

Thursday, January 4, 2024  
Time of Issue: 1945 hours IST  
(NIGHT)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features:

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

##### Weather Systems:

- The associated cyclonic circulation lies over Southeast Arabian Sea & adjoining Lakshadweep area and a trough runs from the above cyclonic circulation to south Karnataka in lower tropospheric levels.
- The Western Disturbance lay as a cyclonic circulation over Haryana & neighbourhood in lower tropospheric levels; an induced cyclonic circulation lies over southwest Uttar Pradesh & neighbourhood and a trough runs from North Interior Karnataka to the cyclonic circulation over southwest Uttar Pradesh in lower levels.

##### Dense fog and Cold day warning:

- **Dense to very dense fog** conditions very likely to prevail for a few hours in night/morning in some parts over Punjab, Haryana-Chandigarh, Uttar Pradesh, East Rajasthan during 04<sup>th</sup> to 06<sup>th</sup> January; in isolated pockets on 07<sup>th</sup> and **Dense fog** in isolated pockets for subsequent 2 days.
- **Dense to very dense fog** conditions very likely to prevail for a few hours in morning in isolated pockets over West Rajasthan on 05<sup>th</sup> & 06<sup>th</sup> January and in isolated pockets on 07<sup>th</sup> January.
- **Dense to very dense fog** conditions very likely to prevail for a few hours in morning in isolated pockets over Bihar on 05<sup>th</sup> January and **Dense fog** in some parts on 06<sup>th</sup> & 07<sup>th</sup> January.
- **Dense fog** conditions very likely to prevail for a few hours in morning in isolated pockets over Jammu division, Himachal Pradesh, Uttarakhand, Odisha, West Bengal & Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 05<sup>th</sup>-07<sup>th</sup> January and over north Madhya Pradesh on 05<sup>th</sup> January.
- **Cold Day to Severe Cold Day** conditions very likely to continue in some parts over Punjab, Haryana-Chandigarh-Delhi during 04<sup>th</sup>-06<sup>th</sup> and Uttar Pradesh & Rajasthan on 04<sup>th</sup> & 05<sup>th</sup> January.

##### Temperatures Forecast and cold Wave warning:

- Minimum Temperatures are likely to rise gradually by 2-3°C over East India during next 3 days. No significant change in minimum temperatures likely over rest parts of north India during next 5 days.
- **Cold wave** conditions very likely in isolated pockets over Punjab, Haryana and Rajasthan on 05<sup>th</sup> & 06<sup>th</sup> January.

##### Rainfall Forecast:

- Light to moderate rainfall at some places very likely over south Tamil Nadu, south Kerala and Lakshadweep during next 4-5 days.
- Isolated **heavy rainfall** very likely over Tamil Nadu during 04<sup>th</sup>-08<sup>th</sup>; Kerala during 04<sup>th</sup>-06<sup>th</sup>; over Lakshadweep, Coastal Karnataka on 04<sup>th</sup> & 05<sup>th</sup>; over South Interior Karnataka on 04<sup>th</sup> January
- Light isolated rainfall very likely over Madhya Pradesh, Chhattisgarh, Bihar and Jharkhand during 04<sup>th</sup> - 06<sup>th</sup>; over Uttar Pradesh on 04<sup>th</sup> & 05<sup>th</sup> January.

\* 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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## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hrs IST of today): **at most places** over Lakshadweep; **at isolated places** over East Uttar Pradesh, West Madhya Pradesh, Rayalaseema, Coastal Karnataka, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Heavy rainfall** (from 0830 hours IST to 1730 hrs IST of today) observed at isolated place over Kerala.
- ❖ **Significant rainfall amount recorded** (from 0830 hours IST to 1730 hrs IST of today) (in cm): **Kerala:** Poonjar-7, Keerampara-3, Thodupuzha-2 **Coastal Karnataka:** Mangalore-4; **Lakshadweep:** Aminidivi-3, Minicoy-2.
- ❖ **Fog conditions observed** (at 1730 hours IST of today): **Dense Fog** in isolated pockets over Punjab and **Moderate Fog** in isolated pockets over West Uttar Pradesh and Madhya Pradesh.
- ❖ **Visibility recorded** (at 1730 hours IST of today) (in metres): **Punjab:** Ludhiana-50, Patiala-200; **West Uttar Pradesh:** Bareilly-200; **Madhya Pradesh:** Bhopal & Sagar-200 each.
- ❖ **Today, Cold Day to Severe Cold Day conditions** observed in many places over Punjab, Haryana, Delhi, West Rajasthan & West Madhya Pradesh and in isolated pockets over East Rajasthan & East Madhya Pradesh.
- ❖ **Minimum Temperature Departures (as on 04-01-2024):** Minimum temperatures are **appreciably above normal (3.1°C to 5.0°C)** at many places over Madhya Pradesh, Maharashtra, at a few places over Coastal Andhra Pradesh & Yanam, North Interior Karnataka; at isolated places over Tamil Nadu, Puducherry & Karaikal, East Uttar Pradesh and Bihar; **above normal (1.6°C to 3.0°C)** at many places over Gujrat region, Nagaland, Manipur, Mizoram & Tripura, Arunachal Pradesh, Jharkhand, Chhattisgarh, Kerala & Mahe; at few places over West Uttar Pradesh, South Interior Karnataka, Telangana and Assam & Meghalaya and **near normal** over rest parts of the country. Today, **the lowest minimum temperature of 1.0°C** is reported at **Sikar (East Rajasthan)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 04-01-2024):** Maximum temperatures are **markedly above normal (5.1°C or more)** at isolated places over Chhattisgarh; **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Arunachal Pradesh; **above normal (1.6°C to 3.0°C)** at many places over Assam & Meghalaya; at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; at isolated places over Bihar, West Bengal & Sikkim, Vidarbha, Telangana, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and Andaman & Nicobar Islands. They are **markedly below normal (-5.1°C or less)** at most places over Punjab; at many places over Haryana-Chandigarh-Delhi, West Rajasthan and West Madhya Pradesh; at isolated places over East Rajasthan and East Madhya Pradesh; **appreciably below normal (-3.1°C to -5.0°C)** at many places over West Uttar Pradesh; **below normal (-1.6°C to -3.0°C)** at most places over Gujarat Region and Lakshadweep; at many places over Coastal Karnataka; at a few places over East Uttar

### Meteorological Analysis (Based on 1730 hours IST)

- ❖ The **cyclonic circulation** over Southeast Arabian Sea and adjoining Lakshadweep area extending upto 3.1 km above mean sea level persists.
- ❖ The southwest-northeast oriented **trough** from cyclonic circulation over Southeast Arabian Sea and adjoining Lakshadweep area to south Karnataka extending upto 1.5 km above mean sea level persists.
- ❖ The **Western Disturbance** as a cyclonic circulation over north Haryana & neighbourhood at 3.1 km above mean sea level persists.
- ❖ The **induced cyclonic circulation** over southwest Uttar Pradesh & neighbourhood extending upto 1.5 km above mean sea level persists.
- ❖ The **trough** from North Interior Karnataka to the cyclonic circulation over southwest Uttar Pradesh at 1.5 km above mean sea level persists.
- ❖ A fresh **Western Disturbance** is likely to affect Northwest India from the night of 08th January, 2024.

### Weather Forecast for next 7 days (Upto 0830 hours IST of 11<sup>th</sup> January, 2024)

- ❖ Minimum Temperatures are likely to rise gradually by 2-3°C over East India during next 3 days.
- ❖ No significant change in minimum temperatures likely over rest parts of north India during next 5 days.
- ❖ Thunderstorm accompanied with lightning likely over Bihar on 04<sup>th</sup> & 05<sup>th</sup> January.

### Weather Outlook for subsequent 2 days

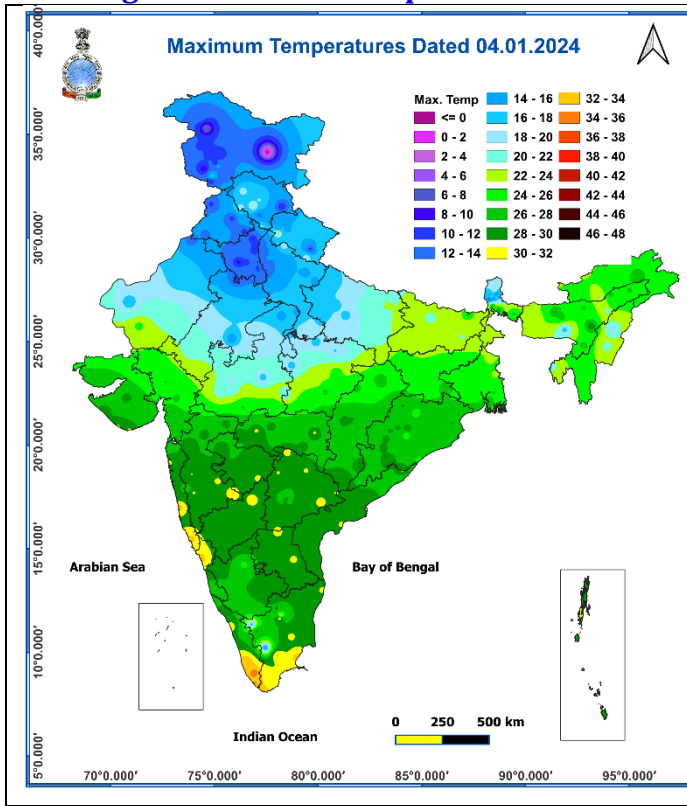
- ❖ Mainly dry weather likely to prevail over most parts of the country.

Table-1

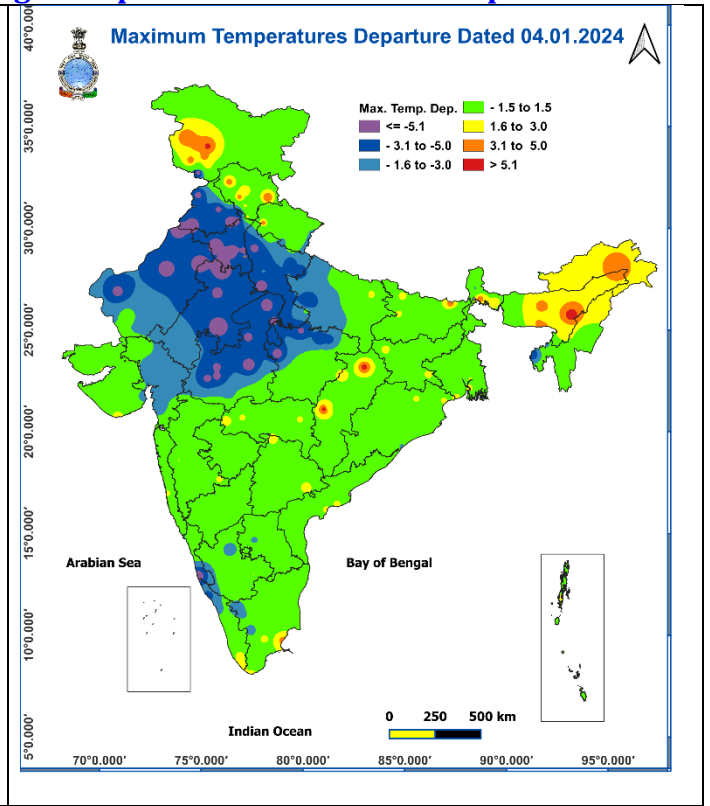
| 7 Days Rainfall Forecast |                                      |        |        |        |        |        |        |        |
|--------------------------|--------------------------------------|--------|--------|--------|--------|--------|--------|--------|
| S. No.                   | Subdivision                          | 04-Jan | 05-Jan | 06-Jan | 07-Jan | 08-Jan | 09-Jan | 10-Jan |
|                          |                                      | Day 1  | Day 2  | Day 3  | Day 4  | Day 5  | Day 6  | Day 7  |
| 1                        | ANDAMAN & NICOBAR ISLANDS            | ISOL   | SCT    | SCT    | SCT    | ISOL   | ISOL   | ISOL   |
| 2                        | ARUNACHAL PRADESH                    | ISOL   | DRY    | ISOL   | DRY    | DRY    | ISOL   | DRY    |
| 3                        | ASSAM & MEGHALAYA                    | DRY    | DRY    | DRY    | DRY    | DRY    | DRY    | DRY    |
| 4                        | NAGALAND, MANIPUR, MIZORAM & TRIPURA | DRY    | DRY    | DRY    | DRY    | DRY    | DRY    | DRY    |
| 5                        | SUB-HIMALAYAN WEST BENGAL & SIKKIM   | ISOL   | ISOL   | ISOL   | DRY    | DRY    | DRY    | DRY    |
| 6                        | GANGETIC WEST BENGAL                 | DRY    | ISOL   | ISOL   | DRY    | DRY    | DRY    | DRY    |
| 7                        | ODISHA                               | DRY    | ISOL   | ISOL   | DRY    | DRY    | DRY    | DRY    |
| 8                        | JHARKHAND                            | ISOL   | ISOL   | ISOL   | DRY    | DRY    | DRY    | DRY    |
| 9                        | BIHAR                                | ISOL   | ISOL   | ISOL   | DRY    | DRY    | DRY    | DRY    |
| 10                       | EAST UTTAR PRADESH                   | ISOL   | ISOL   | DRY    | DRY    | DRY    | ISOL   | DRY    |
| 11                       | WEST UTTAR PRADESH                   | ISOL   | ISOL   | DRY    | DRY    | ISOL   | ISOL   | DRY    |
| 12                       | UTTARAKHAND                          | DRY    | DRY    | DRY    | DRY    | DRY    | ISOL   | ISOL   |
| 13                       | HARYANA CHANDIGARH & DELHI           | DRY    | DRY    | DRY    | DRY    | ISOL   | ISOL   | DRY    |
| 14                       | PUNJAB                               | DRY    | DRY    | DRY    | DRY    | DRY    | ISOL   | DRY    |
| 15                       | HIMACHAL PRADESH                     | DRY    | DRY    | DRY    | DRY    | DRY    | ISOL   | ISOL   |
| 16                       | JAMMU & KASHMIR AND LADAKH           | DRY    | DRY    | DRY    | DRY    | DRY    | ISOL   | ISOL   |
| 17                       | WEST RAJASTHAN                       | DRY    | DRY    | DRY    | DRY    | ISOL   | ISOL   | DRY    |
| 18                       | EAST RAJASTHAN                       | DRY    | DRY    | DRY    | ISOL   | SCT    | ISOL   | DRY    |
| 19                       | WEST MADHYA PRADESH                  | ISOL   | ISOL   | ISOL   | ISOL   | SCT    | SCT    | ISOL   |
| 20                       | EAST MADHYA PRADESH                  | ISOL   | FWS    | FWS    | ISOL   | ISOL   | ISOL   | ISOL   |
| 21                       | GUJARAT REGION                       | DRY    | DRY    | DRY    | DRY    | ISOL   | ISOL   | ISOL   |
| 22                       | SAURASHTRA & KUTCH                   | DRY    | DRY    | DRY    | DRY    | ISOL   | ISOL   | DRY    |
| 23                       | KONKAN & GOA                         | ISOL   | ISOL   | ISOL   | ISOL   | DRY    | DRY    | DRY    |
| 24                       | MADHYA MAHARASHTRA                   | ISOL   | ISOL   | ISOL   | ISOL   | DRY    | DRY    | DRY    |
| 25                       | MARATHAWADA                          | ISOL   | ISOL   | ISOL   | DRY    | DRY    | DRY    | DRY    |
| 26                       | VIDARBHA                             | ISOL   | ISOL   | DRY    | DRY    | DRY    | DRY    | DRY    |
| 27                       | CHHATTISGARH                         | ISOL   | ISOL   | ISOL   | ISOL   | DRY    | DRY    | DRY    |
| 28                       | COASTAL ANDHRA PRADESH & YANAM       | DRY    | DRY    | DRY    | ISOL   | ISOL   | ISOL   | DRY    |
| 29                       | TELANGANA                            | ISOL   | DRY    | ISOL   | ISOL   | ISOL   | ISOL   | DRY    |
| 30                       | RAYALASEEMA                          | DRY    | DRY    | DRY    | ISOL   | ISOL   | ISOL   | ISOL   |
| 31                       | TAMILNADU PUDUCHERRY & KARAIKAL      | ISOL   | ISOL   | SCT    | SCT    | SCT    | ISOL   | ISOL   |
| 32                       | COASTAL KARNATAKA                    | FWS    | SCT    | ISOL   | ISOL   | ISOL   | ISOL   | ISOL   |
| 33                       | NORTH INTERIOR KARNATAKA             | ISOL   | ISOL   | ISOL   | ISOL   | DRY    | DRY    | DRY    |
| 34                       | SOUTH INTERIOR KARNATAKA             | SCT    | SCT    | SCT    | SCT    | SCT    | ISOL   | ISOL   |
| 35                       | KERALA & MAHE                        | FWS    | SCT    | SCT    | FWS    | SCT    | ISOL   | ISOL   |
| 36                       | LAKSHADWEEP                          | WS     | WS     | SCT    | SCT    | FWS    | FWS    | 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          |

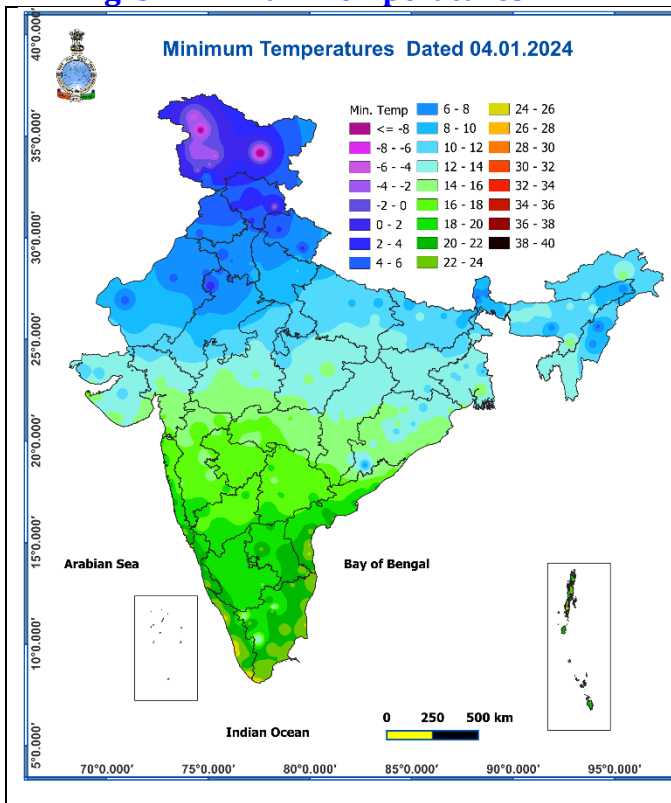
**Fig. 1: Maximum Temperatures**



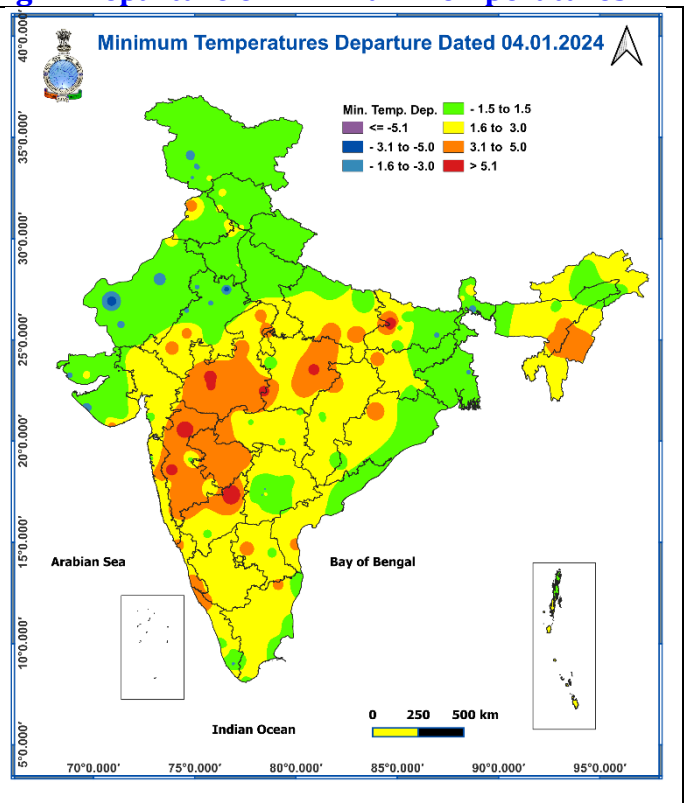
**Fig. 2: Departure of Maximum Temperatures**



**Fig. 3: Minimum Temperatures**



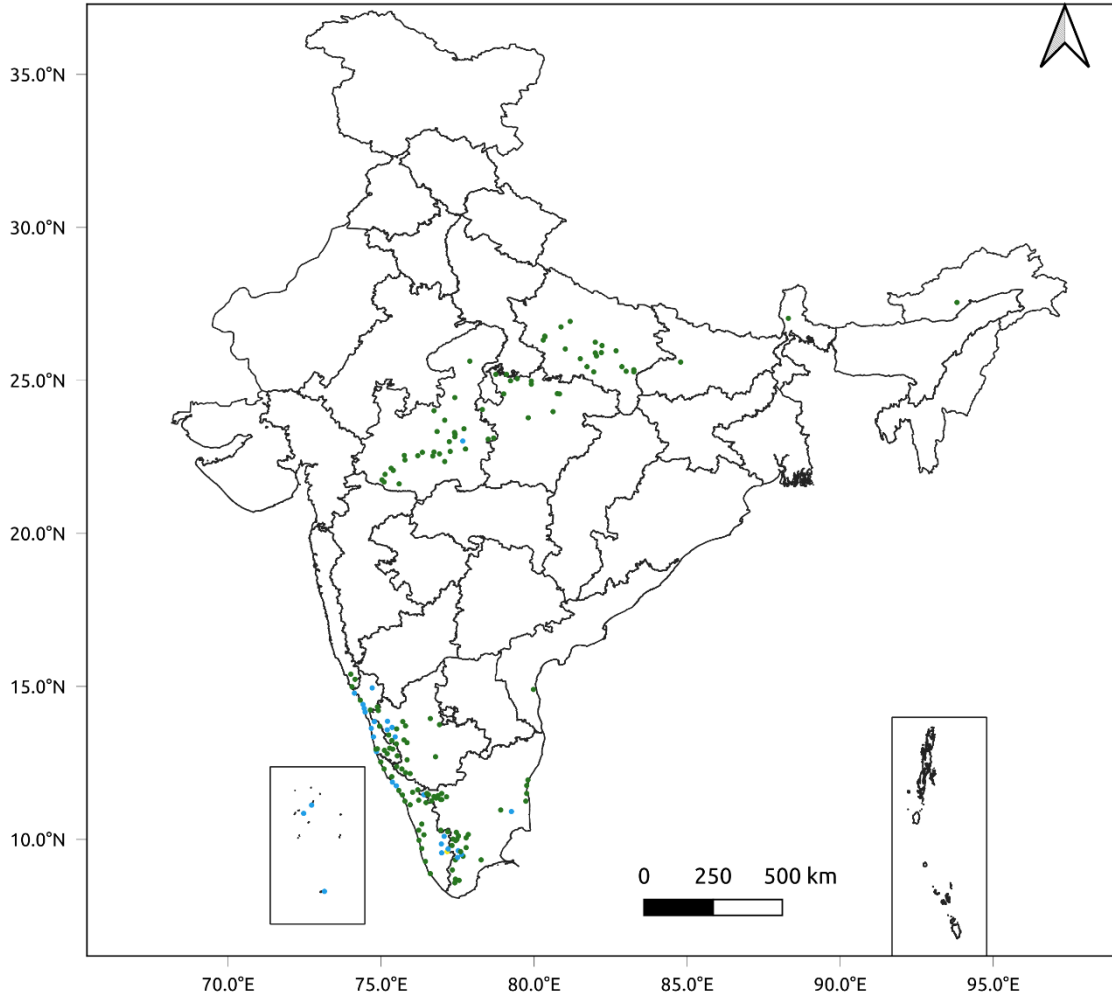
**Fig. 4: Departure of Minimum Temperatures**



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

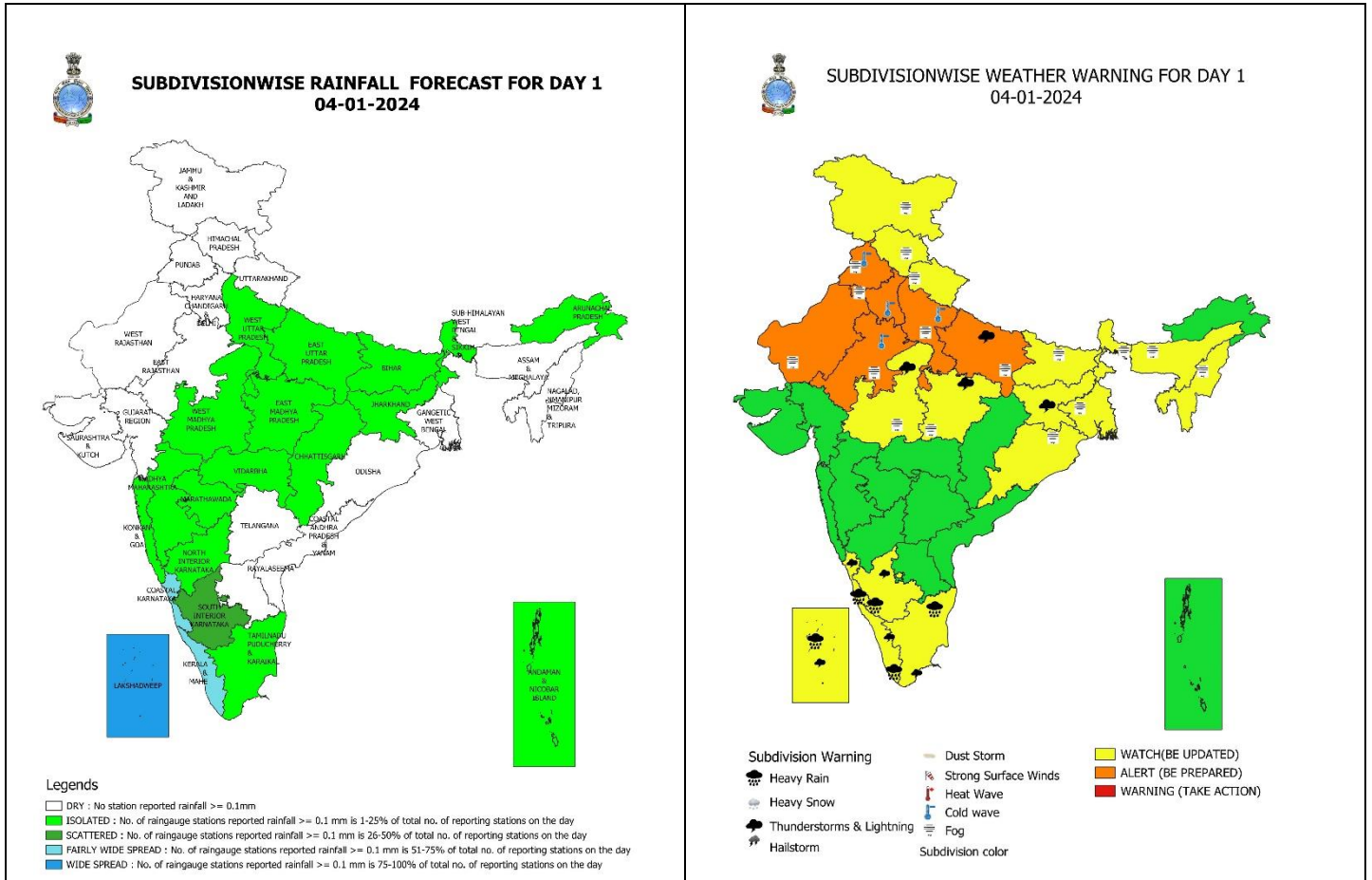


24 Hr cumulative rainfall recorded over different stations during 0830 IST of 3-1-2024 to 0830 IST of 4-1-2024



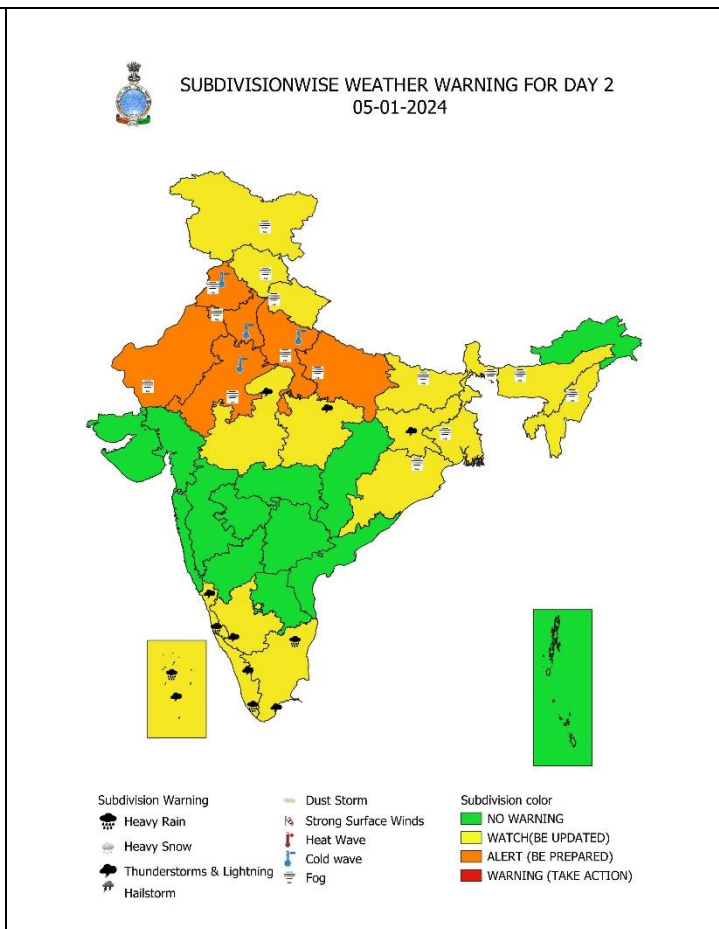
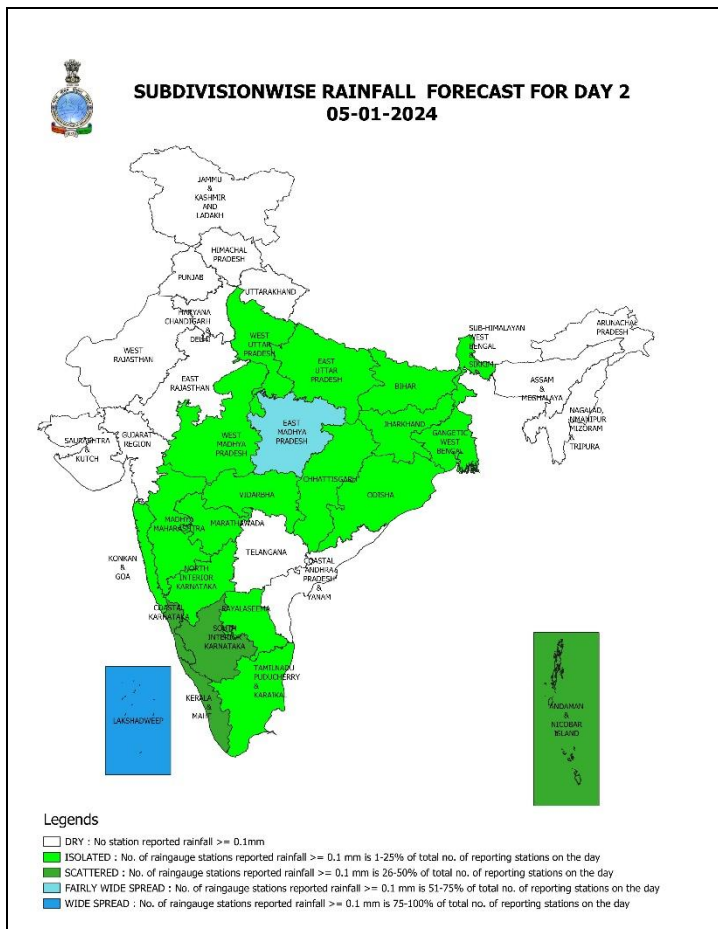
### Legends

- 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)



## 04 January (Day 1):

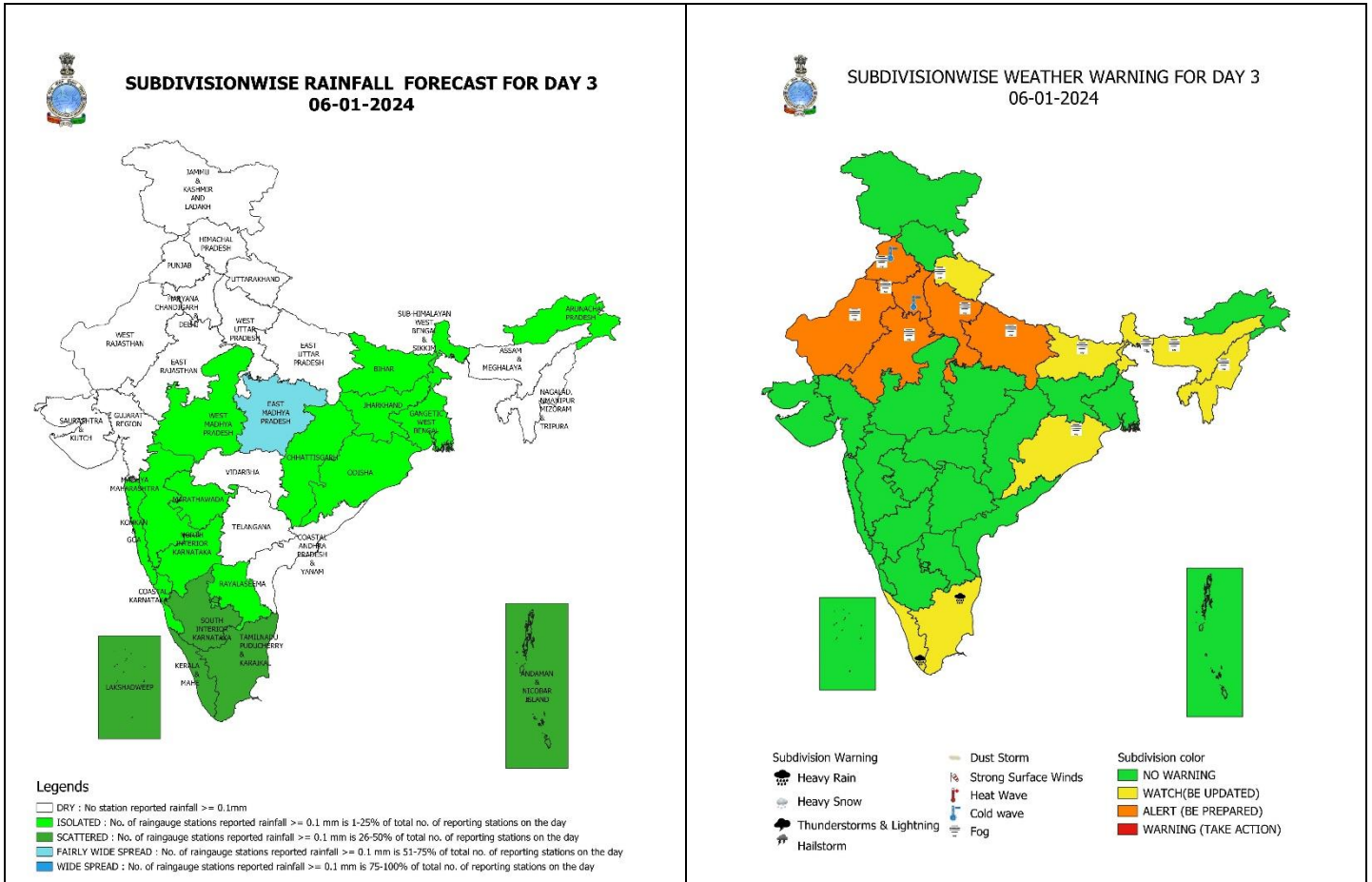
- ❖ **Dense to very dense fog** very likely in some parts of Punjab, Haryana-Chandigarh, Uttar Pradesh, East Rajasthan, Bihar; in isolated pockets of West Rajasthan; **Dense fog** in isolated pockets of Jammu Division, Himachal Pradesh, Uttarakhand, Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Gangetic West Bengal, Odisha, Assam & Meghalaya and Mizoram & Tripura.
- ❖ **Cold day to severe Cold day** conditions very likely in some parts over Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh and Rajasthan.
- ❖ **Cold wave** conditions very likely in isolated pockets over Punjab, Haryana-Chandigarh and Rajasthan.
- ❖ **Heavy rainfall** very likely at isolated places over Coastal Karnataka, South Interior Karnataka, Tamil Nadu, Kerala and Lakshadweep.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed 30-40 kmph)** very likely at isolated places over Kerala & Mahe and Lakshadweep; **with lightning** likely at isolated places over Madhya Pradesh, Coastal Karnataka, South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal.
- ❖ **Squally weather** with wind speed 40-45 kmph gusting to 55 kmph very likely to prevail over Southeast Arabian Sea, adjoining Lakshadweep area. Fishermen are advised not to venture into these areas.



## 05 January (Day 2):

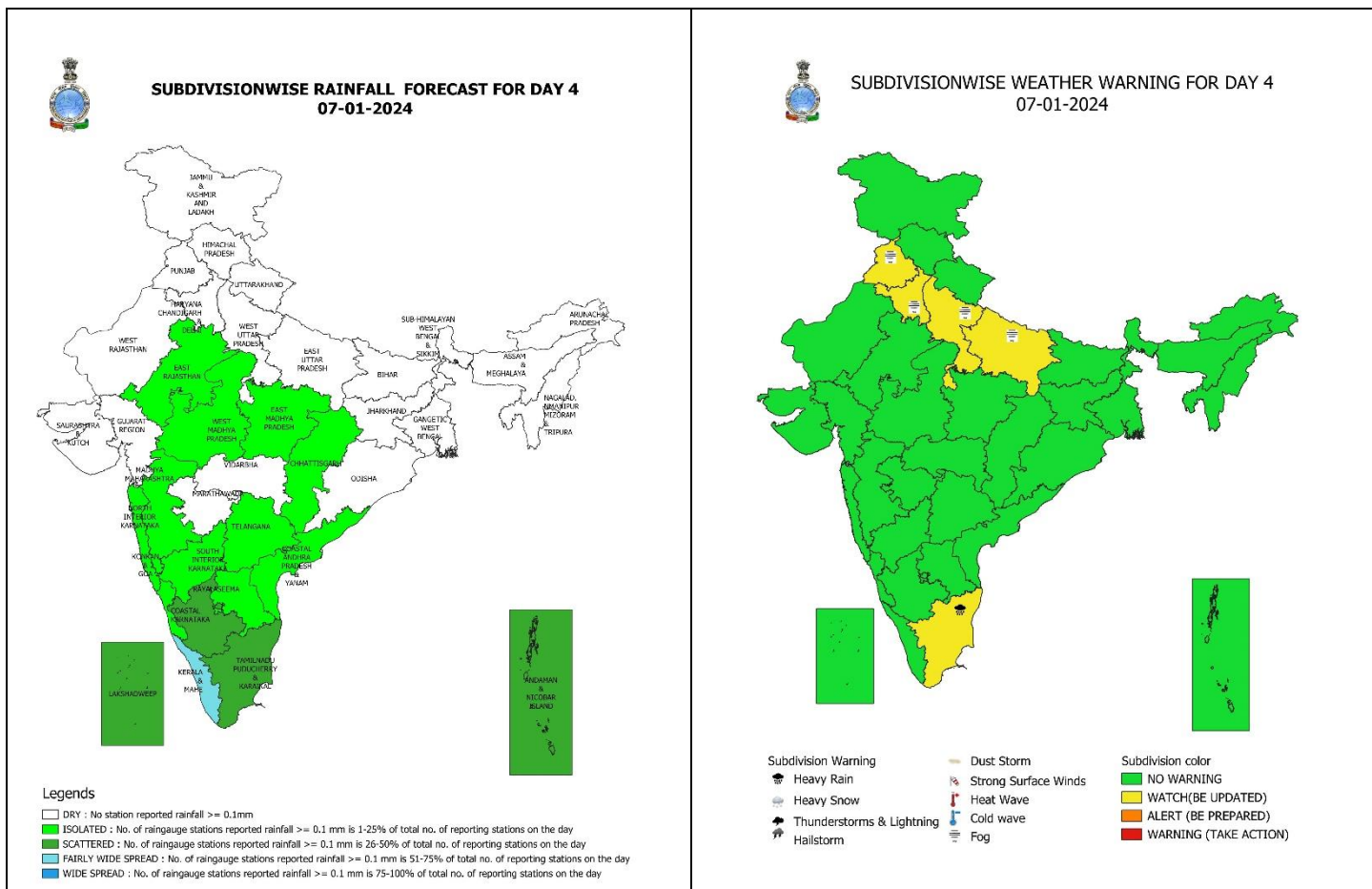
- ❖ **Dense to very dense fog** very likely in some parts of Punjab, Haryana-Chandigarh, Uttar Pradesh, East Rajasthan; in isolated pockets of West Rajasthan; **Dense fog** in some parts of Bihar and in isolated pockets of Jammu division, Himachal Pradesh, Uttarakhand, Sub-Himalayan West Bengal & Sikkim, Gangetic West Bengal, Odisha, Assam & Meghalaya and Mizoram & Tripura.
- ❖ **Cold day to severe Cold day** conditions very likely in isolated pockets of Punjab, Uttar Pradesh, Rajasthan and Haryana-Chandigarh-Delhi.
- ❖ **Cold wave** conditions very likely in isolated pockets over Punjab, Haryana-Chandigarh and Rajasthan.
- ❖ **Heavy rainfall** very likely at isolated places over Coastal Karnataka, Tamil Nadu, Kerala and Lakshadweep.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed 30-40 kmph)** very likely at isolated places over Kerala & Mahe and Lakshadweep; **with lightning** likely at isolated places over north Madhya Pradesh, Coastal Karnataka, South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal.
- ❖ **Squally weather** with wind speed 40-45 kmph gusting to 55 kmph likely to prevail over Southeast & adjoining Eastcentral Arabian Sea and adjoining Lakshadweep area. Fishermen are advised not to venture into these areas.





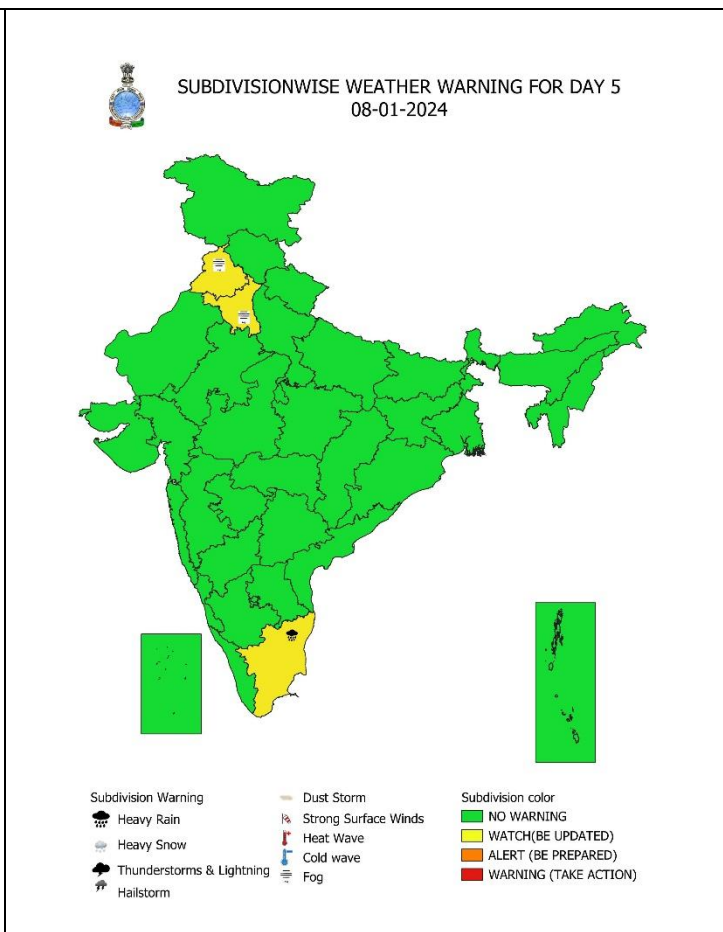
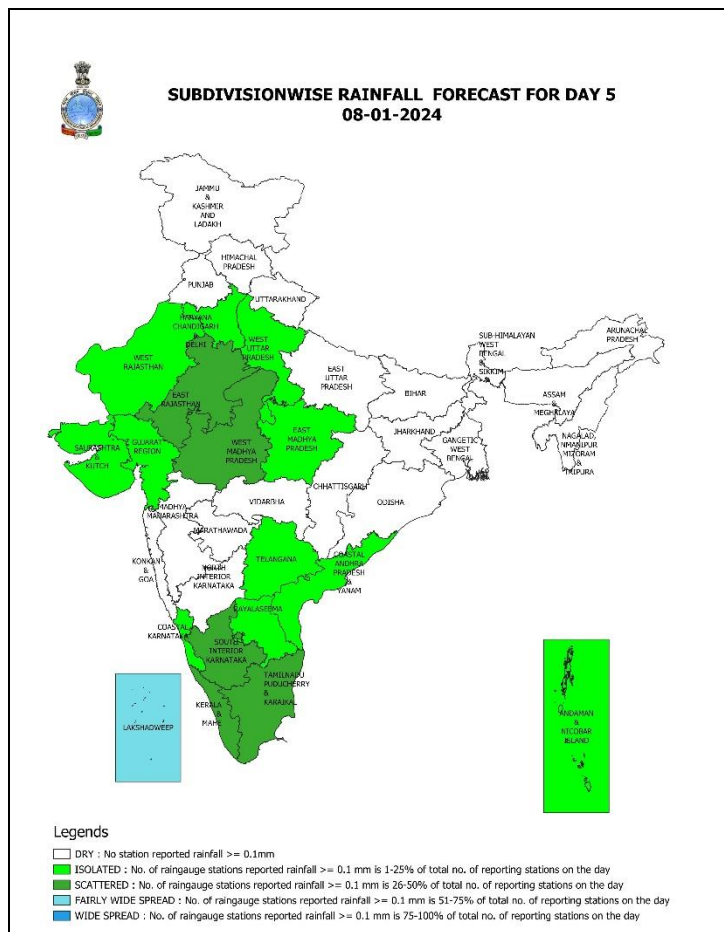
### 06 January (Day 3):

- ❖ **Dense to very dense fog** very likely in some parts of East Rajasthan; in isolated pockets of Punjab, Haryana-Chandigarh, Uttar Pradesh, West Rajasthan; **Dense fog** in some parts of Bihar and in isolated pockets of Jammu division, Uttarakhand, Sub-Himalayan West Bengal & Sikkim, Odisha, Assam & Meghalaya and Mizoram & Tripura.
- ❖ **Cold day to severe Cold day** conditions very likely in isolated pockets of Punjab and Haryana-Chandigarh-Delhi.
- ❖ **Heavy rainfall** very likely at isolated places over Tamil Nadu and Kerala.
- ❖ **Squally weather** with wind speed 40-45 kmph gusting to 55 kmph likely to prevail along and off Tamil Nadu coast, Gulf of Mannar and adjoining Comorin area. Fishermen are advised not to venture into these areas.



**07 January (Day 4):**

- ❖ **Dense fog** likely in isolated pockets of Punjab, Uttar Pradesh and Haryana-Chandigarh.
- ❖ **Heavy rainfall** likely at isolated places over Tamil Nadu.
- ❖ **Squally weather** with wind speed 40-45 kmph gusting to 55 kmph likely to prevail along and off Tamil Nadu coast, Gulf of Mannar and adjoining Comorin area. Fishermen are advised not to venture into these areas.

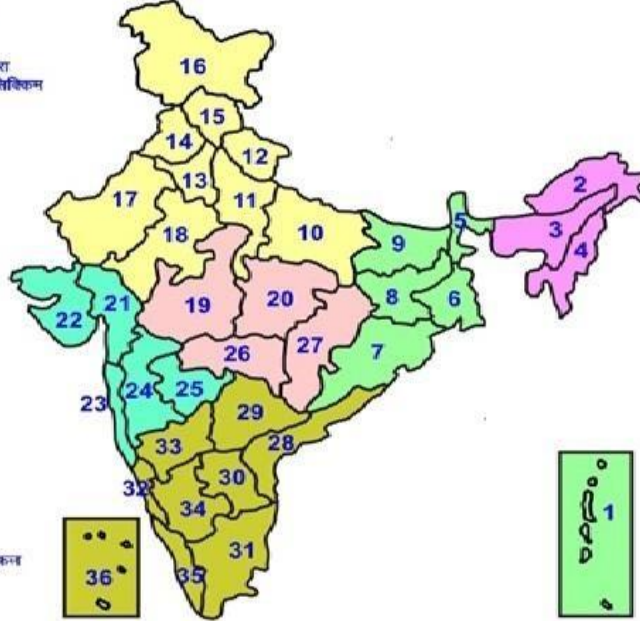


## 08 January (Day 5):

- ❖ **Dense fog** likely in isolated pockets of Punjab and Haryana-Chandigarh.
- ❖ **Heavy rainfall** likely at isolated places over Tamil Nadu.

## 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 अंतरिक उत्तरी कर्नाटक
- 34 अंतरिक 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 \*



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

(Service to the Nation since 1875)