

# Weather

## WINTER SEASON (JANUARY & FEBRUARY 1985)\*

### 1. Chief features

(i) The winter, this year, was comparatively mild.

(ii) The rainfall during the season (Fig. 1) was in large excess in coastal Andhra Pradesh, Tamil Nadu, coastal Karnataka and Kerala; moderately excess in Nagaland, Manipur, Mizoram & Tripura, Orissa and Vidarbha; slightly excess in Gangetic West Bengal and normal in Rayalaseema. It was slightly deficient in Sub-Himalayan West Bengal & Sikkim and east Madhya Pradesh; moderately deficient in Andaman & Nicobar Islands, Arunachal Pradesh, Assam & Meghalaya, east Uttar Pradesh, west Madhya Pradesh, Telangana and north interior Karnataka and largely deficient in the rest of the country outside Gujarat State and Konkan & Goa, where there was no rainfall.

### 2. January

Winter was generally mild over the country during this month. However Western Himalayas received three spells of snowfall.

#### 2.1. Western disturbances and other systems in westerlies

(i) The last western disturbance if the previous month and thirteen others affected Western Himalayas and neighbourhood during the month. Of these the last western disturbance of the previous month which affected till 2nd and those which moved away eastwards across these areas between 2nd and 3rd, 3rd and 4th, 4th and 7th, 17th and 20th, 18th and 22nd and between 25th and 27th were active.

(ii) (a) Several induced cyclonic circulations in the lower tropospheric levels formed over Rajasthan and neighbourhood, which moved eastwards across the northern plains. The one which moved from west Rajasthan to Bihar Plateau between 4th and 7th was important, (b) from north Rajasthan and neighbourhood to northwest Madhya Pradesh and adjoining Uttar Pradesh between 19th and 20th, (c) from Haryana and neighbourhood to east Uttar Pradesh

and adjoining Bihar plains between 21st and 22nd and (d) from north Rajasthan and neighbourhood to Sub-Himalayan West Bengal & Sikkim between 26th and 28th.

(iii) The other significant system in westerlies was a cyclonic circulation in the lower tropospheric levels which lay over southwest Madhya Pradesh and adjoining Vidarbha and Marathwada on 20th evening. It weakened over same area on 22nd.

Under the influence of these systems rain or snow was generally widespread over Himachal Pradesh and Jammu & Kashmir on 5th, 6th and 8th and so over Jammu & Kashmir on 21st and 26th. Rain or snow was scattered over Himachal Pradesh on 2nd and 22nd and that over Jammu & Kashmir on 18th and 19th. Rain or thundershowers were generally widespread over Orissa on 2nd, Bihar Plateau on 16th, east Uttar Pradesh on 5th, hills of west Uttar Pradesh on 5th, 21st and 22nd, Himachal Pradesh on 1st, 21st and 27th, Jammu & Kashmir on 27th and over east Uttar Pradesh on 22nd. They were scattered or isolated on 14 days in east Madhya Pradesh, on 7 to 8 days in Arunachal Pradesh and Vidarbha, on 3 to 6 days in Assam & Meghalaya, Gangetic West Bengal, Orissa, Bihar, Uttar Pradesh, Haryana, Punjab, Himachal Pradesh, east Rajasthan, west Madhya Pradesh and Marathwada and on 1 or 2 days in Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim, Jammu & Kashmir and Madhya Maharashtra. Isolated very light rain also occurred on a few days in west Rajasthan between 3rd and 9th.

#### 2.2. Systems in easterlies

The following systems in easterlies affected the weather of the country :

(i) A low pressure with associated cyclonic circulation upto 3.6 km a.s.l. lay over Comorin and adjoining Sri Lanka on the last day of the previous month. It moved over south Karnataka, north Kerala and adjoining areas of Arabian Sea on 2nd. A trough

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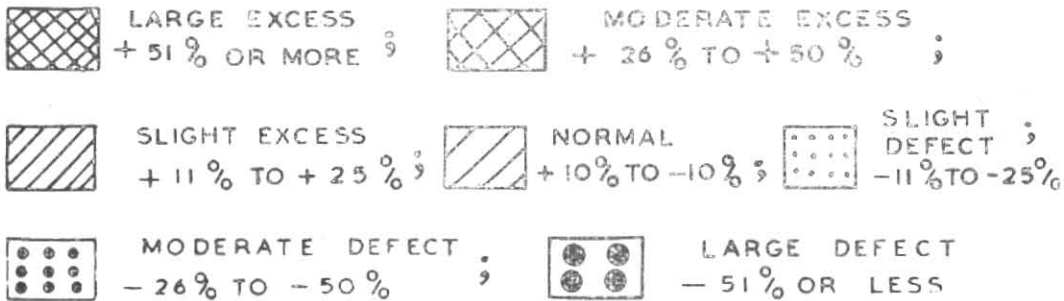
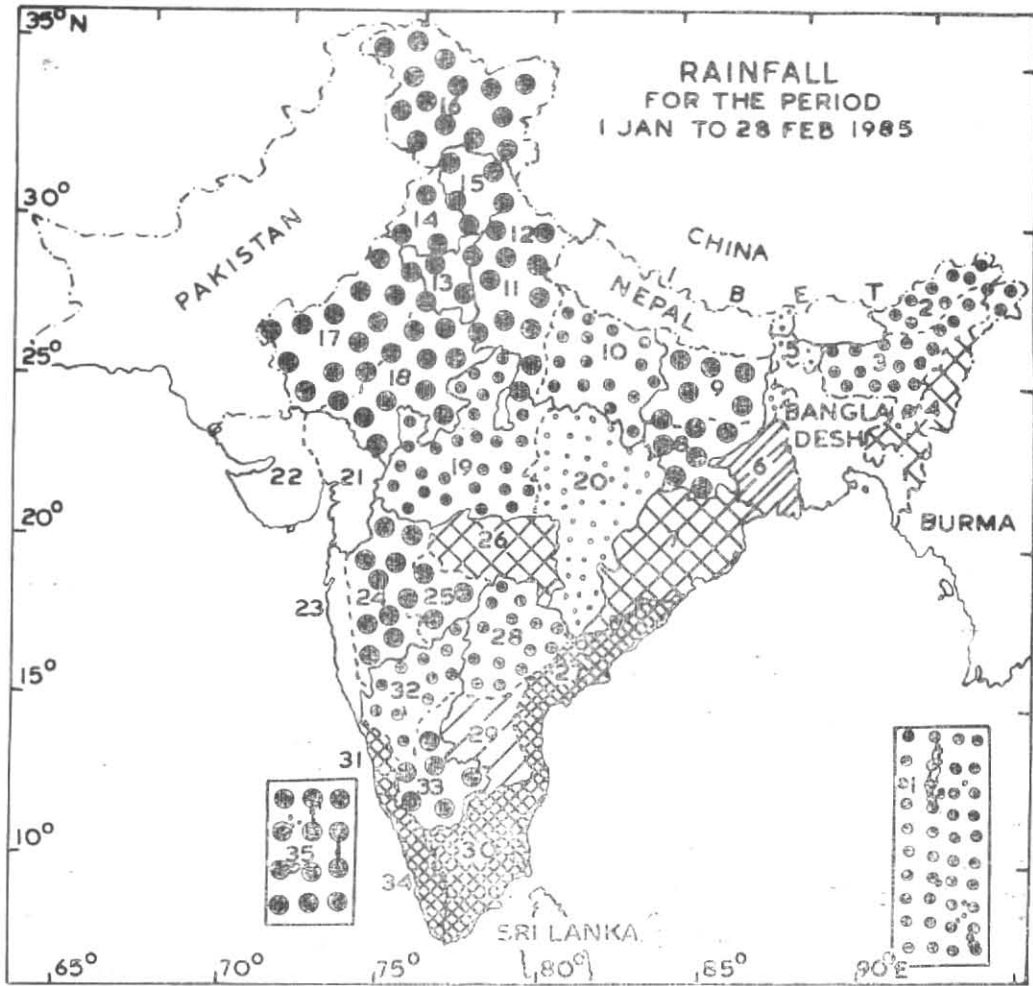


Fig. 1. Percentage departure of rainfall from normal for the period 1 Jan to 28 Feb 1985

<i>Sub-division</i>	<i>Dep. from normal</i>	<i>Sub-division</i>	<i>Dep. from normal</i>
1- A & N Islands	-27	18. East Rajasthan	-19
2. Arunachal	-3	19. West M. P.	-2
3. Assam & Megha.	-5	20. East M. P.	-21
4. N. M. M. & T	24	21. Gujarat Reg.	-56
5- S. H. W. S. & Sikkim	-24	22. S & K	13
6. G. West Bengal	-33	23. Konkon & Goa	-4
7. Orrissa	-42	24. Madhya Maha.	-41
8. Bihar Plateau	-52	25. Marathwada	-27
9. Bihar Plains	3	26. Vidarbha	-11
10. East U. P.	-34	27. Coastal A. P.	-61
11. Plains West U. P.	-54	28. Telangana	-13
12. Hills West U. P.	-35	29. Rayal-seema	-57
13. Haryana	-60	30. Tamil Nadu	-51
14. Punjab	-14	31. Cot. Karnataka	-13
15. Himachal Pradesh	-47	32. N. I. Karnataka	13
16. Jammu & Kashmir	-34	33. S. I. Karnataka	-33
17. West Rajasthan	101	34. Kerala	2
		35. Lakshadweep	7

at 0.9 km a.s.l. extended from the system to west Uttar Pradesh on 1st and 2nd. It became less marked over southeast and adjoining east central Arabian Sea on 4th.

(ii) Two cyclonic circulations in lower tropospheric levels moved from southwest Bay and neighbourhood to Arabian Sea across extreme south Peninsula and Comorin area, first one between 4th and 6th, the second one between 5th and 7th. Another cyclonic circulation which lay over Comorin and neighbourhood on 7th became less marked over Lakshadweep-Maldives and neighbourhood on 10th.

(iii) A trough in easterlies at 0.9 km a.s.l. extended from southeast Rajasthan to Lakshadweep across Madhya Maharashtra on 12th and from Madhya Maharashtra to Kerala on 13th.

(iv) Two cyclonic circulations upto 0.9 km a.s.l. were observed one over Comorin on 17th and the other over southeast Arabian Sea off Kerala and Lakshadweep on 22nd which became unimportant next day.

These systems caused generally widespread rain or thundershowers from 1st to 5th in Tamil Nadu, 1st to 4th in Kerala. 1st to 3rd in coastal Andhra Pradesh and on 1st in Vidarbha. Isolated heavy to very heavy falls occurred on 4 days in Tamil Nadu and on a day in Kerala. Rain or thundershowers were scattered or isolated on 3 days in Rayalaseema, on 2 to 4 days in Karnataka, on 5 days in Kerala and on 2 days in Lakshadweep during the first fortnight. They were so on 8 days in Tamil Nadu during the month.

### 2.3. Rainfall during the month

It was excess in Orissa, east Madhya Pradesh, Vidarbha, Andhra Pradesh, Tamil Nadu, coastal and north interior Karnataka and Kerala; normal in east Uttar Pradesh and south interior Karnataka; deficient in Arunachal Pradesh, West Bengal & Sikkim, Bihar, hills of west Uttar Pradesh, Himachal Pradesh, Jammu & Kashmir, west Madhya Pradesh, Madhya Maharashtra and Marathwada; scanty over the rest of the country outside Gujarat State and Konkan & Goa, where there was no rainfall.

The significant amounts (cm) of rainfall were :

1st Nagapattinam 18, Kalpa 17, Pamban 16, Parangipettai 15, Cuddalore 13, Palayamkottai 9, Dharampur 8.

2nd Namakkal & Srivilliputtur 7 each, Ongole & Sivganga 6 each, Gannavaram, Eluru & Polavaram 5 each.

3rd Ranikhet, Madras AP, Ottapalam & Pudukottai 4 each.

4th Quilon, Pondicherry & Peermedu 8 each, Alleppey 5, Cuddalore & Sherthala 3 each.

5th Jogindernagar, 5, Quazigund, Dalhousie, Kangra & Baijnath 3 each.

6th Ambikapur 7, Sherthala & Sivganga 3 each.

8th Raigarh 5.

11th Jabalpur 3.

12th Pendra 3.

16th Pamban 3.

17th Pamban 9, Tondi 4, Palayamkottai & Vedaranyam 3 each.

22nd Wardha 5, Bilaspur 3.

23rd Mannargudi 3.

26th Banihal & Batote 3 each.

27th Raya 4, Badharwah, Sarkaghat & Pathankot 3 each.

28th Kalpa 6.

### 2.4. Temperature

Night temperatures were below normal on 13 to 16 days in Sub-Himalayan West Bengal & Sikkim, plains of west Uttar Pradesh and Jammu & Kashmir, on 8th to 11 days in Nagaland, Manipur, Mizoram & Tripura, east Uttar Pradesh, Punjab, Himachal Pradesh and west Rajasthan and on 4 to 6 days in Assam & Meghalaya, Bihar, hills of west Uttar Pradesh, Gujarat State and Konkan & Goa during the month, being appreciably so in some of these areas on 1 or 2 days. They were generally above or appreciably above normal in Marathwada, Vidarbha, Andhra Pradesh and Karnataka.

### 3. February

Though a number of systems moved across north-west and adjoining central India, they did not cause much precipitation resulting in scanty or no rainfall over these areas during this month.

#### 3.1. Systems in westerlies

(i) The last western disturbance of the previous month moved away eastwards across Western Himalayas on 1st. Thirteen more western disturbances moved across Western Himalayas and neighbourhood during this month.

(ii) Two induced cyclonic circulations in the lower troposphere affected Rajasthan and adjoining Punjab, Haryana and Uttar Pradesh, one from 31 January to 2nd and the second one between 2nd and 5th.

Several systems in the lower tropospheric westerlies affected northeast India and neighbourhood, of which the following were worth mentioning.

(iii) A feeble cyclonic circulation, which lay over Bihar plains and adjoining Sub-Himalayan West Bengal & Sikkim on 3rd, moved over Assam & Meghalaya on 5th and became less marked there on 8th.

(iv) A cyclonic circulation lay over Sub-Himalayan West Bengal & Sikkim from 10th to 12th.

(v) A cyclonic circulation lay over Marathwada, Vidarbha and neighbourhood on 14th. It became less marked over east Madhya Pradesh and adjoining Orissa and Bihar Plateau on 16th.

(vi) A cyclonic circulation which developed over Bihar plains on 27th, lay over Sub-Himalayan West Bengal & Sikkim and adjoining Bangla Desh in the last day of the month.

Under the influence of these systems rain or snow was generally widespread in Himachal Pradesh on 5th and in Jammu & Kashmir on 20th and 21st. It was scattered over Himachal Pradesh on 21st. Rain or thundershowers were generally widespread on 1 or 2 days over Jammu & Kashmir and over northeast India outside Bihar plains. Scattered or isolated thundershowers occurred on as many as 13 days in Sub-Himalayan West Bengal & Sikkim, on 7 to 11 days in Arunachal Pradesh, Assam & Meghalaya and Orissa and on 1 to 3 days over Nagaland, Manipur, Mizoram & Tripura, Gangetic West Bengal, Bihar Plateau, hills of west Uttar Pradesh, Punjab, Jammu & Kashmir, Madhya Pradesh and Vidarbha.

### 3.2. Systems in easterlies

(i) Several cyclonic circulations in the lower tropospheric levels affected the weather over south Peninsula, of which, the following were worth mentioning :

(a) One, which lay over south Tamil Nadu in the evening of 1st, moved over Comorin and adjoining Maldives on 3rd, where it became less marked by next day.

(b) Another, which lay over southwest Bay off Sri Lanka-Tamil Nadu coasts on 9th, moved over slowly to Comorin and adjoining extreme south Peninsula on 15th. It became less marked there by next day.

(c) The third one lay over west central Bay off south Andhra coast between 17th and 19th.

(ii) A cyclonic circulation extending upto 5.8 km a.s.l. developed over southwest Bay off Sri Lanka-Tamil Nadu coasts on 19th evening, where it persisted till 25th. Moving westwards it became less marked over Maldives-Lakshadweep area on 27th.

Under the influence of these systems rain or thundershowers were generally widespread with isolated heavy fall over Kerala on 19th. They were scattered or isolated on 11 days in Andaman & Nicobar Islands and on 2 to 5 days in coastal Andhra Pradesh, Tamil Nadu and Kerala. The weather over the rest of the Peninsula was mainly dry.

### 3.3. Rainfall during the month

It was excess in Nagaland, Manipur, Mizoram & Tripura, Gangetic West Bengal, Orissa and Kerala; normal in Andaman & Nicobar Islands, Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim and Tamil Nadu; deficient in Arunachal Pradesh and scanty in Bihar, hills of west Uttar Pradesh, Haryana, Punjab, Himachal Pradesh, Jammu & Kashmir, Madhya Pradesh, Vidarbha and coastal Andhra Pradesh. Dry weather prevailed over the rest of the country.

The significant amounts (cm) of rainfall were :

- 1st Jabalpur 3.
- 3rd Palayamkottai & Kuchinda 3 each.
- 5th Nancowry 8, Jogindernagar 6, Bhuntar AP 3.
- 13th Chandbali 3.
- 14th Bhanjanagar (Orissa) 7, Kalimpong 3.
- 15th Balasore 8, Chandbali 7, Bagati(Magra) & Digha 6 each, Cuttack & Sambalpur 5 each, Bankura 4, Sagar Island 3.
- 16th Sandheads 11, Puri 3.
- 17th Trivandrum AP 8, Silchar AP 3.
- 19th Alleppey 9, Kottayam 7.
- 20th Nancowry 6.
- 24th Kondul 5.

### 3.4. Temperature

Night temperatures during the month were generally below normal in Bihar, Uttar Pradesh, northwest India, Madhya Pradesh and in Gujarat State being appreciably so on a few days in Rajasthan, west Madhya Pradesh and Gujarat region.

They were generally above or appreciably above normal in Andhra Pradesh and Tamil Nadu upto 20th of the month.