

Saturday, January 11, 2025
Time of Issue: 1315 hours IST
(MID-DAY)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems, Forecast and warning :

- ❖ A Western Disturbance as a Cyclonic Circulation lies over central Pakistan & neighbourhood in lower & upper tropospheric levels. An induced cyclonic circulation lies over West Rajasthan & neighbourhood with a trough extending from it to northeast Arabian Sea in lower tropospheric levels. There is likely interaction of westerly in association with Western Disturbance and easterly winds at lower tropospheric levels. Under its influence, Light/moderate isolated to scattered rainfall likely over the plains of Northwest India and adjoining central India and rainfall/snowfall likely over Western Himalayan region on 11th & 12th January.
- ✓ Thunderstorm activity accompanied by hailstorms at isolated places likely over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh, West Uttar Pradesh, Rajasthan, West Madhya Pradesh on 11th and Thunderstorm activity over East Uttar Pradesh and Madhya Pradesh on 11th & 12th; Chhattisgarh on 12th January.
- ✓ Light to moderate rainfall accompanied with thunderstorm, lightning very likely at a few places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura and Assam & Meghalaya on 13th January.
- ❖ A cyclonic circulation lies over Southwest & adjoining Southeast Bay of Bengal 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 during 11th - 15th; Coastal Andhra Pradesh & Yanam during 12th-14th and Rayalaseema on 13th & 14th; and Kerala & Mahe during 13th-15th January with Isolated **heavy rainfall** likely over Tamilnadu, Puducherry & Karaikal during next 5 days.
- ❖ A fresh **western disturbance** is likely to affect northwest India from the night of 14th January, 2025. Under its influence, Isolated rainfall/snowfall activity likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh during 15th -17th and Isolated rainfall activity over East Rajasthan on 14th & 15th January.

ii. Temperature, Cold Wave and Fog Forecast:

Temperature Conditions during past 24 hours till 0830 hours IST of today:

- ❖ Minimum temperatures are **below 0°C** over many parts of Jammu, Kashmir & Ladakh; in isolated places of Himachal Pradesh; **1-5°C** over some parts of Himachal Pradesh; in isolated places of Uttar Pradesh; **6-12°C** over many parts of Northwest, Central & East India; **12-16°C** over many parts of West India. Today, the lowest minimum temperature of **4.5°C** is reported at **Dehri (Bihar)** over the plains of the country.
- ❖ During the past 24 hours, there has been **fall in minimum temperatures** by 1-2°C in isolated places over Himachal Pradesh and Uttarakhand and **rise by 3-6°C** over isolated places of Rajasthan; by 1-3°C over many parts of Madhya Pradesh; in some parts of Bihar, Maharashtra, Tamilnadu, Puducherry & Karaikal; in isolated places of Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Gujarat State, Chhattisgarh, Odisha and Telangana.
- ❖ Minimum temperatures are **below normal (-1°C to -3°C)** at many places over Uttar Pradesh; at a few places over Jharkhand, West Bengal & Sikkim, Odisha; at isolated places over East Madhya Pradesh and Coastal Andhra Pradesh & Yanam. These are **appreciably above normal (3°C to 5°C)** at a few places over Rajasthan, Gujarat State, Madhya Maharashtra, Tamilnadu Puducherry & Karaikal; **above normal (1°C to 3°C)** at isolated places over Haryana, Chandigarh & Delhi, West Madhya Pradesh, Bihar, Marathwada, Vidarbha, Konkan & Goa, Telangana, Rayalaseema and near normal over rest part of the country.

Forecast of temperature:

- ❖ No significant change in minimum temperatures likely over Northwest India during next 24 hours and gradual fall by about 2°C during subsequent 2 days, thereafter rise by about 2°C.
- ❖ Gradual rise in minimum temperatures by 2-3°C likely over Central India during next 2 days and no significant change thereafter.
- ❖ Gradual rise in minimum temperatures by 2-3°C likely over East India during next 3 days and gradual fall by 2-3°C thereafter.
- ❖ No significant change in minimum temperatures likely over West India during next 5 days.

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 on 12th & 13th; in isolated pockets of Rajasthan and East Uttar Pradesh till 12th January.

Dense fog conditions very likely to continue to prevail during night/early morning hours in isolated pockets of Punjab, Haryana, Chandigarh on 11th & during 14th-16th; Himachal Pradesh, Uttarakhand, West Uttar Pradesh during 12th-16th; East Uttar Pradesh during 12th-16th; West Rajasthan during 12th-15th; East Rajasthan during 12th-14th; Gangetic West Bengal till 12th; Bihar during 12th-14th; Assam & Meghalaya during 12th-16th; Chhattisgarh during 13th-15th; Sub West Bengal & Sikkim, Odisha till 14th; Nagaland, Manipur, Mizoram & Tripura till 14th January.

Cold Day Warnings:

Cold day conditions very likely in isolated pockets of Himachal Pradesh and Rajasthan on 11th & 12th January.

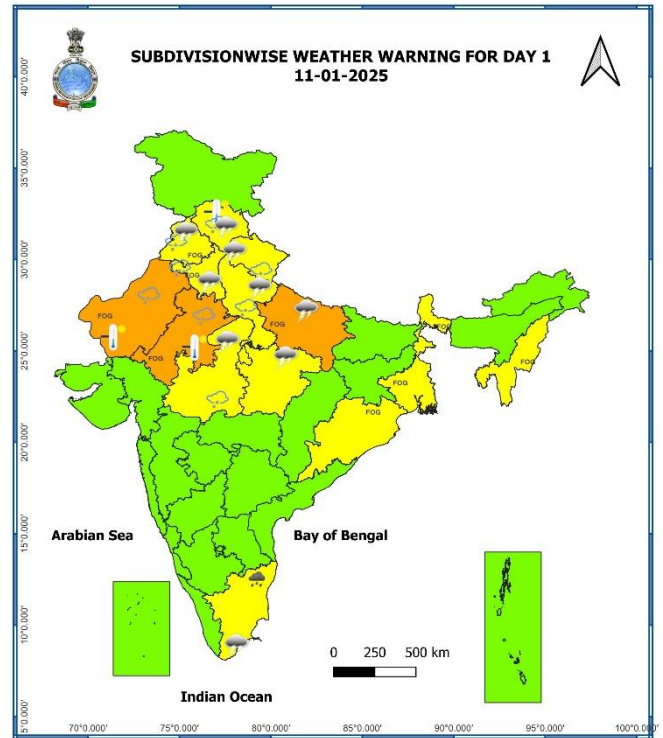
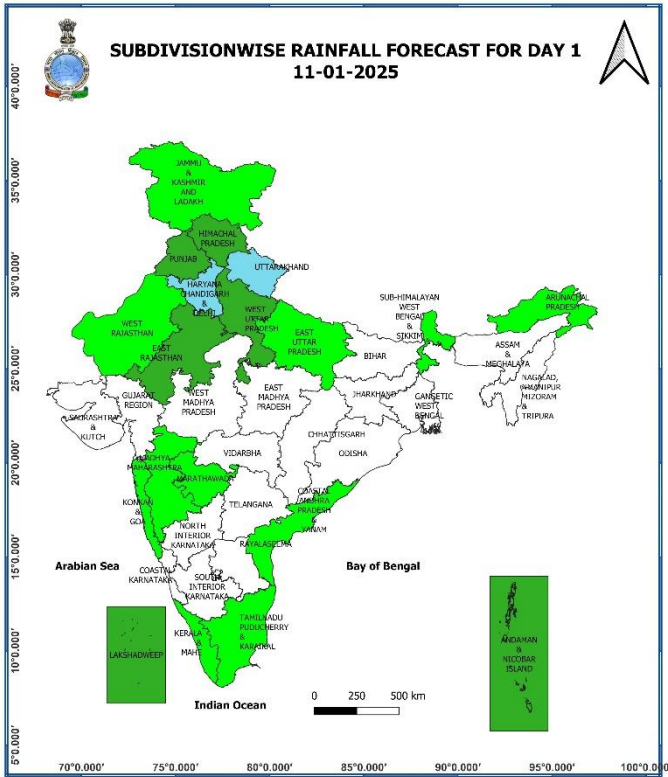
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): **at isolated places** over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and Coastal Andhra Pradesh & Yanam.
- ❖ **Heavy rainfall** observed (from 0830 hours IST of yesterday to 0830 hours IST of today): **Heavy rainfall** at isolated places over Tamilnadu, Puducherry & Karaikal.
- ❖ **Significant amount of rainfall** (from 0830 hours IST of yesterday to 0830 hours IST of today) (in cm): **Tamilnadu Puducherry & Karaikal:** Oothu (dist Tirunelveli), Nalumukku (dist Tirunelveli) 7 each.
- ❖ **Fog reported** (upto 0830 hours IST of today): **Dense to very dense fog** in some parts of Punjab and Uttar Pradesh; in isolated pockets of Haryana, West Madhya Pradesh and **dense fog** in isolated pockets of East Madhya Pradesh, Himachal Pradesh, and Tripura.
- ❖ **Visibility reported** (upto 0830 hours IST of today) (< 200 meter): **Punjab:** Ludhiana, Patiala, Adampur 00 each; **Haryana:** Ambala 00; **East Uttar Pradesh:** Kushinagar, Varanasi, Kanpur 00 each; **West Madhya Pradesh:** Gwalior 00; **West Uttar Pradesh:** Shahjahanpur 10, Meerut, Agra 30 each, **Tripura:** Agartala 50, Kailashahar 200; **Himachal Pradesh:** Bilaspur, Una, Dehragopipur 50 each.
- ❖ **Cold day conditions** prevailed in isolated pockets of Punjab and Haryana.
- ❖ **Ground Frost conditions** reported in isolated pockets of Himachal Pradesh and Uttarakhand.
- ❖ **Minimum Temperature Departures (as on 11-01-2025):** Minimum temperatures are **appreciably above normal (3.1°C to 5.0°C)** at a few places over West Rajasthan, Gujarat state, Madhya Maharashtra; at isolated places over East Rajasthan, Punjab, Tamil Nadu, Puducherry & Karaikal, Rayalaseema; **above normal (1.6°C to 3.0°C)** at most places over Konkan & Goa, Karnataka, Kerala & Mahe; at many places over Marathwada; at a few places over Haryana-Chandigarh-Delhi, West Madhya Pradesh, Bihar, Telangana, Coastal Andhra Pradesh & Yanam; at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh. These are **below normal (-1.6°C to -3.0°C)** at a few places over Chhattisgarh; at isolated places over East Uttar Pradesh, Odisha and near normal over rest part of the country (Fig. 4). Today, the **lowest minimum temperature** of 4.5°C is reported at **Dehri (Bihar)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 10-01-2025):** Maximum temperatures were **markedly above normal (5.1°C or more)** at isolated places over Himachal Pradesh, West Uttar Pradesh; **above normal (1.6°C to 3.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Rajasthan, Gujarat state, Bihar, East Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Kerala & Mahe. These were **markedly below normal (-5.1°C or less)** at isolated places over Punjab, Haryana, Delhi; **below normal (-1.6°C to -3.0°C)** at a few places over Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana; at isolated places over Odisha, Gangetic West Bengal and near normal over rest part of the country (Fig. 2). Yesterday, the **highest maximum temperature** of 35.6°C was reported at **Kottayam (Kerala)** over the plains of the country.

Meteorological Analysis (Based on 0830 hours IST)

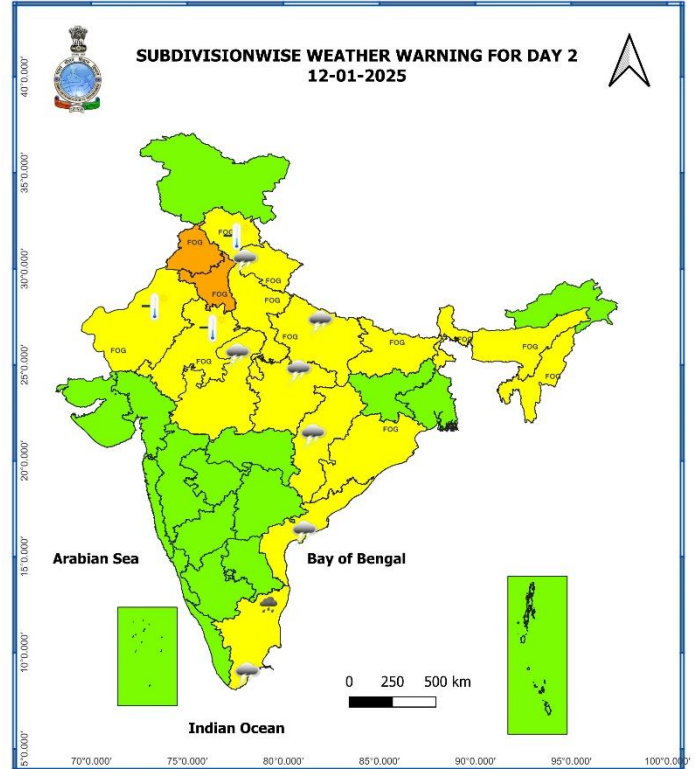
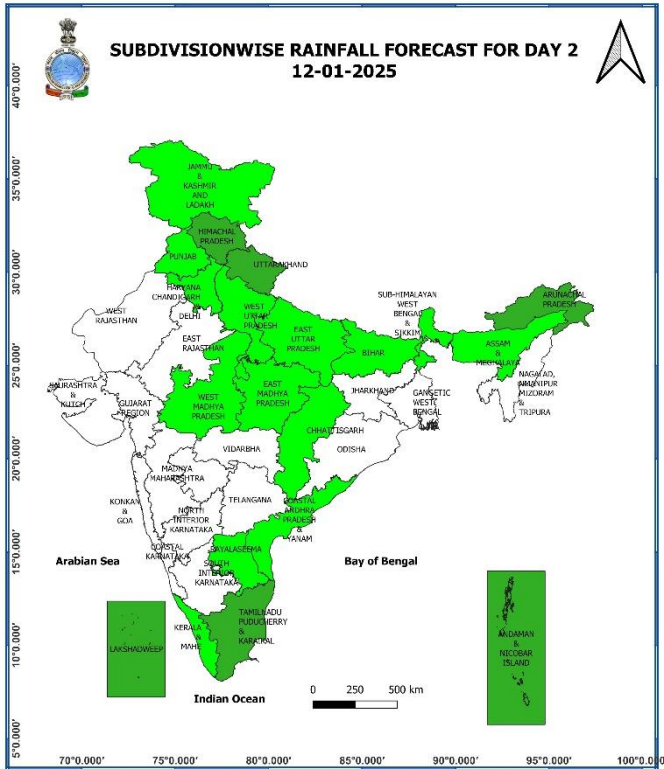
- ❖ The **Western Disturbance** as a Cyclonic Circulation now lies over central Pakistan & neighbourhood between 3.1 & 9.4 km above mean sea level.
- ❖ The **induced cyclonic circulation** now lies over west Rajasthan & neighbourhood and extends upto 1.5 km above mean sea level.
- ❖ A **trough** runs from the **induced cyclonic circulation** over west Rajasthan & neighbourhood to northeast Arabian Sea at 1.5 km above mean sea level.
- ❖ A **cyclonic circulation** lies over northeast Assam at 3.1 km above mean sea level.
- ❖ The **cyclonic circulation** over Southeast & adjoining Southwest Bay of Bengal now lies over Southwest & adjoining Southeast Bay of Bengal and extends upto 3.1 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 is prevailing over North India.
- ❖ A fresh **western disturbance** is likely to affect northwest India from the night of 14th January, 2025.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 18th January, 2025)



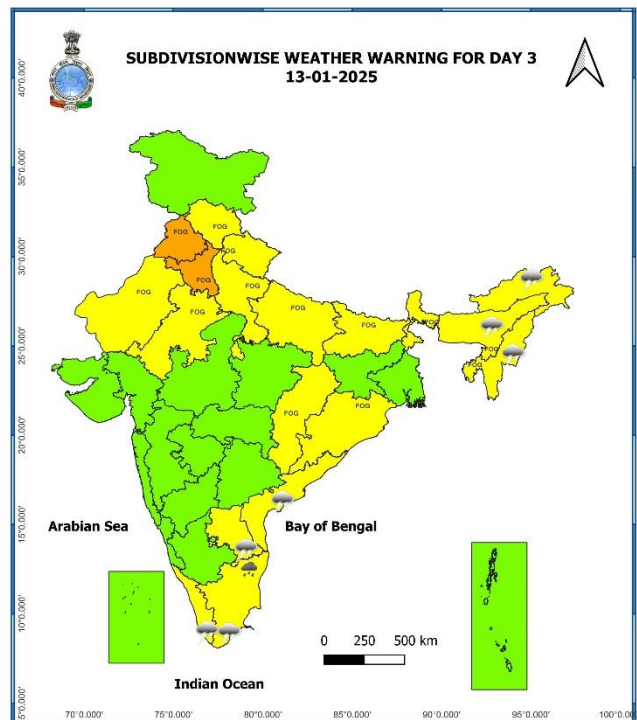
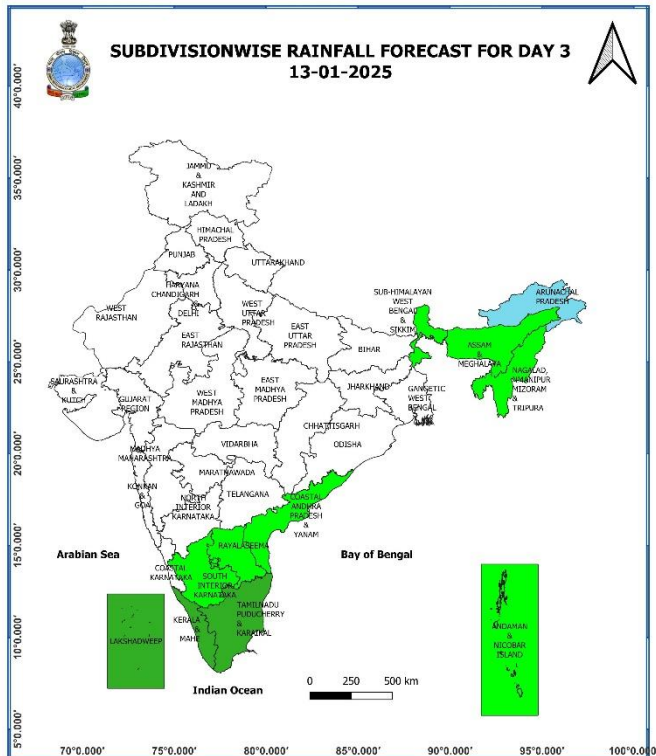
11th January (Day 1):

- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal
- ❖ **Dense to very dense fog conditions** very likely in isolated pockets of East Uttar Pradesh and Rajasthan; **Dense fog conditions** in isolated pockets of Punjab, Haryana-Chandigarh-Delhi, West Bengal & Sikkim, Odisha and Nagaland, Manipur, Mizoram & Tripura during night/morning hours.
- ❖ **Thunderstorm accompanied with hailstorm & lightning** very likely at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, West Uttar Pradesh, Rajasthan and West Madhya Pradesh; **with lightning** at isolated places over East Uttar Pradesh, East Madhya Pradesh and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Cold day conditions** very likely in isolated pockets of Himachal Pradesh and Rajasthan.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over southwest Bay of Bengal north of Sri Lanka coast, gulf of Mannar & adjoining Comorin area. Fisherman are advised not to venture in to these areas.



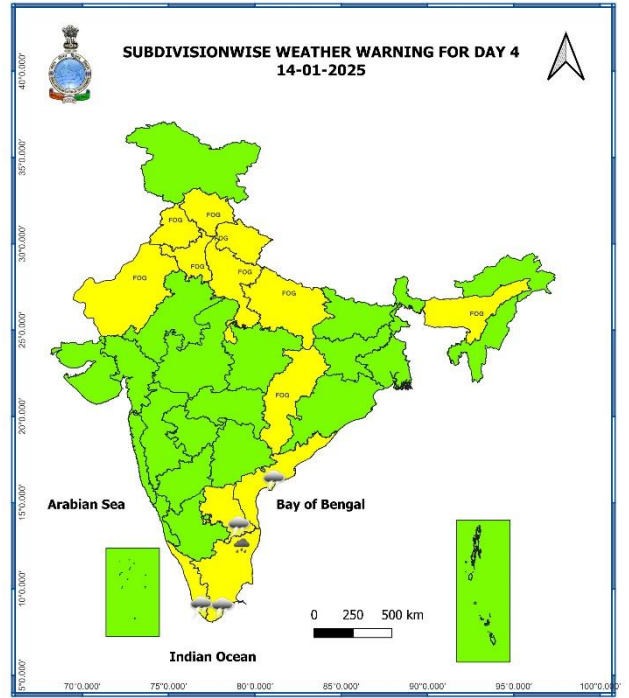
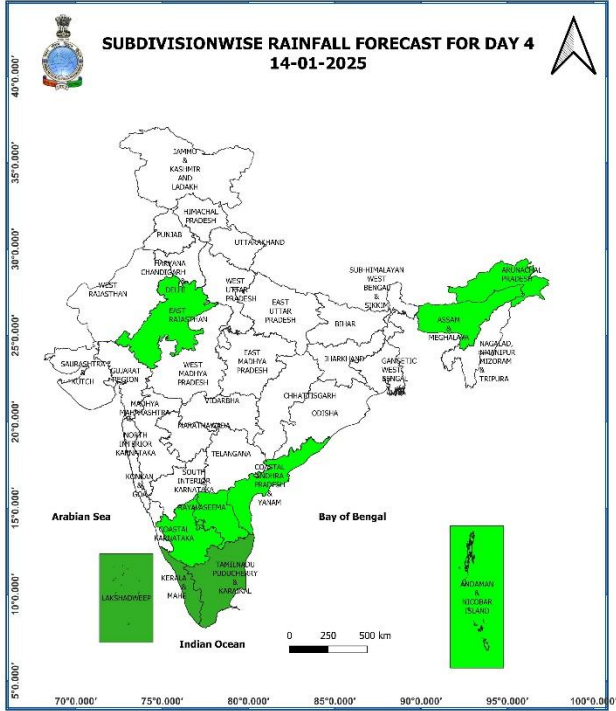
12th January (Day 2):

- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal.
- ❖ **Dense to very dense fog conditions** very likely in some parts of Punjab and Haryana-Chandigarh-Delhi; **Dense fog** in isolated pockets of Himachal Pradesh, Uttarakhand, Uttar Pradesh, Rajasthan, Sub-Himalayan West Bengal & Sikkim, Bihar, Odisha, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during night/morning hours.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Uttarakhand, East Uttar Pradesh, Chhattisgarh, Madhya Pradesh, Tamil Nadu, Puducherry & Karaikal and Coastal Andhra Pradesh & Yanam.
- ❖ **Cold day conditions** very likely in isolated pockets of Himachal Pradesh and Rajasthan.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over Comorin area and adjoining gulf of Mannar. Fisherman are advised not to venture in to these areas.



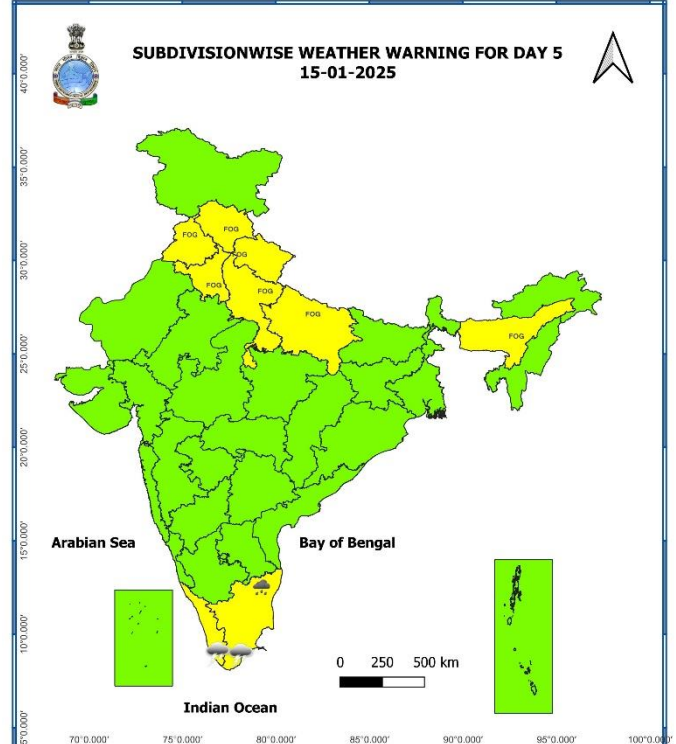
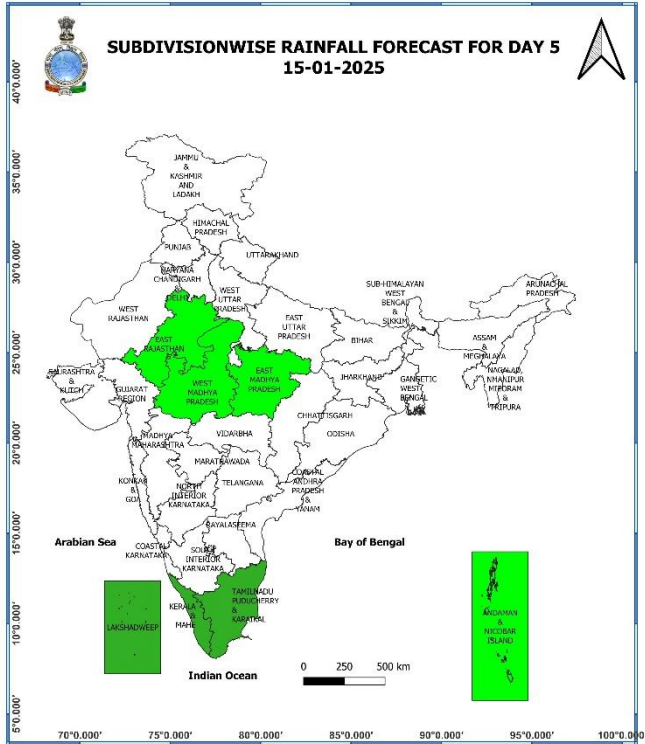
13th January (Day 3):

- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal.
- ❖ **Dense to very dense fog conditions** very likely in some parts of Punjab and Haryana-Chandigarh-Delhi; **Dense fog** in isolated pockets of Himachal Pradesh, Uttarakhand, Uttar Pradesh, Rajasthan, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Bihar, Odisha, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during night/morning hours.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Rayalaseema and Coastal Andhra Pradesh & Yanam.



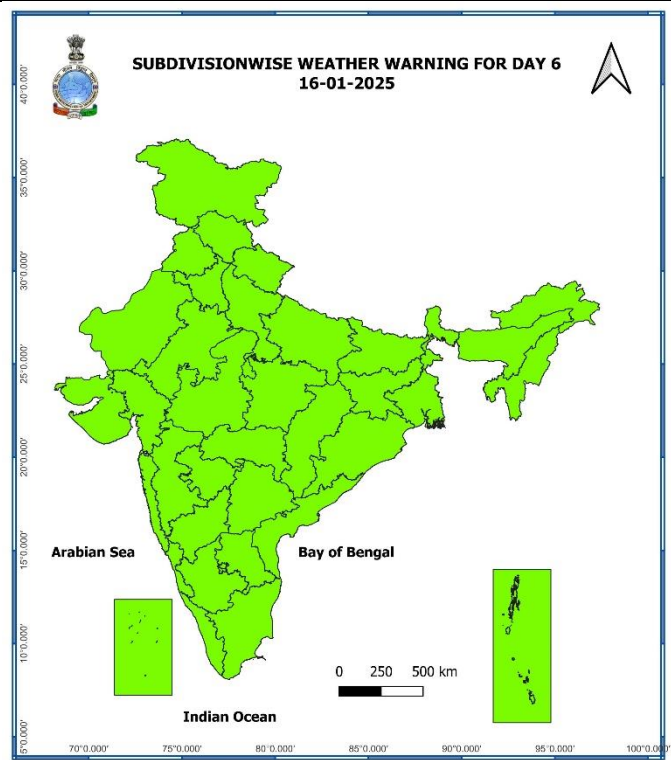
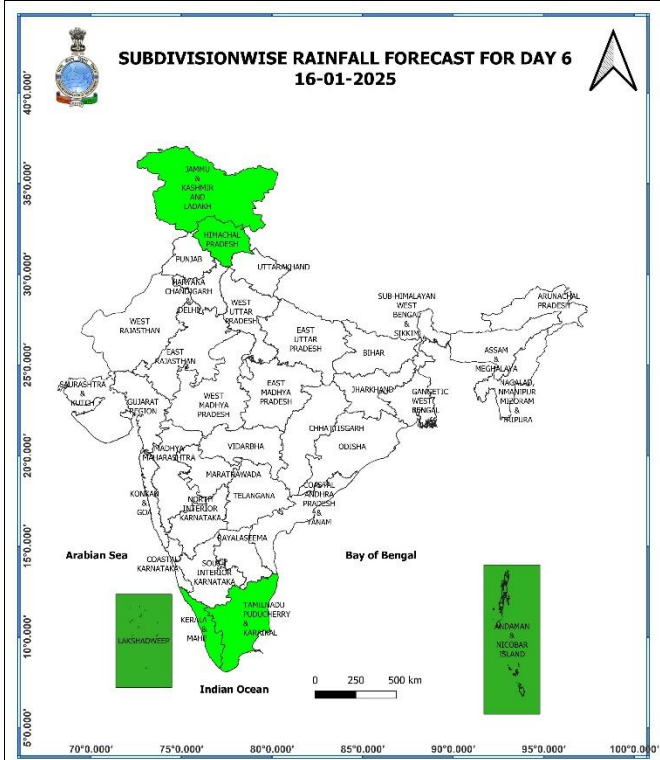
14th January (Day 4):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Tamil Nadu, Puducherry & Karaikal.
- ❖ **Dense fog conditions** likely in isolated pockets of Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, West Rajasthan, Chhattisgarh and Assam & Meghalaya during night/morning hours.
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Rayalaseema and Coastal Andhra Pradesh & Yanam.



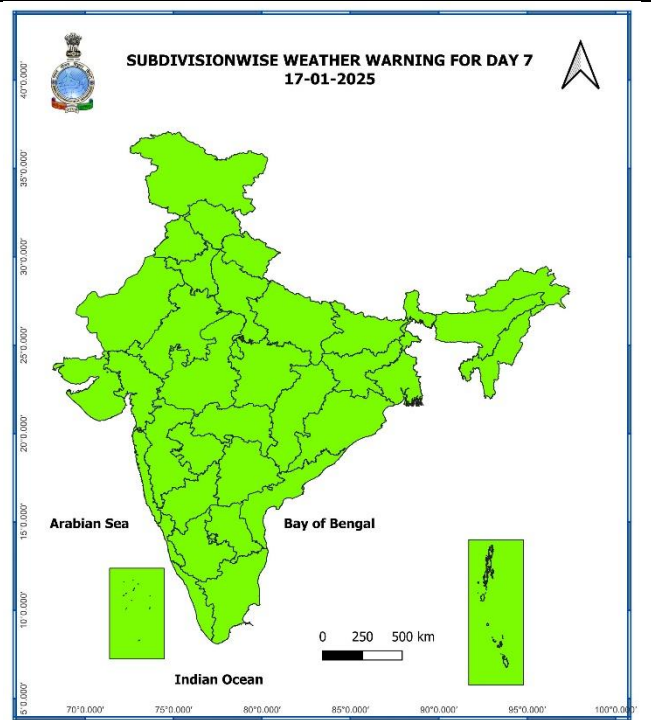
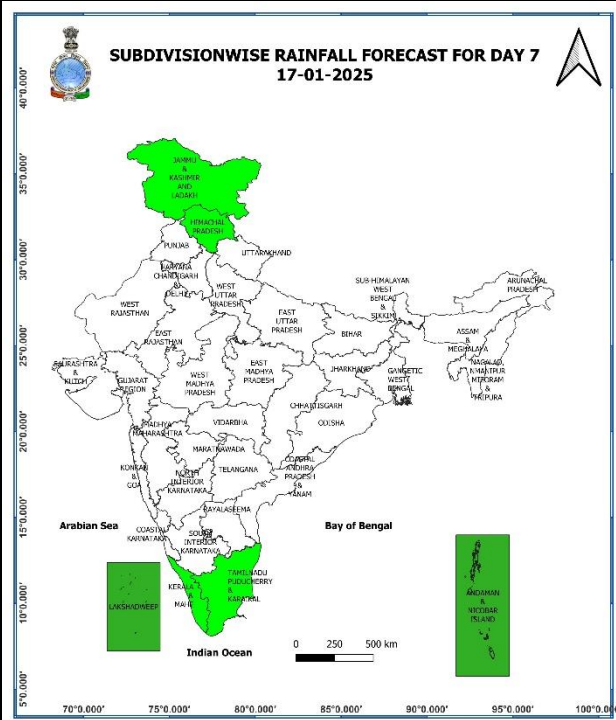
15th January (Day 5):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Tamil Nadu, Puducherry & Karaikal.
- ❖ **Dense fog conditions** likely in isolated pockets of Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh and Assam & Meghalaya during night/morning hours.
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.



16th January (Day 6):

❖ **No Weather Warning.**



17th January (Day 7):

❖ **No Weather Warning.**

Weather Outlook for subsequent 3 days (During 18th January– 20th January, 2025)

- ❖ Isolated rainfall over Tamil Nadu & Kerala and scattered to fairly widespread rainfall over Nicobar Islands.
- ❖ Isolated rainfall/snowfall over higher reaches of Jammu & Kashmir & Himachal Pradesh.
- ❖ 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

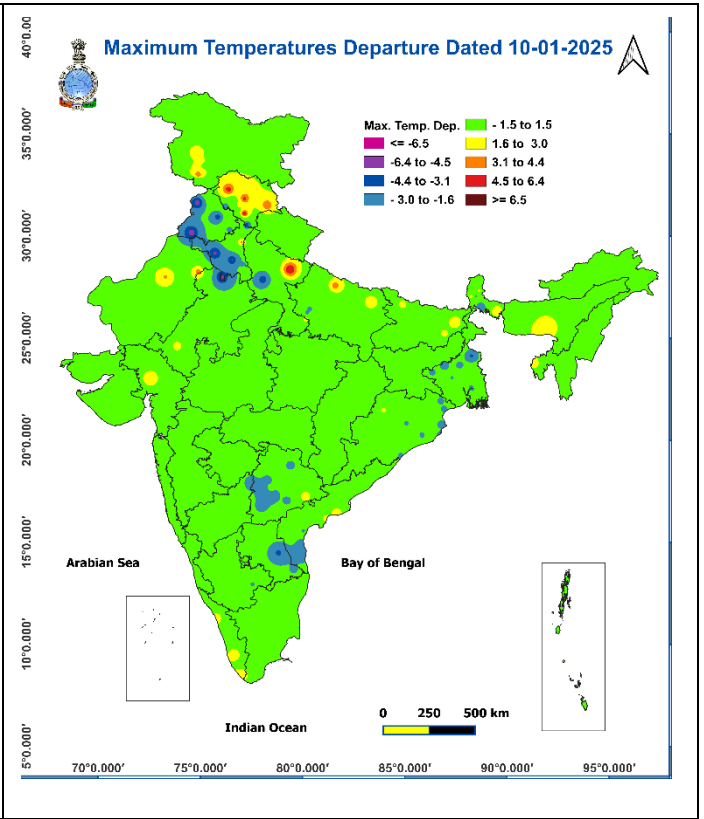
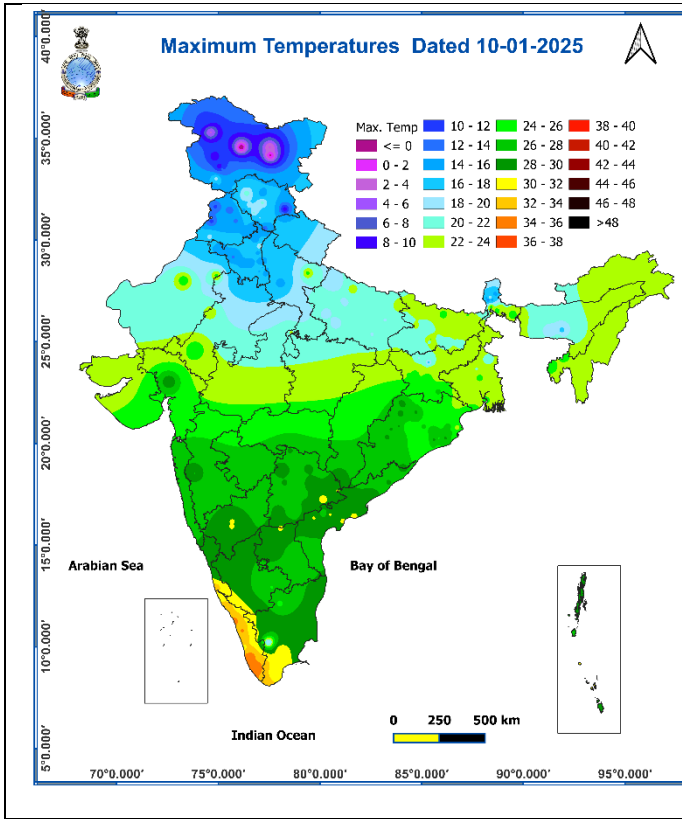
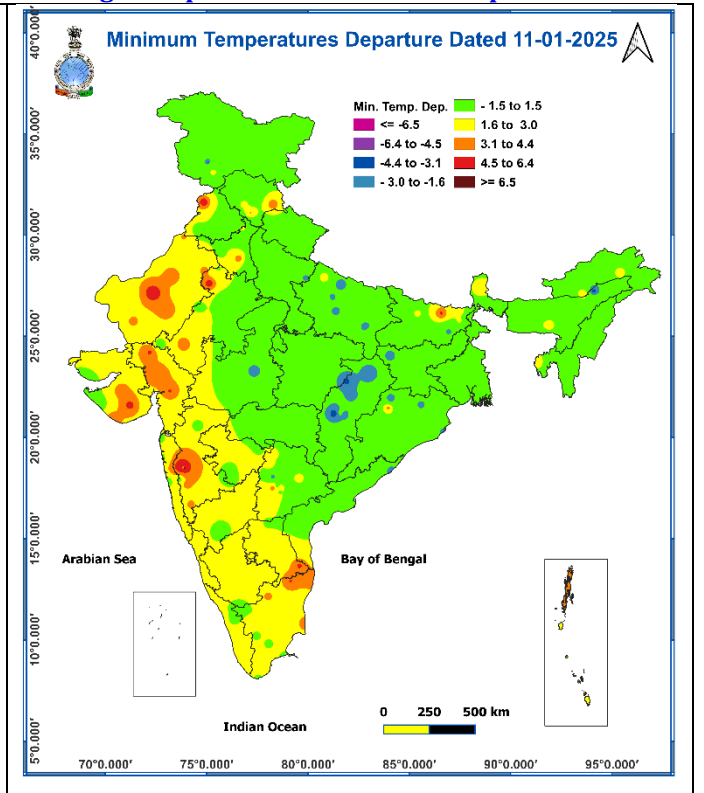
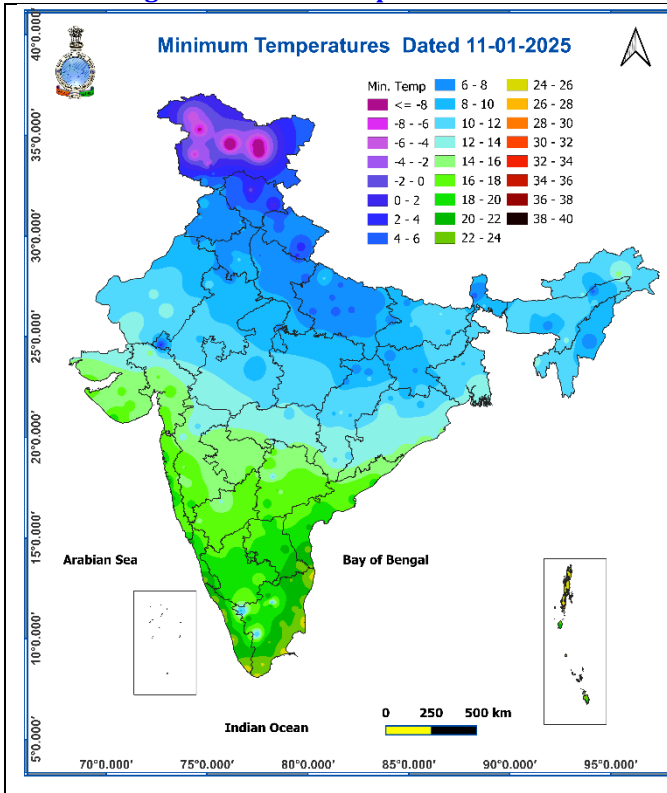


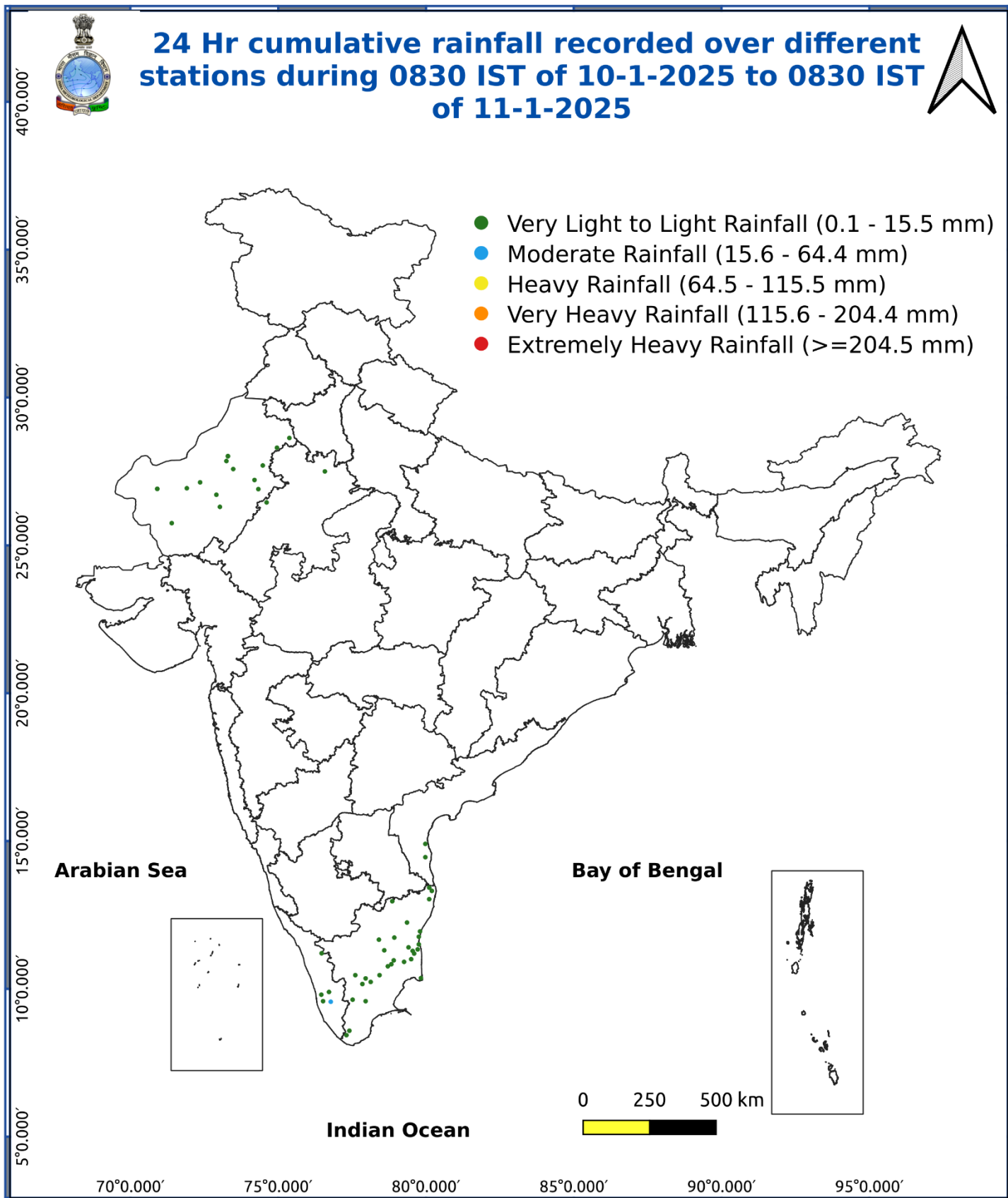
Fig. 3: Minimum Temperatures

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

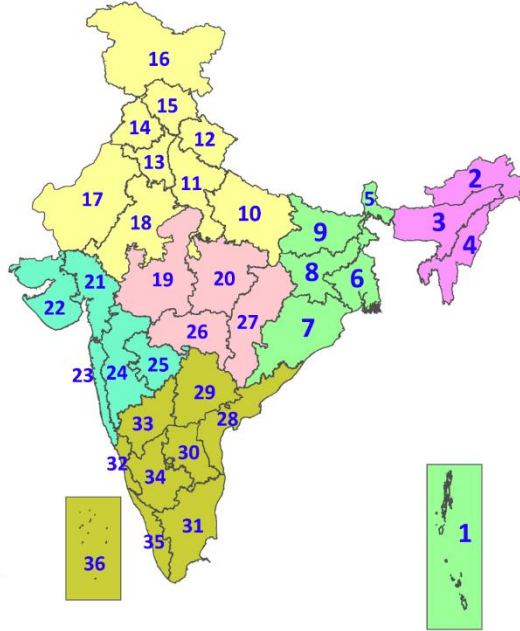
- In **Himachal Pradesh, Uttarakhand, Haryana, West Uttar Pradesh, Rajasthan, and West Madhya Pradesh**, harvest matured fruits & vegetables at the earliest. Use hail net or hail cap in fruit orchards and fruit-bearing vegetables to prevent mechanical damage
- In **Jammu & Kashmir, Himachal Pradesh and Rajasthan**, 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.
- Make arrangements to drain out excess water from crop fields in **Tamilnadu**.
- 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)

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|----------------------|----------------------|--------------|
| 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	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 $\leq 4^{\circ}\text{C}$ (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)