

Thursday, January 18, 2024  
Time of Issue: 0800 hours IST  
(MORNING)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features:

- ❖ **Minimum temperatures:** Yesterday, Minimum temperatures were in the range of 2-5°C over many parts of Punjab and some parts of Haryana-Chandigarh; in the range of 6-10°C over many parts of Delhi, Uttar Pradesh, Rajasthan, north Madhya Pradesh, Bihar, Jharkhand and north Chhattisgarh. These were below normal by 1°C to 3°C over many parts of Northwest & adjoining east India. **Yesterday, the lowest minimum temperature of 2.0°C was reported at Amritsar (Punjab).**

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

- ❖ **Jet Stream Winds of the order of 140-160 knots at 12.6 km above mean sea level are prevailing over the plains of North India. It is leading to subsidence of cold air and enhancing cold wave/cold day conditions over North India. Similar intensity of Jet Stream is likely to continue during next 5 days.**
- ❖ Light to moderate rainfall in isolated to some places very likely over Bihar, Jharkhand, Chhattisgarh, Odisha, West Bengal & Sikkim and Northeast India on 18<sup>th</sup> January, 2024.

### Dense fog and Cold day warning:

- ❖ **Dense to very dense fog** conditions very likely to prevail for a few hours in late night/morning over many/some parts of Punjab, Haryana and Chandigarh during 18<sup>th</sup> to 20<sup>th</sup> morning and in isolated pockets on 21<sup>st</sup> & 22<sup>nd</sup> January morning.
- ❖ **Dense to very dense fog** conditions very likely to prevail for a few hours in late night/morning in isolated pockets of West Uttar Pradesh during next 4 days.
- ❖ **Dense fog** conditions very likely to prevail for a few hours in late night/morning in isolated pockets of East Uttar Pradesh during next 2 days.
- ❖ **Dense to very dense fog** conditions very likely to prevail in morning hours in isolated pockets over Uttarakhand on 18<sup>th</sup> January, 2024.
- ❖ **Dense fog** conditions very likely to prevail in morning hours in isolated pockets of north Rajasthan during 18<sup>th</sup>-20<sup>th</sup>; over north Madhya Pradesh, Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during 18<sup>th</sup>-19<sup>th</sup>; over Himachal Pradesh on 18<sup>th</sup> January, 2024.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in some parts of Punjab, Haryana-Chandigarh during 18<sup>th</sup>-19<sup>th</sup> and **Cold Day** in some parts during 20<sup>th</sup> -22<sup>nd</sup> January, 2024.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in some parts of West Uttar Pradesh on 18<sup>th</sup> and **Cold Day** in isolated pockets during 19<sup>th</sup>-22<sup>nd</sup> January.
- ❖ **Cold Day** conditions very likely to continue in isolated pockets of northwest Madhya Pradesh on 18<sup>th</sup> & 19<sup>th</sup> January.
- ❖ **Cold Day** conditions very likely to continue in isolated pockets of Bihar during 18<sup>th</sup>-22<sup>nd</sup> January and over Rajasthan on 18<sup>th</sup> January, 2024.

### Minimum Temperature Forecast and Cold wave warning:

- ❖ Rise in minimum temperatures by about 2°C very likely over Northwest India during next 24 hours and no significant change thereafter.
- ❖ Rise in minimum temperatures by 2-4°C very likely over East India during next 24 hours and no significant change thereafter.
- ❖ No significant change in minimum temperatures likely over rest parts of the country during next 5 days.
- ❖ **Cold wave to Severe Cold wave** conditions very likely to continue in many/some parts of Punjab and Haryana-Chandigarh during 18<sup>th</sup>-19<sup>th</sup> and cold wave conditions on 20<sup>th</sup> & 21<sup>st</sup> January, 2024.
- ❖ **Cold wave** conditions very likely in isolated pockets of Himachal Pradesh on 18<sup>th</sup>; West Uttar Pradesh on 20<sup>th</sup> & 21<sup>st</sup> January and over north Rajasthan during 19<sup>th</sup>-21<sup>st</sup> January, 2024.

## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): at isolated places over Arunachal Pradesh, Sub-Himalayan West Bengal & Sikkim.
- ❖ **Significant amount of rainfall recorded** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **NIL**.
- ❖ Yesterday, **Cold day to severe cold day** conditions prevailed in most parts of Bihar and East Uttar Pradesh; in many parts of West Uttar Pradesh; in some parts of Haryana and in isolated pockets of plains of Uttarakhand West Rajasthan, north Madhya Pradesh, Gangetic West Bengal.
- ❖ Yesterday, **Cold wave to severe cold wave conditions** prevailed over many parts of Punjab and **cold wave** in isolated pockets of Haryana & West Uttar Pradesh.
- ❖ **Fog conditions observed** (at 0530 hours IST of today): **Very dense fog** in isolated pockets of Punjab, Haryana, West Rajasthan and Bihar; dense fog in isolated pockets of Delhi, West Uttar Pradesh, Jharkhand, Odisha and Assam; moderate fog in isolated pockets of Sub-Himalayan West Bengal & Sikkim and shallow fog in isolated pockets of East Rajasthan, East Uttar Pradesh and West Madhya Pradesh.
- ❖ **Visibility recorded** (at 0530 hours IST of today) (**≤500 metres**): **Punjab**: Amritsar & Patiala-25 each; **Haryana**: Ambala & Hissar-25 each; **Delhi**: Palam & Safdarjung-50 each; **West Rajasthan**: Bikaner-25, Churu & Ganganagar-50 each; **East Rajasthan**: Jaipur-500; **West Uttar Pradesh**: Jhansi-50, Bareilly-200; **East Uttar Pradesh**: Gorakhpur-500; **West Madhya Pradesh**: Gwalior-500; **Bihar**: Purnea-25, Gaya & Bhagalpur- 500 each; **Jharkhand**: Ranchi-50, Jamshedpur-500; **Odisha**: Chandbali & Paradip-50 each, Bhubaneswar-200, Jharsuguda-500; **Sub-Himalayan West Bengal**: Malda- 200; **Assam**: North Lakhimpur- 50, Tezpur-200.
- ❖ **Minimum Temperature Departures (as on 17-01-2024)**: Minimum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at many places over Assam & Meghalaya; at a few places over Odisha, Chhattisgarh, Saurashtra & Kutch, Telangana and Coastal Andhra Pradesh & Yanam; at isolated places over East Rajasthan and Andaman & Nicobar Islands; **above normal (1.6°C to 3.0°C)** at a few places over East Madhya Pradesh; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, West Rajasthan, Bihar, West Madhya Pradesh, Vidarbha, Gujarat Region, Madhya Maharashtra, Marathwada and Kerala & Mahe. They were **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over West Uttar Pradesh and Gangetic West Bengal; **below normal (-1.6°C to -3.0°C)** at most places over Punjab; at isolated places over Haryana-Chandigarh-Delhi, Tamil Nadu, Puducherry & Karaikal and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature of 2.0 °C** was reported at **Amritsar (Punjab)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 17-01-2024)**: Maximum temperatures were **markedly above normal (5.1°C or more)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; **above normal (1.6°C to 3.0°C)** at a few places over Himachal Pradesh; at isolated places over Saurashtra & Kutch, Telangana, Karnataka, Tamil Nadu, Puducherry & Karaikal, Rayalaseema, Coastal Andhra Pradesh & Yanam and Maharashtra. They were **markedly below normal (-5.1°C or less)** at most places over East Uttar Pradesh and Bihar; at many places over Gangetic West Bengal & Sikkim; at a few places over West Uttar Pradesh and Jharkhand; **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over Madhya Pradesh and Uttarakhand; **below normal (-1.6°C to -3.0°C)** at a few places over Rajasthan, Haryana-Chandigarh-Delhi, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura and **near normal** over rest parts of the country. Yesterday, **the highest maximum temperature of 35.5°C** was reported at **Punalur (Kerala)**.

## Meteorological Analysis (Based on 0530 hours IST)

- ❖ **Jet Stream Winds** of the order of 140-160 knots at 12.6 km above mean sea level continue to prevail over the plains of North India.
- ❖ The **Cyclonic circulation** over northwest Rajasthan & neighbourhood at 0.9 km above mean sea level persists.
- ❖ The **Cyclonic circulation** over northwest Uttar Pradesh & neighbourhood between 1.5 km & 3.1 km above mean sea level persists.
- ❖ The **Cyclonic circulation** over Bangladesh extending upto 3.1 km above mean sea level persists.
- ❖ The **Trough** in easterlies from South Interior Karnataka to east Vidarbha at 0.9 km above mean sea level persists.
- ❖ The **Cyclonic circulation** over Maldives area at 3.1 km above mean sea level persists.

## Weather Forecast for next 7 days (Upto 0830 hours IST of 25<sup>th</sup> January, 2024)

- ❖ Rise in minimum temperatures by about 2°C very likely over Northwest India during next 24 hours and no significant change thereafter.
- ❖ Rise in minimum temperatures by 2-4°C very likely over East India during next 24 hours and no significant change thereafter.
- ❖ No significant change in minimum temperatures likely over rest parts of the country during next 5 days.

## Weather Outlook for subsequent 2 days

- ❖ Light rainfall at isolated places over Odisha, adjoining Gangetic West Bengal, Chhattisgarh and Andaman & Nicobar Islands.
- ❖ Mainly dry weather likely to prevail over rest parts of the country.

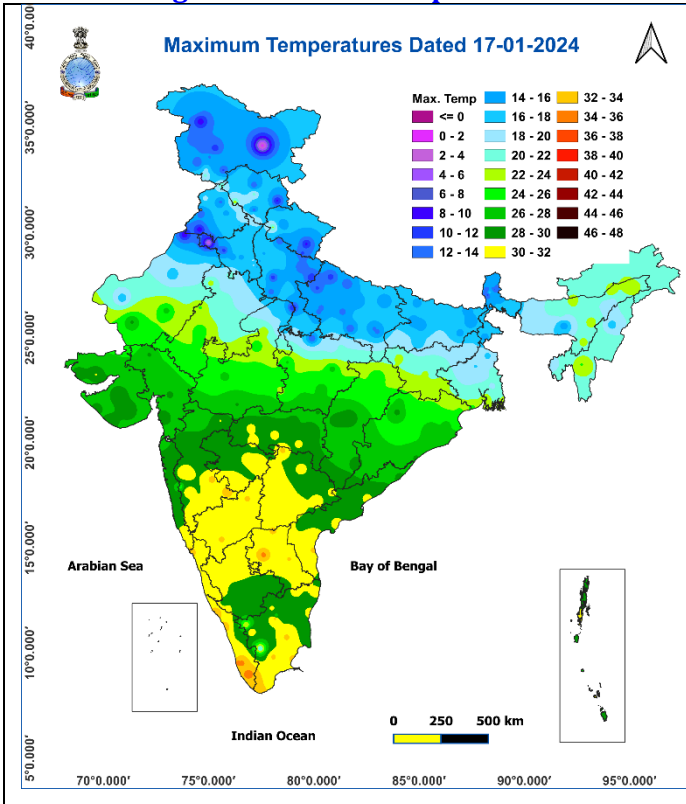
Table-1

7 Days Rainfall Forecast								
S. No.	Subdivision	18-Jan	19-Jan	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	SCT	ISOL	ISOL	ISOL	DRY	DRY	DRY
2	ARUNACHAL PRADESH	SCT	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
3	ASSAM & MEGHALAYA	ISOL	DRY	DRY	DRY	ISOL	ISOL	ISOL
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	ISOL	DRY	DRY	DRY	ISOL	ISOL	ISOL
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	ISOL	ISOL	ISOL	ISOL	DRY	ISOL	ISOL
6	GANGETIC WEST BENGAL	FWS	ISOL	DRY	DRY	DRY	DRY	DRY
7	ODISHA	ISOL	ISOL	DRY	DRY	DRY	ISOL	ISOL
8	JHARKHAND	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
9	BIHAR	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
10	EAST UTTAR PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
11	WEST UTTAR PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
12	UTTARAKHAND	DRY	DRY	DRY	DRY	DRY	DRY	DRY
13	HARYANA CHANDIGARH & DELHI	DRY	DRY	DRY	DRY	DRY	DRY	DRY
14	PUNJAB	DRY	DRY	DRY	DRY	DRY	DRY	DRY
15	HIMACHAL PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
16	JAMMU & KASHMIR AND LADAKH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
17	WEST RAJASTHAN	DRY	DRY	DRY	DRY	DRY	DRY	DRY
18	EAST RAJASTHAN	DRY	DRY	DRY	DRY	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	ISOL	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	DRY	DRY
30	RAYALASEEMA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	ISOL	DRY	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	DRY	DRY	DRY	DRY	DRY
36	LAKSHADWEEP	SCT	SCT	DRY	DRY	DRY	DRY	DRY

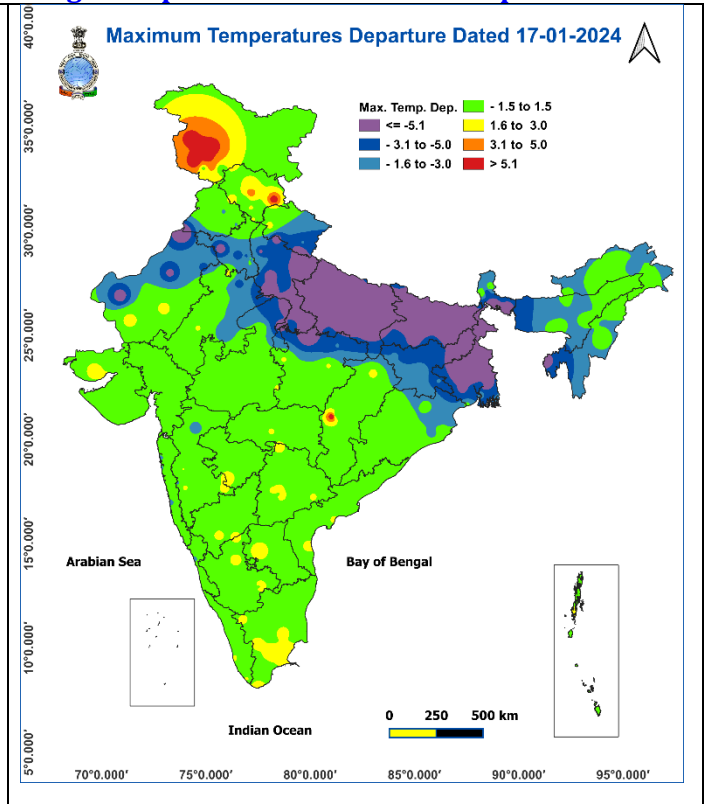
Legend	Category	% Stations
WS	Widespread/Most Places	76-100
FWS	Fairly Widespread/Many Places	51-75
SCT	Scattered/ A Few Places	26-50
ISOL	Isolated Places	1-25
DRY	No Rain	0

\* 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)

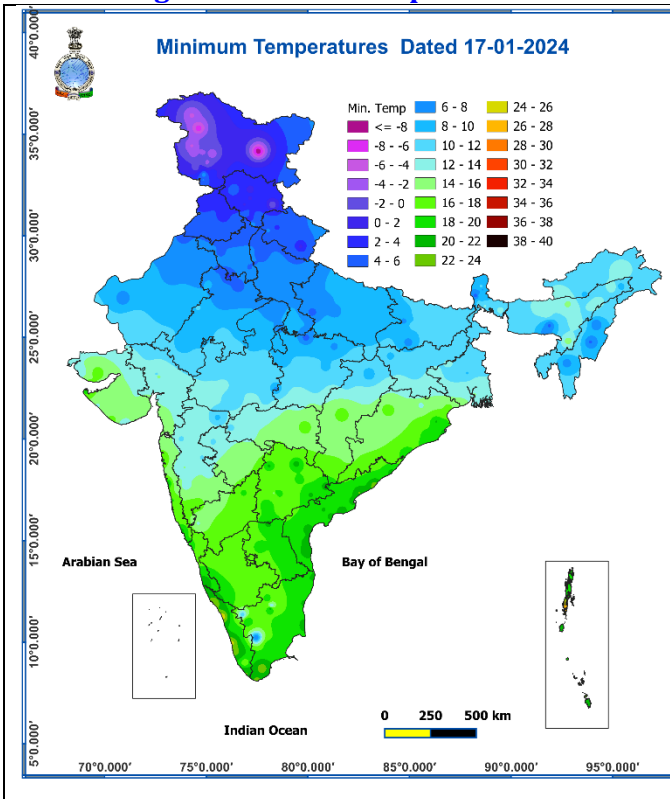
**Fig. 1: Maximum Temperatures**



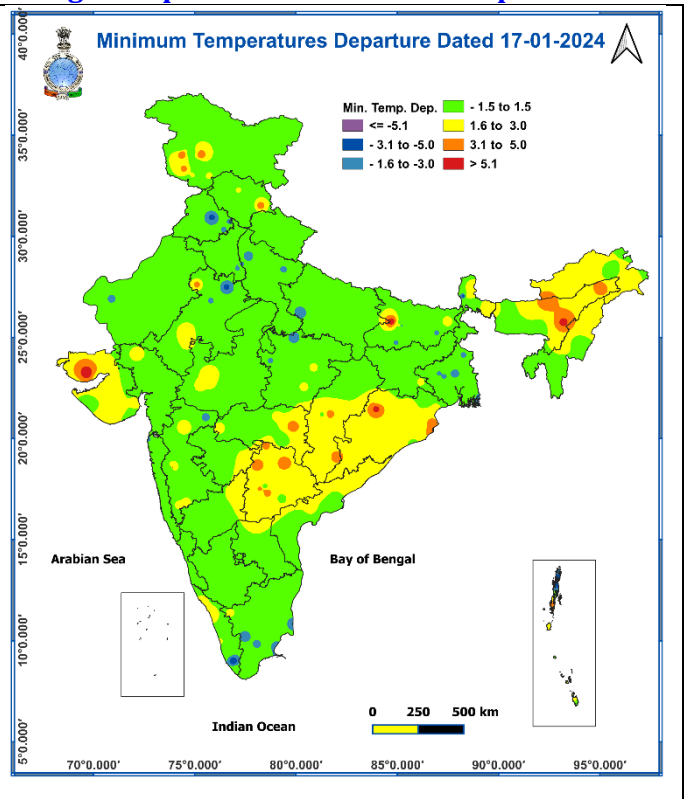
**Fig. 2: Departure of Maximum Temperatures**



**Fig. 3: Minimum Temperatures**



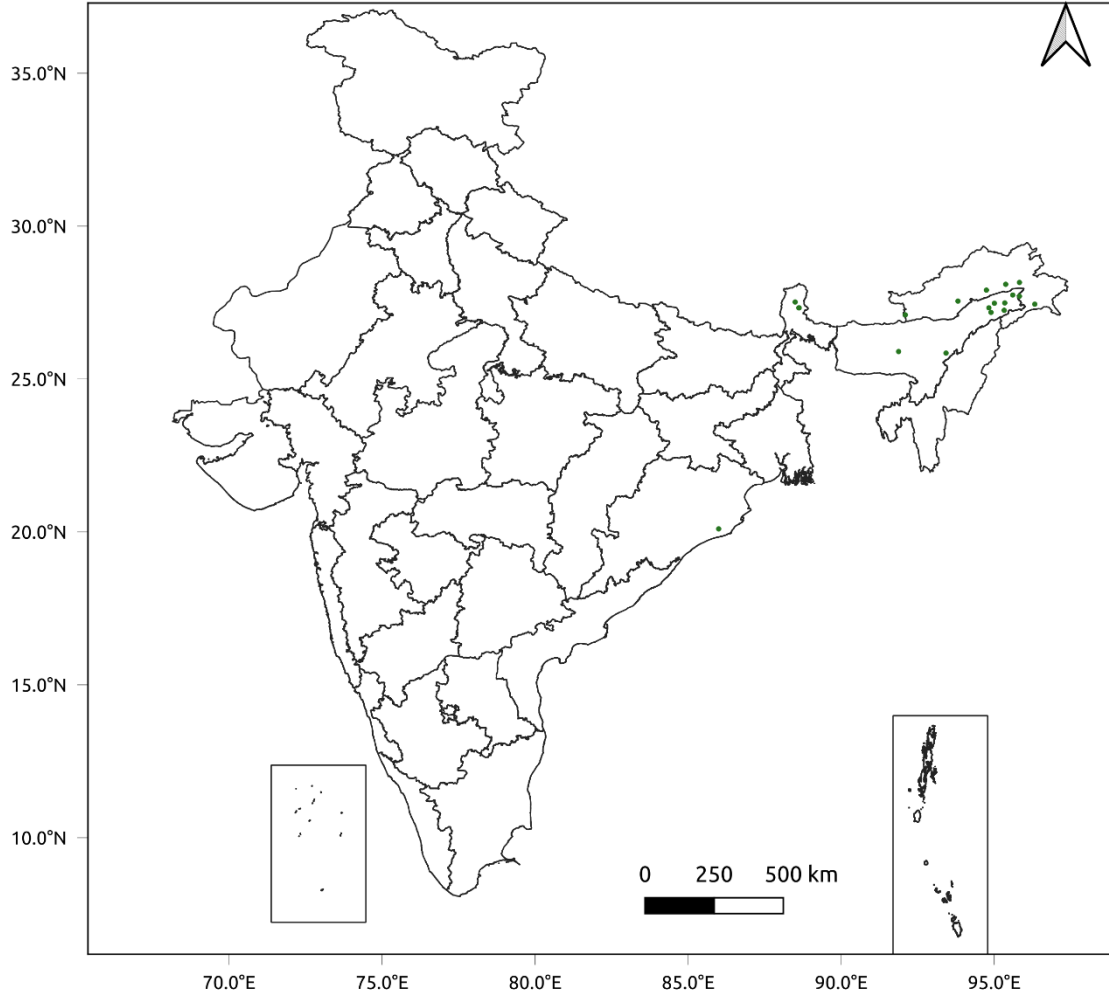
**Fig. 4: Departure of Minimum Temperatures**



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

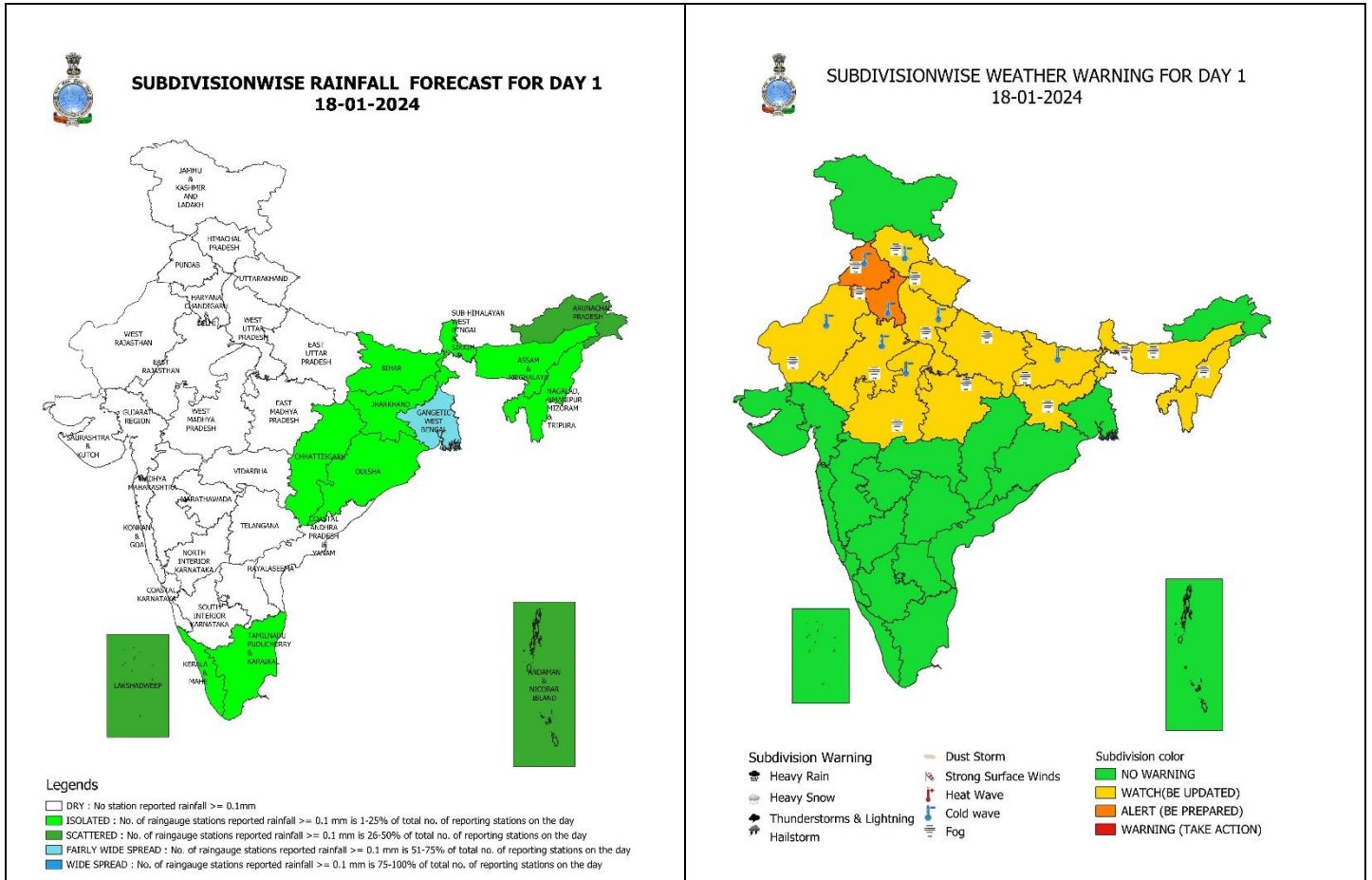


24 Hr cumulative rainfall recorded over different stations during 0830 IST of 16-1-2024 to 0830 IST of 17-1-2024



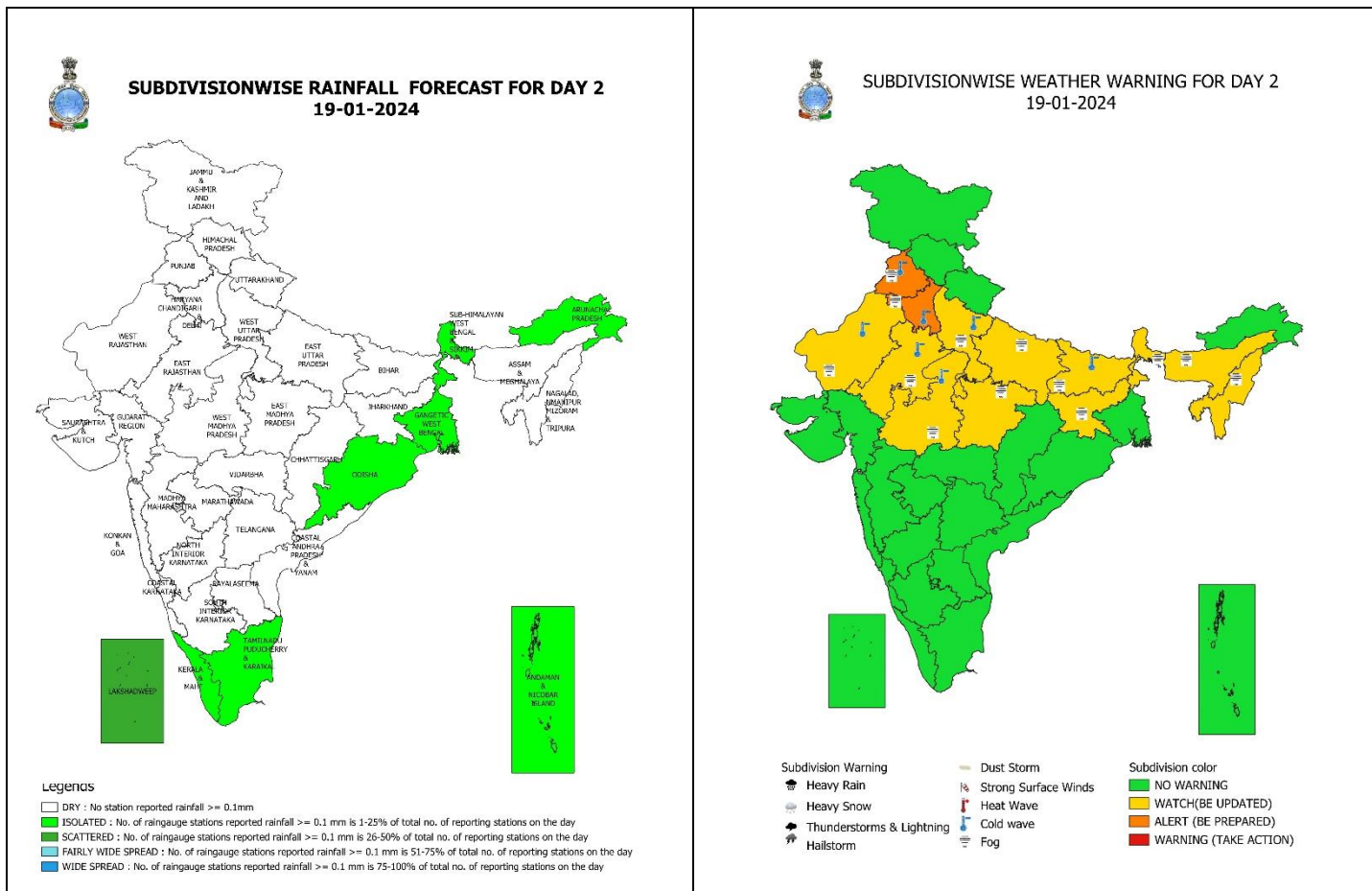
### Legends

- 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)



## 18 January (Day 1):

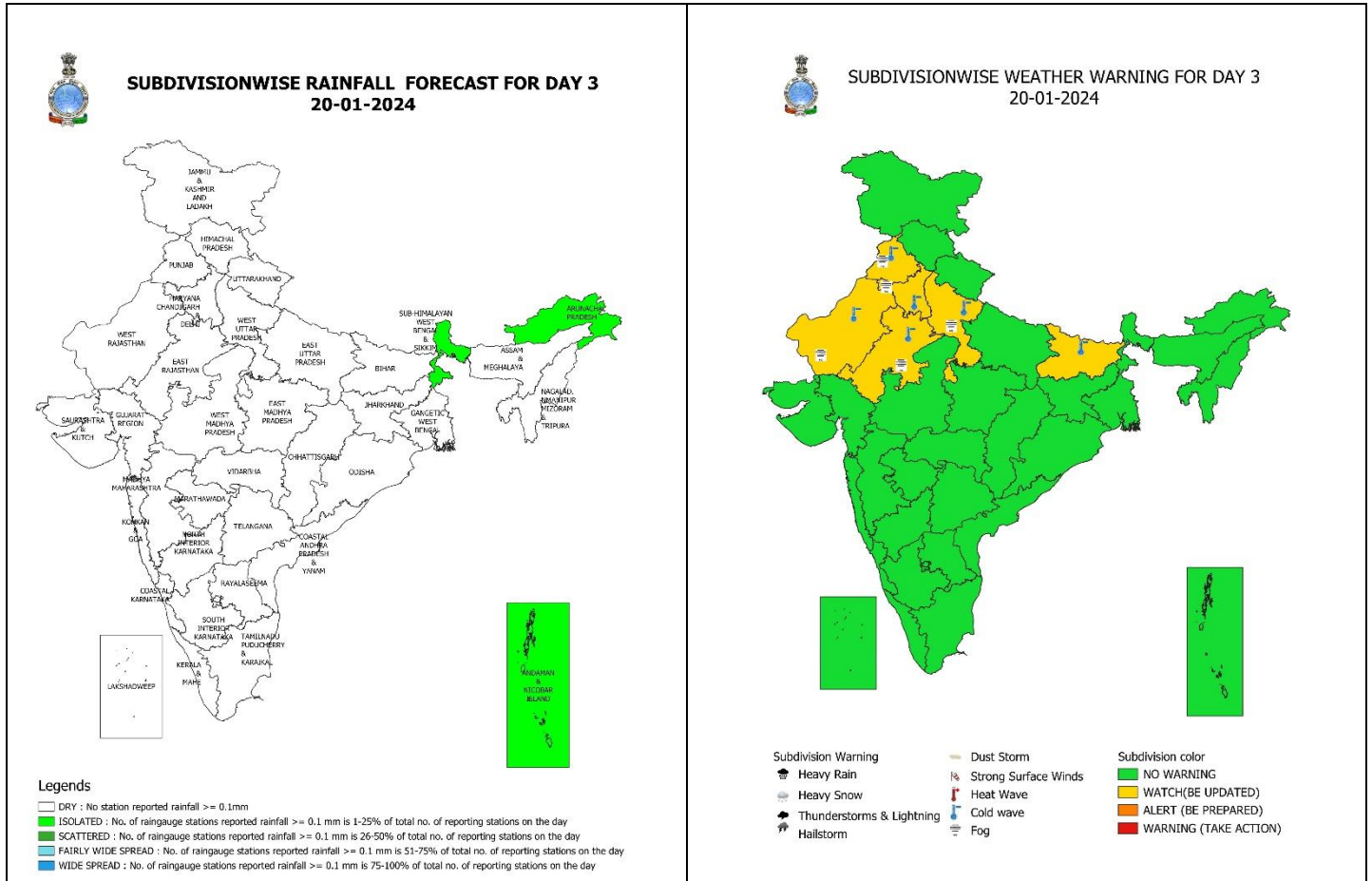
- ❖ **Dense to very dense fog** very likely in some parts over Punjab, Haryana, Chandigarh; in isolated pockets over Uttarakhand, West Uttar Pradesh and Rajasthan; **Dense fog** in isolated pockets over Himachal Pradesh, East Uttar Pradesh, north Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Bihar, Jharkhand, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Cold day to severe cold day** conditions very likely in some parts over Punjab, Haryana, Chandigarh; in isolated pockets over West Uttar Pradesh and **Cold day** conditions in isolated pockets over Rajasthan, northwest Madhya Pradesh and Bihar.
- ❖ **Cold wave to severe cold wave** conditions very likely in some parts over Punjab, Haryana, Chandigarh and **cold wave** conditions in isolated pockets over Himachal Pradesh.



## 19 January (Day 2):

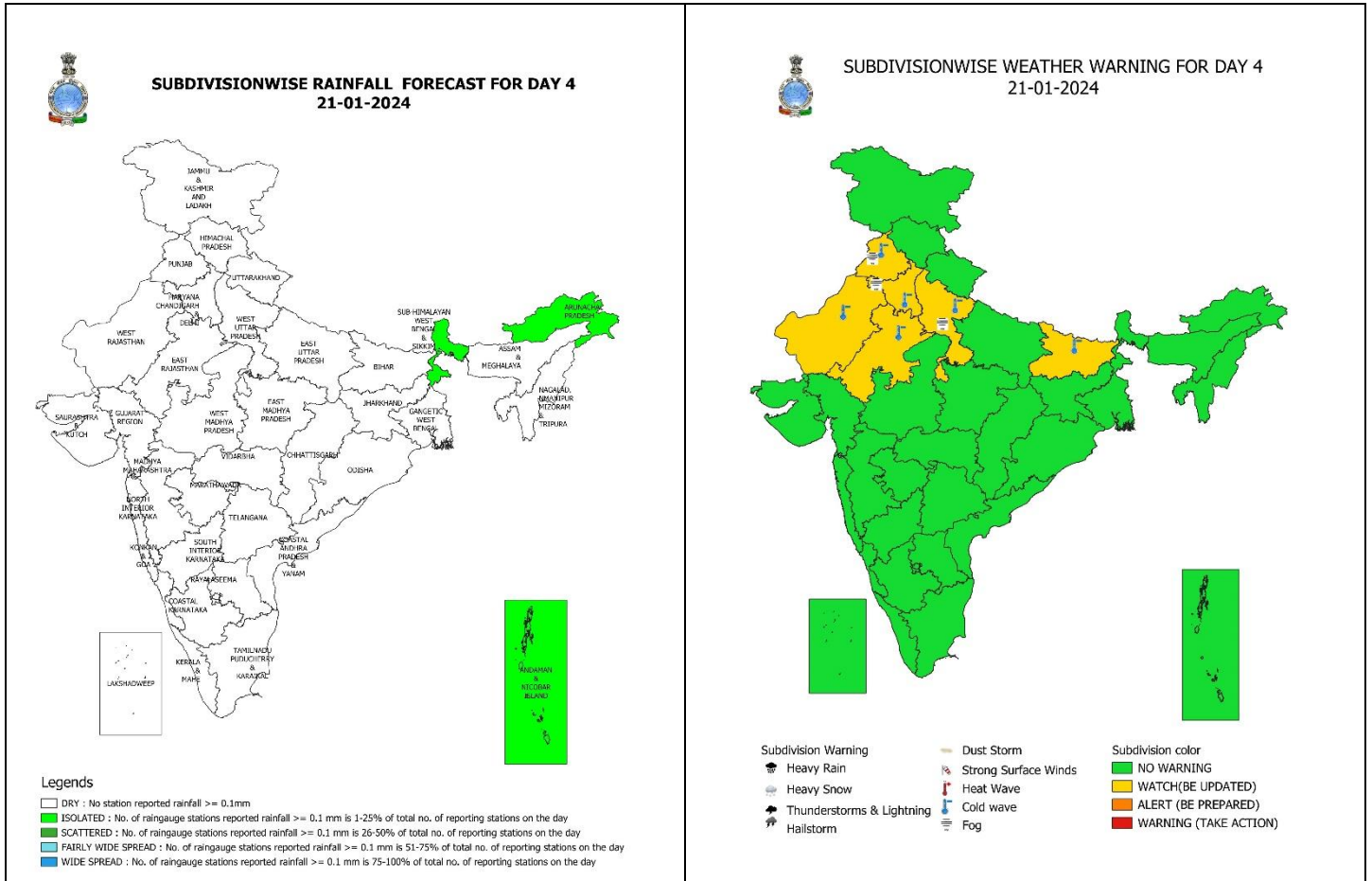
- ❖ **Dense to very dense fog** very likely in some parts over Punjab and Haryana, Chandigarh; in isolated pockets over West Uttar Pradesh; **Dense fog** in isolated pockets over East Uttar Pradesh, Rajasthan, north Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Bihar, Jharkhand, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Cold day to severe cold day** conditions very likely in some parts over Punjab, Haryana, Chandigarh and **Cold day** conditions in isolated pockets over West Uttar Pradesh, northwest Madhya Pradesh and Bihar.
- ❖ **Cold wave to severe cold wave** conditions very likely in some parts over Punjab, Haryana, Chandigarh and **cold wave** conditions in isolated pockets over Rajasthan.





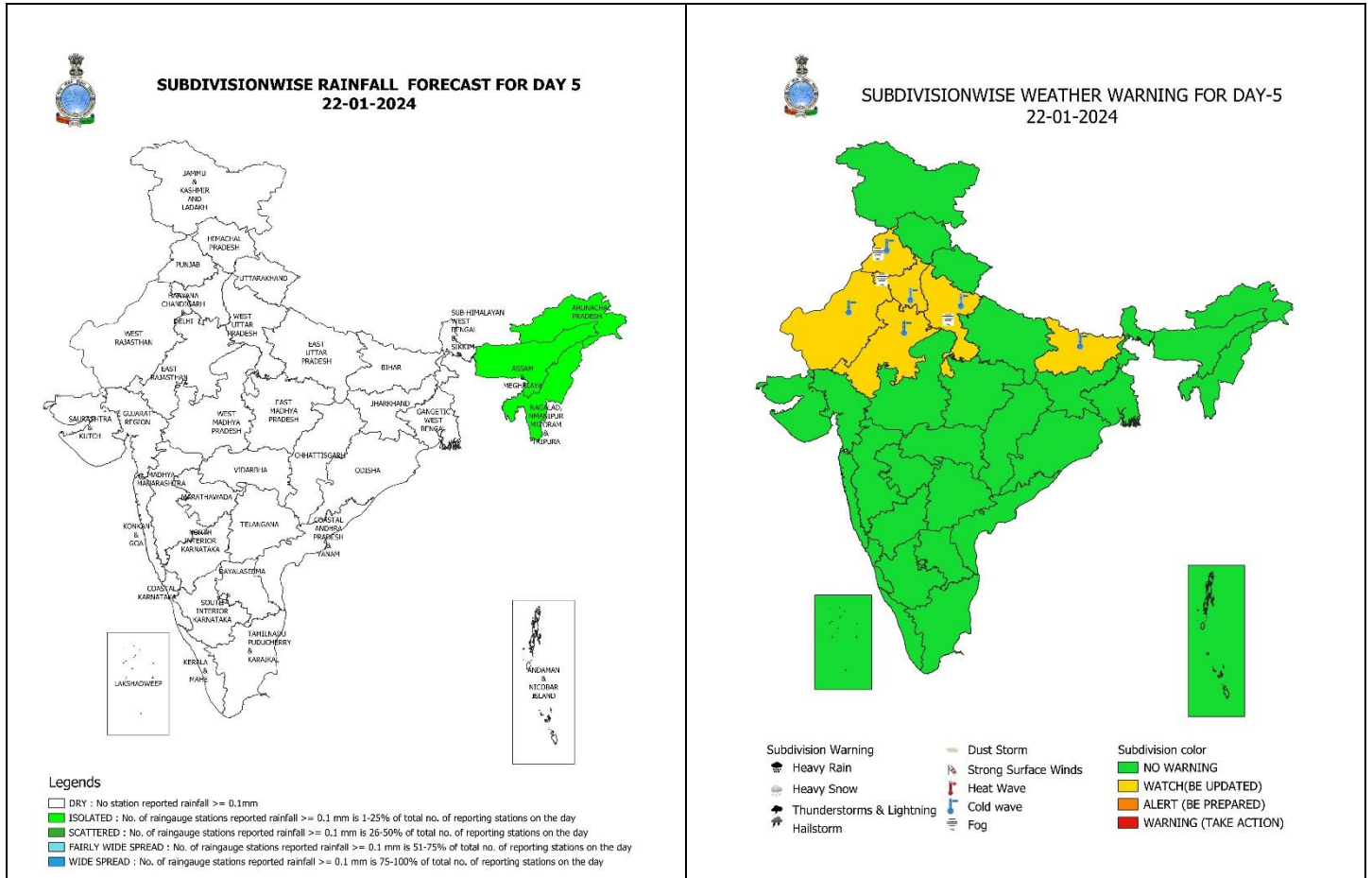
## 20 January (Day 3):

- ❖ **Dense to very dense fog** likely in isolated pockets over Punjab, Haryana, Chandigarh and West Uttar Pradesh; **Dense fog** in isolated pockets over Rajasthan.
- ❖ **Cold day** conditions likely in isolated pockets over Punjab, Haryana, Chandigarh, West Uttar Pradesh and Bihar.
- ❖ **Cold wave** conditions likely in isolated pockets over Punjab, Haryana, Chandigarh, West Uttar Pradesh and Rajasthan.



## 21 January (Day 4):

- ❖ **Dense to very dense fog** likely in isolated pockets over Punjab, Haryana, Chandigarh and West Uttar Pradesh
- ❖ **Cold day** conditions likely in isolated pockets over Punjab, Haryana, Chandigarh, West Uttar Pradesh and Bihar.
- ❖ **Cold wave** conditions likely in isolated pockets over Punjab, Haryana, Chandigarh, West Uttar Pradesh and Rajasthan.

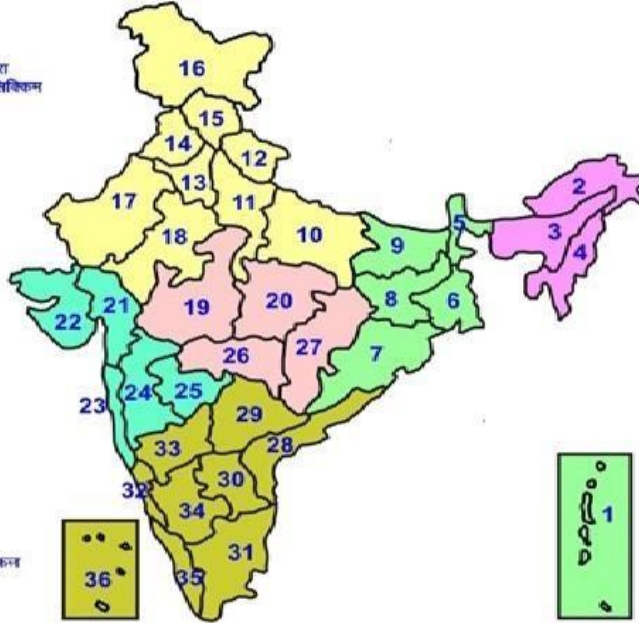


## 22 January (Day 5):

- ❖ **Dense to very dense fog** likely in isolated pockets over Punjab, Haryana, Chandigarh and West Uttar Pradesh
- ❖ **Cold day** conditions likely in isolated pockets over Punjab, Haryana, Chandigarh, West Uttar Pradesh and Bihar.
- ❖ **Cold wave** conditions likely in isolated pockets over Punjab, Haryana, Chandigarh, West Uttar Pradesh and Rajasthan.

## LEGENDS

- 1 अंडमान 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 एवं 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 महाराष्ट्र
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 तटीय आंध्र प्रदेश एवं यनम
- 29 तेलंगाना
- 30 दक्षिण कर्नाटक
- 31 तमिलनाडु, पुदुचेरी एवं कराईकल
- 32 उत्तरी कर्नाटक
- 33 आंतरिक उत्तरी कर्नाटक
- 34 आंतरिक दक्षिणी कर्नाटक
- 35 केरल एवं 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. Marathwada
26. Vidharbha
27. Chhattisgarh
28. Coastal Andhra Pradesh & Yanam
29. Telangana
30. Rayalaseema
31. Tamilnada, 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

<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 Rain	Heavy Snow	Thunderstorm	Dust Storm
Strong Winds	Visibility	Cyclone	Squall/ Hail
Frost	Cold Wave	Heat Wave	Sea State

## 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 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

(Service to the Nation since 1875)