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INDIA METEOROLOGICAL DEPARTMENT

**Meteorological Organisation in India
for the Supply of Weather
Information to Aviators**



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CALCUTTA : GOVERNMENT OF INDIA
CENTRAL PUBLICATION BRANCH : 1932

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Meteorological Organisation in India for the Supply of Weather Information to Aviators.

1. Forecasting centres and their areas of responsibility.

The Meteorological Department of the Government of India is responsible for the supply of weather reports and forecasts to aviators in the region extending from Bushire on the Persian Gulf to Victoria Point in Tenasserim which thus includes the whole of the Persian Gulf Coast, Baluchistan, India and Burma. This pamphlet describes in outline the existing meteorological organisation for the supply of these reports and forecasts.

There are three forecasting centres primarily organised for issuing weather reports and forecasts to civil aviators: Karachi, Calcutta and Poona. There are forecasting centres also at Peshawar and Quetta which supply meteorological information mainly to the R. A. F. flying in Baluchistan, Sind, the Punjab and the N.-W. F. Province. The respective areas of responsibility of the various forecasting centres are given in *Table I*.

For facility of reference the areas of responsibility of the first three forecasting centres are also shown in the attached Map. *Table II* gives the *auxiliary centres* and the general nature of their duties. A 'Professional or a Meteorological Assistant' is stationed at each auxiliary centre.

TABLE I.

Forecasting Centre.	Area of responsibility.
1. Karachi . . .	Persian Gulf Coast, South and Central Baluchistan, Sind, Rajputana, the Punjab and the West United Provinces. (See Map.)
2. Calcutta . . .	The East United Provinces, Bihar and Orissa, Bengal, Assam, Burma and the Bay Islands. (See Map.)
3. Poona . . .	The Bombay and Madras Presidencies, Central India, the Central Provinces, the Nizam's Dominions and Mysore. (See Map.)
4. Peshawar . . .	The Punjab, Waziristan and the N.-W. F. Province. (See section 10.)
5. Quetta . . .	Baluchistan and Sind. (See section 11.)

TABLE II.

Auxiliary Centre.	General nature of duties.
1. Rangoon* . . .	The Professional or the Meteorological Assistant receives copies of weather reports from the forecasting centres for transmission to pilots and is authorised to add to it his conclusions about <i>local</i> weather situation. Latest information available regarding the local surface conditions and upper winds can also be obtained from him.
2. Akyab* . . .	
3. Dum Dum* . . .	
4. Allahabad* . . .	
5. Jodhpur* . . .	

*At present there are surface and pilot balloon observatories at Rangoon, Akyab, Dum Dum and Allahabad and a surface observatory only at Jodhpur; Government sanction for Professional or Meteorological Assistants for the stations has been asked for and is likely to be received in the near future.

2. Method of obtaining weather report and forecast from a forecasting centre.

When an aviator wishes to obtain a weather forecast for a flight, he should send a request to the Meteorologist-in-charge of the nearest forecasting centre so as to reach him at least 18 hours before the commencement of the flight. Detailed information regarding address, hours of business, etc., of the forecasting centres are given in sections 7 to 11. The request for forecast should state clearly :—

- (a) The date, time, place of commencement and destination of intended flight ;
- (b) Route by which the aviator intends to fly, with information regarding landing at intermediate points, if any, along the route ; and
- (c) The address to which the forecast should be sent and the time by which it should reach the flier.

When the place of starting is a station which has a forecasting centre, it is advisable for the flier to obtain the forecast in person from the Meteorological Office, where he will also have facilities for consulting the weather chart and discussing the weather situation.

A typical requisition telegram for a forecast will run as follows :—

Example.—"Request weather forecast for flight Akyab Rangoon commencing 7 hrs. fourteenth April morning stop wire Smith care Collector Akyab to reach by 22 hrs. thirteenth."

It may sometimes happen that the route expected to be covered on a flying day lies over the areas of responsibility of two or more forecasting centres. In such a case, a requisition giving the details enumerated in clauses (a), (b) and (c) above should be sent to *each* forecasting centre for the different portions of the route served by each of the centres.

3. Nature of weather information supplied to fliers from forecasting centres. X

The weather information supplied from a forecasting centre can be divided under four heads :—

- (a) *Weather report and forecast.*—Obtainable personally or by telegram ;
- (b) *The latest available information regarding local surface conditions and upper winds.*—This can be supplied on request to aviators starting from the station before the machine takes off ;
- (c) *Any available information about sudden changes in weather situation after the machine takes off.*—These will be communicated in code* to pilots in air by W/T as soon as received ; and
- (d) *Available pilot balloon data and weather conditions at the intermediate and final aerodromes.*—These will be communicated in code* to pilots in air by W/T as soon as received if not available before the machine takes off and the actual data either differ materially from the forecast supplied in (a) or are more informative.

Arrangements for the supply by W/T of coded local surface weather information some time before the expected time of landing will be made at the stations Karachi, Allahabad, Calcutta, Rangoon, Peshawar and Quetta if the time of arrival of the machine is known.

*See section 5.

4. Specifications of weather report and forecast.

The weather report will contain information about :—

- (a) *Past weather* : an indication of rain, snow or hail already fallen along the route ; and
- (b) *Present weather* : a brief statement of the general weather situation when it is disturbed, or when a depression or storm is affecting or likely to affect the route.

The forecast will contain :—

- (a) *Expected special weather phenomena* such as dust-storm, thunder-storm, squalls, rain, hail, fog, dust-haze, etc., with intensity whenever possible ;
- (b) *Amount of low cloud (base below 3 kms.)* in such terms as the following :—

Partially clouded	1—5 tenths.
Mostly clouded	6—9 „
Overcast	10 „

- (c) *Ground winds at landing grounds*, when necessary, in eight directions of the compass and in terms such as light (0-7 m.p.h.), moderate (8-21 m.p.h.), strong (22-33 m.p.h.) and gale (over 33 m.p.h.). Information regarding the gustiness of the ground wind will be given if available ;
- (d) *Upper winds up to 3 kms. or 10,000 feet.*—The direction will be given in eight points of the compass and the strength will be specified as light (0-7 m.p.h.), moderate (8-21 m.p.h.), strong (22-33 m.p.h.) and gale (over 33 m.p.h.). When the wind is or is expected to be very weak and the direction changeable, the fact will be indicated by the word "*variable*" ; and
- (e) *Visibility* in words such as good (7-9 of the visibility code), fair^{or moderate} (5-6), poor (4) and bad (less than 4).

The forecast that is supplied is intended to indicate the expected weather along the route if the flight proceeds according to schedule. If, for any reason, the flight is delayed by some hours, it is advisable to obtain a fresh forecast based on the latest information from the nearest forecasting centre. When the weather is disturbed, this is of course especially necessary.

5. Codes for transmission of reports to machines in flight.

(a) *Aviation Weather Code for reporting Surface Observations.*

Surface observations from the intermediate or final aerodromes along the route are reported in the 'Aviation Weather Code' or the 'New International Code (1929)'. The report consists of two groups of five figures each, viz.—

ww VC_LN_L DDFWN.

These are the second and third groups respectively of the code for surface observations of the 'Indian Broadcast Code' as well as of the second form of the 'New International Code (1929)' for reports from land stations. These

groups are preceded by the name of the station and the time of observations (whenever considered necessary) in plain language.

For example, a typical message will be

"Jodhpur 14 hrs. 32713 14475"

(b) *Upper Air Report Code for reporting upper wind data.*

The upper wind data will be supplied or broadcast in the Upper Air Reports Code form (b) of the 'Indian Broadcast Code'. The message will be preceded by the word "pilot" and by the name of the station to which the wind data relate, thus :—

Pilot (name of station)	s	s	h_L	V	X
	h_i	h_i	h_f	h_f	X
	d	d	v	v	X

	d	d	v	v	X
	8	d_L	C_L	N_L	X

On occasions when surface observations and upper wind data are given together in the same message, it will take the form—

Jodhpur 14 hrs.	ww $VC_L N_L$
	DDFWN
pilot	ssh $L VX$
	8 $d_L C_L N_L X$

The meanings of the symbols and full specifications of the two codes mentioned in (a) and (b) above are given in the departmental pamphlet 'Handbook of Codes', relevant portions of which are reproduced in the Appendix. Indian Standard Time (I. S. T.) is used in these messages.

6. Meteorological information available to aviators at Pilot Balloon stations.

At aerodromes and landing grounds where there are pilot balloon stations, the pilot balloon observers are authorised to supply on request to aviators leaving the station or their agents the latest available information regarding the local upper winds in code during specified office hours.

7. Meteorological Office, Karachi.

- A. (1) Region of responsibility . The area comprises roughly the Persian Gulf Coast, south and central Baluchistan, Sind, Rajputana, the Punjab and the West United Provinces. Bushire-Jask-Karachi, Bushire-Bahrein-Muscat-Gwador-Karachi-Delhi-Alahabad and Jodhpur-Jhansi-Allahabad air routes lie in this region. (See Map.)
- (2) Officer-in-charge . Meteorologist, Karachi.

- (3) Other forecasting officers . . . Two Assistant Meteorologists.
 (4) Postal address . . . Meteorological Office, 8/3, Civil Lines,
 Victoria Road, Karachi.
 (5) Telegraphic address . . . Meteorologist, Karachi.
 (6) Telephone number . . . 1024, Karachi.
 22, Drigh Road.
- B. Office hours, *i.e.*, hours during which information for aviation can be obtained. *Week days.* 08.30 to 17.00 I. S. T. and 20.00 to 22.00 I. S. T.
Sundays & Holidays. 10.00 to 13.00 I. S. T. and 20.00 to 22.00 I. S. T.
- C. Time or times of observations on which routine aviation weather reports and forecasts are based. 0800 (local time) and 17.00 I. S. T. for observatories in India ; 0400 and 14.00 G. M. T. for observatories in Persia and Arabia. (Synoptic charts based on these observations are prepared twice daily.)
- D. (1) Time or times of issue of routine aviation weather reports or forecasts. *Nil.*

There is no arrangement at present to broadcast regularly synoptic weather information to aviators from this centre. The meteorologist, however, can arrange to supply weather reports to aircraft by W/T on request.

Weather reports for ships in the Arabian Sea, issued from the Meteorological Office, Poona, are also broadcast* daily from Karachi radio station (call-sign VWK) at 1400 and 2200 hours I. S. T. on 1550 m wave-length.

- (2) Time or times of issue of special aviation weather reports and forecasts. At any time during working hours, on 18 hours' notice being given.
- (3) Name, call-sign and wave-length of broadcasting station. Karachi radio ; VWK ; communication with aircraft on 900 m and with aeronautical stations on 900 m, 21.786 m and 43.573 m.

There is also a direction finding station at Malir, about 3 miles from the aerodrome, call-sign VWK, wave-length 600 m.

E. Aerodromes at which meteorological information can be obtained :—

(a) *Aerodromes with Meteorologists.*

- Name of aerodrome . . . Civil aerodrome, Airship Base, Drigh Road.
 Meteorological Officer . . . Meteorologist, Meteorological Office Karachi.

Distance of aerodrome from the surface and upper air observatories. *Nil.*

N.B.—The observatory at the aerodrome is controlled by the forecasting office temporarily located at 8/3, Civil Lines, Victoria Road, Karachi, about 11 miles from the aerodrome ; supply of weather reports through the observatory is made by telephone.

*For other times of broadcast in disturbed weather see Table A, Indian Ships' Weather Code.

(b) *Auxiliary centres, i.e., aerodromes with Professional or Meteorological Assistants.*—None at present.

(c) *Aerodromes with meteorological and upper air observers only.*

(1) Name of aerodrome . . . Civil aerodrome, Bushire.

N.B.—This station is at present with a part-time meteorological observer only.

Postal address of observer . . . Meteorological Observer, C/o Registrar,
British Residency, Bushire.

Telegraphic address . . . Weather, Bushire.

Telephone number . . . *Nil.*

Distance of aerodrome from surface observatory. 4 miles.

Hours of attendance of observer for supply of meteorological information. 04:00 to 04:30 and 14:00 to 14:30 G. M. T.

Centre from which observer receives routine aviation weather reports and forecasts. *Nil.*

Reports can be sent or received by W/T from Bushire radio, call-sign RVH, wave-length 900 m.

There is also a W/T station belonging to the Cable Company (Imperial and International Communications, Ltd.), call-sign VTF and wave-length 600 m and 1200 m.

(2) Name of aerodrome . . . Civil aerodrome, Jodhpur.

N.B.—This aerodrome is at present with a part-time meteorological observer only. Government sanction has been asked for a Meteorological Assistant for this station. The pilot balloon station now at Ajmer may also be shifted to this place. The station will thus become an Auxiliary Centre in the near future and receive copies of weather reports and forecasts from Meteorological offices at Karachi and Calcutta for transmission to pilots.

Postal address of observer . . . Meteorological Observer, C/o Director
of Education, Raj Marwar, Jodhpur.

Telegraphic address . . . Weather, Jodhpur.

Telephone number . . . *Nil.*

Distance of aerodrome from surface observatory. 3 miles.

Hours of attendance of observer for supply of meteorological information. 08:30 to 09:00 and 17:00 to 17:30 I. S. T.

Centre from which observer receives routine aviation weather reports and forecasts. *Nil.*

Reports can be sent or received by W/T from Jodhpur radio, call-sign VWI, wave-length 900 m ; D. F. installation is included.

(3) Name of aerodrome . . . Civil aerodrome, New Delhi.

N.B.—This aerodrome is at present with a part-time meteorological observer only.

Postal address of observer . . . Meteorological Observer, C/o Civil Surgeon and Superintendent, Meteorological Observatory, Combined Hospital, New Delhi.

Telegraphic address . . . Weather, New Delhi.

Telephone number . . . 2052.

Distance of aerodrome from surface observatory. 3 miles.

Hours of attendance of observer for supply of meteorological information. 08.30 to 09.00 and 17.00 to 17.30 I. S. T.

Centre from which observer receives routine aviation weather reports and forecasts. *Nil.*

Reports can be sent or received by W/T from Delhi radio, call-sign VWD, wave-length 900 m ; there is also a direction finding installation at the aerodrome.

(4) Name of aerodrome . . . Aerodrome, Lahore Cantonment.

Postal address . . . Chief Observer, Meteorological Observatory, Jail Road, Lahore.

Telegraphic address . . . Weather, Lahore.

Telephone number . . . 2640.

Distance of aerodrome from the surface and upper air observatories. 4 miles.

Hours of attendance of observer for supply of meteorological information. 07.00 to 12.00 and 15.00 to 18.00 I. S. T.

Centre from which observer receives routine aviation weather reports and forecasts. *Nil.*

Reports can be sent or received by W/T from the Lahore radio, call-sign VWL ; wave-length 900 m, 2800 m and 2900 m ; aeronautical service on 900 m.

F. Pilot balloon stations in the region taking observations of upper winds by pilot balloons and of clouds by nephoscope :—

Station.	Address.	Office hours, I. S. T
(1) Bahrein .	Observer-in-charge, Upper Air Observatory, Bahrein (Persian Gulf).	09.08—11.08, 16.38—20.38
(2) Muscat .	Observer-in-charge, Upper Air Observatory, Muscat (Persian Gulf).	08.36—10.36, 16.06—20.06
(3) Gwador .	Observer-in-charge, Upper Air Observatory, Gwador (Persian Gulf).	08.21—10.21, 15.51—19.51

Station.	Address.	Office hours, I. S. T.
		<i>Week days.</i>
(4) Drigh Road	Meteorologist, Airship Base Observatory, Drigh Road (Karachi).	07·00—17·00, 20·00—22·00
		<i>Sundays and Holidays.</i>
		07·00—13·00, 20·00—22·00
(5) Ajmer	Observer-in-charge, Upper Air Observatory, near District Magistrate's Court, Ajmer. (This station will be shifted to Jodhpur.)	07·00—09·00, 14·00—18·00
(6) Lahore	Chief Observer, Meteorological Observatory, Jail Road, Lahore.	07·00—12·00, 15·00—18·00
(7) Agra	Meteorologist-in-charge, Upper Air Observatory, Agra.	07·00—09·00, 10·00—16·30

N.B.—For meteorological information available at pilot balloon stations, see section 6.

8. Meteorological Office, Calcutta.

- A. (1) Region of responsibility . The area comprises roughly the East United Provinces, Bihar and Orissa, Bengal, Assam, Burma and the Bay Islands. Allahabad-Calcutta, Jhansi-Allahabad and Calcutta-Rangoon-Victoria Point air routes lie in this region. (See Map.)
- (2) Officer-in-charge . Meteorologist, Meteorological Office, Alipore, Calcutta.
- (3) Other forecasting officers . Three Assistant Meteorologists.
- (4) Postal address . Meteorological Office, Alipore, Calcutta.
- (5) Telegraphic address . Weather, Calcutta.
- (6) Telephone number . Office, Regent 410 ; Residence, Regent 584, Calcutta.
- B. Office hours, *i.e.*, hours during which information for aviation can be obtained. *Week days—*
Mondays to 09·00—16·00 I. S. T.
Fridays. 18·00—20·00 I. S. T.
Saturdays 09·00—13·00 I. S. T.
18·00—20·00 I. S. T.
Sundays & 09·00—12·00 I. S. T.
Holidays. 18·00—20·00 I. S. T.
(Regent 410 may be telephoned to at any time between 08·00 and 20·00 hrs.)
- C. Time or times of observations on which routine aviation weather reports and forecasts are based. 08·00 local time and 17·00 I. S. T. (Synoptic charts based on these observations are prepared twice daily.)
- D. (1) Time or times issue of routine aviation weather reports and forecasts. *Nil.*

There is no arrangement at present to broadcast regularly synoptic weather information to aviators from this centre. The meteorologist, however, can arrange to supply weather reports to aircraft by W/T on request.

Weather reports for ships in the Bay of Bengal are issued daily from this office and broadcast from the following radio stations :—

Radio station.	Call-sign.	Wave-length.	Times* of broadcasts (I. S. T.).
Calcutta	VWC	2000 m	1400, 2200
Rangoon	VTR	1200 m	1430, 2230
Madras	VWM	1000 m	1430, 2230
Matara	GZP	2000 m	1518, 2318

(2) Time or times of issue of special aviation weather reports and forecasts. At any time during working hours, 18 hours' notice being given.

(3) Name, call-sign and wave-length of broadcasting station. Calcutta radio, VWC, 900 m, 2000 m and 600 m.; also VVC (short-wave station), wave-length 30·801 m, 36·944 m, 23·041 m, 32·573 m and 36·562 m.

Direction finding station is under construction at Tollyganj, Calcutta.

E. Aerodromes at which meteorological information can be obtained.

(a) *Aerodromes with Meteorologists.*

Name of aerodrome	Aerodrome, Dum Dum.
Meteorological Officer	Meteorologist, Alipore, Calcutta.

N.B.—A Professional or Meteorological Assistant will be permanently stationed at Dum Dum, where the upper air observatory now at Calcutta will also be shifted, the station, thereby, becoming an *Auxiliary Centre*.

There is no wireless station at the aerodrome itself at present, but reports can be sent or received by W/T from Calcutta Radio ; call-sign VWC ; wave-length 600 m, 900 m and 2000 m ; also VVC (short-wave station), wave-length 30·801 m, 36·944 m, 23·041 m, 32·573 and 36·562 m.

(b) *Auxiliary Centres, i.e., aerodromes with Professional or Meteorological Assistants.*

(1) Name of aerodrome	Civil aerodrome, Bamhrauli (Allahabad).
Postal address of Meteorological Assistant or Observer.	Meteorological Assistant or Observer-in-charge, Upper Air Observatory, near Commissioner's Office, Allahabad.
Telegraphic address	Weather, Allahabad.
Telephone number	426.
Distance of aerodrome from surface and upper air observatories.	11 miles.
Hours of attendance of Meteorological Assistant or Observer for the supply of meteorological information.	07·00 to 12·00 and 15·00 to 18·00 I. S. T.

*For other times of broadcast in disturbed weather, see table A, Indian Ships' Weather Code.

Centre from which the Meteorological Assistant receives routine aviation weather reports and forecasts. Meteorological Offices, Calcutta and Karachi.

Reports can be sent or received by W/T from Allahabad radio ; call-sign VWA ; wave-length 900 m ; D. F. installation under construction at Bamhrauli aerodrome.

N.B.—At present there are only pilot balloon and surface observatories at the station ; the Meteorological Assistant has not been appointed as yet.

(2) Name of aerodrome . . . Aerodrome, Akyab.

Postal address of the Meteorological Assistant or Observer. Meteorological Assistant or Observer-in-charge, Upper Air Observatory, Akyab.

Telegraphic address . . . Weather, Akyab.

Telephone number . . . Nil.

Distance of aerodrome from the surface and upper air observatories. Less than $\frac{1}{2}$ mile.

Hours of attendance of Meteorological Assistant or Observer for the supply of meteorological information. 07·00 to 09·00 and 14·00 to 18·00 B. S. T.

Centre from which Meteorological Assistant receives routine aviation weather reports and forecasts. Meteorological Office, Calcutta.

A W/T station (Akyab radio) for aviation traffic is under construction, call-sign VTA, wave-length 900 m ; D. F. installation will be included.

N.B.—At present there are only pilot balloon and surface observatories at the station ; the Meteorological Assistant has not been appointed as yet.

(3) Name of aerodrome . . . Civil aerodrome, Mingaladon, Rangoon.

Postal address* of the Meteorological Assistant or Observer. Meteorological Assistant or Observer-in-charge, Upper Air Observatory, Monkey Point, Rangoon.

Telegraphic address . . . Aero, Rangoon.

Telephone number . . . Nil.

Distance of aerodrome from the surface and upper air observatories. 14 miles.

Hours of attendance of Meteorological Assistant or Observer for the supply of meteorological information. 07·00—09·00, 14·00—18·00 B. S. T.

Centre from which the Meteorological Assistant receives routine aviation weather reports and forecasts. Meteorological Office, Calcutta.

N.B.—At present there are only pilot balloon and surface observatories at the station ; the Meteorological Assistant has not been appointed as yet.

*The observatory will be shifted to the Aerodrome, Mingaladon, in the near future

Reports can be sent or received by W/T from—

- (1) Rangoon radio, call-sign VTR, wave-length 600 m and 1200 m.
- (2) Rangoon City radio, call-sign VTO, wave-length 4000 m.
- (3) Rangoon (Mingaladon) radio, call-sign VVR, wave-length 32·573 m, 30·801 m, 36·944 m, 23·041 m and 36·652 m.

(c) *Aerodromes with meteorological and upper air observers only.*

Name of aerodrome . . . Civil aerodrome, Victoria Point.

N.B.—This station is at present with a part-time meteorological observer only.

Postal address of Observer . . . Meteorological Observer and Officer-in-charge, Wireless Station, Victoria Point.

Telegraphic address . . . Weather, Victoria Point.

Telephone number . . . Nil.

Distance of aerodrome from surface observatory. 7 miles.

Hours of attendance of Observer for supply of meteorological information. 07·55—08·30 B. S. T.

Centre from which Observer receives routine aviation weather reports and forecasts. Nil.

Reports can be sent or received by W/T from Victoria Point radio, call-sign VTV, wave-length 1200 m.

F. Pilot balloon stations in the region taking observations of upper winds by pilot balloons and of clouds by nephoscope.

Station.	Address.	Office hours, I. S. T.
(1) Akyab . . .	Observer-in-charge, Upper Air Observatory, C/o The Divisional Forest Officer, North Arakan Division, Akyab.	07·00—09·00, 14·00—18·00 B. S. T.
(2) Allahabad . . .	Observer-in-charge, Upper Air Observatory, near Commissioner's Office, Chatham Lines, Allahabad.	07·00—12·00, 15·00—18·00.
(3) Calcutta . . .	Meteorologist, Alipore, Calcutta	<i>Mondays to Fridays.</i> 07·00—16·00, 18·00—20·00. <i>Saturdays.</i> 07·00—13·00, 18·00—20·00. <i>Sundays and Holidays.</i> 07·00—12·00, 18·00—20·00.
(4) Chittagong . . .	Observer-in-charge, Upper Air Observatory, Chittagong.	07·00—09·00, 14·00—18·00.
(5) Dacca . . .	Observer-in-charge, Upper Air Observatory, Dacca University, P. O. Ramna, Dacca.	07·00—09·00, 14·00—18·00.

Station.	Address.	Office hours, I. S. T.
(6) Mandalay	Observer-in-charge, Upper Air Observatory, C/o The Principal, Agricultural College, Mandalay.	07·00—09·00, 14·00—18·00 B. S. T.
(7) Patna	Observer-in-charge, Upper Air Observatory, Physics Laboratory, Science College, P. O. Bankipore, Bihar. (This station will be shifted to Gaya.)	07·00—09·00, 14·00—18·00.
(8) Port Blair	Observer-in-charge, Upper Air Observatory, Sadipore, Port Blair (Andamans).	07·00—09·00, 14·00—18·00 B. S. T.
(9) Rangoon	Observer-in-charge, Upper Air Observatory, Monkey Point, Rangoon.	Ditto.
(10) Sambalpur	Observer-in-charge, Upper Air Observatory, Dafai Para, Sambalpur.	07·00—09·00, 14·00—18·00.
(11) Tezpur	Observer-in-charge, Upper Air Observatory, Old Polo Field, Tezpur.	Ditto.
(12) Sandoway.*		
(13) Sylhet.*		
(14) Tavoy.*		
(15) Victoria Point.*		

N.B.—For information available at pilot balloon stations, see section 6.

9. Meteorological Office, Poona.

- A. (1) Region of responsibility . . . The area comprises roughly the Bombay and the Madras Presidencies, Central India, the Central Provinces, the Nizam's Dominions and Mysore. (See Map.)
- (2) Officer-in-charge . . . Meteorologist, Weather Section, Poona.
- (3) Other forecasting officers . . . One Assistant Meteorologist.
- (4) Postal address . . . Meteorological Office, Ganeshkhind Road, Poona, 5.
- (5) Telegraphic address . . . Weather, Poona.
- (6) Telephone number . . . Office 681 ; Residence 690 ; Poona.
- B. Office hours, *i.e.*, hours during which information for aviation can be obtained. *Week days*—10·00 to 16·00 I. S. T.
Sundays—10·00 to 14·00 I. S. T. & *Holidays*.
- C. Time or times of observations on which routine aviation weather reports and forecasts are based. 08·00 local time.
(Synoptic charts based on these observations are prepared daily.)
- D. (1) Time or times of issue of routine aviation weather reports and forecasts. *Nil*.

There is no arrangement at present to broadcast synoptic weather information to aviators from this centre.

*Not started as yet.

Weather reports for ships in the Arabian Sea are issued daily from this office and broadcast from the following radio stations :—

Radio station.	Call-sign.	Wave-length.	Times* of broadcasts (I. S. T.).
Bombay	VWB	1000 m	1330, 2130
Karachi	VWK	1550 m	1400, 2200
Aden	GZQ	2000 m	1518, 2318
Matara	GZP	2000 m	1518, 2318

(2) Time or times of issue of special aviation weather reports and forecasts. At any time during working hours, on 18 hours' notice being given.

(3) Name,† call-sign and wave-length of the broadcasting station.

(1) Poona radio, VWU, 1100 m.

(2) Kirkee radio, VWZ, 16·286 m, 34·483 m for transmitting and 16·216 and 34·168 m for receiving.

E. Aerodromes at which meteorological information can be obtained :—

- (a) *Aerodromes with Meteorologists.*
 (b) *Aerodromes with Professional or Meteorological Assistants*
 (Auxiliary Centres).
- } None at present.

(c) *Aerodromes with surface and upper air observers only.*

- (1) Name of aerodrome . . . Civil aerodrome, Bombay.

N.B.—At present local surface weather information alone can be obtained from this observatory.

Postal address . . . Meteorologist, Observatory, Colaba, Bombay, 5.

Telegraphic address . . . Weather, Bombay.

Telephone number . . . Office 20245, Meteorologist 21178, Bombay.

Office hours, i.e., hours during which information for aviation can be obtained. 08·30—09·00 and 10·30—17·30 I. S. T.

Distance of aerodrome from the observatory. About 15 miles.

Reports can be sent or received by W/T from Bombay radio, call-sign VWB, wave-length 600 m and 2100 m; direction finding installation is included

- (2) Name of aerodrome . . . Civil aerodrome, Madras.

Postal address of Observer . Observer-in-charge, Meteorological Observatory, Cathedral Post, Madras.

Telegraphic address . . . Weather, Madras.

Telephone number . . . 3638.

Distance of aerodrome from the surface and upper air observatories. About 10 miles.

*For other times of broadcast in disturbed weather, see Table A, Indian Ships' Weather Code.

† These radio stations are not powerful enough at present to broadcast weather messages beyond a few miles from Poona.