

Sunday, January 14, 2024
Time of Issue: 1345 hours IST
(MID-DAY)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Dense fog and Cold day warning:

- ❖ **Dense to very dense fog** conditions very likely to prevail for a few hours in night/morning in many parts of Punjab and Haryana, Chandigarh & Delhi and Uttar Pradesh during 14th night to 16th morning, in some parts on 16th night & 17th morning and in isolated pockets for subsequent 2 days.
- ❖ **Dense to very dense fog** conditions very likely to prevail for a few hours in night/morning in isolated pockets of Jammu division, Himachal Pradesh & Uttarakhand during 14th-16th January, 2024.
- ❖ **Dense fog** conditions very likely to prevail for a few hours in night/morning in isolated pockets of north Rajasthan during 14th-18th; over north Madhya Pradesh on 14th; over Bihar, West Bengal & Sikkim, Jharkhand, Odisha, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura on 14th & 15th January, 2024.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in some/many parts of Punjab, Haryana-Chandigarh during 14th-16th and **Cold Day** in isolated pockets on 16th & 17th January, 2024.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in some parts of Uttar Pradesh on 14th & 15th and **Cold Day** in isolated pockets on 16th January, 2024.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in isolated pockets of Bihar on 14th & 15th January, 2024.

Minimum Temperature Forecast and Cold wave warning:

- ❖ No significant change in minimum temperatures very likely over Northwest India during next 2 days and rise about 2°C thereafter for subsequent 3 days.
- ❖ No significant change in minimum temperatures very likely over Central India during next 5 days.
- ❖ No significant change in minimum temperatures very likely over East India during next 2 days and rise by 2-4°C thereafter.
- ❖ Fall by 2-3°C in minimum temperatures very likely over many parts of Maharashtra & Gujarat region during next 2 days and no significant change thereafter for subsequent 3 days.
- ❖ **Cold wave to Severe Cold wave** conditions very likely to continue in some parts of Punjab, Haryana-Chandigarh-Delhi during 14th-16th January, 2024.
- ❖ **Cold wave** conditions very likely in isolated pockets of Uttar Pradesh & north Rajasthan on 14th & 15th January.
- ❖ **Ground frost conditions** very likely over northwest India on 14th & 15th January, 2024.

Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): **at isolated places** over Andaman & Nicobar Islands.
- ❖ **Minimum temperatures:** Minimum temperatures are in the range of 3-7°C over most parts of Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh; in the range of 8-10°C over many Parts of south Rajasthan, Madhya Pradesh, Bihar, Jharkhand. These are below normal by 1°C to 4°C in many parts of Northwest & adjoining east India. **Today, the lowest minimum temperature of 2.5°C reported at Ludhiana (Punjab).**
- ❖ Yesterday, **Maximum temperatures** were in the range of 14-16°C over most parts of Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh in the range of 18-20°C over North Rajasthan, Bihar which were below normal by 3-6°C at many over these regions.
- ❖ Today, **Cold wave to severe cold wave conditions** prevailed in many places of Punjab and Haryana; **cold wave conditions** prevailed in in some parts of Delhi and in isolated pockets of West Uttar Pradesh.
- ❖ Yesterday, **Cold day to severe cold day conditions** prevailed at many places over Punjab; at isolated Pockets over West Uttar Pradesh. **Cold day** conditions prevailed at many places over Haryana; at some parts over Bihar and at isolated pockets over West Uttar Pradesh.
- ❖ **Visibility recorded (at 0530 hours IST of today) (≤200 metres):** **Jammu division:** Jammu-50; **Punjab:** Patiala-25, Amritsar-50; **Haryana-Chandigarh:** Ambala-25, Chandigarh-50, **Delhi:** Palam-25, Safdarjung- 50; **West Uttar Pradesh:** Bareilly-50; **East Uttar Pradesh:** Bahraich-25, Lucknow & Varanasi-50 each, Sultanpur & Gorakhpur-200; **Bihar:** Purnea-25, Patna & Bhagalpur-200 each; **Assam:** Dibrugarh & Tezpur-50 each, Guwahati-200; **Tripura:** Kailashahar & Agartala-200 each; **Coastal Andhra Pradesh:** Vijayawada, Machilipatnam & Ongole-200 each; **South Interior Karnataka:** Bangalore-50; **Tamil Nadu:** Chennai-200.
- ❖ **Visibility recorded (at 0830 hours IST of today) (≤200 metres):** **Delhi:** Palam & Safdarjung-00 each, Ridge, Ayanagar- 25 each; **Jammu division:** Jammu-25; **Punjab:** Patiala- 25, Amritsar, Ludhiana-50 each; **Haryana-Chandigarh:** Ambala, Chandigarh-25 each, Hissar- 50; **West Uttar Pradesh:** Meerut, Bareilly-50 each; **East Uttar Pradesh:** Lucknow & Gorakhpur -25 each, Sultanpur -200; **Bihar:** Purnea-25, Sabaur & Bhagalpur-200 each, Patna-500; **West Bengal:** Jalpaiguri-25; **Assam:** Dhubri & Guwahati -50 each, Tezpur, Dibrugarh/Mohanbari -200; **Tripura:** Agartala-200; **Coastal Andhra Pradesh:** Tirupathi, Bapatla Machilipatnam -200 each.
- ❖ **Fog conditions observed** (at 0530 & 0830 hours IST of today): **Dense to Very Dense fog** reported in most parts of Punjab, Haryana-Chandigarh-Delhi, in many parts of Uttar Pradesh; in some parts of Uttarakhand and Bihar; isolated pockets of northwest Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim; **Dense fog** in some parts of Assam & Meghalaya; in isolated pockets of Jammu Division, Rajasthan, Gangetic West Bengal and Odisha.
- ❖ **Minimum Temperature Departures (as on 14-01-2024):** Minimum temperatures are **appreciably above normal (3.1°C to 5.0°C)** at many places over Madhya Maharashtra; **above normal (1.6°C to 3.0°C)** at most places over Rayalaseema; at many places over Telangana, West Madhya Pradesh, Vidarbha, Marathwada, Konkan & Goa, Coastal Karnataka, Coastal Andhra Pradesh & Yanam; at a few places over East Madhya Pradesh, Chhattisgarh and at isolated places over Odisha, Gujarat Region, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Himachal Pradesh, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe. They are **below normal (-1.6°C to -3.0°C)** at a few places over Haryana-Chandigarh-Delhi, West Uttar Pradesh and Gangetic West Bengal; at isolated places over East Uttar Pradesh, Bihar, Jharkhand, Rajasthan and **near normal** over rest parts of the country. Today, **the lowest minimum temperature of 2.5 °C** is reported at **Ludhiana (Punjab)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 13-01-2024):** Maximum temperatures were **markedly above normal (5.1°C or more)** at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; **appreciably above normal (3.1°C to 5.0°C)** at a few places over Himachal Pradesh; **above normal (1.6°C to 3.0°C)** at most places over Maharashtra and North Interior Karnataka; at many places over Gujrat, Rajasthan, Madhya Pradesh and Chhattisgarh; at a few places over Rayalaseema and Telangana; at isolated places over Coastal Karnataka, South Interior Karnataka, Coastal Andhra Pradesh & Yanam, Odisha, Arunachal Pradesh, Assam & Meghalaya, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and Uttarakhand. They were **appreciably below normal (-3.1°C to -5.0°C)** at many places over Bihar; **below normal (-1.6°C to -3.0°C)** at many places over Punjab and Haryana-Chandigarh-Delhi; at a few places over Uttar Pradesh and West Bengal & Sikkim and **near normal** over rest parts of the country. Yesterday, **the highest maximum temperature of 36.0°C** was reported at **Thiruvananthapuram (Kerala).**

* 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.

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Meteorological Analysis (Based on 0830 hours IST)

- ❖ The Northeast Monsoon rains have ceased over Kerala-Mahe, South Interior Karnataka, Tamil Nadu-Puducherry-Karaikal, Rayalaseema and adjoining areas of Coastal Andhra Pradesh & Yanam from today, the 14th January, 2024.
- ❖ A **Cyclonic circulation** lies over South Bangladesh & neighbourhood and extends upto 1.5 km above mean sea level.
- ❖ A fresh feeble Western Disturbance is likely to affect Western Himalayan Region from 16th January, 2024.
- ❖ The **Western Disturbance** as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level roughly along Long. 62°E to the north of Lat. 32°N has moved away east-northeastwards.
- ❖ The **Cyclonic circulation** over Sri Lanka & neighbourhood at 1.5 km above mean sea level has become less marked.

Weather Forecast for next 7 days (Upto 0830 hours IST of 21st January, 2024)

- ❖ No significant change in minimum temperatures very likely over Northwest India during next 2 days and rise about 2°C thereafter for subsequent 3 days.
- ❖ No significant change in minimum temperatures very likely over Central India during next 5 days.
- ❖ No significant change in minimum temperatures very likely over East India during next 2 days and rise by 2-4°C thereafter.
- ❖ Fall by 2-3°C in minimum temperatures very likely over many parts of Maharashtra & Gujarat region during next 2 days and no significant change thereafter for subsequent 3 days.

Weather Outlook for subsequent 2 days

- ❖ Light to moderate rainfall at isolated places over East Madhya Pradesh and Odisha.
- ❖ Mainly dry weather likely to prevail over rest parts of the country.

Table-1

7 Days Rainfall Forecast

S. No.	Subdivision	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan	20-Jan
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	ISOL	ISOL	ISOL	ISOL	ISOL	DRY	DRY
2	ARUNACHAL PRADESH	DRY	ISOL	SCT	FWS	FWS	ISOL	DRY
3	ASSAM & MEGHALAYA	DRY	ISOL	ISOL	SCT	ISOL	ISOL	DRY
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	DRY	DRY	ISOL	ISOL	ISOL	ISOL	DRY
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	DRY	ISOL	ISOL	SCT	ISOL	DRY	DRY
6	GANGETIC WEST BENGAL	DRY	DRY	ISOL	SCT	SCT	ISOL	DRY
7	ODISHA	DRY	DRY	DRY	ISOL	ISOL	DRY	DRY
8	JHARKHAND	DRY	DRY	DRY	ISOL	ISOL	DRY	DRY
9	BIHAR	DRY	DRY	DRY	ISOL	ISOL	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	ISOL	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	ISOL	ISOL	DRY	DRY	DRY
16	JAMMU & KASHMIR AND LADAKH	DRY	DRY	ISOL	ISOL	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	DRY	DRY	DRY	ISOL	ISOL	ISOL	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	DRY	DRY	DRY	DRY	ISOL	ISOL	ISOL
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	DRY	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL
36	LAKSHADWEEP	DRY	DRY	SCT	SCT	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

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Fig. 1: Maximum Temperatures

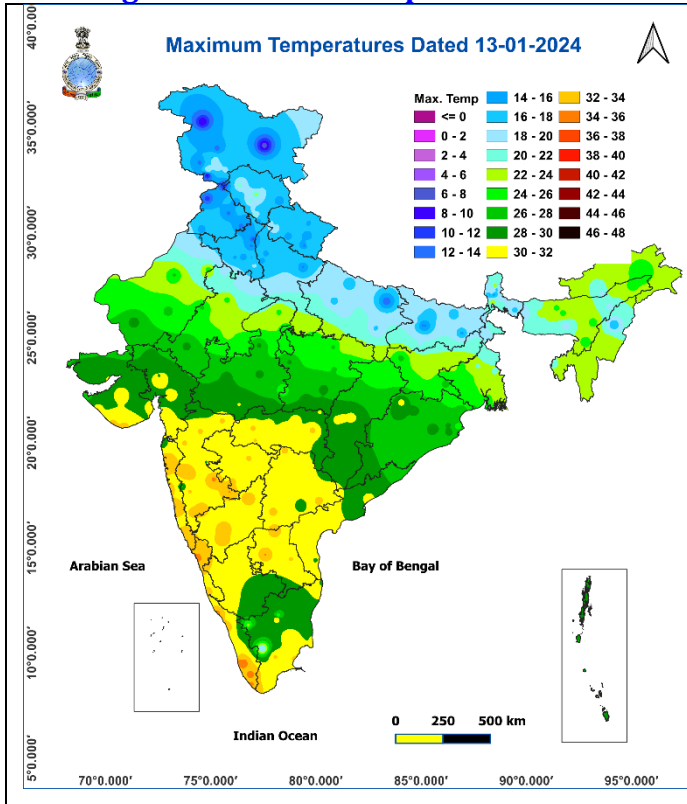


Fig. 2: Departure of Maximum Temperatures

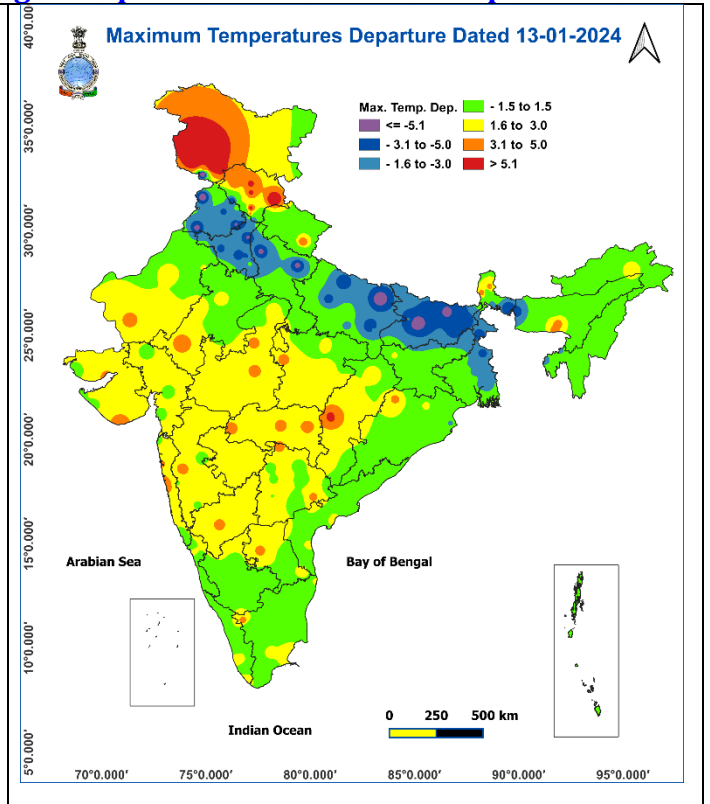


Fig. 3: Minimum Temperatures

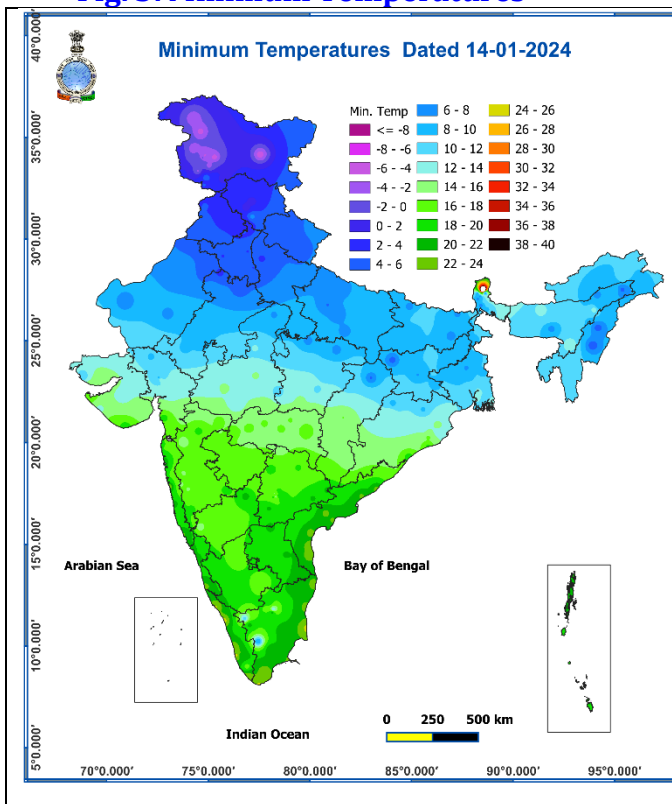


Fig. 4: Departure of Minimum Temperatures

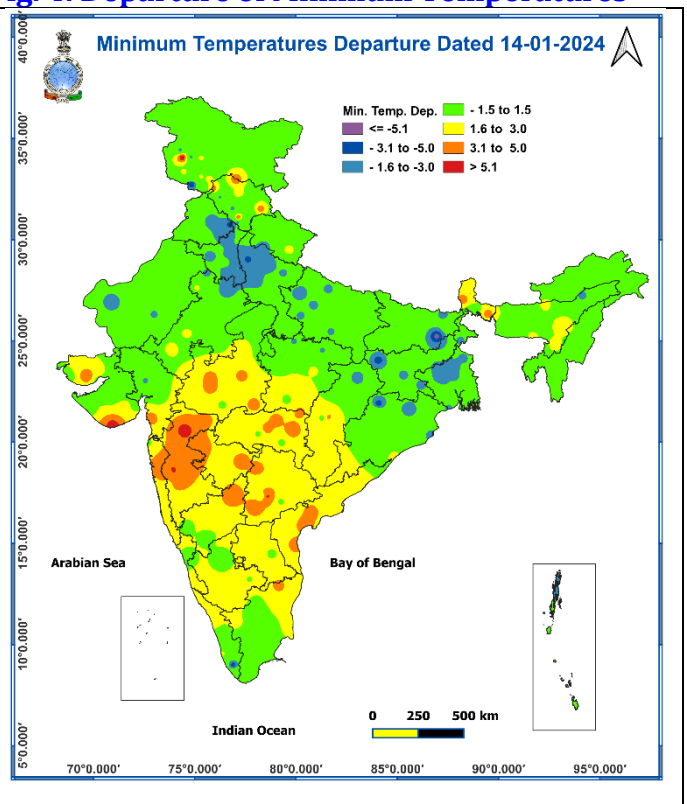
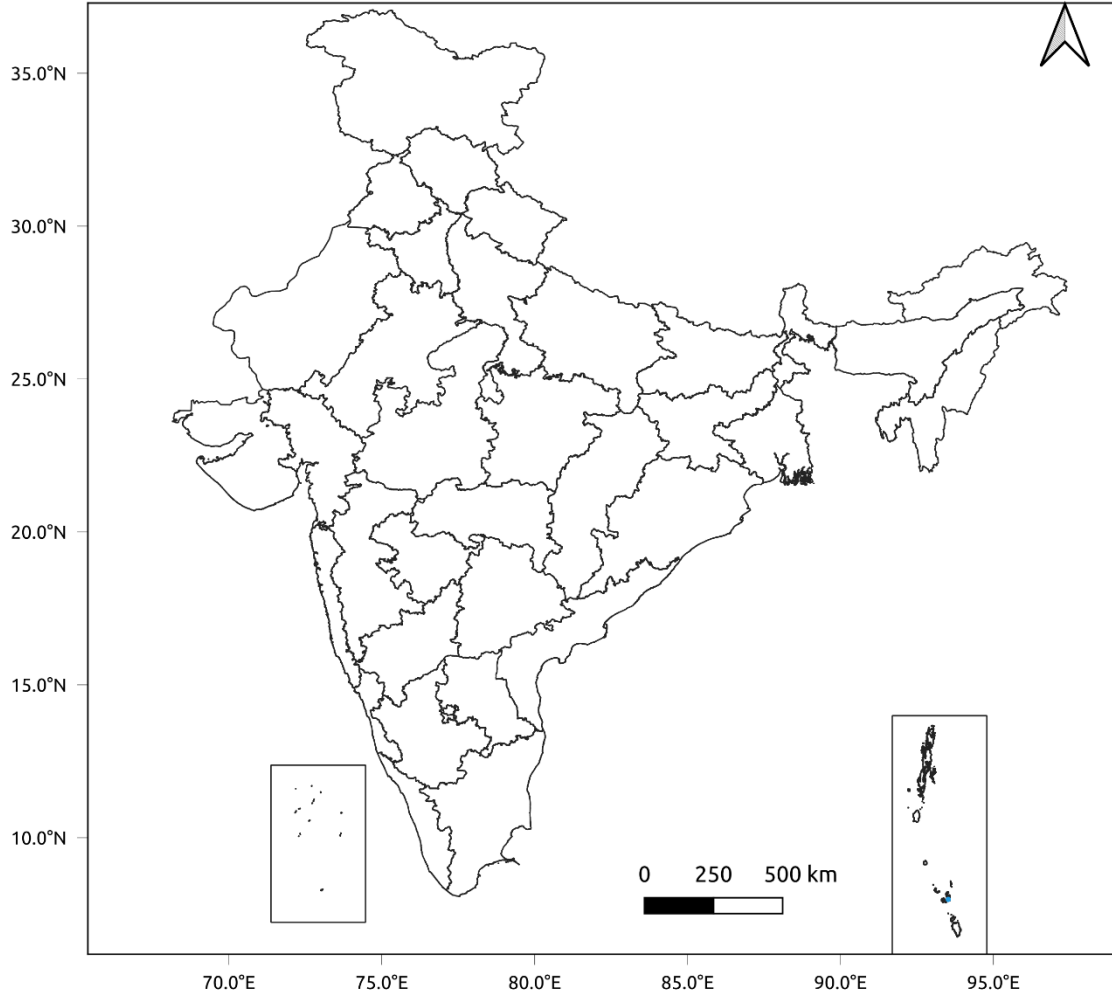


Fig. 5: Accumulated Rainfall (mm) during past 24 hours

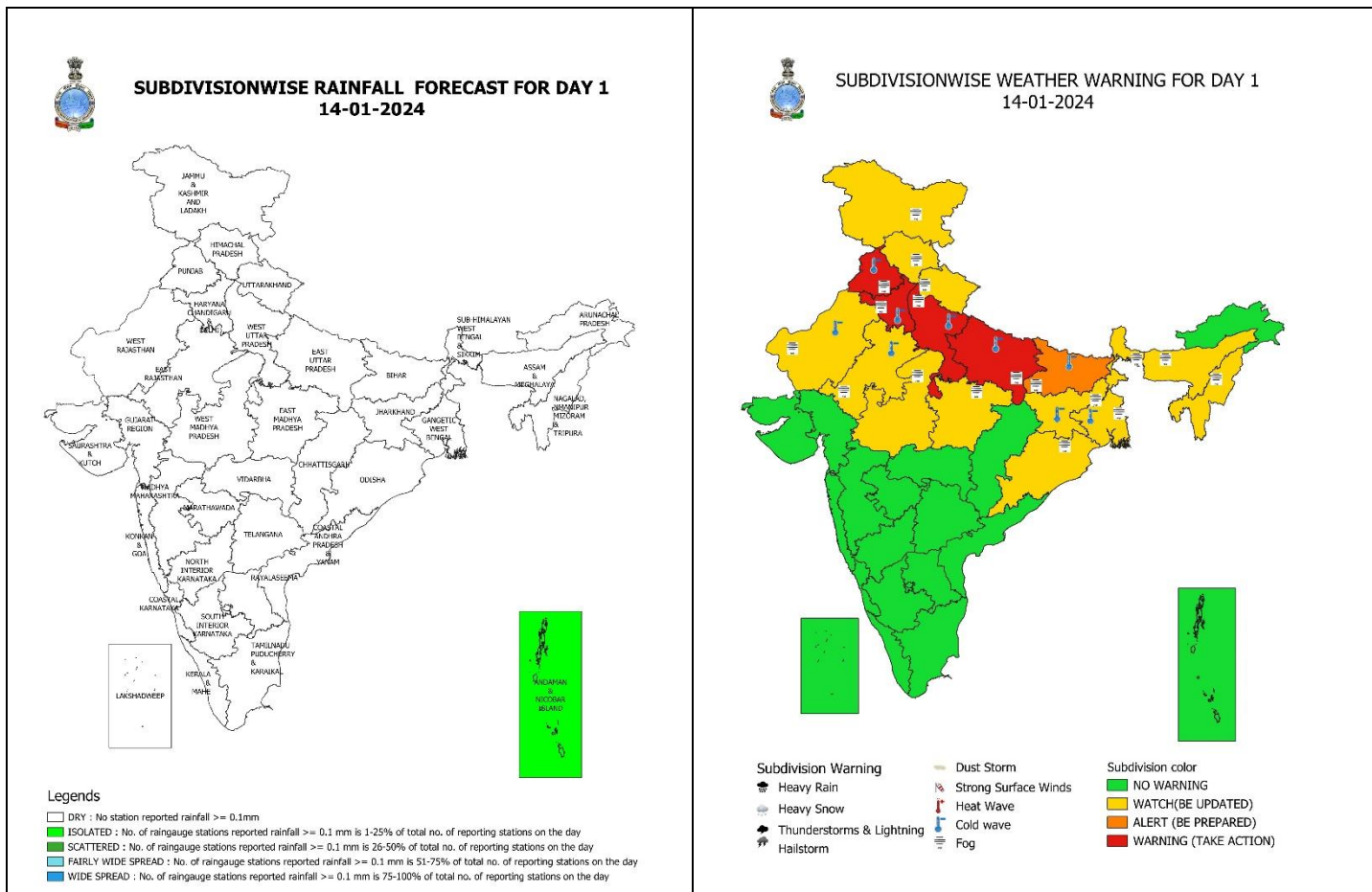


24 Hr cumulative rainfall recorded over different stations during 0830 IST of 13-1-2024 to 0830 IST of 14-1-2024



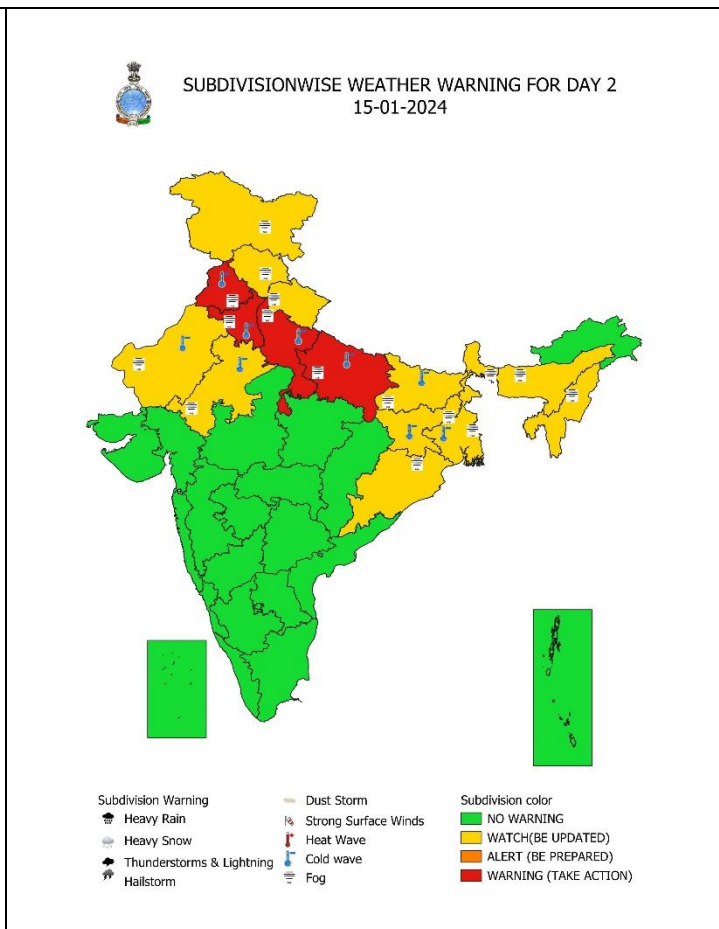
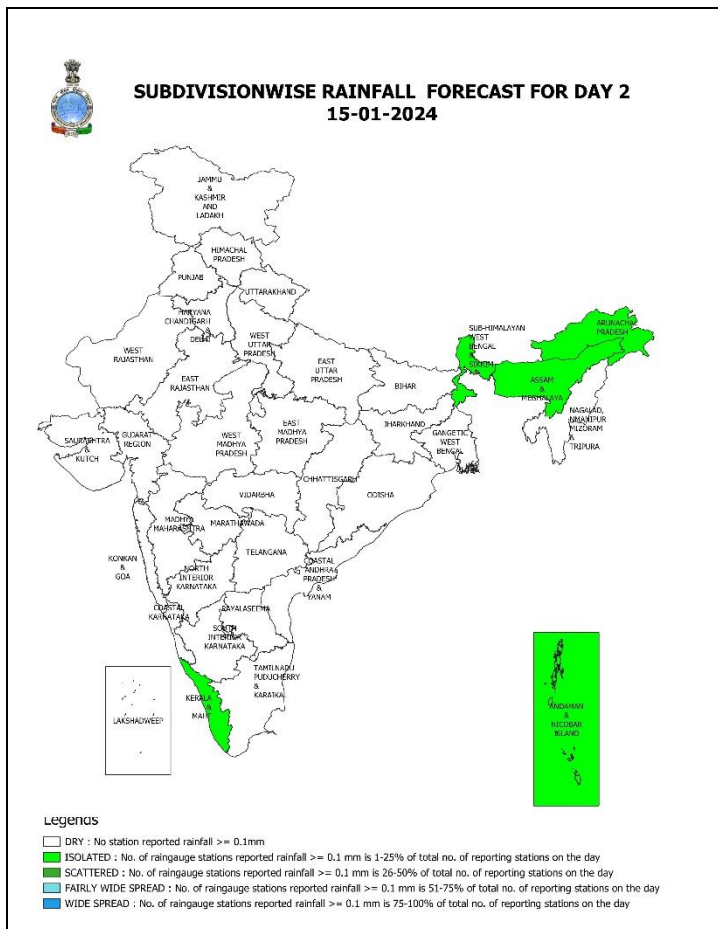
Legends

- 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 (≥ 204.5 mm)



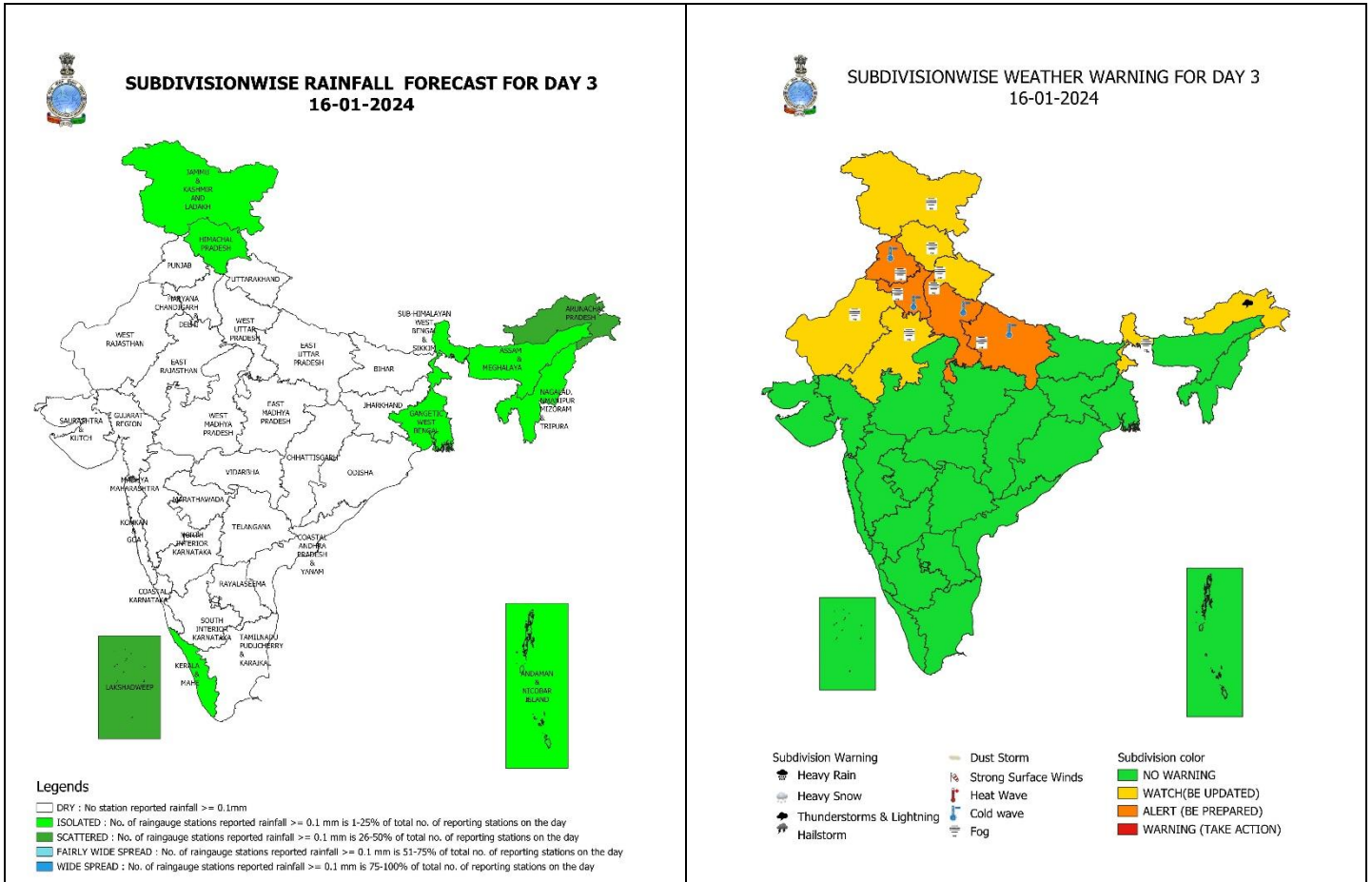
14 January (Day 1):

- ❖ **Dense to very dense fog** very likely in many parts over Punjab and Haryana-Chandigarh-Delhi, Uttar Pradesh; in isolated pockets over Jammu Division, Himachal Pradesh, Uttarakhand, Sub-Himalayan West Bengal & Sikkim; **Dense fog** in isolated pockets over Rajasthan, north Madhya Pradesh, Gangetic West Bengal, Bihar, Jharkhand, Odisha, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Cold day to severe cold day** conditions very likely in many parts over Punjab, Haryana-Chandigarh-Delhi; in some parts over Uttar Pradesh and in isolated pockets over Bihar.
- ❖ **Cold wave to severe cold wave** conditions very likely in some parts over Punjab and Haryana-Chandigarh-Delhi and **cold wave** conditions in isolated pockets over Uttar Pradesh, north Rajasthan, Gangetic West Bengal and Jharkhand.
- ❖ **Ground frost** conditions very likely in isolated pockets over Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh and Rajasthan.
- ❖ **Squally weather with wind speed 40-45 kmph gusting to 55 kmph** very likely to prevail over south west Arabian Sea adjoining north west equatorial Indian ocean. Fishermen are advised not to venture into these areas.



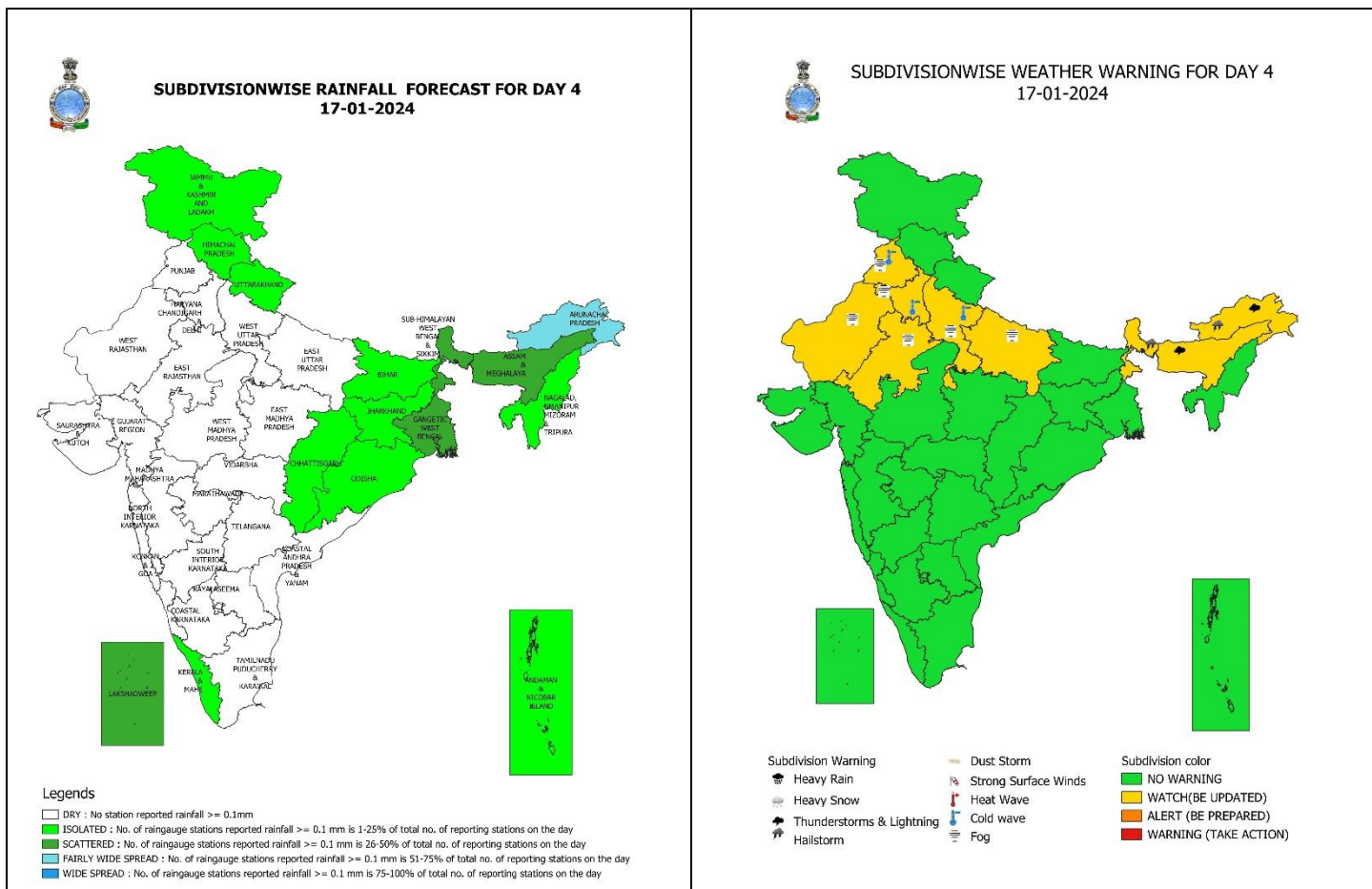
15 January (Day 2):

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



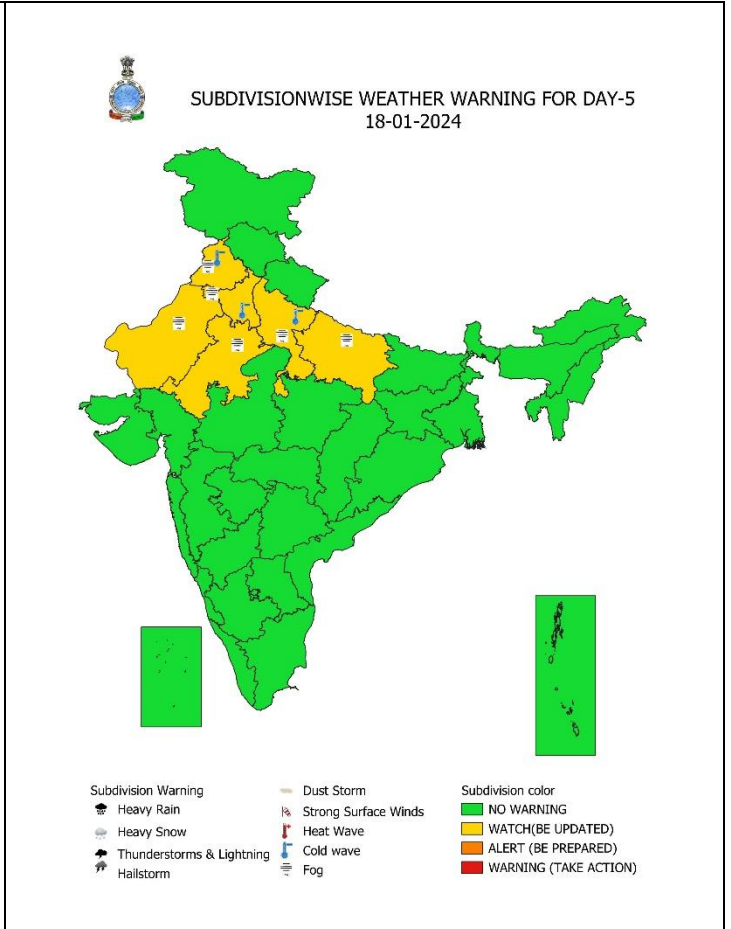
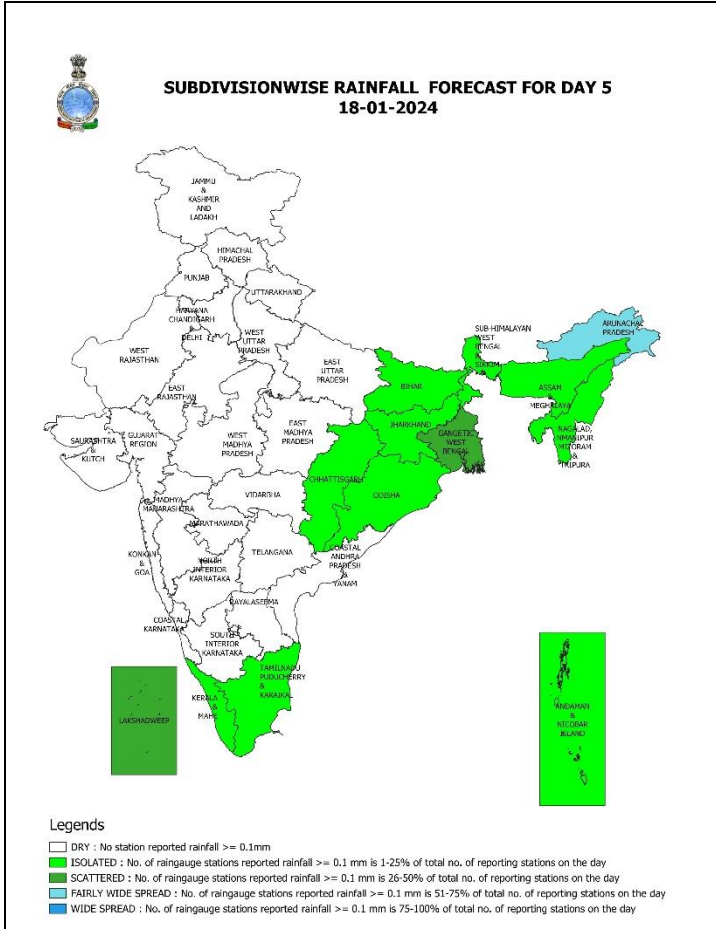
16 January (Day 3):

- ❖ **Dense to very dense fog** very likely in some parts over Punjab, Haryana-Chandigarh-Delhi and Uttar Pradesh; in isolated pockets over Jammu Division, Himachal Pradesh, Uttarakhand; **Dense fog** in isolated pockets over Rajasthan, Sub-Himalayan West Bengal & Sikkim.
- ❖ **Cold day to severe cold day** conditions very likely in some parts over Punjab and Haryana-Chandigarh-Delhi; **Cold day** conditions in isolated pockets over Uttar Pradesh.
- ❖ **Cold wave to severe cold wave** conditions very likely in some parts over Punjab and Haryana-Chandigarh-Delhi.
- ❖ **Thunderstorm with lightning** very likely at isolated places over Arunachal Pradesh.



17 January (Day 4):

- ❖ **Dense to very dense fog** likely in in isolated pockets over Punjab, Haryana-Chandigarh-Delhi and Uttar Pradesh; **Dense fog** in isolated pockets over Rajasthan.
- ❖ **Cold day** conditions likely in isolated pockets over Punjab and Haryana-Chandigarh-Delhi.
- ❖ **Thunderstorm accompanied with lightning & hail** likely at isolated places over Sub-Himalayan West Bengal & Sikkim and Arunachal Pradesh and **with lightning** at isolated places over Assam & Meghalaya.

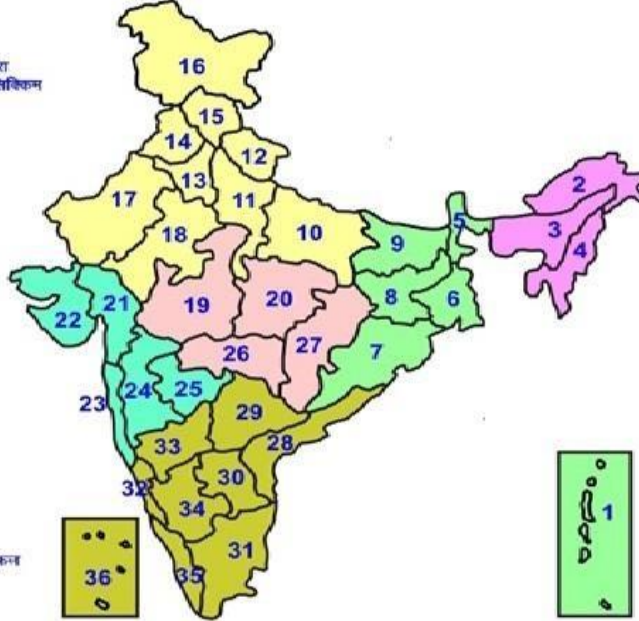


18 January (Day 5):

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

LEGENDS

- 1 अंडमान और निकोबार द्वीप समूह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नागालैंड, मणिपुर, मीज़ोरम 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 रायलसीमा
- 31 तमिलनाडु, पुदुचेरी एवं कराईकल
- 32 तटिय 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

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



Heavy Rain



Heavy Snow



Thunderstorm



Dust Storm



Strong Winds



Visibility



Cyclone



Squall/ Hail



Frost



Cold Wave



Heat Wave



Sea State

LEGENDS

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



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°C to 6.4°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°C

Warm Night: When minimum temperature departure 4.5°C to 6.4°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°C to -6.4°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°C to -6.4°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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