

Thursday, January 9, 2025  
Time of Issue: 0800 hours IST  
(MORNING)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features:

#### Weather Systems, Forecast and warning

- ❖ A cyclonic circulation lies over northeast Assam in lower tropospheric levels.
- ❖ A fresh Western Disturbance and its interaction with easterly winds likely to affect Northwest India from 10<sup>th</sup>-12<sup>th</sup> January. Under its influence, Light/moderate scattered to fairly widespread rainfall/snowfall likely over Western Himalayan region and Light/moderate isolated to scattered rainfall likely over the plains of Northwest India and adjoining central India during the same period.
  - ✓ Thunderstorm activity at isolated places likely over Himachal Pradesh, Punjab, Haryana, Chandigarh, Uttar Pradesh, Rajasthan on 11<sup>th</sup> and over Uttarakhand on 11<sup>th</sup> & 12<sup>th</sup> January. Isolated hailstorm also likely over Rajasthan on 11<sup>th</sup> January.
- ❖ A cyclonic circulation lies over Southeast Bay of Bengal & adjoining Equatorial Indian Ocean in lower tropospheric levels. Another cyclonic circulation lies over North Tamil Nadu & neighbourhood in lower tropospheric levels. Under its influence,
  - ✓ Light to moderate rainfall accompanied with thunderstorm, lightning very likely at a few places over Tamil Nadu, Puducherry & Karaikal on 11<sup>th</sup> & 12<sup>th</sup> and Kerala & Mahe on 12<sup>th</sup> January with isolated **heavy rainfall** likely over Tamilnadu, Puducherry & Karaikal on 11<sup>th</sup> January.

#### ii. Temperature, Cold Wave and Fog Forecast:

##### Temperature Conditions during past 24 hours till 0830 hours IST of 08<sup>th</sup> January:

- ❖ Minimum temperatures were **below 0°C** over many parts of Jammu, Kashmir & Ladakh; **1-3°C** over isolated places of Himachal Pradesh; **5-10°C** over many parts of Northwest & Central India; **10-15°C** over many parts of East & West India. The lowest minimum temperature of **1.6°C** was reported at **Rajgarh (West Madhya Pradesh)** over the plains of the country. There had been **fall in minimum temperatures** by 1-5<sup>0</sup>C over many parts of Madhya Pradesh, Gujarat State; in some parts of Uttar Pradesh, Chhattisgarh and Odisha; in isolated places of Jammu-Kashmir, Himachal Pradesh, Haryana, East Rajasthan, Assam & Meghalaya, West Bengal & Sikkim, Vidarbha and South Interior Karnataka and **rise by 1-3<sup>0</sup>C** in isolated places of Uttarakhand, Telangana, Kerala & Mahe and Tamil Nadu.

##### Forecast of temperature:

- ❖ Fall in minimum temperatures by about 2°C likely over Northwest India during next 24 hours and gradual rise by 2-4°C thereafter.
- ❖ No significant change in minimum temperatures likely over Central India during next 24 hours and gradual rise by 3-5°C thereafter.
- ❖ Rise in minimum temperatures by 2-4°C likely over East India during next 24 hours and no significant change during subsequent 2 days and gradual rise by 2-3°C thereafter.
- ❖ Rise in minimum temperatures by 2-4°C likely over Maharashtra during next 3 days and no significant change thereafter.
- ❖ No significant change in minimum temperatures likely over Gujarat State during next 24 hours and gradual rise by 2-3°C thereafter.

##### Cold Wave Warnings:

**Cold wave** conditions very likely in isolated pockets over Himachal Pradesh, Punjab on 09<sup>th</sup>; Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 09<sup>th</sup> & 10<sup>th</sup> January.

##### Dense Fog Warnings:

**Dense to very Dense fog Condition** very likely to continue to prevail during night/early morning hours in some parts of Punjab, Haryana & Chandigarh- Delhi and Uttar Pradesh till 10<sup>th</sup> January.

**Dense fog conditions** very likely to continue to prevail during night/early morning hours in isolated pockets of Sub-Himalayan West Bengal & Sikkim till 09<sup>th</sup>; Himachal Pradesh & Bihar till 11<sup>th</sup>; Madhya Pradesh & Odisha till 10<sup>th</sup>; Assam, Nagaland, Manipur, Mizoram & Tripura till 13<sup>th</sup> January.

##### Cold Day Warnings:

**Cold day to severe cold day** conditions very likely in some parts of Uttar Pradesh on 09<sup>th</sup> January.

**Cold day** conditions very likely in isolated pockets of Madhya Pradesh on 09<sup>th</sup> January.

##### Ground Frost Warnings:

**Ground frost** conditions very likely in isolated pockets of Himachal Pradesh on 09<sup>th</sup> January.

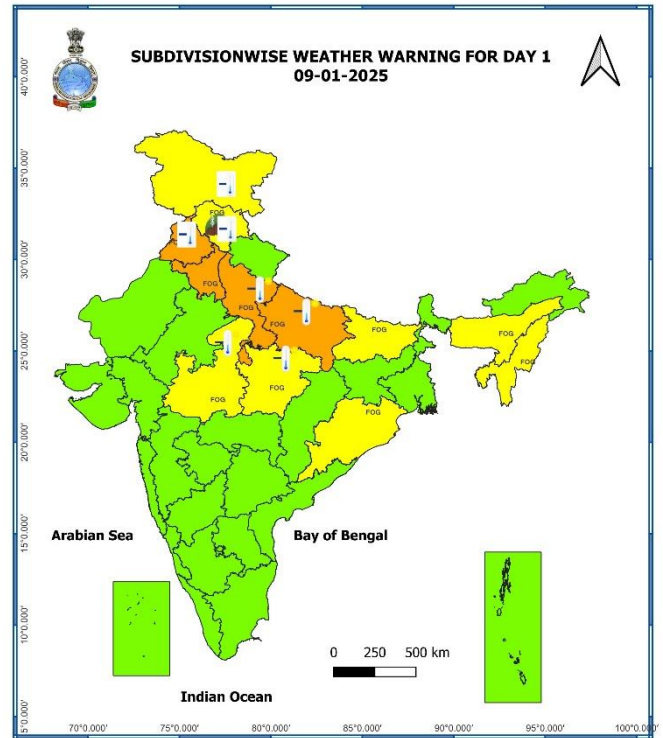
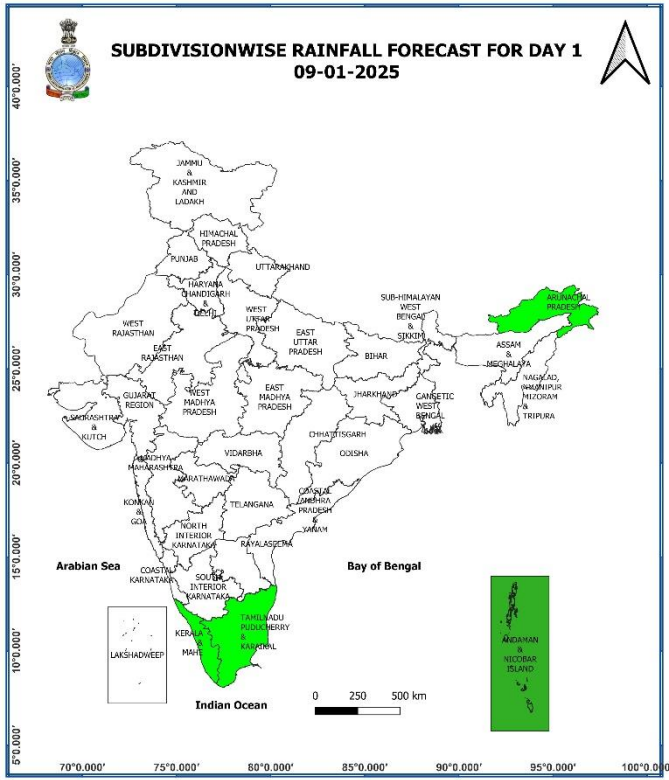
## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at isolated places** over Tamil Nadu, Puducherry & Karaikal, Andaman & Nicobar Islands, Assam.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **NIL**.
- ❖ **Fog reported** (at 0530 hours IST of today): **Dense to very dense fog** in isolated pockets of Punjab, East Uttar Pradesh, Jammu-Kashmir and Meghalaya; **Moderate to dense fog** in isolated pockets of Assam.
- ❖ **Visibility reported** (at 0530 hours IST of today) ( $\leq 200$  meter): **Punjab:** Amritsar Airport & Ambala -00 each; **East Uttar Pradesh:** Prayagraj-00, Varanasi-200; **Jammu-Kashmir:** Pathankot Airport-00; **Meghalaya:** Shillong Airport-30; **Assam:** Jorhat Airport-100, Dibrugarh-200.
- ❖ **Minimum Temperature Departures (as on 08-01-2025):** Minimum temperatures were **markedly above normal ( $5^{\circ}\text{C}$  or above)** at a few places over Assam & Meghalaya; at isolated places over Bihar; **appreciably above normal ( $3^{\circ}\text{C}$  to  $5^{\circ}\text{C}$ )** at a few places over Uttar Pradesh; at isolated places over Gangetic West Bengal; **above normal ( $1^{\circ}\text{C}$  to  $3^{\circ}\text{C}$ )** at many places over Coastal Andhra Pradesh & Yanam; at a few places over Madhya Maharashtra; at isolated places over Uttarakhand, Punjab, East Madhya Pradesh, Konkan & Goa, Tamilnadu Puducherry & Karaikal and near normal over rest part of the country. These were **appreciably below normal ( $-3^{\circ}\text{C}$  to  $-5^{\circ}\text{C}$ )** at isolated places over West Madhya Pradesh; **below normal ( $-1^{\circ}\text{C}$  to  $-3^{\circ}\text{C}$ )** at a few places over Gujarat State; at isolated places over East Rajasthan, Marathwada, Vidarbha, Interior Karnataka, Telangana, Rayalaseema (Fig. 4). Yesterday, the **lowest minimum temperature of  $1.6^{\circ}\text{C}$**  was reported at **Rajgarh (West Madhya Pradesh)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 08-01-2025):** Maximum temperatures were **appreciably above normal ( $3.1^{\circ}\text{C}$  to  $5.0^{\circ}\text{C}$ )** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Rajasthan; **above normal ( $1.6^{\circ}\text{C}$  to  $3.0^{\circ}\text{C}$ )** at isolated places over Haryana-Chandigarh-Delhi, Himachal Pradesh, West Uttar Pradesh, Coastal Andhra Pradesh & Yanam. These were **markedly below normal ( $-5.1^{\circ}\text{C}$  or less)** at isolated places over Sub-Himalayan West Bengal & Sikkim; **appreciably below normal ( $-3.1^{\circ}\text{C}$  to  $-5.0^{\circ}\text{C}$ )** at isolated places over Bihar, East Uttar Pradesh, East Madhya Pradesh, Assam & Meghalaya; **below normal ( $-1.6^{\circ}\text{C}$  to  $-3.0^{\circ}\text{C}$ )** at isolated places over West Madhya Pradesh, Gangetic West Bengal, Odisha, Jharkhand, Madhya Maharashtra, North Interior Karnataka, Vidarbha, Gujarat state, Andaman & Nicobar Islands, Nagaland, Manipur, Mizoram & Tripura and near normal over rest part of the country (Fig. 2). Yesterday, the **highest maximum temperature of  $35.6^{\circ}\text{C}$**  was reported at **Kannur Airport (Kerala)** over the plains of the country.

### Meteorological Analysis (Based on 0530 hours IST)

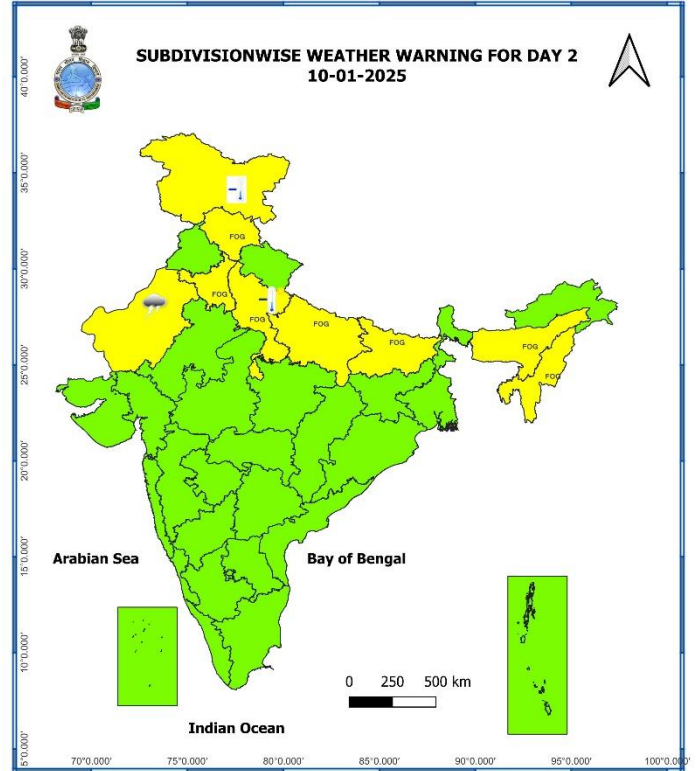
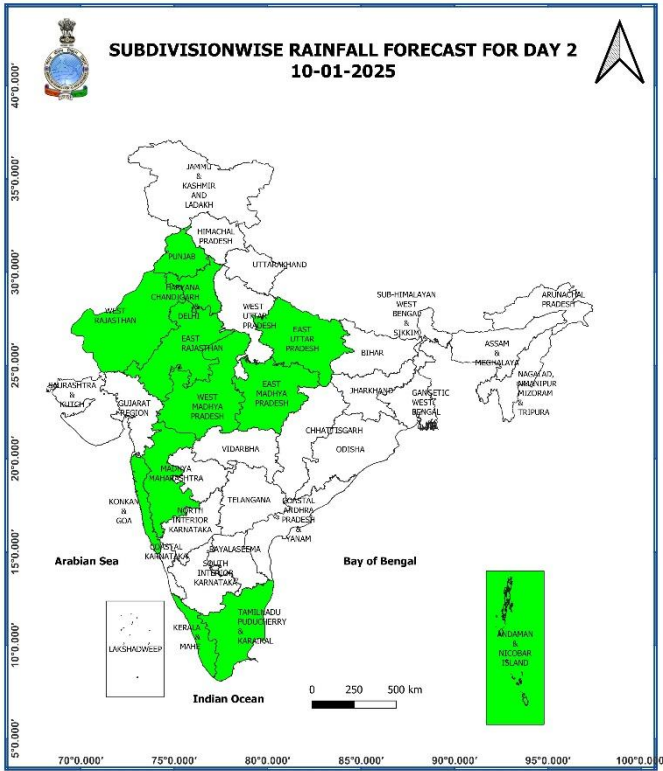
- ❖ Subtropical **westerly Jet Stream** with core winds of the order upto 145 knots at 12.6 km above mean sea level continues to prevail over North India.
- ❖ The **cyclonic circulation** over Northeast Assam & neighbourhood at 0.9 km above mean sea level persists.
- ❖ The **cyclonic circulation** over Southeast Bay of Bengal & adjoining Equatorial Indian Ocean extending upto 1.5 km above mean sea level persists.
- ❖ The **cyclonic circulation** over North Tamil Nadu & neighbourhood at 3.1 km above mean sea level persists.
- ❖ A fresh **Western Disturbance** is likely to affect northwest India from 10<sup>th</sup> January, 2025.

**Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 16<sup>th</sup> January, 2025)**



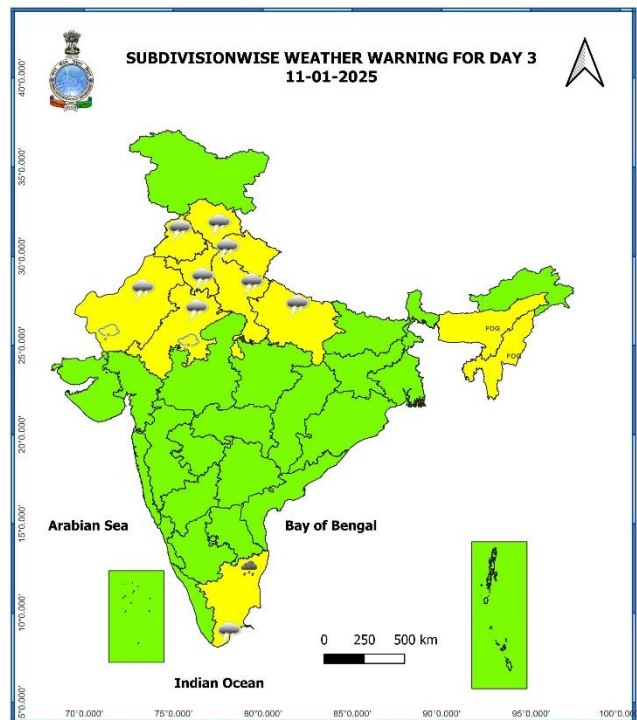
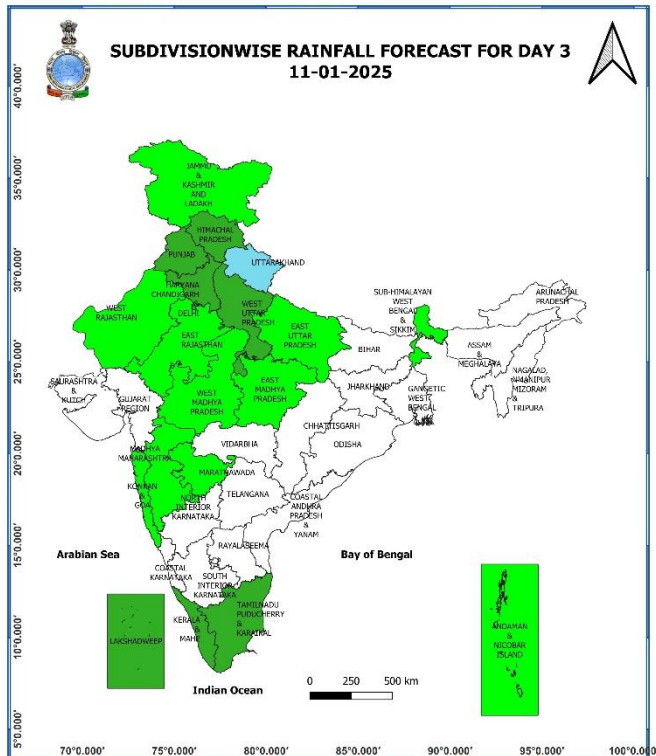
**09<sup>th</sup> January (Day 1):**

- ❖ **Dense to very dense fog conditions** very likely in some parts of Punjab, Haryana-Chandigarh-Delhi and Uttar Pradesh; **dense fog** in isolated parts of Himachal Pradesh, Madhya Pradesh, Bihar, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during night/morning hours.
- ❖ **Cold day to severe cold day conditions** very likely at a few places over Uttar Pradesh; **cold day** condition very likely at isolated places over Madhya Pradesh,
- ❖ **Cold wave conditions** very likely in isolated pockets of Punjab, Himachal Pradesh, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad.
- ❖ **Ground frost conditions** very likely in isolated pockets of Himachal Pradesh.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over central parts of south Bay of Bengal. Fisherman are advised not to venture in to these areas.



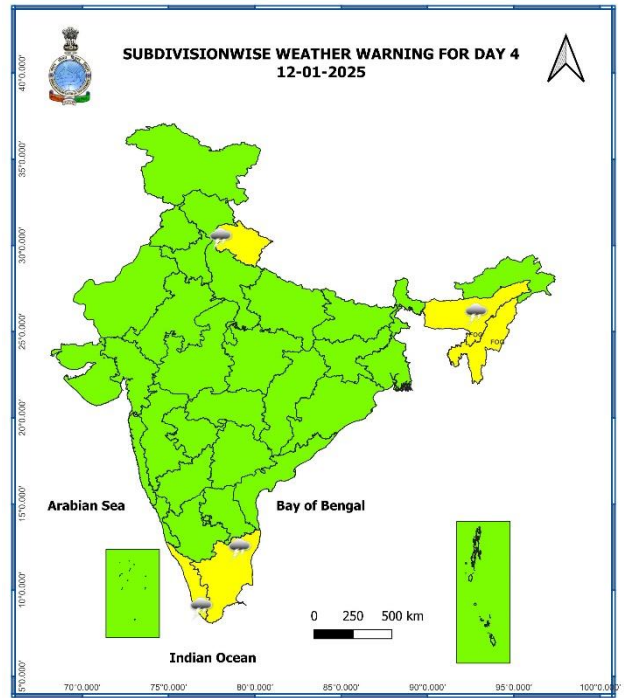
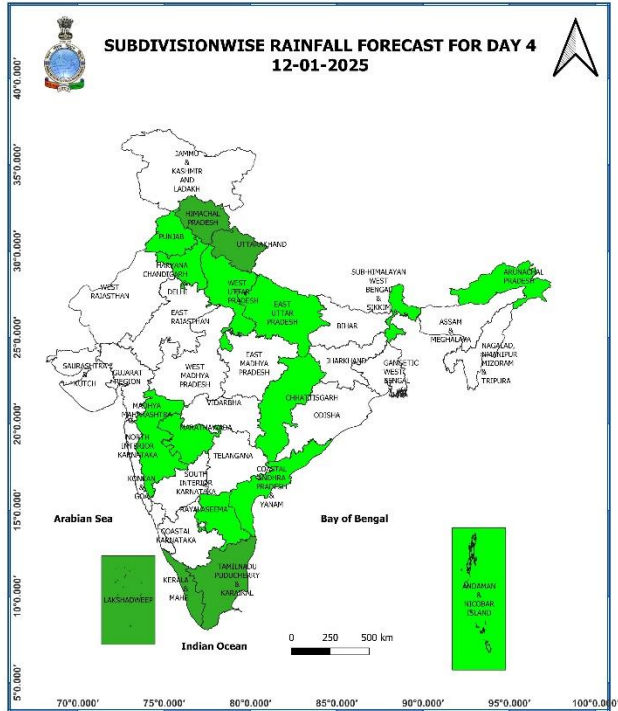
### 10<sup>th</sup> January (Day 2):

- ❖ **Dense to very dense fog conditions** very likely in some parts of Haryana-Chandigarh-Delhi; **Dense fog conditions** likely in isolated pockets of Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Bihar, Uttar Pradesh, Himachal Pradesh during night/morning hours.
- ❖ **Cold day** condition at isolated places over West Uttar Pradesh.
- ❖ **Cold Wave** condition very likely at isolated places over Jammu and Kashmir and Ladakh.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over West Rajasthan.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over few parts of Southwest Bay of Bengal and adjoining parts of Southeast Bay of Bengal. Fisherman are advised not to venture in to these areas.



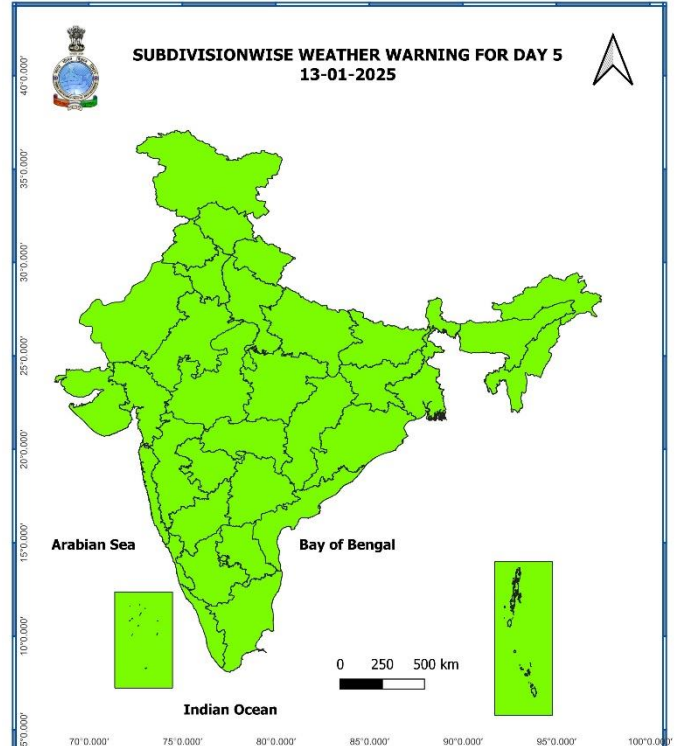
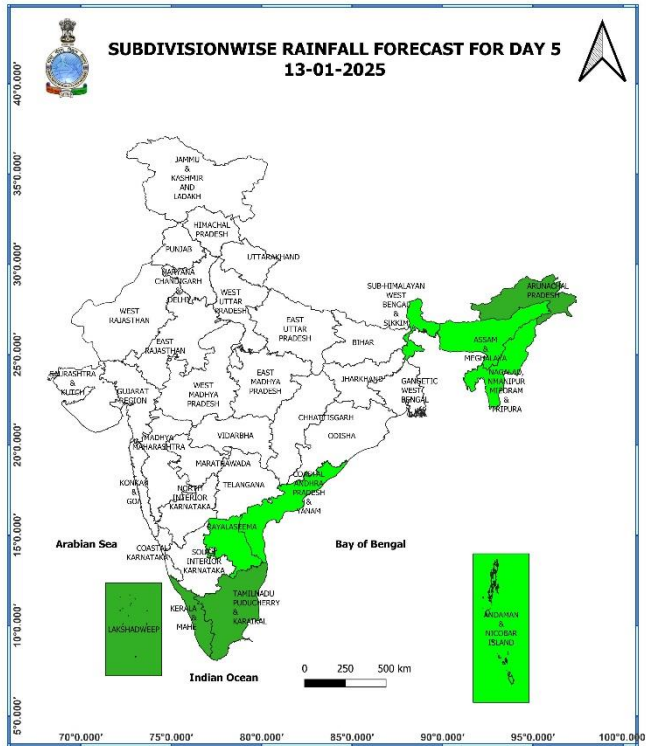
### 11<sup>th</sup> January (Day 3):

- ❖ **Heavy Rainfall ( $\geq 7\text{cm}$ )** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal.
- ❖ **Dense fog conditions** likely in isolated pockets of Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during night/morning hours.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Uttarakhand, Punjab, Himachal Pradesh, Haryana-Chandigarh, Uttar Pradesh, Tamil Nadu, Puducherry & Karaikal; **with hailstorm** at isolated places over Rajasthan.



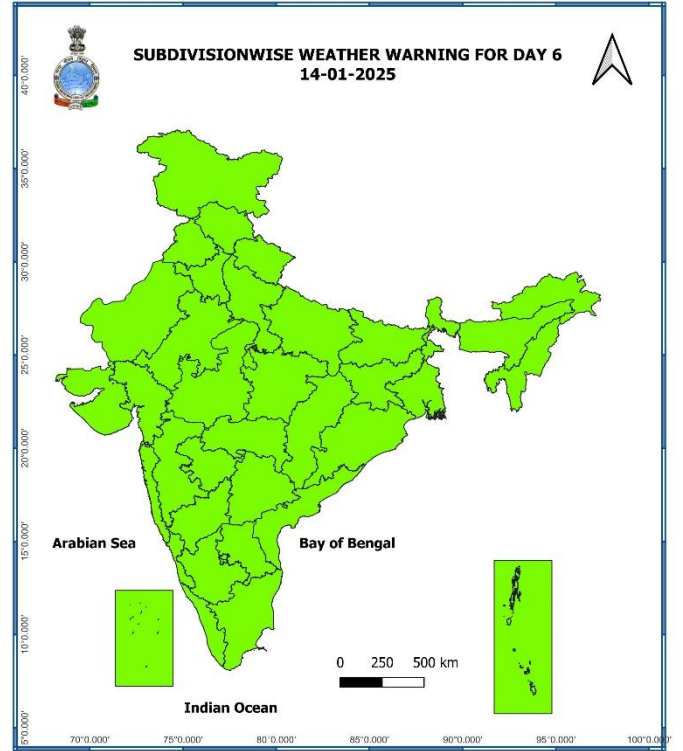
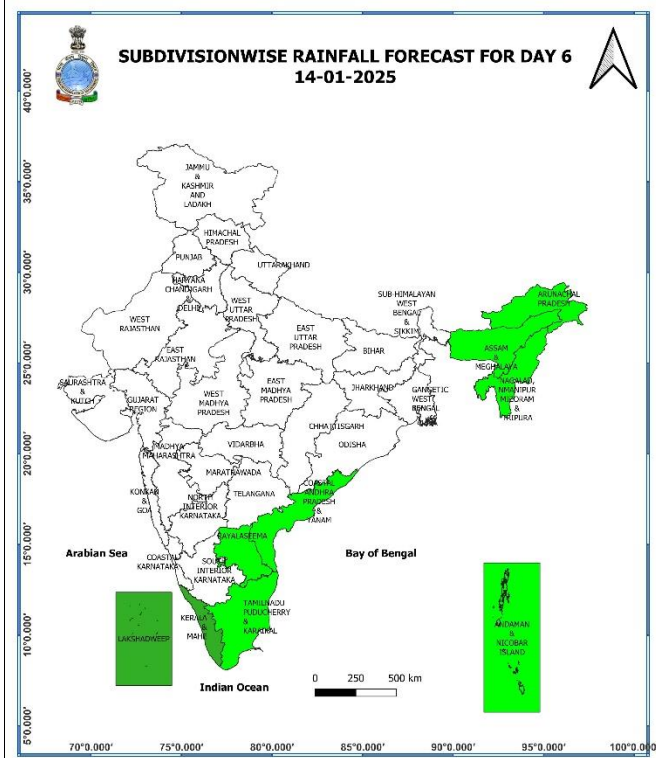
### 12<sup>th</sup> January (Day 4):

- ❖ **Dense fog conditions** likely in isolated pockets of Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during night/morning hours.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Uttarakhand, Tamil Nadu, Puducherry & Karaikal & Kerala & Mahe.



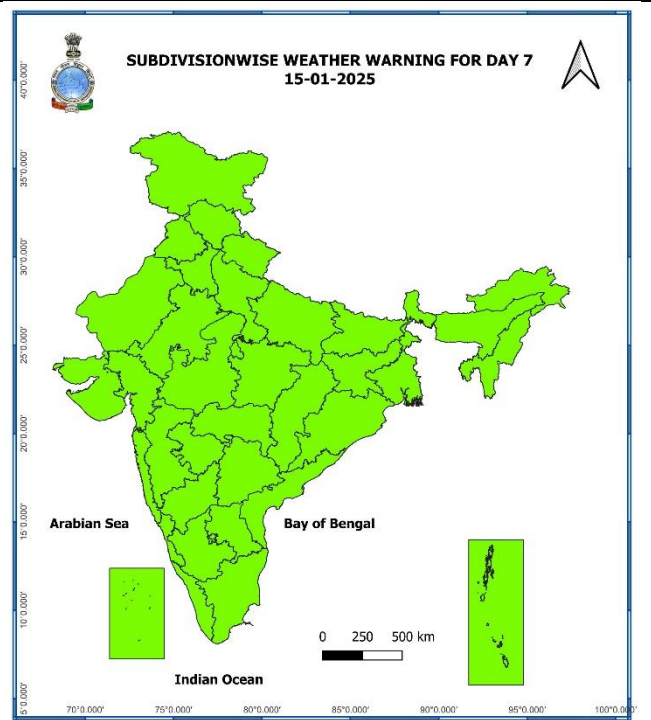
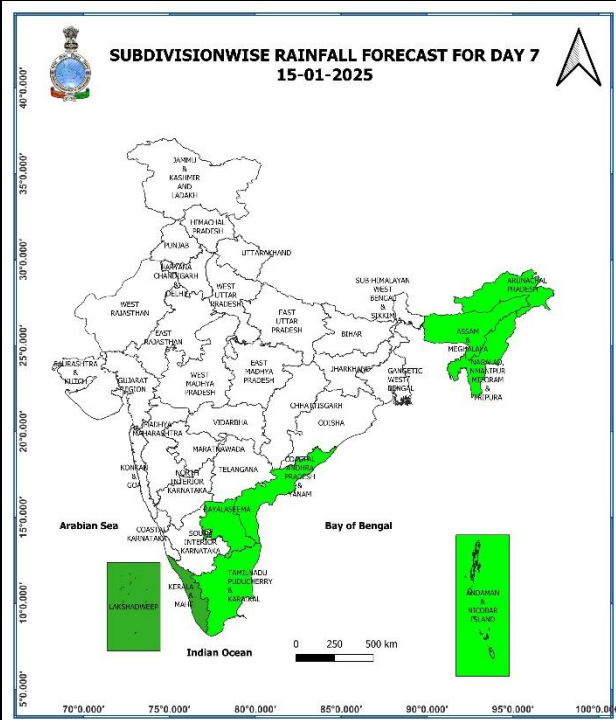
**13<sup>th</sup> January (Day 5):**

❖ **No Weather Warning.**



**14<sup>th</sup> January (Day 6):**

❖ **No Weather Warning.**



**15<sup>th</sup> January (Day 7):**

❖ **No Weather Warning.**

**Weather Outlook for subsequent 3 days (During 16<sup>th</sup> January– 18<sup>th</sup> January, 2025)**

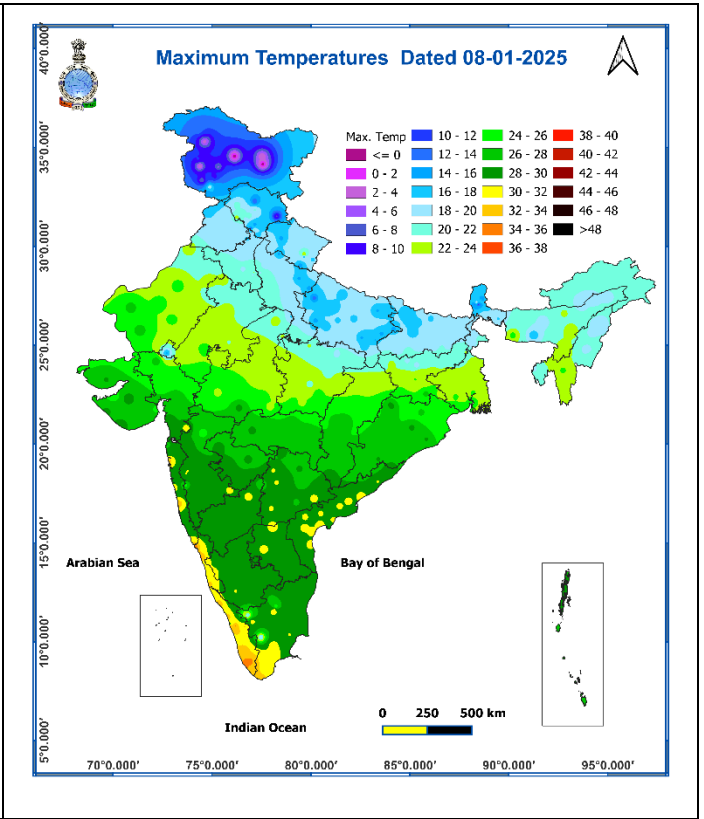
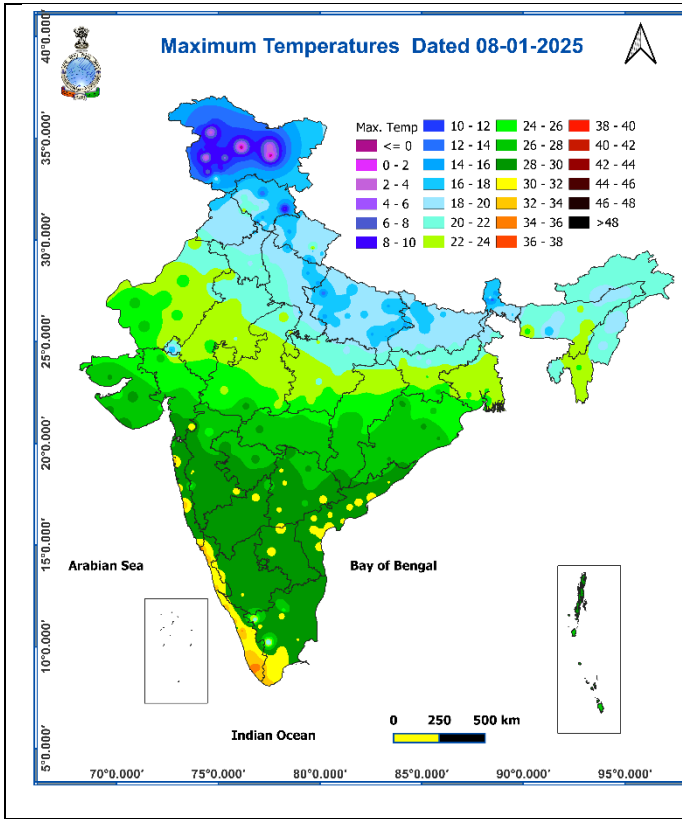
- ❖ Isolated rainfall over Madhya Pradesh, Tamil Nadu & Kerala and scattered to fairly widespread rainfall over Andaman & Nicobar Islands.
- ❖ Isolated rainfall/snowfall over higher reaches of Jammu & Kashmir.
- ❖ Mainly dry weather will prevail over rest parts of country.

Action may be taken based on **ORANGE AND RED COLOUR** warnings.

- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

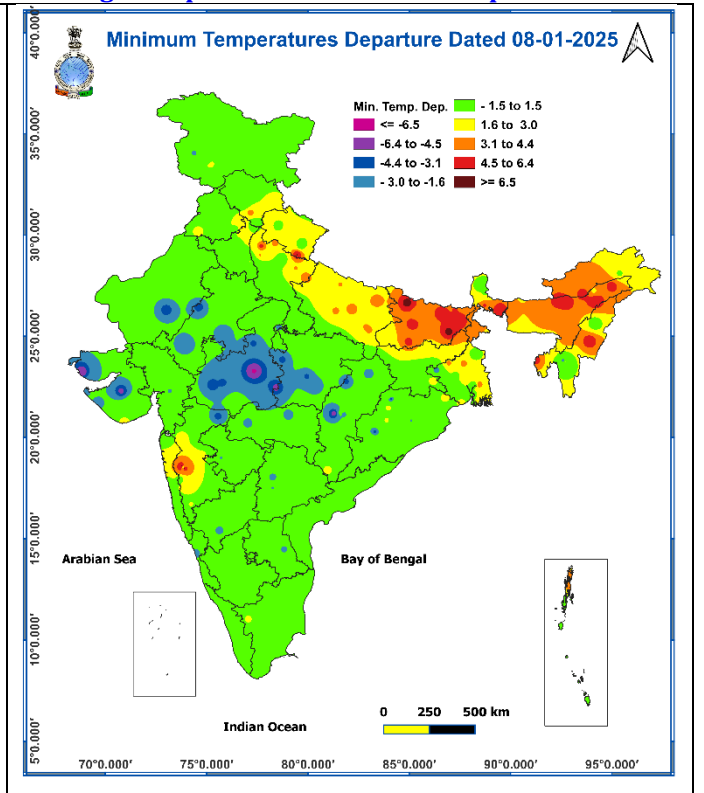
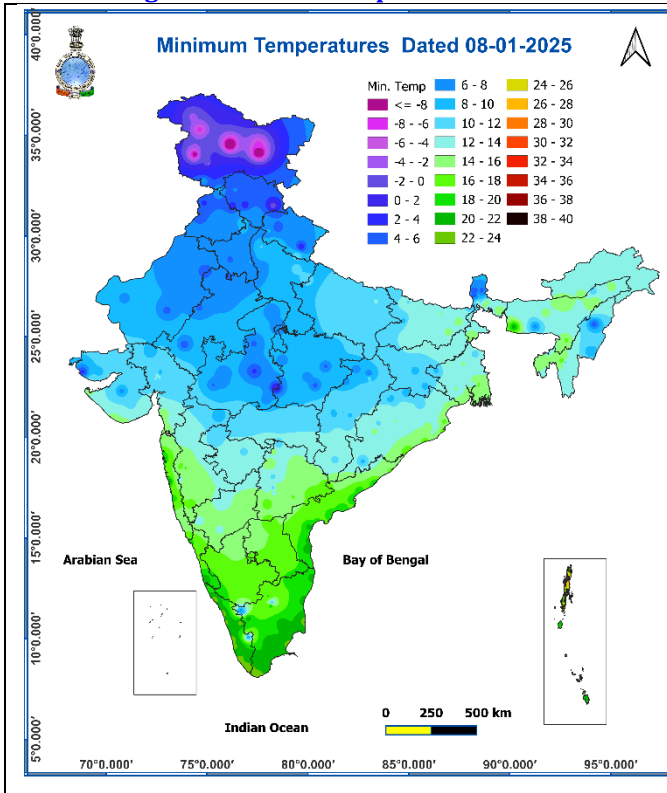
**Fig. 1: Maximum Temperatures**

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



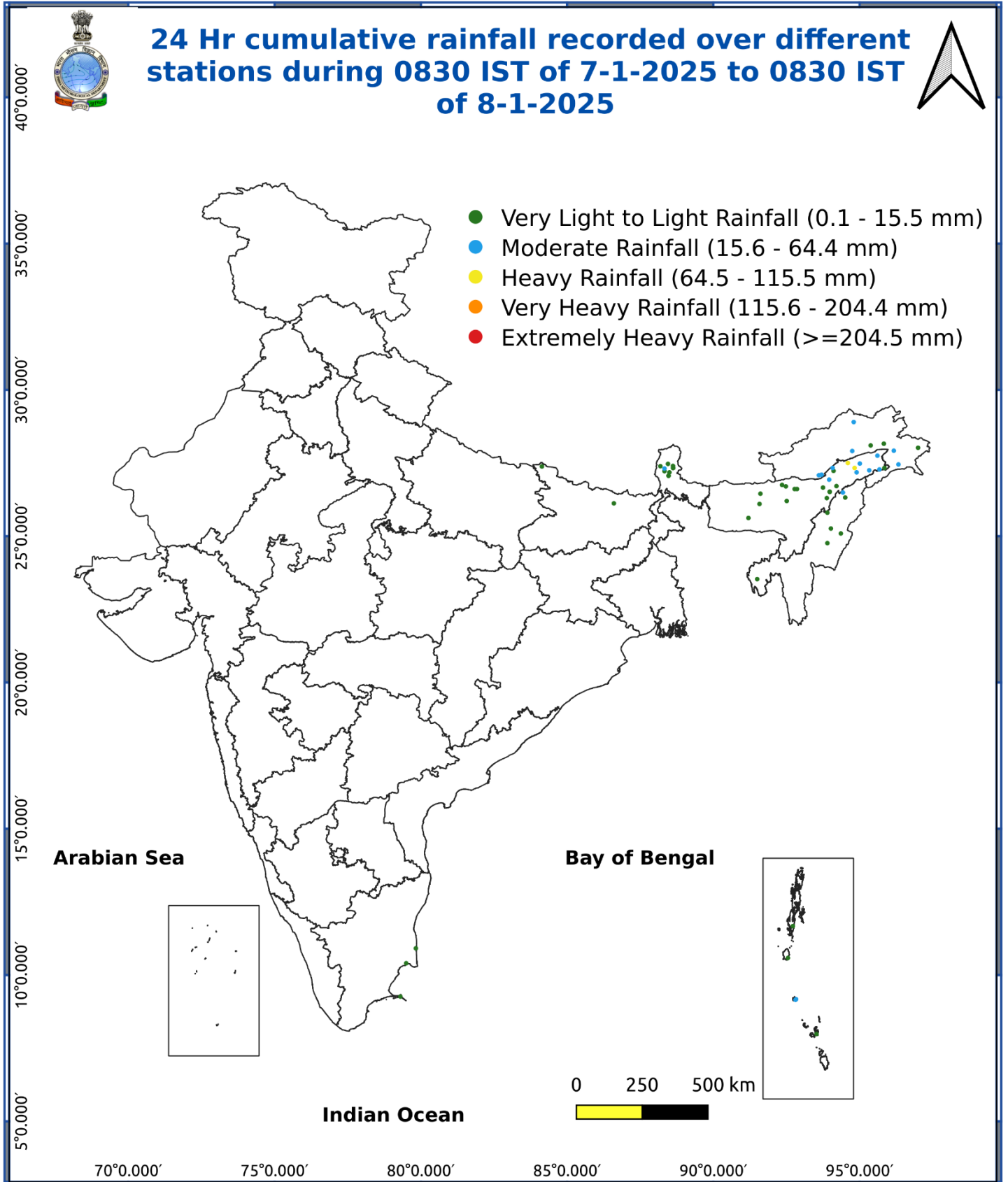
**Fig. 3: Minimum Temperatures**

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



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



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### Impact expected due to dense/very dense fog in the night /morning hour:

- ❖ Transport and Aviation:
  - May affect some airports, highways and railway routes in the areas of met- sub-division.
  - Difficult driving conditions with slower journey times.
  - Unless taken precautionary measures, it may lead to some road traffic collisions.
- ❖ Power Sector:
  - Chances of Tripping of Power lines in the very dense fog routes.
- ❖ Human Health:
  - Lung related health impacts: Dense fog contains particulate matter and other pollutants and in case exposed it gets lodged in the lungs, clogging them and decreasing their functional capacity which increases episodes of wheezing, coughing and shortness of breath.
  - Impact on people having asthma bronchitis: Long time exposure to dense fog may cause respiratory problem for people having asthma bronchitis and other lung related health problems.
  - Eye Irritation: Dense fog contains pollutions of various types and these Pollutants in the air if exposed may tend to irritate the membranes of the eye causing various infections leading to redness or swelling of the eye.

### Action suggested:

- ❖ Transport and Aviation:
  - Be careful while driving or outing through any transport.
  - Use fog lights during driving.
  - Be in touch with airlines, railways and state transport for schedule of your journey.
- ❖ Power Sector:
  - To keep ready Maintenance Team.
  - Human Health: To avoid outing until unless emergency and to cover the face.

### Impact expected due to Cold Day/Severe Cold day conditions

- ❖ An increased likelihood of various illnesses like flu, running/ stuffy nose or nosebleed, which usually set in or get aggravated due to prolonged exposure to cold.
- ❖ Do not ignore shivering. It is the first sign that the body is losing heat. Get Indoors.
- ❖ Frostbite can occur due to prolonged exposure to cold. The skin turns pale, hard and numb and eventually black blisters appear on exposed body parts such as fingers, toes, nose and or earlobes. Severe frostbite needs immediate medical attention and treatment.
- ❖ Impact on agriculture, crop, livestock, water supply, transport and power sector at some places.

### Action suggested:

- ❖ Wear several layers of loose fitting, light weight; warm woollen clothing.
- ❖ Cover your head, neck, hands and toes adequately as majority of heat loss occurs through these body parts. Wear several layers of loose fitting, light weight; warm Woolen clothing rather than one layer of heavy cloth.
- ❖ Eat vitamin-C rich fruits & vegetable and drink sufficient fluids preferably warm fluids to maintain adequate immunity.
- ❖ Avoid or limit outdoor activities.
- ❖ Keep dry, if wet, change cloths immediately to prevent loss of body heat. Wear insulated/waterproof shoes.
- ❖ Warm the affected area of the body slowly with lukewarm water; do not rub the skin vigorously.
- ❖ If the affected skin area turns black, immediately consult a doctor.
- ❖ Maintain ventilation while using Heaters to avoid inhaling toxic fumes.
- ❖ Take safety measures while using electrical and gas heating devices.
- ❖ Extreme care needed for vulnerable people.
- ❖ Seek medical attention as soon as possible for someone suffering from frostbite/ Hypothermia.
- ❖ Protect livestock from cold weather.

## Agromet advisories for likely impact of Hailstorms / Cold Wave/ Ground Frost

- Use hail nets to protect orchards and vegetable plants in **North East Assam**.
- In **Jammu & Kashmir, Himachal Pradesh, Punjab, Rajasthan** and **West Madhya Pradesh**, apply light and frequent irrigation to the standing crops in the evening to protect them from low temperature stress or cold injuries. Use mulching and cover vegetable nurseries and young fruit plants with straw/polythene sheets to maintain optimum soil temperature.
- Provide mechanical support to horticultural crops and staking to vegetables.

### Livestock

- To protect from cold, keep cattle inside the sheds during night and provide dry bedding. Also keep the chicks warm by providing artificial light in the poultry sheds.

## LEGENDS

1. अंडमान और निकोबार द्वीपसमूह
2. अरुणाचल प्रदेश
3. असम और मेघालय
4. नागालैंड, मणिपुर, मिजोरम और त्रिपुरा
5. उप-हिमालयी पश्चिम बंगाल और सिक्किम
6. गंगीय पश्चिम बंगाल
7. ओडिशा
8. झारखंड
9. बिहार
10. पूर्वी उत्तर प्रदेश
11. पश्चिम उत्तर प्रदेश
12. उत्तराखंड
13. हरियाणा, चंडीगढ़ और दिल्ली
14. पंजाब
15. हिमाचल प्रदेश
16. जम्मू और कश्मीर और लद्दाख
17. पश्चिम राजस्थान
18. पूर्वी राजस्थान
19. पश्चिम मध्य प्रदेश
20. पूर्वी मध्य प्रदेश
21. गुजरात
22. सौराष्ट्र
23. कोंकण और गोवा
24. मध्य महाराष्ट्र
25. मराठवाड़ा
26. विदर्भ
27. छत्तीसगढ़
28. तटीय आंध्र प्रदेश और यनम
29. तेलंगाना
30. रायलसीमा
31. तमिलनाडु, पुडुचेरी और कराईकल
32. तटीय कर्नाटक
33. आंतरिक उत्तरी कर्नाटक
34. आंतरिक दक्षिणी कर्नाटक
35. केरल और 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, Chandigarh & 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. Vidarbha
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)              |

- |                      |                      |              |
|----------------------|----------------------|--------------|
| Fog                  | Heavy Snow           | Cold Wave    |
| Heavy Rain           | Dust Storm           | Cold Day     |
| Very Heavy Rain      | Heat Wave            | Ground Frost |
| Extremely Heavy Rain | Warm Night           |              |
| Thunder & Lightning  | Hot Day              |              |
| Hailstorm            | Hot & Humid          |              |
| Dust Raising Winds   | Strong Surface Winds |              |

### COLOUR CODED WARNING

|                                    |
|------------------------------------|
| No Warning (No Action)             |
| Watch (Be Aware)                   |
| Alert (Be Prepared To Take Action) |
| Warning (Take Action)              |

### Probabilistic Forecast

| Terms       | Probability of Occurrence (%) |
|-------------|-------------------------------|
| Unlikely    | < 25                          |
| Likely      | 25 - 50                       |
| Very Likely | 50 - 75                       |
| Most Likely | > 75                          |

## DEFINITION/CRITERIA

|                        |   |
|------------------------|---|
| <b>Rain/ Snow *</b>    | <p><b>Heavy:</b> 64.5 to 115.5 mm/cm *</p> <p><b>Very Heavy:</b> 115.6 to 204.4 mm/cm*</p> <p><b>Extremely Heavy:</b> &gt; 204.4 mm/cm *</p>  |
| <b>Heat Wave</b>       | <p><b>When maximum temperature of a station reaches <math>\geq 40^\circ\text{C}</math> for plains and <math>\geq 30^\circ\text{C}</math> for hilly regions</b></p> <p><b>(a) Based on Departure from normal</b></p> <p><b>Heat Wave:</b> Maximum Temperature Departure from normal <math>4.5^\circ\text{C}</math> to <math>6.4^\circ\text{C}</math>.</p> <p><b>Severe Heat Wave:</b> Maximum Temperature Departure from normal <math>\geq 6.5^\circ\text{C}</math></p> <p><b>(b). Based on Actual maximum temperature</b></p> <p><b>Heat Wave:</b> When actual maximum temperature <math>\geq 45^\circ\text{C}</math>.</p> <p><b>Severe Heat Wave:</b> When actual maximum temperature <math>\geq 47^\circ\text{C}</math></p> <p><b>( c). Criteria for heat wave for coastal stations</b></p> <p>When maximum temperature departure is <math>&gt;4.5^\circ\text{C}</math> from normal. Heat Wave may be described provided maximum temperature <math>\geq 37^\circ\text{C}</math></p> |
| <b>Warm Night</b>      | <p><b>When maximum temperature remains <math>40^\circ\text{C}</math></b></p> <p><b>Warm Night:</b> When minimum temperature departure <math>4.5^\circ\text{C}</math> to <math>6.4^\circ\text{C}</math>.</p> <p><b>Severe Warm Night:</b> When minimum temperature departure <math>&gt;6.4^\circ\text{C}</math>.</p>   |
| <b>Cold Wave</b>       | <p><b>When minimum temperature of a station <math>\leq 10^\circ\text{C}</math> for plains and <math>\leq 0^\circ\text{C}</math> for hilly regions.</b></p> <p><b>(a). Based on departure</b></p> <p><b>Cold Wave:</b> Minimum Temperature Departure from normal <math>-4.5^\circ\text{C}</math> to <math>-6.4^\circ\text{C}</math>.</p> <p><b>Severe Cold Wave:</b> Minimum Temperature Departure from normal <math>\leq -6.5^\circ\text{C}</math></p> <p><b>(b) Based on actual Minimum Temperature (for Plains only)</b></p> <p><b>Cold Wave :</b> When Minimum Temperature is <math>\leq 4.0^\circ\text{C}</math></p> <p><b>Severe Cold Wave:</b> When Minimum Temperature is <math>\leq 2.0^\circ\text{C}</math></p> <p><b>( c) For Coastal Stations</b></p> <p>When Minimum Temperature departure is <math>\leq -4.5^\circ\text{C}</math> &amp; actual Minimum Temperature is <math>\leq 15^\circ\text{C}</math></p>   |
| <b>Cold Day</b>        | <p><b>When minimum temperature of a station <math>\leq 10^\circ\text{C}</math> for plains and <math>\leq 0^\circ\text{C}</math> for hilly regions</b></p> <p><b>Based on departure</b></p> <p><b>Cold Day:</b> Maximum Temperature Departure from normal <math>-4.5^\circ\text{C}</math> to <math>-6.4^\circ\text{C}</math>.</p> <p><b>Severe Cold Day:</b> Maximum Temperature Departure from normal <math>\leq -6.5^\circ\text{C}</math></p>  |
| <b>Fog</b>             | <p><b>Phenomenon of small droplets suspended in air and the horizontal visibility <math>&lt; 1\text{km}</math></b></p> <p><b>Moderate Fog:</b> When the visibility between 500-200 metres</p> <p><b>Dense Fog:</b> when the visibility between 50- 200 metres</p> <p><b>Very Dense Fog:</b> when the visibility <math>&lt; 50</math> metres</p>   |
| <b>Thunderstorm</b>    | <p><b>Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)</b></p>  |
| <b>Dust/Sand Storm</b> | <p><b>An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.</b></p>  |
| <b>Frost</b>           | <p><b>Ice deposits on ground</b></p> <p>Air temperature <math>\leq 4^\circ\text{C}</math> ( over Plains)</p>  |
| <b>Squall</b>          | <p><b>A strong wind that rises suddenly, lasts for atleast 1 minute.</b></p> <p><b>Moderate:</b> Wind speed 52-61 kmph</p> <p><b>Severe:</b> Wind speed 62-87 kmph</p> <p><b>Very Severe:</b> Wind speed <math>&gt;87</math> kmph</p>   |
| <b>Sea State</b>       | <p><b>Effect of various waves in the sea over specific area</b></p> <p><b>Rough to very rough:</b> Wind speed 41-62 kmph (22-33 knots) &amp; Wave height 2.5-6 metre</p> <p><b>High to very high:</b> Wind speed 63-117 kmph ( 34-63 knots) &amp; Wave height 6-14 metre</p> <p><b>Phenomenal:</b> Wind speed <math>&gt;117</math> kmph (<math>&gt;63</math> knots) &amp; Wave height <math>&gt;14</math> metre</p>   |
| <b>Cyclone</b>         | <p><b>Cyclonic Storm:</b> Wind speed 62-87 kmph (34-47 knots)</p> <p><b>Severe Cyclonic Storm:</b> Wind speed 88-117 kmph (48-63 knots)</p> <p><b>Very Severe Cyclonic Storm:</b> Wind speed 118-165 kmph (64 - 89 knots)</p> <p><b>Extremely Severe Cyclonic Storm:</b> Wind speed 166-220 kmph (90 -119 knots)</p> <p><b>Super Cyclone Strom:</b> Wind speed <math>&gt;220</math> kmph (<math>&gt;119</math> knots)</p>   |