

## Notes and News

### WORLD METEOROLOGICAL ORGANISATION. COMMISSION FOR MARITIME METEOROLOGY

The first meeting of the Commission for Maritime Meteorology, which is one of the eight Technical Commissions of the World Meteorological Organisation, will be held at London from 14 July 1952. The session is expected to last for a period of about two weeks. Weather observations over sea areas, issue of weather bulletins to shipping and display of storm warning signals at ports are some of the principal subjects for discussion at the meeting.

### ECLIPSE EXPEDITION TO IRAQ

An Eclipse Expedition led by A. K. Das, Director, of the Kodaikanal Observatory proceeded to Iraq on 27 December 1951 to observe the total solar eclipse of 25 February 1952.

The problems which the expedition planned to study specially were—

1. The equivalent widths of the chromospheric spectrum lines at different heights ;
2. The equivalent widths of the coronal spectrum lines ; and
3. The photometry of the corona.

Apart from various accessories, the main instrumental equipment, practically all of which were specially designed and constructed in the workshop of the Kodaikanal Observatory, consisted of—

(a) an auto-collimating prism spectrograph of about 6 ft focal length with three large prisms of about  $5\frac{1}{2}$ -in aperture, for taking photographs of the different stages of the " flash spectrum " with an automatically recording chronograph ;

(b) a low-dispersion two-prism spectrograph of 15-in focal length to take one spectrum of the flash at second contact, and to photograph the spectrum of the corona during totality ;

(c) an equatorially mounted coronagraph for photographs in integrated sunlight, as well as photographs with a polaroid ; and

(d) a 3-in equatorial telescope for visual observation.

The party reached Basra on 12 January 1952 and selected a suitable site for the location of the camp at a spot about 60 miles west of Basra almost exactly on the central line of totality. This spot was right out in the desert and 10 miles away from the Ratawi railway station with no means of communication whatsoever with the nearest inhabited place. However, the Basra Petroleum Company had a few sheds and hutments there for the use of their prospecting parties. The officials of the company were contacted and they allowed the party to have their sheds for the installation of the instruments and also the use of the huts from 10 February till the end of the month. With the help of the surveyor of the Basra Petroleum Company the N-S line was laid and the construction of the piers for the instruments started by the 3rd week of January. All the equipment was removed to the camp and assembly and installation of the instruments were begun when the piers were ready. The two spectrographs were housed inside a reed hut. A small photographic dark room was constructed. The coelostat, siderostat, coronagraph and telescope were installed outside the hut with suitable shelters. Till 10 February the party spent the nights in Basra, going to the camp every day by hired motor transport. On 10 February the party moved to the camp. Final adjustments and focussing of the instruments were finished about a week before the day of the eclipse. The rest of the time was spent in rehearsals.

The day previous to the eclipse was one of the finest days experienced by the party. Rehearsals were done many times and each one was confident of the work he or she had to do. The night before the day of the eclipse all the photographic plates were cut,

loaded and kept ready for the eclipse day. But contrary to all expectations the eclipse day dawned cloudy. The sky was completely overcast with thick clouds with no sign of the sun. All the instruments were given a final check up and found to be working perfectly well. By about 10 A.M. local time the clouds began to break up and the sun was visible for a few minutes. Again clouds covered the sun and broke up only at 1150 hours to show the sun partially eclipsed. The totality was expected to begin at 1301 hours local time and last for 2 minutes and 41 seconds. The sun was visible through passing clouds and every one was at his post keeping the image of the sun steady and waiting for the "zero hour". The crescent was becoming thinner and thinner and at 1250 hours the clouds cleared round the sun. But at 1257 hours four minutes before the beginning of totality, a great cloud mass moved up and blotted out the sun. It cleared only several minutes after the totality was over. The failure of the expedition due to clouds came as a sad disappointment to all.

#### SECOND DEFENCE SCIENCE CONFERENCE AT DELHI

The second conference of Defence Research Scientists was held at New Delhi from 21 to 26 April 1952. L. A. Ramdas, Director of Agricultural Meteorology attended the above conference, on invitation, and gave a lecture on "Climate near the ground in relation to the problems of Defence Science" on 25 April.

#### ISLAND OBSERVATORIES

Six additional meteorological observatories were recently set up by the India Meteorological Department in the Andaman and Nicobar Islands with the co-operation of the Chief Commissioner of these islands. They are located at Table Island, Mayabandar, Long Island, Car Nicobar, Nancowrie and Kondul. Weather observations are made by them twice daily as a routine and transmitted to Port Blair by the Police W/T system for onward transmission to the Meteorological Office, Calcutta. These

observations are expected to be of use in earlier detection of weather disturbances originating in the south of the Bay of Bengal.

#### WATERSPOUT OBSERVED ON ROUTE PORT LOUIS TO COLOMBO

*Name of Vessel* : S.S. Havildar

*Captain* : A. B. Kelley

*Observer* : R. Mc. Millan, 3rd Officer

On 28 January 1952 a waterspout was observed bearing N and moving rapidly in a westerly direction. At 0246 GMT the spout was at a distance of about  $1\frac{1}{2}$  miles and moving under a Cb cloud, height of base 2500 ft.

The line of spray between base and altitude was barely visible and after 10 min faded considerably. A little later it was lost to view. Position of ship—Lat.  $02^{\circ}30'N$  Long.  $78^{\circ}05'E$ , Air  $84^{\circ}F$ , Sea  $82^{\circ}F$ , Bar. 29.93 in. No change in wind direction or force.

#### HAILSTORM AT JODHPUR ON THE NIGHT OF 31 MARCH 1952

The day started with strong gusty winds raising a lot of dust, SW/W winds of speed 20 to 30 mph reaching 35 to 40 mph in frequent gusts continued from morning till 1700 IST. Visibility was reduced to 1500 yd and remained so throughout the day. The sky was obscured by a veil of dust; when thin, it could be seen that only high clouds and altocumulus were present till evening. After 1700 IST the wind abated and visibility improved to 2 to 3 miles. Cumulus clouds started developing after 1900 IST. The wind changed to NE at 2030 IST. Huge cumulonimbus could be seen to the southeast of the station from where flashes of lightning were frequently seen. The thundercloud came over the station by 2130 IST. Peals of thunder were followed by a shower of big water drops and a NW squall of 41 mph at 2150 IST. After the shower had been in progress for about a minute hail started falling. The hail shower was brisk and lasted about two minutes. The hailstones varied in size from small pellets of 3 to 4 mm in diameter to large size stones  $2\frac{1}{2}$  cm

across. Except the smaller ones, the hailstones were rugged and oblong in shape. The biggest stone measured  $2\frac{1}{2}$  cm along the longer axis and  $1\frac{1}{2}$  cm along the shorter axis. Report of larger size stones at neighbouring places were received, but no reliable information regarding the exact size is available. The same ratio of the lengths of axes was formed in most stones. A few of the big stones were cut and examined. They showed three layers. The innermost one was opaque about  $\frac{3}{4}$  cm in diameter; the second layer was transparent about 3 to 4 mm diameter and the outer layer was opaque about  $\frac{1}{2}$  to  $\frac{3}{4}$  cm. An interesting feature of the hailstones was that most of them were composite, being two stones cemented together along their long axis.

The synoptic situation leading to the occurrence of hailstorm was as follows: The secondary of a western disturbance moved over to west Rajasthan on the 31st. The upper winds which were NW/N the previous day changed to SW upto 7000 ft by the morning of the 31st and the relative humidity and dew point which were abnormally low on 30th started increasing on the 31st. The upper air sounding showed adiabatic lapse rate almost from surface upto 600 mb and an increase in mixing ratio of 6 to 8 gm per kgm upto 800 mb over the previous night ascent.

#### HEAT WAVE IN APRIL 1952

On 13 April 1952 the north Konkan, south Gujarat and the southern coast of Saurashtra were in the grip of a heat wave, day temperatures having risen appreciably. Surat recorded a maximum of  $113^{\circ}\text{F}$  and Bombay (Colaba)  $100^{\circ}\text{F}$  which were also the highest temperatures ever recorded before in April at these observatories; the rise in maximum at Santa Cruz Airport was  $18^{\circ}\text{F}$ . This heat wave was associated with a shallow trough of low pressure in the east Arabian Sea off Kanara-Konkan coasts which caused the hot air from north to northeast to flow in over the area and also obstructed the settling in of the sea breeze, thus causing the temperatures to rise. On the next day this trough slightly shifted

northwards leading to southerly surface wind over Bombay and the neighbourhood leading to a drop in the maximum temperature along the north Konkan coast, Bombay (Colaba) recording a fall of  $9^{\circ}\text{F}$  and Santa Cruz Airport  $13^{\circ}\text{F}$ . However, north to northeasterly winds continued over south Gujarat and south Saurashtra leading to intensification of the heat wave. A new record of a maximum temperature for April was set up at Surat where  $114^{\circ}\text{F}$  was the maximum. Broach also recorded  $114^{\circ}\text{F}$ . At Veraval the maximum ( $106^{\circ}\text{F}$ ) had risen by  $9^{\circ}\text{F}$  and was  $19^{\circ}\text{F}$  above normal. On the 15th the trough of low pressure became unimportant and temperatures decreased over south Gujarat and southern coast of Saurashtra as well.

#### WEATHER, JANUARY-MARCH 1952

The chief features of the weather during the period under review were (1) A spell of good thunderstorm-rain in the second week of February in the central parts of the country accompanied by hailstorms at a number of places in Madhya Pradesh and (2) good thunder-rain over north India in accompaniment with the eastward passage of secondary western disturbances in March.

*January* — Seven western disturbances and two secondary western disturbances affected the country during January. Five of these, moving initially across Western Pakistan, passed away eastwards across the extreme north of the country, causing rain or snowfall only in Kashmir. The remaining disturbances were fairly active and caused local or fairly widespread thundershowers in the Punjab (I) and west Uttar Pradesh on 2nd and 3rd, between the 7th and 9th and on the 14th. Heavy snowfall also occurred in Kashmir and the Simla-Kumaon hills in the first week, which according to press reports varied from 9" to 18" at places. Stray casualties were reported in Kashmir on the 1st due to avalanches. Another spell of heavy snowfall occurred in Kashmir on the 7th when, according to the press reports, life there came almost to standstill on account of continuous snowfall for 24 hours totalling

to about 16". A secondary western disturbance which moved from Vindhya Pradesh and the neighbourhood to Gangetic West Bengal between the 8th and 10th, caused thundershowers in the central parts of the country, east Uttar Pradesh and east Rajasthan on the 8th and in Chota Nagpur and the adjoining areas on the 9th.

Weather was mainly dry over the Peninsula during the month except for local or fairly widespread thundershowers in south Tamilnad and Travancore-Cochin on the 6th and 7th and in south Tamilnad between the 28th and 30th.

Night temperatures were markedly below normal in south Rajasthan and Saurashtra and Kutch on the 3rd and 4th. They fell by 10° to 20°F in Gujarat and south Madhya Bharat between the 9th and 10th, being appreciably below normal in south Rajasthan, Gujarat, south Madhya Bharat and adjoining west Madhya Pradesh on these days.

*February* — A secondary western disturbance moved from Rajasthan and the adjoining areas to the Punjab-Kumaon hills between the 2nd and 4th and rapidly moved away eastwards across upper Assam. In association with this, fairly widespread thundershowers occurred in Rajasthan on the 3rd, in northwest India and west Uttar Pradesh on the 4th and in east Uttar Pradesh, Vindhya Pradesh, northwest Madhya Pradesh, sub-Himalayan West Bengal and Assam on the 5th. According to newspaper reports, heavy snowfall occurred in Kashmir and the Kumaon hills on the 3rd and 4th respectively, temporarily paralysing the telephone and telegraph systems in the former area. Two more western disturbances moved across the extreme north of the country during the month causing a few showers in Kashmir and the Punjab (I). Good thunderstorm activity prevailed over the central parts of the country during the second week of February. Hailstorms were reported from a number of places in Madhya Pradesh during this period, causing considerable damage to the standing Rabi crops at

some places. Nagpur experienced wind squalls on the 7th and 8th with speeds reaching 54 mph and 64 mph respectively. As the seasonal anticyclone over the central parts of the country shifted eastwards to Gangetic West Bengal and the neighbourhood, incursion of moisture occurred in the central parts of the country and north India giving a spell of thundershowers in the Punjab (I), Uttar Pradesh, Vindhya Pradesh and Bihar on the 21st and 22nd and in Assam and sub-Himalayan West Bengal on the following two days. Good rainfall also occurred in the southern half of the Peninsula between the 21st and 25th.

*March* — Six western disturbances passed across the extreme north of the country during the month. Practically all of them induced secondary disturbances in the neighbourhood of Rajasthan and Madhya Bharat which passed away northeastwards across upper Assam. They gave good thunder rain in the Punjab (I), Uttar Pradesh and northeast India during the month, the rainfall in these parts being in moderate to large excess. The thundershowers on the 15th and 16th were accompanied with snowfall and hailstorms in Kashmir and the Simla-Kumaon hills. The Simla-Narkanda road was snow-bound, dislocating traffic in these parts. The hailstorms in northwest Uttar Pradesh were reported to have adversely affected the wheat crop. A few severe hailstorms were also reported from north Madhya Bharat and east Madhya Pradesh in the first week.

Scattered thundershowers occurred in south Tamilnad and Travancore-Cochin between the 15th and 20th and in coastal Andhradesa on the 18th. Otherwise weather was mostly dry over the Peninsula.

Appreciably warm weather was experienced over south Madhya Pradesh, north Gujarat and Hyderabad practically throughout the last week of March when day temperatures ranging between 100° and 110°F were recorded in these divisions.