राष्ट्रीय मौसम पूर्वानुमान केन्द्र
भारत मौसम विज्ञान विभाग
पृथ्वी विज्ञान मंत्रालय

National Weather Forecasting Centre
India Meteorological Department
Ministry of Earth Sciences

Tuesday, December 31, 2024
Time of Issue: 0800 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems, Forecast and warning

- A Western disturbance as a trough in lower & middle tropospheric westerlies runs roughly along Long. 60°E to the north of Lat. 34°N. Another Western Disturbance likely to affect northwest India from night of 4th January. It is very likely to cause light isolated to scattered rainfall/snowfall over Western Himalayan region from 01st to 03rd and scattered to fairly widespread rainfall/snowfall on 04th & 05th January 2025.

- A **cyclonic circulation** lies over Equatorial Indian Ocean & adjoining southwest Bay of Bengal in lower tropospheric levels.

ii. Temperature, Cold Wave and Fog Forecast:

Temperature Conditions during past 24 hours till 0830 hours IST of 30.12.2024

- Minimum temperatures were **below 0°C** over many parts of Jammu, Kashmir & Ladakh; **6-12°C** over many parts of Northwest India; **12-18°C** over many parts of Central, West & East India. Today, the lowest minimum temperature of 5.3°C is reported at Chittorgarh (East Rajasthan) over the plains of the country.
- There had been a fall in minimum temperature by 1-2^{0}C over some parts of Jammu-Kashmir-Ladakh and Himachal Pradesh; by 2-5^{0}C over many parts of Madhya Pradesh, in some parts of East Rajasthan, Uttar Pradesh during past 24 hours and rise in minimum temperature by 1-3^{0}C over some parts of East India, Saurashtra Kutch and West Rajasthan.

Forecast of temperature:

- No significant change in minimum temperatures likely over Western Himalayan region during next 24 hours and gradual rise by 3-5°C thereafter.
- No significant change in minimum temperatures likely over plains of Northwest India during next 24 hours and gradual rise by 2-3°C thereafter.
- Fall in minimum temperatures by 2-3°C likely over Central & East India during next 2 days and no significant change thereafter.
- Fall in minimum temperatures by 2-4°C likely over West India (except Gujarat State) during next 4 days.
- No significant change in minimum temperatures likely over Gujarat State during next 4 days.

Cold Wave Warnings:

- **Cold wave** conditions very likely in isolated pockets of Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Himachal Pradesh on 31st December.

Cold Day Warnings:

- **Cold Day** conditions very likely in isolated pockets of Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Haryana, Chandigarh on 31st December, West Uttar Pradesh and north Madhya Pradesh on 31st December & 01st January.

Dense Fog Warnings:

- **Dense fog conditions** very likely to prevail during late night/early morning hours in isolated pockets of Odisha, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura till 31st December; Punjab, Haryana-Chandigarh 31st December & 01st January; Uttarakhand, Uttar Pradesh, Rajasthan and Sub-Himalayan West Bengal & Sikkim till 01st January; Himachal Pradesh till 02nd January.

Ground Frost Warnings:

- **Ground Frost** conditions very likely in isolated pockets of Himachal Pradesh during 31st December – 02nd January and Arunachal Pradesh on 31st December.

Main Weather Observations:

- **Rainfall distribution** (from 0830 hours to 1730 hours IST of yesterday): **at a few places** over Tamil Nadu, Puducherry & Karaikal**; at isolated places** over Andaman & Nicobar Islands

- **Fog reported** (at 0530 hours IST of today): **Dense to very dense fog** in isolated pockets of Rajasthan; **Shallow to Moderate fog** in isolated pockets of Punjab, Haryana, Uttar Pradesh, Madhya Pradesh, Bihar, Chhattisgarh, Tripura and Assam.

- **Visibility reported** (at 0530 hours IST of today) (≤ 500 m)**: Rajasthan:** Ganganagar, Jaipur & Suratgarh-0 each, Ajmer & Churu-200 each; **Bihar:** Purnea-200; Bhagalpur -500; **Madhya Pradesh:** Guna-200, Gwalior, Sagar & Jabalpur-500 each; **Punjab:** Amritsar & Patiala -500 each; **Haryana:** Hissar & Sirsa-500 each; **Uttar Pradesh:** Jhansi, Agra, Kanpur & Lucknow-500 each; **Chhattisgarh:** Pendra Road -500; **Tripura:** Agartala & Kailashahar -500 each; **Assam:** Dhubri-500.

- Yesterday, **Cold day to severe cold day conditions** observed in isolated pockets of Haryana-Chandigarh-Delhi and northwest Rajasthan; **cold day conditions** observed in many parts of Punjab; in isolated pockets of West Uttar Pradesh.

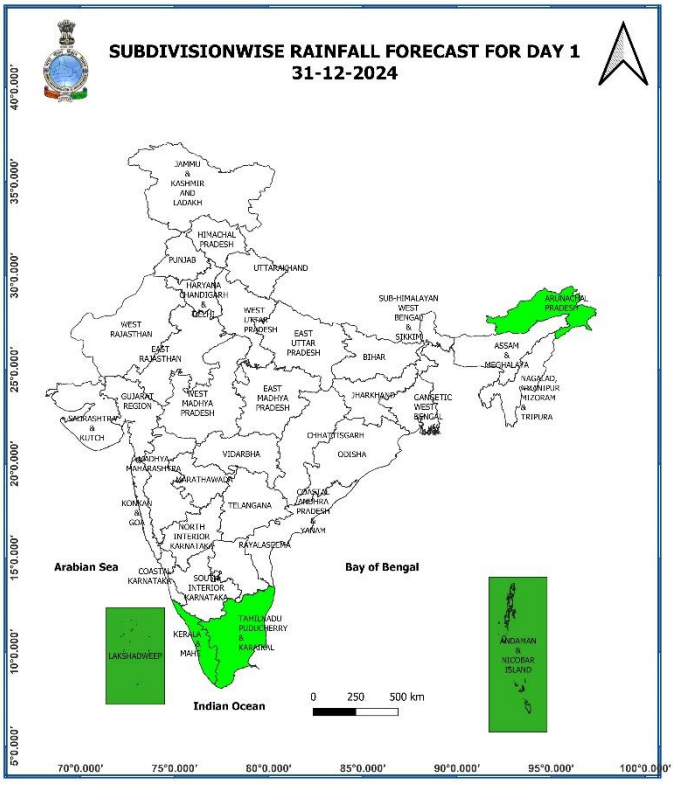
- **Minimum Temperature Departures (as on 30-12-2024):** Minimum temperatures were **markedly above normal (5.1°C or more)** at most places over Jharkhand, Bihar; at many places over East Uttar Pradesh; at isolated places over Gangetic West Bengal, East Madhya Pradesh, Chhattisgarh, Odisha, Marathwada, Madhya Maharashtra, Vidarbha, Uttarakhand; **appreciably above normal (3.1°C to 5.0°C)** at many places over West Uttar Pradesh; at a few places over Haryana; at isolated places over West Madhya Pradesh, Telangana, North Interior Karnataka, Tamil Nadu, Puducherry & Karaikal, Konkan & Goa, Andaman & Nicobar Islands; **above normal (1.6°C to 3.0°C)** at most places over Nagaland, Manipur, Mizoram & Tripura, Kerala & Mahe, Coastal Karnataka; many places over Sikkim, Assam & Meghalaya, Arunachal Pradesh; at a few places over Coastal Andhra Pradesh & Yanam, Rayalaseema, South Interior Karnataka, Gujarat state; These were **below normal (-1.6°C to -3.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Rajasthan and near normal over rest part of the country. Yesterday, the **lowest minimum temperature** of **5.3°C** was reported at **Chittorgarh (East Rajasthan)** over the plains of the country (Fig. 4).

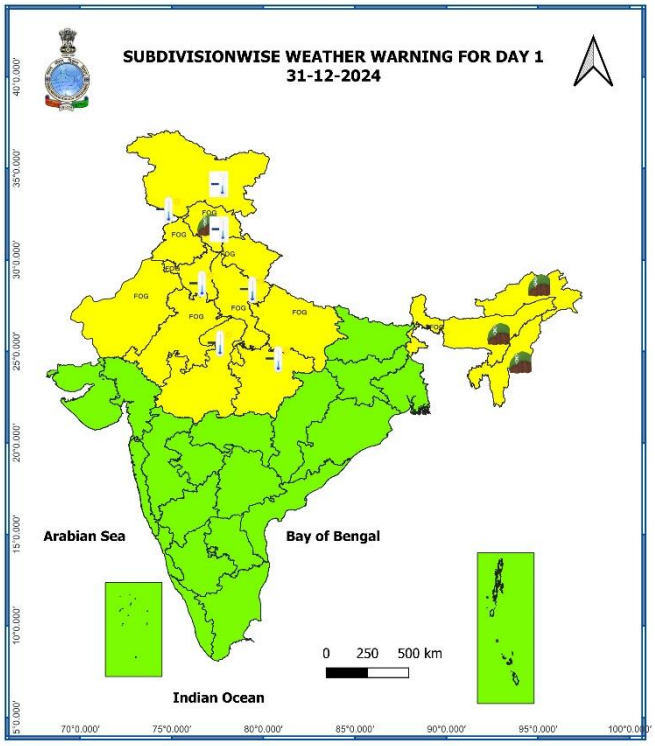
- **Maximum Temperature Departures (as on 30-12-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Gangetic West Bengal, Assam & Meghalaya and Telangana; **above normal (1.6°C to 3.0°C)** at a few places over Vidarbha, Konkan & Goa and Coastal Andhra Pradesh & Yanam; at isolated places over Madhya Maharashtra, Chhattisgarh, Odisha, Nagaland, Manipur, Mizoram & Tripura, Telangana, Kerala & Mahe, Lakshadweep and Tamil Nadu, Puducherry & Karaikal. These were **markedly below normal (-5.1° C or less)** at a few places over Jammu-Kashmir-Ladakh Gilgit-Baltistan-Muzaffarabad, Haryana-Chandigarh-Delhi, Rajasthan; at isolated places over Haryana-Chandigarh-Delhi, Uttar Pradesh, West Rajasthan and East Madhya Pradesh; **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over East Rajasthan and West Madhya Pradesh; **below normal (-1.6°C to -3.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Bihar and near normal over rest part of the country. Yesterday, **the highest maximum temperature of 36.0°C** was reported at **Karwar (Coastal Karnataka)** & **Kannur Airport (Kerala)** over the plains of the country (Fig. 2).

Meteorological Analysis (Based on 0530 hours IST)

- The **Western disturbance** as a trough in lower & middle tropospheric westerlies with its axis at 3.1 km above mean sea level roughly along Long. 60°E to the north of Lat. 34°N persists.
- The **cyclonic circulation** over Northeast Bihar & neighbourhood at 1.5 km above mean sea level persists.
- The **cyclonic circulation** over Northeast Assam & neighbourhood extending upto 1.5 km above mean sea level persists.
- The **cyclonic circulation** over central parts of south Bay of Bengal & adjoining Equatorial Indian Ocean now lies over Equatorial Indian Ocean & adjoining southwest Bay of Bengal and extends upto 1.5 km above mean sea level.
- A **fresh western disturbance in quick succession** is likely to affect Northwest India from 4th January, 2025.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 07th January, 2025)





31st December (Day 1):

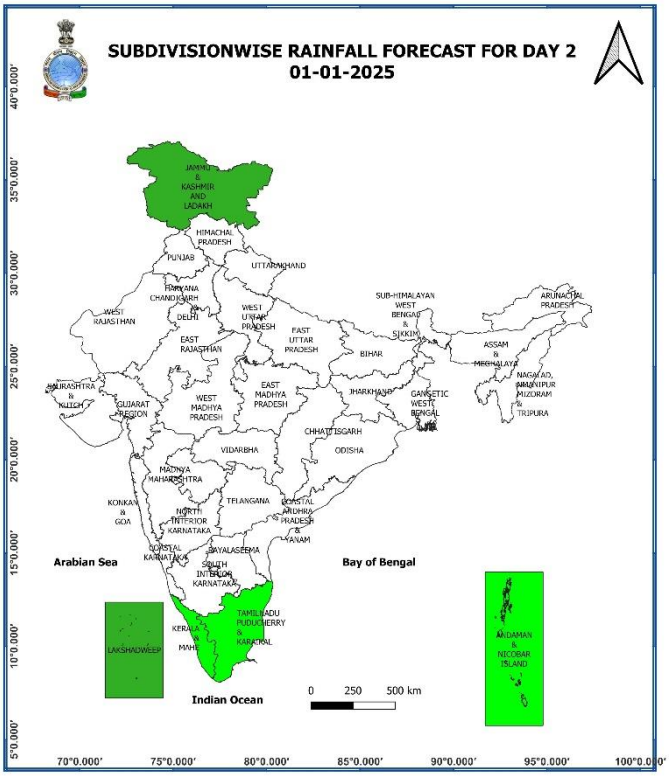
- **Dense fog** likely in isolated pockets of Sub-Himalayan West Bengal & Sikkim, Uttar Pradesh, Uttarakhand, Haryana-Chandigarh-Delhi, Himachal Pradesh, Rajasthan, East Uttar Pradesh and Punjab in night/morning hours.

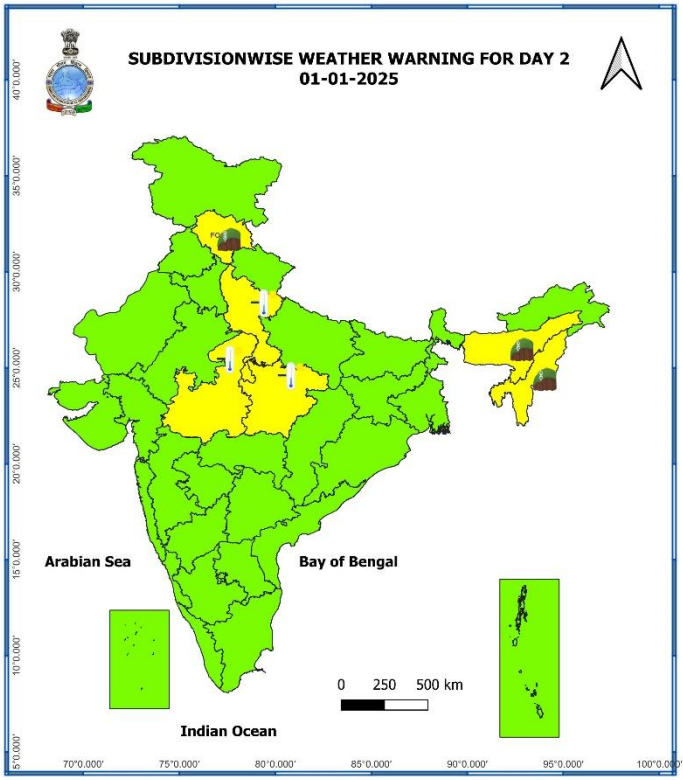
- **Cold wave conditions** in isolated pockets of Himachal Pradesh, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad.

- **Cold day conditions** very likely in isolated pockets of West Uttar Pradesh and Haryana-Chandigarh, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Madhya Pradesh.

- **Ground Frost** likely at places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Himachal Pradesh.

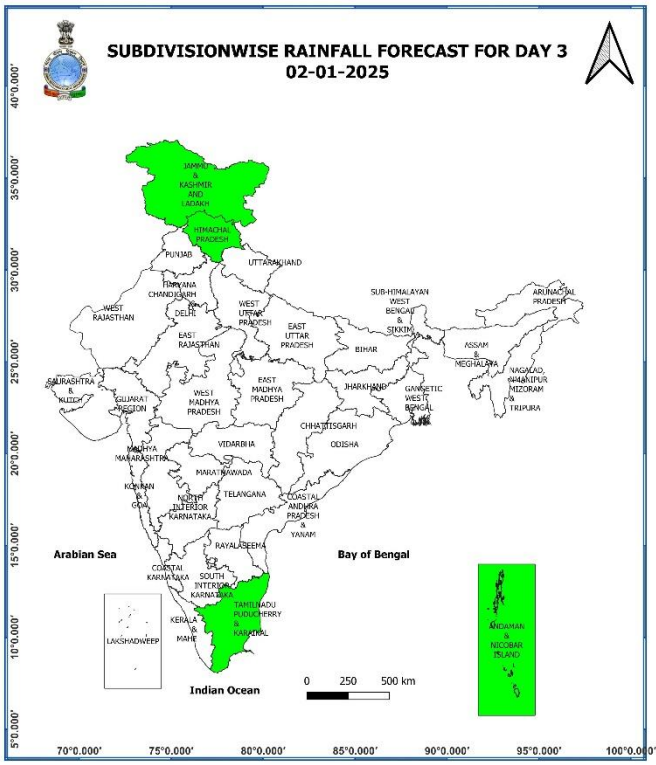
Squally weather with wind (speed 35 kmph to 45 kmph gusting to 55 kmph) very likely to prevail Gulf of Mannar and adjoining Comorin area, over many parts of southwest Bay of Bengal and adjoining parts of southeast Bay of Bengal, along and off Sri Lanka coast. Fisherman are advised not to venture in to these areas.

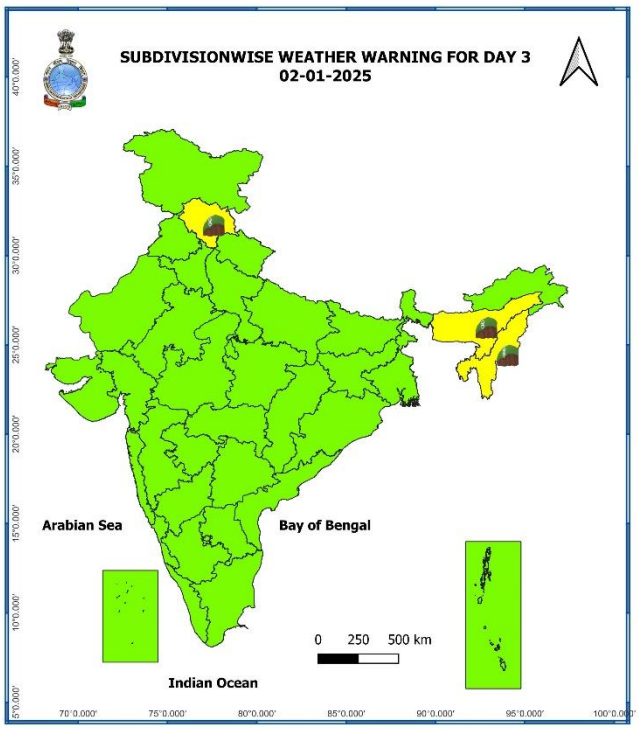




01st January (Day 2):

- **Dense fog** likely in isolated pockets of Himachal Pradesh in night/morning hours.
- **Cold Day** very likely at isolated places over West Uttar Pradesh, Madhya Pradesh.
- **Ground Frost** likely at places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.
- **Squally weather with wind** (speed 35 kmph to 45 kmph gusting to 55 kmph) likely to prevail over Gulf of Mannar and Comorin area and adjoining Maldives area, along and off Sri Lanka coast and adjoining southwest Bay of Bengal. Fisherman are advised not to venture in to these areas.

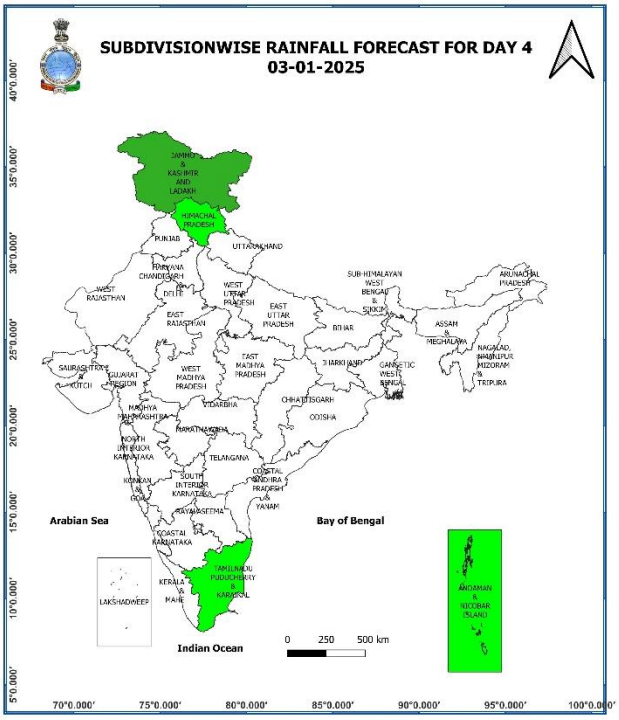


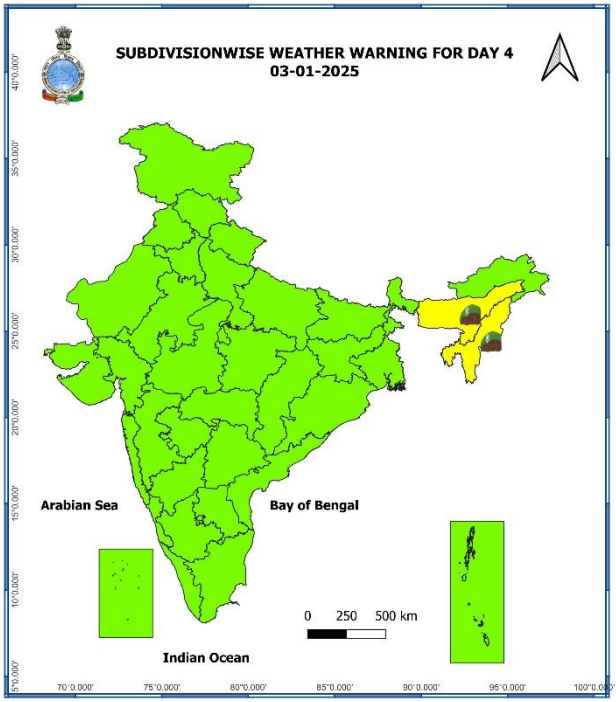


02nd January (Day 3):

- **Ground Frost** likely at places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Himachal Pradesh

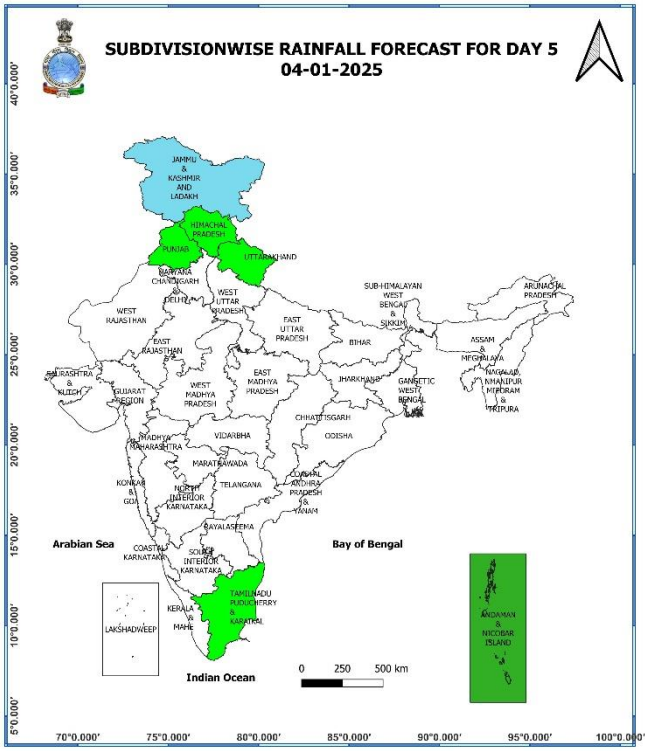
Squally weather with wind (speed 35 kmph to 45 kmph gusting to 55 kmph) likely to prevail over Gulf of Mannar, Comorin area and Maldives area. Fisherman are advised not to venture in to these areas.

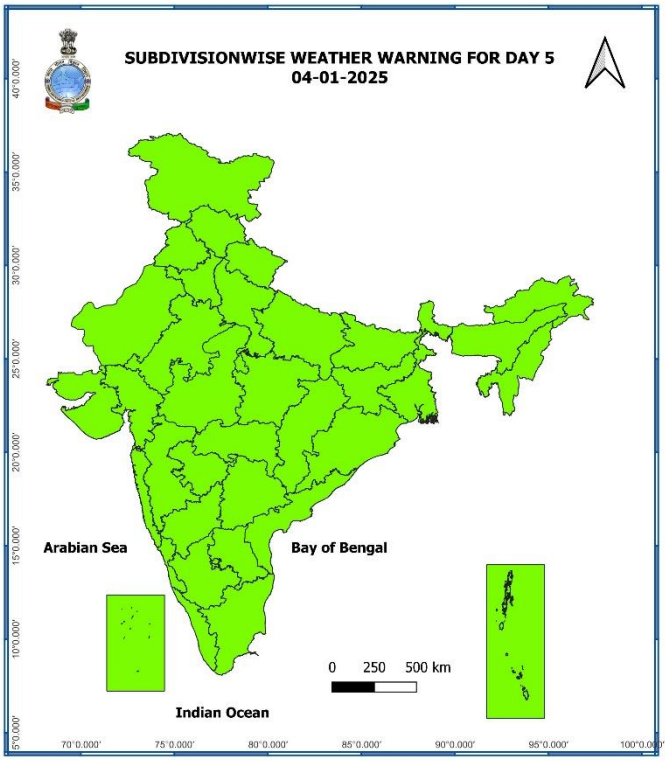




03rd January (Day 4):

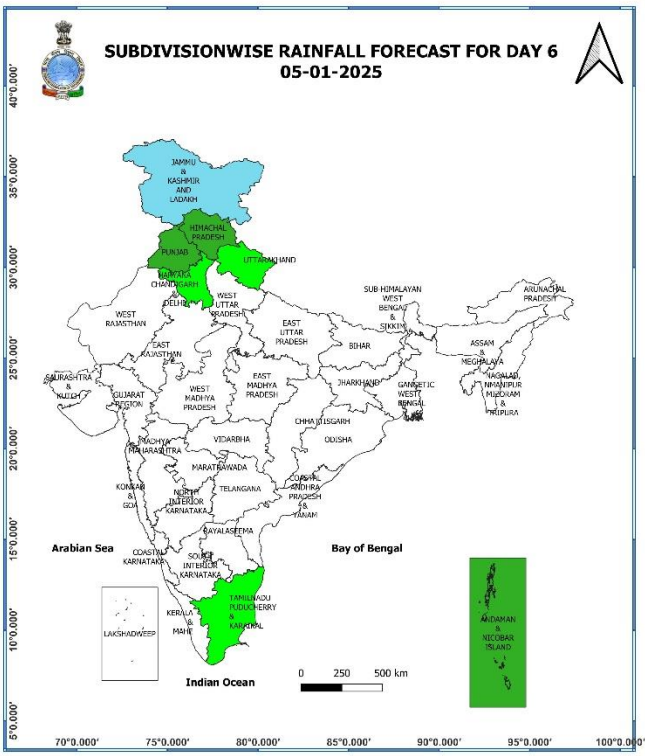
- **Ground Frost** likely at places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.
- **Squally weather with wind** (speed 35 kmph to 45 kmph gusting to 55 kmph) likely to prevail over Gulf of Mannar, Comorin area and Maldives area, over southern parts of southeast Arabian sea. Fisherman are advised not to venture in to these areas.

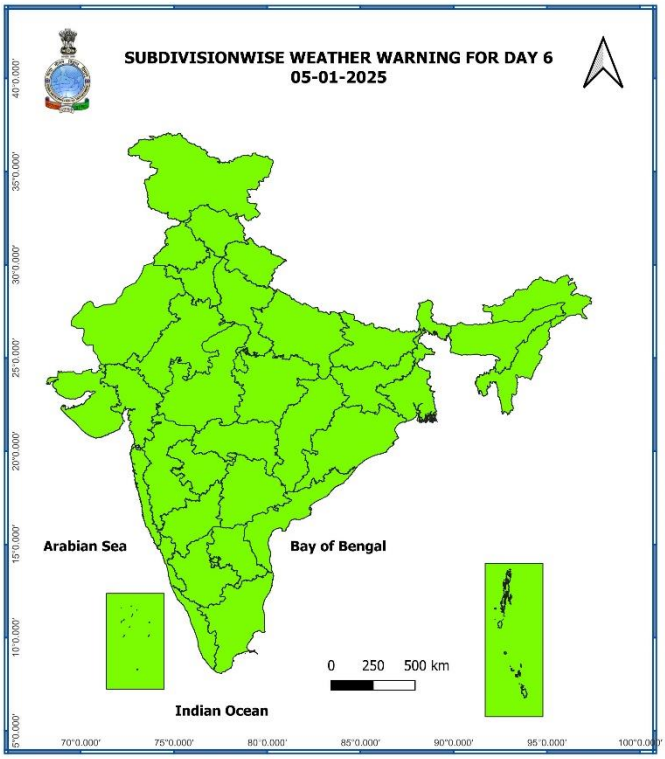




04th January (Day 5):

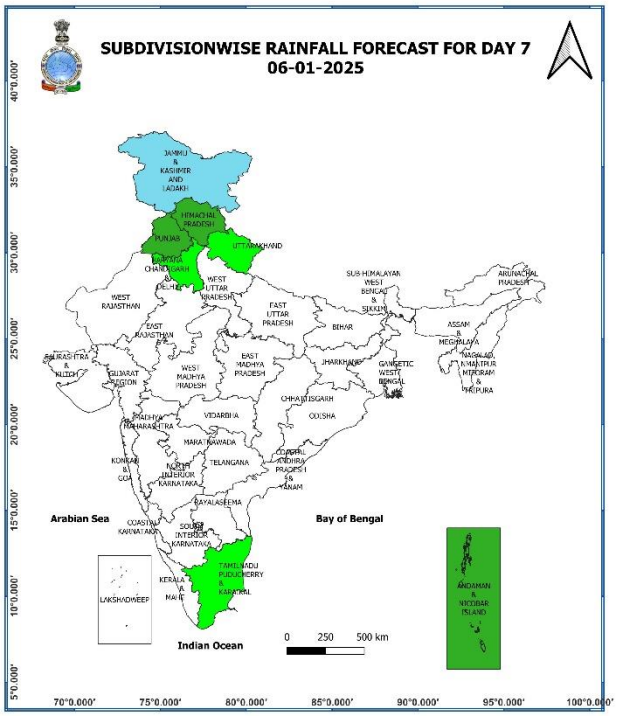
- **No Weather Warning.**

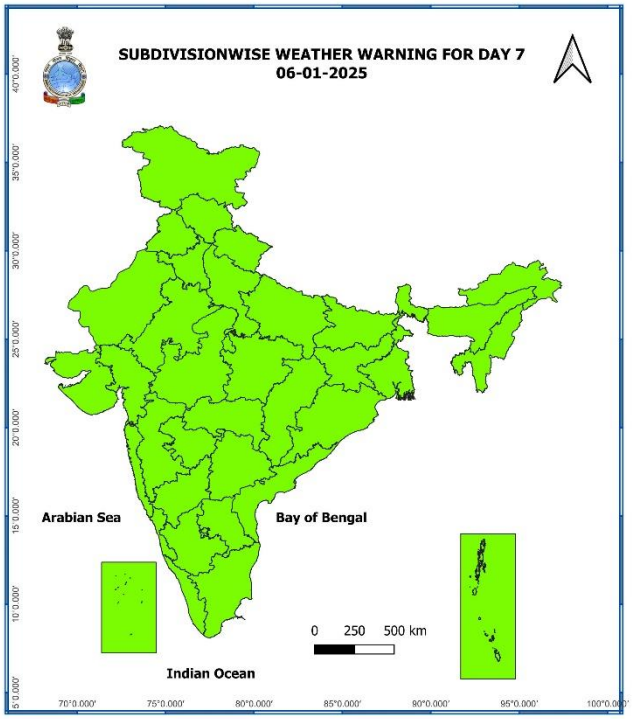




05th January (Day 6):

- **No Weather Warning.**





06th January (Day 7):

- **No Weather Warning.**

Weather Outlook for subsequent 3 days (During 07th January– 09th January, 2025)

- Isolated to scattered light to moderate rainfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Andaman & Nicobar Islands.
- 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.**

Impact expected due to cold wave/severe cold wave 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 woollen 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.

Fig. 1: Maximum Temperatures

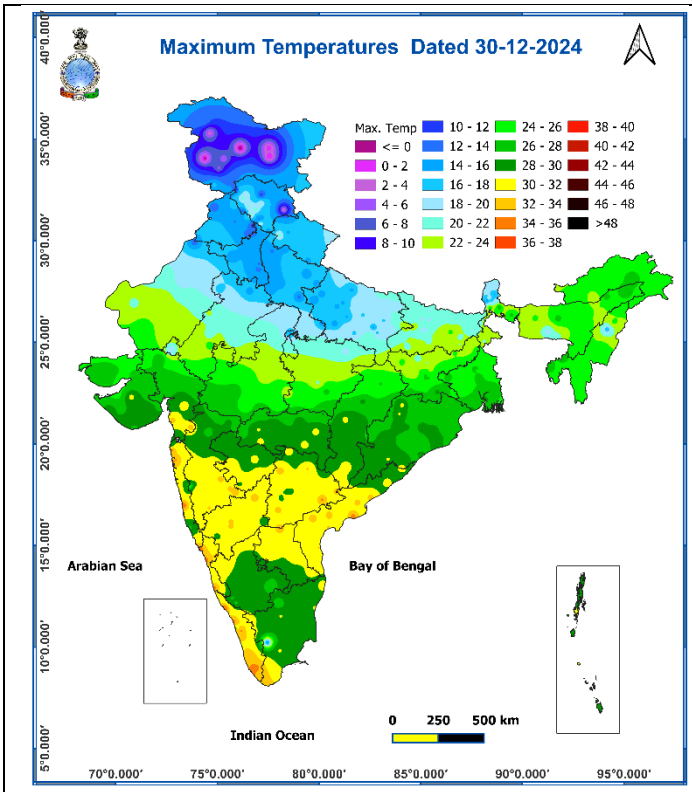


Fig. 2: Departure of Maximum Temperatures

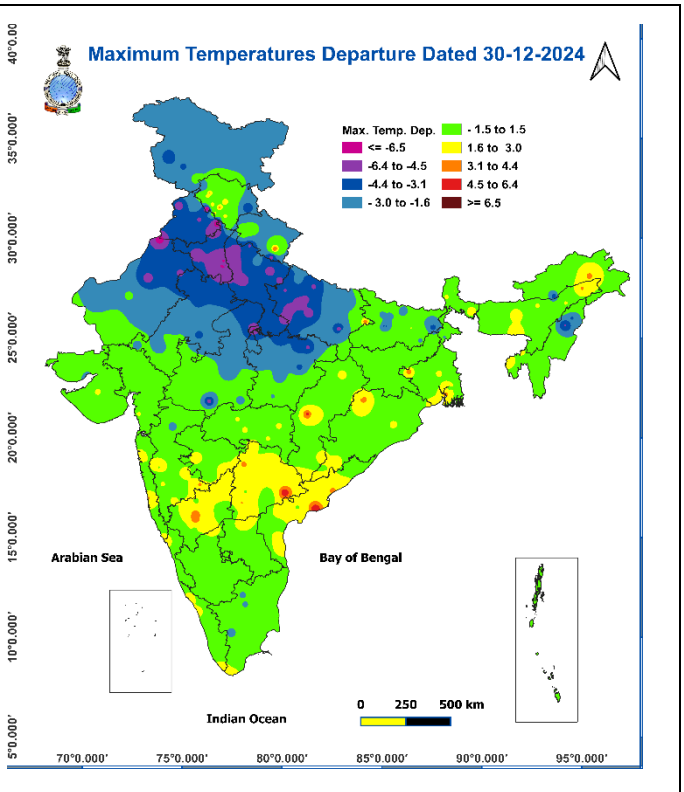


Fig. 3: Minimum Temperatures

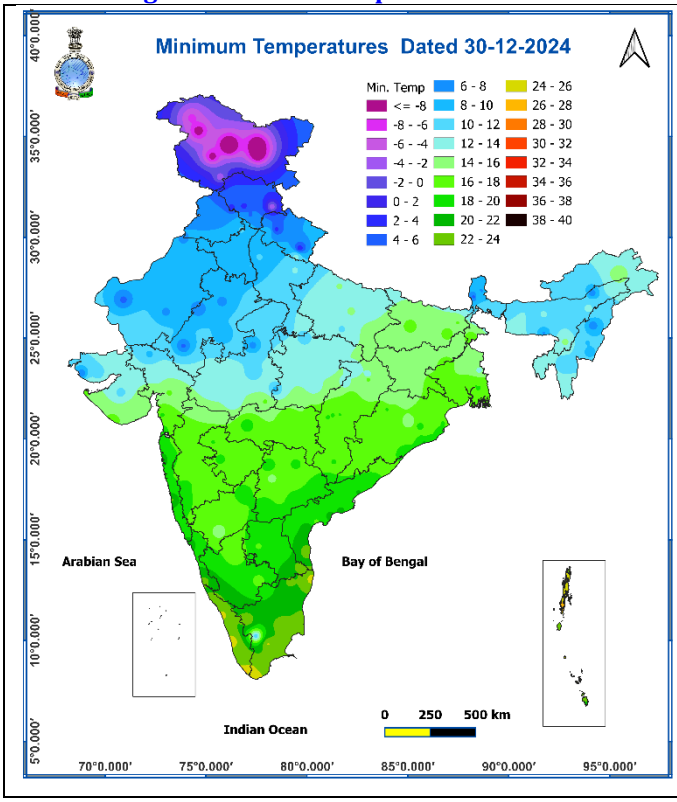
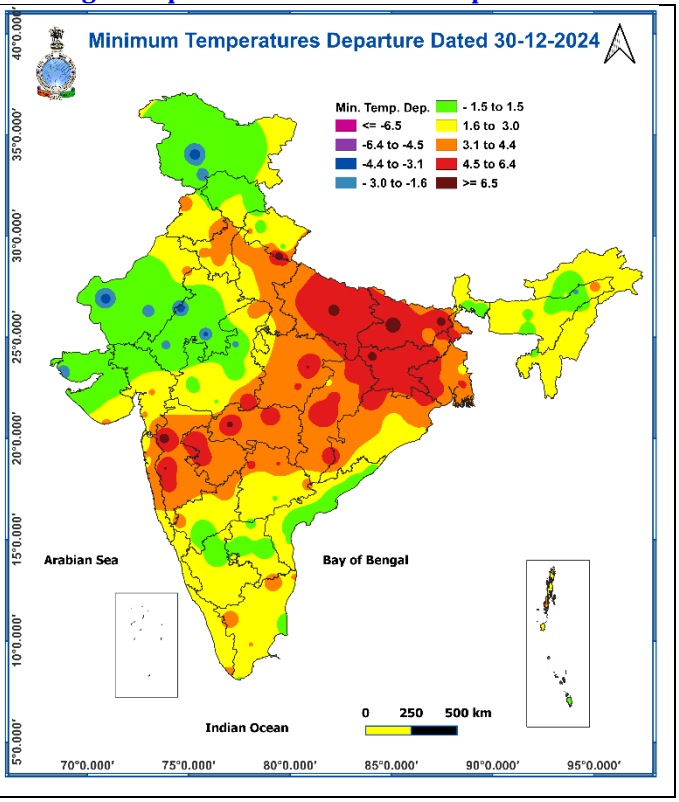


Fig. 4: Departure of Minimum Temperatures



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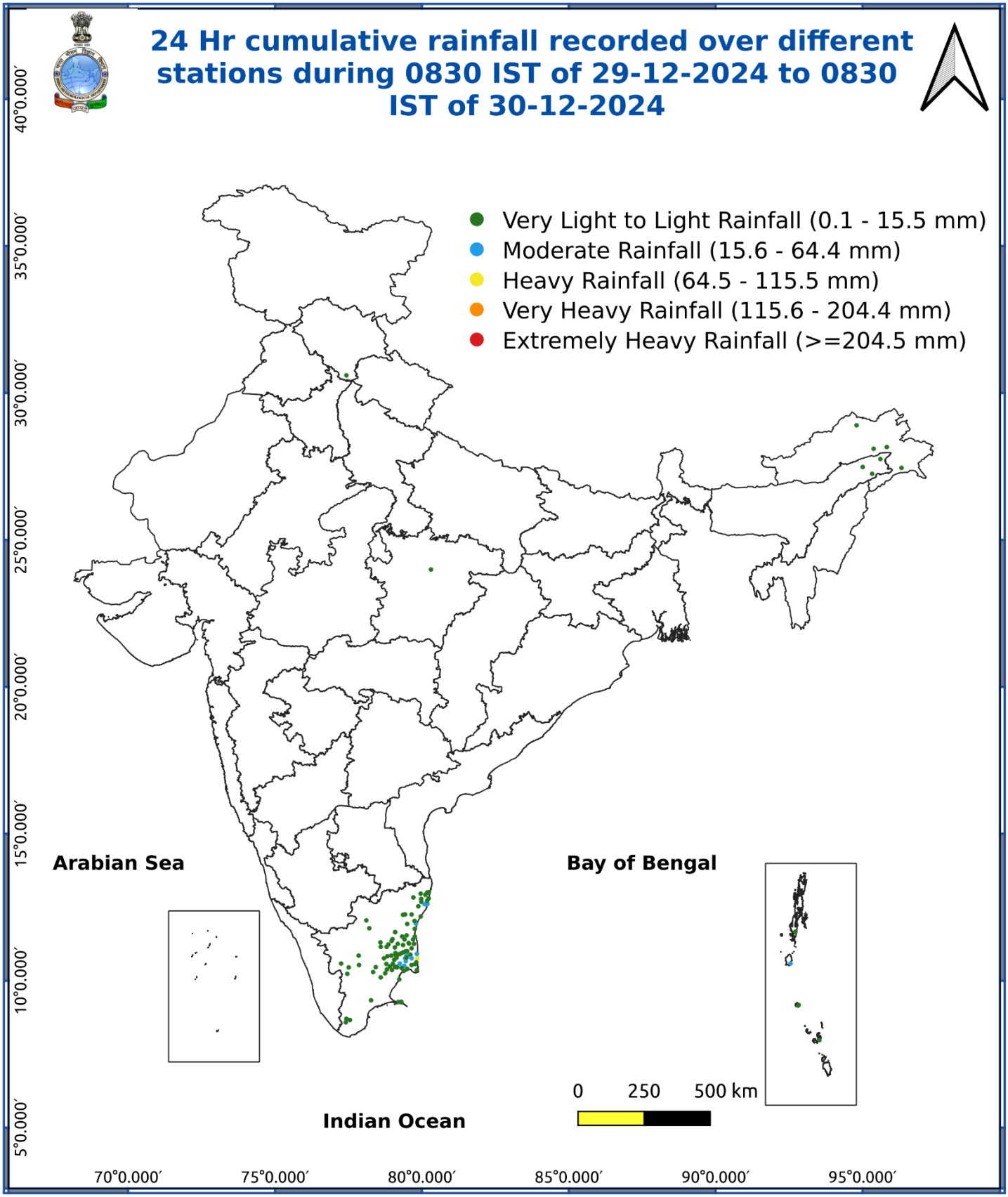
For more details, kindly visit https://mausam.imd.gov.in or contact: 011-2434-4599
(Service to the Nation since 1875)

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



राष्ट्रीय मौसम पूर्वानुमान केन्द्र
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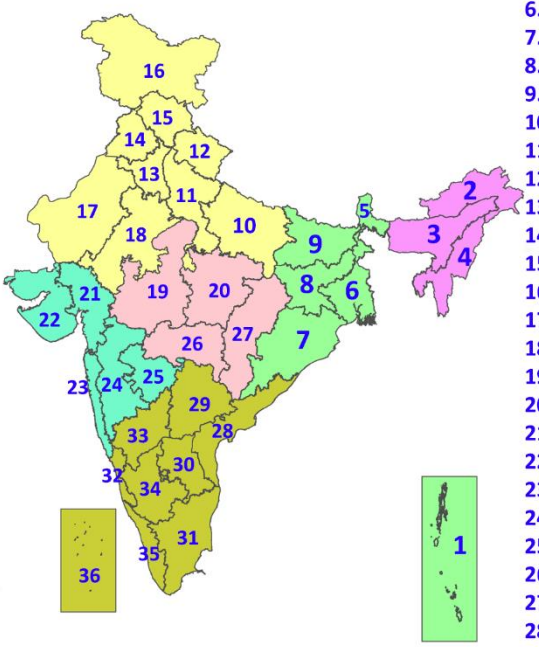
LEGENDS

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

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

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(Service to the Nation since 1875)

DEFINITION/CRITERIA

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

* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.
For more details, kindly visit https://mausam.imd.gov.in or contact: 011-2434-4599
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