

Saturday, January 4, 2025
Time of Issue: 1410 hours IST
(MID-DAY)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

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

- ❖ A Western Disturbance as a **Trough** in middle & upper Tropospheric westerlies runs roughly along Long. 64°E to the north of Lat. 25°N with an embedded **cyclonic circulation** over Afghanistan & neighbourhood in lower to upper tropospheric levels. An induced cyclonic circulation lies over southwest Rajasthan & adjoining Pakistan in lower tropospheric levels. It is very likely to cause
 - ✓ Fairly widespread to widespread light to moderate rainfall very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Himachal Pradesh till 06th January with Isolated **heavy rainfall/ snowfall** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 04th & 05th and Himachal Pradesh on 05th & 06th January.
 - ✓ Isolated rainfall accompanied with thunderstorm activity over Punjab, Haryana Chandigarh on 5th & 6th and northwest Uttar Pradesh on 06th; scattered rainfall/snowfall over Uttarakhand on 06th January.
 - ✓ Light to moderate rainfall at many places over Northeastern state on 07th & 08th January.
- ❖ A fresh Western Disturbance is likely to affect Northwest India from 10-12th January. Under its influence, Light rainfall likely over Northwest India on 10th January.

ii. Temperature, Cold Wave and Fog Forecast:

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

- ❖ Minimum temperatures were **below 0°C** over many parts of Jammu, Kashmir & Ladakh; **0-5°C** over Himachal Pradesh; **6-10°C** over many parts of Northwest India; **10-14°C** over many parts of Central, East & West India. Today, the lowest minimum temperature of **5.0°C** is reported at **Mandla (East Madhya Pradesh)** over the plains of the country.
- ❖ There has been a fall in minimum temperature by 1-3°C over some parts of Himachal Pradesh and Madhya Maharashtra; in isolated pockets of Gujarat State, Telangana, Rayalaseema, Coastal Andhra Pradesh & Yanam, Tamil Nadu; rise by 1-3 °C over some parts of Uttar Pradesh, Bihar & West Bengal; in isolated pockets of Rajasthan and Madhya Pradesh.
- ❖ Minimum temperatures are **appreciably below normal (-3°C to -5°C)** at isolated places over Odisha and North Interior Karnataka; **below normal (-1°C to -3°C)** at a few places over Vidarbha, Telangana and Tamilnadu Puducherry & Karaikal; at isolated places over Madhya Maharashtra, Marathawada, Chhattisgarh, Rayalaseema and Coastal Andhra Pradesh & Yanam. These are **markedly above normal (5°C or more)** at isolated places over East Rajasthan; **appreciably above normal (3°C to 5°C)** at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Gujarat State; at isolated places over Punjab; **above normal (1°C to 3°C)** at a few places over West Madhya Pradesh; at isolated places over Haryana, Chandigarh, Uttar Pradesh, West Rajasthan, East Madhya Pradesh, Andaman & Nicobar Islands, Nagaland, Manipur, Mizoram & Tripura and near normal over rest part of the country.

Forecast of temperature:

- ❖ Gradual rise in minimum temperatures by 3-5°C likely over Western Himalayan region during next 3 days and fall by 2-3°C thereafter.
- ❖ Gradual rise in minimum temperatures by 2-4°C likely over plains of Northwest India during next 3 days and fall by 2-3°C thereafter.
- ❖ Gradual rise in minimum temperatures by 2-4°C likely over Central & East India during next 3 days and fall by about 2°C thereafter.
- ❖ No significant change in minimum temperatures likely over Maharashtra region and Gujarat state during next 48 hours and fall by 2-3°C thereafter.

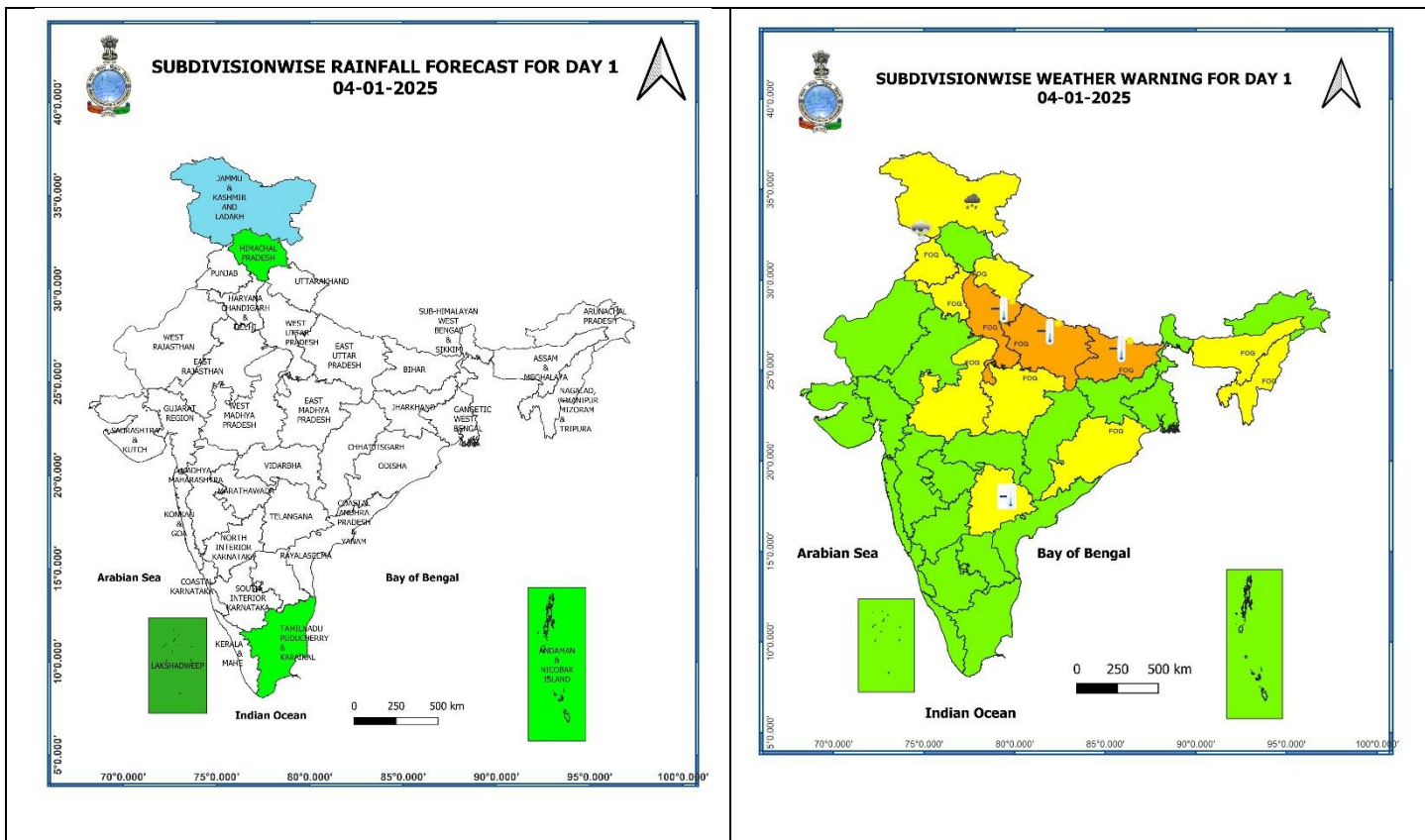
Main Weather Observations:

- ❖ **Rainfall/Snowfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): **NIL**.
- ❖ **Heavy rainfall** (from 0830 hours IST of yesterday to 0830 hours IST of today): **NIL**.
- ❖ **Fog reported** (upto 0830 hours IST of today): **Very dense fog (visibility < 50 m)** reported in most parts of Punjab, Haryana Chandigarh & Delhi; in some parts of Uttar Pradesh; in isolated pockets of Jammu & Kashmir, Northwest Rajasthan, Northwest Madhya Pradesh, Bihar and Assam; **Dense fog (visibility 50-199)** in isolated pockets of Himachal Pradesh, Tripura Northeast Madhya Pradesh and north Interior Odisha.
- ❖ **Visibility reported** (upto 0830 hours IST of today) (≤ 200 meter): **Jammu & Kashmir:** Srinagar 00, Jammu 50; **Punjab:** Patiala, Amritsar, Pathankot 00 each; **Delhi:** Palam 00, Safdarjung 00; **Haryana:** Hisar 0, Ambala, Karnal 10 each; **Chandigarh** 00; **West Rajasthan:** Ganganagar-0; **Uttar Pradesh:** Bareilly, Jhansi, Bahraich, Varanasi, Agra, Hindon Airport, Lucknow, Kanpur 00 each, Aligarh 30, Kushinagar 50; **West Madhya Pradesh:** Gwalior 00; **Bihar:** Purnea & Bhagalpur-0 each, Patna Airport 100; **Assam:** Guwahati-0; **East Madhya Pradesh:** Khajuraho 50; **Himachal Pradesh:** Bilaspur 100; **Odisha:** Rourkela 100.
- ❖ **Cold day to severe cold day conditions** prevailed in some parts of Uttar Pradesh **cold wave conditions** in isolated pockets of south Punjab and south Haryana.
- ❖ **Cold wave conditions** prevailed in isolated pockets of Telangana and Himachal Pradesh.
- ❖ **Ground Frost conditions** reported in isolated pockets of Chhattisgarh.
- ❖ **Minimum Temperature Departures (as on 04-01-2025):** Minimum temperatures are **Markedly above normal (5.1°C or above)** at isolated places over Rajasthan, Himachal Pradesh, Uttarakhand; **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Gujarat state; **above normal (1.6°C to 3.0°C)** at a few places over Punjab; at isolated places over Uttar Pradesh, Haryana-Chandigarh-Delhi, Madhya Pradesh, Nagaland, Manipur, Mizoram & Tripura. These are **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over Odisha, North Interior Karnataka; **below normal (-1.6°C to -3.0°C)** at a few places over Vidarbha; at isolated places over Madhya Maharashtra, Telangana, Tamil Nadu, Puducherry & Karaikal, Chhattisgarh, Rayalaseema, Konkan & Goa, Marathwada, Bihar and Assam and near normal over rest part of the country. Today, the **lowest minimum temperature** of 5.0°C is reported at **Mandla (East Madhya Pradesh)** over the plains of the country (Fig. 4).
- ❖ **Maximum Temperature Departures (as on 03-01-2025):** Maximum temperatures were **Markedly above normal (5.1°C or above)** at a few places over East Rajasthan, West Madhya Pradesh, Uttarakhand; at isolated places over West Rajasthan, Gujarat state, Konkan & Goa; **appreciably above normal (3.1°C to 5.0°C)** at a few places over Vidarbha, Delhi; at isolated places over East Madhya Pradesh, Madhya Maharashtra, Marathwada, Chhattisgarh, Himachal Pradesh, Arunachal Pradesh, Assam & Meghalaya; **above normal (1.6°C to 3.0°C)** at a few places over Telangana, Odisha, Kerala & Mahe; at isolated places over Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad. These were **markedly below normal (-5.1°C or less)** at a few places over East Uttar Pradesh; **appreciably below normal (-3.1°C to -5.0°C)** at a few places over West Uttar Pradesh; at isolated places over Gangetic West Bengal; **below normal (-1.6°C to -3.0°C)** at isolated places over Bihar, Jharkhand, Haryana-Chandigarh and near normal over rest part of the country. Yesterday, the **highest maximum temperature** of 36.0°C was reported at **Kannur Airport (Kerala)** and **Santacruz (Konkan & Goa)** over the plains of the country (Fig. 2).

Meteorological Analysis (Based on 0830 hours IST)

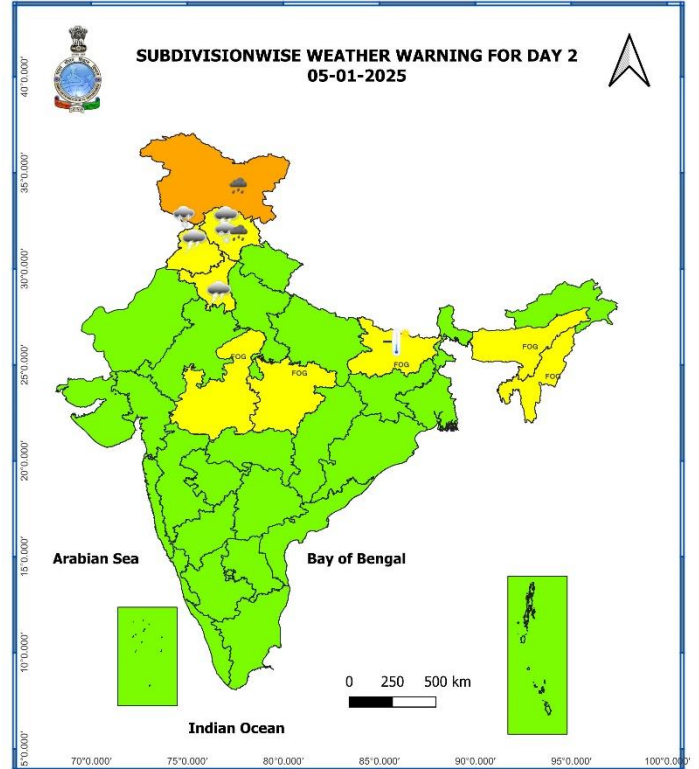
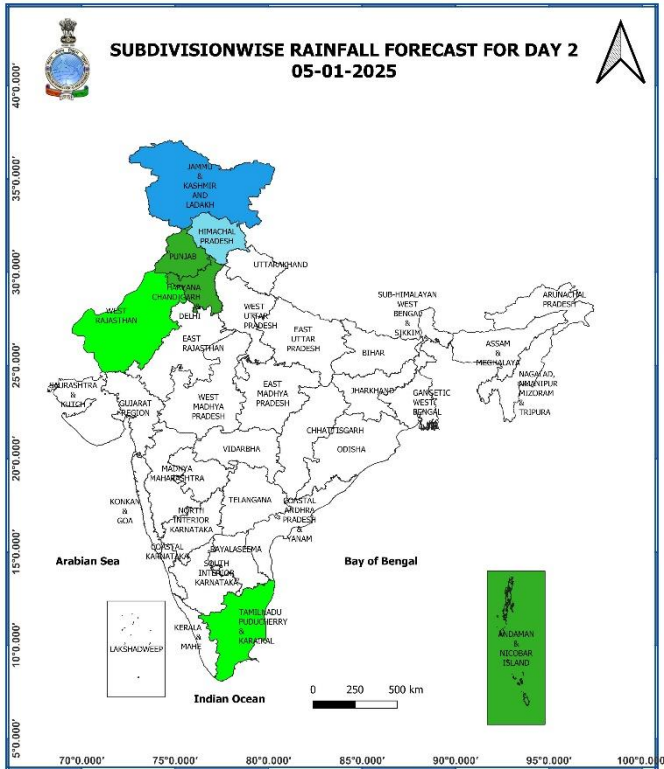
- ❖ The **Western Disturbance** now seen as a trough in middle & upper Tropospheric westerlies with its axis at 5.8 km above mean sea level runs roughly along Long. 64°E to the north of Lat. 25°N with an **embedded cyclonic circulation** over Afghanistan & neighbourhood between 3.1 & 9.4 km above mean sea level.
- ❖ An induced **cyclonic circulation** lies over Southwest Rajasthan & adjoining Pakistan and extends upto 1.5 km above mean sea level.
- ❖ Subtropical **westerly Jet Stream** with core winds of the order upto 130 knots at 12.6 km above mean sea level now prevailing over North India.
- ❖ A fresh **Western Disturbance** likely to affect northwest India from 10th January, 2025.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 11th January, 2025)



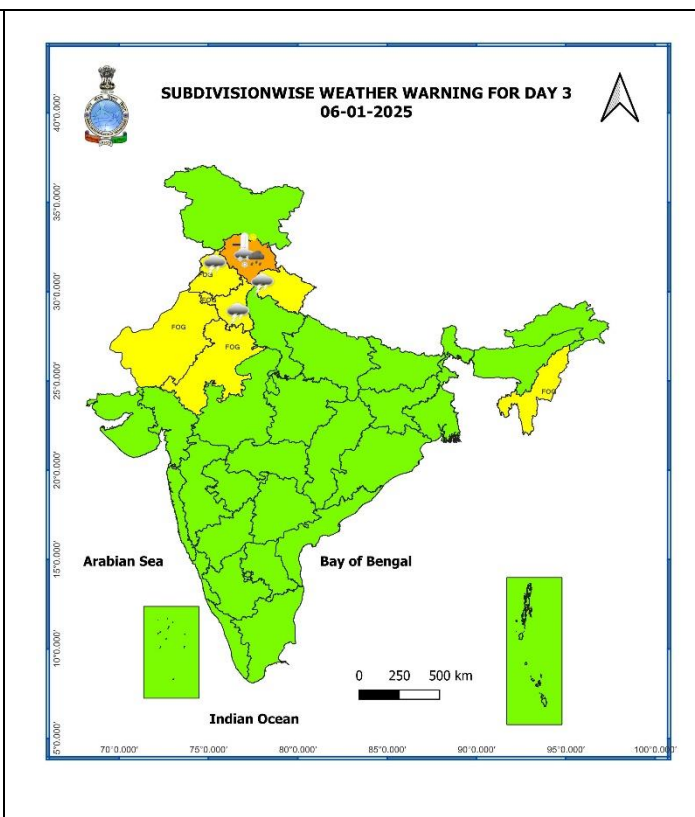
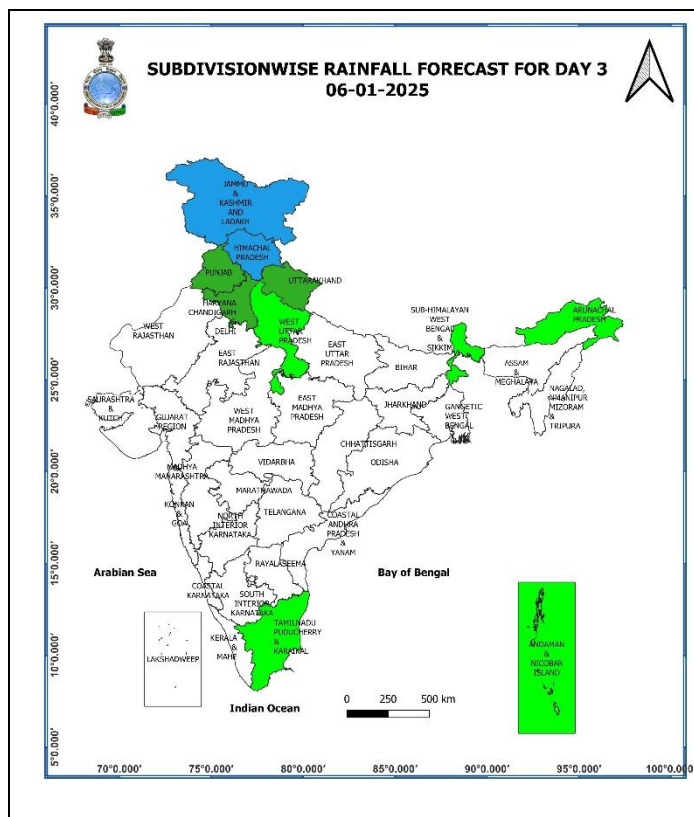
04th January (Day 1):

- ❖ **Heavy Rainfall ($\geq 7\text{cm}$)/snowfall ($\geq 70\text{ cm}$)** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad.
- ❖ **Dense to Very Dense fog conditions** very likely in isolated pockets of north Madhya Pradesh and Bihar; **Dense fog conditions** in isolated pockets of Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Odisha, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura in night/morning hours.
- ❖ **Cold Day to severe cold day conditions** very likely in isolated pockets of East Uttar Pradesh; **cold day conditions** in isolated pockets of West Uttar Pradesh and Bihar.
- ❖ **Cold wave conditions** very likely in isolated pockets of Telangana.
- ❖ **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. **Squally wind with speed 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest Arabian sea, along and off Somalia coast, over western parts of westcentral Arabian sea, along and off Oman coast. Fisherman are advised not to venture in to these areas.



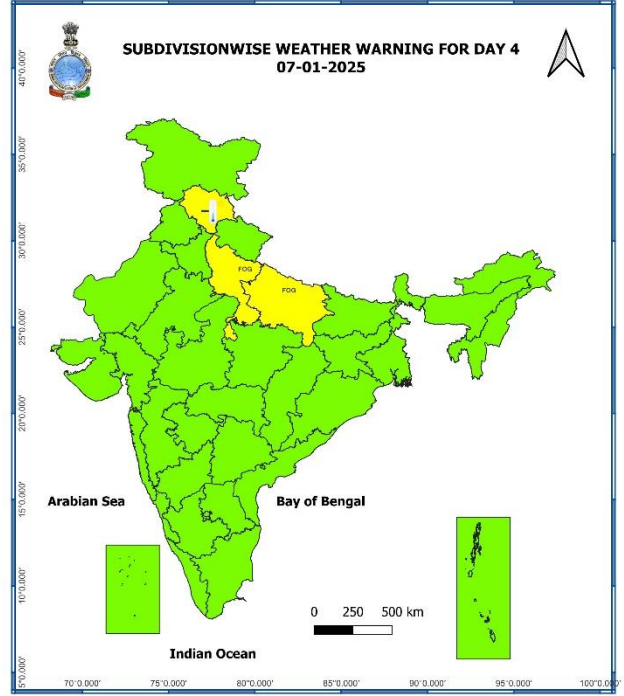
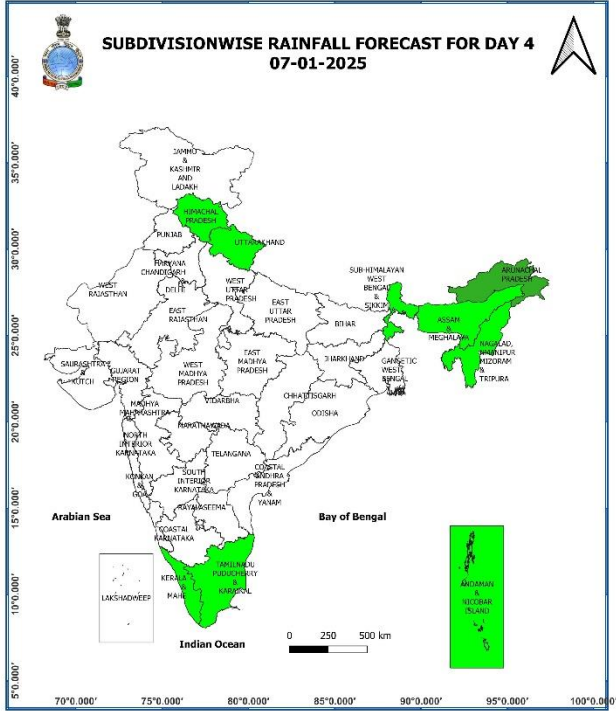
05th January (Day 2):

- ❖ **Heavy Rainfall ($\geq 7\text{cm}$)/snowfall ($\geq 70\text{ cm}$)** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Himachal Pradesh.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Himachal Pradesh, Haryana-Chandigarh-Delhi and Punjab.
- ❖ **Dense to Very Dense fog conditions** very likely in isolated pockets of north Madhya Pradesh and Bihar; **Dense fog conditions** in isolated pockets of Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura in night/morning hours.
- ❖ **Cold day conditions** very likely in isolated pockets of Bihar.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over parts of Comorin area, over Maldives area, over southern parts of southeast Arabian sea. **Squally wind with speed 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail, along and off Somalia coast & adjoining southwest Arabian sea, over western parts of westcentral Arabian sea. Fisherman are advised not to venture in to these areas.



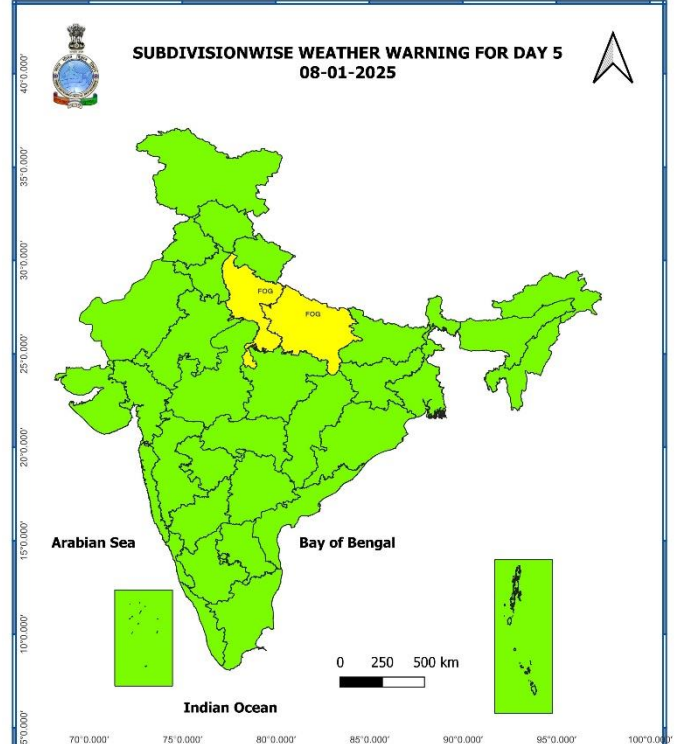
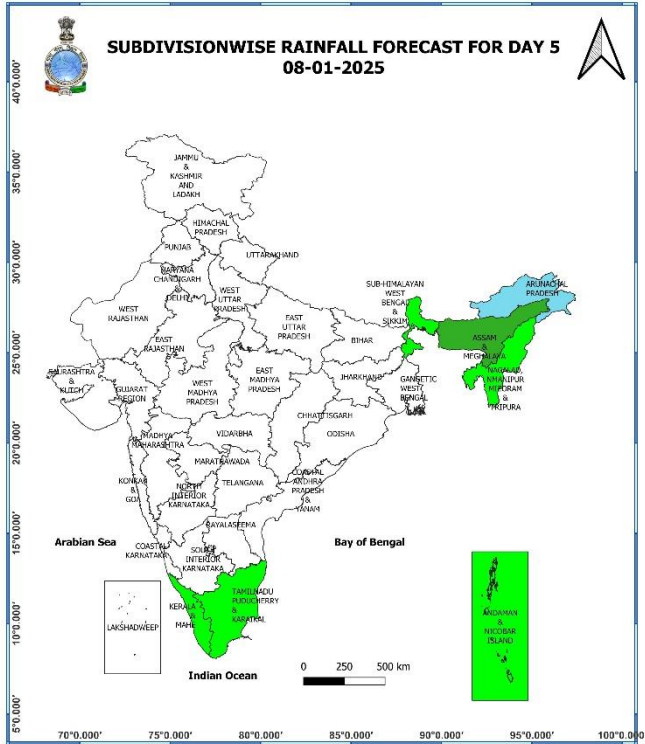
06th January (Day 3):

- ❖ **Heavy Rainfall ($\geq 7\text{cm}$)/snowfall ($\geq 70\text{ cm}$)** very likely at isolated places over Himachal Pradesh.
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Himachal Pradesh, Uttarakhand, Punjab and Haryana-Chandigarh-Delhi.
- ❖ **Dense fog conditions** in isolated pockets of Punjab, Haryana-Chandigarh-Delhi, Rajasthan and Nagaland, Manipur, Mizoram & Tripura in night/morning hours.
- ❖ **Cold day conditions** likely in some pockets of Himachal Pradesh.
- ❖ **squally wind with speed 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail, along and off Somalia coast & adjoining southwest Arabian sea, over south western parts of westcentral Arabian sea. Fisherman are advised not to venture in to these areas.



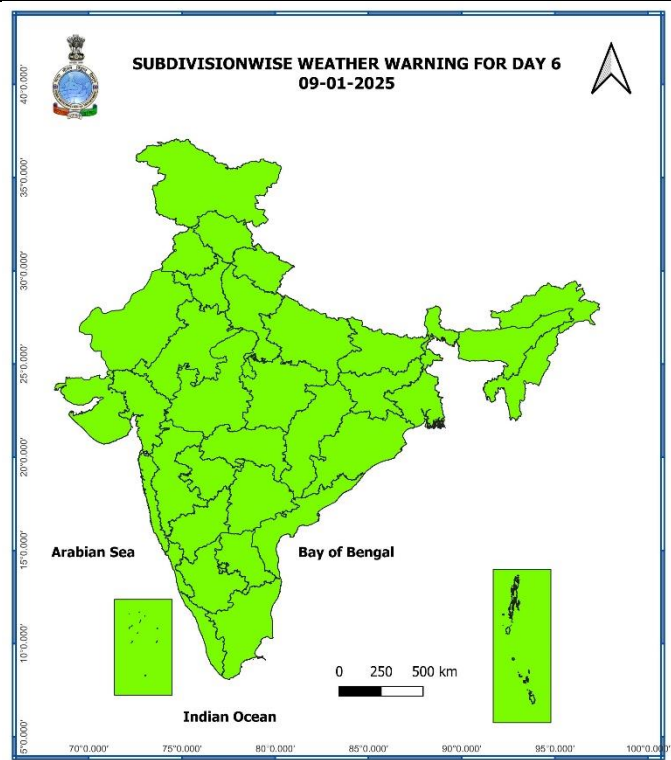
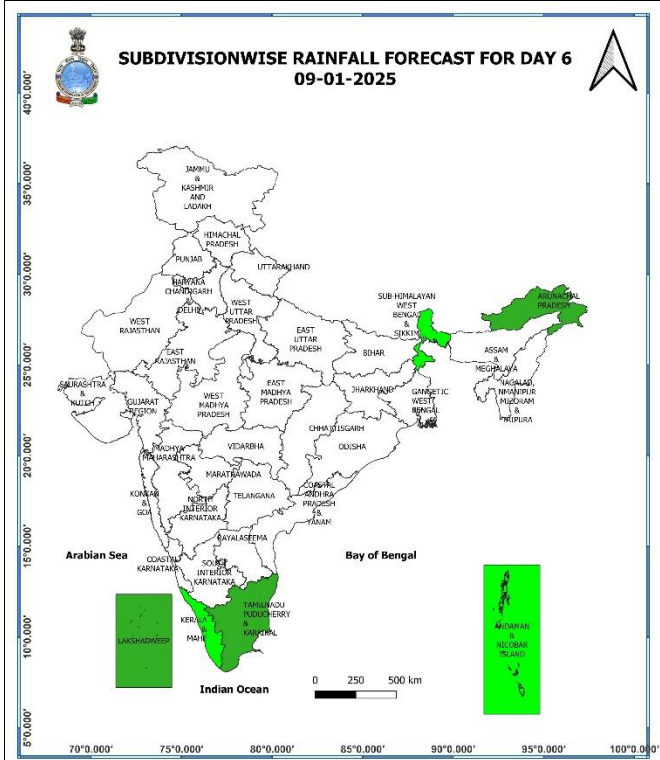
07th January (Day 4):

- ❖ **Dense fog** likely in isolated pockets of Uttar Pradesh in night/morning hours.
- ❖ **Cold day conditions** likely in some pockets of Himachal Pradesh.



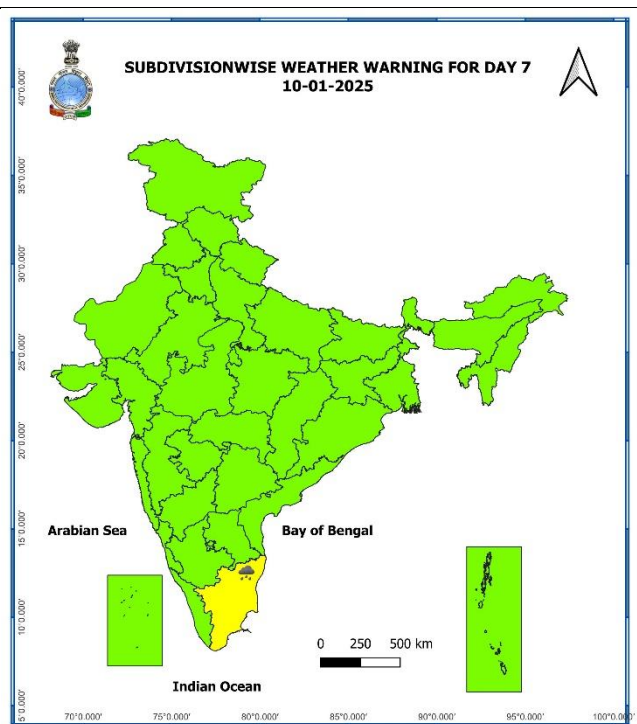
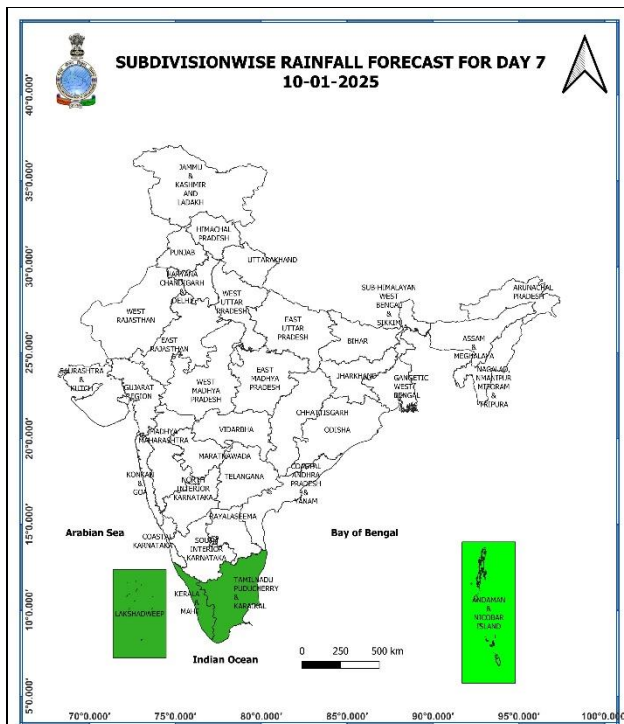
08th January (Day 5):

❖ **Dense fog** likely in isolated pockets of Uttar Pradesh in night/morning hours.



09th January (Day 6):

❖ **No Warning.**



10th January (Day 7):

❖ **Heavy Rainfall ($\geq 7\text{cm}$)** likely at isolated places over Tamil Nadu, Puducherry & Karaikal.

Weather Outlook for subsequent 3 days (During 11th January– 13th January, 2025)

- ❖ Isolated to scattered light to moderate rainfall over Northwest, Central India and South Peninsular India.
- ❖ Isolated to scattered rainfall/snowfall over Himalayan Region.
- ❖ 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

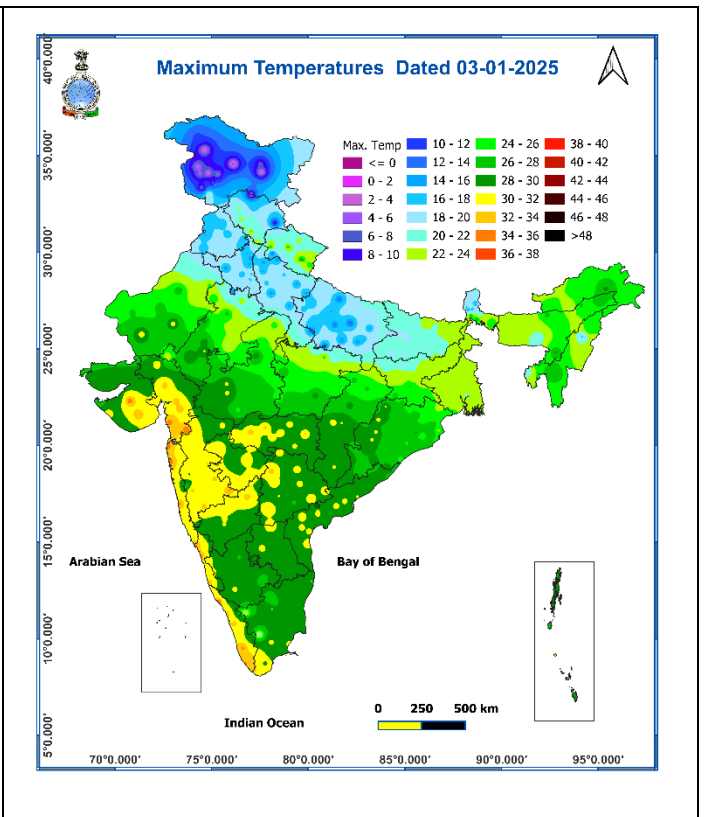
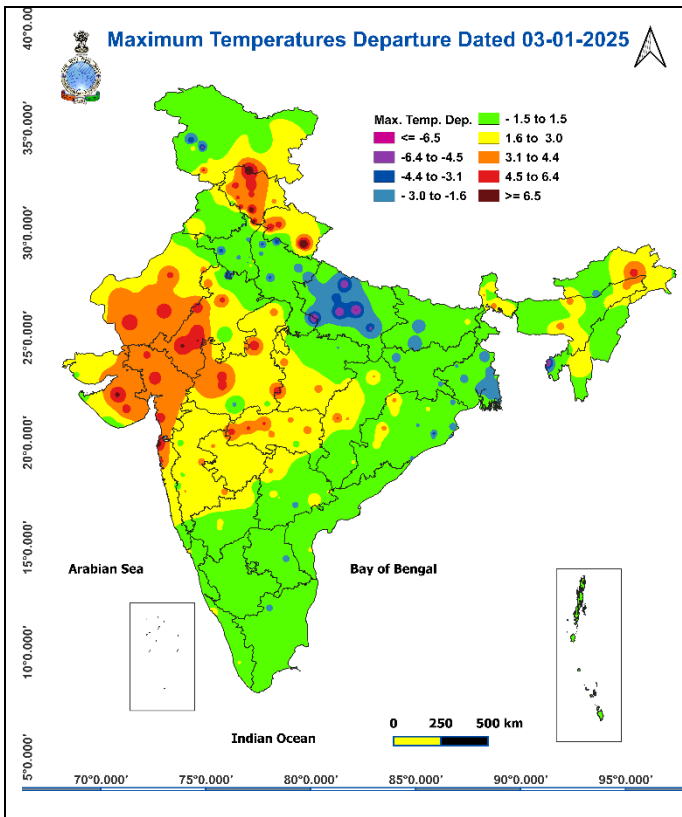


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

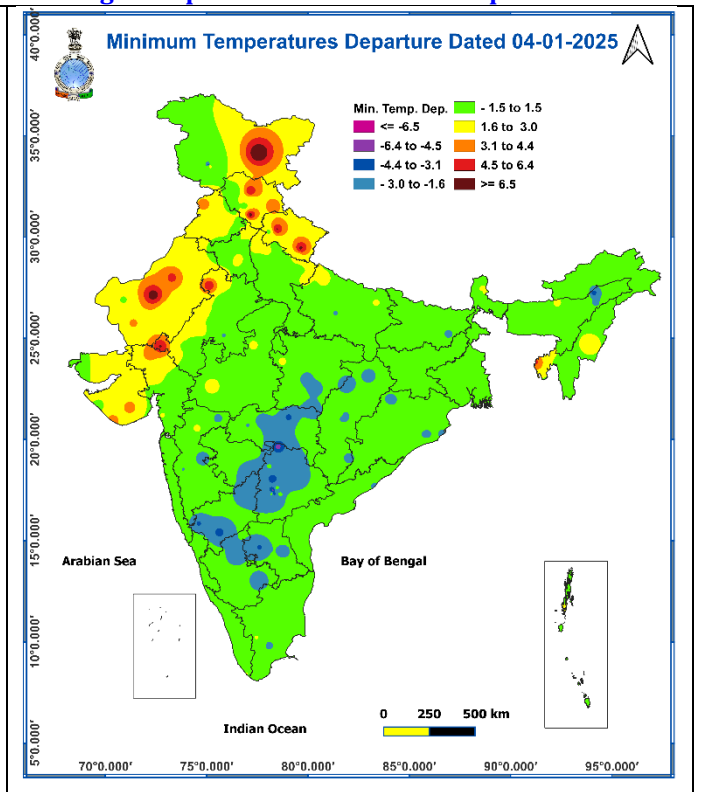
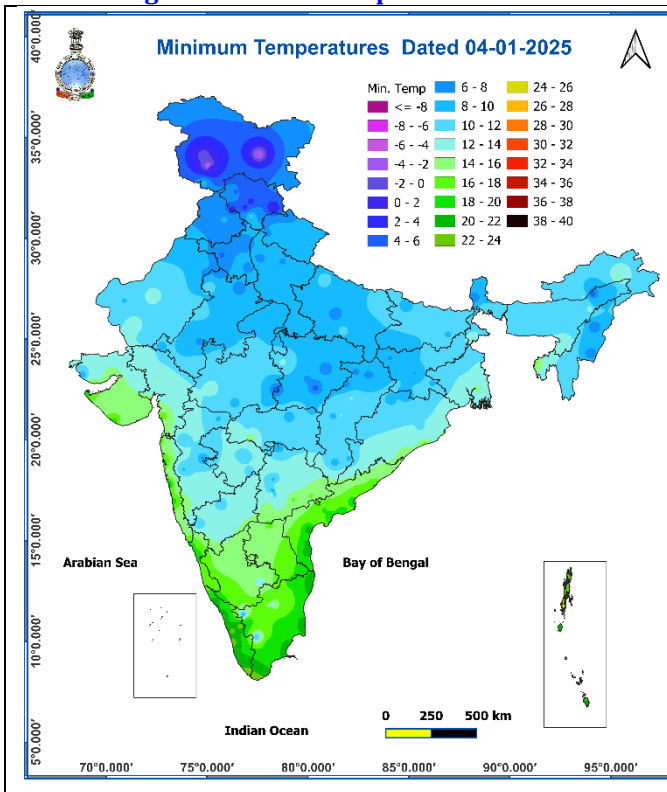
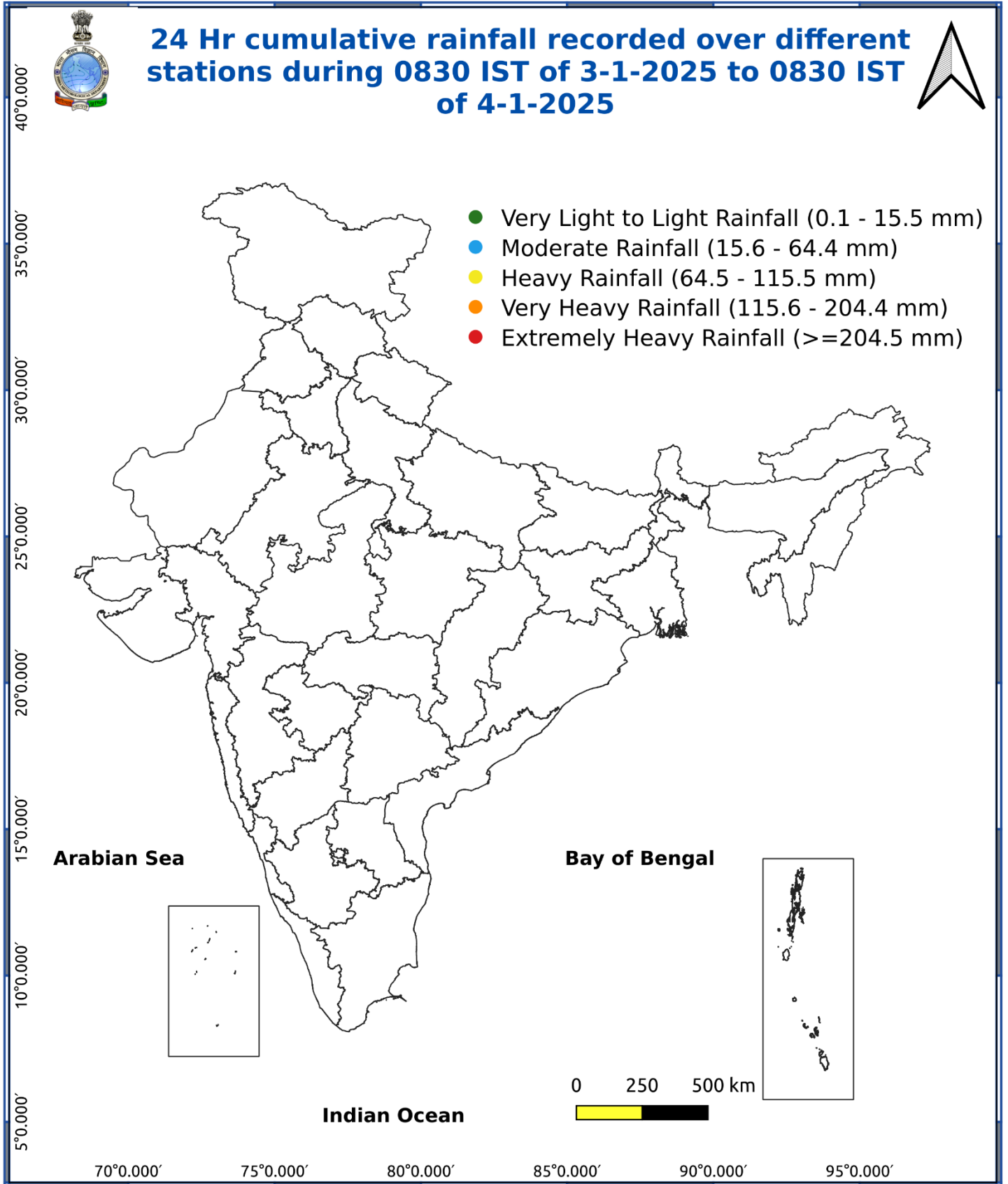


Fig. 5: Accumulated Rainfall (mm) during past 24 hours



* 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)

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.

Impact due to very heavy rainfall/snowfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 04th & 05th; over Himachal Pradesh on 05th & 06th December.

Impact Expected

- ❖ Temporary disruption of Surface & Air transportation particularly on 5th January.
- ❖ Chances of Landslides/Mudslides and shooting stones over vulnerable places.
- ❖ In view of fresh snowfall, sub freezing temp & icy conditions over roads, Tourists/travellers/Transporters are advised to plan accordingly & follow Admin/Traffic advisory.

Action Suggested

- ❖ Check for traffic congestion on your route before leaving for your destination.
- ❖ Follow any traffic advisories that are issued in this regard.
- ❖ Avoid going to areas that face the water logging problems often.
- ❖ Avoid staying in vulnerable structure.

Agromet advisories for likely impact of Heavy Rainfall / Cold Wave/ Ground Frost

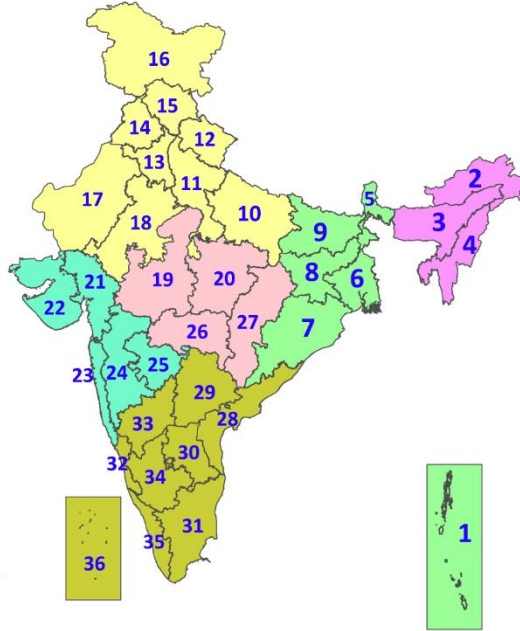
- Make necessary arrangements to drain out excess water from wheat, pulses, mustard, pea, vegetables and other standing crops and fruit orchards in **Jammu & Kashmir**; from wheat, mustard, garden pea, potato, vegetables and fruit orchards in **Himachal Pradesh**. In case of heavy snowfall, shake the fruit bearing trees to remove snow immediately from the branches.
- Provide mechanical support to horticultural crops and staking to vegetables.
- In **Telangana**, 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.

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.
- 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

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>