

Monday, January 20, 2025
Time of Issue: 0815 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems, Forecast and warning:

- ❖ The Western Disturbance as a trough in middle tropospheric levels with its axis at 5.8 km above mean sea level Long. 72°E to the north of Lat. 30°N. An induced cyclonic circulation lies over West Rajasthan & adjoining Pakistan at lower tropospheric level. Another Western Disturbance as a trough in middle & upper tropospheric levels runs roughly along Long. 58°E to the north of Lat. 28°N. Under the influence of these systems:
- ❖ Isolated to Scattered rainfall/snowfall very likely over Western Himalayan Region till 21st; scattered to fairly widespread rainfall/snowfall on 22nd & 23rd; and isolated to scattered rainfall accompanied with thunderstorm & lightning likely over Punjab, Haryana Chandigarh & Delhi, north Rajasthan & West Uttar Pradesh on 22nd & 23rd January.
- ❖ Due to strong northeasterly winds over Tamilnadu coast, scattered Light to moderate rainfall accompanied with **Thunderstorm & lightning** at isolated places very likely over coastal Tamil Nadu, Puducherry on 20th January.

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

Temperature Conditions during past 24 hours till 0830 hours IST of 19.01.2025:

- ❖ Minimum temperatures were **below 0°C** over many parts of Jammu, Kashmir & Ladakh; **2-5°C** over few parts of Himachal Pradesh & Punjab; **6-12°C** over many parts of Northwest, Northeast & Central India; **12-16°C** over many parts of East & West India.
- ❖ During the past 24 hours, there had been **fall in minimum temperatures by 1-3°C** in isolated parts of East Madhya Pradesh, Chhattisgarh, Vidarbha, Telangana, Odisha, Gangetic West Bengal, Assam & Meghalaya, Maharashtra & North interior Karnataka and **rise by 3-6°C** in some parts West Madhya Pradesh; in isolated places of Himachal Pradesh West Uttar Pradesh, Saurashtra & Kutch, Gujarat State; **by 1-3°C** in some parts of Coastal Andhra Pradesh & Yanam, Kerala; in isolated places of Rajasthan, Haryana.

Forecast of temperature:

- ❖ Gradual rise in minimum temperatures by 2-3°C likely over plains of Northwest India during next 2 days, no significant change thereafter.
- ❖ No significant change in minimum temperatures likely over Central India during next 24 hours and gradual rise by 2-3°C thereafter.
- ❖ No significant change in minimum temperatures likely over Maharashtra & Goa during next 24 hours & rise by 2-3°C thereafter.
- ❖ No significant change in minimum temperatures likely over West, East India & Gujarat region during next 4-5 days.

Dense Fog Warnings:

Dense fog conditions very likely to continue to prevail during night/early morning hours in isolated pockets of Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 20th -21st; Uttarakhand, West Rajasthan, Madhya Pradesh on 20th January.

Cold Day Warnings:

Cold day conditions very likely in isolated pockets of Himachal Pradesh on 23rd January.

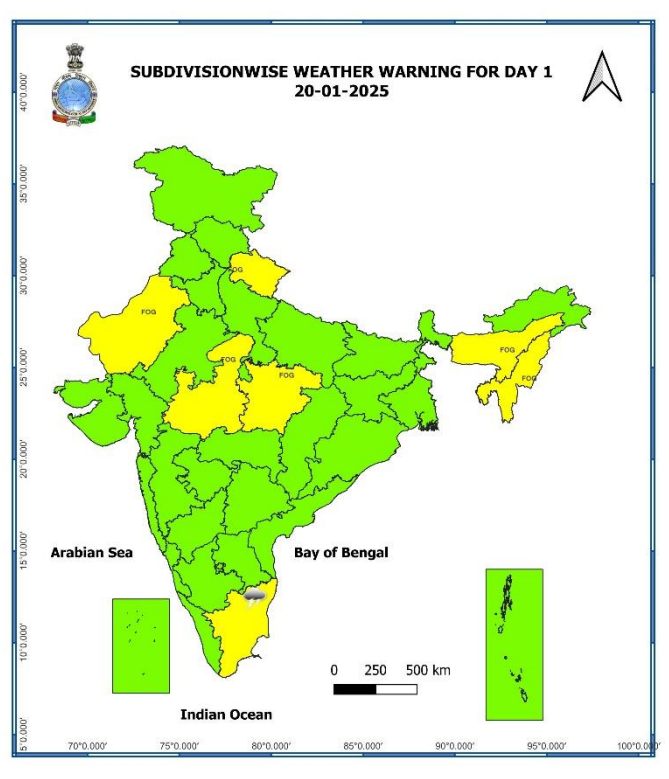
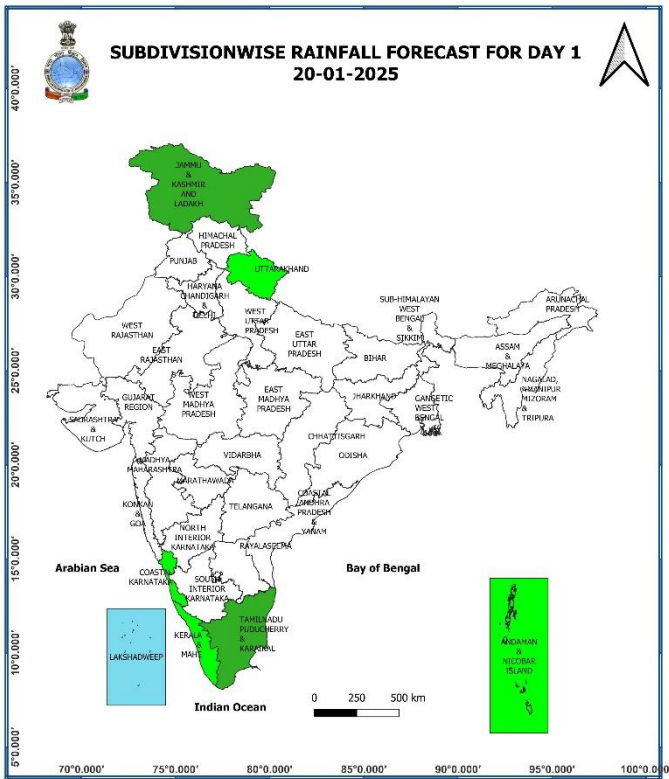
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at most places** over Tamil Nadu, Puducherry & Karaikal; **at a few places** over Kerala & Mahe; **at isolated places** over Lakshadweep, Coastal & South Interior Karnataka and Coastal Andhra Pradesh & Yanam.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **Tamil Nadu:** Pamban-8, Vellore, Parangipettai & kodaikanal-1 each; **Coastal Karnataka:** Mangalore_bajpe-3.
- ❖ **Heavy rainfall recorded** (from 0830 hours IST to 1730 hours IST of yesterday): **Heavy rainfall** at isolated places over south Tamil Nadu.
- ❖ **Fog recorded (at 0530 hours IST of today):** **Dense to very dense fog** in isolated pockets of Odisha and **Shallow to Moderate fog** in isolated pockets of Rajasthan, Delhi, Bihar and East Uttar Pradesh.
- ❖ **Visibility reported (at 0530 hours IST of today) (≤ 200 m):** **Rajasthan:** Udaipur, Kota, Churu & Bikaner -500 each; **East Uttar Pradesh:** Gorakhpur -500; **Bihar:** Purnea & Bhagalpur -500 each; **Odisha:** Paradip -0; Jharsuguda, Chandbali -500 each; Delhi: Safdarjung-200, Palam-500.
- ❖ **Minimum Temperature Departures (as on 19-01-2025):** Minimum temperatures were **markedly above normal (5.0°C or more)** at a few places over Gujarat Region; **appreciably above normal (3.1°C to 5.0°C)** at many places over West Rajasthan; at a few places over East Rajasthan, West Madhya Pradesh, Saurashtra & Kutch, Coastal Karnataka and Kerala & Mahe; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttar Pradesh, Bihar, Madhya Maharashtra, Tamil Nadu, Puducherry & Karaikal and Coastal Andhra Pradesh & Yanam; **above normal (1.6°C to 3.0°C)** at many places over Punjab and Assam & Meghalaya; at a few places over Haryana-Chandigarh-Delhi, Konkan & Goa, South Interior Karnataka and Rayalaseema; at isolated places over East Madhya Pradesh and Gangetic West Bengal. These were **below normal (-1.6°C to -3.0°C)** at isolated places over Chhattisgarh and near normal over rest parts of the country (Fig. 4). Yesterday, the lowest minimum temperature of 4.8°C was reported at **Amritsar (Punjab)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 19-01-2025):** Maximum temperatures were **markedly above normal (-5.1°C or more)** at a few places over Haryana-Chandigarh-Delhi; at isolated places over West Uttar Pradesh, Punjab; **appreciably above normal (3.1°C to 5.0°C)** at many places over East Rajasthan,, Saurashtra & Kutch and Coastal Karnataka; at a few places over Gujarat Region, Assam & Meghalaya, Arunachal Pradesh and Bihar; at isolated places Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Rajasthan, Uttarakhand, Madhya Pradesh, Konkan & Goa and East Uttar Pradesh; **above normal (1.6°C to 3.0°C)** at a few places over Jharkhand; at isolated places over Odisha, Coastal Andhra Pradesh & Yanam, Vidarbha and Chhattisgarh. These were **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over Tamil Nadu, Puducherry & Karaikal; **below normal (-1.6°C to -3.0°C)** at a few places over Kerala & Mahe and Andaman & Nicobar Islands; at isolated places over Rayalaseema, Telangana and South Interior Karnataka and near normal over rest part of the country (Fig. 2). Yesterday, the **highest maximum temperature** of 36.5°C was reported at **Honavar (Coastal Karnataka)** over the plains of the country.

Meteorological Analysis (Based on 0530 hours IST)

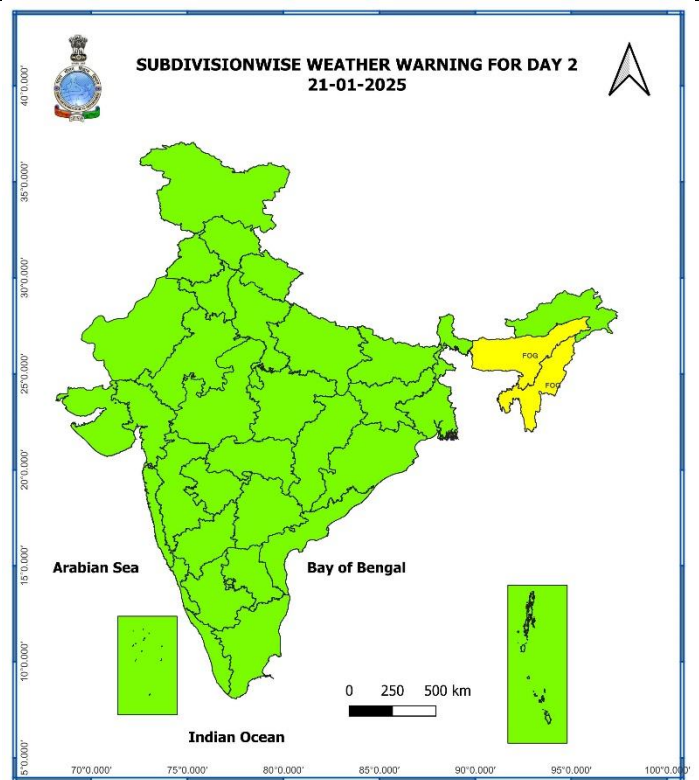
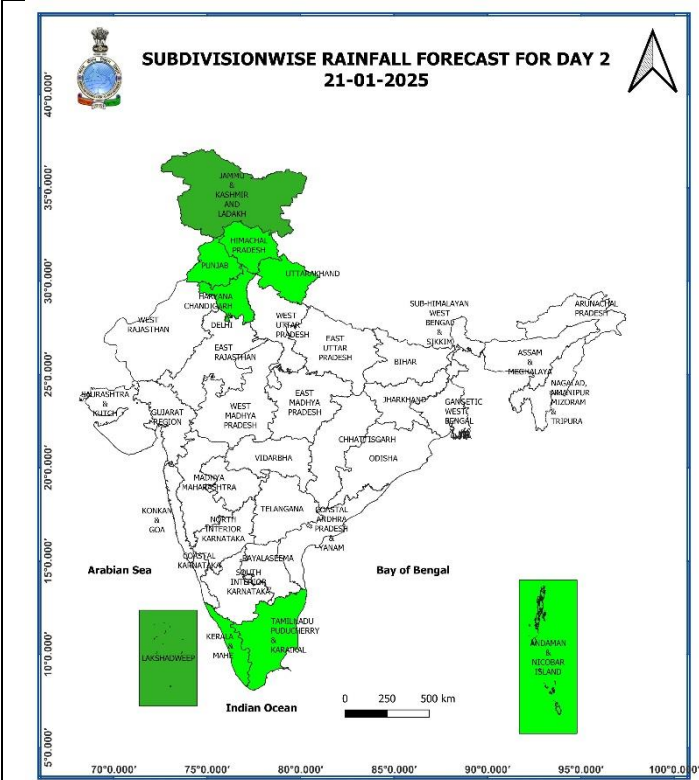
- ❖ The **Western Disturbance** as a trough in middle tropospheric levels with its axis at 5.8 km above mean sea level now runs roughly along Long. 72°E to the north of Lat. 30°N.
- ❖ The induced **cyclonic circulation** over West Rajasthan & adjoining Pakistan at 1.5 km above mean sea level persists.
- ❖ Another **Western Disturbance** as a trough in middle & upper tropospheric levels with its axis at 5.8 km above mean sea level now runs roughly along Long. 58°E to the north of Lat. 28°N.
- ❖ The **trough** from northwest Uttar Pradesh to southwest Rajasthan at 0.9 km above mean sea level persists.
- ❖ Subtropical **westerly Jet Stream** with core winds of the order upto 140 knots at 12.6 km above mean sea level continues to prevail over Northwest India.
- ❖ The **cyclonic circulation** over northeast Assam & neighbourhood at 3.1 km above mean sea level persists.
- ❖ A **cyclonic circulation** lies over Gulf of Mannar & adjoining Sri Lanka at 5.8 km above mean sea level.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 27th January, 2025)



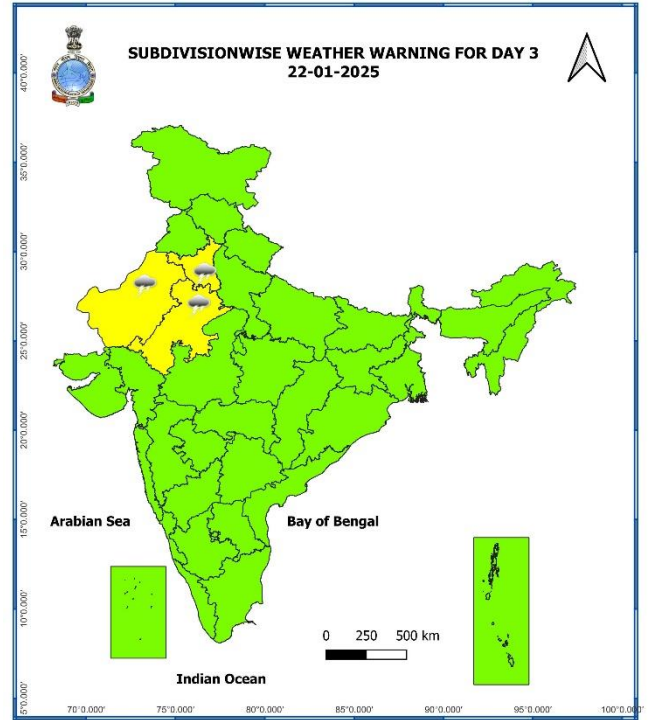
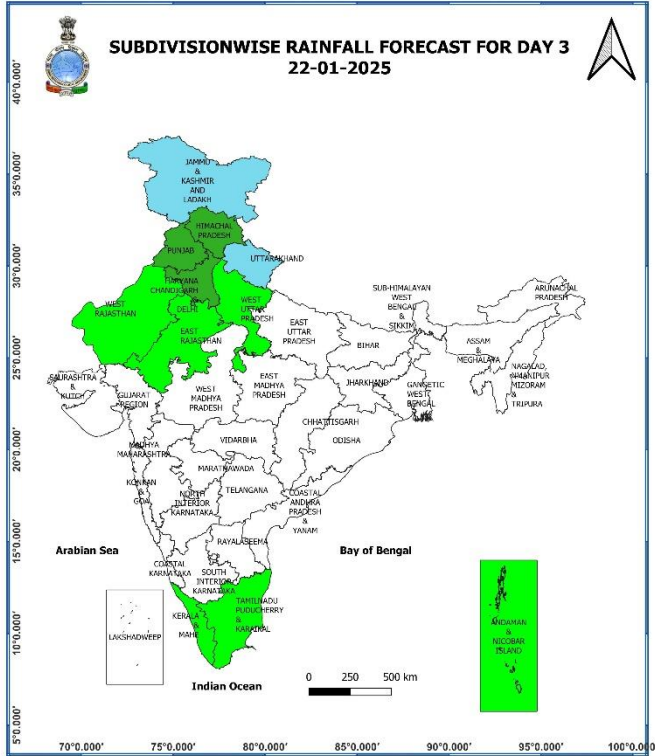
20th January (Day 1):

- ❖ **Dense fog conditions** very likely in isolated pockets of Uttarakhand, West Rajasthan, north Madhya Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during night/morning hours.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over gulf of Mannar and adjoining Comorin area, adjoining south Sri Lanka coast. Fishermen are advised not to venture in to these areas.



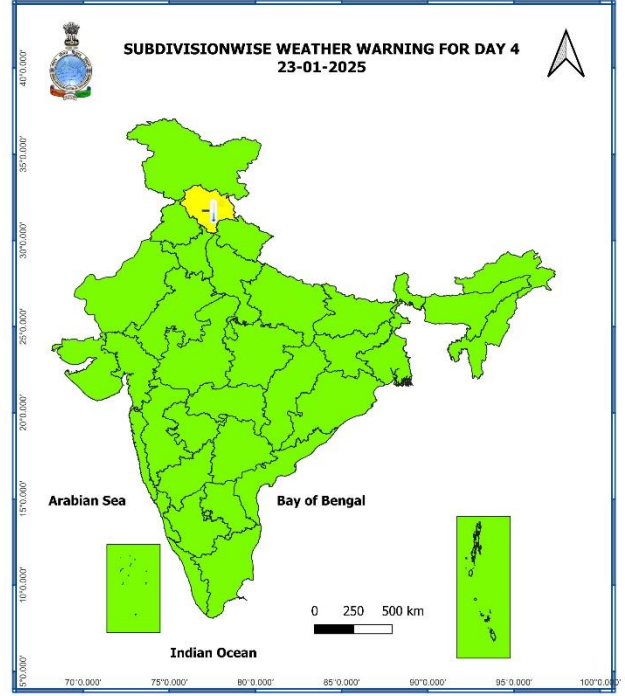
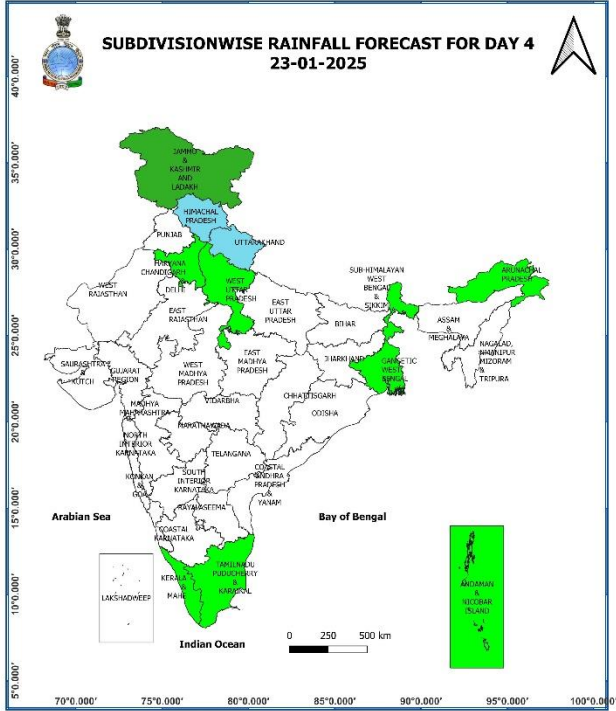
21st January (Day 2):

- ❖ **Dense fog conditions** very likely in isolated pockets of Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during night/morning hours.



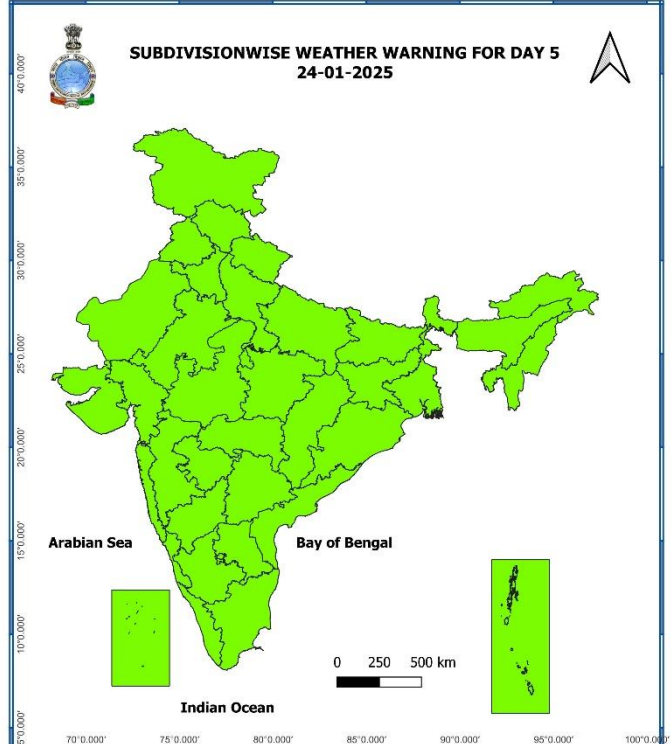
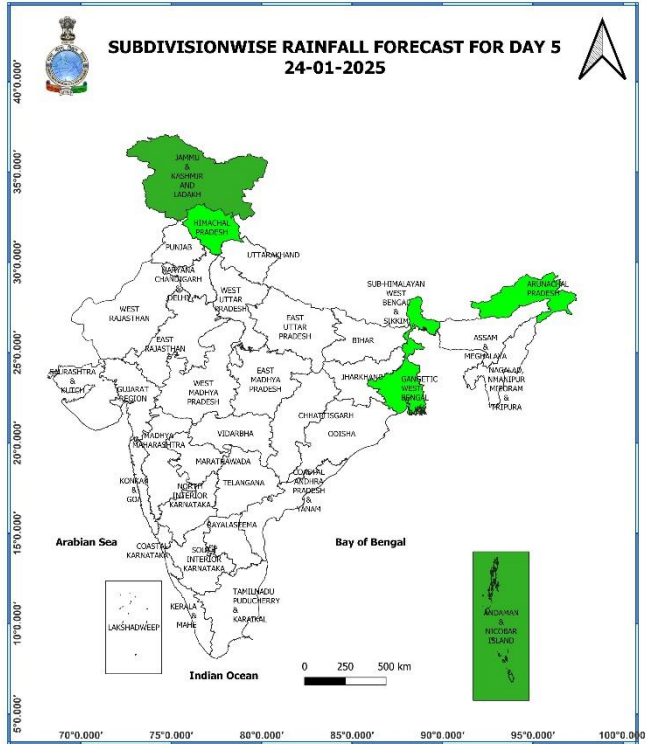
22nd January (Day 3):

- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Himachal Pradesh, Haryana and Rajasthan.



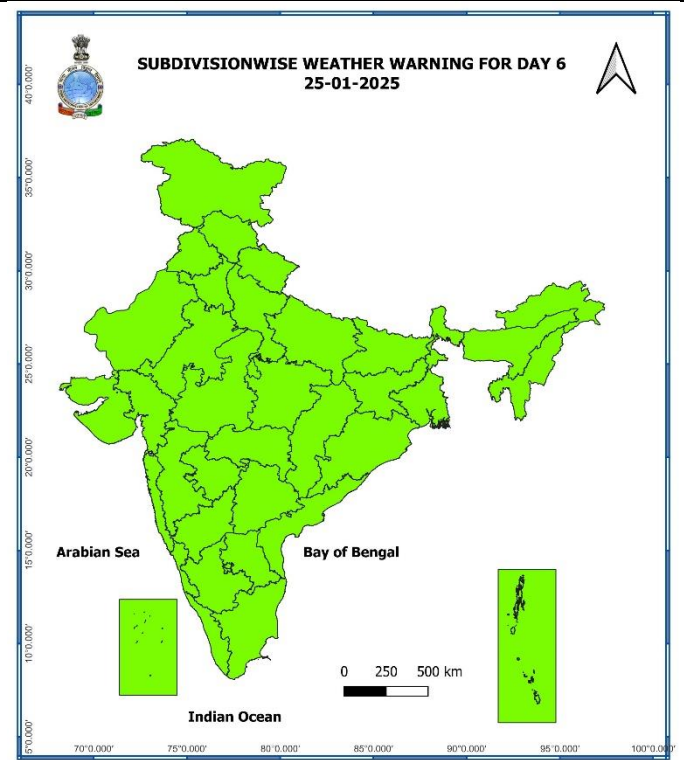
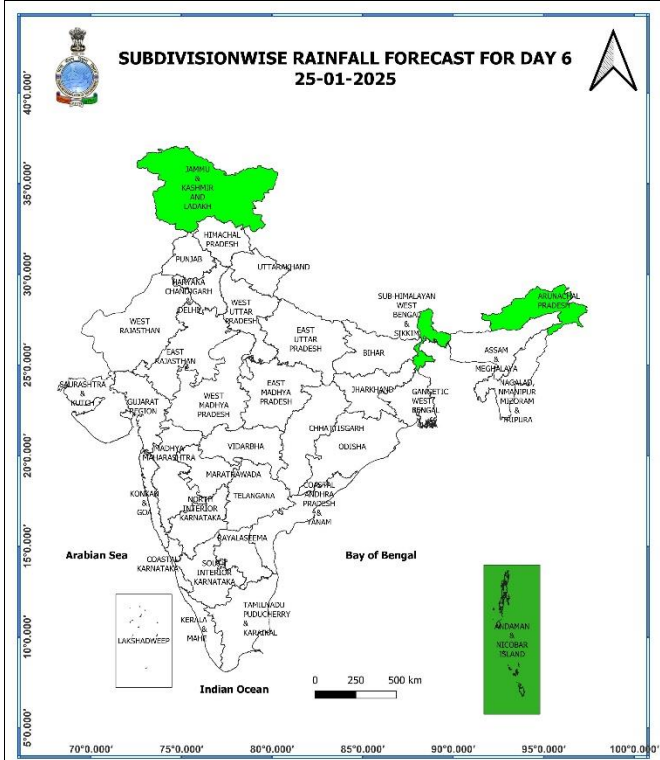
23rd January (Day 4):

❖ **Cold day conditions** likely in isolated pockets of Himachal Pradesh.



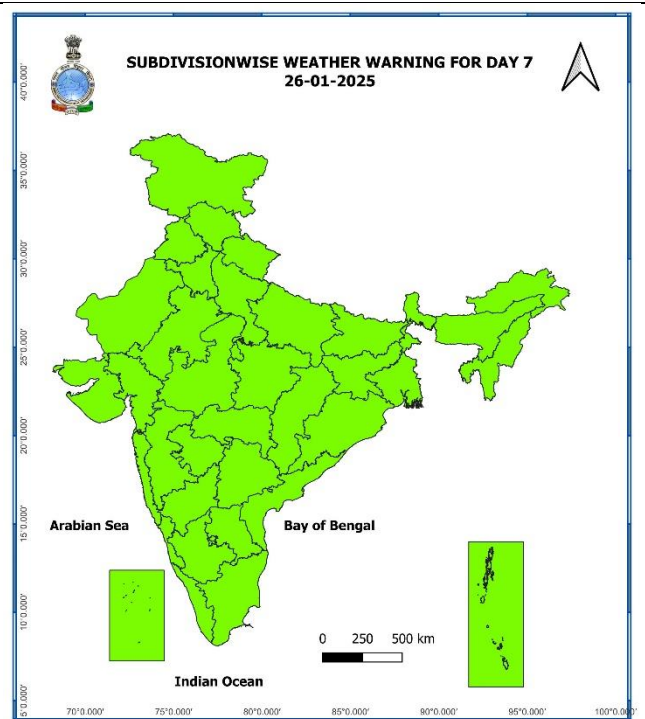
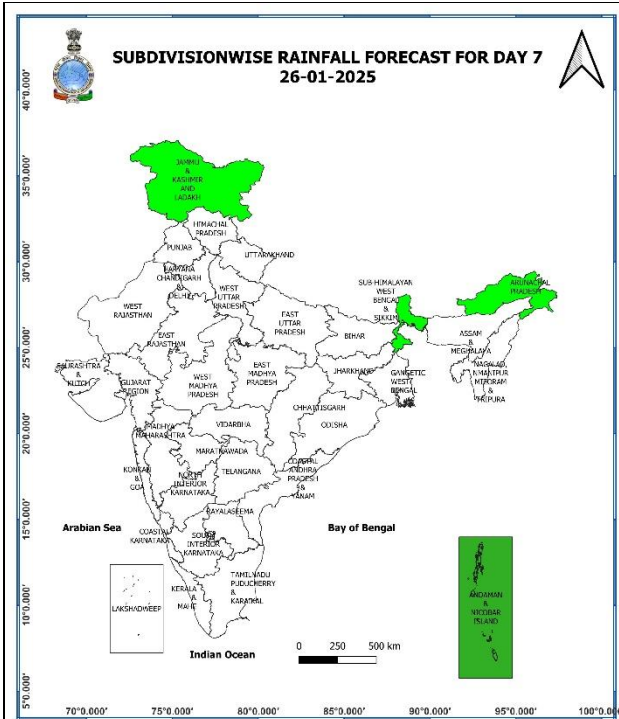
24th January (Day 5):

❖ **No Weather Warning.**



25th January (Day 6):

❖ **No Weather Warning.**



26th January (Day 7):

❖ **No Weather Warning.**

Weather Outlook for subsequent 3 days (During 27th January- 29th January, 2025)

- ❖ Fairly widespread to widespread rainfall/snowfall over western Himalayan region & scattered to fairly widespread rainfall over adjoining plains of Northwest India.
- ❖ Isolated rainfall over Tamil Nadu and scattered to fairly widespread rainfall over Nicobar Islands.
- ❖ Isolated 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

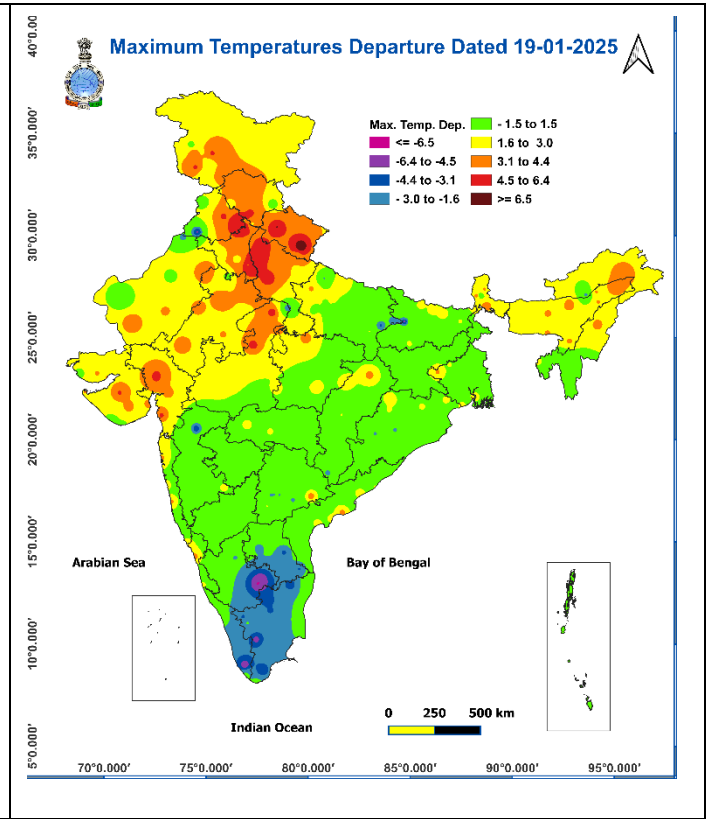
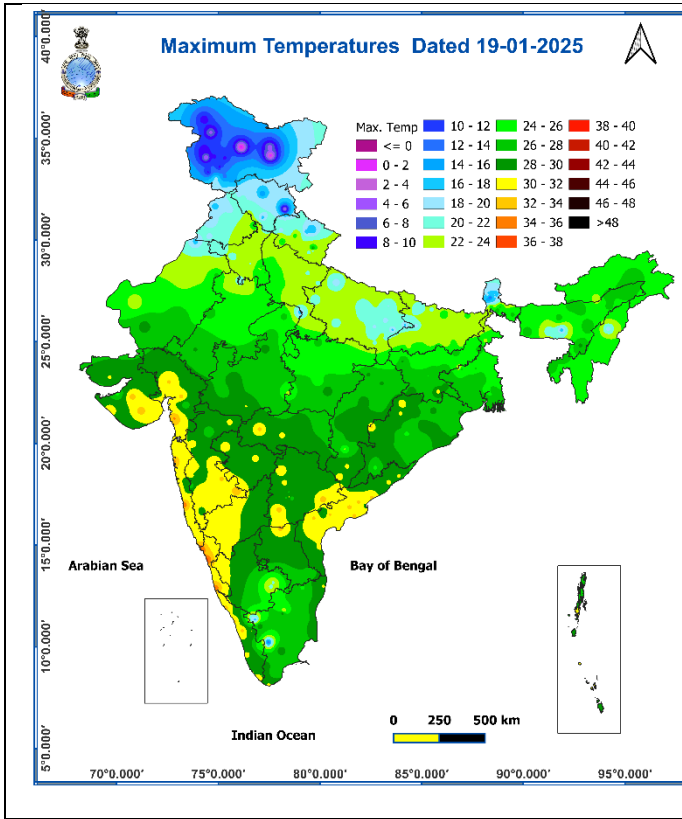


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

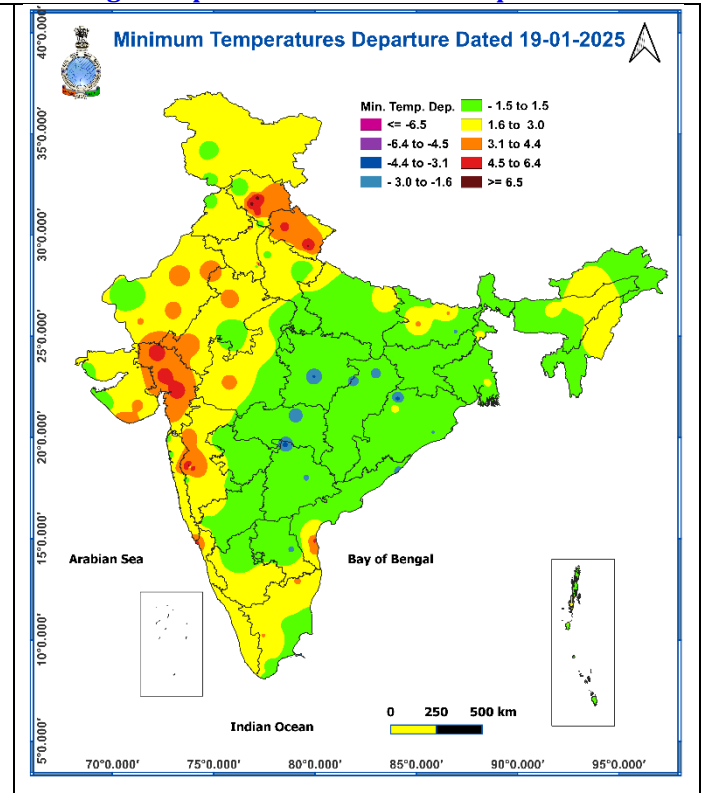
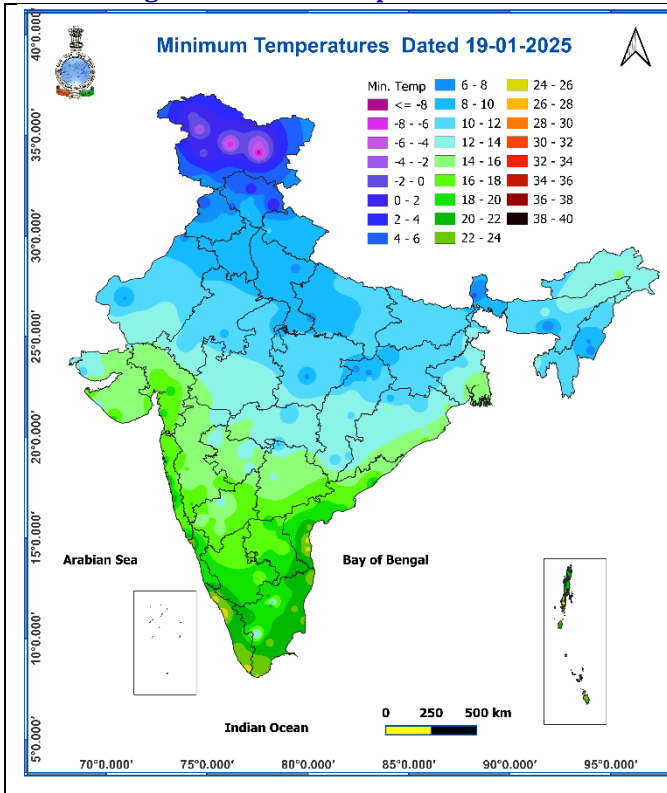
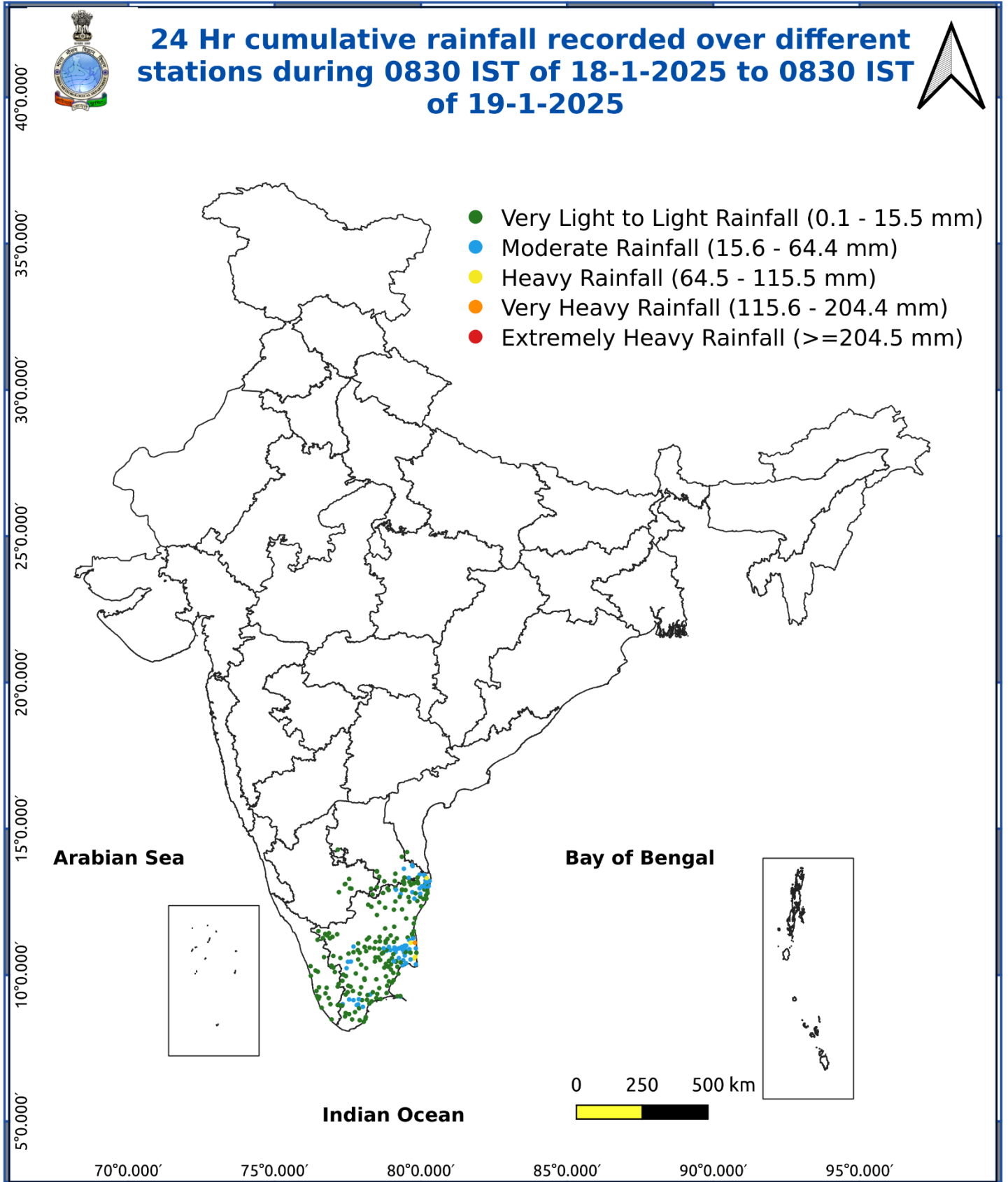


Fig. 5: Accumulated Rainfall (mm) during past 24 hours



* 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 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.

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

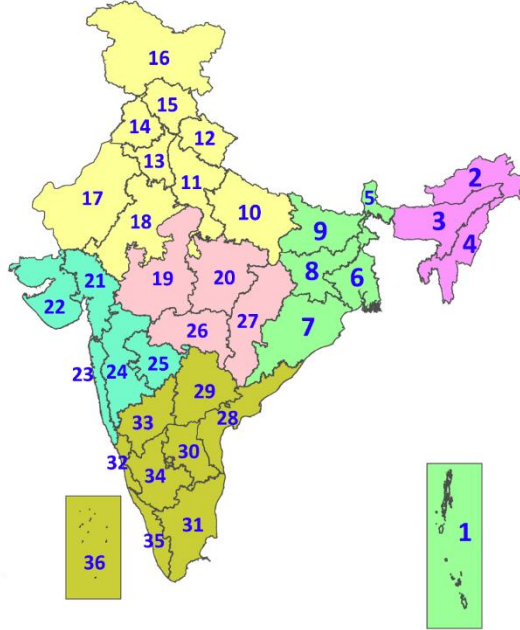
- Drain out excess water from rice, sugarcane, cotton, turmeric, vegetables, and other standing crop fields, as well as coconut and banana orchards in **Tamil Nadu** and from rice, coffee, banana, coconut, areca nut, ginger, pepper, cardamom and other standing crops in **Kerala**.
- Keep the harvested 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>