Notes and News

WORLD METEOROLOGICAL ORGANISATION

The Executive Committee of the World Meteorological Organisation met at its Fifth Session in Geneva from 25 August to 11 September 1954. Sri S. Basu, Director General of Observatories attended the Session in his capacity as a Member as President of the Regional Association II (Asia) of WMO. The agenda for the meeting comprised of many items relating to the administration and organisation of the WMO as well as items concerning the programme of technical and scientific work in the next financial period of four years from 1956. The Executive Committee also reviewed the work of the Organisation during 1951-55 and allocated the priorities to the projects and undertakings already under way or to be taken up by the Secretariat and the Technical Commissions.

Some of the subjects of general interest, which were discussed and on which appropriate resolutions or recommendations were adopted are given below:

(1) Approval of the working arrangement between WMO and UNESCO negotiated with the latter body;

(2) Recommendation to the Second WMO Congress for the inclusion of a separate appropriation for Public Information Service of WMO;

(3) Approval of the broad lines of the meteorological programme for the third International Geophysical Year, and the re-establishment of the Working Group for IGY consisting of Professor J. Van Mieghem, Professor C. E. Palmer and Dr. T. E. W. Schumann;

(4) Decision to prepare (a) a Technical Note giving information about equipment suitable for ground radar weather observations and (b) a report on the interpretation of weather echoes on various standard types of ground radar display and on the use of ground radar weather observations;

(5) Consideration of problems connected with forecasting for high level flights of aircraft;

(6) Consideration of conducting trials for reporting Visibility Index, as against the present method of reporting the visibility in meteorological reports;

(7) Decision to invite Members to establish national co-ordinating committees composed of representatives of meteorological, agricultural, animal husbandry, forestry, hydrological and soil science agencies, or alternatively, to establish satisfactory liaisons between the Meteorological Service and other agencies;

(8) Recommendation regarding preparation of draft specifications for (a) a climatological atlas covering the whole world and based on a uniform plan, and (b) a series of national, sub-regional and regional atlases, which together could be considered as composing a World Climatological Atlas;

(9) Decision that the WMO is to collect all available information on the effect of atomic explosions on the weather and to prepare and publish a WMO Technical Note on the subject at an early date;

(10) Decision to hold the Sixth Session of the Executive Committee on 12 April 1955 at Geneva with the understanding that the second Congress would convene there on 14 April 1955.

FOURTH SESSION OF THE METEOROLOGY DIVISION OF THE ICAO AND THE FIRST SESSION OF THE COMMISSION FOR AERONAUTICAL METEOROLOGY OF THE WMO

The Fourth Session of the Meteorology Division of the International Civil Aviation Organisation and the First Session of the Commission for Aeronautical Meteorology of the World Meteorological Organisation were simultaneously held at Montreal (Canada) from 15 June to 14 July 1954. Preparation of International Meteorological Standards and Procedures for Air Navigation was the main item on the agenda of the Session. A comprehensive set of Standards and Recommended Practices for meteorological services to international air navigation was adopted at the Session. Other items on the agenda included meteorological requirements for high level flights, air turbulence at high levels, pressure pattern flying, aircraft icing, radar storm warning equipment, upper air weather observation networks, aeronautical climatological information, qualifications and training of meteorological personnel and a review of current research into problems of aeronautical meteorology.

Dr. S. N. Sen of the India Meteorological Department attended the Sessions as India's delegate.

JOINT COMMISSION ON RADIO METEOROLOGY

The Joint Commission on Radio Meteorology (JCRM) constituted under the International Radio Scientific Union (URSI) aids co-operation in studies allied to radio-communication and meteorology. It consists of 11 elected members, 4 from URSI, 4 from the International Union of Geodesy and Geophysics (UGGI) and 3 from the International Union of Pure and Applied Physics (IUPAP).

The Commission met on a three-day session recently at Brussels under the Chairmanship of Charles R. Burrows (Cornell University, New York). The session opened on 16 August 1954, when Prof. P. A. Sheppard (Imperial College, London) presented some of the recent observations made in England on the Time-varying structure of the Troposphere. He was followed by Mr. S. P. Venkiteshwaran of India who described how the F-type radiosonde developed in his country has been found efficaceous in detecting regions of turbulence in the upper air. Dr. Lugeon of Switzerland recalled a simple method perfected by him, of locating clear-air turbulence by the agitation of balloon-borne ping-pong balls which could be telemetred to the ground. The afternoon was devoted to discussion of papers read by J. Von Isacker on Scattering of Radio Waves in the Troposphere.

On the morning of the 17th, Dr. Wong (U.S.A.) spoke on the Ray and Wave theory treatments of micro-wave propagation. In the evening there was an interesting lecture by J. S. Marshall (Canada) on Radar-storm detection in which he showed many interesting photographs of cloud-echoes obtained with 1·5 cm radio waves. Mr. S. P. Venkiteshwaran referred to the observations made at Poona from raining clouds at a temperature of 15°C and showed that precipitation was mainly due to turbulence. On the 18th Dr. Lugeon dwelt at great length, on thunderstorm detection and the analysis of spherics. At his suggestion, a resolution to locate a Lugeon storm detector in the Arctic during the coming International Polar Year was adopted.

On the evening of the concluding day of the session, administrative matters were discussed. The Commission, decided that it was in the interests of meteorologists and radio-communication engineers to continue the activities of the Commission.

CENTRAL BOARD OF GEOPHYSICS

A meeting of the Central Board of Geophysics was held at New Delhi on 3 July 1954. The principal subjects discussed in the meetings were : (a) Proposals regarding the establishment of a Central Geophysical Institute ; (b) Geophysical activities of the

various institutions; (c) Representation of India at the I.U.G.G. meetings at Rome during September 1954 and (d) Ground water resources.

It was decided to hold a symposium on Ground Water Resources in February 1955.

A meeting of the Oceanography Committee was also held at New Delhi on 3 July 1954. The Committee discussed, among other things, the question of sending a delegation to the Commonwealth Conference on Oceanography to be held in London in October 1954, location of the proposed Indo-Pacific Oceanographic Institute, the establishment of a National Institute of Oceanography and the current programme of oceanographic work of the various institutions.

COLOURED SEA

Vessel : S. S. Shahjehan

Captain : J. Thompson

Voyage : Aden to Madras

Observer : R. A. Banker, 3rd Officer

22 August 1954. Position—12° 36′ N, 57° 26′E. 1505 GMT. Speed 11·00 Kts.

Vessel entered vast area of " Milky Sea " extending NNE/SSW to both horizons. Sea resumed normal colouration at 1705 GMT.

23 August 1954. Position—11° 15′ N, 61°43′ E. 1750 GMT. Speed 9·7 Kts.

Vessel entered area of " Milky Sea " extending to both horizons. At 1815 GMT " Milky Sea " became denser making horizons very clearly defined. At 2320 GMT vessel passed out of milky sea. Sea resumed normal appearance.

WATERSPOUT

Vessel : S. S. Rizwani

Captain : J. W. E. Cochrane

Voyage : Colombo to Bombay

Observer : P. E. Lynn, 2nd Officer

22 March 1954, 0815 1ST. Ship's position Lat. 11° 00′ N, Long. 75° 22′ E.

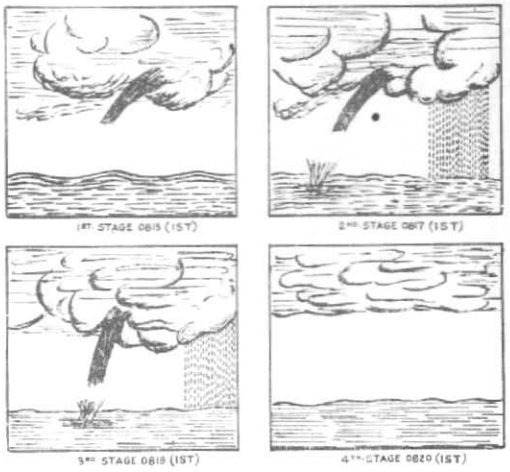

Fig. 1. The waterspout appeared as a black column and at no time seemed to connect up with the white spray from the sea

Sighted waterspout bearing 009°, distance 3 miles approx. (Fig. 1). Mainly cloudy Cumulus to north and east. Barometer 29·914″ (true atmospheric pressure). Temp. 84°F. Wind N'ly force 2-3. Precipitation visible to eastward of waterspout. Phenomena lasted approx. 5 minutes.

SOLAR HALO

Vessel : M. V. Sofala

Captain : S. A. Richards

Voyage : Calcutta to Rangoon

Observer : D. M. Reio, Chief Officer

19 July 1954. 0052 GMT. Ship's position Lat. 19° 40′ N, Long. 89° 30′ E.

Solar Halo with Mock Suns (2). Diameter between Mock Suns 46°. Barometer 1005·1 mb. Air 83°, Wet Bulb 87°, Cloud—*Cu* and *Sc* under *Ci*. Over distant *Ci* anvil form in SW. Wind S×W/3.

LUNAR HALO

Vessel : S. S. Kampala

Captain : P. Wright

Voyage : Bombay to Seychelles

Observer : G. Waddell, 3rd Officer

1900 GMT 13 July 1954. Position—01° 58′ S, 56° 45′ E.

An extremely bright halo was observed round the moon. Its diameter as measured

by sextant was 44°. The spectrum could be clearly defined ; blue outside, yellow centre and red inside. The sky was 7/8 covered with Altostratus of varying density with 2/8 Cumulus. Air temp. 78°. Dry bulb 78°. Wet bulb 76½°. Sea temp. 80°.

HEAVY RAINFALL IN BOMBAY CITY

The first week of July 1954 was characterised by heavy and incessant rains in Bombay city and suburbs. During this period Colaba recorded a total rainfall of 28·5 inches, with a maximum fall of 8·7 inches in 24 hours on the 2nd, and another heavy fall of 5·7 inches on the 7th. Santacruz registered 25·6 inches of rain during this period, the heaviest fall in 24 hours being 8·8 inches on the 2nd. Malabar Hill recorded a total rainfall of 29·7 inches during this week which included heavy falls of 8·6 inches on the 2nd, 5·1 inches on the 3rd, 4·0 inches on the 4th and 7·0 inches on the 7th.

Following a well marked trough of low pressure which moved northwestwards from off the Konkan coast to the northwest Arabian Sea between the 27 and 30 June, there was a marked strengthening of the monsoon over the Konkan from the first of July. Unsettled conditions, which prevailed over the northwest Bay of Bengal on the 4th, concentrated and moved as a shallow depression towards Vindhya Pradesh during the next two days. On the 6th, a 'low' formed over the Gulf of Cambay ; and it intensified into a depression and moved northwestwards across Saurashtra on the 8th. Under the influence of these systems, the strength of the monsoon was maintained in the Konkan throughout the first week of July.

Markedly squally weather prevailed over Bombay on the 1st and 2nd, and again on the 6th and 7th. The maximum wind speed in squall was 61 mph at Colaba on the midnight of 6th.

The heavy rains caused considerable waterlogging in several parts of the city and suburbs. There were also reports of house collapses and trees uprooted.

WEATHER, HOT WEATHER SEASON (MARCH-MAY 1954)

Chief features—(1) The formation of a depression in the east Arabian Sea in April and of another in the Bay of Bengal in May, (2) Good thunderstorm activity in Assam, sub-Himalayan West Bengal and in many parts of the Peninsula, (3) Hot spells over Gangetic West Bengal in April and over north India and central parts of the country during May, (4) Advance of the Arabian Sea branch of the monsoon into Travancore-Cochin by the end of May and (5) A general deficiency of rainfall over north India, central parts of the country and many parts of the peninsula.

March—Four western disturbances moved across northwest India during the month. Of these, the third was very active. It appeared over Baluchistan on the 21st, and moving slowly in an easterly direction, lay over Madhya Bharat and west Madhya Pradesh on the morning of the 25th where it filled up by the next day. Under its influence, fairly widespread rain or thundershowers occurred in the hills of west Uttar Pradesh and of the Punjab (I) on the 24th and in northwest Uttar Pradesh and the Punjab (I) on the 25th, while there were local thundershowers in east Rajasthan on the 24th and 25th in Gujarat and Madhya Bharat on the 25th and in west Madhya Pradesh and Vindhya Pradesh on the 26th. Thundershowers were also reported from a few stations in east Madhya Pradesh, Saurashtra and Kutch, north Gujarat and plains of the Punjab (I) and of northwest Uttar Pradesh on the 24th. The other three disturbances caused local or widespread rain in the Punjab hills on the 2nd, between the 10th and 12th, and again on the 31st and local rain in Kashmir between the 10th and 12th.

A well marked ' low ' formed in the southwest Bay of Bengal off Ceylon by the 11th morning. Moving slowly westwards it entered the Arabian Sea on the 14th morning and lay as a trough off Malabar-Kanara coast. Moving slightly northwestwards, the trough became less marked by the 15th morning. In association with the above,

a good incursion of moist air continued over the peninsula outside Gujarat and Saurashtra and Kutch. Local or fairly widespread thunder rain occurred in Travancore-Cochin between the 11th and 17th and in Tamilnad between the 13th and 15th, with a few heavy to very heavy falls in the latter area on the 13th and 14th. Chidambaram, a state raingauge station in Tamilnad recorded 8″ of rain on the 13th morning. Local thundershowers, accompanied with squalls and some with hail, also occurred in Deccan (Desh) on the 16th and 17th, in the Konkan on the 15th, in Malabar-south Kanara on the 16th and in Hyderabad on the 17th.

A low pressure wave moved across Ceylon-Comorin area between the 17th and 19th, causing local or fairly widespread thundershowers in Travancore-Cochin on the 18th and 19th and in south Tamilnad and Malabar-south Kanara on the 19th.

In association with another low pressure wave which moved westwards across Comorin-Maldives area between the 22nd and 25th local or fairly widespread thundershowers occurred in Travancore-Cochin on the 23rd and 24th and in Rayalaseema, Tamilnad and Malabar-south Kanara on the 25th. A few heavy falls were also reported from Travancore-Cochin on the 24th and from south Tamilnad on the 25th.

Thundershowers also occurred locally in Assam during the last three days of the month, in sub-Himalayan West Bengal on the 25th and 30th, in north Hyderabad on the 25th, in Mysore on the 26th and in Malabar-south Kanara on the 27th and 28th.

Day temperatures were markedly above normal in the north Konkan and south Gujarat on the 1st and 2nd and in Saurashtra on most days during the first three weeks of the month. These were appreciably to markedly above normal in northeast India outside Orissa between the 11th and 13th. Day temperatures were appreciably to markedly below normal in the south Punjab (I) and north Rajasthan on the 6th, and in most parts of the country outside Assam between the 25th and 27th and in Kutch and Gujarat between the 29th and 31st.

April—Last month's western disturbance over the Punjabs moved away eastwards across the hills of the Punjab (I) and of west Uttar Pradesh by the 2nd, causing local thundershowers in the Punjab hills on the 1st and 2nd and scattered very light showers in the Kumaon hills on the 1st. Three western disturbances, in addition to the above moved across the north of the country during the month. They were, however, very feeble.

A secondary low pressure area developed over west Rajasthan on the 21st. Moving in a northeasterly direction it passed across the extreme north of the country by the next day. Under its influence scattered very light rain or showers occurred in Kashmir between the 22nd and 25th.

Local or fairly widespread thundershowers occurred in Assam on many days during the month. Silchar recorded 5″ of rain on the 9th. Tezpur experienced a thundersquall on the 14th evening which, according to press reports, was responsible for considerable damage to properties. Local thundershowers also occurred in sub-Himalayan West Bengal on the 9th, between the 11th and 13th and again between the 23rd and 25th.

In association with a low pressure wave which moved across Comorin-Maldives area local or fairly widespread thundershowers, occurred in Travancore-Cochin from 1st to 4th. Local or fairly widespread thundershowers also occurred there on the 7th, 8th and 13th and in Malabar-south Kanara between the 5th and 7th and again on the 13th.

A trough of low pressure appeared in the east Arabian Sea off the Konkan coast on the 22nd. Accentuated by a low pressure area which moved northwestwards across the Comorin area, it concentrated into a depression of a small extent on the 24th morning, with its central region about 150 miles southwest of Marmagao. Without appreciable movement the depression weakened into a trough by the 25th evening and became unimportant by the next day. In association with this disturbance, fairly widespread thundershowers occurred in the south peninsula on the 23rd, the rainfall belt extending to the south Konkan and south Deccan (Desh)

on the next day. Heavy rain was reported from a few stations in south Tamilnad and Malabar-south Kanara on the 23rd and in Mysore on the 24th. Fairly widespread thundershowers also occurred in Travancore-Cochin and Rayalaseema on the 25th. There was another spell of good thunderstorm activity in south Tamilnad, Malabar-south Kanara and Travancore-Cochin on the 29th and 30th.

A moderate heat wave prevailed over Gangetic West Bengal on most days during the second half of the month. Calcutta reported 110°F on the afternoon of 24th (14°F above normal), this being the record temperature during the last thirty years. South Gujarat and north Konkan were also in the grip of a heat wave on the 22nd, Surat reporting 111°F (11°F above normal) and Santacruz 104°F (14° F above normal) on that afternoon.

May—Conditions became markedly unsettled in the north Andaman Sea on the 1st and by the 2nd evening concentrated into a depression centred about 200 miles northeast of Port Blair. The depression moved into the Gulf of Martaban, and was centred about 100 miles southeast of Rangoon on the 3rd morning. Thereafter it weakened and passed inland as a low pressure wave. Under its influence locally very heavy rain occurred in the Bay Islands on the 2nd.

Of the four western disturbances during the month only the second was active. It appeared over west Rajasthan and the adjoining areas on the 11th and moved away eastwards across the Punjab hills by the 13th, causing fairly widespread thundershowers in the Punjab hills on the 11th and 12th and local thundershowers in northwest Uttar Pradesh, plains of the Punjab (I) and west Rajasthan, on the 12th. A few squalls also occurred in the Punjab (I) on the 12th. The remaining western disturbances were very feeble.

A low pressure area which moved eastwards across the hills of west Uttar Pradesh was responsible for local thunderstorms accompanied with light precipitation in the Punjab (I) and north west Uttar Pradesh on the 6th and 7th. Simla reported hail on the 6th.

A feeble advance of the monsoon took place in the south Andaman Sea on the 15th, and remained restricted there till the 25th. It then gradually advanced into the northeast Bay by the 29th. The Arabian Sea branch of the monsoon advanced into Travancore-Cochin on the 31st as a feeble current.

Good thunderstorm activity prevailed in Assam on most days and in sub-Himalayan West Bengal on many days between the 1st and 25th. A few heavy to very heavy falls occurred in Assam on the 8th, 10th, 11th, 24th and 25th and in sub-Himalayan West Bengal on the 23rd, the notable rainfall amount being 14″ in Cherrapunji on the 11th. According to press reports, the rivers Brahmaputra, Lohit, Dibang, Subansiri and Dihing in upper Assam were in spate as a result of incessant rain between the 8th and 11th. The Saikhowaghat Railway station was submerged and traffic suspended during this period. Local or fairly widespread thundershowers occurred in Gangetic West Bengal on the 1st, 3rd, 7th, 19th and 20th, in Orissa on the 4th and 16th and in Bihar on the 3rd. A nor'wester hit Calcutta on the 14th evening, when the wind speed reached 61 mph during squall. At Dum Dum the gale was stronger, the wind reaching a maximum speed of 66 mph.

A low pressure wave from the east moved into Eastern Pakistan on the 27th, and markedly unsettled conditions prevailed in the east central Bay between the 27th and 28th and in west central Bay on the 29th and 30th. In association with this synoptic situation, fairly widespread or local thundershowers occurred in Assam and sub-Himalayan West Bengal between the 26th and 31st with a few very heavy falls in Assam on the 27th and 29th, in sub-Himalayan West Bengal on the 26th and 27th and in Bihar on the 29th. As a result of these heavy rains in Assam, the Brahmaputra river and her tributaries rose again in spate and inundated some parts of Upper Assam. Flood waters of the Brahmaputra submerged the five mile railway track between Dangari and Saikhowaghat stations, suspending train services between these two stations. There were local or fairly widespread thundershowers in Travancore-Cochin on most days

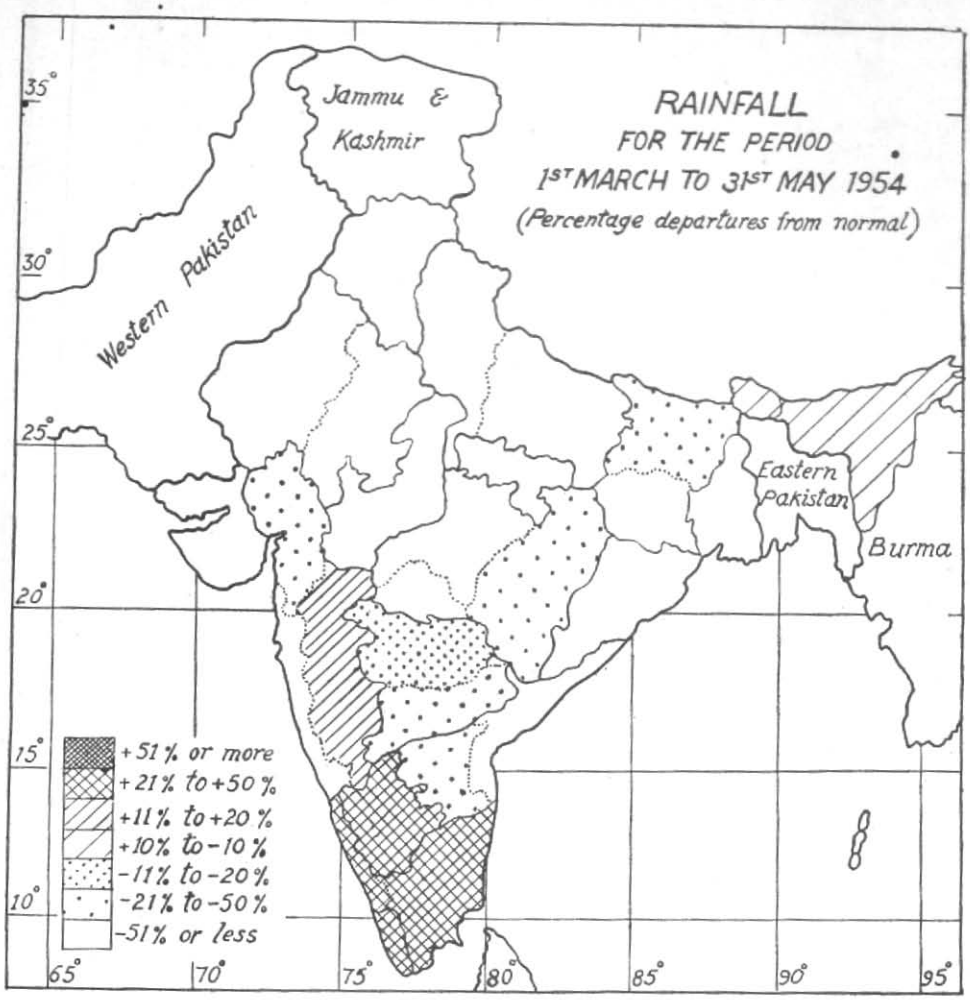

Fig. 1

of the first and last two weeks of the month, in Malabar-south Kanara on many days between the 1st and 29th, in Mysore on the 1st, 7th, between 11th and 15th and again between 19th and 24th, and in Tamilnad on the 1st, 3rd, 13th, 19th, 23rd and 24th. In association with a trough of low in the east Arabian Sea off Malabar-Kanara coast between the 29th and 30th, local or fairly widespread thundershowers occurred in south Deccan (Desh), Hyderabad and Malabar-south Kanara on the 30th.

A moderate heat wave prevailed in inland Gangetic West Bengal, Bihar and northeast Uttar Pradesh during the second week. A hot spell also prevailed in northwest India and west Uttar Pradesh during the last 12 days of the month. Day temperatures were also appreciably above normal in east Uttar Pradesh on the 20th, 23rd, 25th and 26th and in the central parts of the country outside southeast Madhya Pradesh during the last two weeks of the month, when the maximum temperatures over these areas were mostly above 110°F. Nagpur recorded 118°F (9°F above normal) on the 25th afternoon. According to press reports many persons died of heat strokes in Madhya Pradesh during the period.

The distribution of rainfall over the country during the period under review is shown in Fig. 1.