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M.O. 319

Amendment No. 2

AIR MINISTRY
METEOROLOGICAL OFFICE

Gazetteer of
British Meteorological Stations
used in the preparation of
Synoptic Reports

Amendment issued 1937

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LONDON

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TABLE OF CONTENTS

Substitute the following :—

Introduction—

Abbotsinch	Lympne
Aberdeen	Malin Head
Aldergrove	Manchester
Birmingham	Manston
Birr Castle	Pembroke
Blacksod Point	Pembroke Dock
Boscombe Down	Plymouth
Bristol	Point of Ayre
Calshot	Portland
Catterick	Roche's Point
Cranwell	Ross-on-Wye
Croydon	Scilly Isles
Dalwhinnie	Sealand
Dungeness	Shoeburyness
Eskdalemuir	Spurn Head
Farnborough	Stornoway
Felixstowe	Tiree
Guernsey	Tynemouth
Holyhead	Upper Heyford
Kew	Valentia
Lerwick	Wick
Leuchars	Yarmouth
Lizard	

OVERSEAS SUPPLEMENT

2
INTRODUCTION

Substitute new lists given below :—

(2) Distributive stations—

Abbotsinch	Croydon	Manston
Aldergrove	Farnborough	Pembroke Dock
Boscombe Down	Felixstowe	Plymouth
Bristol	Holyhead	Sealand
Calshot	Leuchars	Shoeburyness
Catterick	Lympne	Upper Heyford
Cranwell	Manchester	

(3) Telegraphic reporting stations—

Birmingham	Lizard	Scilly
Birr Castle	Malin Head	Spurn Head
Blacksod Point	Pembroke	Stornoway
Dalwhinnie	Point of Ayre	Tiree
Dungeness	Portland Bill	Tynemouth
Guernsey	Roche's Point	Wick
Lerwick	Ross-on-Wye	Yarmouth

STATION INFORMATION

Amend as follows :—

ABBOTSINCH. *Substitute* new page.

ABERDEEN OBSERVATORY. *Substitute* new page.

ALDERGROVE. *Substitute* new page.

BLACKSOD POINT. Wind. *Amend* first sentence to read " Direction is estimated by means of a vane 28 ft. above the ground, and 45 ft. above M.S.L."

Visibility, *substitute* the following table :—

Object	Distance	Bearing	Nature of object
A	27 yards	45°	Screen
B	56 "	60°	Wall
C	120 "	97°	House
D	220 "	351°	House
E	550 "	111°	Building
F	1,200 "	10°	Headland
G	1.5 miles	360°	Headland
H	2.1 "	355°	Building
I	4.3 "	125°	Coast
J	6.1 "	175°	Mountain
K	12 "	23°	Hill
L	19 "	30°	Headland
M	—	—	—

BRISTOL. *Add* new page.

CALSHOT. Add "Height of anemometer vane above ground, 50 ft.; above roof, 32 ft."

General Surroundings. Amend to read "Royal Air Force Station at Calshot."

Visibility. Substitute the following table:—

Object	Distance	Bearing	Nature of object
A	24 yards	46°	Shed
B	58 "	46°	Shed
C	113 "	226°	Sea wall
D	225 "	223°	Hut
E	510 "	37°	Derrick
F	1,056 "	229°	Tower
G	1.3 miles	100°	Buoy
H	2.2 "	214°	Stone Point
I	2.5 "	360°	Shed
J	4.0 "	341°	Building
K	6.2 "	326°	Docks
L	12.2 "	120°	Lightship
M	—	—	—

Note.—The position of the station should be $\frac{1}{8}$ inch to the south of that marked on the map.

CATTERICK. Wind. Amend last sentence as follows:—"The exposure is good except that a barrack block, 32 ft. high, 170 ft. due east, causes unusual gustiness with easterly winds."

Visibility. Delete first sentence and substitute the following table:—

Object	Distance	Bearing	Nature of object
A	28 yards	112°	Lamp-post
B	55 "	259°	Lamp-post
C	110 "	347°	Building
D	225 "	249°	Building
E	530 "	237°	Water tower
F	1,100 "	223°	Woods
G	2,300 "	24°	Church
H*	2.0 miles	9°	Village
I*	3.7 "	239°	Clump of trees
J	6.7 "	301°	Bank
K	14.0 "	90°	Hills
L	18.7 "	120°	Cliff
M	24.0 "	64°	Hill

* No object within 10 per cent of standard distance.

CRANWELL. Substitute new page.

CROYDON. Add "Height of anemometer vane above ground, 105 ft.; above roof, 49 ft."

Instrumental Equipment. Add:—

Stevenson screen (two).

Munro dial wind velocity indicator.

Fog height balloon.

Ceiling height projector.

Visibility. Table. Amend as follows:—

Object D. Distance—200 yards.

" E. Bearing—7°. Nature of object—Building.

" G. Nature of object—Gasometer or church.

" H. " " " —Chimney stack.

DUNGENESS. Visibility Table. *Amend* as follows :—

Object C.	Bearing—360°.	Nature of object—Post.
" D.	" 180°.	
" G.	" 45°.	
" I.	" 45°.	

ESKDALEMUIR OBSERVATORY. Instrumental Equipment. *Add* :—
Jardi rate of rainfall recorder.
Hellman-Fuess snow-gauge.

FARNBOROUGH. *Substitute* new page.

FELIXSTOWE. Height of anemometer vane above ground and above roof,
for " 50 ft. and 35 ft." *read* " 45 ft. and 30 ft."

Visibility Table. *Amend* as follows :—

Object C.	Distance—110 yards.	Bearing—N.W.	Nature of object—House.
" D.	Bearing—N.W.W.	Nature of object—Corner of building.	
" H.	Bearing—E'S.		

Substitute the following photograph.



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R

↑
T

Looking N.W.

(February, 1937)

HOLYHEAD. *Add* " Height of anemometer vane above ground, 43 ft. ;
above roof, 29 ft.

Instrumental equipment. *Add* " Microbarograph. Hygrograph.
Tilting syphon rain-gauge. *Delete* Hyetograph. Solar radiation
thermometer."

Add following paragraphs :—

Sea disturbance.—Difficult to estimate except in westerly and
northerly winds.

Rainfall.—Comparative readings show that the site is good.

INCHKEITH. *Delete* page. Station closed June 30, 1937.

KEW. Height of anemometer vane above ground and above roof, for
" 65 ft. and 22 ft." read " 67 ft. and 32 ft."

Instrumental equipment. Barometer, for " Fortin type " read
" Newman type," Add " Jardi rate of rainfall recorder."

Temperature, 6th line, for " 1871 " read " 1868."

Visibility, 3rd line, delete " The damp nature of the soil and "

4th line for " make " read " makes ".

Substitute the following table :—

Object	Distance	Bearing	Nature of object
A	27 yards	225°	House
B	55 "	255°	Screen
C	110 "	205°	Hut
D	220 "	220°	Tree
E	575 "	115°	House
F	1,050 "	120°	Building
G	2,100 "	135°	Church
H	2.5 miles	10°	Church
I	—	—	—
J	5.7 "	85°	Chimneys
K	13.0 "	170°	Hills
L	18.0 "	205°	Hills
M	—	—	—

LEUCHARS. General surroundings and site. Delete sentence " Two miles westward ... to Cupar."

LIZARD. Add " Height of anemometer vane above roof, 67 ft."

Visibility. Amend table as follows :—

A. Nature of object—Flagstaff.

B. " " " Building.

C. " " " House.

D. Bearing—67°. Nature of object—Building.

E. Nature of object—Pole.

F. Distance—1,100 yards. Bearing—180°. Nature of object—Rocks.

LYMPNE. Instrumental equipment, for " Hyetograph " read " Tilting syphon rain-gauge."

Rainfall, for " hyetograph " read " tilting syphon rain-gauge."

MANCHESTER. Visibility. Substitute the following table :—

Object	Distance	Bearing	Nature of object
A	27 yards	135°	Stone
B	55 "	135°	Corner of tarmac
C	110 "	190°	South-west corner of enclosure
D	220 "	186°	Building
E	600 "	42°	Building
F	1,180 "	291°	W/T mast
G	2,600 "	86°	Building
H	2½ miles	348°	Memorial
I	3¾ "	6°	Colliery
J	7 "	339°	Building
K	11½ "	335°	Hill
L	—	—	—
M	—	—	—

MANSTON. *Substitute* new page.

PEMBROKE (ST. ANN'S HEAD). *Add* "Height of anemometer vane above ground, 70 ft. ; above roof, 50 ft."

Instrumental equipment. *Add* "Anemometer—Dines pressure tube (direction and velocity)."

PEMBROKE DOCK. Instrumental equipment. *Delete* recording rain-gauge (natural syphon).

Visibility. *Substitute* the following table :—

Object	Distance	Bearing	Nature of object
A	23 yards	100°	Fence
B	57 "	90°	W/T mast
C	105 "	75°	Tank
D	212 "	90°	Building
E	507 "	275°	Tank
F	1,150 "	70°	Huts
G	1½ miles	50°	Building
H	2¼ "	290°	Pier
I	3¼ "	20°	Ridge
J	6 "	270°	Rock
K	10 "	270°	Town
L	—	—	—
M	—	—	—

PLYMOUTH (MOUNT BATTEN). Instrumental equipment. *Delete* "Micro-barograph."

POINT OF AYRE. *Add* "Height of anemometer vane above roof, 31 ft."

PORTLAND BILL. Visibility. *Amend* table as follows :—

Object	Distance	Bearing	Nature of object
I	—	—	—
J	—	—	—
K	{ 11·7 miles	55°	Skyline
L		340°	Monument
	12·3 "	77°	Headland
	18·2 "		

SEALAND. Instrumental equipment. *Add* "Tilting syphon rain-gauge, and 1 ft. and 4 ft. earth thermometers." *Delete* "Hyetograph."

STORNOWAY. *Substitute* new page.

VALENTIA OBSERVATORY. Instrumental equipment. *Add* "Jardi rate of rainfall recorder. 1 ft. and 4 ft. earth thermometers."

Visibility. *Amend* table as follows :—

Object A.	Bearing 350°.	
" B.	" 345°.	Nature of object—White post.
" C.	" 125°.	
" E.	" 100°.	Nature of object—Building.
" F.	" 50°.	" " " Building.

YARMOUTH. *For* "Height of rain-gauge above M.S.L., 14 ft.", *read* "Height above M.S.L. of ground on which the rain-gauge stands, 5 ft." *Add* "Height of anemometer vane above roof, 36 ft."

OVERSEAS SUPPLEMENT

Back of title page *Substitute* the following:—

MEDITERRANEAN

Malta

MIDDLE EAST

Aboukir

Amman

Gaza

Heliopolis

Ismailia

Ramleh

IRAQ

Dhibban

Diwaniyah

Hinaidi

Rutbah

Shaibah

STATION INFORMATION

MALTA *Add* new page.DHIBBAN. *Add* new page.DIWANIYAH. Visibility. *Substitute* the following:—

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 and spring months (November to April): they can generally be associated with the passage of cold fronts or cold front occlusions over ground wetted by recent rain or with the mixing of air masses of widely different origin. The objects used for estimating visibility are:—

Object	Distance	Bearing	Nature of object
A	27 yards	180°	Screen
B	55 "	330°	Lamp standard
C	110 "	35°	Shed
D	220 "	50°	—
E	550 "	330°	Board
F	1,100 "	320°	Board
G	1.2 miles	345°	Trees
H	2.5 "	270°	Trees
I	4.3 "	225°	Trees
J	6.2 "	225°	Trees
K	—	—	—
L	—	—	—
M	—	—	—

MOSUL } *Delete* pages. Stations now under control of Iraqi Meteorological
 RAMADI } Service.

ABBOTSINCH (RENFREWSHIRE, SCOTLAND)

Latitude 55° 52' N., Longitude 4° 26' W. Height above M.S.L. of ground on which the rain-gauge stands, 19 ft. Height of anemometer vane above ground, 46 ft. : above roof, 30 ft.

Instrumental Equipment.

Barometer.	Stevenson screen.
Barograph.	Thermometers—dry bulb, wet bulb,
Rain-gauge, 8-inch	maximum, minimum, grass minimum.
Hyetograph.	Thermograph.
Nephoscope (Besson).	Anemometer—Dines pressure tube,
Sunshine recorder.	direction and velocity.
Hygrograph.	Ceiling height projector.
Pilot-balloon equipment.	

General surroundings.—The soil is alluvial deposit, a clay stratum alternating every 3 or 4 inches with one of sand. Water is found at 5 ft. The station is situated in the north-east corner of the R.A.F. aerodrome, on flat, open country, the nearest hills being 12 miles to west and 3-4 miles to north-east. The River Clyde lies to the north $2\frac{1}{2}$ to 3 miles distant.

Site.—The enclosure is placed 10 yards to west of the office. Both are rather closely surrounded, except to north, by buildings, many of recent construction. Between east-north-east and south-east by east obstructions occur in the form of a row of houses 180 ft. away, and a disused foundry 50 ft. high and 300 ft. distant. To south are converted farm buildings 180 ft. away and 24 ft. high, and to south-west a building, 40 ft. in height, 380 ft. away. Intermediate, are a number of smaller buildings, the nearest being about 90 ft. To west-south-west at a distance of roughly 300 ft. are buildings 30 ft. high. Between west and west-north-west are two obstructions about 20 ft. high, the nearer being 160 ft. distant. Further building is in progress, but the exposure between west-north-west, through north, to east-north-east is not likely to be materially effected.

Wind.—The vane of the anemometer is 46 ft. above the ground. The exposure is good for winds between WNW. through N. to ENE. apart from some shelter provided by the Grampian Plateau for a N. wind. Owing to obstructions, considerable gustiness is present for nearly all directions between east and west, through south. Easterly surface winds are general when the gradient wind is southerly, especially when a warm front is approaching. These easterly surface winds are light, and are not really associated with the bad exposure, but probably with the sheltering effect of the hills to south-east and south, and the Clyde-Forth valley. The station experiences the full force of south-westerly, westerly, and north-westerly winds.

Temperature.—The station lies in the Clyde Valley and night minima tend to be rather low.

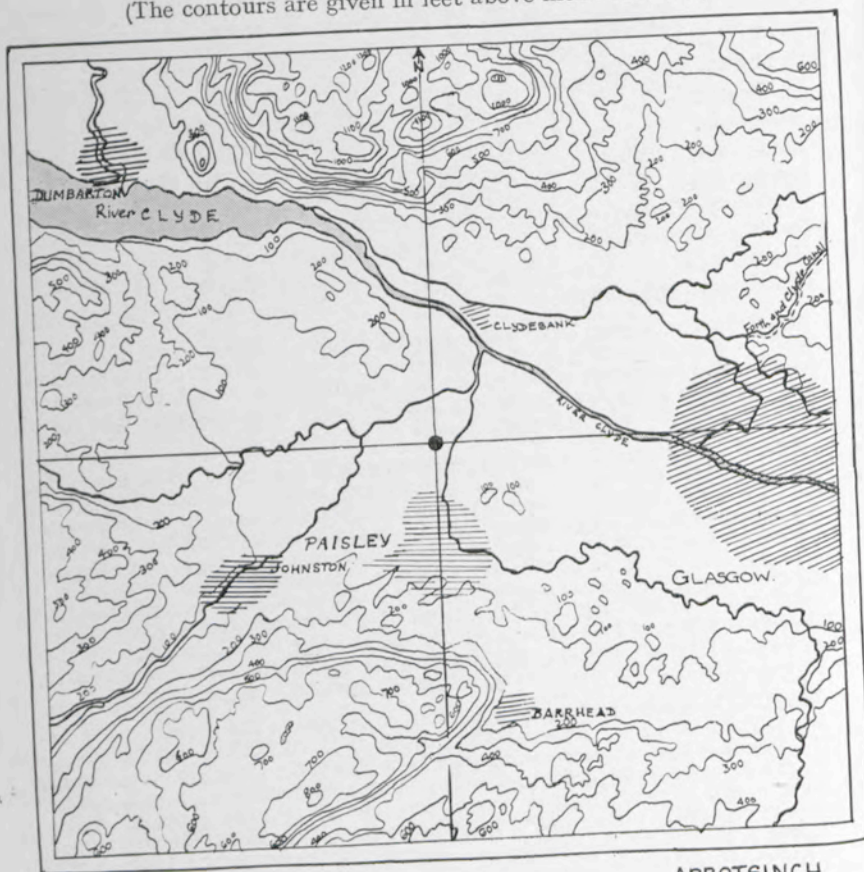
Visibility.—A marked deterioration is experienced with E. winds. The objects used to estimate visibility are :—

Object	Distance	Bearing	Nature of object
A	25 yards	270°	North-west corner of enclosure
B	55 "	203°	Corner of building
C	100 "	256°	Telephone post
D	220 "	150°	Cottage
E	605 "	18°	Trees
F	1,190 "	249°	Tree at end of line
G	$1\frac{1}{4}$ miles	337°	Works chimney
H	$2\frac{1}{4}$ "	55°	Pylons
I	4.3 "	350-360°	Hills
J	6.1 "	10-18°	Hills
K	11.9 "	255°	Mountain
L	19.5 "	323°	Mountain
M	27 "	302°	Mountain

February, 1937.

ABBOTSINCH

(The contours are given in feet above mean sea level)



ABBOTSINCH

R T
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Looking N.N.E.

(September, 1933)

ABERDEEN OBSERVATORY (ABERDEENSHIRE, SCOTLAND)

Latitude $57^{\circ} 10' N.$, Longitude $2^{\circ} 6' W.$ Height above M.S.L. of ground on which the rain-gauge stands 79 ft. Height of anemometer vane above ground 41 ft.; above roof of hut 32 ft.

Instrumental Equipment.

Barometers (Fortin and Kew types). Stevenson screen.
Barographs. Thermometers—dry bulb, wet bulb, maximum and minimum, grass minimum, earth 1 ft. and 4 ft.
Rain-gauge, 8-inch.
Recording rain-gauge (Beckley type).
Jardi rate-of-rainfall recorder.
Hellman-Fuess snow-gauge.
Nephoscopes (Fineman and Besson).
Sunshine recorder.
Hydrographs. Thermographs.
Anemographs, pressure tube and Robinson Cup (direction and velocity from both).
Theodolites and Pilot balloon equipment.

Note.—The complete equipment of an Observatory of the First Order is maintained at this station.

General Surroundings.—The Observatory is situated in the north-eastern quarter of the city of Aberdeen, which stretches for two miles to the southward and three miles to the westward. To the eastward the ground is level and low-lying, terminating along the seashore in a line of low dunes about three-fourths of a mile away. Municipal building schemes have now extended over the previously open ground to the north-east and north-west of the Observatory.

Site.—The instrument enclosure is about 400 yards north-westward of the Observatory Tower, and except for the recording of wind, has a fairly open exposure.

Wind.—This is obtained from the pressure tube anemometer situated within the enclosure. The exposure is rather obstructed and gusty, particularly so in the sector from 35° to 115° wherein the recorded velocities are regarded as being equivalent to those obtained in an open exposure with a vane eight ft. above ground. Sea breezes are much in evidence during fine summer weather.

Temperature.—The sea lies three-quarters of a mile away to the east and often influences the temperature. A föhn effect causes relatively high maxima with south-westerly to westerly winds on the northern margin of an anticyclone.

Visibility.—Smoke from the town affects the visibility, especially in southerly winds and often produces a slight temporary fog between 7 and 10 a.m. in quiet winter weather. Coastal fog is very liable to occur, chiefly in summer; it does not usually extend inland for more than two or three miles, and often merely fringes the coasts. The objects in use for estimating visibility are:—

Object	Distance	Bearing	Nature of object
A	26 yards	45°	Steam pipe
B	55 "	110°	Finial on roof ridge
C	110 "	65°	Tree
D	218 "	90°	Wall
E	550 "	210°	Ventilators on roof
F	1,100 "	135°	Gasometer
G	1.2 miles	163°	Building
H	1.3 "	43°	Watch tower
I*	2.0 "	131°	Lighthouse
J*	2.6 "	260°	Building
K	2.6 to 5.3 miles	various	Hills and houses
L	5.3 to 9.9 "	315° and 90°	Hill and sea horizon
M	12.4 miles	25°	Sand patch
	18.6 "	30°	Cliff

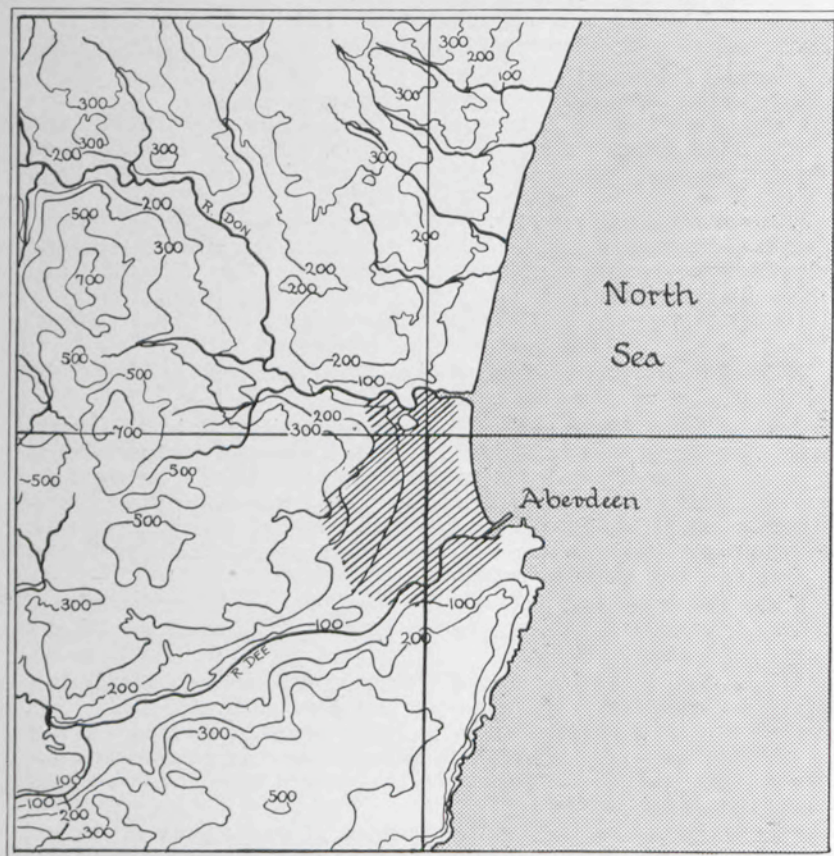
* Visibilities I and J depend upon observation estimates between certain objects at other distances than $4\frac{1}{2}$ and $6\frac{1}{2}$ miles respectively, but can be given with fair accuracy.

Sea Disturbance.—Can be estimated satisfactorily.

February, 1937.

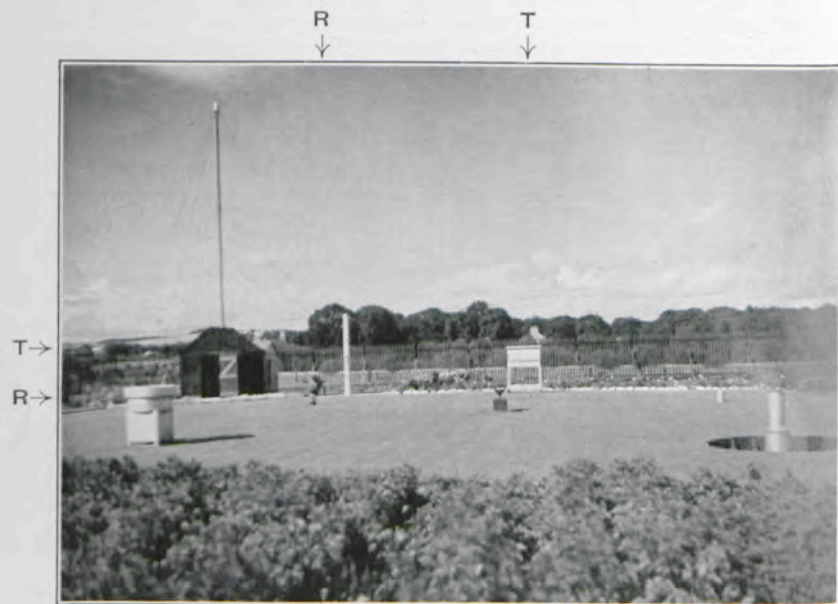
ABERDEEN

(The contours are given in feet above mean sea level.)



2 1 1/2 0 2 4 6 Miles.

Aberdeen.



Looking N.

(September, 1935)

ALDERGROVE (CO. ANTRIM, IRELAND).

Latitude 54° 39' N., Longitude 6° 13' W. Height above M.S.L. of ground on which the rain-gauge stands, 268 ft. Height of anemometer vane above ground, 60 ft. ; above roof, 43.5 ft.

Instrumental Equipment.

Barometer (Kew pattern).
Barograph.
Barometer (aneroid).
Rain-gauge, 8-inch.
Recording rain-gauge (natural syphon).
Nephoscope (Besson).
Sunshine recorder.
Hydrograph.
Theodolites (2) and pilot balloon equipment.

Stevenson screen.
Thermometers—dry bulb, wet bulb, maximum, minimum, grass minimum.
Thermograph.
Anemometer—Dines pressure tube (direction and velocity).
Psychrometer (aeroplane).
Jaumotte meteorograph.

General Surroundings and Site.—The station is situated about 2 miles to eastward of Lough Neagh and near the Headquarters building of the Royal Air Force at Aldergrove. The surrounding country is undulating and the exposure of the instruments is open apart from buildings between west and north.

Wind.—The exposure of the anemometer is affected to some extent by buildings to the north-west.

Temperature.—Temperature is read from a large Stevenson screen, in which are also exposed the thermograph and hygrograph. The Stevenson screen is situated in the enclosure to the west of the office and is at about the same level.

Visibility.—With a light west wind following a clear night in the autumn, winter and early spring, fog often drifts over from Lough Neagh during the morning. The fogs are liable to occur with little warning on occasions when the wind is light and variable and there has been a clear sky at night. The objects used in estimating the visibility are :—

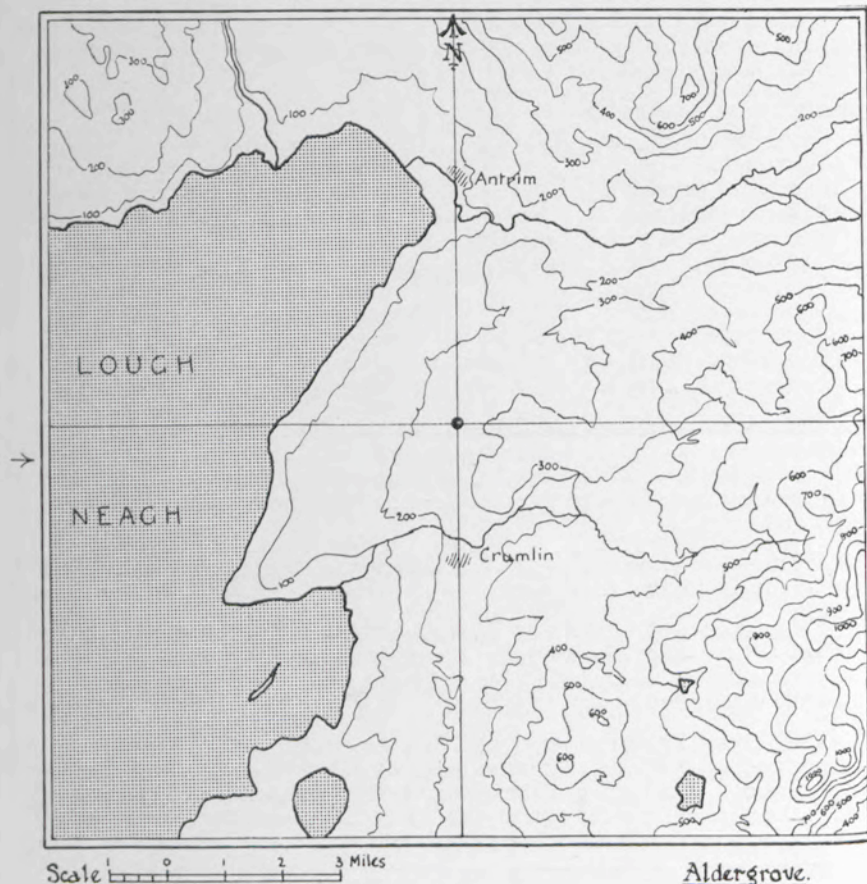
Object	Distance	Bearing	Nature of object
A	29 yards	2°	Pillar of gates
B	55 "	313°	Door
C	110 "	275°	Door
D	220 "	267°	Corner of building
E	550 "	93°	" The Mount "
F	1,120 "	255°	Tree
G	1 mile	257°	House
H	—	—	—
I	5 1/2 miles	340°	N. shore of Lough Neagh
J	8 1/4 "	10°	Hill
K	12 "	270°	W. shore of Lough Neagh
L	—	—	—
M	31 "	285°	Hill

Rainfall.—The exposure of the rain-gauges is satisfactory.

June, 1937.

ALDERGROVE

(The contours are given in feet above Irish Ordnance Datum).



The site of the former station is shown in the centre of the map. The site of the new station is not shown, but it can be determined by following the two arrows to the point of their intersection.



RT

Looking N.E.

(June, 1937)

BRISTOL (SOMERSETSHIRE, ENGLAND)

Latitude $51^{\circ} 25' N.$, Longitude $2^{\circ} 35' W.$ Height above M.S.L. of ground on which the rain-gauge stands, 209 ft.

Instrumental Equipment.

Barometer.
Barograph.
Rain-gauge, 8-inch.
Tilting syphon rain-gauge.
Nephoscopes (Besson and Fineman)
Sunshine recorder.
Hygrograph.

Stevenson screen.
Thermometers—dry bulb, wet bulb, maximum, minimum, grass minimum.
Thermograph.
Theodolite and pilot balloon equipment.

General Surroundings.—The station is situated at Bristol Airport, Whitchurch, about $3\frac{1}{2}$ miles to the south of the centre of Bristol City. The surrounding country is hilly, mostly grassland, and fairly well wooded. Encircling hills restrict the range of visibility but on occasions of very good visibility it is possible to distinguish a ridge to the north some 20 miles distant. About 1 mile to the south of the aerodrome (from 160° – 270°) Dundry Hill rises to a height of 600–700 ft. The Bristol Channel at its nearest point at Avonmouth is about 9 miles north-west of the aerodrome. About 8 miles to the south-west of the aerodrome are the Mendips.

Site.—The enclosure on the eastern side of the aerodrome occupies an open situation, the nearest building, a hangar, being 50 yards to the south. The landing ground of the aerodrome slopes gently to the north and north-west and more steeply on its west boundary.

Wind.—Wind force is estimated and the direction taken from wind socks.

Sunshine.—The sunshine recorder is on top of a concrete pillar within the enclosure and has an unrestricted exposure.

Temperature.—The screen containing the thermometers is freely exposed to sun and wind and the recorded temperatures are representative of conditions in an open rural situation; they are on the average lower than those recorded in the City of Bristol.

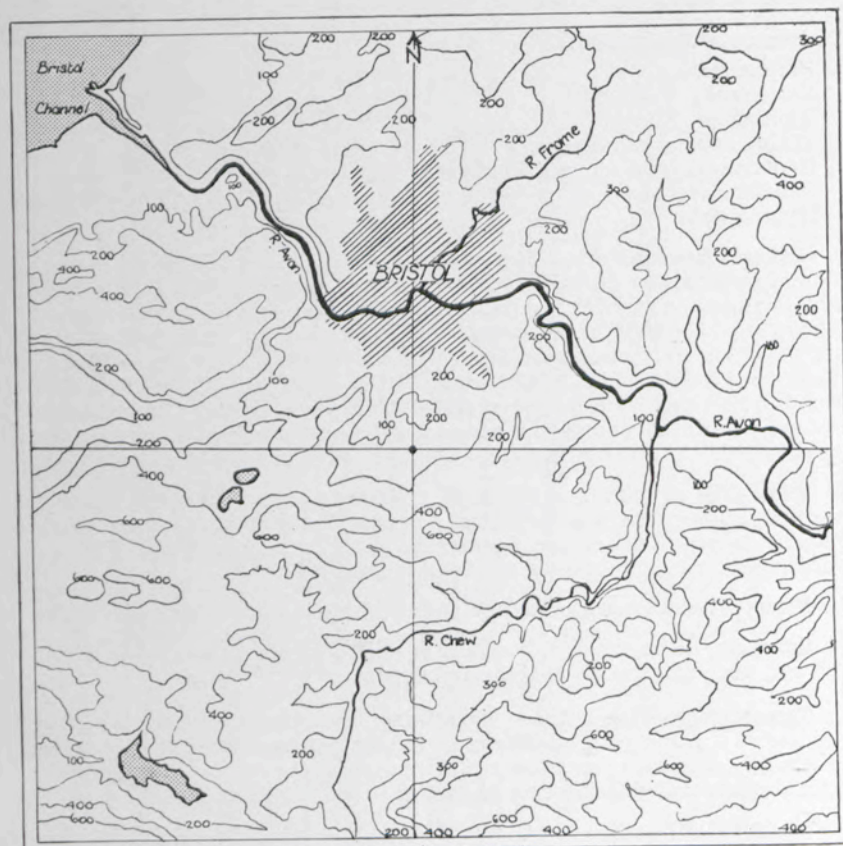
Visibility.—Visibility is affected by smoke pollution from Bristol City with a northerly wind. The objects in use for estimating visibility are:—

Object	Distance	Bearing	Nature of object
A	27 yards	180°	Flagstaff
B	55 "	30°	Pump
C	110 "	22°	Screen
D	200 "	272°	Tree
E	500 "	286°	Tree
F	1,000 "	358°	Wind indicator
G	2,200 "	326°	House
H	$2\frac{1}{4}$ miles	23°	Tower
I	4 "	274°	Wood
J	6 "	290°	Hill
K	—	—	—
L	20 miles	350°	Ridge of Forest of Dean
M	—	—	—

May, 1937.

BRISTOL

(The contours are given in feet above mean sea level)



Scale 0 1 2 3 MILES

Bristol

R T
↓ ↓



Looking S.S.W.

(September, 1937)

CRANWELL (LINCOLNSHIRE, ENGLAND)

Latitude $53^{\circ} 2' N.$, Longitude $0^{\circ} 30' W.$ Height above M.S.L. of ground on which the rain-gauge stands, 203 ft. Height of anemometer vane above ground, 43 ft.; above roof, 27 ft.

Instrumental Equipment.

Barometer.
Barograph.
Rain-gauge, 8-inch.
Hyetograph.
Nephoscopes (Besson and Fineman).
Sunshine recorder.
Hygrograph.
Pilot-balloon equipment.

Stevenson screen.
Thermometers—dry bulb, wet bulb, maximum, minimum, grass minimum, solar radiation, earth 1 ft. and 4 ft.
Thermograph.
Anemometers—pressure-tube, cup, and electric distant-recorder.

General surroundings.—The station lies on the relatively high ground of Lincoln Edge, which rises to over 300 ft. above M.S.L. about 2 miles west of Cranwell. The surrounding country is almost level open grassland, with a slight upward slope for about a quarter of a mile to north and south of the station. A small wood lies about a quarter of a mile to east-north-east.

Site.—The main buildings of Cranwell Camp are situated in the sector between west and north of the office. Among these are hangars 40 ft. high, the nearest of which is about 50 yards to the west of the office and enclosure. The ground consists of loam on limestone.

Wind.—This is measured by a Dines pressure-tube anemometer, the exposure being excellent except for wind with an easterly component, in which case the records of both direction and speed are somewhat doubtful. A cup anemometer is also kept at the station.

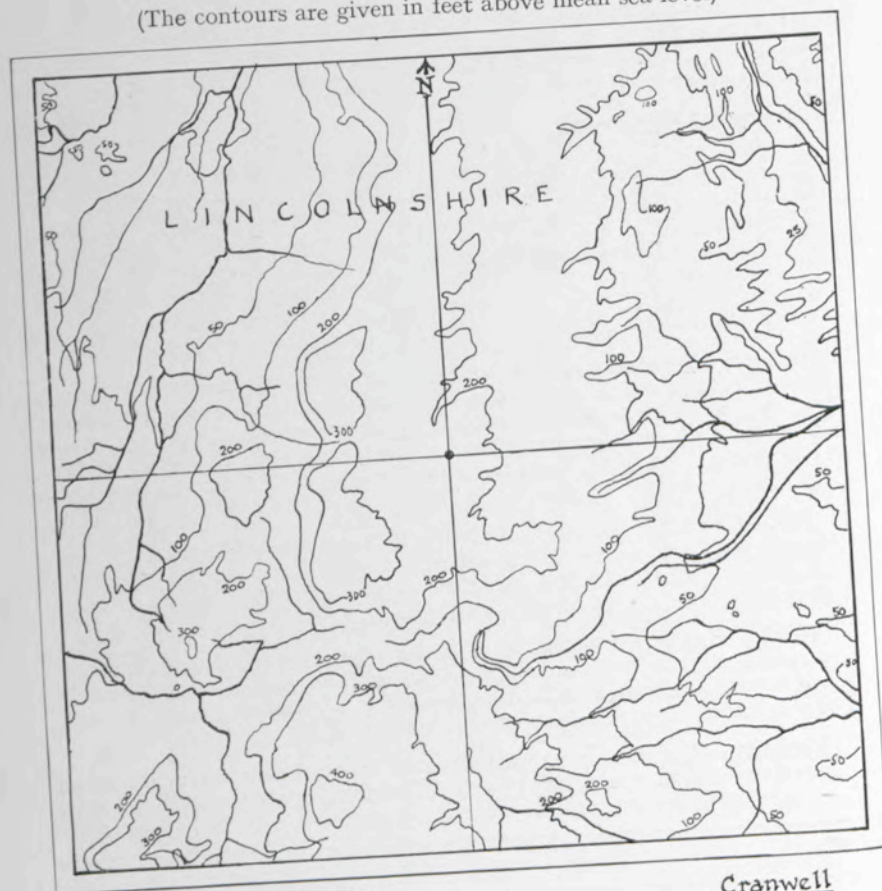
Visibility.—The station is well situated for visibility observations, the open nature of the surrounding countryside affording objects up to 21 miles. The objects used to estimate the visibility are:—

Object	Distance	Bearing	Nature of object
A	27 yards	149°	Corner of enclosure
B	57 "	22°	Board
C	114 "	33°	Tree
D	232 "	63°	White fence
E	527 "	54°	Mast
F	1,060 "	234°	Shed
G	2,230 "	79°	Shed
H	2.3 miles	117°	House
I	5.0 "	120°	Chimney
J	6.7 "	200°	Wood
K	9.3 "	110°	Spire
L	20 "	105°	Tower
M	—	—	—

February, 1937.

CRANWELL

(The contours are given in feet above mean sea level)



Cranwell

Scale 1 2 3 Miles

T ↓
R ↓



Looking N.E.

(February, 1937)

FARNBOROUGH (HAMPSHIRE, ENGLAND)

Latitude $51^{\circ} 17' N.$, Longitude $0^{\circ} 45' W.$ Height above M.S.L. of ground on which the rain-gauge stands, 226 ft. Height of anemometer vane above ground, 66 ft.; above roof, about 36 ft.

Instrumental Equipment.

Barometer (Kew type).	Stevenson screen.
Barograph.	Thermometers—dry bulb, wet bulb, maximum, minimum, grass minimum.
Rain-gauge, 8-inch.	Thermograph.
Recording rain-gauge (Dines Tilting).	Anemometer—Dines pressure tube, distant recording.
Nephoscopes (Besson, Fineman).	Psychrometer—aeroplane.
Sunshine recorder.	Psychrometer (Assmann).
Hygrograph.	
Theodolite and tripod.	
Airmeter.	
Cloud-height projector.	

General Surroundings and Site.—The station is situated on the southern side of the Royal Aircraft Establishment, the chief buildings of which lie in the sector between east-north-east and west-north-west of the station. Among these are airship sheds reaching to a height of 100 ft. On the further side of the main road (running north and south) and bounding the R.A.E. to the east, lies the town of Farnborough. Between south-east and west lies a nearly flat grass-covered area used as the aerodrome. Beyond that the country is undulating, with scattered woods. The soil is of a very light sandy nature, with a layer of black rust in the sub-soil which hinders drainage and causes the aerodrome to be water-logged during very wet weather.

Wind.—Wind direction is estimated from the anemometer vane, wind-sleeves, and from the smoke drift of the factory stacks. Wind force is estimated.

Temperature.—Temperature is read from a Stevenson screen, situated in an enclosure (30 ft. by 20 ft.), which is located about 10 yards in a direction south-west from the office. The thermometer bulbs are at a height of 4 ft. (maximum thermometer, 4 ft. 10 in.) above the ground. The exposure of this enclosure is fairly good, being free from obstruction from east-north-east through south to west-north-west. Readings have been taken from this site since May 20, 1937; prior to that date from a site 230 yards in a direction east-north-east of the existing site.

Visibility.—NE. and ENE. winds, bringing atmospheric impurities from the London area, lower the visibility. The nature of the soil and the position of the station in a large basin make it liable to ground mists and radiation fogs. The objects used in estimating the visibility are:—

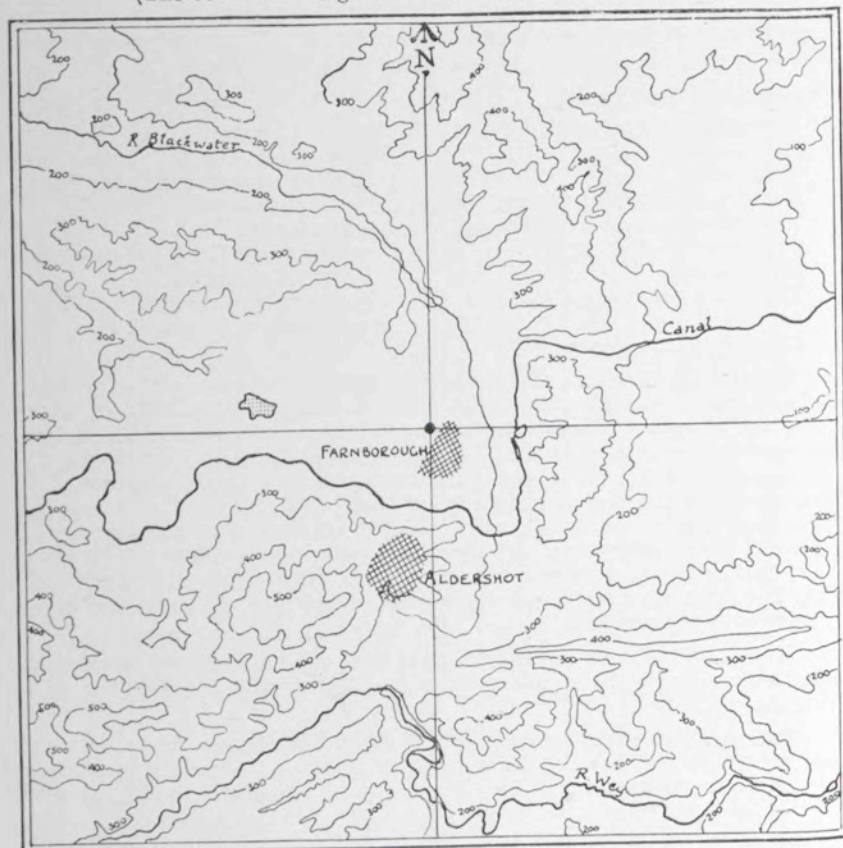
Object	Distance	Bearing	Nature of object
A	27 yards	67°	Building (near corner)
B	55 "	79°	Building (further corner)
C	115 "	281°	Building
D	225 "	270°	Building
E	560 "	180°	Range
F	980 "	247°	Building
G	2,000 "	236°	Trees
H	2 1/2 miles	203°	Church
I	4 1/2 "	225°	Hill
J	6 "	380°	Hill
K	—	—	—
L	—	—	—
M	—	—	—

Rainfall.—The exposure of the rain-gauge is satisfactory.

June, 1937.

FARNBOROUGH

(The contours are given in feet above mean sea level)



Scale 1 0 1 2 3 Miles

Farnborough

T
↓
R
↓



T →
R →

Looking S.S.W.

(June, 1937)

MANSTON (KENT, ENGLAND)

Latitude 51° 21' N., Longitude 1° 22' E. Height above M.S.L. of ground on which the rain-gauge stands, 142 ft.

Instrumental Equipment.

Barometer (Kew pattern).	Stevenson screen.
Barograph.	Thermometers—dry bulb, wet bulb, maximum, minimum, grass minimum.
Rain-gauge 8-inch.	Thermograph.
Recording rain-gauge (natural syphon).	Anemometer (cup).
Nephoscope (Besson).	Cloud searchlight.
Sunshine recorder.	Pilot balloon equipment.
Hygograph.	

General Surroundings and Site.—The station is situated on the north-west side of Manston aerodrome, about $2\frac{3}{4}$ miles south of Margate and 3 miles west of Ramsgate. It lies near the centre of the Isle of Thanet with the sea to the north and east, and the river Stour to the south and west. The aerodrome is between 140 and 150 ft. above mean sea level, and covers approximately 455 acres, consisting of open grass land which forms a shallow basin, sloping down from the south towards the north-west. The soil is a heavy loam (varying in depth from 6 in. to 4 ft.) overlying chalk many hundreds of feet deep.

Wind.—Direction is estimated. The force is obtained by means of a cup anemometer mounted on a 25 ft. pole. Buildings to the west and north-west cause some obstruction.

Temperature.—The screen is placed too far from any buildings for the temperature to be materially affected. The position is considered to give readings representative of the interior of the Isle of Thanet. The station is near enough to the sea for both maxima and minima to be affected, more especially with winds blowing from the sea.

Visibility.—Owing to buildings and the surrounding higher ground no visibility objects beyond $4\frac{1}{4}$ miles are available and visibilities of J and beyond have to be estimated. The objects used to estimate visibility are :—

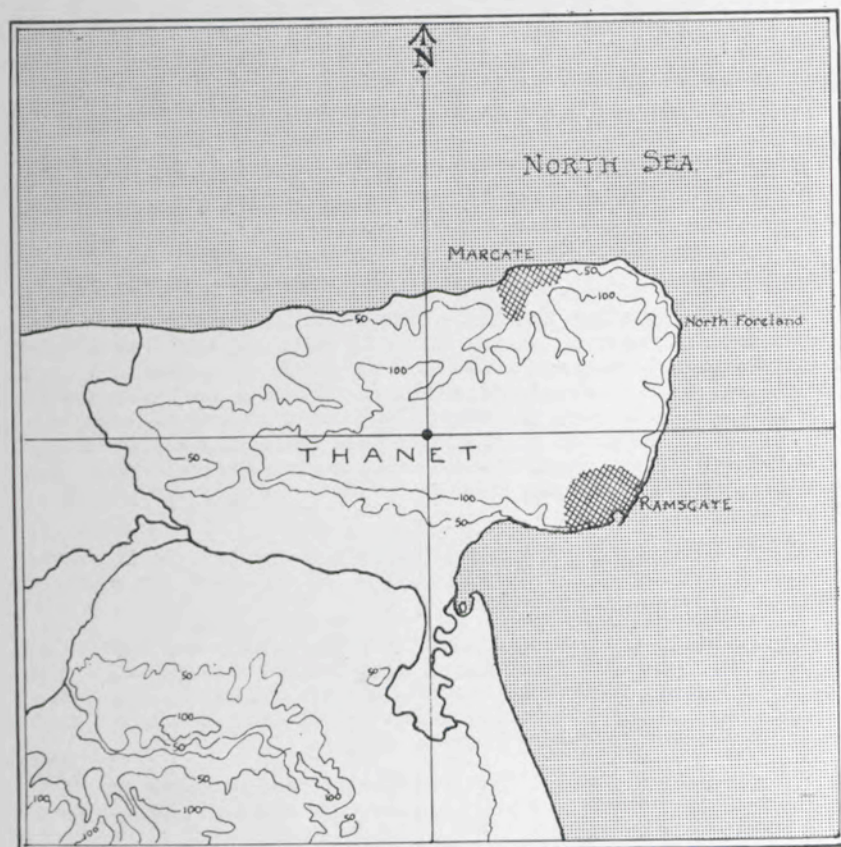
Object	Distance	Bearing	Nature of object
A	27 yards	80°	Door
B	55 "	25°	Hut
C	110 "	115°	Door
D	220 "	230°	Cottage
E	550 "	220°	Wind Indicator
F	1,100 "	110°	Trees
G	1 $\frac{1}{4}$ miles	220°	Chimney stack
H	2 $\frac{1}{4}$ "	270°	Pylon
I	4 $\frac{1}{4}$ "	270°	Trees

Rainfall—The exposure of the rain-gauge is satisfactory.

February, 1937.

MANSTON

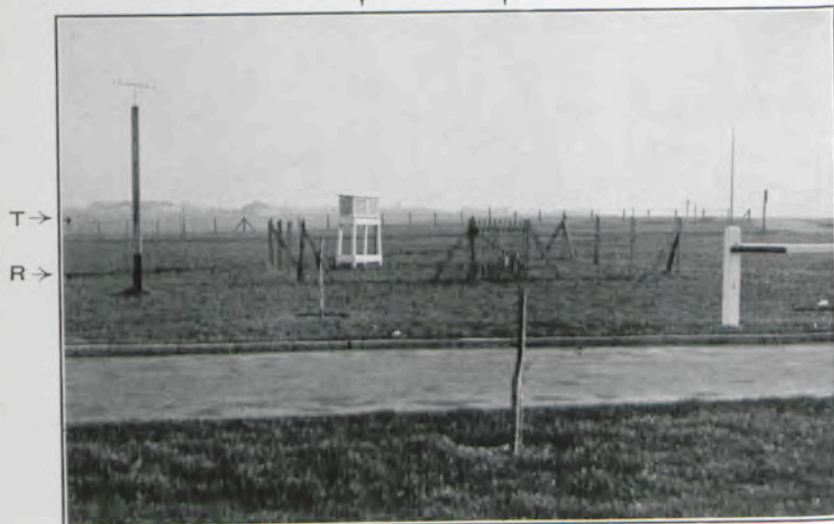
(The contours are given in feet above mean sea level)



Scale 0 1 2 3 Miles

Manston

T ↓
R ↓



Looking N.E.

(February, 1937)

STORNOWAY (HEBRIDES)

Latitude 58° 11' N., Longitude 6° 21' W. Height above M.S.L. of ground on which the rain-gauge stands, 80 ft. Height of anemometer vane above ground, 40 ft.

Instrumental Equipment.

Barometer.
Barograph.
Rain-gauge, 8-inch.
Sunshine recorder.

Stevenson screen.
Thermometers—dry bulb, wet,
bulb, maximum, minimum.
Anemometer—Dines pressure-
tube.

General Surroundings.—Until January 1933 the station was near to the main coastguard headquarters Stornoway. The new station lies at the highest point of a little hill on a promontory directed southward from a low peninsula projecting eastward from the main island of Lewis. The land slopes fairly quickly ($\frac{1}{4}$ to $\frac{1}{2}$ mile) down to the shore on all sides except from north-north-west to north-east and in this part the highest ground rises little more than 25 ft. higher than the station. To south and east the sea is open for 25 miles, to the west and north-west beyond the bay forming Stornoway Harbour is Lewis Island which rises to 300 ft. or more within a short distance of the eastern shore facing Stornoway, but does not exceed 2,000 ft. throughout its breadth.

Site.—The instruments are within a fenced enclosure surrounding the coastguard look-out hut at Holm Point. The ground which is turf covered is a mixture of peaty soil and stones and is apt to be boggy. Owing to the rapid slope away of the ground to the shore everywhere except to the north and north-east the station is very open and windswept: for rainfall it is probably over-exposed, though the gauge now in the north-west corner of the enclosure is protected to south and east by the anemometer hut and coastguard look-out hut and lies where the ground is most level for the greatest distance outside the enclosure.

Wind.—Winds are measured both for direction and force from the pressure tube anemometer. Owing to its site on the eastern side of an island which is 40 miles broad and rises to 1,500–2,000 ft., the situation is partly protected from south-westerly winds.

Temperature.—The protection effect of the island partly upsets the purely maritime situation.

Visibility.—The objects used in estimating visibility are:—

Object	Distance	Bearing	Nature of object
A	22 yards	360°	Post
B	50 "	22°	Post
C	100 "	45°	Post
D	220 "	315°	Hill
E	600 "	180°	Beacon
F	1,000 "	67°	Building
G	1.5 miles	100°	Headland
H	2.5 "	203°	Island
I	4.0 "	315°	Building
J	5.0 "	90°	Hill
K	6.5 "	180°	Loch
L	12.5 "	190°	Island
M	20.0 "	35°	Headland
	32 to 35 "	180°	Island
		135°	Mainland

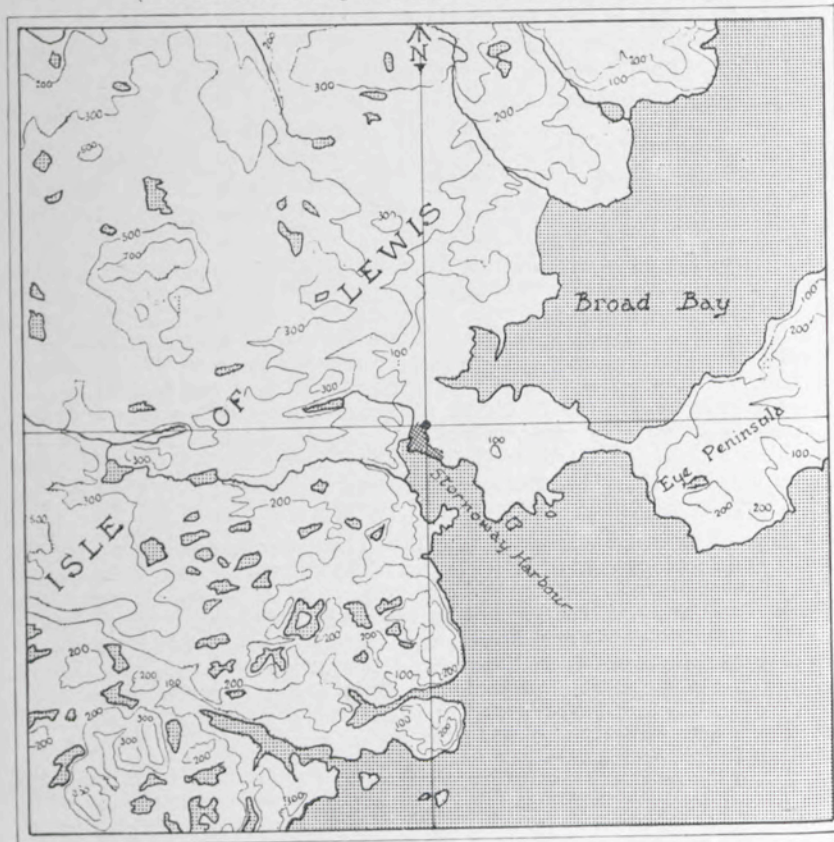
Sea Disturbance.—Can be satisfactorily estimated particularly in winds from S. and E.

Rainfall.—To reduce over-exposure the site of the rain-gauge has been changed. A protective wall of turf is built round the gauge. The photograph of the station was taken before the wall was erected.

May, 1936.

STORNOWAY

(The contours are given in feet above mean sea level.)



Scale 0 1 2 3 Miles

Stornoway

The site of a former station is shown in the centre of the map. The site of the new station is not shown, but it can be determined by following the two arrows to the point of their intersection.



Looking E.

T ↑
R ↑

(May, 1936)

MALTA

Latitude $35^{\circ} 54' N.$, Longitude $14^{\circ} 31' E.$ Height above M.S.L. of ground on which the rain-gauge stands, 230 ft. Height of anemometer vane above ground, 111 ft.; above roof, 49 ft.

Instrumental Equipment.

Barometer.	Stevenson screen.
Barograph.	Thermometers—dry bulb, wet bulb, maximum and minimum.
Rain-gauge, 8-inch.	Thermograph.
Recording rain-gauge (natural syphon).	Anemometer—pressure tube (direction and velocity).
Nephoscope (Besson).	Theodolite and pilot balloon equipment.
Sunshine recorder.	
Hydrograph.	

General Surroundings and Site.—The station is situated on the flat roof of St. John's Cavalier, the northern of two forts protecting the western entrance to the city of Valletta. It overlooks Valletta and the sea to the north round by east to east-south-east. About one mile to the south is the rising ground of Corradino Heights. To the south-west and west are Pieta and Misida Creeks with gently rising ground beyond, terminating in a line of hills, 700-800 ft. high, about 6 miles from the station. To the west and north-west lie Lazaretto and Sliema Creeks, beyond which rise Naxxar Heights, 2-3 miles away, and 400-500 ft. high.

Wind.—Winds are measured, both for direction and force, by a pressure tube anemometer. Winds from between east and south-south-east show abnormal gustiness owing to buildings in the immediate vicinity. Otherwise the exposure is good.

Temperature.—Temperature is read from thermometers in a large Stevenson screen on the roof. The bulbs are approximately 4 ft. above the roof.

Visibility.—No landward visibility objects are available beyond $6\frac{1}{2}$ miles. The sea horizon can be viewed between north-north-west and east-south-east. Visibility is usually very good and fogs are rare. Mist sometimes forms in the valleys in the early morning but disperses quickly after sunrise. The objects used in estimating visibility are :—

Object	Distance	Bearing	Nature of object
A	29 yards	345°	Shaft
B	53 "	165°	Corner of building
C	120 "	15°	Flag staff
D	220 "	148°	Shaft
E	500 "	34°	Spire
	550 "	72°	Building
F	1,170 "	24°	Lighthouse
	1,170 "	203°	Church
G	1.2 miles	311°	Building
	1.2 "	99°	W/T masts
H	2.5 "	272°	Church
	2.5 "	317°	Building
I	4.1 "	244°	Church
	4.7 "	280°	Church
J	6.2 "	246°	Building
K	—	—	—
L	—	—	—
M	—	—	—

Rainfall.—The exposure of the standard rain-gauge is good in all directions.

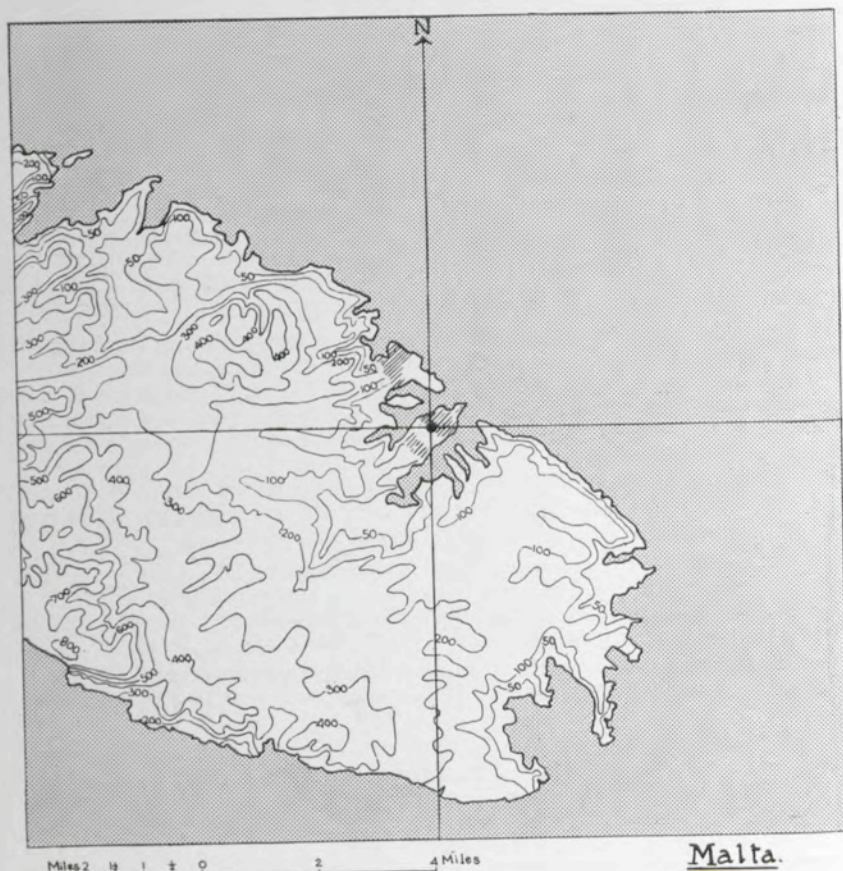
Sunshine.—The recorder is mounted on a stone pillar on the roof and has a free exposure.

Sea Disturbance.—The state of sea to the north-east of the station can be estimated during daylight hours.

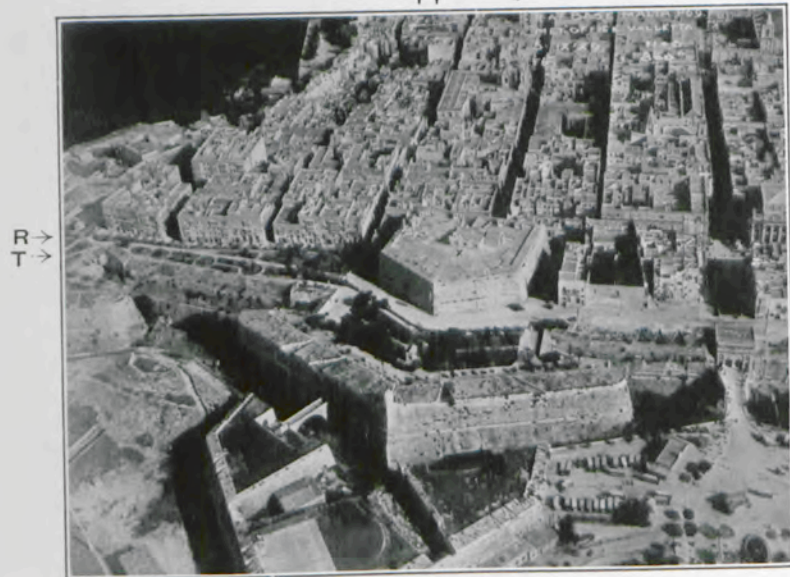
February, 1937.

MALTA

(The contours are given in feet above mean sea level)



TR
↓ ↓



Looking N.E.

(December, 1929)

DHIBBAN

Latitude 33° 22' N., Longitude 43° 34' E. Height above M.S.L. of ground on which the rain-gauge stands, 143 ft. Height of barometer cistern above M.S.L., 147 ft.

Instrumental Equipment.

Barometer.	Stevenson screen.
Barograph.	Thermometers—dry bulb, wet bulb, maximum and minimum.
Rain-gauge, 8-inch.	Thermograph.
Nephoscope (Besson).	Anemometer—cup, electric.
Hygograph.	Pilot balloon equipment.
Hyetograph.	

General Surroundings and Site.—The Meteorological Office at Dhibban is on the north-eastern edge of the aerodrome, and about $\frac{3}{4}$ miles south of Euphrates, with Habaniyah Lake 3 miles to the south. The aerodrome and station are on an alluvial plain; and apart from a flat-topped limestone, basalt and micanite ridge 150 ft. high, which runs east-west about $1\frac{1}{2}$ miles to the south of the Office, the surrounding country is flat and open, and devoid of vegetation except in the immediate vicinity of the river.

Winds.—Direction is estimated from wind sleeves on neighbouring hangars: speeds are determined by an electric cup anemometer. The exposure is open in the two southern quadrants but hangars to north-west and north-east and station buildings to north generally, obstruct a true air flow in these directions.

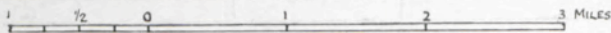
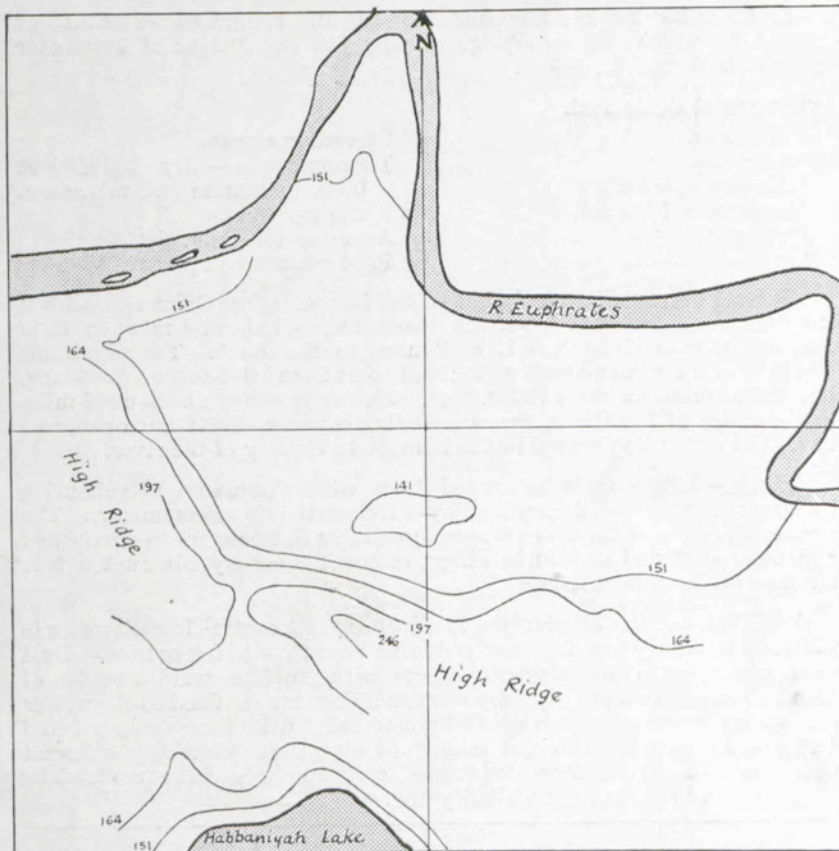
Visibility.—As at all stations in southern and central Iraq decrease in visibility is much more frequently due to dust than to fog or mist. Dust rises generally in the daylight hours with surface wind speeds of about 20 m.p.h. or more after dry weather. Fogs are confined to the winter and spring months and are generally associated with the passage of cold fronts after rain or with the mixing of air masses of widely different characteristics. Radiation fogs are comparatively infrequent. The objects used in estimating visibility are:—

Object	Distance	Bearing	Nature of object
A	27 yards	90°	Corner of building
B	56 "	150°	Near end of gate
C	113 "	337°	Building
D	220 "	55°	Building
E	550 "	30°	Building
F	1,067 "	88°	Water tower
G	$1\frac{1}{4}$ miles	135°	Most easterly visible point of plateau
H	$2\frac{3}{4}$ "	290°	Building
I	4 "	302°	Trees on horizon
J	—	—	—
K	—	—	—
L	—	—	—
M	—	—	—

February, 1937.

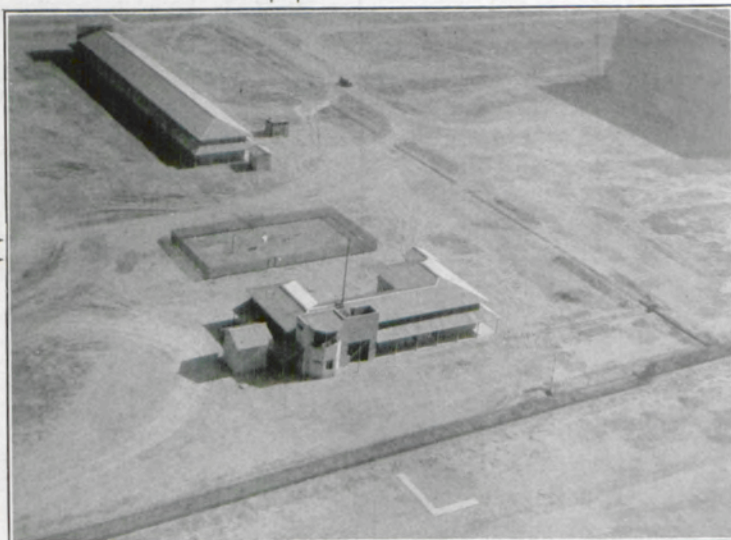
DHIBBAN

(The contours are given feet above mean sea level).



DHIBBAN

T R
↓ ↓



T →
R →

Looking E.N.E.

(February, 1937)