

Monday, April 15, 2024  
Time of Issue: 0800 hours IST  
(MORNING)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features:

#### **Weather Systems and Forecast & Warnings:**

- ❖ An intense **Western Disturbance** as a cyclonic circulation lies over west Afghanistan and adjoining Iran with an embedded trough in middle & upper tropospheric westerlies roughly along Long. 60°E to the north of Lat. 27°N.
- ❖ Two cyclonic circulations lie over central parts of Rajasthan and another lies over West Uttar Pradesh with an east-west trough from the circulation over West Uttar Pradesh to Gangetic West Bengal in lower tropospheric levels. High moisture feeding from Arabian Sea is likely into Northwest India on 15<sup>th</sup> April.
- ❖ A fresh Western Disturbance is likely to affect Northwest India from 18<sup>th</sup> April, 2024.
- ❖ Under the influence these weather systems:
  - ✓ Fairly widespread to widespread light to moderate rainfall/snowfall with **thunderstorm, lightning & gusty winds (30-40 kmph)** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand on 15<sup>th</sup> April, 2024.
  - ✓ Scattered to fairly widespread rainfall with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over West Uttar Pradesh, Punjab, Haryana-Chandigarh-Delhi, Rajasthan and Madhya Pradesh on 15<sup>th</sup> April, 2024.
  - ✓ **Isolated hailstorm** very likely over Jammu Division, Himachal Pradesh & Uttarakhand on 15<sup>th</sup> April, 2024.
  - ✓ **Isolated heavy rainfall/snowfall** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Himachal Pradesh on 15<sup>th</sup> April, 2024.
  - ✓ **Strong surface winds (30-40 kmph)** very likely to prevail over Haryana-Chandigarh-Delhi and Uttar Pradesh on 16<sup>th</sup> & 17<sup>th</sup> April, 2024.
- ❖ As the current intense Western Disturbance moves away from northwest India towards Northeast India and receive fresh moisture feeding from Bay of Bengal to Northeast India, as a result:
  - ✓ Fairly widespread to widespread light/moderate rainfall/snowfall with isolated **thunderstorm & lightning** over Arunachal Pradesh and Assam & Meghalaya during 16<sup>th</sup>-20<sup>th</sup> April, 2024.
  - ✓ **Isolated heavy rainfall** over Arunachal Pradesh and Assam on 16<sup>th</sup> & 17<sup>th</sup> April, 2024.

#### **Maximum temperature observation:**

- ❖ Yesterday, maximum temperatures were in the range of 40-42°C over at a few places over Telangana and Rayalaseema; at isolated places over West Bengal, Jharkhand, Saurashtra & Kutch, Madhya Maharashtra and Odisha. These are below normal by 2-4 °C at many parts over northwest and central India and normal over rest parts of plains of the country.

#### **Heat Wave and Hot & Humid weather warning for next 5 days:**

- ❖ **Hot and humid weather** very likely to prevail over coastal Odisha and Coastal Andhra Pradesh & Yanam during next 5 days and Gangetic West Bengal during 16<sup>th</sup>-19<sup>th</sup> with **Heat Wave conditions** in isolated pockets of these areas during 15<sup>th</sup>-19<sup>th</sup> April, 2024.
- ❖ **Hot and humid weather** very likely to prevail over Tamil Nadu, Puducherry & Karaikal, Konkan & Goa and Rayalaseema during 15<sup>th</sup>-19<sup>th</sup> and Kerala & Mahe during 15<sup>th</sup>-17<sup>th</sup> April, 2024.

## Main Weather Observations:

- ❖ **Rainfall/Snowfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and at isolated places over Uttarakhand.
- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): at isolated places over Haryana-Chandigarh-Delhi, West Uttar Pradesh, East Rajasthan, Saurashtra & Kutch, East Madhya Pradesh, Assam & Meghalaya and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **Assam & Meghalaya:** Shillong-2; **Jammu division:** Gulmarg-2.
- ❖ **Minimum Temperature Departures (as on 14-04-2024):** Minimum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over East Uttar Pradesh and Gujarat state; at isolated places over Bihar and West Madhya Pradesh; **above normal (1.6°C to 3.0°C)** at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, East Madhya Pradesh and Kerala & Mahe; at isolated places over Himachal Pradesh, West Uttar Pradesh, Telangana, Coastal Andhra Pradesh & Yanam and Tamil Nadu, Puducherry & Karaikal. These were **below normal (-1.6°C to -3.0°C)** at isolated places over Chhattisgarh, Vidarbha and Madhya Maharashtra and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature** of 17.4°C was reported at **Amritsar (Punjab)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 14-04-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at many places over Arunachal Pradesh; at a few places over Assam & Meghalaya; at isolated places over Sub-Himalayan West Bengal & Sikkim and Nagaland, Manipur, Mizoram & Tripura; **above normal (1.6°C to 3.0°C)** at a few places Gangetic West Bengal ; at isolated places over Odisha, Coastal Andhra Pradesh & Yanam, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Madhya Maharashtra and East Uttar Pradesh. These were **markedly below normal (-5.1°C or less)** at many places over Himachal Pradesh; at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; at isolated places over West Rajasthan; **appreciably below normal (-3.1°C to -5.0°C)** at most places over Punjab, Haryana-Chandigarh-Delhi, at a few places over Uttarakhand; at isolated places over East Rajasthan, West Uttar Pradesh, Vidarbha, Telangana and Marathwada; **below normal (-1.6°C to -3.0°C)** at many places over Madhya Pradesh; at isolated places over Chhattisgarh and Gujrat State and **near normal** over rest parts of the country. Yesterday, **the highest maximum temperature** of 41.3°C was reported at **Kurnool (Rayalaseema)** over the country.

## Meteorological Analysis (Based on 0530 hours IST)

- ❖ The Western Disturbance as a cyclonic circulation over northeast Iran & neighbourhood now lies over west Afghanistan and adjoining Iran between 3.1 & 12.6 km above mean sea level with an embedded trough in mid & upper tropospheric westerlies with its axis at 5.8 km above mean sea level roughly along Long. 60°E to the north of Lat. 27°N.
- ❖ The cyclonic circulation over central parts of Rajasthan extending upto 1.5 km above mean sea level persists.
- ❖ The cyclonic circulation over west Uttar Pradesh and neighbourhood at 0.9 km above mean sea level persists.
- ❖ The east-west trough from the above cyclonic circulation over west Uttar Pradesh to Gangetic West Bengal across south Bihar & north Jharkhand at 0.9 km above mean sea level persists.
- ❖ The cyclonic circulation over north Bangladesh & neighbourhood at 0.9 km above mean sea level persists.
- ❖ The cyclonic circulation over central Madhya Maharashtra & neighbourhood at 0.9 km above mean sea level persists.
- ❖ The cyclonic circulation over Comorin area & neighbourhood at 0.9 km above mean sea level persists.
- ❖ The trough/wind discontinuity from the above cyclonic circulation over Comorin area to North Interior Karnataka across Tamil Nadu & South Interior Karnataka at 0.9 km above mean sea level persists.
- ❖ A fresh Western Disturbance is likely to affect northwest India from 18<sup>th</sup> April, 2024.

## Weather Forecast for next 7 days (Upto 0830 hours IST of 22<sup>nd</sup> April, 2024)

- ❖ Meteorological sub-division wise detailed 7 days rainfall forecast is given in Table-1.
- ❖ Gradual rise in maximum temperatures by 2-4°C very likely over Northwest India during next 4-5 days.
- ❖ Rise in maximum by 4-6°C very likely over Central India during next 2 days and no significant change thereafter.
- ❖ Gradual rise in maximum by 2-4°C very likely over East India and Maharashtra during next 4-5 days.
- ❖ No significant change in maximum temperatures very likely over Gujarat State during next 24 hours and gradual rise by 2-4°C during subsequent 3-4 days.
- ❖ No significant change in maximum temperatures very likely over rest parts of the country.

## Weather Outlook for subsequent 3 days (During 22<sup>nd</sup> -24<sup>th</sup> April, 2024)

- ❖ Isolated to scattered light/moderate rainfall/snowfall likely over Northeast India and Northwest India.
- ❖ Isolated light rainfall likely over plains of East & south Peninsular India.
- ❖ Dry weather likely to prevail over rest parts of the country.

Table-1

7 Days Rainfall Forecast								
S. No.	Subdivision	15-Apr	16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	DRY	DRY	DRY	DRY	DRY	DRY	DRY
2	ARUNACHAL PRADESH	SCT	WS	WS	WS	WS	WS	WS
3	ASSAM & MEGHALAYA	ISOL	FWS	FWS	FWS	WS	WS	WS
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	ISOL	FWS	FWS	FWS	FWS	FWS	FWS
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	ISOL	SCT	ISOL	SCT	SCT	ISOL	ISOL
6	GANGETIC WEST BENGAL	ISOL	ISOL	DRY	DRY	DRY	DRY	DRY
7	ODISHA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
8	JHARKHAND	DRY	DRY	DRY	DRY	DRY	DRY	DRY
9	BIHAR	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
10	EAST UTTAR PRADESH	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
11	WEST UTTAR PRADESH	ISOL	DRY	DRY	DRY	ISOL	ISOL	ISOL
12	UTTARAKHAND	FWS	ISOL	DRY	DRY	FWS	SCT	SCT
13	HARYANA CHANDIGARH & DELHI	ISOL	DRY	DRY	ISOL	SCT	SCT	ISOL
14	PUNJAB	SCT	DRY	DRY	ISOL	SCT	SCT	ISOL
15	HIMACHAL PRADESH	WS	SCT	DRY	ISOL	FWS	SCT	SCT
16	JAMMU & KASHMIR AND LADAKH	WS	ISOL	DRY	FWS	WS	SCT	ISOL
17	WEST RAJASTHAN	ISOL	DRY	DRY	ISOL	SCT	DRY	DRY
18	EAST RAJASTHAN	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
19	WEST MADHYA PRADESH	ISOL	DRY	DRY	DRY	ISOL	ISOL	ISOL
20	EAST MADHYA PRADESH	ISOL	DRY	DRY	DRY	ISOL	ISOL	ISOL
21	GUJARAT REGION	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
22	SAURASHTRA & KUTCH	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
23	KONKAN & GOA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
24	MADHYA MAHARASHTRA	ISOL	ISOL	ISOL	DRY	DRY	ISOL	ISOL
25	MARATHAWADA	ISOL	ISOL	ISOL	DRY	DRY	ISOL	ISOL
26	VIDARBHA	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
27	CHHATTISGARH	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
28	COASTAL ANDHRA PRADESH & YANAM	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
29	TELANGANA	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
30	RAYALASEEMA	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
31	TAMILNADU PUDUCHERRY & KARAIKAL	DRY	DRY	DRY	ISOL	ISOL	ISOL	ISOL
32	COASTAL KARNATAKA	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
33	NORTH INTERIOR KARNATAKA	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
34	SOUTH INTERIOR KARNATAKA	DRY	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
35	KERALA & MAHE	ISOL	ISOL	ISOL	SCT	FWS	SCT	SCT
36	LAKSHADWEEP	DRY	DRY	DRY	DRY	SCT	SCT	SCT

Legend	Category	% Stations
WS	Widespread/Most Places	76-100
FWS	Fairly Widespread/Many Places	51-75
SCT	Scattered/ A Few Places	26-50
ISOL	Isolated Places	1-25
DRY	No Rain	0

Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

\* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".  
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.  
For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599  
(Service to the Nation since 1875)

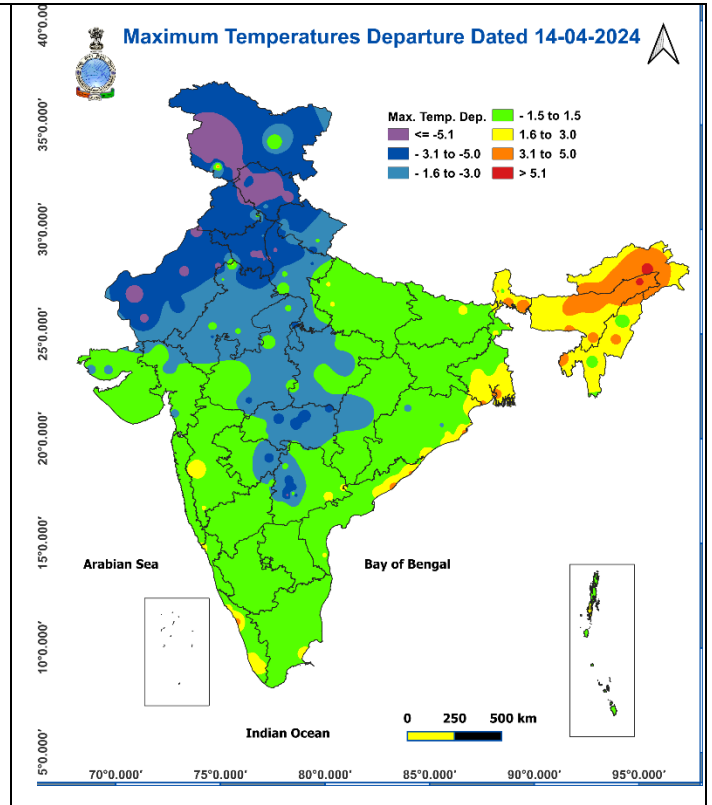
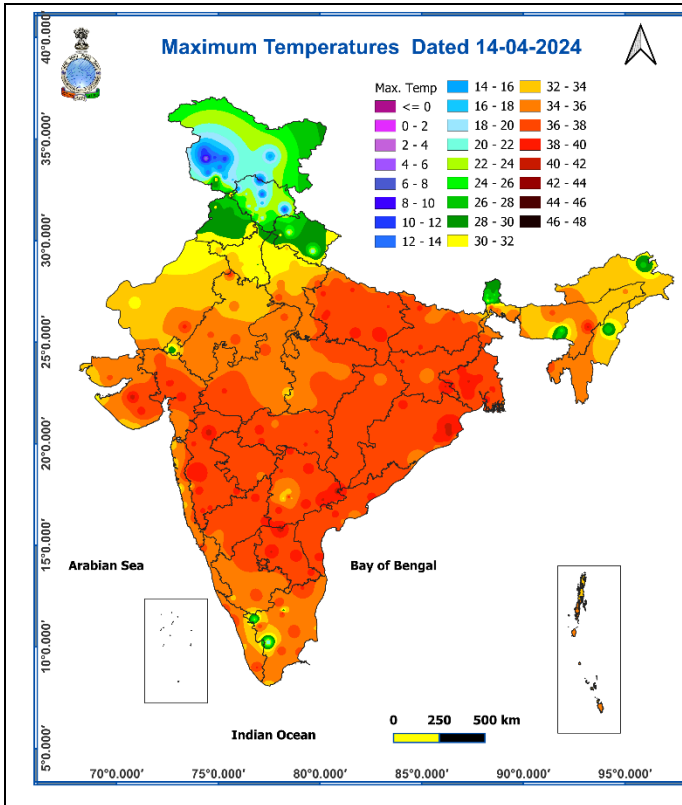
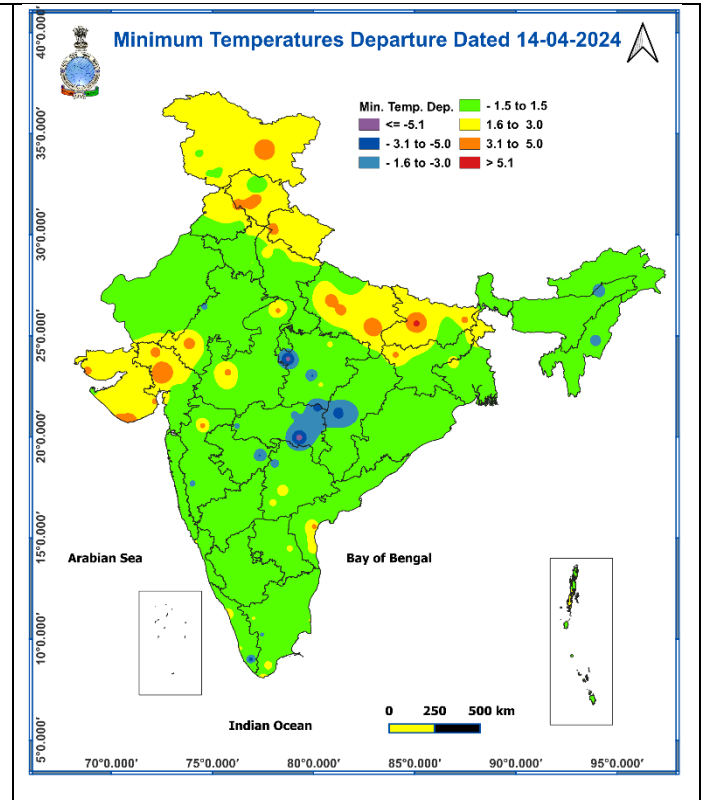
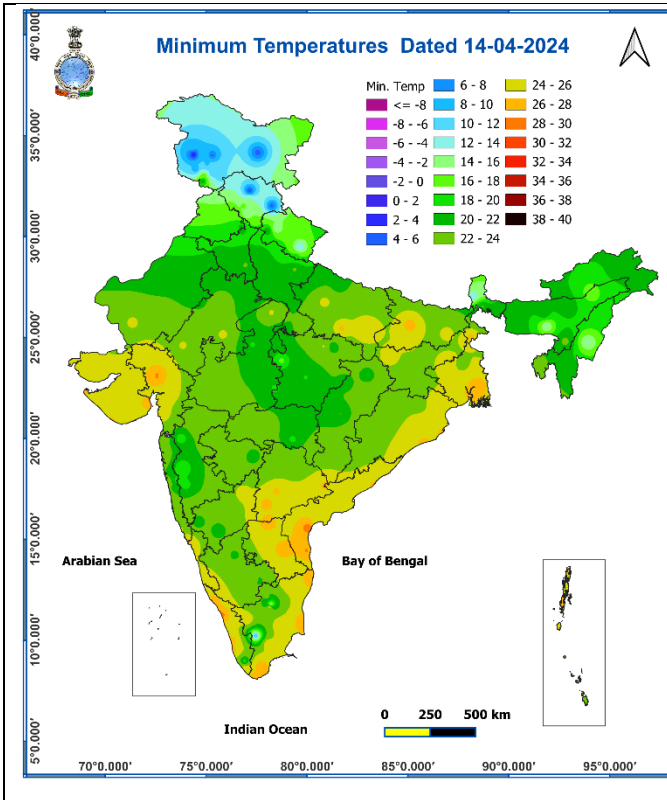


Fig. 3: Minimum Temperatures

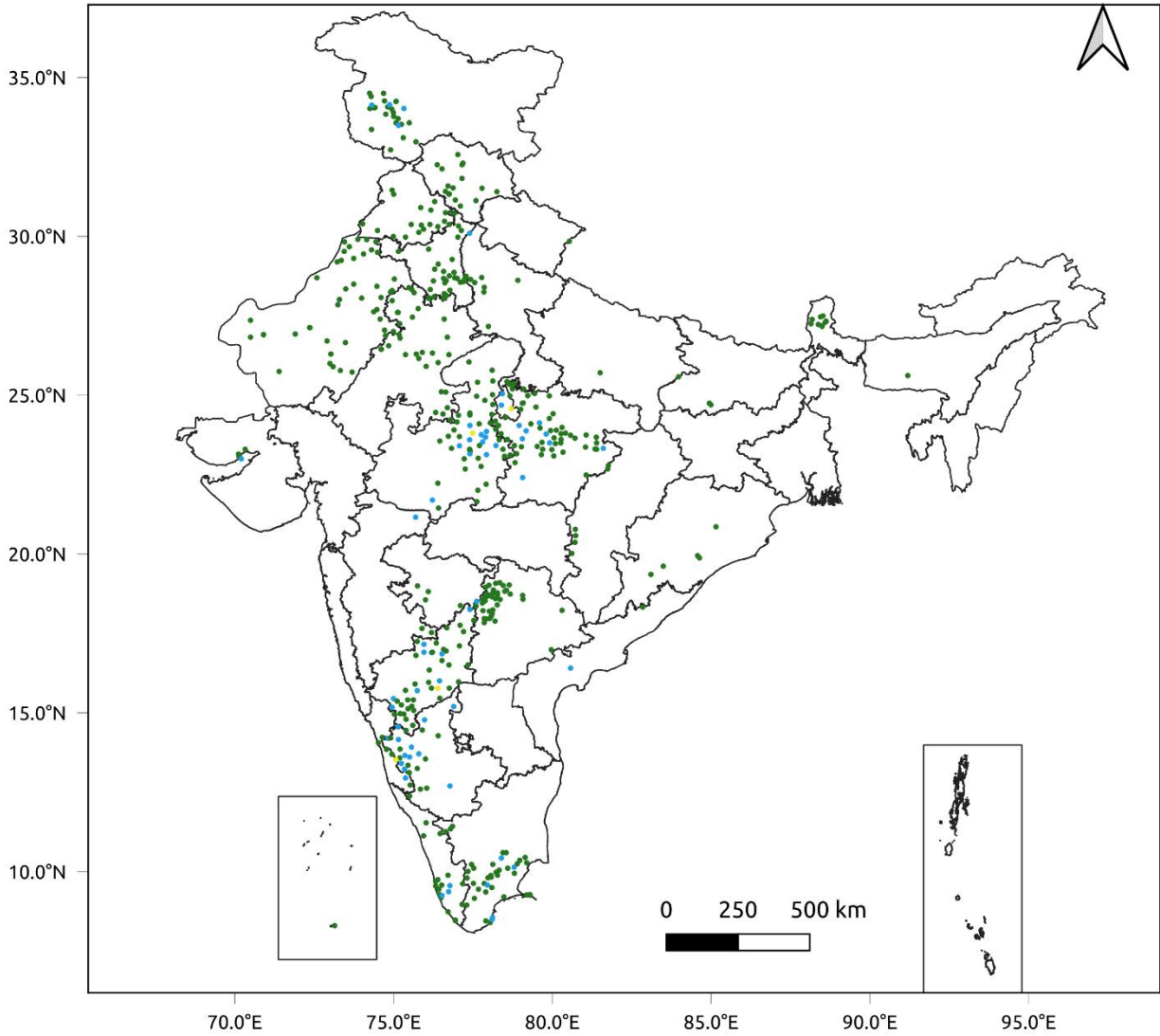
Fig. 4: Departure of Minimum Temperatures



**Fig. 5: Accumulated Rainfall (mm) during past 24 hours**

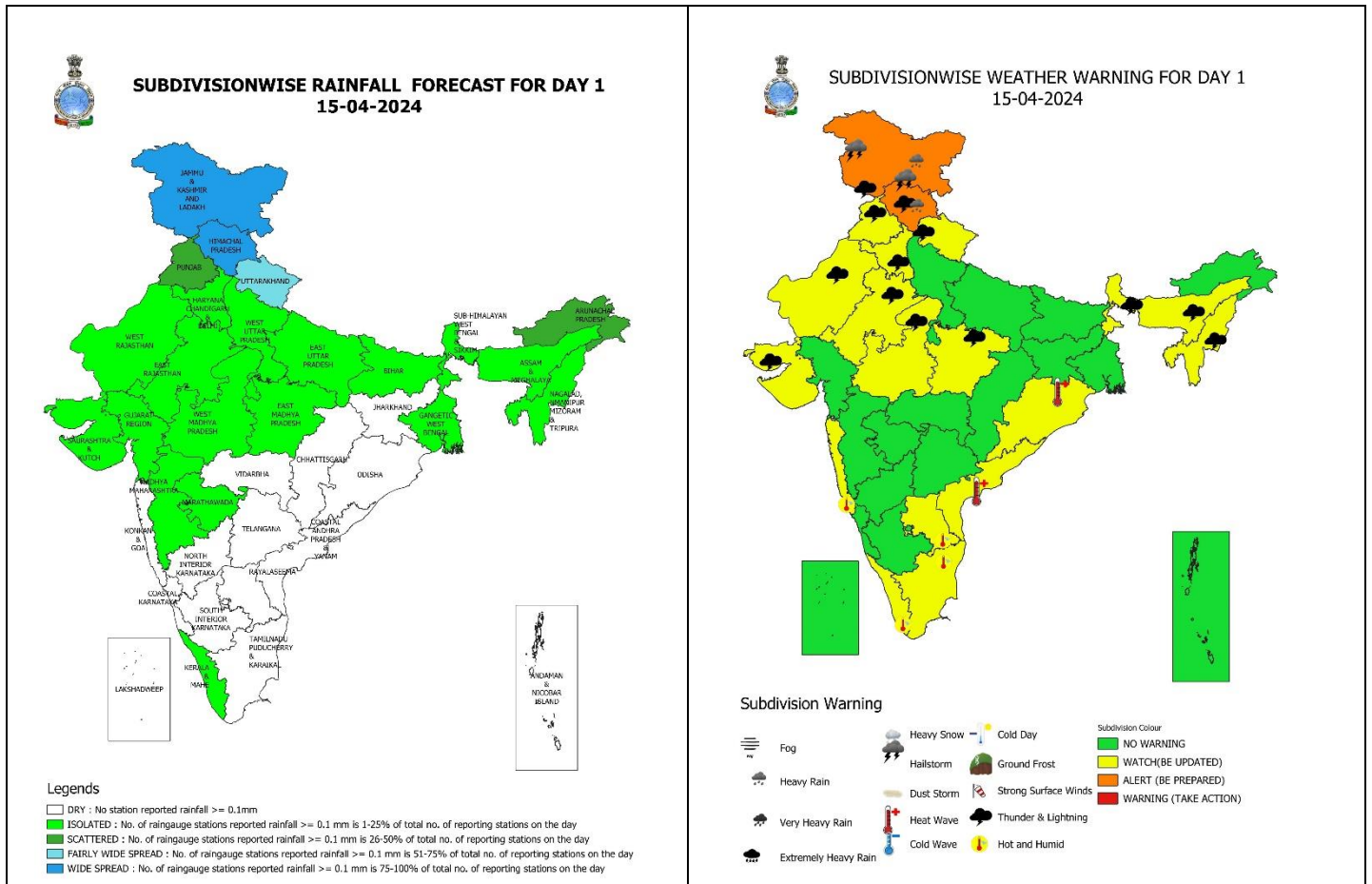


24 Hr cumulative rainfall recorded over different stations during 0830 IST of 13-4-2024 to 0830 IST of 14-4-2024



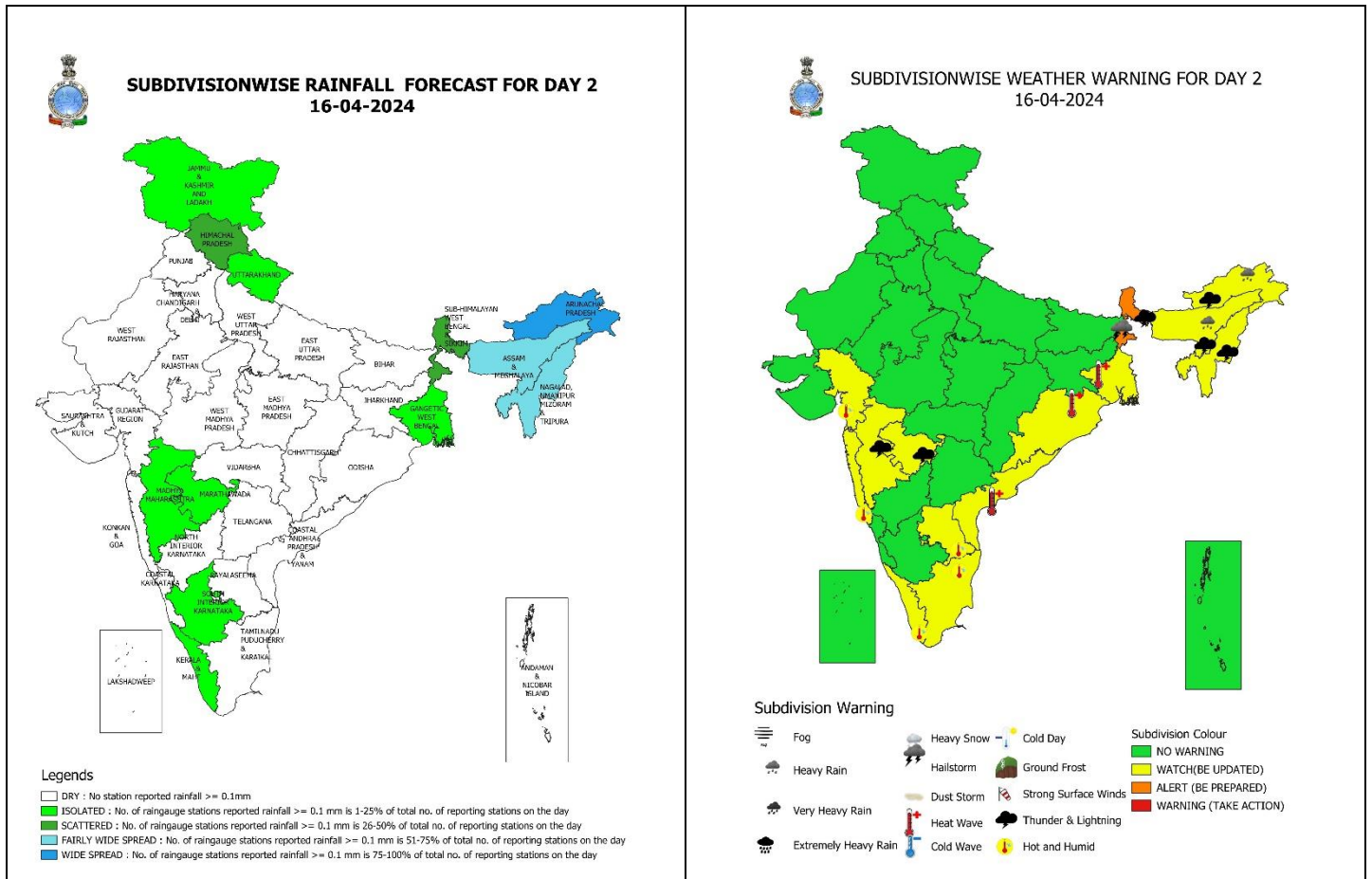
## Legends

- Very Light to Light Rainfall (0.1 - 15.5 mm)
- Moderate Rainfall (15.6 - 64.4 mm)
- Heavy Rainfall (64.5 - 115.5 mm)
- Very Heavy Rainfall (115.6 - 204.4 mm)
- Extremely Heavy Rainfall ( $\geq 204.5$  mm)



## 15 April (Day 1):

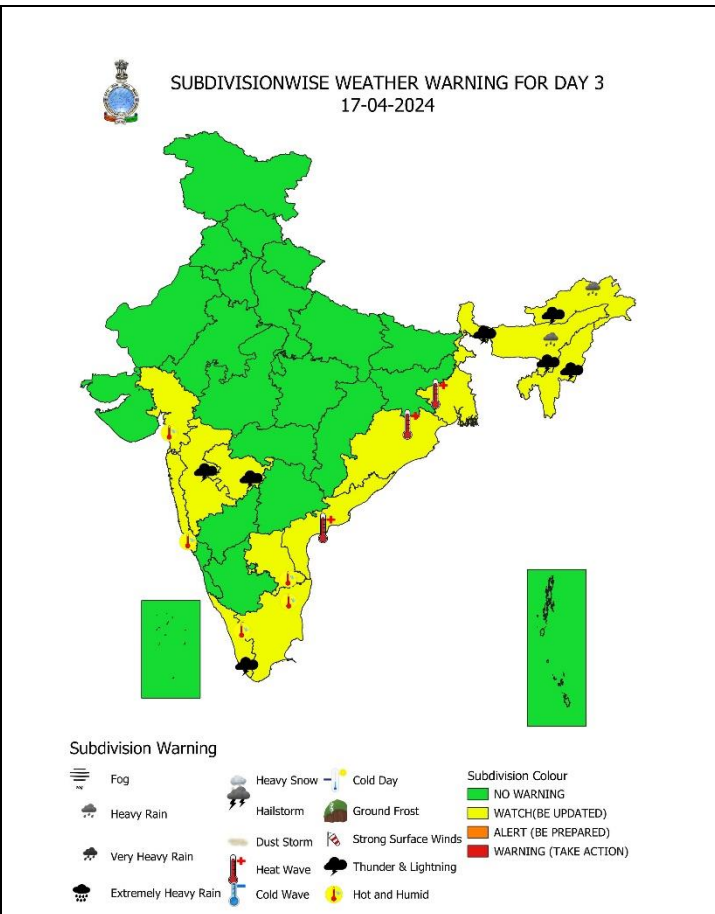
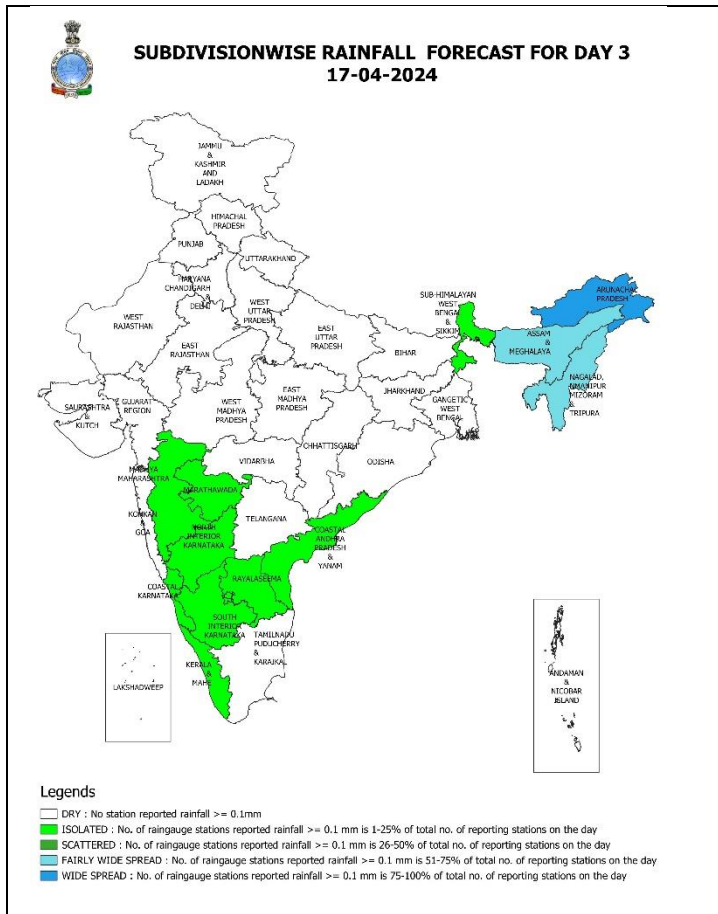
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 40-50 kmph) & hailstorm** very likely at isolated places over Jammu division and Himachal Pradesh; **with lightning, gusty winds (speed reaching 30-40 kmph) & hailstorm** at isolated places over Uttarakhand; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places over Punjab, Haryana-Chandigarh-Delhi, Rajasthan and Madhya Pradesh; **with lightning** at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Saurashtra & Kutch.
- ❖ **Heavy rainfall/snowfall** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Himachal Pradesh.
- ❖ **Hot and humid weather** very likely to prevail over Konkan & Goa, Rayalaseema, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ **Heat wave** very likely to prevail in isolated pockets over Odisha and Coastal Andhra Pradesh & Yanam.



## 16 April (Day 2):

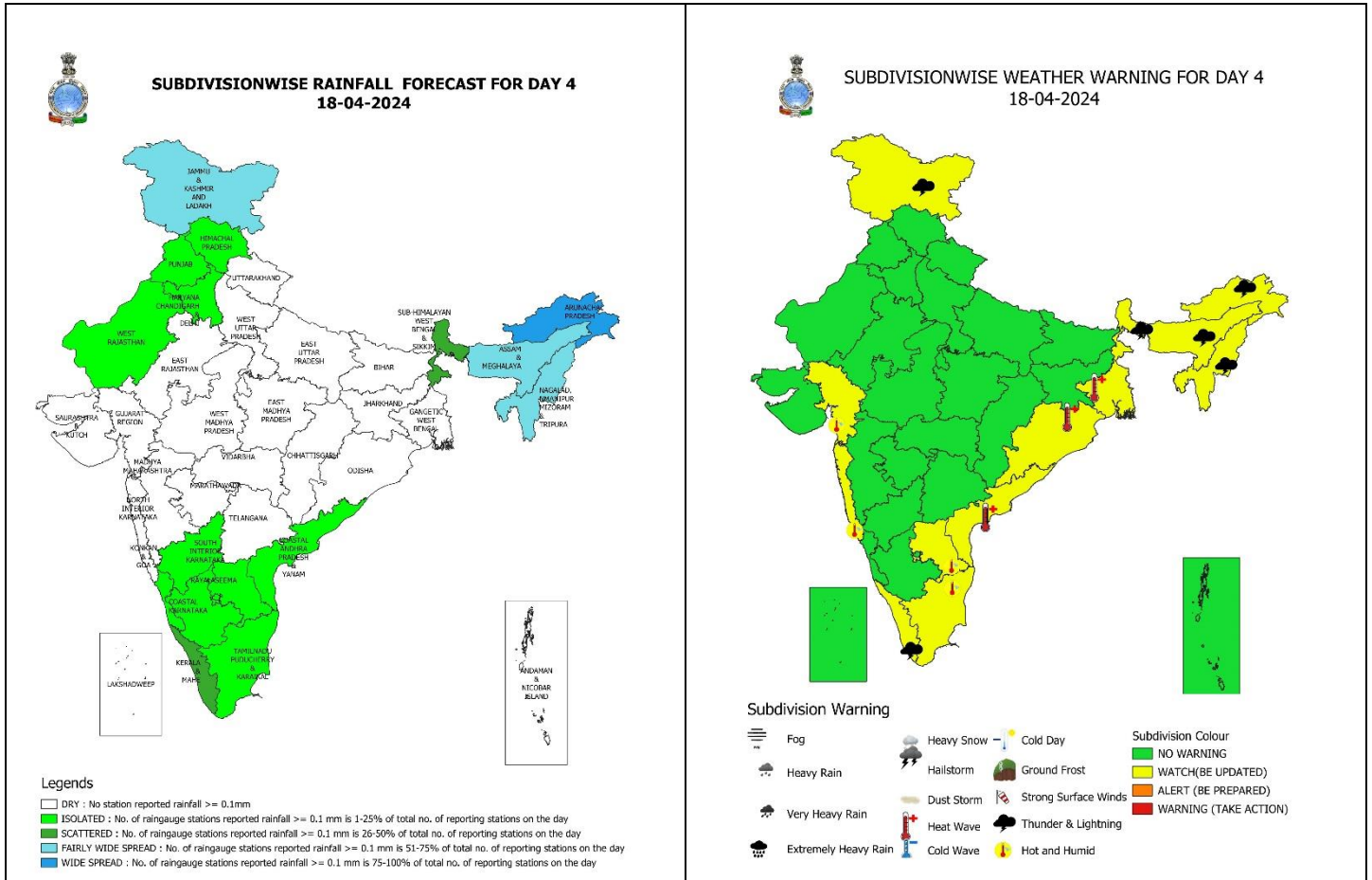
- ❖ **Thunderstorm accompanied with lightning & hailstorm** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra and Marathwada; **with lightning** at isolated places over Arunachal Pradesh.
- ❖ **Heavy rainfall/snowfall** likely at isolated places over Arunachal Pradesh; **Heavy rainfall** at isolated places over Assam & Meghalaya.
- ❖ **Hot and humid weather** likely to prevail over Konkan & Goa, Gujarat Region, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and Rayalaseema.
- ❖ **Heat wave** likely to prevail in isolated pockets over Gangetic West Bengal, Odisha and Coastal Andhra Pradesh & Yanam.





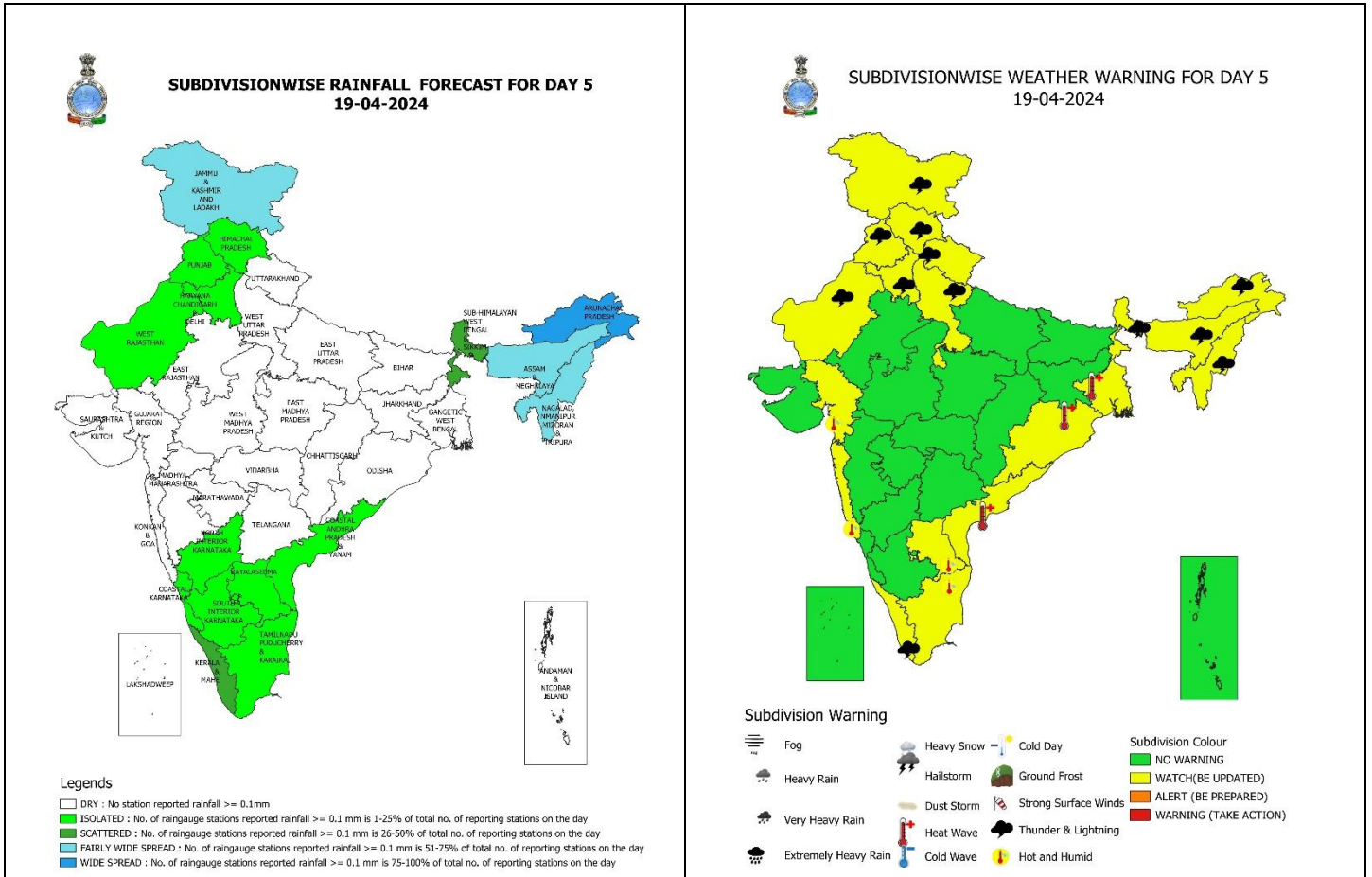
## 17 April (Day 3):

- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph)** likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra and Marathwada; **with lightning** at isolated places over Arunachal Pradesh and Kerala & Mahe.
- ❖ **Heavy rainfall/snowfall** likely at isolated places over Arunachal Pradesh; **Heavy rainfall** at isolated places over Assam & Meghalaya.
- ❖ **Hot and humid weather** likely to prevail over Konkan & Goa, Gujarat Region, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and Rayalaseema.
- ❖ **Heat wave** likely to prevail in isolated pockets over Gangetic West Bengal, Odisha and Coastal Andhra Pradesh & Yanam.



## 18 April (Day 4):

- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph)** likely at isolated places over Sub-Himalayan West Bengal & Sikkim; **with lightning** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Kerala & Mahe.
- ❖ **Hot and humid weather** likely to prevail over Konkan & Goa, Gujarat Region, Tamil Nadu, Puducherry & Karaikal and Rayalaseema.
- ❖ **Heat wave** likely to prevail in isolated pockets over Gangetic West Bengal, Odisha and Coastal Andhra Pradesh & Yanam.

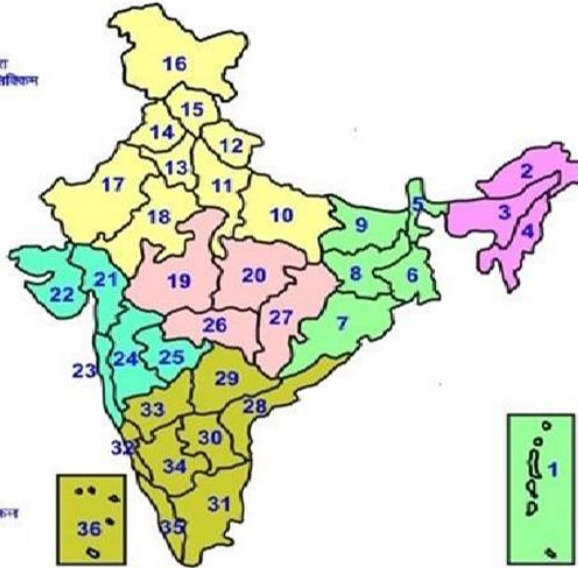


## 19 April (Day 5):

- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph)** likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Punjab, Haryana-Chandigarh-Delhi, West Rajasthan and West Uttar Pradesh; **with lightning** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Kerala & Mahe.
- ❖ **Hot and humid weather** likely to prevail over Konkan & Goa, Gujarat Region, Tamil Nadu, Puducherry & Karaikal and Rayalaseema.
- ❖ **Heat wave** likely to prevail in isolated pockets over Gangetic West Bengal, Odisha and Coastal Andhra Pradesh & Yanam.

## LEGENDS

- 1 अंडमन और निकोबार द्वीप समूह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नागालैंड मणिपुर मीजोरम और त्रिपुरा
- 5 उप हिमालय पश्चिम बंगाल एवं सिक्किम
- 6 पश्चिम बंगाल
- 7 ओडिशा
- 8 झारखंड
- 9 बिहार
- 10 पूर्वी उत्तर प्रदेश
- 11 पश्चिम उत्तर प्रदेश
- 12 उत्तराखंड
- 13 हरियाणा चंडीगढ़ एवं दिल्ली
- 14 पंजाब
- 15 हिमाचल प्रदेश
- 16 जम्मू एवं कश्मीर एवंम लद्दाख
- 17 पश्चिम राजस्थान
- 18 पूर्वी राजस्थान
- 19 पश्चिम मध्य प्रदेश
- 20 पूर्वी मध्य प्रदेश
- 21 गुजरात क्षेत्र
- 22 सौराष्ट्र एवं कच्छ
- 23 कोंकण एवं गोवा
- 24 मध्य महाराष्ट्र
- 25 मराठवाड़ा
- 26 विदर्भ
- 27 उत्तरीमहाराष्ट्र
- 28 तटीय आंध्र प्रदेश एवं यानम
- 29 तेलंगाना
- 30 दखिनीय
- 31 दखिनीय, पुदुचेरी एवंम कराईकल
- 32 दक्षिण कर्नाटक
- 33 आंतरिक उत्तरी कर्नाटक
- 34 आंतरिक दक्षिणी कर्नाटक
- 35 केरल एवंम माहे
- 36 लक्षद्वीप



1. Andaman & Nicobar Islands
2. Arunachal Pradesh
3. Assam & Meghalaya
4. Nagaland, Manipur, Mizoram & Tripura
5. Sub-Himalayan West Bengal & Sikkim
6. Gangetic West Bengal
7. Odisha
8. Jharkhand
9. Bihar
10. East Uttar Pradesh
11. West Uttar Pradesh
12. Uttarakhand
13. Haryana, Chd & Delhi
14. Punjab
15. Himachal Pradesh
16. Jammu & Kashmir and Ladakh
17. West Rajasthan
18. East Rajasthan
19. West Madhya Pradesh
20. East Madhya Pradesh
21. Gujarat
22. Saurashtra
23. Konkan & Goa
24. Madhya Maharashtra
25. Marathawada
26. Vidharbha
27. Chhattisgarh
28. Coastal Andhra Pradesh & Yanam
29. Telangana
30. Rayalaseema
31. Tamilnadu, Puducherry & Karaikal
32. Coastal Karnataka
33. North Interior Karnataka
34. South Interior Karnataka
35. Kerala & Mahe
36. Lakshadweep

## SPATIAL DISTRIBUTION (% of Stations reporting)

% Stations	Category	% Stations	Category
76-100	Widespread (WS/ Most Places)	26-50	Scattered (SCT/ A Few Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)

## WARNING

WARNING (TAKE ACTION)
ALERT ( BE PREPARED)
WATCH (BE UPDATED)
NO WARNING ( NO ACTION)

## Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

## LEGENDS

### WARNING

<b>WARNING (TAKE ACTION)</b>
<b>ALERT ( BE PREPARED)</b>
<b>WATCH (BE UPDATED)</b>
<b>NO WARNING ( NO ACTION)</b>

### Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75



Heavy: 64.5 to 115.5 mm/cm \*  
Very Heavy: 115.6 to 204.4 mm/cm\*  
Extremely Heavy: > 204.4 mm/cm \*



When maximum temperature of a station reaches  $\geq 40^\circ\text{C}$  for plains and  $\geq 30^\circ\text{C}$  for hilly regions  
(a) Based on Departure from normal

Heat Wave: Maximum Temperature Departure from normal  $4.5^\circ\text{C}$  to  $6.4^\circ\text{C}$ .  
Severe Heat Wave: Maximum Temperature Departure from normal  $\geq 6.5^\circ\text{C}$

(b). Based on Actual maximum temperature

Heat Wave: When actual maximum temperature  $\geq 45^\circ\text{C}$ .  
Severe Heat Wave: When actual maximum temperature  $\geq 47^\circ\text{C}$

(c). Criteria for heat wave for coastal stations

When maximum temperature departure is  $> 4.5^\circ\text{C}$  from normal. Heat Wave may be described provided maximum temperature  $\geq 37^\circ\text{C}$



When maximum temperature remains  $40^\circ\text{C}$

Warm Night: When minimum temperature departure  $4.5^\circ\text{C}$  to  $6.4^\circ\text{C}$ .  
Severe Warm Night: When minimum temperature departure  $> 6.4^\circ\text{C}$ .



When minimum temperature of a station  $\leq 10^\circ\text{C}$  for plains and  $\leq 0^\circ\text{C}$  for hilly regions.  
(a). Based on departure

Cold Wave: Minimum Temperature Departure from normal  $-4.5^\circ\text{C}$  to  $-6.4^\circ\text{C}$ .  
Severe Cold Wave: Minimum Temperature Departure from normal  $\leq -6.5^\circ\text{C}$

(b) Based on actual Minimum Temperature (for Plains only)

Cold Wave : When Minimum Temperature is  $\leq 4.0^\circ\text{C}$   
Severe Cold Wave: When Minimum Temperature is  $\leq 2.0^\circ\text{C}$

(c) For Coastal Stations

When Minimum Temperature departure is  $\leq -4.5^\circ\text{C}$  & actual Minimum Temperature is  $\leq 15^\circ\text{C}$



When minimum temperature of a station  $\leq 10^\circ\text{C}$  for plains and  $\leq 0^\circ\text{C}$  for hilly regions  
Based on departure

Cold Day: Maximum Temperature Departure from normal  $-4.5^\circ\text{C}$  to  $-6.4^\circ\text{C}$ .  
Severe Cold Day: Maximum Temperature Departure from normal  $\leq -6.5^\circ\text{C}$



Phenomenon of small droplets suspended in air and the horizontal visibility  $< 1\text{km}$

Moderate Fog: When the visibility between 500-200 metres  
Dense Fog: when the visibility between 50- 200 metres  
Very Dense Fog: when the visibility  $< 50$  metres



Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)



An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.



Ice deposits on ground

Air temperature  $\leq 4^\circ\text{C}$  ( over Plains)



A strong wind that rises suddenly, lasts for atleast 1 minute.

Moderate: Wind speed 52-61 kmph  
Severe: Wind speed 62-87 kmph  
Very Severe: Wind speed  $> 87$  kmph



Effect of various waves in the sea over specific area

Rough to very rough: Wind speed 41-62 kmph (22-33 knots) & Wave height 2.5-6 metre  
High to very high: Wind speed 63-117 kmph ( 34-63 knots) & Wave height 6-14 metre  
Phenomenal: Wind speed  $> 117$  kmph ( $> 63$  knots) & Wave height  $> 14$  metre



Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots)  
Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots)  
Very Severe Cyclonic Storm: Wind speed 118-165 kmph (64 - 89 knots)  
Extremely Severe Cyclonic Storm: Wind speed 166-220 kmph (90 -119 knots)  
Super Cyclone Strom: Wind speed  $> 220$  kmph ( $> 119$  knots)

\* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".

Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.

For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599

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