

**Tuesday, March 26, 2024**  
**Time of Issue: 0800 hours IST**  
**(MORNING)**

## **ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN**

### **Significant Weather Features:**

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

- ❖ A cyclonic circulation lies over northeast Assam & neighbourhood and a trough runs from northeast Madhya Pradesh to southeast Assam in lower tropospheric levels. Under the influence of these systems:
  - ✓ Fairly widespread to widespread light to moderate rainfall with isolated **thunderstorms & lightning** very likely over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Sub-Himalayan West Bengal & Sikkim on 26<sup>th</sup> March, 2024.
  - ✓ **Isolated heavy rainfall/snowfall very likely over Arunachal Pradesh on 26<sup>th</sup> and isolated heavy rainfall over Assam & Meghalaya on 26<sup>th</sup> March, 2024.**
  - ✓ Isolated light to moderate rainfall with moderate to severe **thunderstorms, lightning & gusty winds** very likely over West Bengal & Sikkim on 26<sup>th</sup> March, 2024.
- ❖ A fresh Western Disturbance as a trough in mid & upper tropospheric westerlies runs roughly along Long. 50°E to the north of Lat. 28°N. Another fresh Western Disturbance likely to affect Western Himalayan Region from 29<sup>th</sup> March, 2024. Under these influence:
  - ✓ Scattered to fairly widespread light rainfall/snowfall with isolated **thunderstorms & lightning** likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad during 27<sup>th</sup>-30<sup>th</sup> and Himachal Pradesh & Uttarakhand on 28<sup>th</sup> & 30<sup>th</sup> March, 2024. Isolated hailstorm also likely over Himachal Pradesh on 28<sup>th</sup> & 29<sup>th</sup> March, 2024.
  - ✓ Isolated light rainfall with isolated **thunderstorms & lightning** likely over Punjab & Haryana during 28<sup>th</sup> - 30<sup>th</sup>; East Rajasthan on 28<sup>th</sup> and West Uttar Pradesh on 29<sup>th</sup> & 30<sup>th</sup> March, 2024.

#### **Maximum temperature forecast for next 5 days:**

- ❖ **Yesterday's, Maximum temperatures** were in the range **36-40°C** over many parts of peninsular India and Gujarat; over some parts of south Rajasthan, Madhya Pradesh which were above normal by 1-3°C. These in the range of **32-36°C** over remaining parts of plains of India which were also above normal by 1-3°C.
- ❖ Currently, the maximum temperatures are exceeding 95<sup>th</sup> percentile of climatological value at isolated pockets of Marathwada, Kerala and south coastal Tamil Nadu. These are likely to continue to exceed 95<sup>th</sup> percentile of climatological value over extended areas of Marathwada and Vidarbha on 26<sup>th</sup> March and extend further to neighbouring region of Maharashtra, Madhya Pradesh and interior Odisha on 27<sup>th</sup> & 28<sup>th</sup> March.
- ❖ Rise in maximum temperatures by 2-3°C very likely over Northwest India during next 2 days and no significant change thereafter.
- ❖ Gradual rise in maximum temperatures by 2-4°C very likely over East & Central India and interior Maharashtra during next 4-5 days.
- ❖ No significant change in maximum temperatures very likely over rest part of the country during next 5 days.
- ❖ **Hot and humid weather** very likely to prevail over Telangana, Rayalaseema, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe during 26<sup>th</sup>-30<sup>th</sup> March, 2024.

## Main Weather Observations:

- ❖ **Rainfall/snowfall** (from 0830 hours IST to 1730 hours IST of yesterday): at isolated places over Sikkim.
- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): at isolated places over Assam & Meghalaya, Jharkhand, Odisha, Chhattisgarh and Telangana.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday)( $\geq 1$  cm): **Sikkim:** Gangtok-1; **Assam:** Golaghat, Lumding & Guwahati-1 each; **Telangana:** Adilabad-1.
- ❖ **Minimum Temperature Departures (as on 25-03-2024):** Minimum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Marathwada; **above normal (1.6°C to 3.0°C)** at many places over Bihar; at a few places over East Uttar Pradesh, West Rajasthan, Gujarat state, Chhattisgarh, Vidarbha, Madhya Maharashtra and North Interior Karnataka; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, East Rajasthan, Madhya Pradesh, Jharkhand, Gangetic West Bengal, Odisha, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Konkan & Goa, Telangana and Kerala & Mahe. These were **below normal (-1.6°C to -3.0°C)** at isolated places over Tamil Nadu, Puducherry & Karaikal and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature of 13.6°C** was reported at **Karnal (Haryana)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 25-03-2024):** Maximum temperatures were **markedly above normal (5.1°C or more)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Bihar; **appreciably above normal (3.1°C to 5.0°C)** at many places over Himachal Pradesh; at isolated places over Punjab; **above normal (1.6°C to 3.0°C)** at most places over West Rajasthan; at a few places over Uttarakhand, East Rajasthan, Saurashtra & Kutch; at isolated places over Haryana-Chandigarh-Delhi, Madhya Pradesh, Madhya Maharashtra, North Interior Karnataka and Kerala & Mahe. These were **markedly below normal (-5.1°C or less)** at isolated places over Nagaland, Manipur, Mizoram & Tripura; **below normal (-1.6°C to -3.0°C)** at isolated places over Arunachal Pradesh and West Bengal & Sikkim and **near normal** over rest parts of the country. Yesterday, **the highest maximum temperature of 41.0°C** was reported at **Akola (Vidarbha)** over the country.

## Meteorological Analysis (Based on 0530 hours IST)

- ❖ The Western Disturbance as a trough in mid & upper tropospheric westerlies with its axis at 5.8 km above mean sea level now runs roughly along Long. 50°E to the north of Lat. 28°N.
- ❖ The cyclonic circulation over northeast Assam & neighbourhood at 1.5 km above mean sea level persists.
- ❖ The cyclonic circulation over northeast Bangladesh & neighbourhood extending upto 0.9 km above mean sea level persists.
- ❖ The trough from northeast Madhya Pradesh to southeast Assam across Chhattisgarh, Jharkhand & Gangetic West Bengal at 0.9 km above mean sea level persists.
- ❖ The trough/wind discontinuity from South Interior Karnataka to Vidarbha across North Interior Karnataka extending upto 1.5 km above mean sea level persists.
- ❖ The trough in westerlies at 3.1 km above mean sea level roughly along Long. 93°E to the north of Lat. 23°N persists.
- ❖ A fresh Western Disturbance is likely to affect Western Himalayan Region from 29<sup>th</sup> March, 2024.

## Weather Forecast for next 7 days (Upto 0830 hours IST of 02<sup>nd</sup> April, 2024)

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

## Weather Outlook for subsequent 3 days (During 01<sup>st</sup>-03<sup>rd</sup> April, 2024)

- ❖ Scattered to fairly widespread light to moderate rainfall/snowfall likely over Northeast India and Western Himalayan Region.
- ❖ Isolated light to moderate rainfall likely over West Madhya Pradesh, Vidarbha, Marathwada, Karnataka, Kerala & Mahe, Chhattisgarh, Odisha and Coastal Andhra Pradesh.
- ❖ Dry weather likely to prevail over rest parts of the country.

Table-1

7 Days Rainfall Forecast								
S. No.	Subdivision	26-Mar	27-Mar	28-Mar	29-Mar	30-Mar	31-Mar	01-Apr
		Day1	Day2	Day3	Day4	Day5	Day6	Day7
1	ANDAMAN & NICOBAR ISLANDS	ISOL	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
2	ARUNACHAL PRADESH	WS	SCT	SCT	SCT	FWS	FWS	FWS
3	ASSAM & MEGHALAYA	WS	ISOL	ISOL	SCT	FWS	FWS	FWS
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	FWS	ISOL	ISOL	SCT	SCT	FWS	FWS
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	FWS	FWS	FWS	FWS	FWS	SCT	SCT
6	GANGETIC WEST BENGAL	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
7	ODISHA	DRY	DRY	DRY	DRY	DRY	ISOL	ISOL
8	JHARKHAND	DRY	DRY	DRY	DRY	DRY	DRY	DRY
9	BIHAR	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
10	EAST UTTAR PRADESH	DRY	DRY	DRY	ISOL	ISOL	DRY	DRY
11	WEST UTTAR PRADESH	DRY	DRY	ISOL	ISOL	ISOL	DRY	DRY
12	UTTARAKHAND	DRY	ISOL	SCT	SCT	SCT	ISOL	DRY
13	HARYANA CHANDIGARH & DELHI	DRY	DRY	ISOL	ISOL	ISOL	DRY	DRY
14	PUNJAB	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	DRY
15	HIMACHAL PRADESH	ISOL	ISOL	FWS	SCT	SCT	SCT	DRY
16	JAMMU & KASHMIR AND LADAKH	ISOL	WS	WS	SCT	SCT	SCT	DRY
17	WEST RAJASTHAN	ISOL	ISOL	ISOL	ISOL	DRY	DRY	DRY
18	EAST RAJASTHAN	DRY	DRY	ISOL	ISOL	DRY	DRY	DRY
19	WEST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
20	EAST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
21	GUJARAT REGION	DRY	DRY	DRY	DRY	DRY	DRY	DRY
22	SAURASHTRA & KUTCH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
23	KONKAN & GOA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
24	MADHYA MAHARASHTRA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
25	MARATHAWADA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
26	VIDARBHA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
27	CHHATTISGARH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
28	COASTAL ANDHRA PRADESH & YANAM	DRY	DRY	DRY	DRY	DRY	DRY	DRY
29	TELANGANA	DRY	DRY	DRY	DRY	DRY	ISOL	ISOL
30	RAYALASEEMA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
31	TAMILNADU PUDUCHERRY & KARAIKAL	DRY	DRY	DRY	DRY	DRY	ISOL	ISOL
32	COASTAL KARNATAKA	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
33	NORTH INTERIOR KARNATAKA	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
34	SOUTH INTERIOR KARNATAKA	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
35	KERALA & MAHE	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
36	LAKSHADWEEP	DRY	DRY	DRY	DRY	DRY	DRY	DRY

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

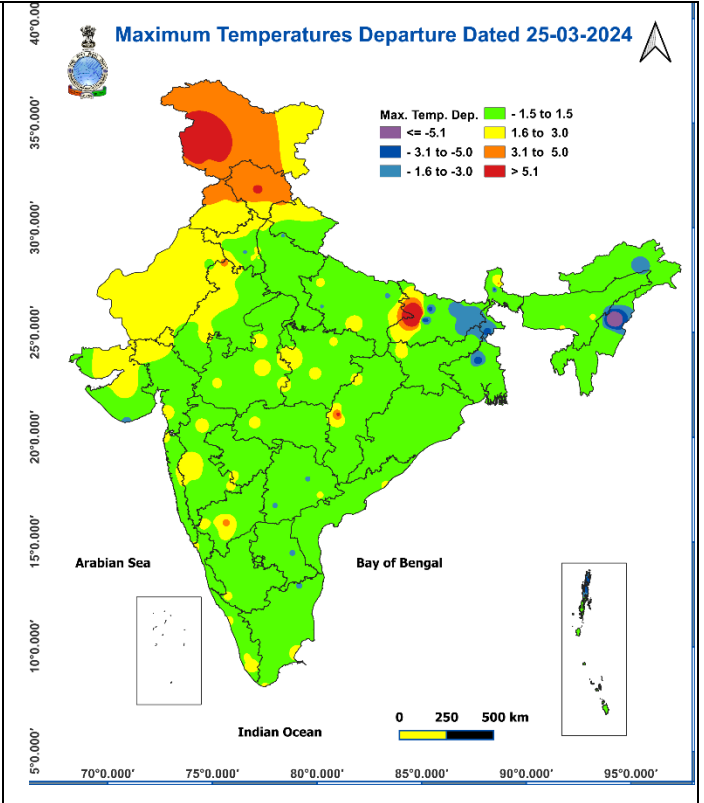
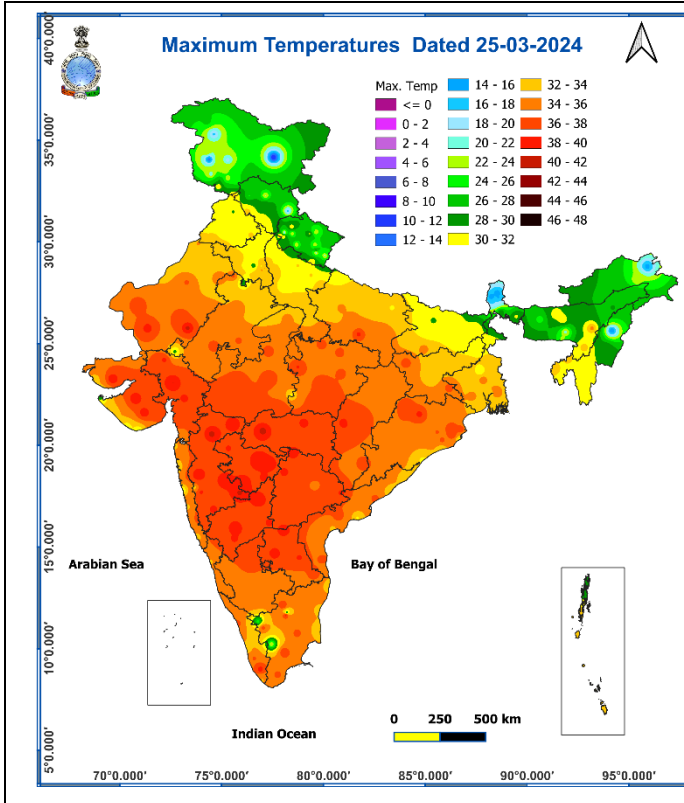
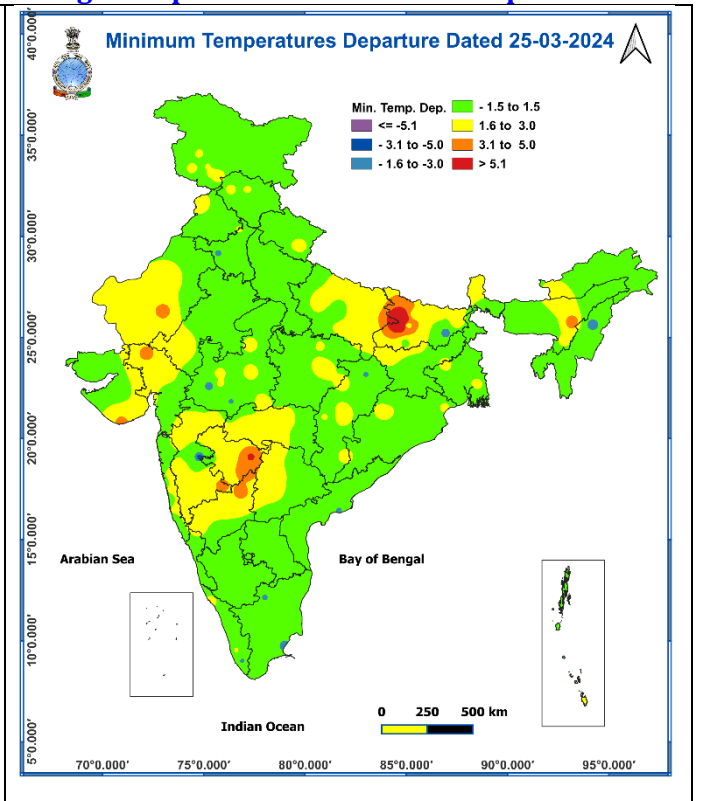
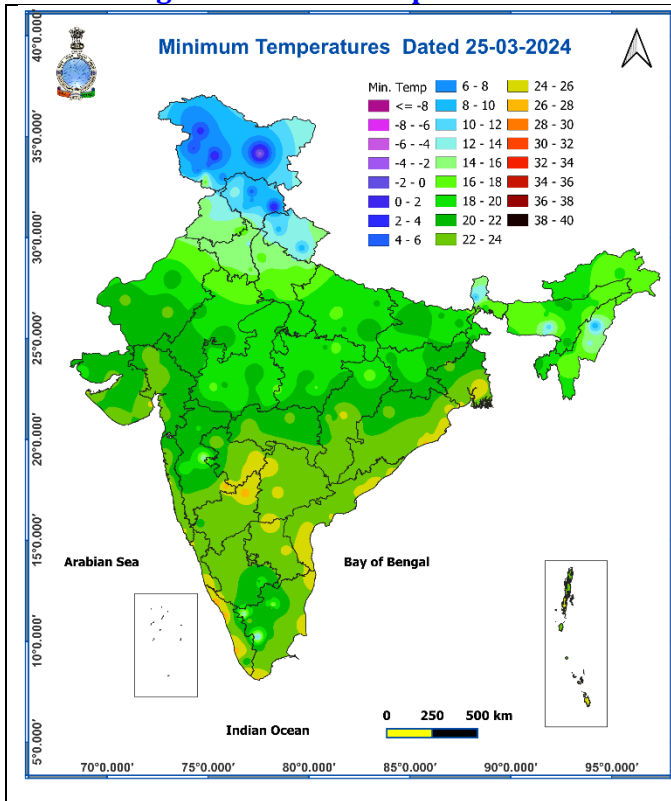


Fig. 3: Minimum Temperatures

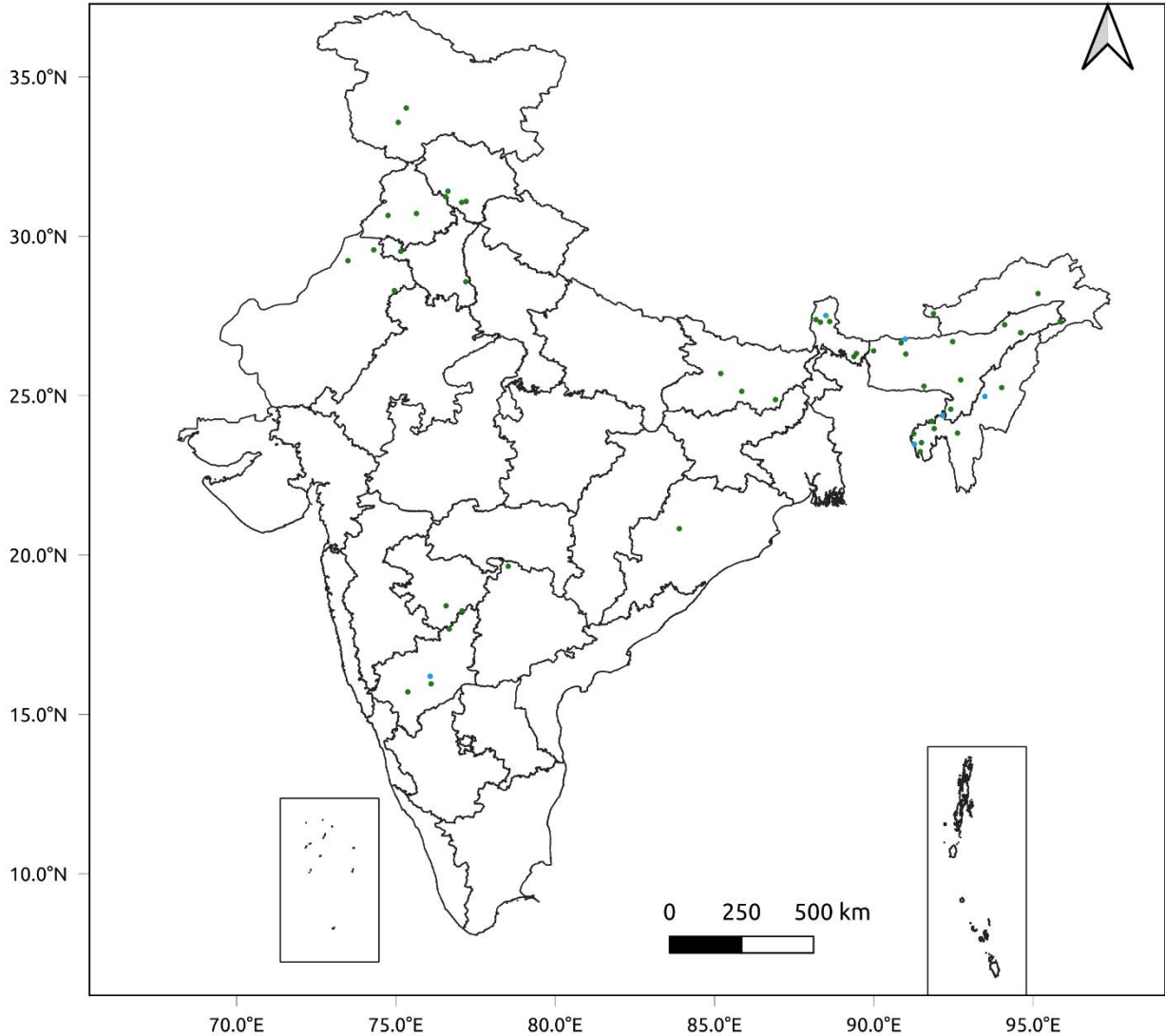
Fig. 4: Departure of Minimum Temperatures



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

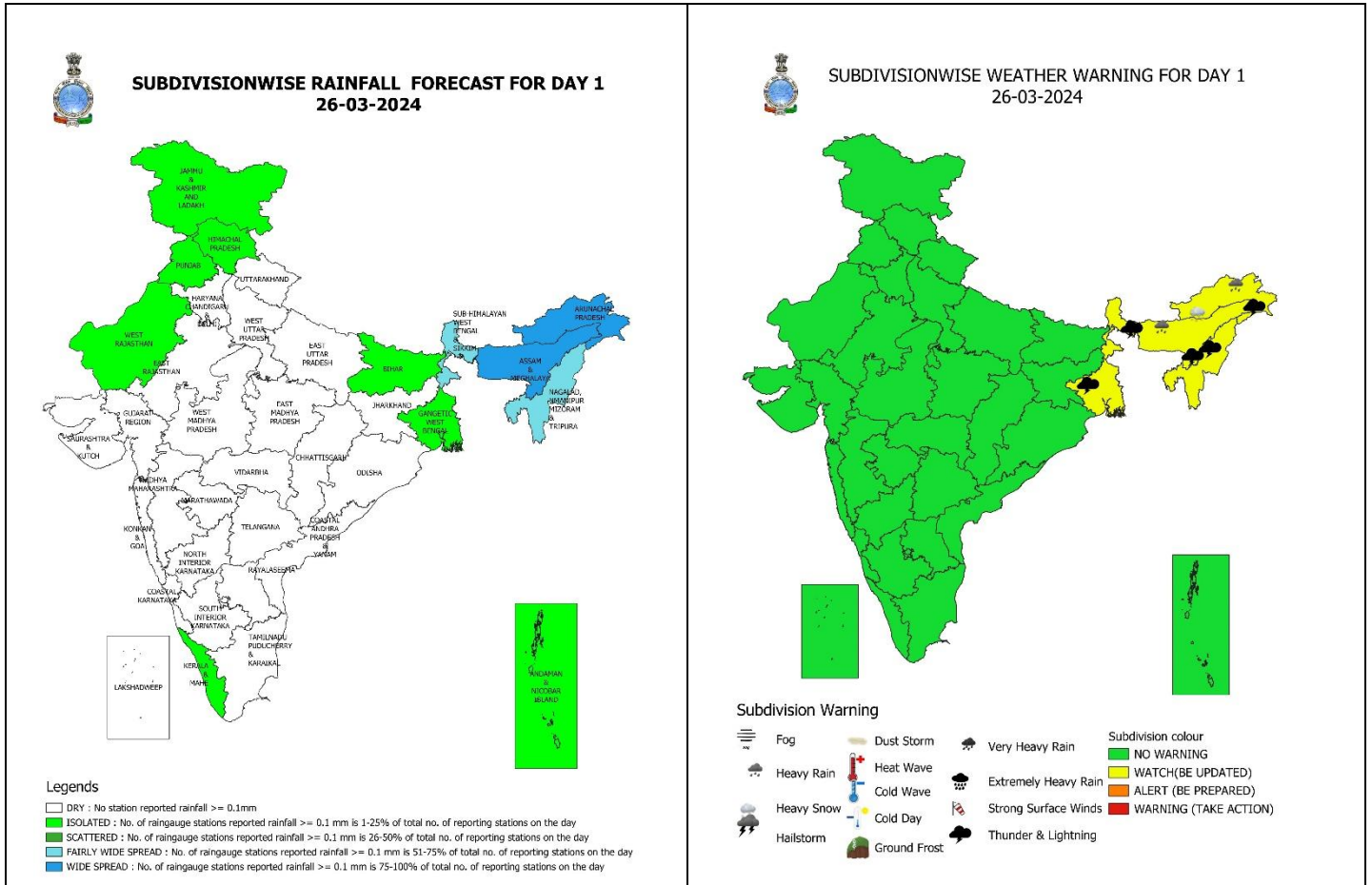


24 Hr cumulative rainfall recorded over different stations during 0830 IST of 24-3-2024 to 0830 IST of 25-3-2024



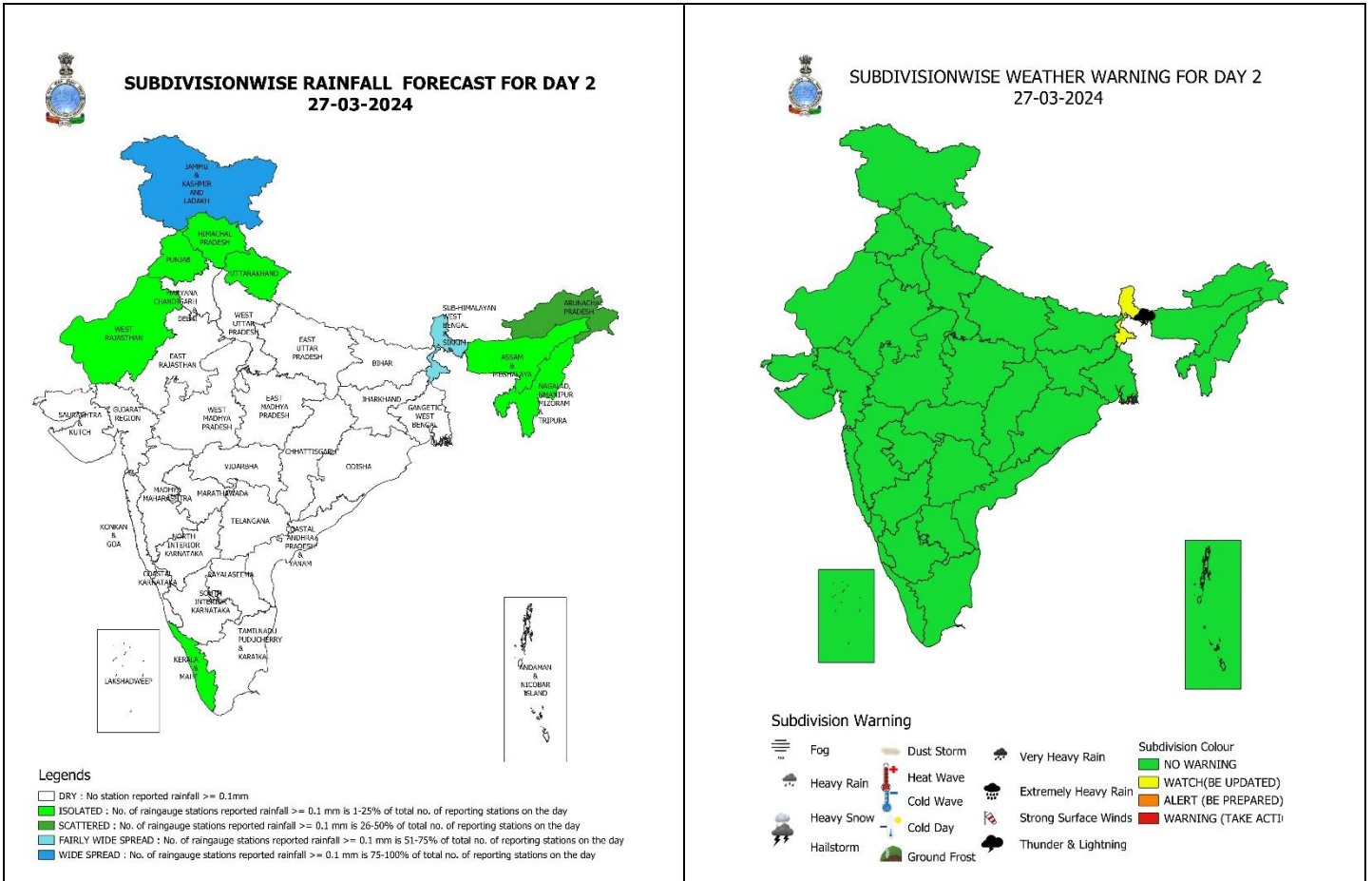
## Legends

- 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)



## 26 March (Day 1):

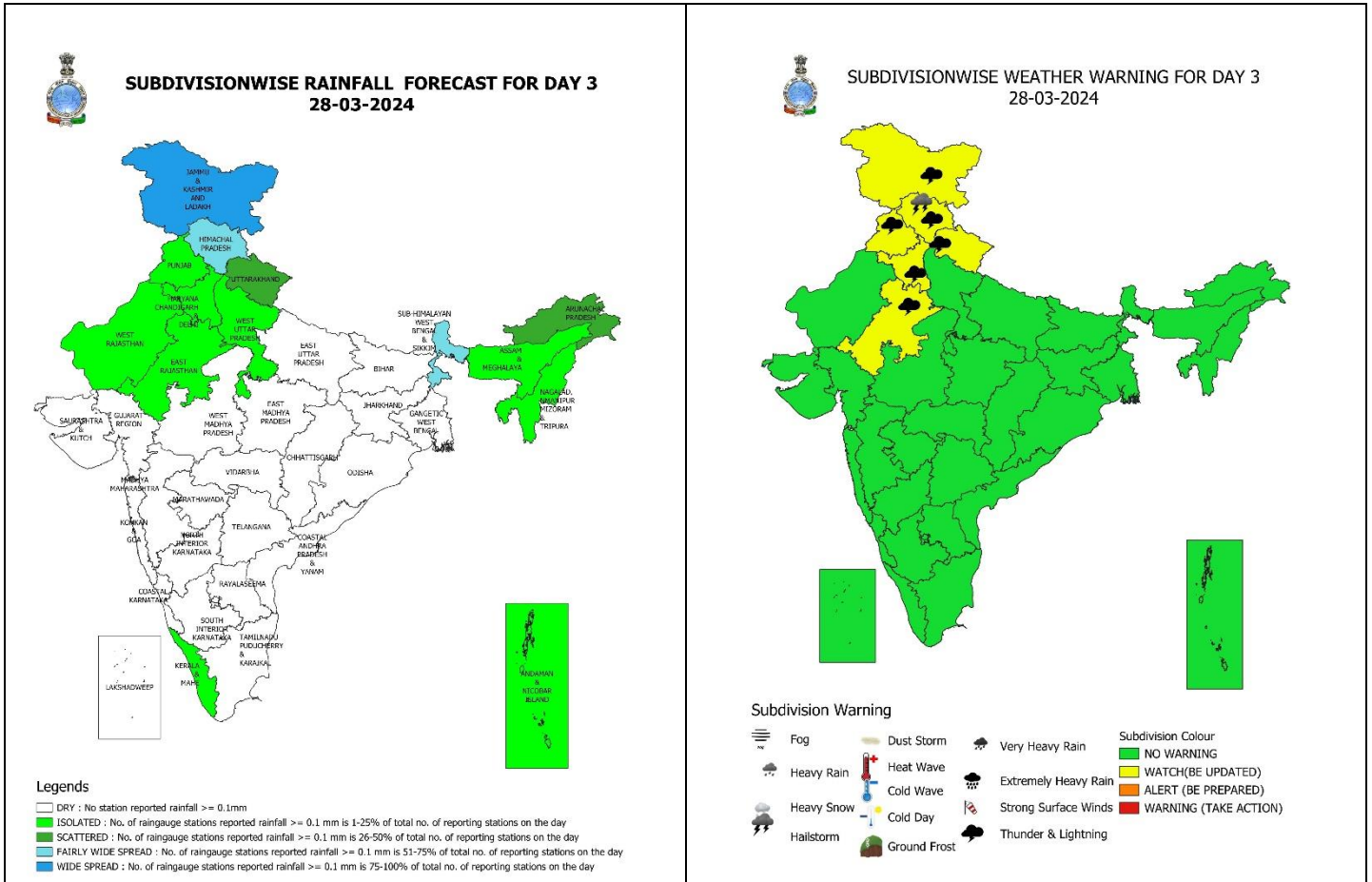
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Gangetic West Bengal, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura and **with lightning** at isolated places over Sub-Himalayan West Bengal & Sikkim and Arunachal Pradesh.
- ❖ **Heavy rainfall/snowfall** very likely at isolated places over Arunachal Pradesh; **Heavy rainfall** at isolated places over Assam & Meghalaya.



## 27 March (Day 2):

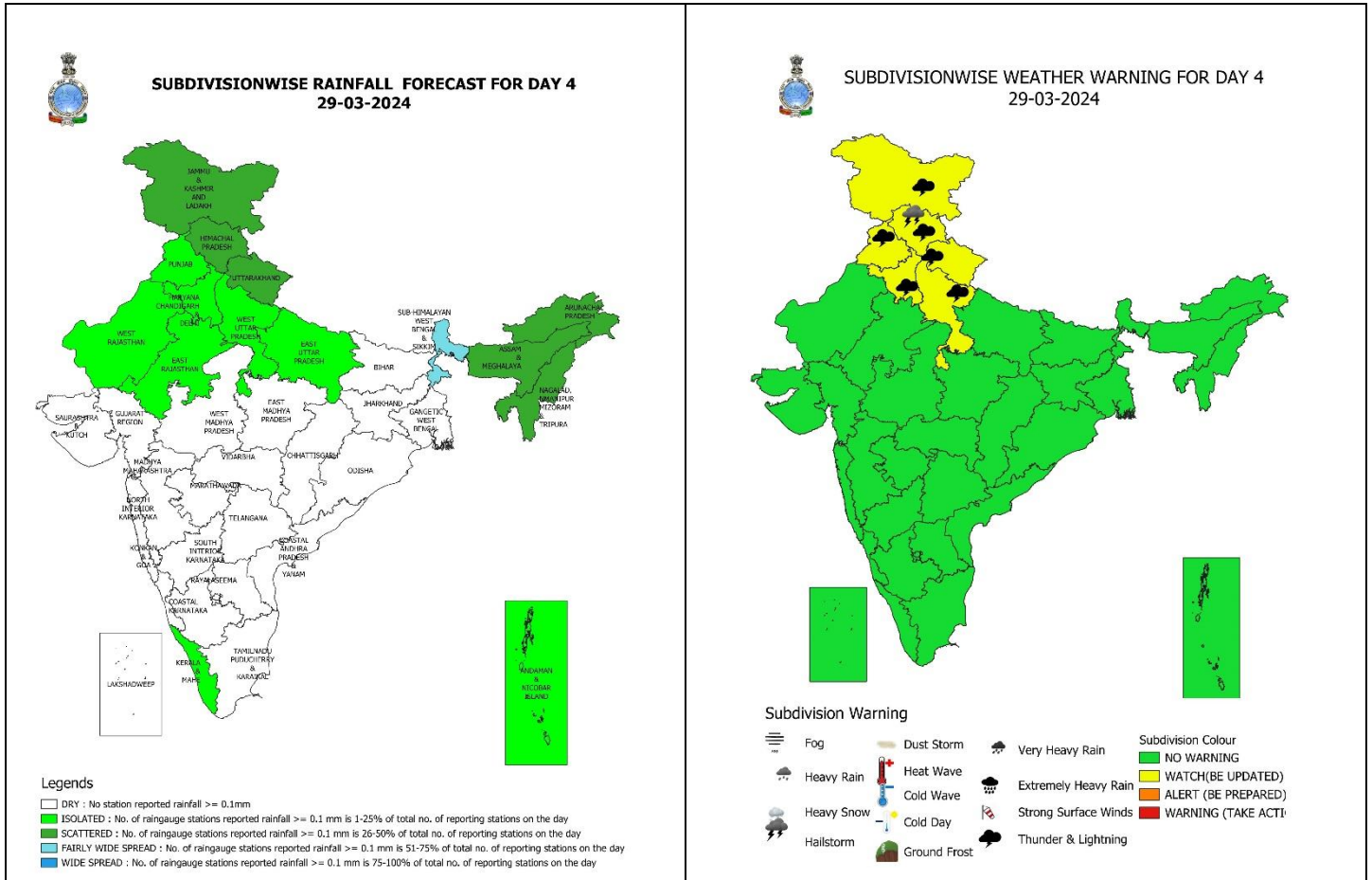
**Thunderstorm accompanied with lightning** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim





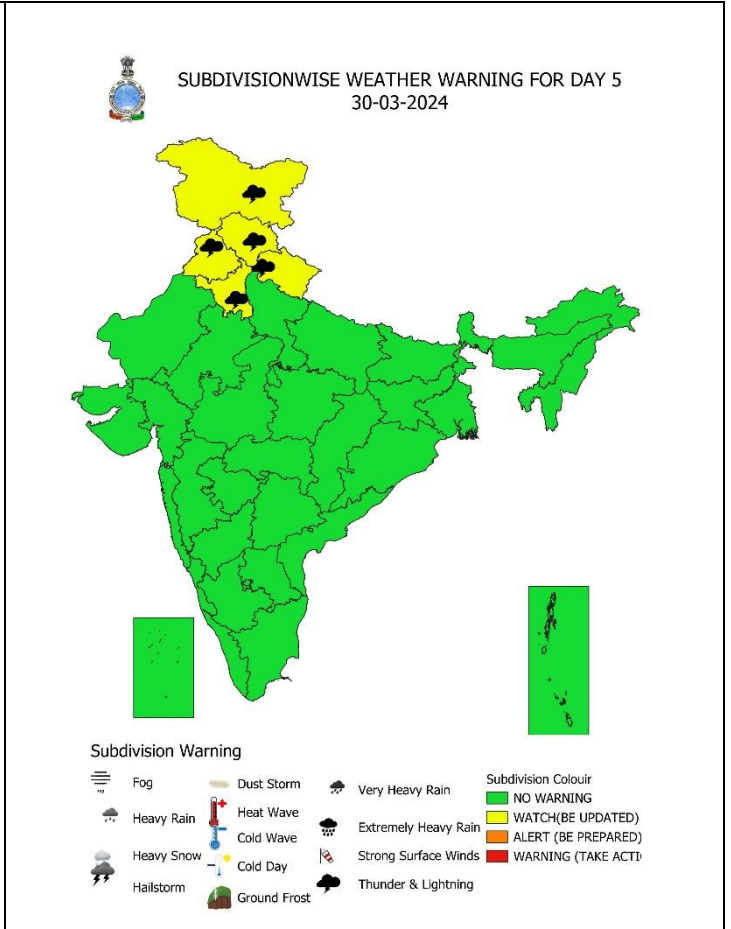
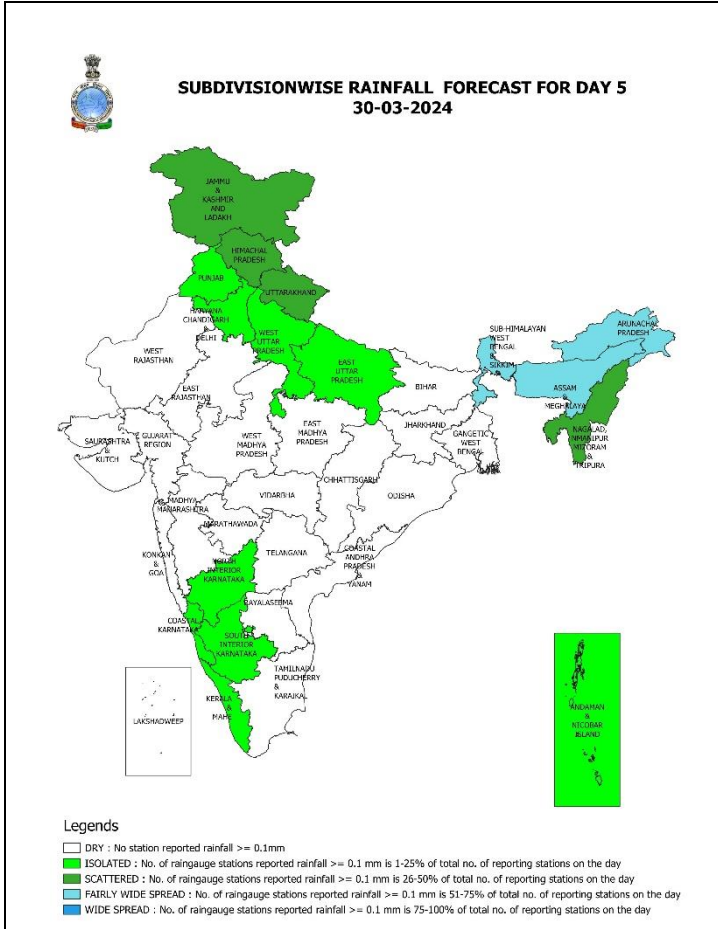
## 28 March (Day 3):

❖ **Thunderstorm accompanied with lightning & hail** likely at isolated places over Himachal Pradesh; **with lightning** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Punjab, Haryana and East Rajasthan.



## 29 March (Day 4):

❖ **Thunderstorm accompanied with lightning & hail** likely at isolated places over Himachal Pradesh; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places over West Uttar Pradesh; **with lightning** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Punjab and Haryana.

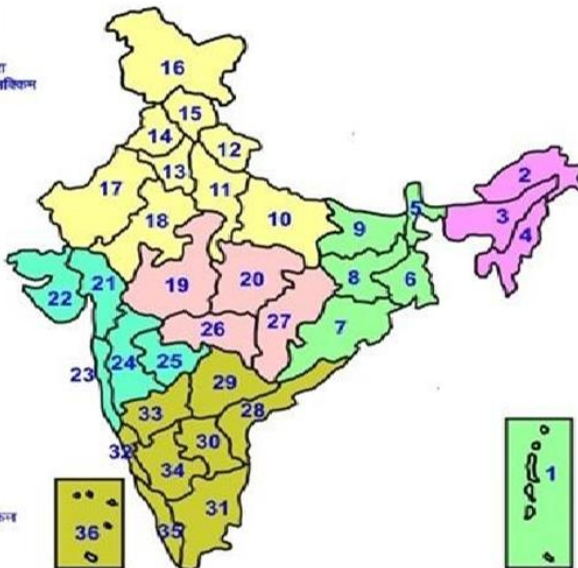


## 30 March (Day 5):

❖ **Thunderstorm accompanied with lightning** likely at isolated places over Himachal Pradesh, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Punjab and Haryana.

## 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 उत्तरीसमूह
- 28 तटीय आंध्र प्रदेश एवं यानम
- 29 तेलंगाना
- 30 दख्खिणी
- 31 पश्चिमनाडु, पुदुचेरी एवंम कराईकल
- 32 तटिय 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>
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



Rain/ Snow \*

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



Heat Wave

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  $\geq 37^{\circ}\text{C}$



Warm Night

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  $> 6.4^{\circ}\text{C}$ .



Cold Wave

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  $\leq 15^{\circ}\text{C}$



Cold Day

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  $\leq -6.5^{\circ}\text{C}$



Fog

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



Thunderstorm

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



Dust/Sand Storm

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



Frost

Ice deposits on ground

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



Squall

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



Sea State

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



Cyclone

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)