

Notes and News

INTERNATIONAL ASTRONOMICAL UNION

It has been announced that the General Assembly of the International Astronomical Union, which had been originally scheduled for August 1951 but was subsequently postponed, will now meet in Rome from 4 to 13 September 1952. The last General Assembly of this Union was held in Zurich in August 1948.

WORLD METEOROLOGICAL ORGANISATION. COMMISSION FOR AGRICULTURAL METEOROLOGY

The President of the Commission for Agricultural Meteorology, World Meteorological Organisation has nominated L. A. Ramdas, Director of Agricultural Meteorology, Poona, as Chairman of the Sub-Commission on Physical Meteorology for agricultural purposes.

COLOMBO PLAN EXHIBITION

India Meteorological Department sent a few exhibits to the Colombo Plan Exhibition held at Colombo from 15 February to 15 March 1952, to give a general idea of the various phases of departmental activities. The exhibits included photographs of principal offices, charts showing storm-warning work, climatological maps, charts relating to Agricultural Meteorology and a few typical meteorological instruments including radiosondes and seismograph.

THE THIRTYNINTH SESSION OF THE INDIAN SCIENCE CONGRESS HELD AT CALCUTTA IN JANUARY 1952

The Hon'ble Pandit Jawaharlal Nehru, the Prime Minister of India, inaugurated the 39th Session of the Indian Science Congress on 2 January 1952, in the presence of a large number of scientists from all over India and many foreign countries. J. N. Mukherjee, Director, Road Research Institute, Roorkee, was the General President and gave an address

in which he dealt with problems of education in science and technology, the importance of dissemination of scientific information, the need for adopting a uniform scientific terminology in translating scientific terms into Indian languages and of increasing the agricultural production from the land.

Discussions were held on a number of subjects, a few of which are given below—

- (1) Ionosphere
- (2) Boundary Value Problems
- (3) Geography of Crop Plants
- (4) Unified Field Theory
- (5) River Control
- (6) Mathematical Teaching & Research in India.

An interesting series of lectures were delivered by distinguished scientists. A number of papers were contributed by Officers of the India Meteorological Department.

V. V. Sohoni, S. K. Pramanik, A. K. Roy and M. V. Sivaramakrishnan attended the Session from the India Meteorological Department.

CENTRAL BOARD OF GEOPHYSICS

The Government of India have decided to set up a Committee of Paleo-Volcanology to function under the Central Board of Geophysics. The constitution of the Committee will be as follows—

1. Director, Geological Survey of India (*Chairman*),
2. P. K. Ghosh, Superintending Geologist, Geological Survey of India (*Official Member*),
3. V. S. Dubey, Professor of Economic Geology, Benaras Hindu University (*Non-official Member*),
4. C. Mahadevan, Professor of Geology, Andhra University (*Non-official Member*),
5. Sripada Rao Kilpady, Professor of Geology, Nagpur University (*Non-official Member*),
6. M. R. Sahni, Superintending Geologist, Geological Survey of India (*Official Member*),
7. The Petrologist, Geological Survey of India

(Official Member) and S. Secretary, Central Board of Geophysics (M. B. Ramachandra Rao).

The functions of this Committee will be—

1. To establish Volcanological Stratigraphies as precise as possible for all the volcanic regions of the globe and to correlate them on a world scale,

2. To set in motion the studies of petrographical and volcanological nature and settle problems of stratigraphical chronology and

3. To co-operate with the International Commission of Paleo-Volcanology for execution of stratigraphical correlations between one country and the other.

A meeting of the Central Board of Geophysics was held at New Delhi on 24 December 1951. The Board considered the progress during 1950-51 in the geophysical activities of the India Meteorological Department, the Survey of India, the Geological Survey of India and the Central Water and Power Commission; the question of the representation of the Board on the Planning Committee of the proposed Oceanographic Institute; the programme for collection of sea water samples through the good offices of merchant ships sailing in Indian waters; the standard syllabus to be adopted by Indian Universities for their M. Sc. course in Geophysics and the institution of scholarships for researches in Geophysics.

BOARD OF ENGINEERING RESEARCH (CSIR)

The Electrical and Radio Engineering Research Committee at its meeting on 28 January 1952 appointed a Sub-Committee to further investigate the position in respect of "Development of Wind Power" such as collection of data, its application to prevailing conditions and the development of an economic wind power unit. J. M. Sil, Deputy Director General of Observatories (Instruments) has been nominated as the represen-

tative of the India Meteorological Department on the above Sub-Committee.

ATMOSPHERIC RESEARCH COMMITTEE

A meeting of the Atmospheric Research Committee was held on 22 December 1951 at the Meteorological Office, Lodi Road, New Delhi, under the Chairmanship of V. V. Sohoni, Director General of Observatories. The Committee recommended the continuance of the following schemes: (1) *Infrared radiation from the atmosphere* by L. A. Ramdas, (2) *Ozone and Weather* by K. R. Ramanathan, (3) *Colloidal Instability of Cloud Particles above and below freezing temperature* by S. K. Banerji and (4) *Study of microseisms and seawaves and their correlation to cyclonic disturbances* by S. K. Chakrabarty. A new scheme for setting up a net-work of stations in India for recording observations of intensity of solar and heat radiation by L. A. Ramdas and S. P. Venkiteswaran was also considered by the Committee. The Committee recommended that L. A. Ramdas may take up the matter departmentally as the India Meteorological Department was vitally interested in the scheme of this nature. The desirability of starting a permanent ozone observing station at Kodaikanal by the India Meteorological Department was also recommended by the Committee. Collaboration between the India Meteorological Department and the Navy in microseismic work and on the observations of seawaves and swell was also recommended by the Committee. The India Meteorological Department was requested by the Committee to prepare a comprehensive programme of study on microseisms on the basis of the method developed by Marion H. Gilmore of U. S. A. for further consideration by the Committee.

INDIAN ACADEMY OF SCIENCES

Under the auspices of the Indian Academy of Sciences a symposium on the Physics of Thunderstorms was held at the Delhi University on 28 December 1951.

K. R. Ramanathan presided.

The following papers were read—

(1) On the physical processes occurring in Thunderstorms by P. R. Pisharoty, (2) On the genesis and movement of Nor'Wester of Bengal by P. K. Sen Gupta, (3) On the artificial seeding of cumulus clouds by A. K. Roy and (4) On the electricity of Thunderstorms by S. K. Banerji.

P. Nilakantan and T. S. Krishnamurthi of the Civil Aviation Department spoke on the acceleration due to gusts on aircraft in flight. Data on the accelerations experienced by aircraft which are in general use in India are being collected by the Civil Aviation Department.

It is expected that the papers will be published in the Proceedings of the Indian Academy of Sciences.

EXPERIMENTS REGARDING EFFECT OF ELECTRIC CURRENT ON ALIBAG MAGNETIC INSTRUMENTS

In connection with the public demand in recent years, for the introduction of electricity into Alibag town, experiments were undertaken to determine the effect of leakage into earth and passage of electric current on the magnetic instruments in the Alibag Observatory at varying distances from them. Four series of experiments were carried out in September and November 1950 and in February and July 1951. The experiments gave interesting results which show that it would be possible to maintain the century old records of the Bombay-Alibag Observatories un-impaired after the introduction of electricity in Alibag if some restrictions regarding the electric current and its distribution in the town are imposed. The details will be published soon.

EXCELLENT AWARDS TO VOLUNTARY OBSERVING SHIPS

The Director General of Observatories, India, presented a copy of "Climatological Charts of the Indian Monsoon Area" and a whirling Psychrometer to each of the nine under-mentioned ships whose work during the year 1950-51 was considered of outstanding quality—

- | | |
|-----------------------------|---|
| 1. <i>Name of ship :</i> | S. S. BARALA |
| <i>Captain</i> | J. N. Richards |
| <i>Observing Officers :</i> | D. S. Hutton
M. R. North |
| 2. <i>Name of ship :</i> | M. S. DARA |
| <i>Captain</i> | D. S. Johnston |
| <i>Observing Officers :</i> | Stott
Joss
Jan Sokalski |
| <i>Radio Officers :</i> | R. C. Whiting
A. E. Chalmers |
| 3. <i>Name of ship :</i> | S. S. JALAGANGA |
| <i>Captain</i> | W. L. Atkinson |
| <i>Observing Officers :</i> | F. G. P. Mathews |
| <i>Radio Officer :</i> | S. K. Chatterji |
| 4. <i>Name of ship :</i> | S. S. JALAVIJAYA |
| <i>Captain</i> | J. Y. Kerr |
| <i>Observing Officers :</i> | Sarma
Sachinvala
Vancheswar
Kelkar |
| <i>Radio Officer :</i> | R. Vendergucht |
| 5. <i>Name of ship :</i> | S. S. KARANJA |
| <i>Captain</i> | C. B. Mitchell |
| <i>Observing Officers :</i> | J. D. Stephenson
G. C. Johnson |
| <i>Radio Officer :</i> | J. D. Masterman |
| 6. <i>Name of ship :</i> | S. S. KHOSROU |
| <i>Captain</i> | J. W. E. Cochrane |
| <i>Observing officers :</i> | E. W. Richards
R. J. Ward
K. Chelliah |
| <i>Radio Officer :</i> | J. E. Martlieu |
| 7. <i>Name of ship :</i> | S. S. NADIR |
| <i>Captain</i> | B. E. Brewin |
| <i>Observing Officers :</i> | E. D. Robinson
J. E. Johnson
E. Pyle |
| <i>Radio Officer :</i> | M. Dore |
| 8. <i>Name of ship :</i> | S. S. RAJULA |
| <i>Captain</i> | H. M. Macdonald |
| <i>Observing Officers :</i> | C. W. Jenkins
V. A. H. Iles |
| <i>Radio Officer :</i> | L. Barnett |
| 9. <i>Name of ship :</i> | S. S. SHAHJEHAN |
| <i>Captain</i> | C. H. Norcliffe |
| <i>Observing Officers :</i> | D. P. Scott
Fernandez |
| <i>Radio Officer :</i> | J. C. Crowley |

VISIT OF THE PRESIDENT TO THE METEOROLOGICAL OFFICE, POONA

The President of India, Dr. Rajendra Prasad accompanied by His Excellency the Governor of Bombay, Raja Maharaj Singh and the Honourable the Chief Minister of Bombay, Shri B. G. Kher visited the Meteorological Office, Poona on 29 February 1952 and was shown round the office. He spent about an hour in seeing the various activities of the India Meteorological Department and evinced keen interest in the services rendered by the different sections, particularly to the farmer, the aviator and the mariner.

Some photographs taken on the occasion are reproduced on page 145.

UNUSUAL SEA AND SWELL CONDITIONS ON THE EAST COAST OF THE INDIAN PENINSULA IN DECEMBER 1951

A depression in the south Bay of Bengal intensified into a cyclone near Latitude 11°N Longitude 88°E on 7 December and moving initially northwest recurved near Latitude 13°N Longitude 88°E on the 8th and moved towards the Arakan coast and weakened by the 12th. In association with this severe cyclonic storm some places on the east coast of the Indian Peninsula experienced unusually rough seas and heavy swell even though the local wind was throughout light or moderate and the cyclone was very far out into the sea.

2. In reply to a questionnaire which was sent out by the Regional Meteorological Centre, Madras, most of the Port Officers along the east coast furnished details of the sea and swell conditions experienced and structural and other damages caused. Some interesting items of information obtained are given below—

(i) *Nagapattinam*. The maximum height of the swell was 6 ft on the morning of the 9th and the seas were rough from 7th to 10th. The bund was washed over at four places.

(ii) *Cuddalore*. *S. S. Jalavijaya* "had to anchor out in deeper waters due to heavy swell on the 9th and 10th".

(iii) *Madras*. The Deputy Port Conservator, Madras Port, has stated that shipping

traffic was very much disorganised at the port between the 8th and 12th due to heavy seas and "range" inside the harbour. Among the damages caused to the Port Trust property were breaking and extinguishing of the Aga Light at about 1900 IST on the 8th due to heavy seas breaking over the sheltering arm, breaking of one mooring chain in Boat Basin, parting of 11 Coir Springs and loss of 3 Thimbles, complete smashing of one Floating Fender log and loss of about 350 feet of chain used on fenders.

(iv) *Masulipatam*. The sea became suddenly unusually rough on the 8th morning with heavy swell and continued to be so till the 12th. Height of waves was 20 ft. "On account of the rough sea and heavy swell one sailing vessel (boat) *Nagore Meera Sahib* of 282 tons stranded and broke into pieces".

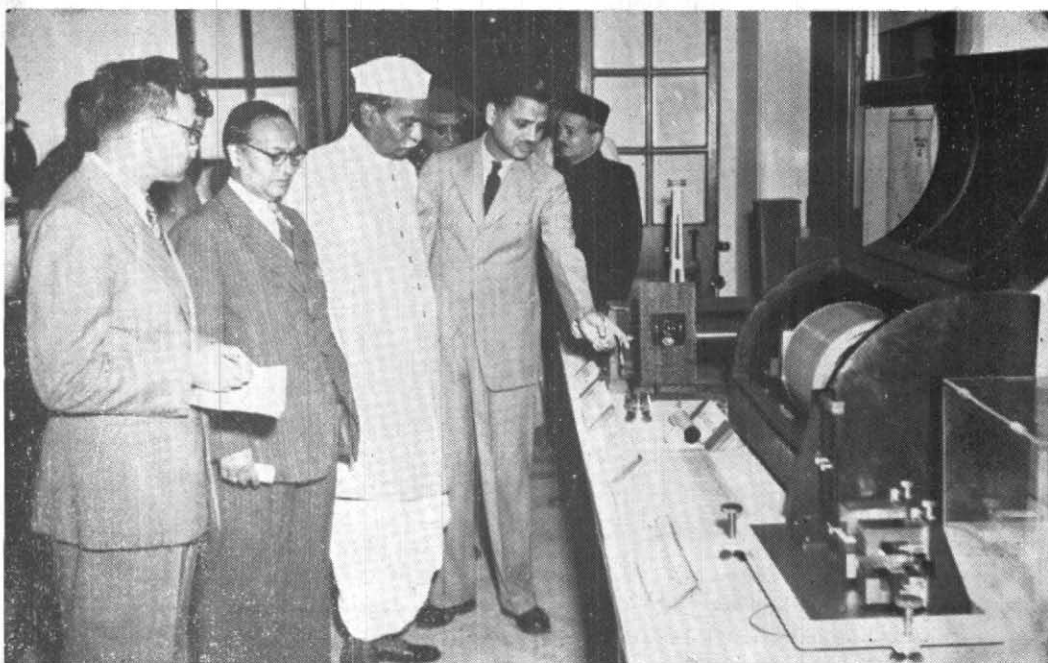
(v) *Kakinada*. The average height of the swell was 8 ft between 8 and 12 December, "the masonry tower erected on the Godavari spit for installing a new Aga Light was washed away with no trace".

(vi) *Vizagapatam*. The Port Officer, Vizagapatam has stated that it was a "very peculiar storm the type of which had not been experienced by that Port for 21 years to his knowledge". The sea condition on the 9th has been described as "extremely rough, high seas, inside 10 fathom line" with the height of waves about 30 ft. On this day the cyclone was about 450 miles to the southeast of Vizagapatam. The seas are reported to have caused "a tidal bore running through entrance channel and round bend to inner harbour where a flat calm prevailed, but this caused ships to range violently and carry away all their moorings".

(vii) *Calingapatam*. Very rough seas were experienced on the 9th and 10th when the swell was 9 to 12 ft in height. "As the waves lashed and rolled over the foreshore to a distance of 1100 ft from the shore, the Beach Road was badly damaged".

3. It is significant that Pamban and Tuticorin did not experience rough sea and swell on any of the days.

4. The following observation made by the Deputy Port Conservator, Madras, in the course of his report to the Chairman of the Madras Port Trust is worth quoting :



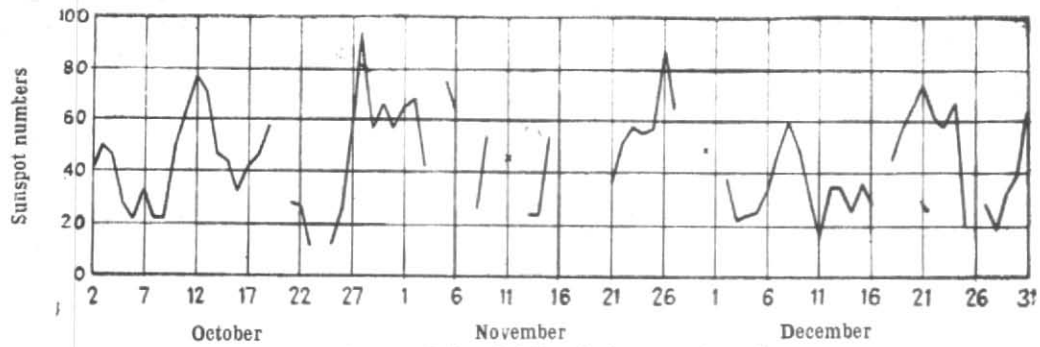


Fig. 1 (a) Kodaikanal daily relative sunspot numbers

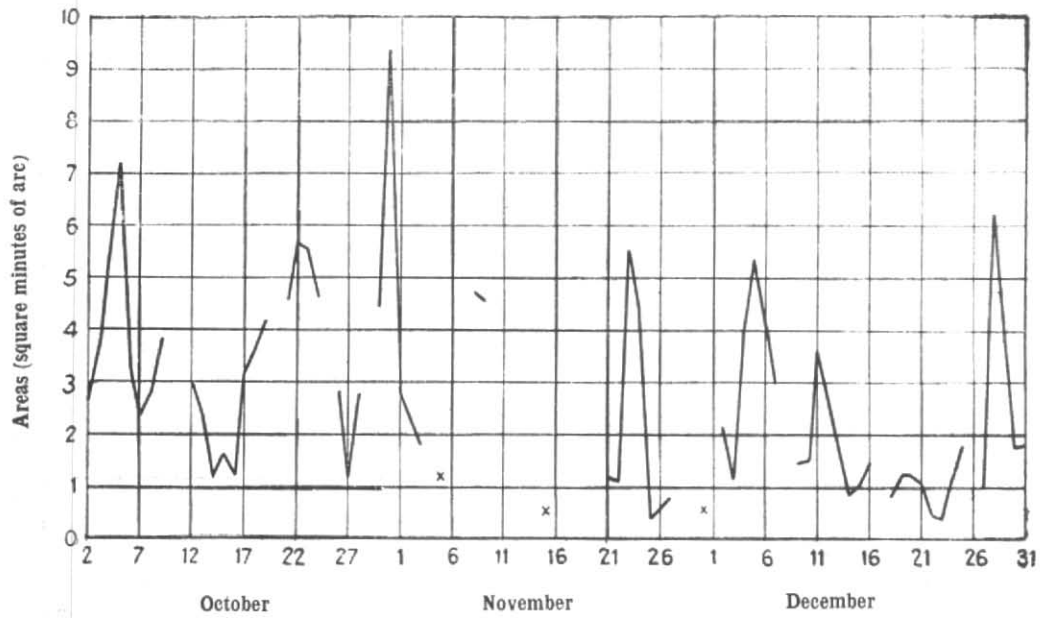


Fig. 1 (b) Daily areas of calcium prominences

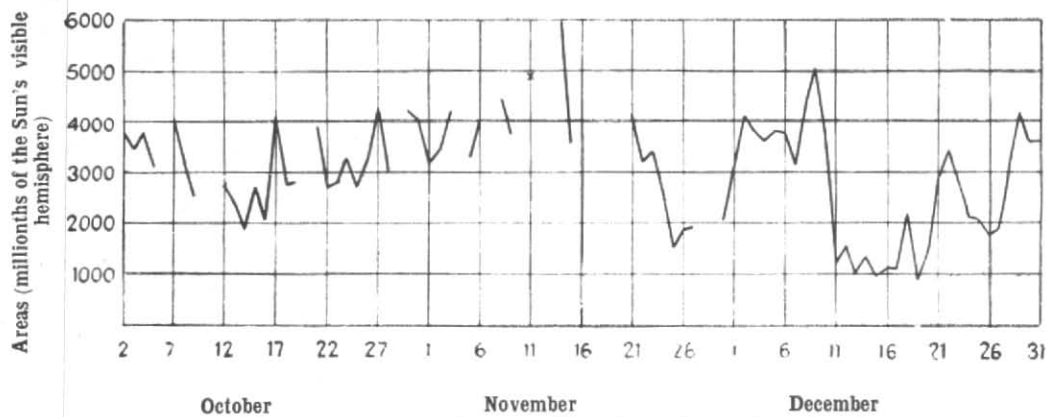


Fig. 1 (c) Daily areas of H-alpha dark markings
 Note : Breaks in the graphs are due to lack of observations

“12th December 1951. It is an interesting point to note that, 14 hours previously, the cyclone had weakened into a depression and that range inside the harbour had increased. All berths continued, throughout the day, to be untenable”.

It is noteworthy that on the 12th when the “ranging” of ships inside the harbour had increased the cyclone was about 1060 miles away from Madras.

WEATHER, OCTOBER-DECEMBER 1951

1. *General Features*

The outstanding features of weather during the period under review were (1) weak northeast monsoon in the Madras State and (2) formation and movement of two severe cyclonic storms—one in East Arabian Sea and the other in the Bay of Bengal in November and December respectively.

There was a temporary revival of the southwest monsoon in the beginning of October, widespread or local thundershowers occurring over the region extending from Assam and sub-Himalayan West Bengal to Hyderabad and coastal Andhradesa, in Deccan (Desh) and along the west coast between the 1st and the 4th with locally heavy falls in the south Konkan, Deccan (Desh) and Assam. There was another spell of good rainfall over the belt of the country extending from Assam to north Deccan (Desh) and the Konkan between the 11th and the 17th in association with a shallow depression which formed off the Orissa coast on the evening of 10 October and moving in a westerly direction across the central parts of the country merged on the 15th into another trough of low pressure which already existed off the Konkan-Kathiawar coast. There were locally very heavy falls of rain in north Deccan (Desh) and the north Konkan between the 15th and 17th causing severe floods and loss of human lives, cattle and property at some places. This rainfall after a prolonged drought proved beneficial to the crops in Deccan (Desh) and alleviated to a great extent the scarcity of water in parts of the Bombay State. Good thunderstorm activity prevailed in Deccan (Desh)

and the southern half of the Peninsula between the 17th and the 24th. Some of the thunderstorms in Deccan (Desh) were accompanied by severe squalls and heavy showers.

2. *The Northeast Monsoon*

The seasonal trough of low pressure in the central Bay of Bengal got accentuated and a low pressure area formed in the west central Bay of Bengal off the Circars coast on 26 October. In association with it, the northeast monsoon set in along the east coast to the north of Madras by the 27th and extended along the Coromandel coast by the 29th. Fairly widespread or local thundershowers occurred in Orissa between the 27th and 31st with locally heavy falls on the last two days. The northeast monsoon remained weak till about 8 November, but revived thereafter, being active in Tamilnad, Malabar and south Kanara and Travancore-Cochin between the 8th and 12th. Travancore-Cochin, however, continued to get good rainfall till about the 21st in association with the formation and movement of a depression—which subsequently intensified into a cyclonic storm—detailed account given later—in the east Arabian Sea between the 12th and 18th and a low pressure wave which moved across the extreme south of the Peninsula by the 19th morning. The latter was also responsible for widespread rain with a few very heavy falls in Tamilnad between the 18th and 21st. Cuddalore reported a very heavy fall of 10.5" on the 18th morning and a further fall of 6.1" the next day. Local or widespread showers occurred in Malabar and south Kanara between the 16th and 21st. These rains were very much welcomed in many parts of Tamilnad where scarcity of water even for drinking purposes was already being felt. To the disappointment of all, however, a lull in the northeast monsoon followed rapidly to be interrupted only between 28 November and 1 December when, in association with the westward passage of a low pressure wave across the extreme south of the Peninsula, widespread or local thundershowers occurred in Tamilnad, Malabar and south Kanara and Travancore-Cochin. Weather remained mostly dry in the south Peninsula during December.

Rainfall distribution over India for the quarter under review is shown in Fig. 1.

3. Storms and Depressions

Two cyclonic storms one in the east Arabian Sea and the other in the Bay of Bengal and a depression in the Bay of Bengal formed during November and December. A depression formed in the southeast Arabian Sea with central region near Lat. 10°N, Long. 65°E by the evening of 12 November. Moving in a northerly direction, it intensified into a cyclonic storm by the 14th morning and became severe by the 15th evening when it was centred about 500 miles west-south-west of Bombay. It, however, weakened rapidly within the next 24 hours into a depression probably retaining a small core of strong winds near the centre which lay off the Kathiawar coast about 150 miles west of Veraval. Weakening further, it became

unimportant by the 19th morning. The track of the storm is given in Fig. 2. Under its influence, locally very heavy rain occurred in northwest Saurashtra on the 18th. An exceptionally heavy fall of 14" in 24 hours—the heaviest fall on record during the last 50 years—was reported by Dwarka on the morning of the 18th out of which nearly 12 inches of rain fell within 9 hours. According to newspaper reports, fourteen persons were drowned in Dwarka and breaches occurred in the railway track between Bhatia and Varvala, isolating Okha, the tip of the Peninsula. Wind speed occasionally reached 50 mph in Dwarka region.

A depression formed in the southwest Bay of Bengal by the morning of 24 November with centre near Lat. 12°N, Long. 85°E. Moving north-northwestwards and deepening, it was centred about 50 miles south of

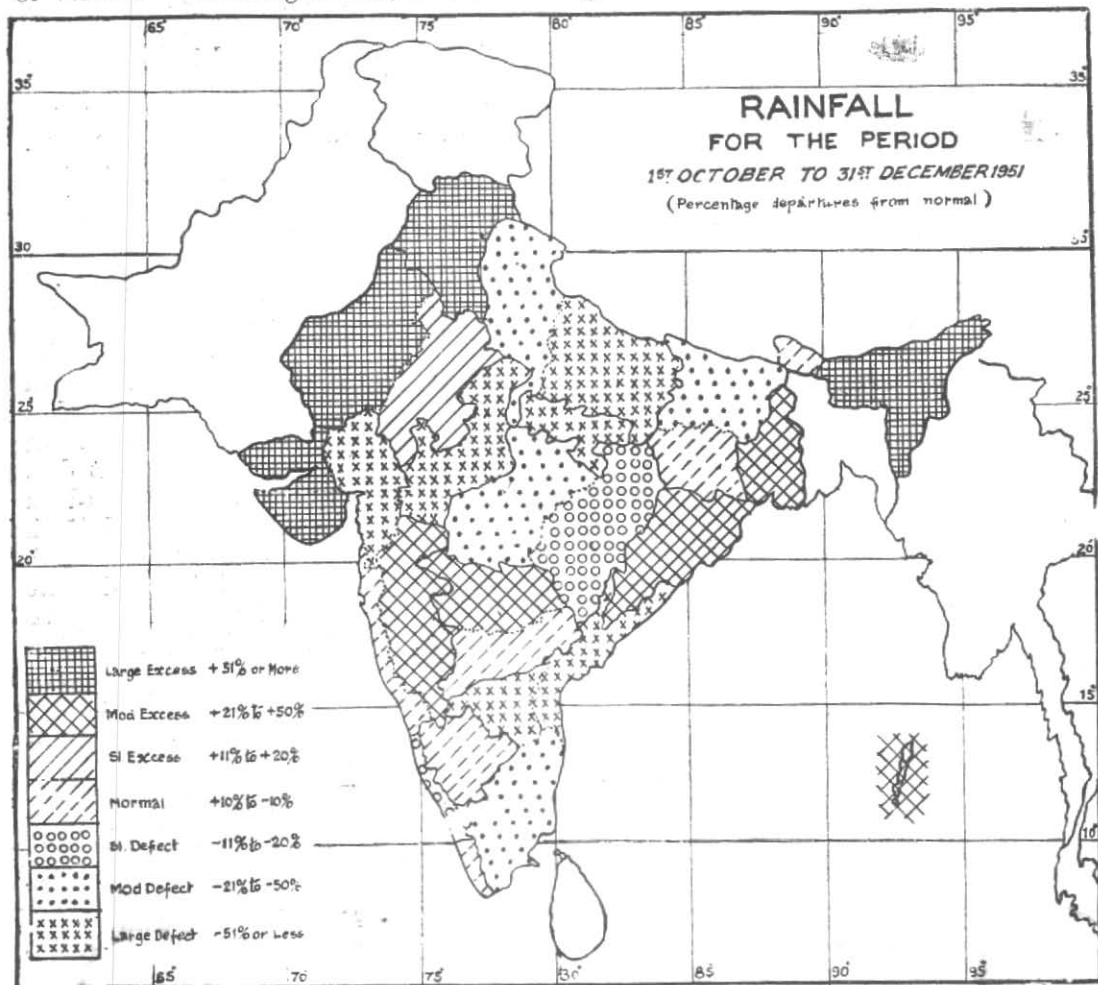


Fig. 1

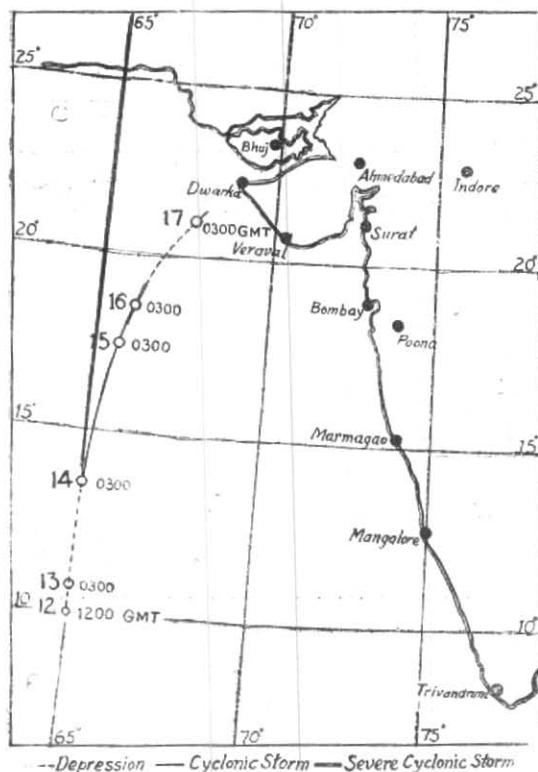


Fig. 2. Track of the cyclonic storm in the East Arabian Sea in November 1951

Visakhapatnam on the 25th morning. It however, weakened rapidly thereafter, and moved away northeastwards as a low pressure wave. In association with the depression, widespread and locally heavy rain occurred successively in the northern districts of coastal Andhradesa, in Orissa, Gangetic West Bengal and Assam between the 25th and 27th.

A depression formed in the southeast Bay of Bengal on the evening of 5 December, and moving initially northwestwards, it intensified into a cyclonic storm the next evening with central region near Lat. 10° N, Long. 89° E. The storm became severe by the 7th morning and curving to a northerly to northnortheasterly course was situated about 250 miles southsoutheast of Calcutta on the morning of the 11th. It weakened rapidly thereafter and only a trough of low pressure lay off Chittagong-Arakan coast on the 13th evening, the low pressure wave passing inland across the Arakan coast into Central Burma on the 15th, and becoming unimportant by the 17th. In association

with this, Assam had local showers on the 16th and a few showers on the 14th and the 17th. Despite considerable distance from the cyclone, heavy swells affected the entire east coast of India on account of which free movement of ships had to be restricted at many of the ports. Inundation of certain low-lying coastal areas and some damage to light vessels were also reported.

4. Western Disturbances

Twelve western disturbances affected the weather over the country during the period under review—two in October, three in November and seven in December. Practically all of them were feeble and moved across the extreme north of the country without causing any precipitation. An active secondary disturbance, however, appeared over north Gujarat and the adjoining parts of Rajasthan on 23 November. It moved northeastwards and passed away across the hills of the Punjab (I) and of west Uttar Pradesh on the 26th. In association with this disturbance, a spell of well-distributed thunder-rain, after an almost continuous drought of three and half months, occurred over north Gujarat, northwest India and west Uttar Pradesh between the 24th and the 26th. A number of stations in west Uttar Pradesh and the Punjab (I) reported 5" or more of rain on the 26th. Snowfall was also reported from some places in Himachal Pradesh.

5. Temperature

A spell of abnormally warm weather prevailed over Saurashtra and Kutch, Gujarat and west Rajasthan during the first week of October when day temperatures were 8° – 18° F above normal. Unusually warm weather was also experienced during the latter half of October over northwest India, Uttar Pradesh, Madhya Bharat, Gujarat and north Deccan (Desh) when both day and night temperatures continued markedly above normal.

The partial failure of the northeast monsoon over Tamilnad, Rayalaseema and coastal Andhradesa led to famine conditions in about 12 districts of the Madras State. Even in the City of Madras, the supply of drinking water had to be somewhat curtailed. Famine conditions were also reported from east Uttar Pradesh due to failure of rain in that division.