Notes And News

WORLD METEOROLOGICAL ORGANISATION

The Extraordinary Conference of Directors of the International Meteorological Organisation (IMO) held its session from 15 to 17 March in Paris and was followed immediately by the first Congress of the World Meteorological Organisation (WMO) from 19 March to 28 April 1951. Both were presided over by Sir Nelson K. Johnson.

The Conference of Directors reviewed the work of IMO since its Washington Conference (1947) and made over its functions to WMO established in accordance with the convention drawn up and signed in Washington in 1947. The Congress was attended by about 150 members made up of Delegates from 54 countries with Observers from 4 others and also Observers representing eight United Nations Organisation (UNO) and other International Organisations. India was represented by V. V. Sohoni and S. Basu from the India Meteorological Department.

Consequent upon the change of status of the organisation, the functions, resources and obligations of IMO were transferred to WMO with the necessary formalities. As WMO now becomes one of the specialised agencies of UNO, the necessary agreement was also reached between these two bodies. The agreement was signed on behalf of UNO by Sir A. Ramaswamy Mudaliar, India's representative in the Economic and Social Council of UNO. Appropriate resolutions were also adopted by the Congress pertaining to the relationship of WMO with some of the other specialised agencies of UNO and some other international organisations, with the aim of securing reciprocal representations at meetings at which matters of mutual interest may be discussed and exchange of relevant documentation and effective co-operation with the other bodies in matters of common interest.

The Congress had an agenda covering 33 items, and 21 of these were referred to 4 Committees for consideration and making recommendations to Congress. On the basis of the reports of these Committees, the Congress adopted appropriate resolutions on the relevant items.

Dr. F. W. Reichelderfer (USA) was elected President for the next term and A. Viaut (France) and N. P. Sellick (Rhodesia), the first and second Vice-President respectively.

For furthering the aims and objects of WMO, the Congress established six Regional Meteorological Associations and elected their Presidents and Vice-Presidents. These are—

Regional Commission I (Africa)
President :
D. A. Davies (*British East Africa*)
Vice-President :
H. Fahmy (*Egypt*)

Regional Commission II (Asia)
President :
V. V. Sohoni (*India*)
Vice-President :
A. A. Zulotukin (*USSR*)

Regional Commission III (South America)
President :
F. X. R. de Souza (*Brazil*)
Vice-President :
C. N. Monasterio (*Argentina*)

Regional Commission IV (Canada and North and Central America)
President :
A. Thomson (*Canada*)
Vice-President :
F. Pena-Aguirre (*Mexico*)

Regional Commission V (South west Pacific)
President :
M. A. F. Barnett (*New Zealand*)
Vice President :
C. del Rosario (*Philippines*)

Regional Commission VI (Europe)
President :
J. Lugeon (*Switzerland*)
Vice-President :
J. Lambor (*Poland*)

The Congress also established eight permanent Technical Commissions, the members of which will be technical experts who will study and make recommendations relating to their respective spheres of activity. These Commissions and their Presidents are as follows—

(i) Commission for Bibliography and Publication
President: M. Mezin (*France*)

(ii) Commission for Instruments and Methods of Observation
President: J. Patterson (*Canada*)

(iii) Commission for Aerology
President: J. Van Mieghem (*Belgium*)

(iv) Commission for Climatology
President: C.W. Thornthwaite (*USA*)
Vice-President: S. Basu (*India*)

(v) Commission for Agricultural Meteorology
President: J. J. Burgos (*Argentina*)

(vi) Commission for Maritime Meteorology
President: C.E.N. Frankcom (*UK*)

(vii) Commission for Synoptic Meteorology
President: W. Bleeker (*Netherlands*)
Vice-President: E. Bjorkdal (*Sweden*)

(viii) Commission for Aeronautical Meteorology
President: A. H. Nagle (*USA*)

For the internal administration of the Organisation, an executive Committee was formed, consisting of the President and the Vice-Presidents of the Organisation, the Presidents of the six Regional Associations and six other members elected from amongst the Directors of the Meteorological Services of the Member States. The six elected members are—

Sir Nelson K. Johnson	(*U K*)
A. A. Zulotukin	(*USSR*)
Th. Hesselberg	(*Norway*)
L. De Azcarraga	(*Spain*)
H. A. Ferreira	(*Portugal*)
Mohammad Aslam	(*Pakistan*)

A Central Secretariat was established consisting of about 25 members on the staff to begin with, with UNO scales of pay; they include a Secretary General and a Deputy Secretary General besides other technical officers. The permanent Headquarters of the Secretariat of WMO was decided upon to be located at Geneva in Switzerland, the other places considered for this purpose being Lausanne in Switzerland and Paris. Dr. G. Swoboda, the Chief of the old IMO for many years, was appointed the first Secretary General of WMO.

Among the many decisions taken by the Congress, of particular importance are—

(1) a re-statement of the criteria for, and determining the scales of, the proportional contributions by the Member States to WMO General Funds, and fixing the maximum expenditure during the first financial period of about 5 years;

and (2) determination of the general policies for the fulfilment of the purposes of WMO, and the programme for the first financial period.

The points included in the general policy by WMO cover a wide variety of work and responsibilities. These are illustrated by the items as set forth below—

(*a*) The Organisation shall invite countries, which are not Members of the Organisation and which possess a Meteorological Service, to send Observers to the meetings of the Congress and appropriate Regional Associations. The Presidents of the Technical Commissions shall invite the Directors of the Meteorological Services of these countries to be represented at the meetings of their respective Commissions.

(*b*) The closest co-operation shall be established between WMO and other Specialised Agencies of UNO in conformity with the provisions of the Convention of WMO.

(*c*) Suitable arrangements shall be made for collaboration with other international organisations (whether inter-governmental or not) when in the interest of the WMO.

(*d*) The Congress would take part in the United Nations Expanded Programme of Technical Assistance for Economic Development of Underdeveloped Countries. The Secretariat of WMO will give technical advice, on request, to Members and other States within the limits of its resources.

(*e*) The Organisation shall participate, where desirable, in international collective enterprises having a meteorological aspect in which the cost is borne by the Members benefitting. The Organisation will support such technical work as the Executive Committee considers necessary for the standardisation of instruments internationally used in meteorological net-works. The organisation shall study the question of an international meteorological institute.

(*f*) The Organisation will draw up and publish the international rules to be applied by Meteorological Services in the form of Technical Regulations.

(*g*) The Organisation shall take appropriate measures to ensure adequacy in the world net-work of meteorological stations. In the event of a serious gap, it shall examine ways of bridging it either by means of collective aid, financing out of special funds, or by agreement with one or more countries.

(*h*) The Organisation assumes responsibility for notifying the International Telecommunication Union of the collective requirements of meteorology.

(*i*) The Organisation shall keep Members, international organisations and interested non-member countries informed of international activities in the sphere of Meteorology by suitable means such as a periodical bulletin, the press, radio, etc.

(*j*) The Organisation shall consider the possibility of publishing condensed statistics of basic meteorological data either in tabular or chart form, and devise a plan for free distribution to Members of its publications.

(*k*) The Organisation shall maintain a technical library adequate for the efficient functioning of the Secretariat.

In stating the above general policy, the Congress desired to impress upon the constituent bodies of WMO the importance of such policy in maintaining peace and fraternity in the world.

After the conclusion of the Congress, a session of the Executive Committee was held to consider various organisational, administrative, financial and programme matters.

CENTRAL BOARD OF GEOPHYSICS

A meeting of the Central Board of Geophysics was held at Calcutta on 24 April 1951, and this was followed by a symposium on the Assam Earthquake of 1950, in which about a dozen papers were read. The papers dealt with different aspects of the earthquake, such as, the cause, epicentre, magnitude, energy, acceleration, isoseismals, damage, destruction, land-slides, changes of river beds and river courses and changes in the levels of fields and other areas.

ATMOSPHERIC RESEARCH COMMITTEE

A meeting of the Atmospheric Research Committee was held at the Meteorological Office, Lodi Road, New Delhi, on 5 March 1951, under the Chairmanship of Mr. V. V. Sohoni, Director General of Observatories. Dr. S. S. Bhatnagar, Director of the Council of Scientific and Industrial Research, was also present at the meeting. The Committee recommended that grants be made by the Council of Scientific and Industrial Research for investigations on "Infra-red radiation" by Dr. L. A. Ramdas, "Atmospheric Ozone" by

Dr. K.R. Ramanathan, "Colloidal instability of cloud particles " by Dr. S. K. Banerji, and " Correlation of microseisms and seawaves with cyclonic disturbances " by Dr. S. K. Chakravarty. The formation of a small unit of two or three workers, earmarked by the Ministry of Defence and the Meteorological Department, for study of microseisms, seawaves and swell was also recommended by the Committee.

FOG AT BOMBAY DURING FEBRUARY AND MARCH 1951

Meteorological data for Santacruz Aerodrome are available only from the year 1944 onwards, when the meteorological office was opened at the airfield. From these records, it is seen that fog does not generally occur on more than two occasions a year. However, this year fog occurred on as many as five mornings during the last week of February and the first week of March. The following table gives details of such occasions—

Date	Time of Commencement (IST)	Time of Lifting (IST)	Duration of fog		Lowest visibility attained
			h	*m*	*yd*
24.2.51	0455	0850	3	55	10
25.2.51	0710	0805	-	55	880
27.2.51	0500	0900	4	-	10
3.3.51	0345	0515	1	30	200
5.3.51	0400	0450	-	50	220
5.3.51	0710	0805	-	55	800

On two of the days the fog was very thick, the lowest visibility reaching 10 yd and fog lasting for nearly 4 hours. The thickest fog was on the 27th morning, when railway and vehicular traffic in the city was also affected. At Juhu airfield, about 1½ miles to the west of Santacruz there was fog only on three days, *viz.*, 24 and 27 February and on 3 March 1951. The visibility at Juhu during fog was relatively better than that at Santacruz.

CONDENSATION TRAIL OVER DELHI ON 29 MARCH 1951

Conditions favourable for the formation of condensation trails occur but rarely in the tropics. People of Delhi were, therefore, taken by surprise when they found that a mysterious fast moving aircraft was leaving a thick condensation trail in the sky at 0930 IST on Thursday the 29 March 1951. The aircraft was seen moving in the sky for nearly 20 minutes and then disappeared in the southeast direction. The trail remained in the skies and took more than an hour to dissipate.

A picture of a portion of the trail is reproduced on p. 217 by courtesy of "The Statesman," New Delhi.

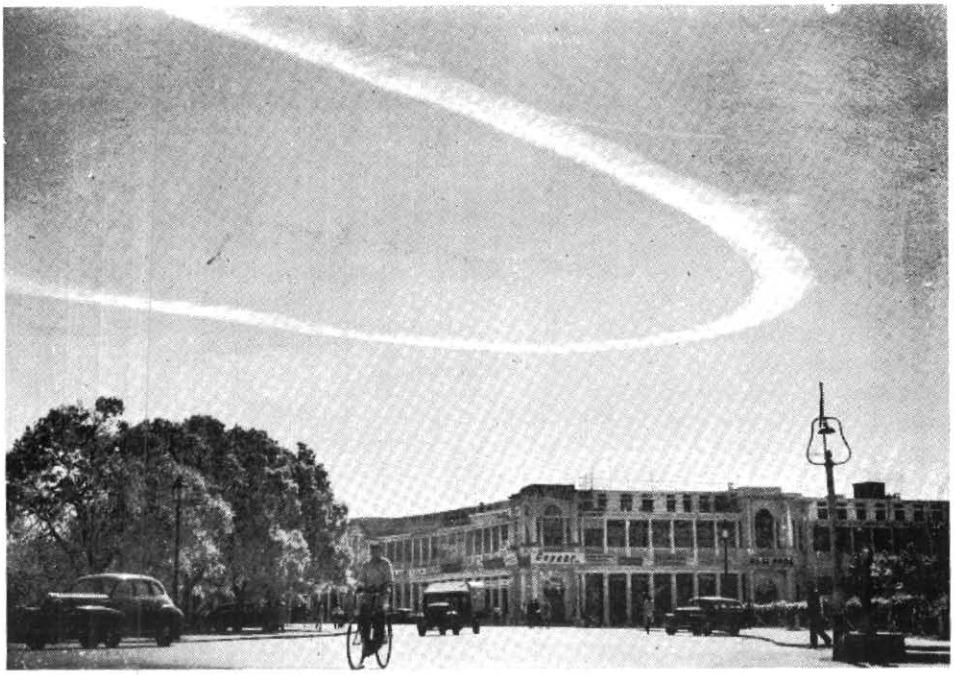
EARTHQUAKE AT BOMBAY ON 9 APRIL 1951

An earthquake shook Bombay moderately in the early hours of the morning of 9 April 1951. It originated at Lat. 19°.9 N., and Long. 72°.3 E., in the Arabian Sea about 80 miles to the northwest of Bombay and the time of origin was 02 *h* 23*m* 22 *s* IST. These have been determined on the basis of the Indian seismological data. The tremor was also mildly felt at Surat and by a few persons at Poona and Ratnagiri. Poona seismogram of the earthquake is reproduced on p. 217.

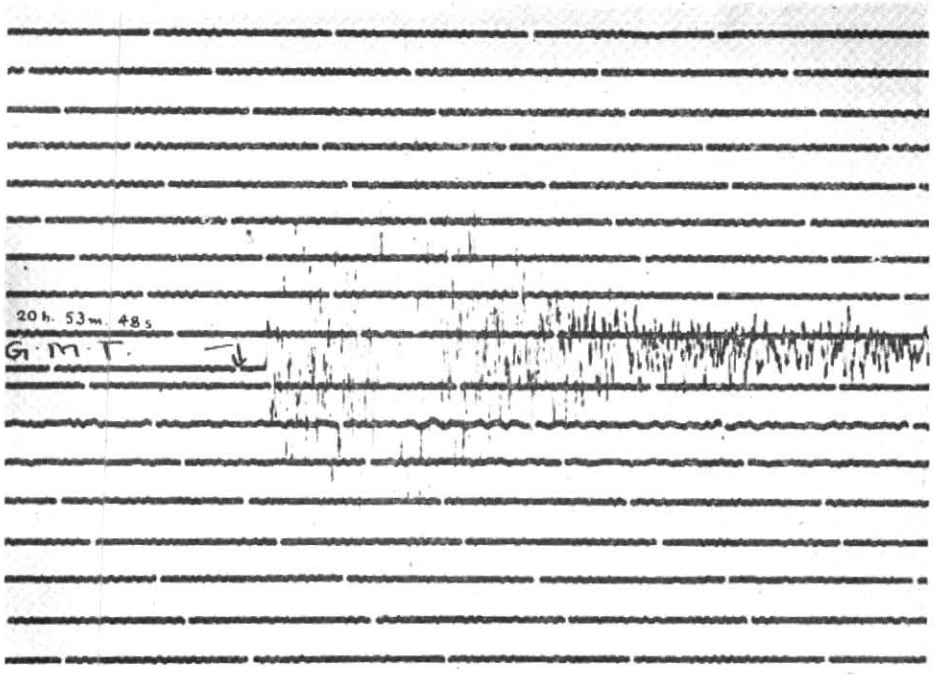
KODAIKANAL SOLAR AND GEO-MAGNETIC DATA, JANUARY-MARCH 1951

Graphs showing (a) Kodaikanal daily relative sunspot numbers, (b) daily areas of calcium prominences and (c) daily areas of H-Alpha dark markings are given on p. 218.

Tables 1 to 4 on p. 219-220 summarise the data on solar and geomagnetic phenomena.



A picture of condensation trail left by an un-identified aircraft over Delhi on 29 March 1951
(Photo : *The Statesman, New Delhi*)



Poona seismogram of earthquake of 9 April 1951

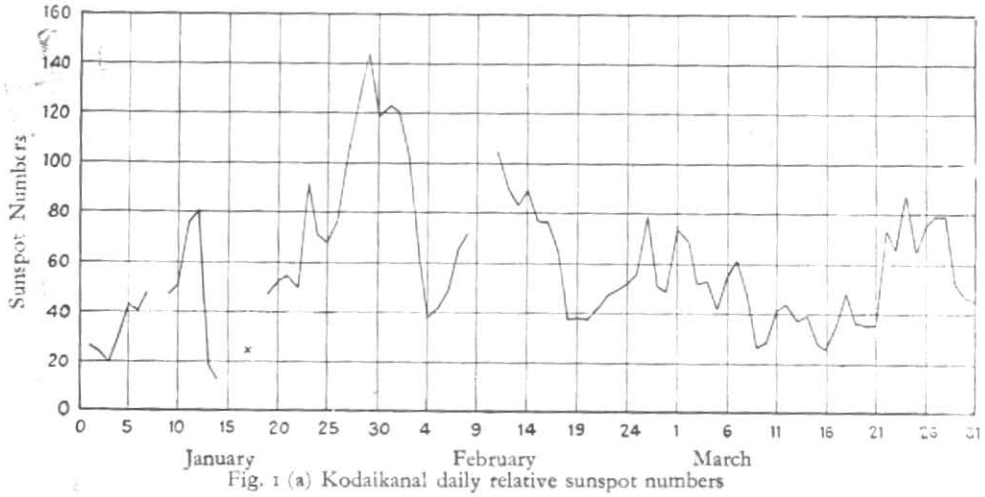


Fig. 1 (a) Kodaikanal daily relative sunspot numbers

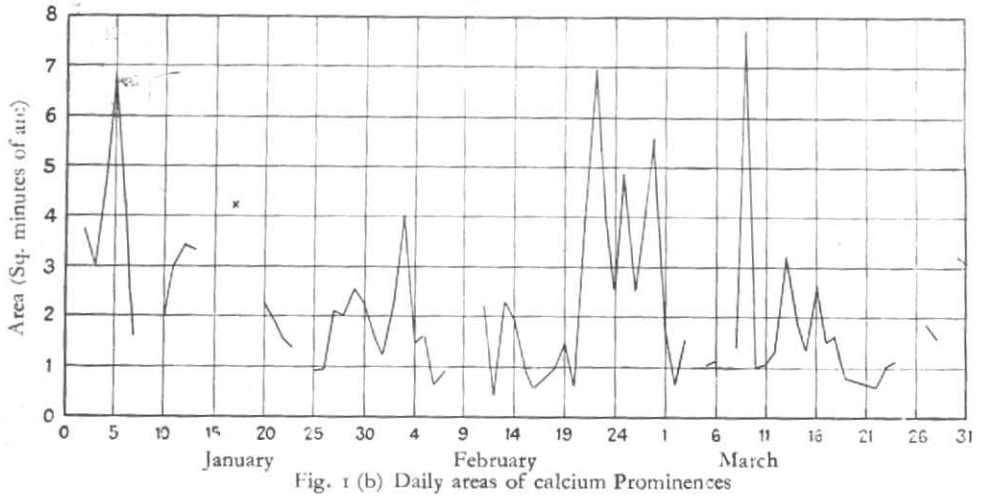


Fig. 1 (b) Daily areas of calcium Prominences

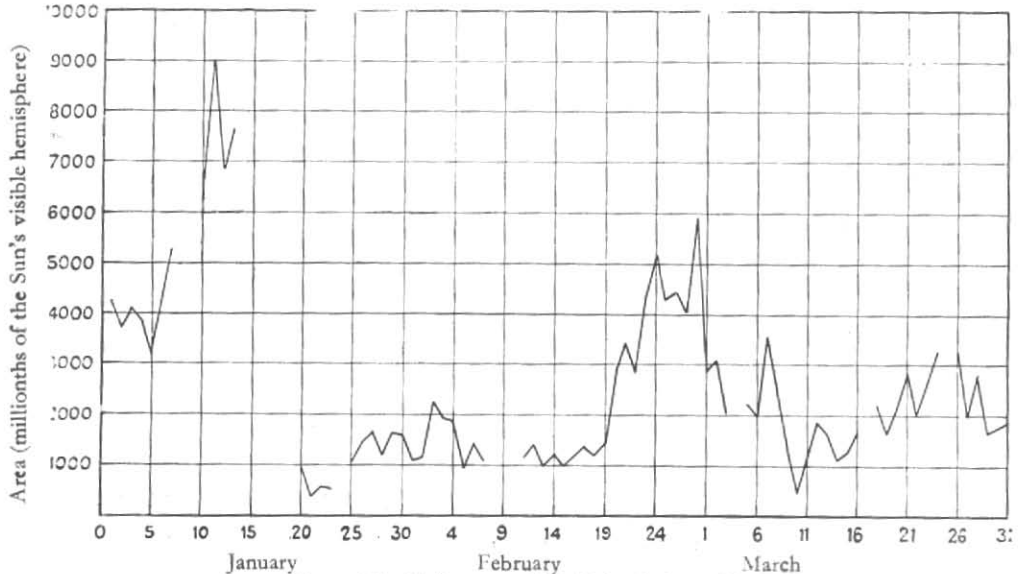


Fig. 1 (c) Daily areas of H-Alpha dark markings

Note : Breaks in the graphs are due to lack of observations

TABLE 1

Prominent Sunspot groups

Kodaikanal Serial No. of spotgroup	Mean latitude	Date of central meridian passage	Total area (millionths of the sun's visible hemisphere) at central meridian passage
9608	12½° S	January 6	450
9620 (1st rotation)	8½° N	January 29	1150
9620 (2nd rotation)	10° N	February 24-25	650
9620 (3rd rotation)	10° N	March 23	850

TABLE 2

Solar Flares

Date	Time in GMT Beg. (*h m*)	Max. (*h m*)	End. (*h m*)	Co-ordinates: Mean latitude	Co-ordinates: Mean longitude	Estimated maximum intensity	Maximum width of H-Alpha line observed (Å)	Remarks
Jan				Nil				
Feb 6	—	09 30	10 00	24° N	62° W	1	not observed	—
Feb 26	—	02 15	03 45	(a) 7½° N (b) 10° N	17° W 22° W	2	2.6	Observed in the vicinity of spotgroup No. 9620 (2nd rotation). Associated magnetic crochet and storm recorded.
Mar 3	—	02 15	03 30	10° N	Near West limb	1	1.6	Observed near spotgroup No. 9620 (2nd rotation).
Mar 23	—	04 10	—	8° S	13° W	1	1.6	—
Mar 24	—	02 13	03 00	15° N	20° W	1	1.2	Observed near spotgroup No. 9620 (3rd rotation).
Mar 27	—	03 20	03 40	13° N	54° W	1	1.3	

TABLE 3

Sudden disappearance of prominences and H-Alpha dark markings

Nature of phenomenon	Date and time of phenomenon when last seen	Co-ordinates of phenomenon		Remarks
		Mean lati-tude	Mean longi-tude	
Prominences	Mar 9, 0945 UT	25° N	90° W	Disappeared next day
H-Alpha dark markings: (1)	Feb 20, 0945 UT	47° S	50° W	Disappeared next day
(2)	Feb 28, 0945 UT	25° N	10° E	Disappeared next day
(3)	Mar 3, 0945 UT	18° S	2° W	No observation on Mar 4; disappeared as seen on 5th.
(4)	Mar 9, 0600 UT	16° S	35° W	Disappeared at 0830 UT on the same day

TABLE 4

Principal Magnetic Storms

Observatory	Greenwich date	Storm-time GMT of begin.		Storm-time GMT of ending		Sudden commencement Type	Amplitude D	H	Z	C Figure, degree of activity	Maximal activity Greenwich day	Range D	H	Z
		h	*m*	*h*	*m*		′	γ	γ			′	γ	γ
Kodaikanal	Jan 31	02	02	09 (on Feb 1)	18	Sc	...	+35	−1	m	Jan 31	3	164	—
	Feb 22	06	04	19 (on Feb 24)	20	...	...	...	...	m	Feb 23	4	255	8
	Feb 27	00	25	15 (on Feb 28)	08	Sc	...	+20	−1	ms	Feb 28	4	268	14

Note: Sc = Sudden Commencement
... = Gradual Commencement
ms = Moderately Severe
m = Moderate

WATERSPOUT NEAR DIAMOND HARBOUR (WEST BENGAL) ON 20 MARCH 1951

A note on the phenomenon of water spout received from Mr. V.S.C. Bonerjee, S.D.O., Diamond Harbour (Formerly Wing Commander R.I.A.F.) is given below—

" A water spout was visible from Diamond Harbour court at 1215 hrs. on 20-3-51 and it was seen to dissipate itself by 1235 hrs. The spout descended from a cumulonimbus cloud at an average height of about 8000 ft. It was reported by observers to have been seen to advance from a southwesterly direction along the river Hooghly, probably passing over a part of the Midnapur district before reaching the Sub-Divisional Headquarters area of Diamond Harbour. It is presumed that the column originated as a result of a tornado of a very small size somewhere in the Bay of Bengal. Thus by the time it had reached the Diamond Harbour land area most of its sting was lost. It struck village Dhanberia about one mile from Diamond Harbour town after coming off the river and damaged about 20 houses. The diameter of the base of the column appeared to be about 300 yds. Fortunately it passed mostly over open fields and uninhabited areas. It continued in its northeasterly track till it reached village Baria about 3 miles from Diamond Harbour and there the centre of the column struck a Free Primary School with tiled roof. Due to a vertically upward convection current, the tiled roof of the school was drawn upward with great force and descended on the school pupils very suddenly injuring most of them. Damage was caused to all the houses along the passage of the column to an area of about 150 yds on either side of a line drawn in a northeasterly direction from the said school. The force of the tornado was spent thereafter without causing much damage elsewhere.

It is reported that a similar phenomenon occurred at Diamond Harbour about 15 years ago causing extensive damage to village Abdalpur about 4 miles from Diamond Harbour ".

WEATHER, JANUARY—MARCH 1951

The chief features of the weather during the period under review were (*a*) general

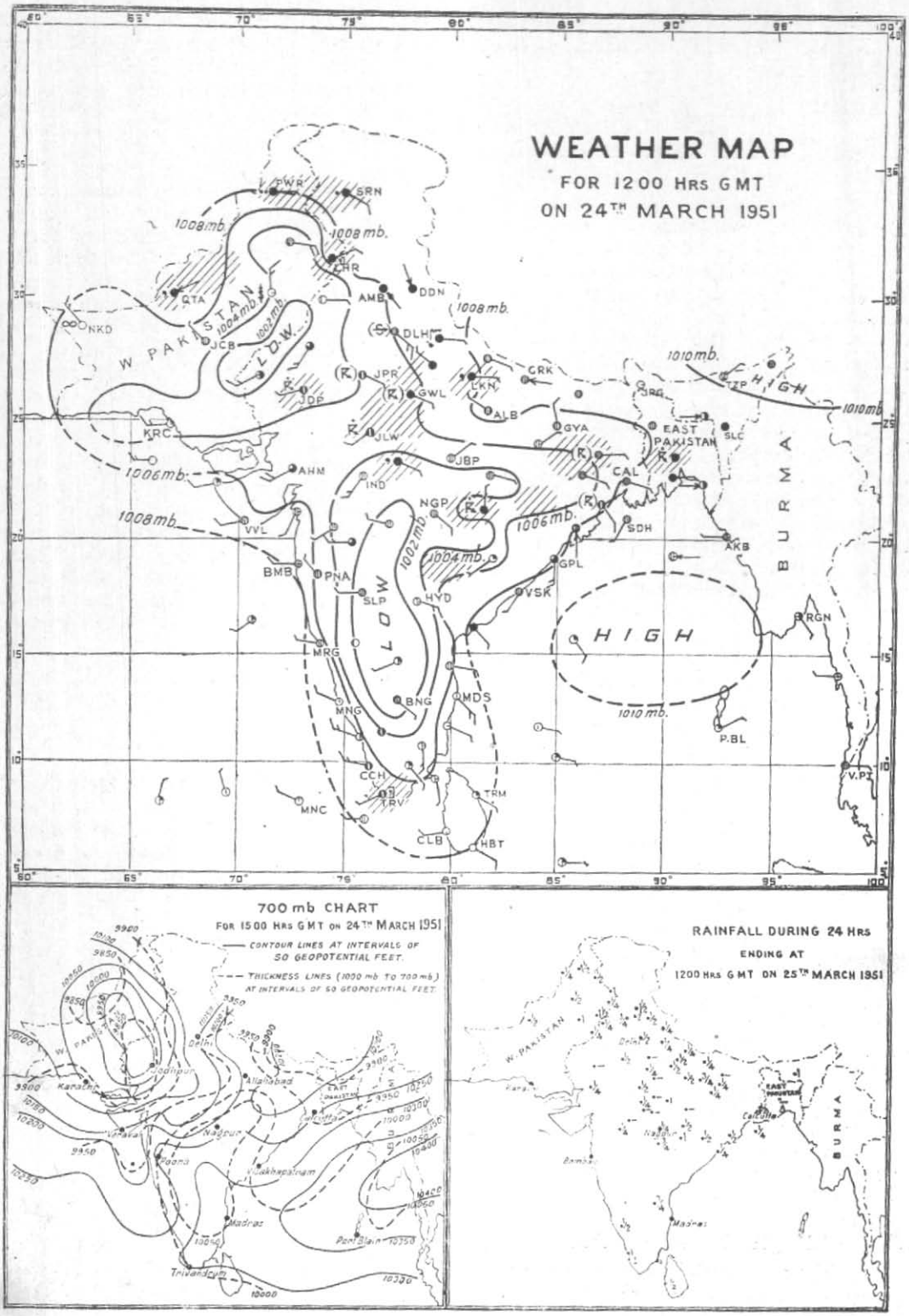
feebleness of the western disturbances except towards the end of March, (*b*) abnormal cold spells in northwest India and the central parts of the country during the first week of January and the first fortnight of February.

January—Eight western disturbances affected the country during this month, of which only the second, third and fourth disturbances were active. The third disturbance also induced a fairly active secondary. They were responsible for widespread rain or snow in west Uttar Pradesh, Punjab (I) and Kashmir on the 13th and widespread or local thundershowers in west Madhya Pradesh, Vindhya Pradesh, Uttar Pradesh and in and near the hills of the Punjab (I) between the 14th and 17th. Thundershowers were also widespread in east Uttar Pradesh, Vindhya Pradesh and Madhya Pradesh on the 20th. According to newspaper reports, there was exceptionally heavy snowfall in the neighbourhood of Simla on the 16th which caused dislocation of motor-traffic on the roads leading to Simla.

The northeast monsoon was also weak in the south of the Peninsula throughout the month.

Night temperatures were appreciably below normal in northwest India, Uttar Pradesh and the central parts of the country in the first week being markedly so in east Rajasthan, Madhya Bharat and Madhya Pradesh.

February—Four western disturbances moved across the country during this month. Of these, the first and second were somewhat active. Along with their secondaries or tertiaries, they caused widespread rain or snow in the Punjab (I) and west Uttar Pradesh between the 1st and 3rd and on the 10th and widespread thundershowers in east Uttar Pradesh, Vindhya Pradesh and the adjoining divisions of north Madhya Pradesh on the 5th and 6th. The thundershowers in north Madhya Pradesh were accompanied by hailstorms in many places which, according to press reports, considerably affected the rabi crops in those areas.


WEATHER MAP
FOR 1200 Hrs GMT
ON 24TH MARCH 1951
1008mb.
1004mb.
1002mb.
1006mb.
1010mb.
HIGH
LOW
W. PAKISTAN
EAST PAKISTAN
BURMA
DWR
SRN
HR
AMB
DDN
NKD
QTA
JCB
DLH
JPR
GWL
CRK
LKN
ALB
JRG
ZP
SLC
KRC
JDP
JLW
GYA
JBP
AHM
IND
CAL
NGP
VVL
SDH
AKB
BMB
PNA
SLP
HYD
GPL
VSK
RGN
MRG
BNG
MDS
MNG
P.BL
CCH
TRV
TRM
V.P.
MNC
CLB
HBT
700 mb CHART
FOR 1500 Hrs GMT ON 24TH MARCH 1951
CONTOUR LINES AT INTERVALS OF 50 GEOPOTENTIAL FEET.
THICKNESS LINES (1000 mb TO 700 mb) AT INTERVALS OF 50 GEOPOTENTIAL FEET.
Delhi
Jodhpur
Karachi
Allahabad
Nagpur
Poona
Visakhapatnam
Madras
Port Blair
Trivandrum
RAINFALL DURING 24 Hrs
ENDING AT
1200 Hrs G.M.T. ON 25TH MARCH 1951
W. PAKISTAN
EAST PAKISTAN
BURMA
Delhi
Karachi
Nagpur
Bombay
Calcutta
Madras

In the wake of each of the first two western disturbances, extra-tropical continental air swept across northwest India, the central parts of the country and Saurashtra and Gujarat between the 2nd and 4th and the 11th and 14th respectively. During the former period, many places in Rajasthan recorded night temperatures below freezing point. Cases of persons who died due to exposures to cold were also reported from certain parts of Saurashtra.

March—In spite of the four western disturbances and the two secondaries which passed across the north of the country in the first three weeks, weather was mostly dry during that period. The rest of the month was, however, characterised by good thunderstorm-rain in northern India and the central parts of the country. A western disturbance appeared over Sind and west Rajasthan on the 22nd. It moved to the southern districts of the Punjab (P) and the adjoining areas by the 24th where it persisted for the next two days and was very active during that period. Weakening thereafter, it passed away across the hills of the Punjab (I) and of west Uttar Pradesh on the 27th. Another western disturbance which moved from north Baluchistan lay over Rajasthan and the adjoining areas on the last day of the month. During this period there was also marked and persistent incursion of modified tropical continental air (by sea travel) into the central parts of the country and northeast India around the periphery of the seasonal high over the Bay of Bengal. In association with these developments, widespread or local thundershowers occurred over most of northern India, in the central parts of the country and Hyderabad between the 25th and 27th and on the last two days of the month.

The 1200 GMT sea level chart for the 24th, the 1500 GMT 700 mb chart for the same day showing the active western disturbance over the southern districts of the Punjab (P) and adjoining areas and a chart containing the rainfall during 24 hours ending at 1200 GMT on the 25th are given on page 222.

The third and fourth weeks of the month were also marked by abnormally low day temperatures in northern India and the central parts of the country. The maximum temperatures were as much as 20° to 30° F below normal in the Punjab (I), Uttar Pradesh and Vindhya Pradesh on the 25th and 15° to 25° F below normal in east Madhya Pradesh and Orissa on the 30th.

General—The feebleness of western disturbances led to a large deficiency of winter rainfall in northern India. According to press reports this deficiency further aggravated the serious food-position in Bihar.

OBITUARY

We regret to report the death of Shri A. B. Velankar, Professional Assistant, at Bombay on 20 February 1951 after a prolonged illness.