

Wednesday, January 31, 2024  
Time of Issue: 0800 hours IST  
(MORNING)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features:

- ❖ **Minimum temperatures:** Minimum temperatures in the range of 6-10°C are prevailing over many parts of Punjab, Haryana, Chandigarh, Uttar Pradesh, Bihar and 8-12°C over many parts of Delhi, Jharkhand, north Rajasthan, north Madhya Pradesh and Sub-Himalayan West Bengal & Sikkim. These are below normal by 2-4°C over some parts of Bihar; in isolated pockets of East Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim and normal to above normal over rest parts of the country. **Yesterday, the lowest minimum temperature of 5.0 °C was reported at Motihari (Bihar).**

### Weather Systems and Forecast & Warnings during next 5 days:

- ❖ **Two Western Disturbances in quick succession are likely to affect northwest India during next 4-5 days.** Under the influence of these systems:
  - Light/moderate fairly widespread to widespread rainfall/snowfall very likely over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh and Uttarakhand during next 5 days (31<sup>st</sup> January to 04<sup>th</sup> February) and decrease significantly thereafter.
  - Isolated **heavy rainfall/snowfall** also likely over Kashmir valley, Himachal Pradesh on 31<sup>st</sup> January & 01<sup>st</sup> February and over Uttarakhand on 31<sup>st</sup> January, 2024.
  - Light/moderate scattered to fairly widespread rainfall very likely over Punjab, Chandigarh, Haryana, Delhi and isolated to scattered rainfall over Uttar Pradesh on 31<sup>st</sup> January & 01<sup>st</sup> February, 2024.
  - Isolated **hailstorm** also likely over Jammu-Kashmir, Himachal Pradesh, Punjab, Haryana on 31<sup>st</sup> January and over Uttarakhand on 31<sup>st</sup> January & 01<sup>st</sup> February, 2024.
  - **Strong and chilly surface winds of the order of 30-40 kmph** very likely over Punjab and Haryana-Chandigarh-Delhi on 31<sup>st</sup> January.
- Light/moderate scattered to fairly widespread rainfall/snowfall very likely over Arunachal Pradesh during next 6 days (31<sup>st</sup> January to 05<sup>th</sup> February) and isolated to scattered rainfall over West Bengal & Sikkim, Assam & Meghalaya and Nagaland, Mizoram, Manipur & Tripura during 31<sup>st</sup> January to 02<sup>nd</sup> February.
- Isolated **heavy rainfall/snowfall** also likely over Arunachal Pradesh on 02<sup>nd</sup> February and Isolated **hailstorm** likely over Sub-Himalayan West Bengal & Sikkim on 31<sup>st</sup> January & 02<sup>nd</sup> February, 2024.

### Dense fog and Cold day warning:

- ❖ **Dense to very dense fog** conditions very likely to prevail in morning hours over isolated pockets of Punjab, Haryana-Chandigarh-Delhi on 31<sup>st</sup> January, 02<sup>nd</sup> February and dense fog in isolated pockets on 03<sup>rd</sup> February, 2024.
- ❖ **Dense to very dense fog** conditions very likely to prevail in morning hours over isolated pockets of East Uttar Pradesh on 31<sup>st</sup> January & 01<sup>st</sup> February and over West Uttar Pradesh on 31<sup>st</sup> January.
- ❖ **Dense Fog** conditions in isolated pockets very likely to prevail for a few hours in morning over Odisha during 31<sup>st</sup> January-02<sup>nd</sup> February; over north Rajasthan, Gangetic West Bengal and Bihar on 31<sup>st</sup> January, 2024.

### Minimum Temperature Forecast and Cold wave warning:

- ❖ Rise by 2-4°C in minimum temperatures very likely over many parts of Northwest & Central India during next 2 days and no significant change thereafter.
- ❖ **No Cold wave conditions** very likely over any part of the country during next 5 days.

## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at a few places** over Arunachal Pradesh; **at isolated places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Sub-Himalayan West Bengal & Sikkim.
- ❖ **Significant rainfall amount recorded** (from 0830 hours IST to 1730 hours IST of yesterday): (in cm): **NIL**.
- ❖ **Hailstorm observed** (from 0830 hours IST to 1730 hours IST of yesterday): at isolated places over Sikkim (Gangtok).
- ❖ Yesterday, **Cold day to severe cold day** conditions prevailed over isolated pockets of Haryana.
- ❖ **Fog conditions observed (at 0530 hours IST of today): Very Dense fog** in isolated pockets of Punjab, Haryana & Delhi; **Dense fog** in isolated pockets of East Uttar Pradesh, Bihar & Odisha and **Moderate fog** in isolated pockets of West Uttar Pradesh & Coastal Andra Pradesh.
- ❖ **Visibility recorded (at 0530 hours IST of today) ( $\leq 200$  metres): Punjab:** Bhatinda-0; **Haryana-Chandigarh-Delhi:** Palam-0, Ambala-25, Hissar-50, Chandigarh-200; **East Uttar Pradesh:** Varanasi/babatpur-50, Sultanpur-200; **Bihar:** Purnea-50, Patna & Gaya-200 each; **Odisha:** Chandbali-50; **West Uttar Pradesh:** Bareilly-200; **Coastal Andra Pradesh:** Vijayawada/Gannavaram-200.
- ❖ **Minimum Temperature Departures (as on 30-01-2024):** Minimum temperatures were **appreciably above normal ( $3.1^{\circ}\text{C}$  to  $5.0^{\circ}\text{C}$ )** at isolated places over Saurashtra & Kutch; **above normal ( $1.6^{\circ}\text{C}$  to  $3.0^{\circ}\text{C}$ )** at many places over Rajasthan; at a few places over Madhya Maharashtra and Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; at isolated places over Haryana-Chandigarh-Delhi, Madhya Pradesh, Gujarat state, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe. They were **below normal ( $-1.6^{\circ}\text{C}$  to  $-3.0^{\circ}\text{C}$ )** at isolated places over Himachal Pradesh, Uttar Pradesh, Odisha, Bihar, North Interior Karnataka and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature** of  $5.0^{\circ}\text{C}$  was reported at **Motihari (Bihar)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 30-01-2024):** Maximum temperatures were **above normal ( $1.6^{\circ}\text{C}$  to  $3.0^{\circ}\text{C}$ )** at a few places over Jharkhand, Gangetic West Bengal, Himachal Pradesh, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe; at isolated places over Uttarakhand, East Uttar Pradesh, East Madhya Pradesh, Chhattisgarh, Rayalaseema, Telangana and Odisha. They were **markedly below normal ( $-5.1^{\circ}\text{C}$  or less)** at isolated places over West Rajasthan and Haryana-Chandigarh-Delhi; **appreciably below normal ( $-3.1^{\circ}\text{C}$  to  $-5.0^{\circ}\text{C}$ )** at isolated places over Sub-Himalayan West Bengal & Sikkim; **below normal ( $-1.6^{\circ}\text{C}$  to  $-3.0^{\circ}\text{C}$ )** at a few places over West Uttar Pradesh; at isolated places over East Rajasthan and West Madhya Pradesh and **near normal** over rest parts of the country. Yesterday, **the highest maximum temperature** of  $37.6^{\circ}\text{C}$  was reported at **Punalur (Kerala)**.

## Meteorological Analysis (Based on 0530 hours IST)

- ❖ The **Western Disturbance** as a trough in middle tropospheric westerlies at 5.8 km above mean sea level roughly along Long. 64°E to the north of Lat. 30°N persists.
- ❖ The **cyclonic circulation** over west Bihar & neighbourhood at 0.9 km above mean sea level persists.
- ❖ **Jet Stream Winds** of the order upto 140 knots at 12.6 km above mean sea level continue to prevail over North India.
- ❖ The **cyclonic circulation** over south Assam & neighbourhood at 1.5 km above mean sea level persists.
- ❖ A fresh **Western Disturbance** is likely to affect Northwest India from 03<sup>rd</sup> February, 2024.

## Weather Forecast for next 7 days (Upto 0830 hours IST of 07<sup>th</sup> Feb., 2024)

- ❖ Meteorological sub-division wise detailed 7 days rainfall forecast is given in Table-1.
- ❖ Shallow to moderate fog very likely in isolated pockets over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during next 24 hours.
- ❖ Rise by 2-4°C in minimum temperatures very likely over many parts of Northwest & Central India during next 2 days and no significant change thereafter.
- ❖ No significant change in minimum temperatures over rest parts of the country.

## weather Outlook for subsequent 2 days

- ❖ Light rainfall/snowfall at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Gangetic West Bengal, Odisha & northeast India.
- ❖ Mainly dry weather likely to prevail over rest parts of the country.

Table-1

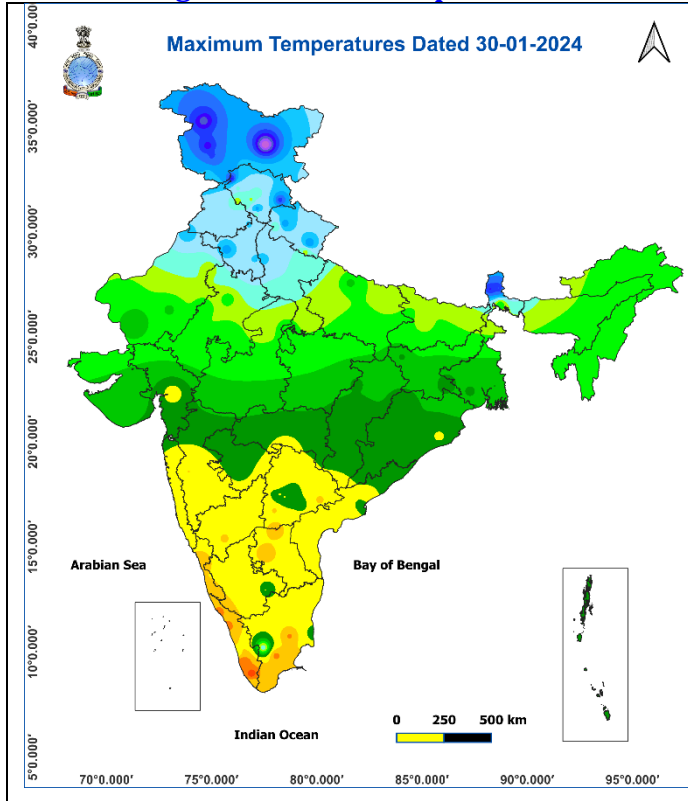
**7 Days Rainfall Forecast**

S. No.	Subdivision	31- Jan	01- Feb	02- Feb	03- Feb	04- Feb	05- Feb	06- Feb
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	ISOL	ISOL	DRY	DRY	DRY	DRY	DRY
2	ARUNACHAL PRADESH	SCT	FWS	WS	SCT	SCT	SCT	SCT
3	ASSAM & MEGHALAYA	ISOL	SCT	FWS	ISOL	ISOL	DRY	ISOL
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	ISOL	SCT	FWS	ISOL	ISOL	DRY	DRY
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	SCT	SCT	SCT	ISOL	ISOL	ISOL	ISOL
6	GANGETIC WEST BENGAL	SCT	FWS	SCT	DRY	DRY	DRY	ISOL
7	ODISHA	ISOL	ISOL	DRY	DRY	DRY	DRY	ISOL
8	JHARKHAND	ISOL	SCT	DRY	DRY	DRY	ISOL	ISOL
9	BIHAR	DRY	ISOL	ISOL	DRY	DRY	DRY	DRY
10	EAST UTTAR PRADESH	ISOL	ISOL	DRY	DRY	ISOL	DRY	DRY
11	WEST UTTAR PRADESH	SCT	SCT	DRY	ISOL	ISOL	DRY	DRY
12	UTTARAKHAND	WS	WS	ISOL	SCT	FWS	SCT	ISOL
13	HARYANA CHANDIGARH & DELHI	FWS	SCT	DRY	ISOL	ISOL	DRY	DRY
14	PUNJAB	FWS	SCT	DRY	SCT	ISOL	DRY	DRY
15	HIMACHAL PRADESH	WS	WS	ISOL	FWS	WS	ISOL	ISOL
16	JAMMU & KASHMIR AND LADAKH	WS	SCT	ISOL	FWS	FWS	ISOL	ISOL
17	WEST RAJASTHAN	ISOL	DRY	ISOL	ISOL	DRY	DRY	DRY
18	EAST RAJASTHAN	ISOL	DRY	DRY	ISOL	ISOL	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	ISOL	DRY	DRY	DRY	DRY	DRY
27	CHHATTISGARH	ISOL	ISOL	DRY	DRY	DRY	DRY	DRY
28	COASTAL ANDHRA PRADESH & YANAM	DRY	DRY	DRY	DRY	DRY	DRY	DRY
29	TELANGANA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
30	RAYALASEEMA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	ISOL	ISOL	DRY	DRY	DRY	DRY
32	COASTAL KARNATAKA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
33	NORTH INTERIOR KARNATAKA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
34	SOUTH INTERIOR KARNATAKA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
35	KERALA & MAHE	ISOL	ISOL	ISOL	ISOL	DRY	DRY	DRY
36	LAKSHADWEEP	DRY	DRY	DRY	DRY	DRY	DRY	DRY

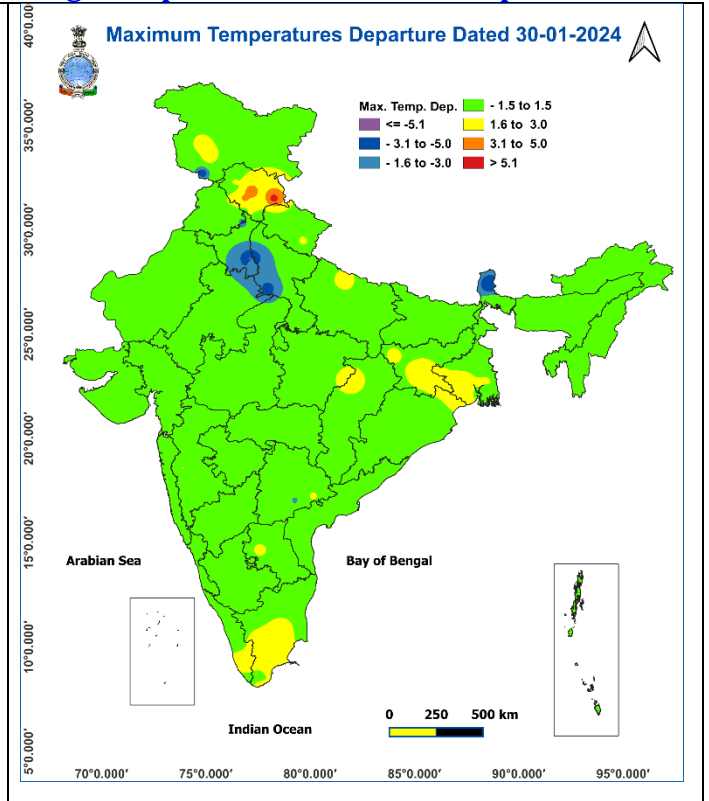
Legend	Category	% Stations
WS	Widespread/Most Places	76-100
FWS	Fairly Widespread/Many Places	51-75
SCT	Scattered/ A Few Places	26-50
ISOL	Isolated Places	1-25
DRY	No Rain	0

\* 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)

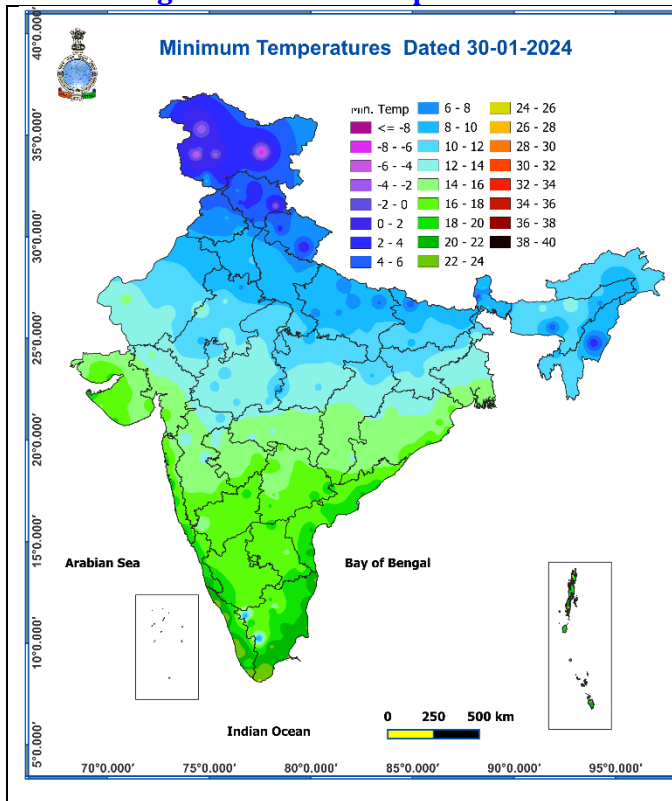
**Fig. 1: Maximum Temperatures**



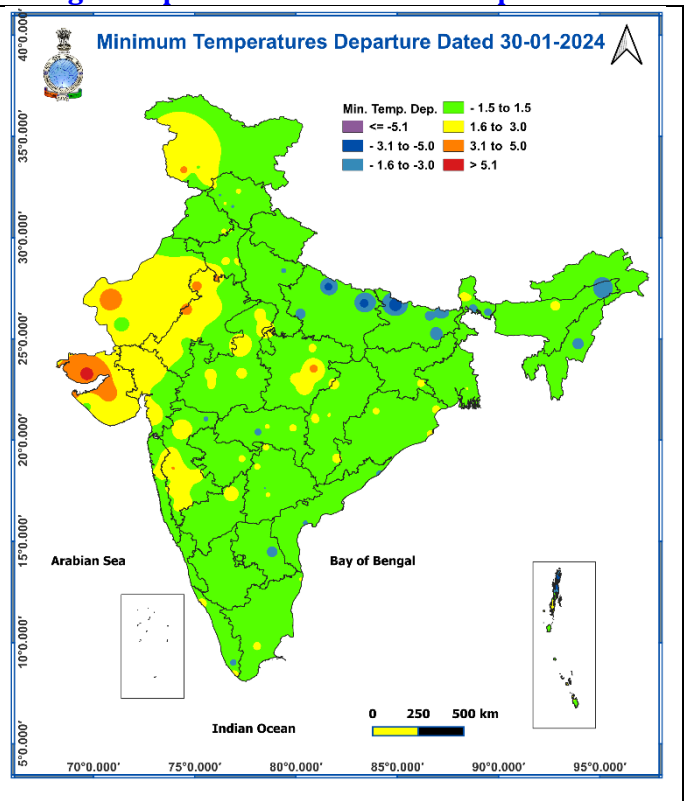
**Fig. 2: Departure of Maximum Temperatures**



**Fig. 3: Minimum Temperatures**



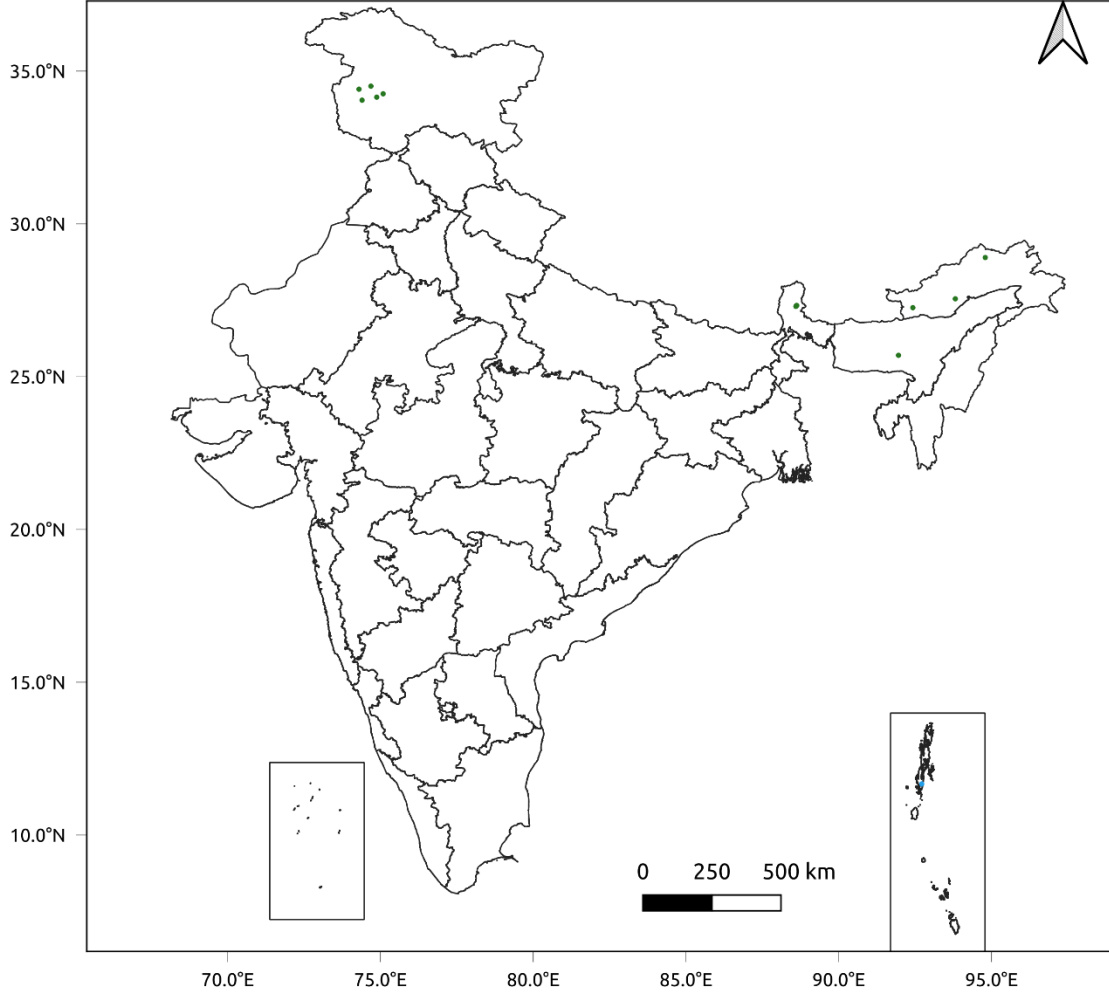
**Fig. 4: Departure of Minimum Temperatures**



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

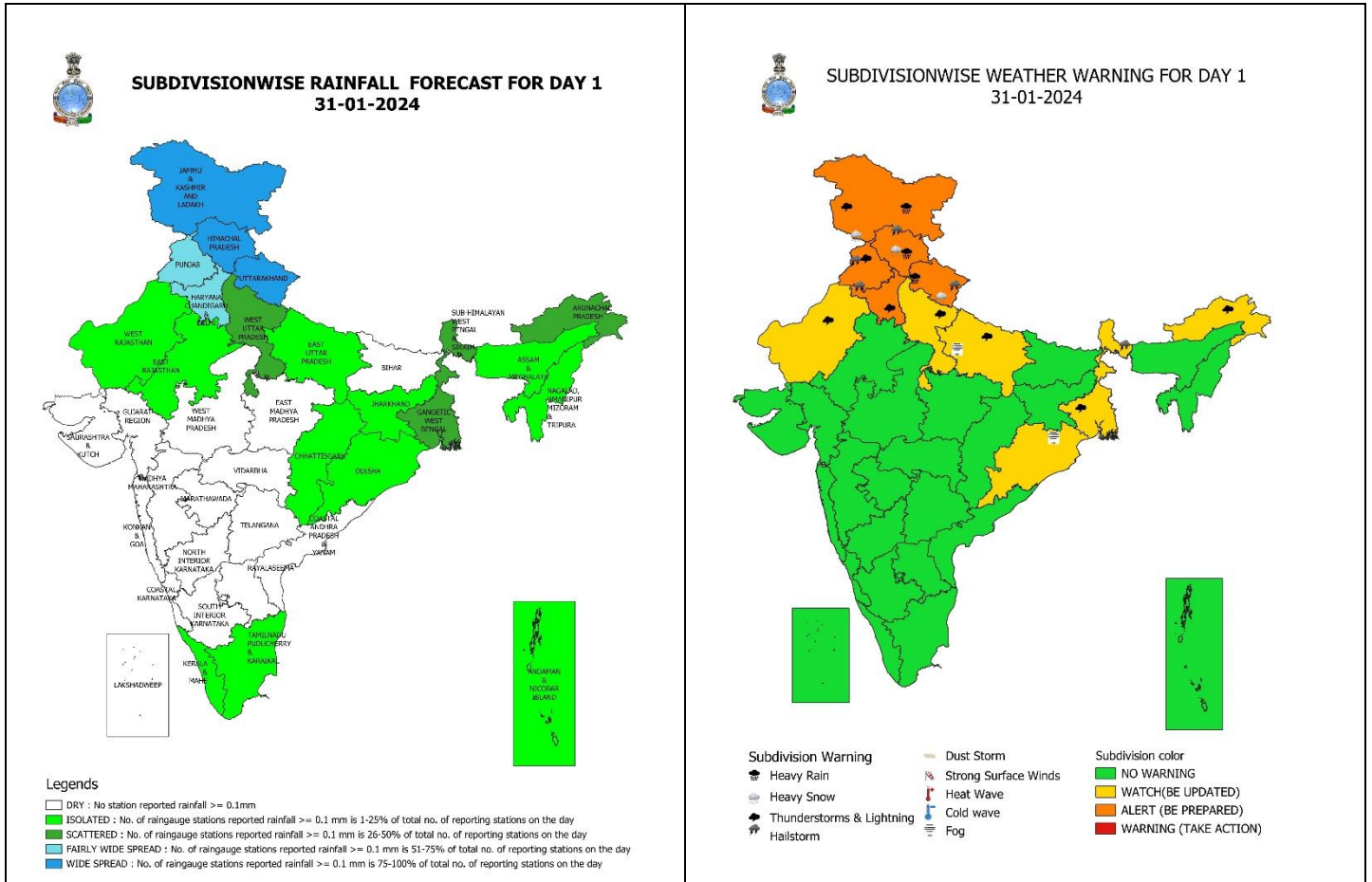


24 Hr cumulative rainfall recorded over different stations during 0830 IST of 29-1-2024 to 0830 IST of 30-1-2024



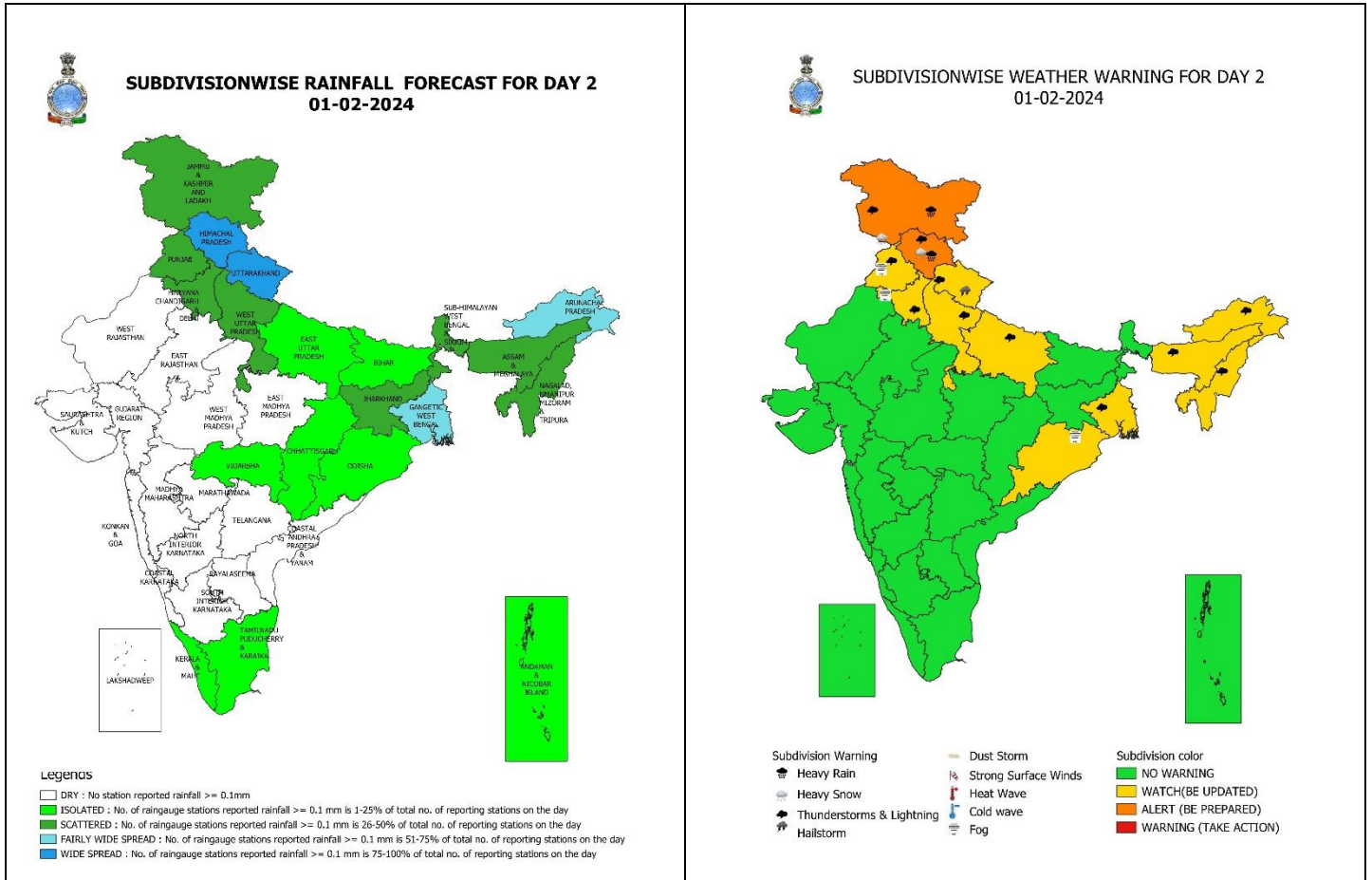
### Legends

- 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)



## 31 January (Day 1):

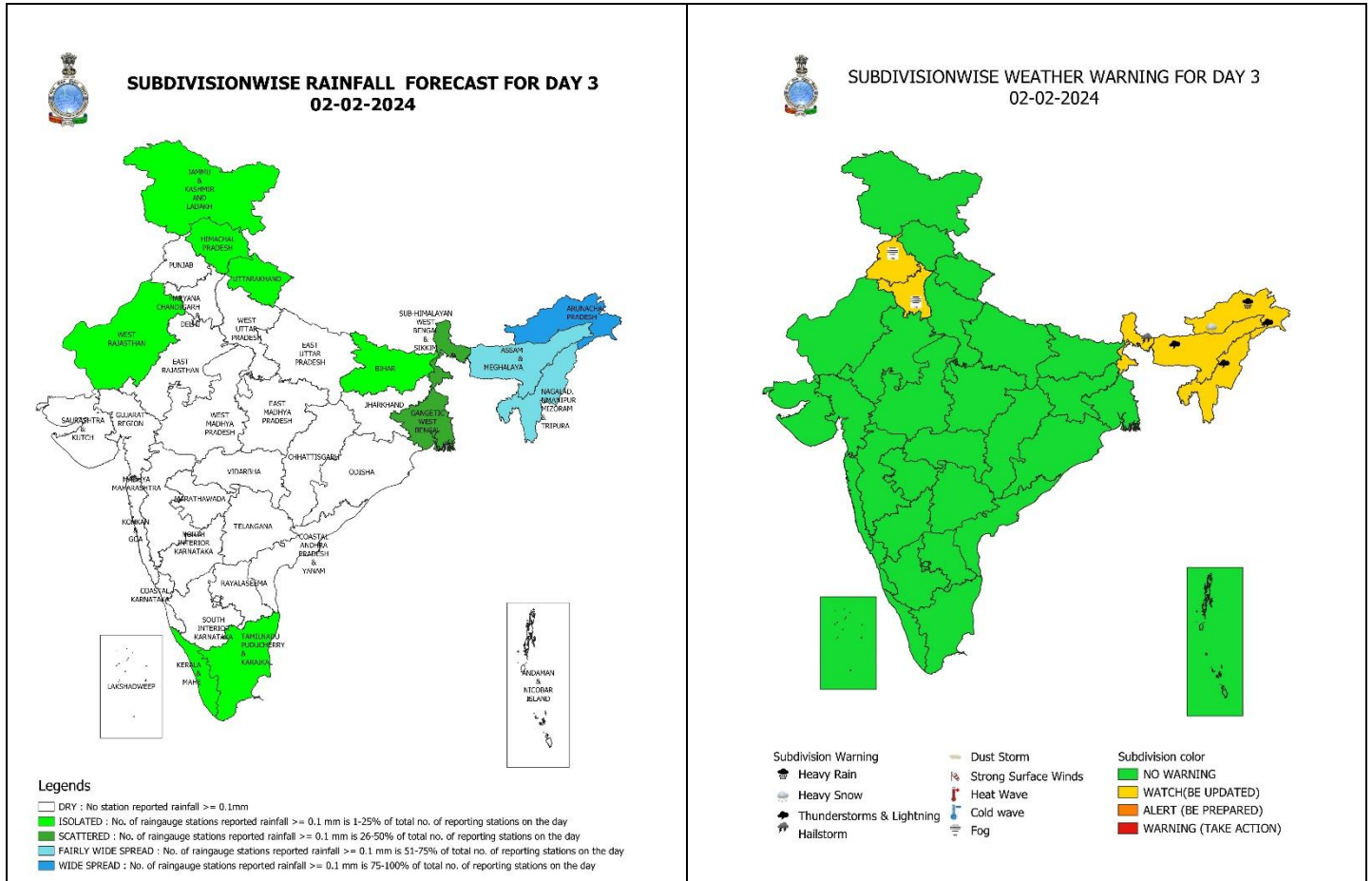
- ❖ **Dense to very dense fog** very likely in isolated pockets over East Uttar Pradesh and **Dense fog** in isolated pockets over Odisha.
- ❖ **Heavy Rainfall/snowfall** very likely at isolated places over Jammu-Kashmir, Himachal Pradesh and Uttarakhand.
- ❖ **Thunderstorm accompanied with lightning, hailstorm & gusty winds (speed 30-40 kmph)** very likely at isolated places over Punjab, Haryana and Chandigarh; **with lightning & hailstorm** very likely at isolated places over Jammu-Kashmir, Himachal Pradesh, Uttarakhand, Sub-Himalayan West Bengal & Sikkim; **with lightning & gusty winds (speed 30-40 kmph)** at isolated places over Delhi, Uttar Pradesh, West Rajasthan and **with lightning** at isolated places over Gangetic West Bengal and Arunachal Pradesh.



## 01 February (Day 2):

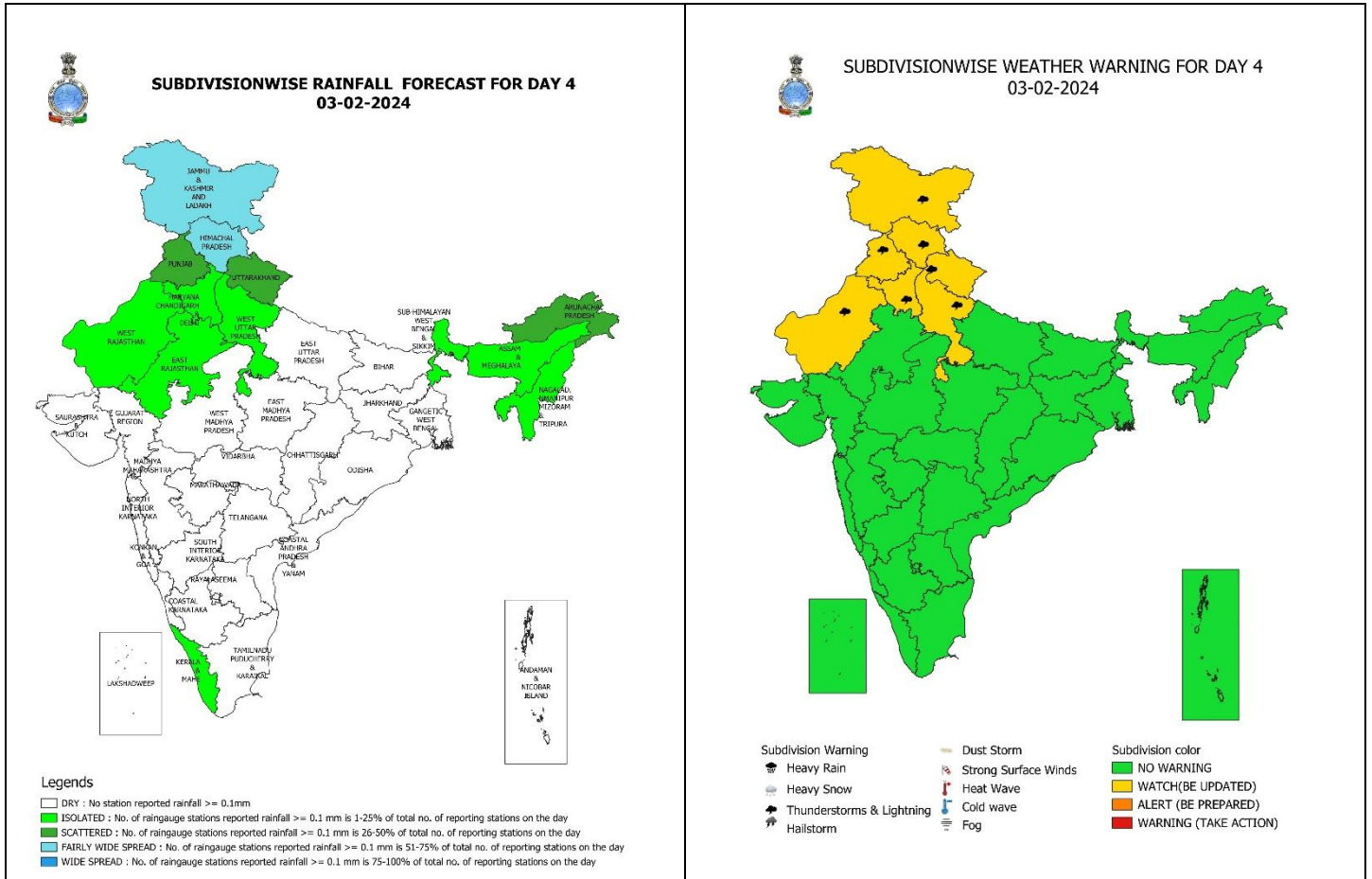
- ❖ **Dense to very dense fog** very likely in isolated pockets over Punjab, Haryana and Chandigarh and **Dense fog** in isolated pockets over Odisha.
- ❖ **Heavy Rainfall/snowfall** very likely at isolated places over Jammu-Kashmir and Himachal Pradesh.
- ❖ **Thunderstorm accompanied with lightning & hailstorm** very likely at isolated places over Uttarakhand and **with lightning** at isolated places over Himachal Pradesh, Punjab, Uttar Pradesh, Gangetic West Bengal, Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.





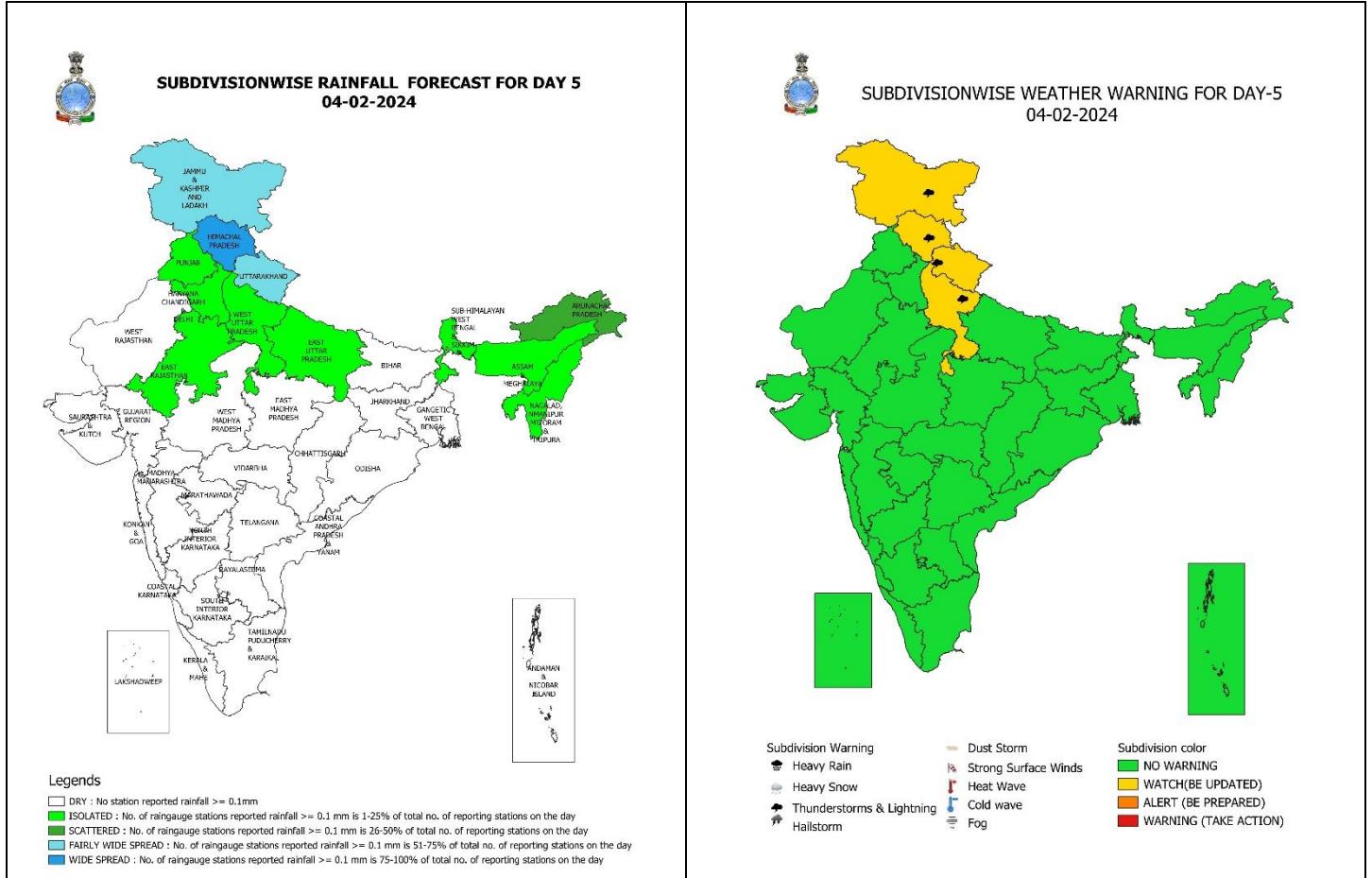
## 02 February (Day 3):

- ❖ **Dense fog** very likely in isolated pockets over Punjab, Haryana and Chandigarh.
- ❖ **Heavy Rainfall/snowfall** very likely at isolated places over Arunachal Pradesh.
- ❖ **Thunderstorm accompanied with lightning & hailstorm** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim and **with lightning** at isolated places over Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.



## 03 February (Day 4):

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

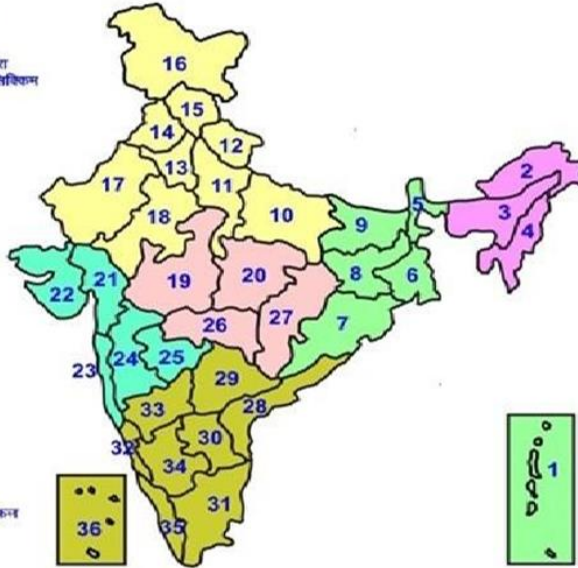


## 04 February (Day 5):

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

## 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



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

Rain/ Snow \*



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 Storm: 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

(Service to the Nation since 1875)