

Thursday, January 23, 2025
Time of Issue: 1320 hours IST
(MID-DAY)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems, Forecast and warning (Annexure II & III):

- ❖ A Western Disturbance seen as a cyclonic circulation lies over north Pakistan & neighbourhood in lower tropospheric levels with a trough aloft in middle & upper tropospheric levels runs roughly along Long. 71°E to the north of Lat. 30°N. A cyclonic circulation lies over southwest Madhya Pradesh & neighbourhood in lower tropospheric levels. Under the influence of these systems:
 - ✓ Isolated rainfall/snowfall very likely over Western Himalayan Region and isolated rainfall likely over West Uttar Pradesh and East Rajasthan on 23rd January.
- ❖ A cyclonic circulation lies over East Bangladesh and neighbourhood in lower tropospheric levels. Under its influence,
 - ✓ Thunderstorm activity at isolated places likely over Arunachal Pradesh, northeast Assam on 23rd & 24th January.

ii. Temperature, Cold Day and Fog Forecast:

Temperature Conditions during past 24 hours till 0830 hours IST of today (Annexure IV):

- ❖ Minimum temperatures are **below 0°C** over isolated places of Jammu, Kashmir & Ladakh; **1-5°C** over some parts of Himachal Pradesh & Uttarakhand; **6-10°C** over many parts of plains of Northwest & some parts of East India; **10-18°C** in many parts of Central, West and East India. Today, the lowest minimum temperature of **6.1°C** is reported at **Amritsar (Punjab)** over the plains of the country.
- ❖ During the past 24 hours, there has been **fall in minimum temperatures by 1-3°C** in some parts of Saurashtra & Kutch; in isolated places of Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Rajasthan and **rise by 1-3°C** in most parts of Odisha; in many parts of East Madhya Pradesh, Coastal Andhra Pradesh & Yanam, Kerala & Mahe, Tamilnadu Puducherry & Karaikal; in some parts of Chhattisgarh, Uttar Pradesh, West Madhya Pradesh and in isolated places of West Bengal & Sikkim, Assam & Meghalaya, Madhya Maharashtra, Marathawada, Vidarbha, Telangana and Karnataka.

Forecast of temperature:

- ❖ Gradual fall in minimum temperatures by 2-4°C likely over Northwest India during next 3 days and no significant change thereafter.
- ❖ No significant change in minimum temperatures likely over Central India during next 24 hours and gradual fall by 2-3°C thereafter.
- ❖ No significant change in minimum temperatures likely over East India during next 48 hours and gradual fall by 2-4°C thereafter.
- ❖ No significant change in minimum temperatures likely over rest parts of the country.

Cold Wave Warnings:

Cold Wave conditions very likely in isolated pockets of Himachal Pradesh on 23rd & 24th 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 East Uttar Pradesh on 23rd January.

Dense fog conditions very likely to continue to prevail during night/early morning hours in isolated pockets of East Rajasthan, Gangetic West Bengal, Bihar, Jharkhand till 24th; Himachal Pradesh, West Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura till 25th; East Uttar Pradesh on 24th & 25th January.

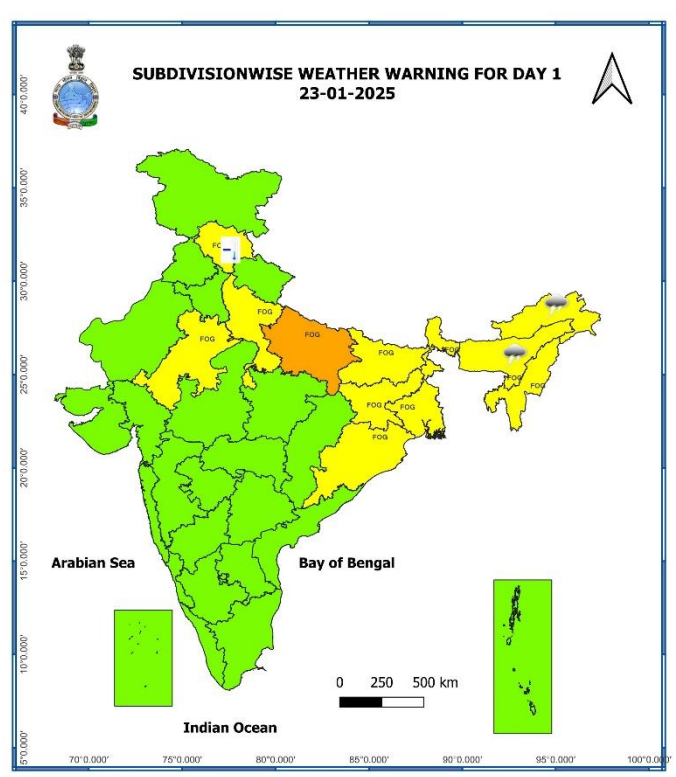
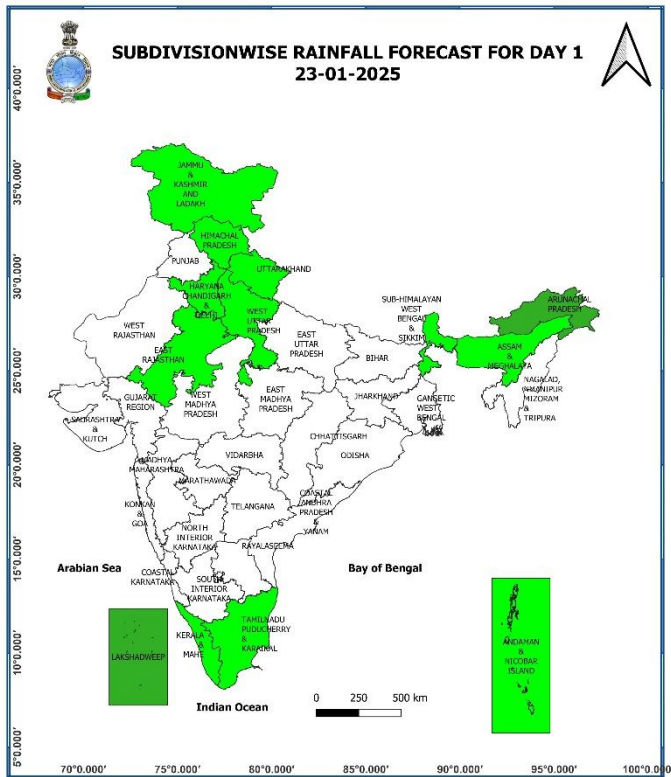
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Punjab, Haryana-Chandigarh-Delhi, West Uttar Pradesh, East Rajasthan, Arunachal Pradesh, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe.
- ❖ **Significant amount of rainfall** (from 0830 hours IST of yesterday to 0830 hours IST of today) (in cm): **Tamil Nadu Puducherry & Karaikal:** Oothu (dist Tirunelveli), Nalumukku (dist Tirunelveli) 6 each, Kakkachi (dist Tirunelveli) 5, Manjolai (dist Tirunelveli) 4, Thangachimadam (dist Ramanathapuram), Rameswaram (dist Ramanathapuram), Pamban (dist Ramanathapuram), Mandapam (dist Ramanathapuram) 2 each.
- ❖ **Fog recorded** (at 0830 hours IST of today): **Dense to very dense fog (visibility < 50 m)** reported in many parts of East Uttar Pradesh; in some parts of Bihar; in isolated pockets of West Bengal & Sikkim, Assam, Tripura and **dense fog (visibility 50-199 m)** reported in isolated pockets of Himachal Pradesh, Odisha and Meghalaya.
- ❖ **Visibility reported** (at 0830 hours IST of today) (≤ 200 m): **East Uttar Pradesh:** Bahraich, Lucknow, Sultanpur, Varanasi, Fursatganj 0 each, Ayodhya, Varanasi 50 each; **Assam:** Tezpur 0, Guwahati 200; **Tripura:** Agartala 0, Kailashahar 200; **Gangetic West Bengal:** Asansol, Kolkata 0 each, Durgapur 50; **Sub-Himalayan West Bengal & Sikkim:** Bagdogra 0; **Bihar:** Gaya 25; **Himachal Pradesh:** Bilaspur 50; **Odisha:** Balasore, Chandbali, Paradip 50 each; **Meghalaya:** Shillong 100.
- ❖ **Cold Wave conditions** observed in isolated pockets of Himachal Pradesh.
- ❖ **Ground frost conditions** recorded in isolated pockets of Himachal Pradesh.
- ❖ **Minimum Temperature Departures (as on 23-01-2025):** Minimum temperatures are **markedly above normal (5.1°C or more)** at isolated places over West Rajasthan, Madhya Maharashtra; **appreciably above normal (3.1°C to 5.0°C)** at a few places over East Rajasthan, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Arunachal Pradesh; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Himachal Pradesh, Punjab, Uttar Pradesh, Bihar, West Madhya Pradesh, Saurashtra & Kutch; **above normal (1.6°C to 3.0°C)** at most places over Haryana-Chandigarh-Delhi, Gujarat Region; at a few places over Saurashtra & Kutch, East Madhya Pradesh, Gangetic West Bengal, Nagaland, Manipur, Mizoram & Tripura; at isolated places over Jharkhand, Kerala & Mahe. These are **below normal (-1.6°C to -3.0°C)** at few places over Telangana, North Interior Karnataka; at isolated places over Coastal Andhra Pradesh & Yanam, South Interior Karnataka, Rayalaseema and near normal over rest parts of the country (**Fig. 4**). Today, the lowest minimum temperature of 6.1°C is reported at Amritsar (**Punjab**) over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 22-01-2025):** Maximum temperatures were **markedly above normal (5.1°C or more)** at most places over Himachal Pradesh; at many places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; at few places over Punjab, Uttarakhand, West Uttar Pradesh; at isolated places over East Uttar Pradesh, Haryana-Chandigarh-Delhi; **appreciably above normal (3.1°C to 5.0°C)** at most places over East Madhya Pradesh; at many places over Vidarbha, Chhattisgarh, Jharkhand; at a few places over East Rajasthan, East Madhya Pradesh, Odisha; at isolated places over West Rajasthan, Gangetic West Bengal, Arunachal Pradesh, Assam & Meghalaya, Bihar; **above normal (1.6°C to 3.0°C)** at most places over Telangana, Madhya Maharashtra, Marathwada, North Interior Karnataka; at many places over Gujarat state, Konkan & Goa; at a few places over Saurashtra & Kutch, Coastal Andhra Pradesh & Yanam; at isolated places over Coastal Karnataka, Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim. These were **below normal (-1.6°C to -3.0°C)** at isolated places over Tamil Nadu, Puducherry & Karaikal, Rayalaseema and near normal over rest parts of the country (**Fig. 2**). Yesterday, the **highest maximum temperature** of 36.4°C was reported at **Karwar (Coastal Karnataka)** over the plains of the country.

Meteorological Analysis (Based on 0830 hours IST)

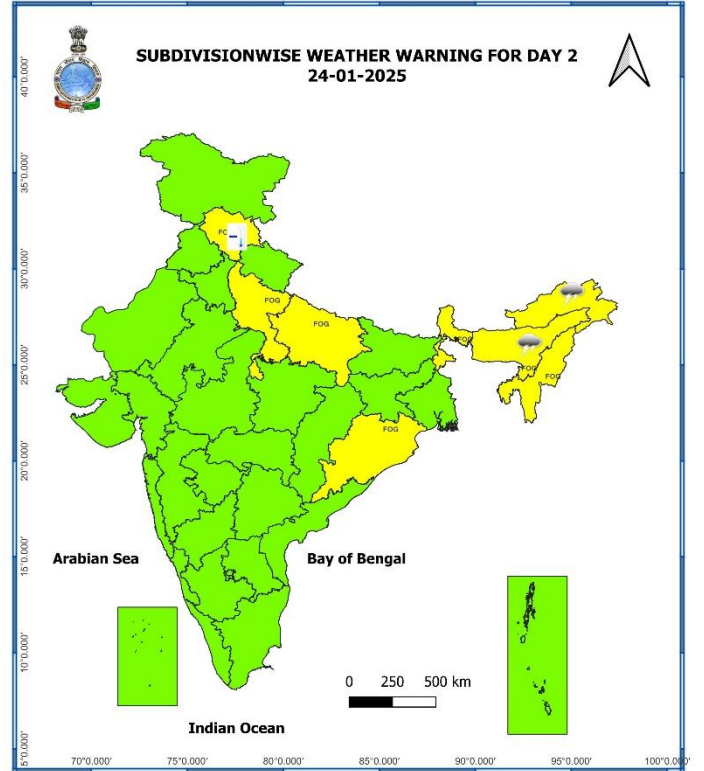
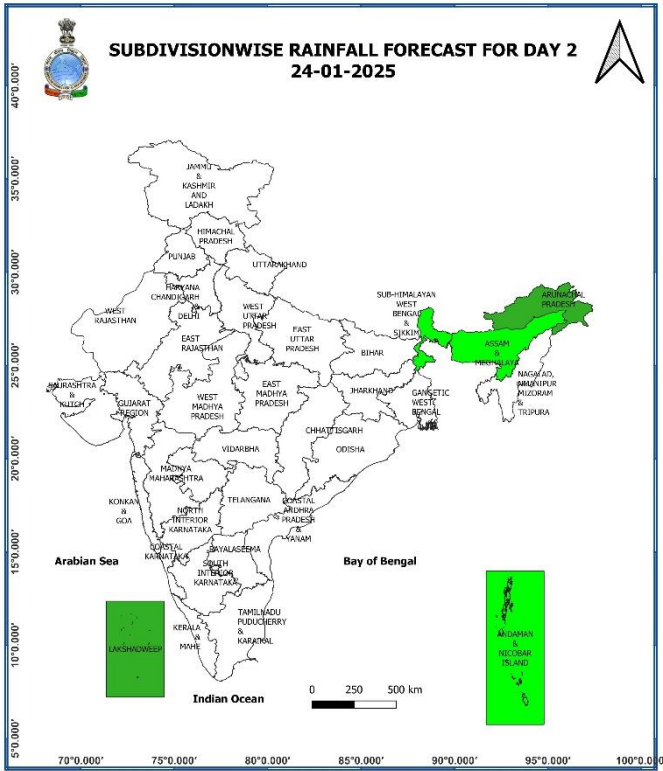
- ❖ The **Western Disturbance** now seen as a cyclonic circulation over north Pakistan & neighbourhood at 3.1 km above mean sea level with a trough aloft in middle & upper tropospheric levels with its axis at 5.8 km above mean sea level roughly along Long. 71°E to the north of Lat. 30°N.
- ❖ The **cyclonic circulation** over southeast Rajasthan now lies over southwest Madhya Pradesh & neighbourhood at 0.9 km above mean sea level.
- ❖ A **cyclonic circulation** lies over East Bangladesh and neighbourhood upto 1.5 km above mean sea level.
- ❖ A cyclonic **circulation** lies over southeast Arabian Sea off south Kerala coast at 0.9 km above mean sea level.
- ❖ Subtropical **westerly Jet Stream** with core winds of the order upto 135 knots at 12.6 km above mean sea level is prevailing over Northwest India.
- ❖ The **Western Disturbance** as a cyclonic circulation over Punjab & neighbourhood at 3.1 km above mean sea level has become less marked.
- ❖ The induced **cyclonic circulation** over Haryana & neighbourhood at 1.5 km above mean sea level has become less marked.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 30th January, 2025)



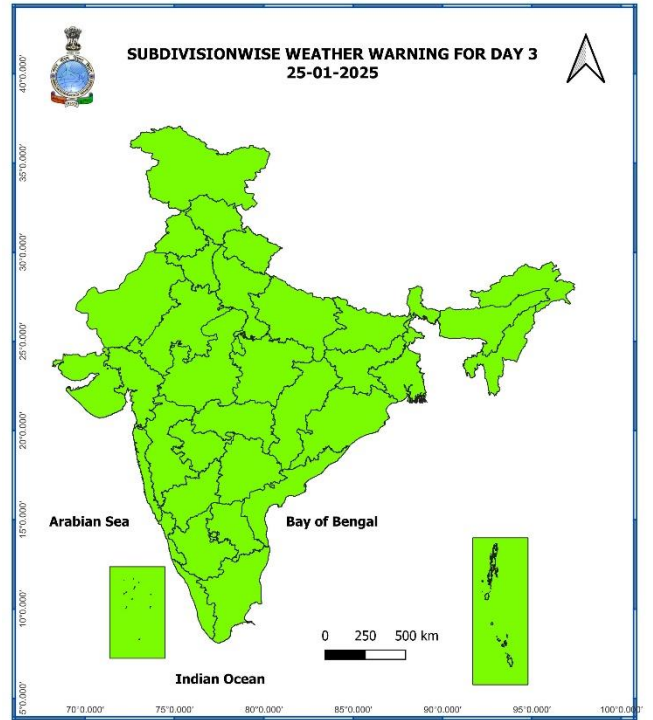
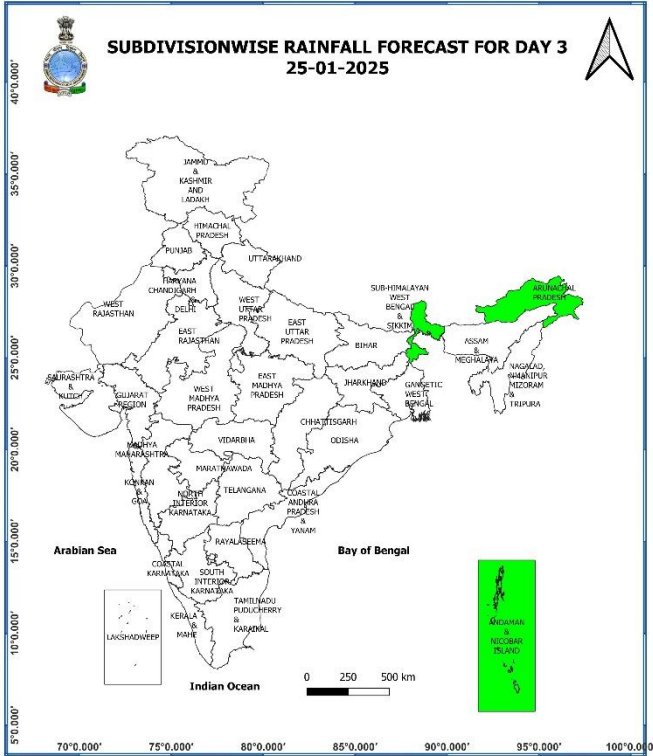
23rd January (Day 1):

- ❖ **Dense to very dense fog** conditions very likely at a few places over East Uttar Pradesh, **Dense fog** in isolated pockets of Himachal Pradesh, West Uttar Pradesh, East Rajasthan, West Bengal & Sikkim, Bihar, Jharkhand, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Cold wave** conditions very likely in isolated pockets of Himachal Pradesh.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Arunachal Pradesh, northeast Assam.



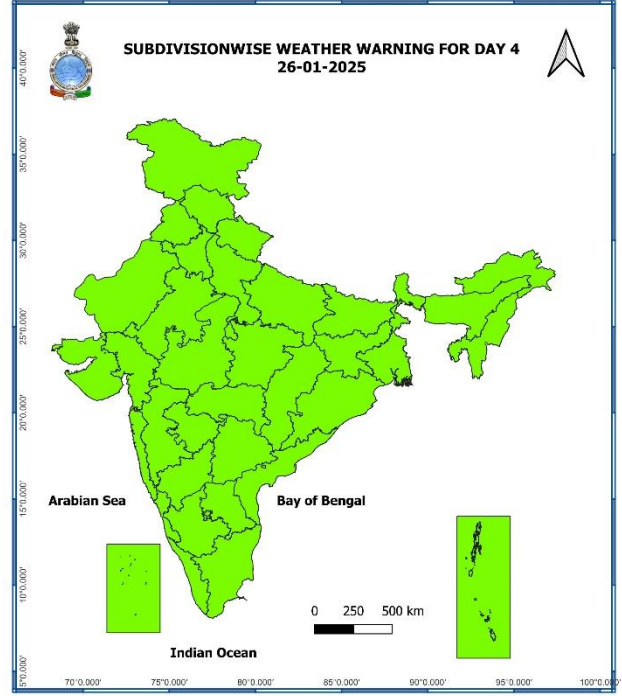
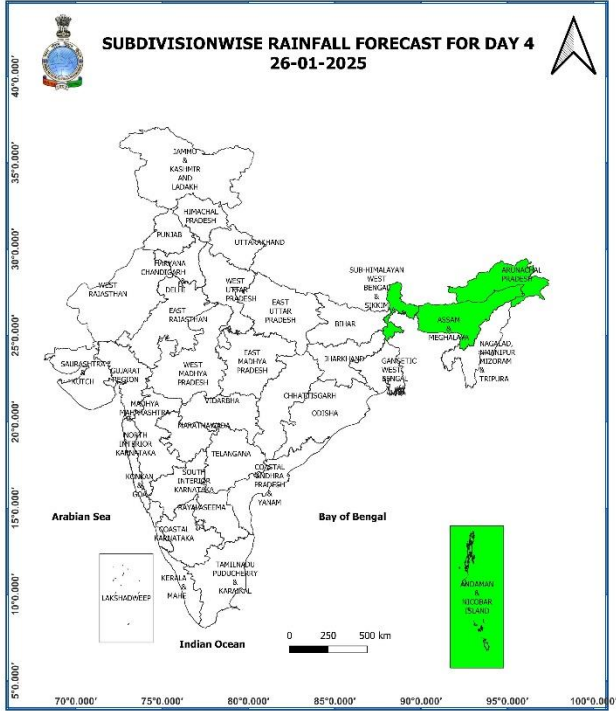
24th January (Day 2):

- ❖ **Dense fog conditions** very likely in isolated pockets of Himachal Pradesh, Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Cold wave** conditions very likely in isolated pockets of Himachal Pradesh.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Arunachal Pradesh, northeast Assam.



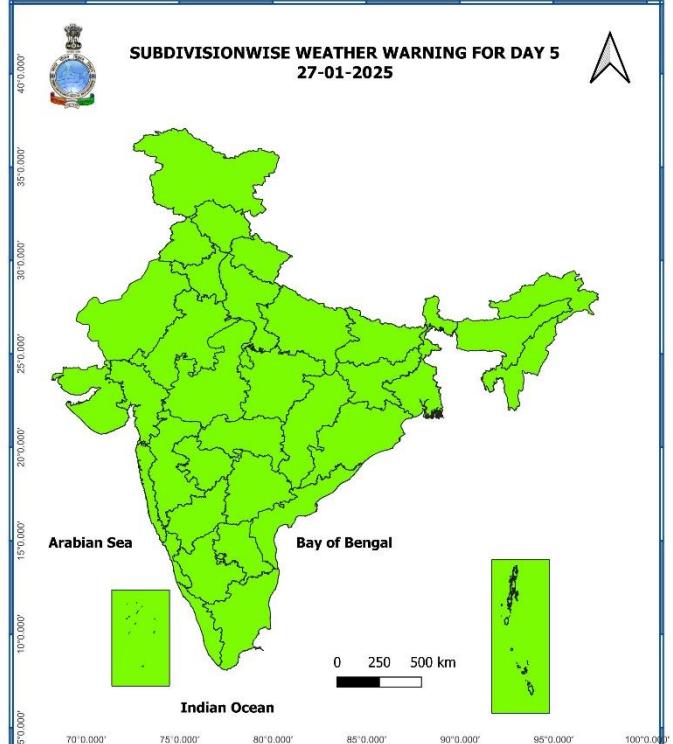
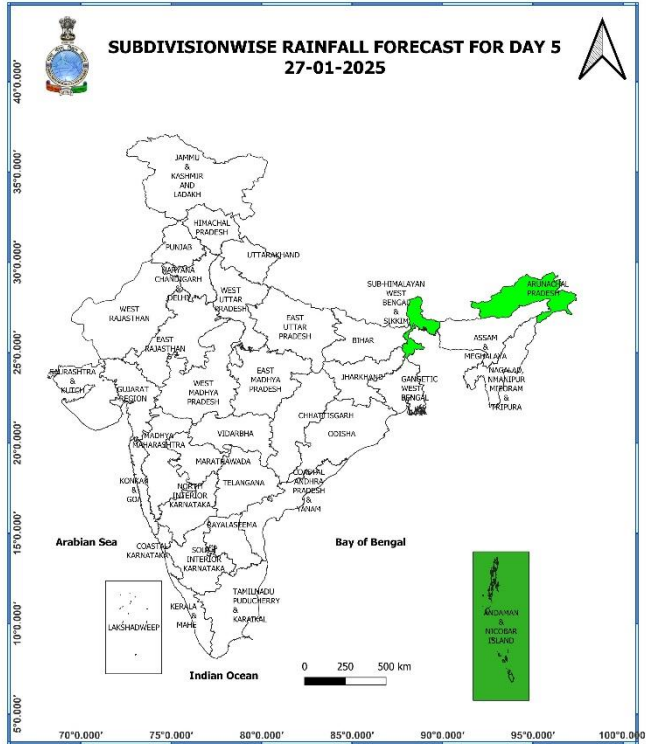
25th January (Day 3):

❖ **No Weather Warning.**



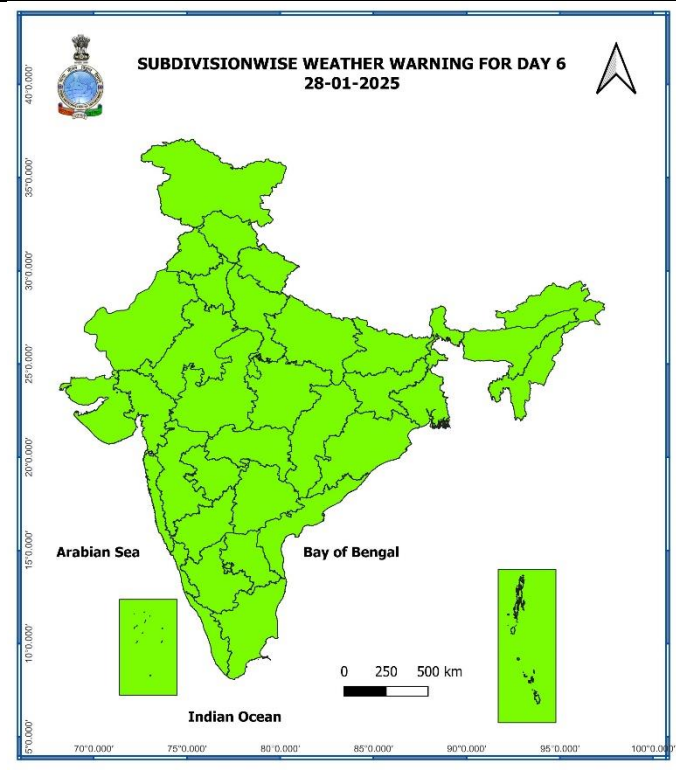
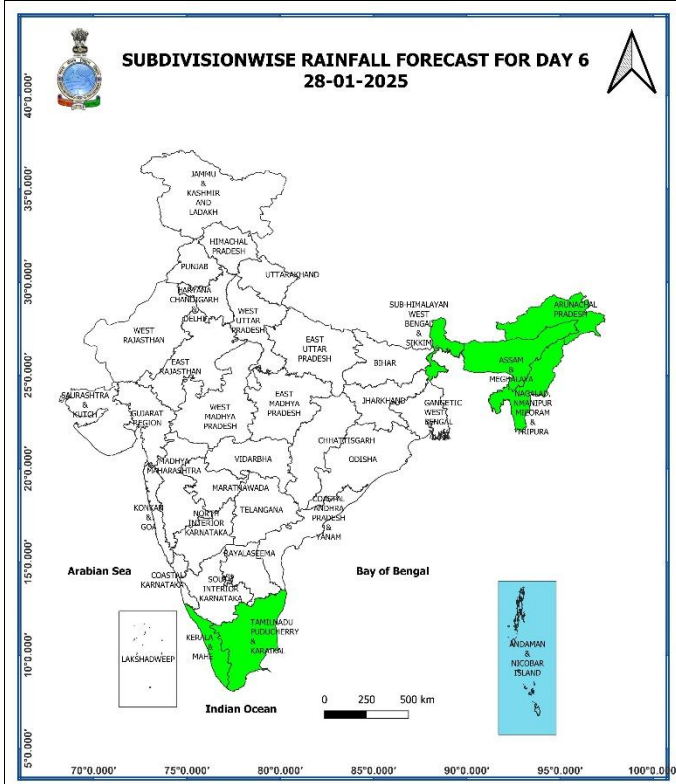
26th January (Day 4):

❖ **No Weather Warning.**



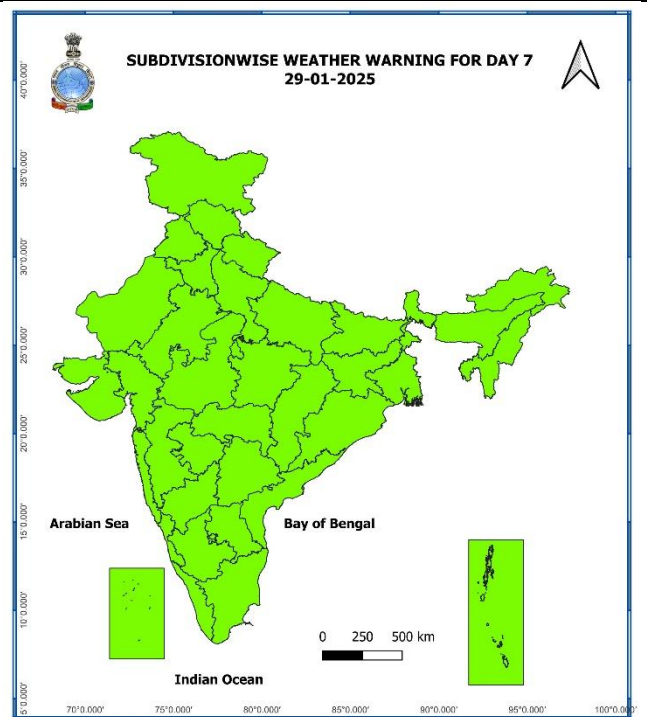
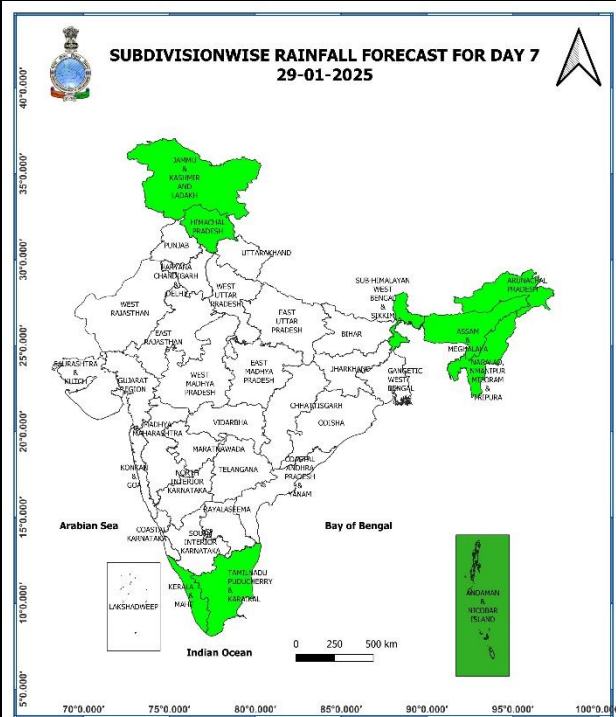
27th January (Day 5):

❖ **No Weather Warning.**



28th January (Day 6):

❖ **No Weather Warning.**



29th January (Day 7):

❖ **No Weather Warning.**

Weather Outlook for subsequent 3 days (During 30th January– 01st February, 2025)

- ❖ Isolated to scattered rainfall over Tamil Nadu & South Kerala and scattered to fairly widespread rainfall over Nicobar Islands.
- ❖ Scattered to Fairly widespread rainfall/snowfall over Arunachal Pradesh.

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

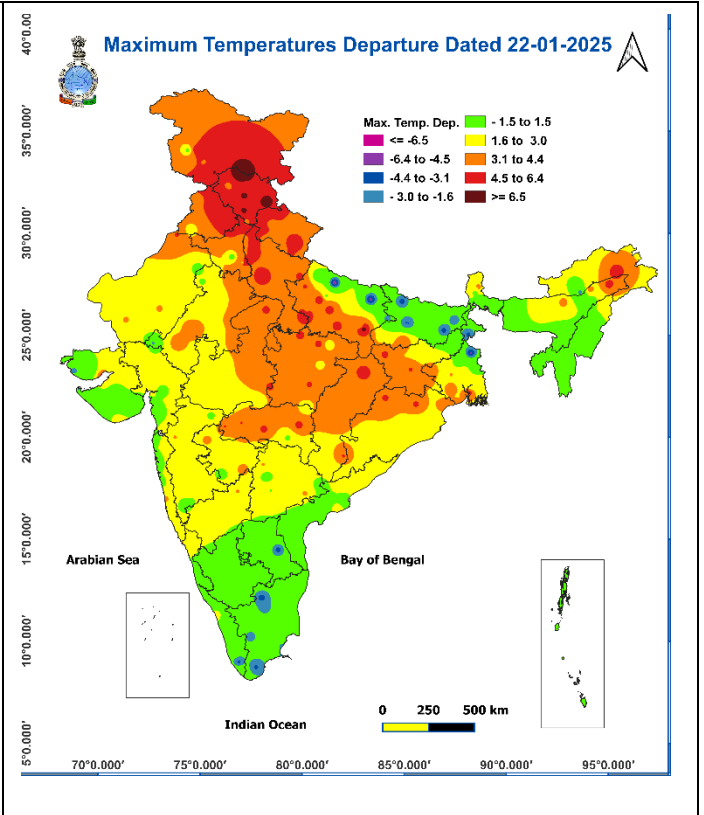
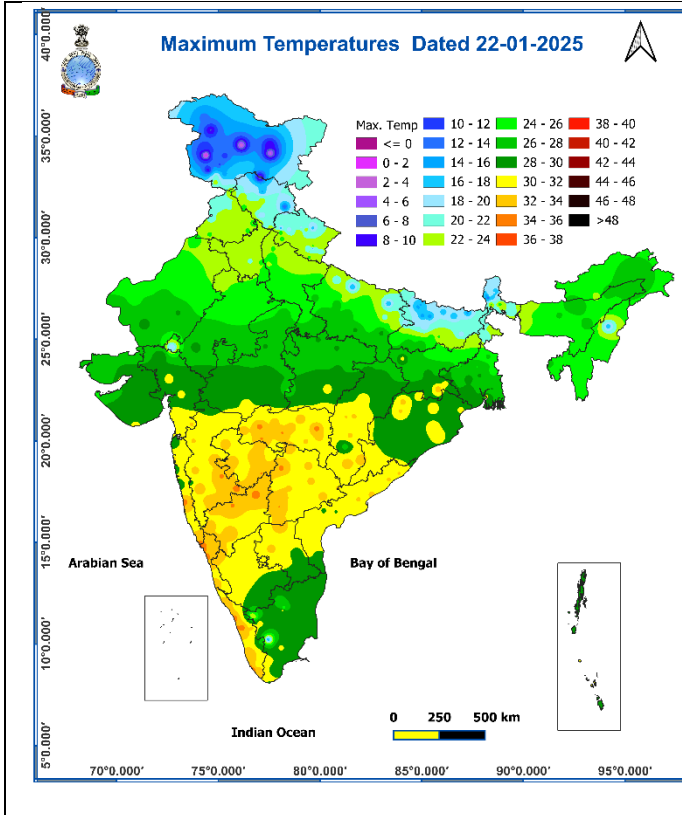
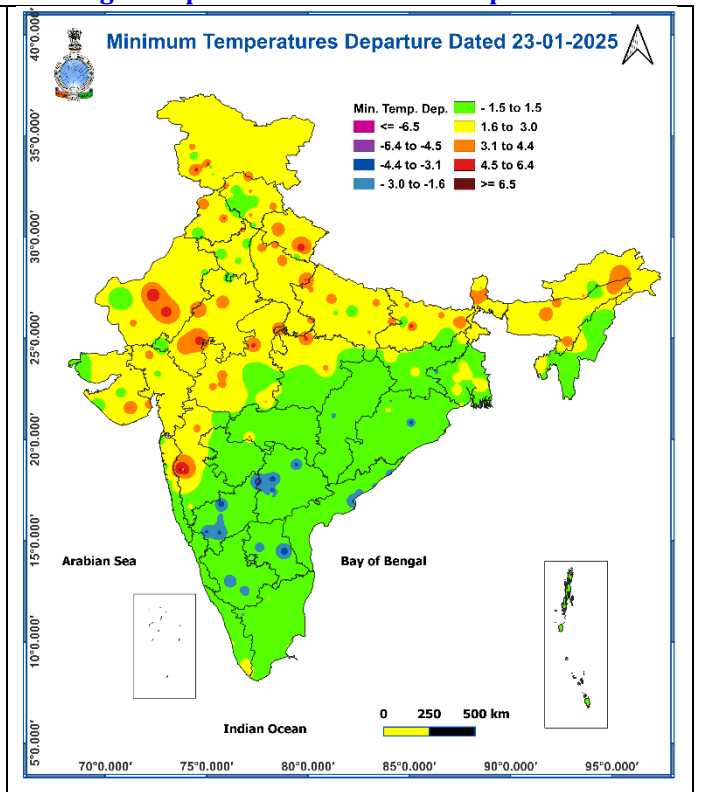
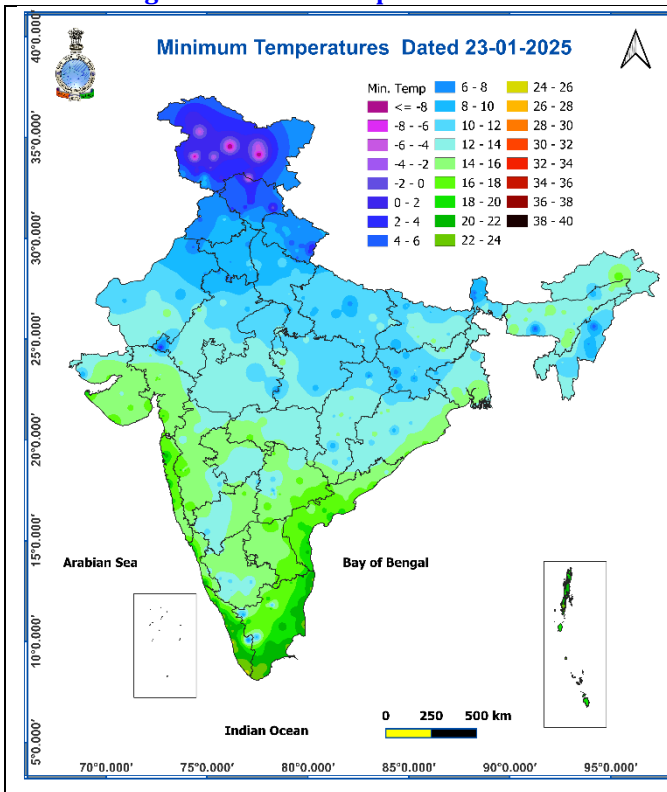


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures



Impact expected due to 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 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.

* 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)

- ❖ Seek medical attention as soon as possible for someone suffering from frostbite/ Hypothermia.
- ❖ Protect livestock from cold weather.

Agromet advisories for likely impact of Heavy Rainfall over Tamil Nadu and Kerala

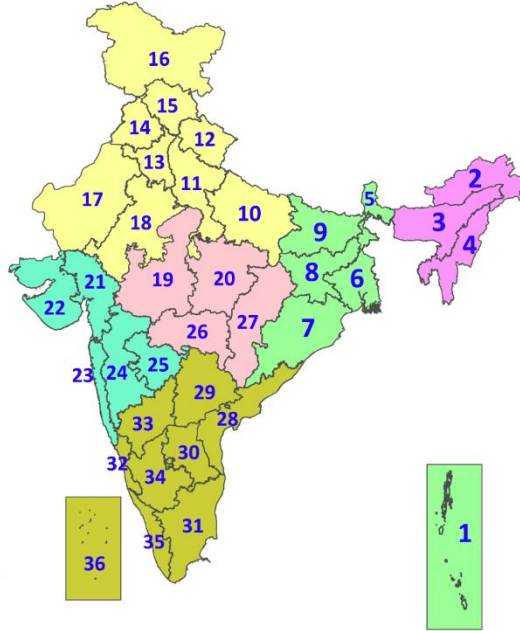
- Drain out excess water from rice, sugarcane, cotton, turmeric, vegetables, and other standing crop fields, as well as coconut and banana orchards in **Tamil Nadu** and from rice, coffee, banana, coconut, areca nut, ginger, pepper, cardamom and other standing crops in **Kerala**.
- Keep the harvested produce in safer places or cover the produce with tarpaulin sheets in the fields.
- Provide mechanical support to horticultural crops and staking to vegetables.

Livestock

- Keep the animals inside the shed during heavy rainfall period and provide them balanced feed.
- Store feed and fodder in a safe place to prevent spoilage.
- Check and disinfect poultry houses to prevent disease outbreaks due to dampness.

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

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