neighbourhood is sandy clay and rubble. During winter there is grass, and in a field about 25 ft. to the west, corn and barley grow up to a height of 4 ft. Between west and north at a distance of about 500 yards numerous cactus hedges grow up to a height of 8 ft.

Wind.—Wind speeds are measured by a Robinson cup anemometer, the mast of which is erected in the enclosure; the mast stands 15 feet above ground and approximately 45 yards from any building. Wind direction is estimated by an indicator and by other approved methods for light winds. Observations of upper winds are not made.

Temperature.—Temperatures are read from thermometers in a Stevenson screen (ordinary pattern) set up in the enclosure with a free exposure to the north; the thermometer bulbs being 4 ft. 6 in. above ground.

Visibility.—Mist or low cloud obscures the hills to the north-east in the early morning on occasion, especially during winter, but otherwise the visibility is good. The objects used in estimating the visibility are:—

Object	Distance	Bearing	Nature of object
A	27 yards	20°	1st telegraph pole visible
B	55 "	135°	Corner of kitchen
C	100 "	360°	2nd telegraph pole
D	220 "	360°	3rd telegraph pole
E	550 "	360°	6th telegraph pole
F	1,100 "	20°	Mosque
G	2,200 "	270°	Hill to W.
H	4,000 "	135°	1st ridge to SE.
I	4 miles	20°	Hill to NNE.
J	6 "	90°	Tank to E.
K	12 "	45°	Hills to NE.
L	18 "	45°	Peaks behind hills to NE.

Rainfall.—Rainfall is measured by a standard 8-inch rain-gauge freely exposed in the enclosure.

November, 1929.

AMMAN

T ↓ ↓ R

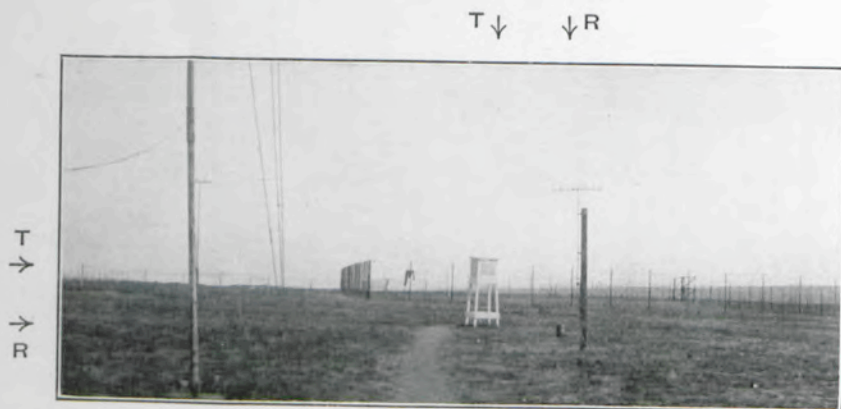
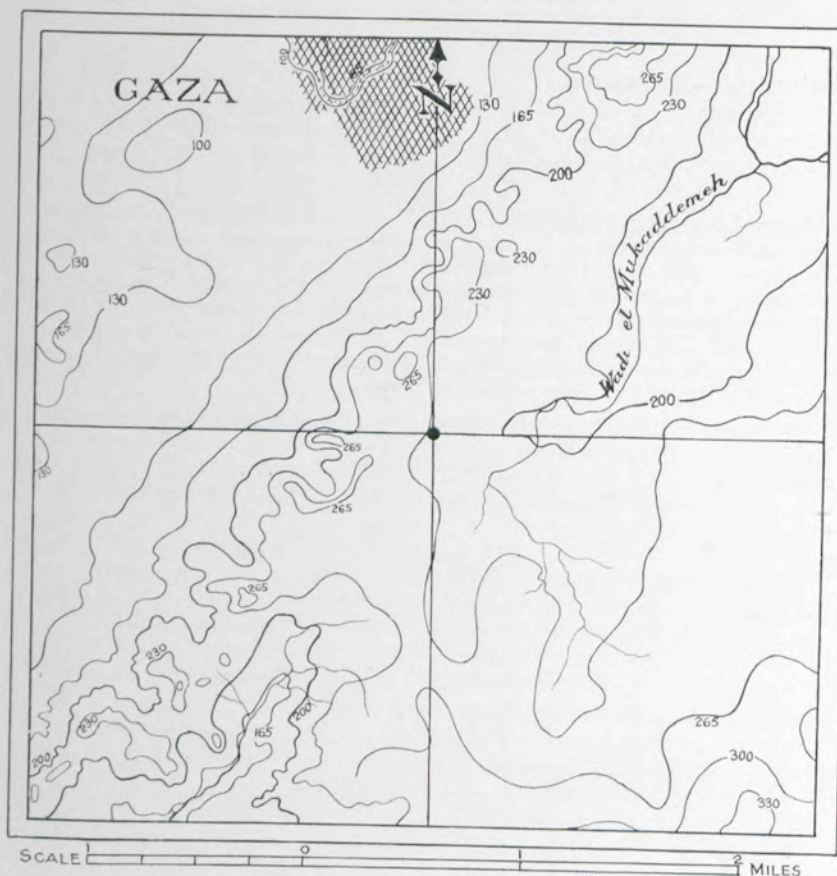


Looking S.

(July, 1929)

GAZA

(The contours are given in feet above mean sea level. The cross hatching shows the area covered by buildings)



Looking N.

(November, 1929)

HELIOPOLIS (EGYPT)

Latitude $30^{\circ} 05' N.$, Longitude $31^{\circ} 22' E.$ Height of rain-gauge above M.S.L. 167 ft. Height of anemometer vane above ground 40 ft., above roof 25 ft. Effective height 35 ft.

Instrumental Equipment.

Barometer (Kew pattern).
Barograph.
Microbarograph.
Rain-gauge, 8-inch.
Recording rain-gauge (hyetograph).
Nephoscope (Besson).
Sunshine recorder.
Hygrograph.
Stevenson screen (large pattern).

Thermometers — dry bulb, wet bulb, maximum, minimum, grass minimum.
Thermograph.
Anemograph, pressure-tube (direction and velocity).
Theodolites—Watts and equipment for pilot-balloon work.

General Surroundings and Site.—Heliopolis aerodrome lies 1 mile to the south-west of the town of Heliopolis and about 6 miles north-east of Cairo. It is fairly level in all directions, the general slope being from south to north. From south-east to south-west the aerodrome is bounded by comparatively high ground which rises to a height of 1,000 ft., at a distance of 12 miles to south-east. This high ground causes a well defined katabatic wind from a south-easterly direction on many nights at Heliopolis aerodrome.

The Meteorological Office is situated on the extreme eastern edge of the aerodrome. The meteorological enclosure is situated on the north side of the Office. The exposure is an open one for all directions except between south and west. In this quadrant there are many camp buildings, the nearest being the Office building 50 ft. from the thermometer screen. The soil is of fairly coarse sand throughout the year: the nearest cultivation being about 4 miles to the north-west.

Wind.—Winds are measured, both for direction and force, by the pressure-tube anemometer, the mast of which is erected above the Office. The exposure is open except for winds from between SW. and NW. As, however, the vane is 28 ft. above the level of the nearest buildings, their influence on the wind records does not appear to be very marked.

Temperature.—Temperature is read from thermometers in a large Stevenson screen set up in the meteorological enclosure, the thermometer bulbs are 4 ft 6 in. above the ground. A thermograph and a hygrograph are set in the same screen. Ground minimum temperatures are also recorded.

Visibility.—The visibility is generally good except in the early morning towards the Nile Valley. The objects used in estimating visibility are:—

Object	Distance	Bearing	Nature of object
A	28 yards	221°	Anemo mast
B	60 "	228°	Electric light standard
C	100 "	160°	Hollow in sand hill
D	220 "	260°	Roof of transport shed
E	550 "	334°	Clump of trees
F	1,050 "	334°	Palace Hotel
G	1½ miles	38°	House to right of Hindoo Palace
H	2.6 "	225°	Chimney on cement works
I	4 "	300°	Chimney
J	5.5 "	225°	Citadel Mosque
K	12.5 "	270°	Hills
l	—	270°	Hills
m	—	270°	Hills

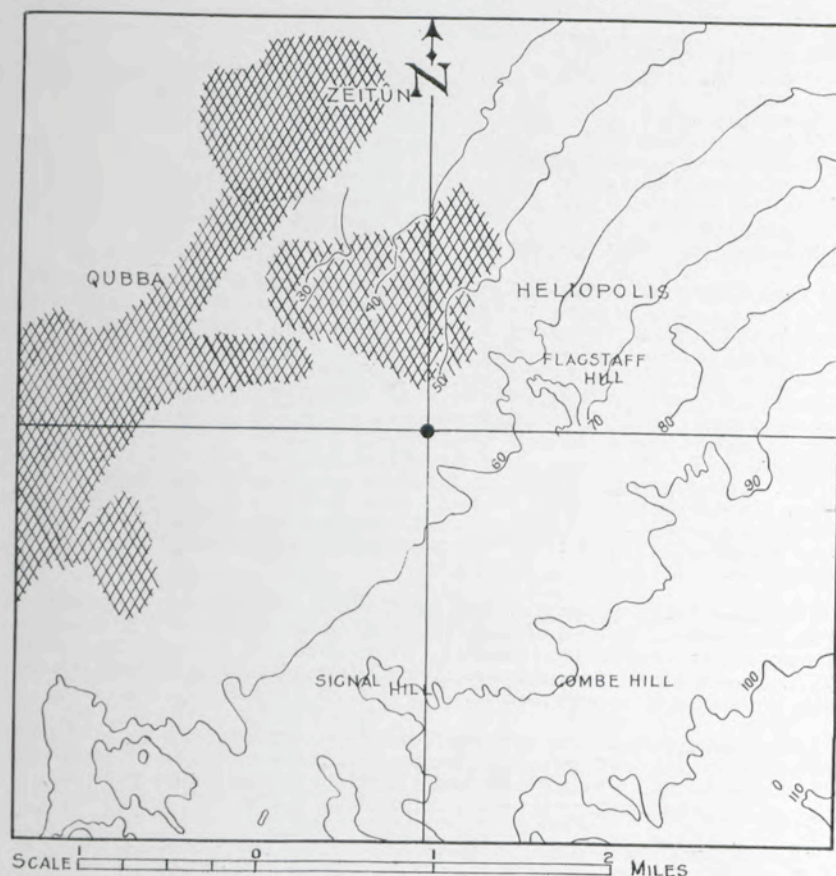
Rainfall.—The exposure of the rain-gauge in the meteorological enclosure is a very open one.

Sunshine.—The sunshine recorder is mounted on a concrete pillar 13 ft. high and is not obstructed by any object.

August, 1933.

HELIOPOLIS

(The contours are given in metres above mean sea level. The cross hatching shows the area covered by buildings)



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R



Looking S.

(July, 1933)

ISMAILIA (EGYPT)

Latitude 30° 35' N., Longitude 32° 14' E. Height of rain-gauge above M.S.L. 51 ft. Height of anemometer vane above ground 50 ft. Height of anemometer vane above roof 31 ft.

Instrumental Equipment.

Barometer (Kew pattern).
Barograph.
Microbarograph.
Rain-gauge, 8-inch.
Recording rain-gauge (hyetograph).
Nephoscope (Besson).
Sunshine recorder.
Hygrograph

Stevenson screen (large pattern).
Thermometers—dry bulb, wet bulb, maximum, minimum, grass minimum.
Thermograph.
Anemograph, pressure-tube (direction and velocity).
Theodolites—Cary and equipment for pilot-balloon work.
Vertical temperature-gradient recorder.

General Surroundings and Site.—The airship base is situated about 2 miles due west of the Canal Company's signal station on Lake Timsah and about 2½ miles west by south of the centre of Ismailia town. There is a gradual rise in ground level from Ismailia to the meteorological station which is 51 ft. above M.S.L. The nature of the ground is desert sand. The Office is 500 yards south-south-west of the airship mooring mast and 800 yards east-south-east of the meteorological tower.

Wind.—Wind speed and direction are obtained from a Dines pressure-tube anemometer of the latest type (fitted with 1-inch gas piping for pressure and suction), the mast which is 50 feet high is carried through the roof of the Office. There is a good exposure to the north, north-west, south-west and south, while the exposure in other directions is not so good on account of various buildings to the west and south-east about 200 yards distant, and to the north-east and east about 1,000 yards distant. Upper winds are observed daily for the 0600 G.M.T. report.

Temperature.—Temperature is read from thermometers in a large Stevenson screen set up in the meteorological enclosure. It has been found necessary to raise the screen 1 ft. above the normal height to counteract the effect of a matting sand screen around the enclosure.*

Visibility.—Visibility is generally good or very good apart from early mornings from November to February when ground fogs are liable to occur just before sunrise to about 0700 G.M.T. During these months visibility is also often affected by sandstorms during the late mornings and afternoons. The objects used in estimating visibility from the meteorological enclosure are :—

Object	Distance	Bearing	Nature of object
A	27 yards	192°	Nephoscope
B	55 "	291°	NE. corner of kitchen
C	110 "	297°	SW. corner of dormitory
D	220 "	298°	Nearest point of soda store
E	550 "	19°	Mooring mast
F	1,100 "	135°	Bowling green
G	1½ miles	91°	Mosque, Ismailia
	2 "	95°	Signal Stn. Lake Timsah
H	2.9 "	70°	W/T mast. Spinney wood
I	4½ "	83°	French hospital
J	5 "	70°-110°	Sand hills
k	15 "	100°-105°	Katayeb el Kheil hills

l and m are used when it is evident that more distant objects would be visible if they were available.

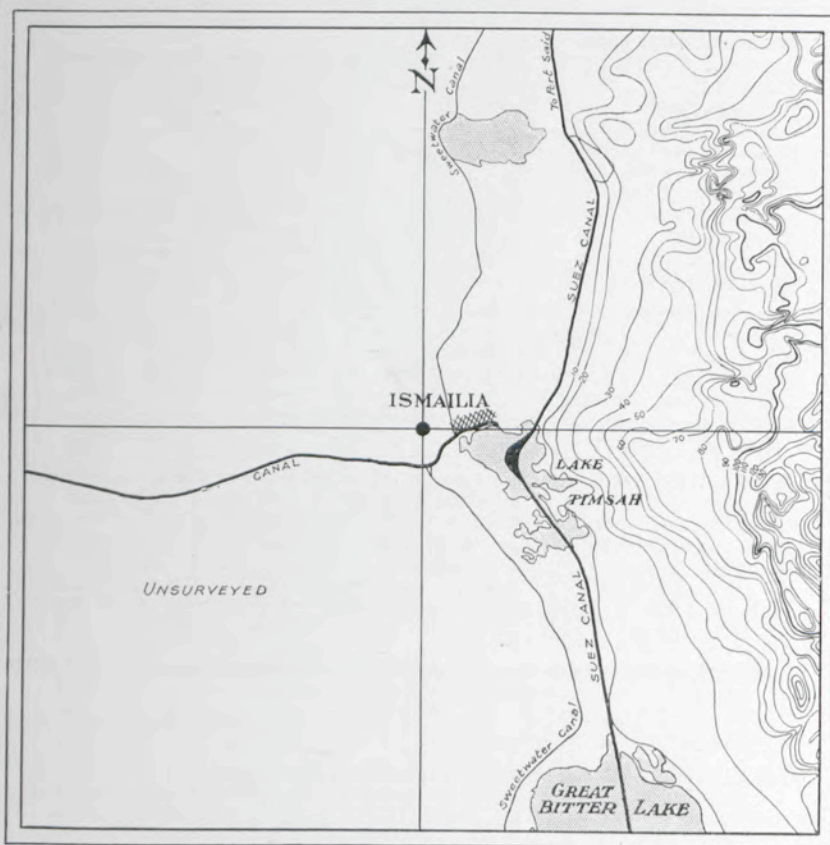
Rainfall.—A small amount of rainfall is recorded during the winter months while the period April to November is normally dry.

*See London, Meteorological Office, Professional Notes, No. 61.

October, 1929.

ISMAILIA

(The contours are given in metres above sea level. The cross hatching shows the area covered by buildings)



SCALE 0 1 2 3 4 5 MILES

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Looking N.W.

(November, 1929)

RAMLEH (PALESTINE)

Latitude $31^{\circ} 53' N.$, Longitude $34^{\circ} 53' E.$ Height of rain-gauge above M.S.L. 255 ft. Height of anemometer vane above ground 51 ft. 6 in. Height of anemometer vane above roof 27 ft.

Instrumental Equipment.

Barometer (Kew pattern).
Barograph.
Microbarograph.
Rain-gauge, 8-inch.
Recording rain-gauge (hyetograph).
Nephoscope (Besson).
Sunshine recorder.
Hygograph.

Stevenson screen (large pattern).
Thermometers—dry bulb, wet bulb, maximum, minimum, grass minimum.
Thermograph.
Anemograph, pressure-tube (direction and velocity).
Theodolites—Cary and equipment for pilot-balloon work.

General Surroundings and Site.—The aerodrome is situated about 1,000 yards to the south-east of Ramleh Village. The Meteorological Office is on the north-west corner of the aerodrome, and from the Office the ground slopes down towards the east and north-west. In other directions the ground has a very slight gradient. The site of the Meteorological Office is 250 ft. above M.S.L.

During the winter the ground in the neighbourhood of Ramleh is covered with grass but in the summer the ground is almost bare except for a sparse supply of coarse grass and camel thorn. Ramleh is situated in the coastal plain of Palestine. It is approximately 10 miles east of the sea coast which runs almost north and south. The country between the coast and Ramleh is slightly undulated. For about 4 miles to the east and south-east of Ramleh the country is fairly flat, but beyond this the ground rises rapidly and at a distance of 15 miles reaches 2,500–3,000 ft., the ridge of hills running approximately north and south.

Wind.—Winds are recorded, both for direction and velocity by the pressure-tube anemometer, the mast of which is erected above the Office. The exposure is good in all directions except for some low buildings to the south. To overcome the effect of these buildings the head of the anemometer is 51 ft. 6 in. above the ground. Upper winds are observed daily, between 0500 and 0600 G.M.T., by means of the "tail method."

Temperature.—Temperatures are recorded by thermometers placed in a large Stevenson screen with bulbs 5 ft. above the ground.

Visibility.—The visibility is usually very good. The objects used in estimating visibility from the meteorological enclosure are:—

Object	Distance	Bearing	Nature of object
A	27 yards	148°	W. corner of sqdn. offices
B	55 "	236°	Telegraph pole
C	110 "	223°	Corner of No. 2 married qtrs.
D	220 "	236°	Chimney of officers' mess.
E	550 "	$20^{\circ}-40^{\circ}$	Arab cemetery
F	1,200 "	330°	Ramleh Church clock tower
G	1 mile	314°	Crusaders tower
H	$1\frac{1}{2}$ miles	13°	Ramleh prison
I	$2\frac{1}{2}$ "	75°	Arab houses
J	$4\frac{1}{2}$ "	80°	Jimzu
K	$6\frac{1}{2}$ "	162°	Sidum (an isolated hill)
L	$12\frac{1}{2}$ "	$50^{\circ}-80^{\circ}$	Ridge of hills
M	17 "	118°	Hill near Katanne
	27–32 "	$155^{\circ}-170^{\circ}$	Ridge of hills

Rainfall.—The exposure of the standard 8-inch rain-gauge is good.

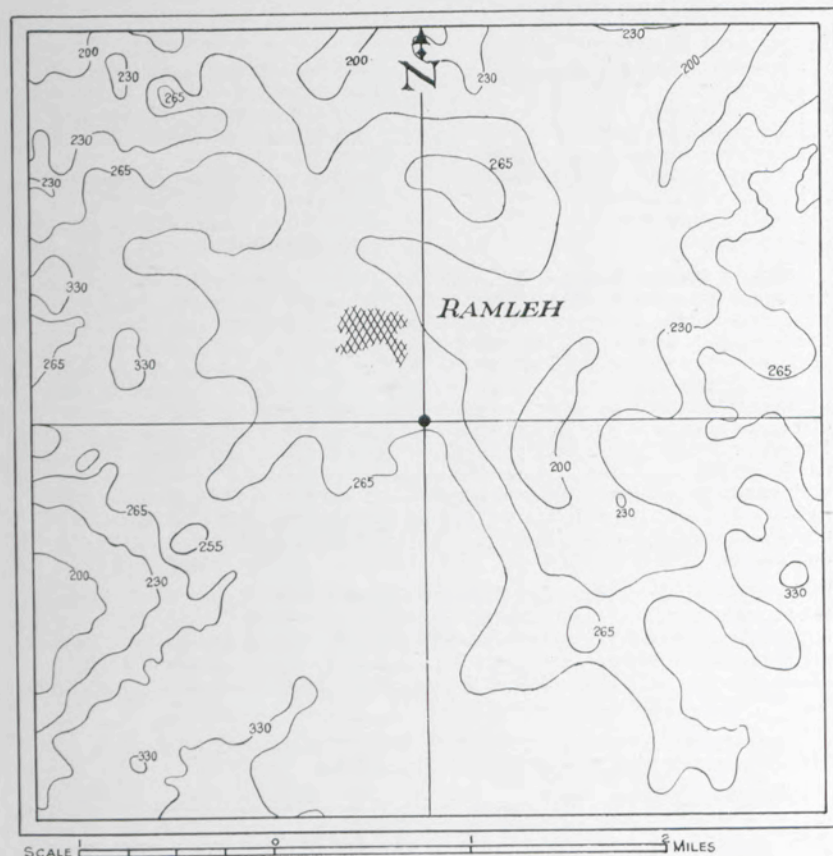
Sunshine.—The sunshine recorder is mounted on a concrete pillar on the Office roof, and its exposure is not obstructed by any object.

October, 1929.

(16223)

RAMLEH

(The contours are given in feet above mean sea level. The cross hatching shows the area covered by buildings)



R ↓ ↓ T



Looking S.E. (December, 1929)

DIWANIYAH (IRAQ).

Latitude 31° 59' N., Longitude 44° 59' E. Height of rain-gauge above M.S.L. 67 ft. Height of barometer cistern above M.S.L. 69 ft.

Instrumental Equipment.

Barometer (Kew pattern).
Barograph.
Rain-gauge, 8-inch.
Stevenson screen (ordinary).

Thermometers — dry bulb, wet bulb, maximum, minimum.
Anemometer—cup, electric.
Theodolite and pilot-balloon equipment.

General Surroundings and Site.—The aerodrome is approximately $\frac{1}{4}$ mile north-east of Diwaniyah town. The surrounding country is flat and cultivated. The Meteorological Office is in the buildings of the railway station which lies to the south-east of the aerodrome.

Winds are measured for velocity by an electric cup anemometer, the direction is taken from a flag flown on a post. There are no obstructions.

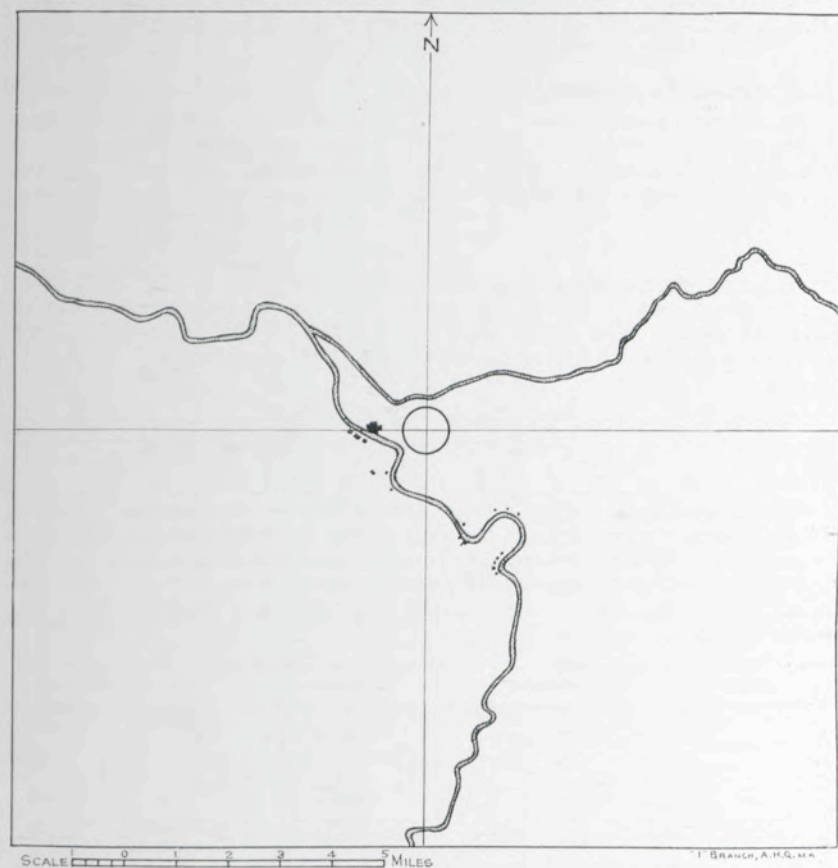
Visibility.—Decreased visibility may be due to dust or fog. Dust is likely to occur at any time of the year with sufficiently strong winds, and is more usual in the daytime. Fogs occur only during the winter months (November to March) and generally after the ground has been saturated by rain. The objects used in estimating visibility from the meteorological station are:—

Object	Distance	Bearing	Nature of object
A	27 yards	180°	Screen
B	55 "	23°	House
C	110 "	45°	Shed
D	220 "	360°	Oil tank
E	550 "	345°	Institute
F	1,100 "	23°	Chaikhana
G	1 $\frac{1}{4}$ miles	345°	Trees
H	2 $\frac{1}{2}$ "	270°	Trees
I	4 $\frac{1}{2}$ "	225°	Trees
J	6 $\frac{1}{4}$ "	225°	Trees
k-m	No objects available. Visibility estimated.		

July, 1933.

DIWANIYAH LANDING GROUND

(No contours are shown as the surrounding country is practically flat)



↓ R

↓ T



Facing E.N.E.

(August, 1932)

HINAIDI (IRAQ)

Latitude $33^{\circ} 17' N.$, Longitude $44^{\circ} 29' E.$ Height of rain-gauge above M.S.L. 106 ft. Height of barometer cistern above M.S.L. 109 ft. Height of anemometer vane, above ground, 41 ft., above roof of building 29 ft.

Instrumental Equipment.

Barometer (Kew pattern).
Barograph.
Microbarograph.
Rain-gauge, 8-inch.
Hyetograph.
Nephoscope (Besson).
Sunshine recorder.
Stevenson screen (large).

Thermometers—dry bulb, wet bulb, maximum, minimum, grass minimum, earth.
Thermograph.
Hygrograph.
Dines pressure-tube anemometer.
Theodolite and pilot-balloon equipment.

General Surroundings and Site.—The aerodrome is about 8 miles south-east of Baghdad, the surface is level. The surrounding country is relatively flat and cultivated. To the west is the River Tigris which at that point runs north and south. The meteorological station is about one mile west of the aerodrome and 400 yards north of the hospital. The exposure is open, the only obstruction being a single-storied bungalow 76 yards to the south-south-west.

Winds are measured for velocity and direction by the Dines pressure-tube anemometer.

Temperature.—The Stevenson screen was formerly under a tropical shade of "chattai" which has since been removed. The thermometer bulbs are 5 ft. above the ground.

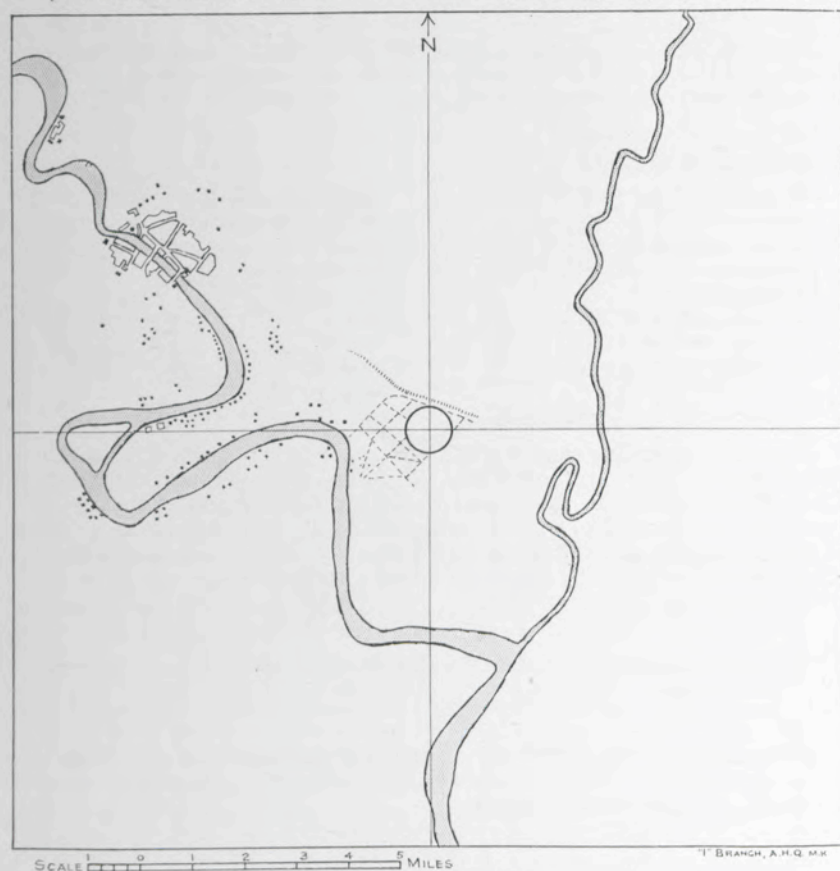
Visibility.—Decreased visibility may be due to dust or fog. Dust is likely to occur at any time of the year with sufficiently strong winds, and is more usual in the daytime. Fogs occur only during the winter months (November to March) and generally after the ground has been saturated by rain. The objects used in estimating the visibility are:—

Object	Distance	Bearing	Nature of object
A	27 yards	47°	Screw pickets
B	55 "	103°	Tree
C	110 "	195°	Native house
D	220 "	315°	Power pole
E	560 "	325°	W/T masts
F	1,100 "	140°	Tree
G	2,200 "	82°	70 Squadron wind indicator
h-m	No objects available. Visibility estimated.		

July, 1933.

HINAIDI LANDING GROUND

(No contours are shown as the surrounding country is practically flat)



Looking N.

(February, 1933)

MOSUL (IRAQ)

Latitude $36^{\circ} 19' N.$, Longitude $43^{\circ} 09' E.$ Height of rain-gauge above M.S.L. 730 ft. Height of barometer cistern above M.S.L. 733 ft. Height of anemometer vane above ground 43 ft., above roof of building 28 ft.

Instrumental Equipment.

Barometer (Kew pattern).
Barograph.
Microbarograph.
Rain-gauge, 8-inch.
Hyetograph.
Nephoscope (Besson).
Sunshine recorder.
Stevenson screen (large).

Thermometers — dry bulb, wet bulb, maximum, minimum, grass minimum, earth.
Thermograph.
Hygrograph.
Anemobiograph — pressure - tube (direction and velocity).
Theodolite and pilot-balloon equipment.

General Surroundings and Site.—The aerodrome is in a shallow valley at a point where the valley crosses the River Tigris, and $1\frac{1}{2}$ miles south by east of Mosul town. The site is fairly level; round the north-east quadrant is a range of hills about 10 miles distant, while the remainder of the eastern side is generally level, cultivated land, becoming undulating after about 3 miles. To the west the ground becomes undulating about 1 mile distant fading into hills 600–700 ft. high. A spur from these hills runs round the southern side about 3 miles away. The soil is alluvial, the surface is grass. The Meteorological Office is at the extreme east of the camp, with the compound adjoining the Office on its northern side.

Winds are measured for direction and velocity by the Halliwell-Dines anemobiograph. The only obstruction is a line of trees about 150 yards distant.

Temperature.—The Stevenson screen was formerly under a tropical shade of "chattai" which has since been removed. The thermometer bulbs are 5 ft. above ground level.

Visibility is mainly good or very good. Fogs occur in the winter, however, usually after the ground has become saturated with rain; and dust storms may occur at any time of the year, but are not very frequent.

The objects used for estimating visibility are :—

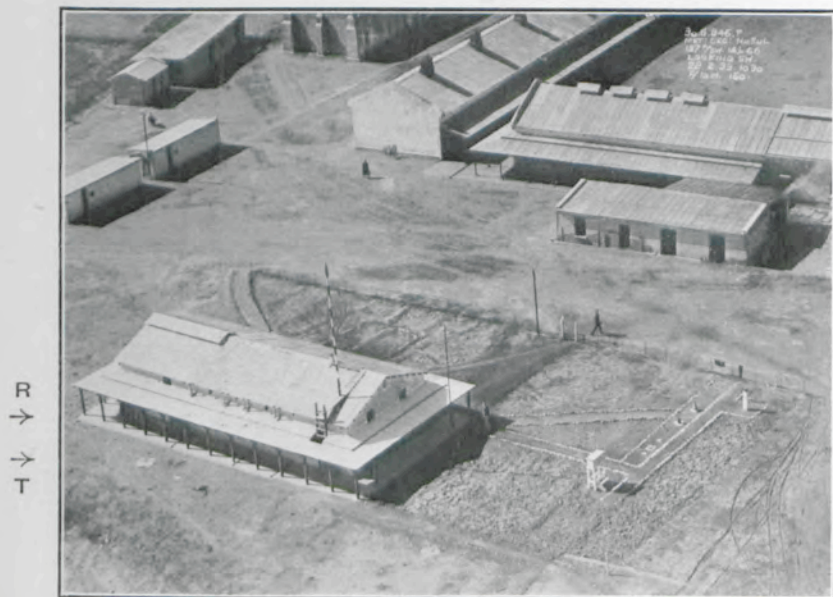
Object	Distance	Bearing	Nature of object
A	28 yards	270°	Cook house
B	53 "	193°	Lamp standard
C	110 "	33°	W/T hut
D	250 "	190°	Bomb store
E	520 "	82°	Right-hand corner of tannery
F	1,020 "	150°	Native house
G	2,400 "	202°	Control tower
H	$2\frac{1}{2}$ miles	16°	Nebi Yunis
I	4 "	60°	Foothills
J	6 "	168°	End of first range of hills
K	12 "	119°	Mulla Ahmed
L	18 "	25°	First range of mountains
M	32 "	12°	Second range of mountains

July, 1933

MOSUL LANDING GROUND
(Contours are given in feet above mean sea level)



T ↓ ↓ R



Looking S.W.

(February, 1933)

RAMADI (IRAQ)

Latitude 33° 25' N., Longitude 43° 17' E. Height of rain-gauge above M.S.L. 160 ft. Height of barometer cistern above M.S.L. 163 ft.

Instrumental Equipment.

Barometer (Kew pattern).
Barograph.
Rain-gauge, 8-inch.
Stevenson screen (ordinary).

Thermometers — dry bulb, wet bulb, maximum, minimum.
Anemometer—cup electric.
Theodolite and pilot-balloon equipment.

General Surroundings and Site.—The meteorological office at Ramadi is on the north side of the landing ground, which is about half a mile south-east of the town, and about a mile south of the River Euphrates. The surrounding country is flat and open. Lake Habbaniyah is about five miles south-east of the landing ground.

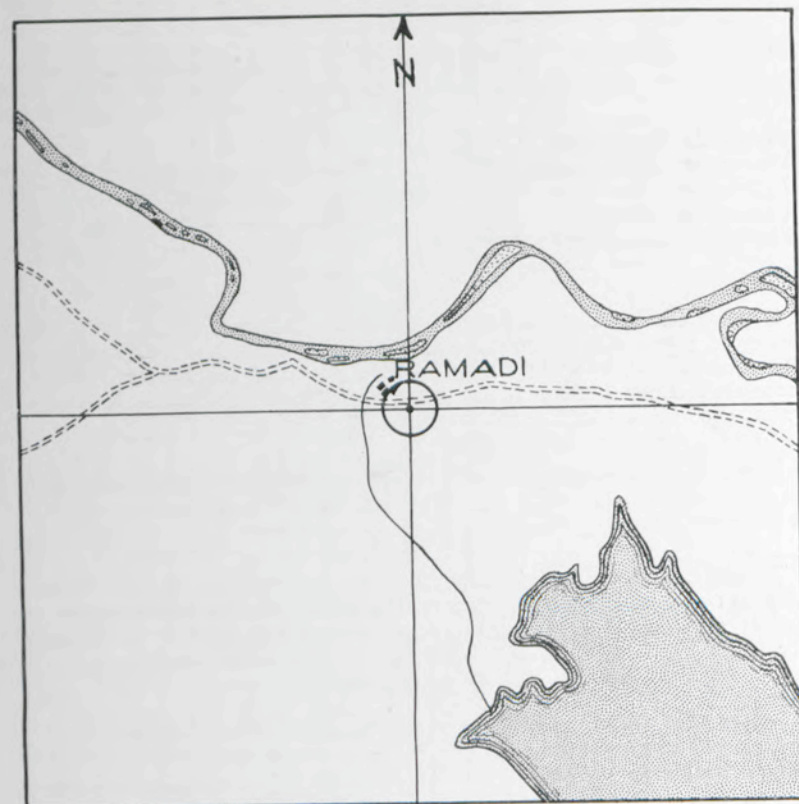
Winds.—Winds are measured for velocity by an electric cup anemometer, and the direction is estimated by means of the wind indicator on the landing ground.

Visibility.—Decreased visibility may be due to dust or fog. Dust is likely to occur at any time of the year with sufficiently strong winds, but is most common during the day-time period in summer. Fog occurs only in the winter and usually after the ground has been saturated with rain. The objects used in estimating visibility are :—

Object.	Distance.	Bearing.	Nature of Object.
A	27 yards	260°	Thermometer screen
B	60 "	335°	Old screen shade
C	120 "	315°	Nearest tomb
D	240 "	300°	Telephone post
E	600 "	300°	Hospital arch
F	1,200 "	270°	House
G	2,200 "	280°	Palm tree
H	2½ miles	90°	British Fighter's Memorial
I	4½ "	125°	Re-yan Hills
J	7 "	180°	Trees
k-m	No objects available. Visibility estimated.		

July, 1933.

RAMADI



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Looking S.

(September, 1933)

RUTBAH (IRAQ)

Latitude 33° 02' N., Longitude 40° 17' E. Height of rain-gauge above M.S.L. 2,019 ft. Height of barometer cistern above M.S.L. 2,022 ft. Height of anemometer vane above ground 30 ft., above roof of building 10 ft.

Instrumental Equipment.

Barometer (Kew pattern).
Barograph.
Rain-gauge, 8-inch.
Nephoscope (Besson).
Stevenson screen.

Thermometers—dry bulb, wet bulb, maximum, minimum.
Anemometer—cup electric.
Theodolite and pilot-balloon equipment.

General Surroundings and Site.—Rutbah consists of a rectangular stone fort with a triangular projection on the eastern side; it is situated on the southern side of the Wadi Hauran. The Meteorological Office is within the fort, the screen and rain-gauge are within a barbed-wire enclosure outside the entrance to the fort. The surrounding country is entirely desert.

Winds are measured for velocity by an electric cup anemometer and for direction by a wind vane which is set on a pole 10 ft. above the roof of the fort buildings. There are no obstructions for miles.

Visibility is generally very good. Fogs occur occasionally during the winter, usually immediately following rain, and dust storms may occur at any time of the year, but are not very frequent.

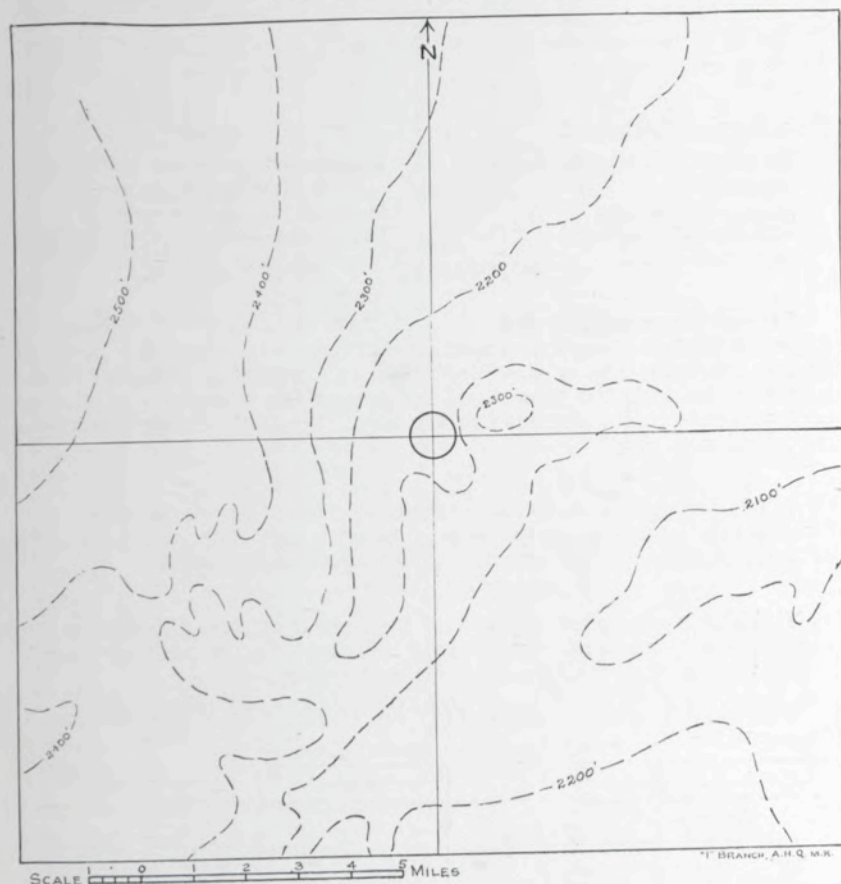
The objects used in estimating the visibility from the Stevenson screen are:—

Object	Distance	Bearing	Nature of object
A	27 yards	45°	Pole for wind indicator
B	55 "	325°	Iraq flag pole
C	110 "	45°	Incinerator chimney
D	220 "	180°	Petrol tanks
E	550 "	247°	Mound of stones
F	1,100 "	67°	Mound of stones
G	2,200 "	No object available	
H	2½ miles	180°	Hills
I	4½ "	No object available	
J	6½ "	270°	Hills
K	12½ "	203°	Hills
l-m	No object available.	Visibility estimated.	

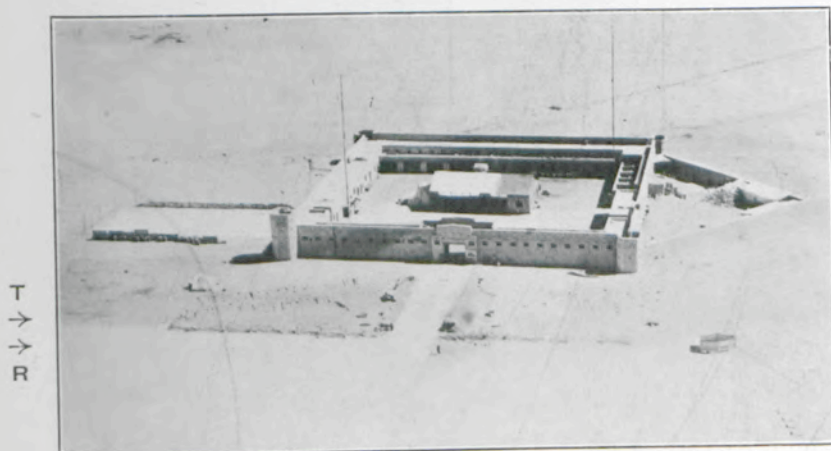
July, 1933.

RUTBAH LANDING GROUND

(Contours are given in feet above mean sea level; their height and alignment are approximate)



T ↓ ↓ R



Looking N.N.E.

(August, 1932)

SHAIBAH (IRAQ)

Latitude 30° 25' N., Longitude 47° 39' E. Height of rain-gauge above M.S.L. 60 ft. Height of barometer cistern above M.S.L. 63 ft. Height of anemometer vane above ground 40 ft., above roof of building 22 ft.

Instrumental Equipment.

Barometer (Kew pattern).
Barograph.
Microbarograph.
Rain-gauge, 8-inch.
Hyetograph.
Nephoscope (Besson).
Sunshine recorder.
Stevenson screen (large).

Thermometers — dry bulb, wet bulb, - maximum, minimum, grass minimum, earth.
Thermograph.
Hygograph.
Dines pressure-tube anemometer.
Theodolite and pilot-balloon equipment.

General Surroundings and Site.—The aerodrome is situated 12½ miles south-west of Basrah and 4 miles north-west of Zubair. It is level and composed of hard sand. The surrounding country is flat, sandy desert. The Hammar Lakes are about 10 miles north-west of the aerodrome, but in the flood season the water encroaches to within about 4 miles. The meteorological station is 250 yards south of the south-west corner of the aerodrome.

Winds are measured both for direction and velocity by the Dines pressure-tube anemometer. The exposure is open to the south and west but there are buildings from 20 to 30 ft. high to the north and east at distances varying from 30 yards to 1 mile.

Temperature.—The Stevenson screen was formerly under a tropical shade of "chattai" which has since been removed; the thermometer bulbs are 5 ft. above ground level.

Visibility.—Decreased visibility may be due to fog or dust. Fogs occur during the winter months after the ground has become saturated with rain. Dust may occur at any time of the year with sufficiently strong winds and is very frequent during the daytime in the summer months.

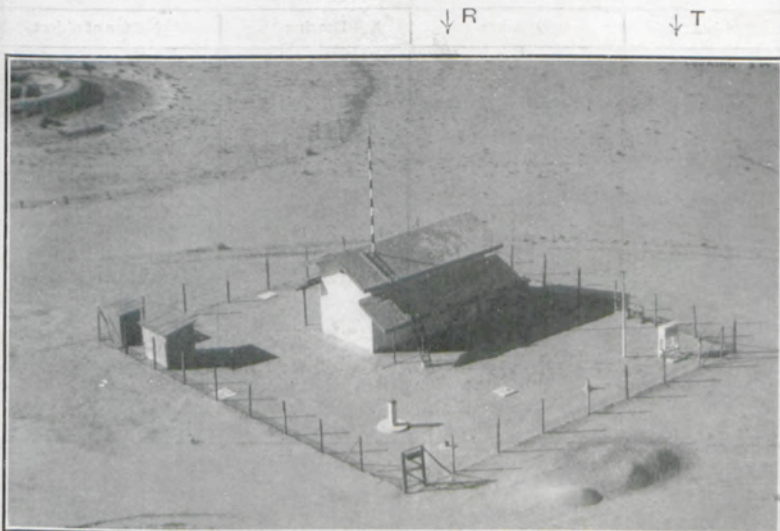
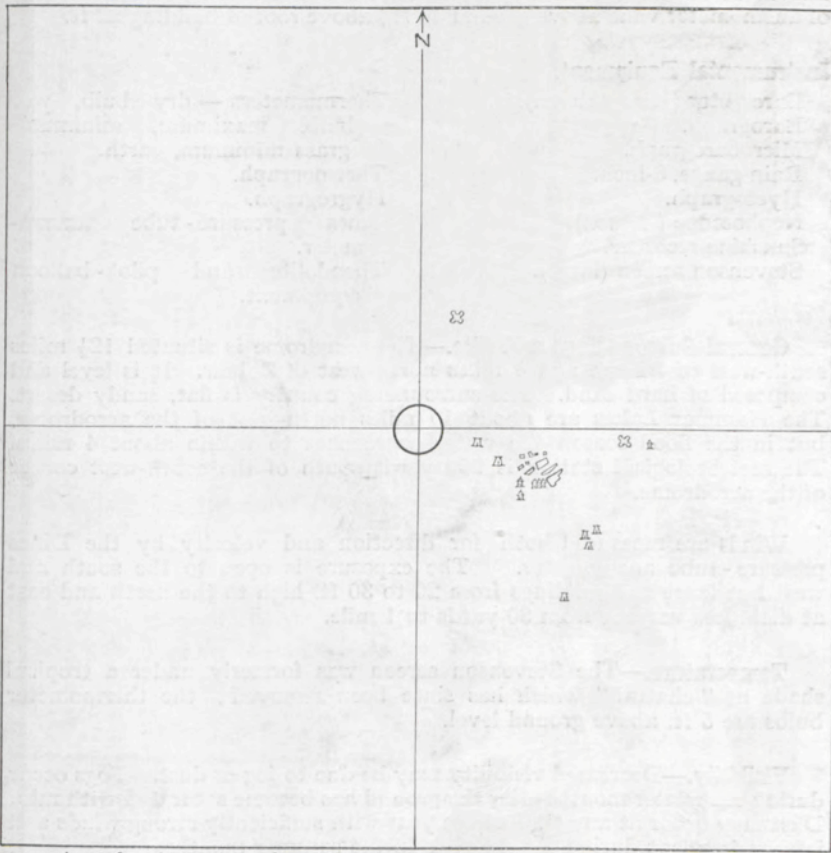
The objects used in estimating visibility are:—

Object	Distance	Bearing	Nature of object
A	25 yards	95°	Bearer's quarters
B	60 "	187°	Machine gun emplacement
C	125 "	360°	Officers' quarters
D	230 "	333°	Machine gun emplacement
E	600 "	91°	Water tower
f	1,400 "	340°	Rifle butts
G	1½ miles	270°	Rubbish dump
H	2½ "	270°	Plantation
I	4½ "	215°	South end of plantation
J	6 "	315°	Plantation
k	No object available.	Visibility estimated.	
L	20 miles	183°	Jebel Senam
m	No object available.	Visibility estimated.	

July, 1933.

SHAIBAH LANDING GROUND

(No contours are shown as the surrounding country is practically flat)



Looking S.W.

(February, 1933)