

Friday, January 17, 2025
Time of Issue: 1945 hours IST
(NIGHT)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems, Forecast and warning:

- ❖ Under the influence of Western Disturbance as a trough in lower and middle tropospheric levels roughly along Long. 54°E to the north of Lat. 30°N, isolated to scattered rainfall/snowfall likely over Western Himalayan Region till 20th.
- ✓ The distribution and intensity of rainfall/snowfall likely to increase over Western Himalayan region during 21st-23rd January (with peak intensity on 22nd & 23rd) due to the likely merging of a fresh Western disturbance with the above system. Isolated to scattered rainfall is also likely over Punjab, Haryana, Chandigarh & Delhi, north Rajasthan and West Uttar Pradesh during 21st-23rd January.
- ✓ Thunderstorm activity at isolated places likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Himachal Pradesh on 21st January.
- ❖ Light to moderate rainfall accompanied with thunderstorm & lightning very likely at a few places over Tamil Nadu, Puducherry & Karaikal on 18th & 19th and Kerala & Mahe on 19th January. Isolated **heavy rainfall** likely over Tamilnadu, Puducherry & Karaikal during 17th-19th and Kerala & Mahe on 19th January.

ii. Temperature, Cold Day 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; **1-5°C** over some parts of Himachal Pradesh; **6-10°C** over many parts of Northwest India; **10-15°C** over many parts of Central & East India; **15-20°C** over many parts of West India. Today, the lowest minimum temperature of **6.3°C** is reported at **Nahan (Haryana)** over the plains of the country.
- ❖ During the past 24 hours, there has been **fall in minimum temperatures by 3-5°C** in some parts of Himachal Pradesh; by **1-3°C** in many parts of Odisha; in some parts of Haryana, Chandigarh & Delhi, Uttar Pradesh, West Madhya Pradesh, Tamilnadu Puducherry & Karaikal; in isolated pockets of Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Rajasthan, Telangana and **rise by 1-3°C** in some parts of Bihar, West Bengal & Sikkim, Gujarat State; in isolated pockets of East Madhya Pradesh, Assam & Meghalaya, Chhattisgarh and Madhya Maharashtra.
- ❖ Minimum temperatures are **below normal (-1°C to -3°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad. These are **appreciably above normal (3°C to 5°C)** at isolated places over West Madhya Pradesh, Konkan & Goa, Bihar; **above normal (1°C to 3°C)** at isolated places over East Uttar Pradesh, Telangana, Rayalaseema, Coastal Andhra Pradesh & Yanam, Madhya Maharashtra, Sub-Himalayan West Bengal & Sikkim, East Madhya Pradesh, Assam & Meghalaya, Tamil Nadu, Puducherry & Karaikal and near normal over rest part of the country.

Forecast of temperature:

- ❖ Gradual rise in minimum temperatures by 2-3°C likely over Gujarat Region during next 48 hours and no significant change thereafter.
- ❖ No significant change in minimum temperatures likely over northwest India during next 48 hours and gradual rise by 2-3°C thereafter.
- ❖ No significant change in minimum temperatures likely over Central & East India and Maharashtra region during next 5 days.

Cold Wave Warnings:

Cold wave conditions very likely in isolated pockets over Himachal Pradesh during 17th-19th January.

Dense Fog Warnings:

Dense to very Dense fog Condition very likely to continue to prevail during night/early morning hours in many parts of Punjab, Haryana, Chandigarh on 17th; in some parts on 18th; in isolated pockets of Punjab, Haryana, Chandigarh on 19th; Uttar Pradesh & West Rajasthan on 17th and East Rajasthan on 17th & 18th January.

Dense fog conditions very likely to continue to prevail during night/early morning hours in isolated pockets of Uttarakhand till 18th; Uttar Pradesh & West Rajasthan on 18th & 19th; East Rajasthan on 19th & 20th; Himachal Pradesh till 20th January.

Cold Day Warnings:

Cold day conditions very likely in isolated pockets of Punjab, Haryana, Chandigarh on 17th & 18th and Rajasthan on 17th January.

Ground Frost Warnings:

Ground frost conditions very likely in isolated pockets of Himachal Pradesh and Uttarakhand on 17th January.

Fishermen Warnings (Annexure V):

Fishermen are advised not to venture into Comorin area & adjoining Gulf of Mannar during 17th-19th; southern parts of southeast Bay of Bengal and adjoining southwest Bay of Bengal, Somalia coast & adjoining sea area on 17th January.

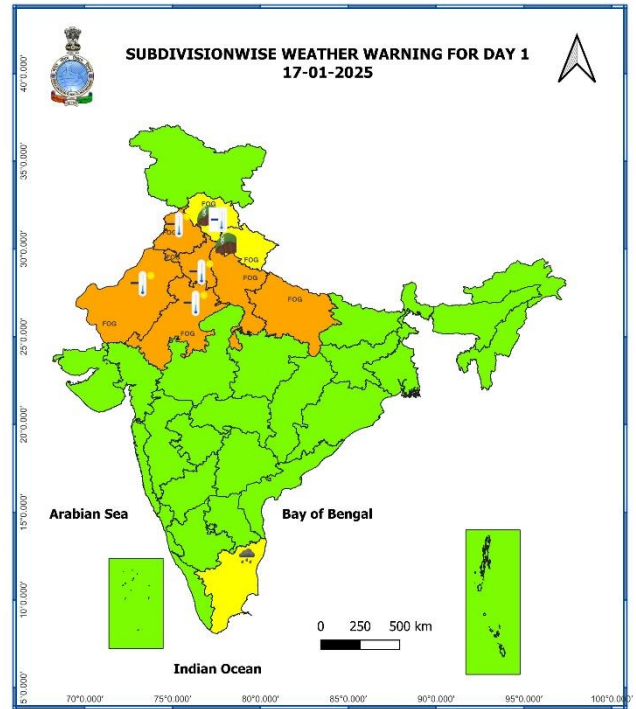
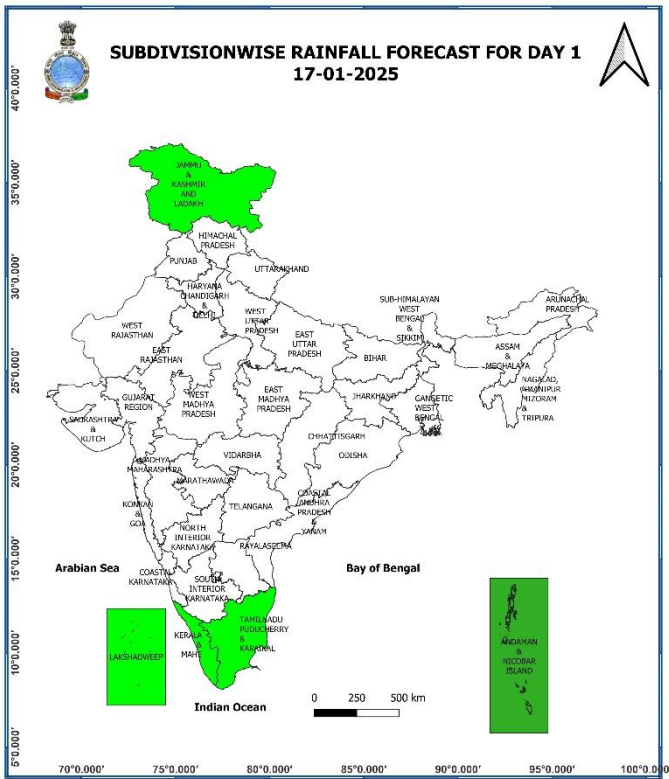
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of today): **at isolated places** over Andaman & Nicobar Islands.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of today) (in cm): **Nil**.
- ❖ **Heavy rainfall recorded** (from 0830 hours IST to 1730 hours IST of today): **Nil**.
- ❖ **Cold day conditions** prevailed in isolated pockets of East Rajasthan.
- ❖ **Fog recorded** (at 1730 hours IST of today): **Shallow fog (visibility < 500 m)** reported in isolated pockets of Delhi.
- ❖ **Visibility reported** (at 1730 hours IST of today) (≤ 200 m): **Delhi- Safdarjung -500**.
- ❖ **Ground Frost conditions** reported in isolated pockets of Himachal Pradesh.
- ❖ **Minimum Temperature Departures (as on 17-01-2025):** Minimum temperatures are **appreciably above normal (3.1°C to 5.0°C)** at isolated places over West Madhya Pradesh, Konkan & Goa, Bihar; **above normal (1.6°C to 3.0°C)** at isolated places over East Uttar Pradesh, Telangana, Rayalaseema, Coastal Andhra Pradesh & Yanam, Madhya Maharashtra, Sub-Himalayan West Bengal & Sikkim, East Madhya Pradesh, Assam & Meghalaya, Tamil Nadu, Puducherry & Karaikal. These are **below normal (-1.6°C to -3.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad **and near normal** over rest part of the country (Fig. 4). Today, the **lowest minimum temperature of 2.8°C** is reported at **Pathankot (Punjab)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 16-01-2025):** Maximum temperatures are **appreciable above normal (3.1°C to 5.0°C)** at isolated places over Arunachal Pradesh, Assam & Meghalaya, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Konkan & Goa; **above normal (1.6°C to 3.0°C)** at many places over Nagaland, Manipur, Mizoram & Tripura; at isolated places over Kerala & Mahe and West Uttar Pradesh. These are **markedly below normal (-5.1°C or less)** at isolated places over Haryana-Chandigarh-Delhi, Rajasthan, West Madhya Pradesh, Jharkhand and Punjab; **below normal (-1.6°C to -3.0°C)** at a few places over Gujarat Region; at isolated places over Saurashtra & Kutch, Telangana, Odisha, East Madhya Pradesh, Rayalaseema, Madhya Maharashtra, Interior Karnataka and near normal over rest part of the country (Fig. 2). Today, the **highest maximum temperature of 35.9°C** is reported at **Thiruvananthapuram (Kerala)** over the plains of the country.

Meteorological Analysis (Based on 1730 hours IST)

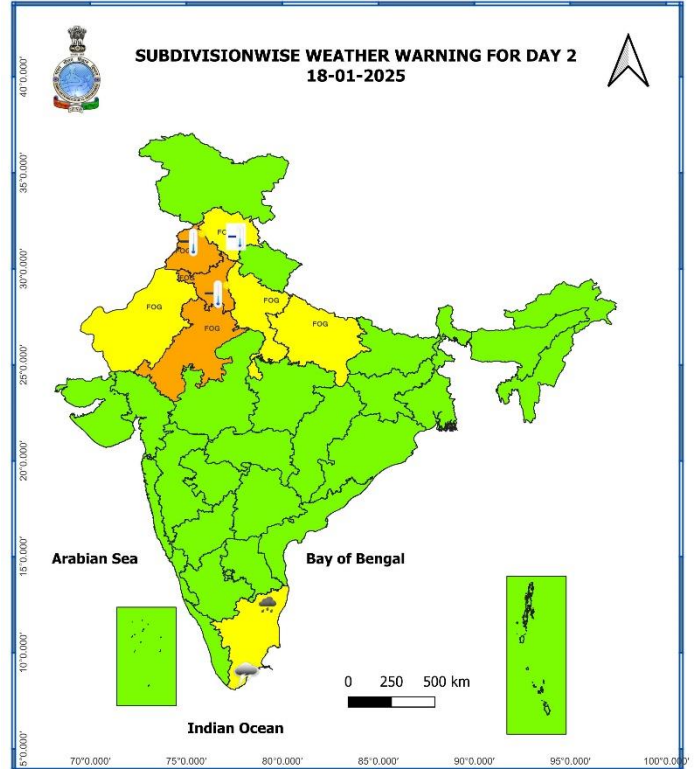
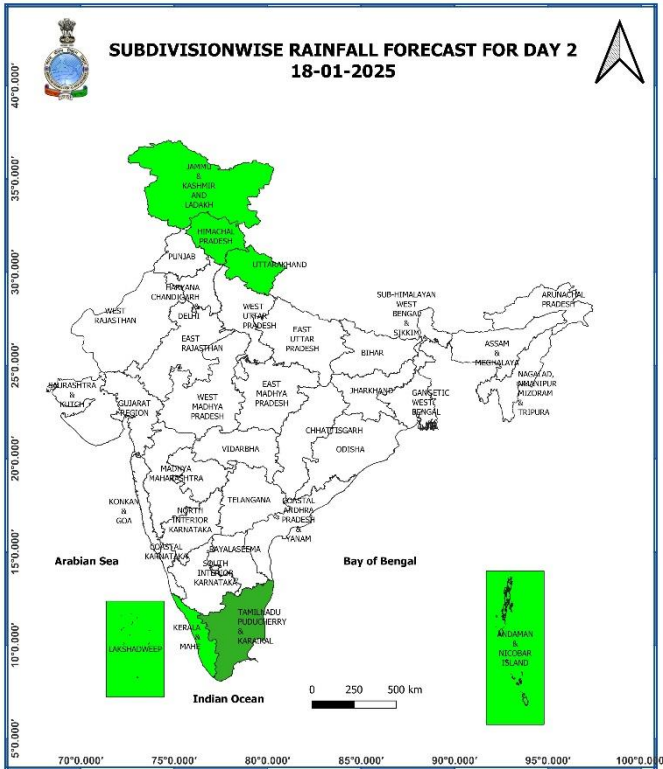
- ❖ The **Western Disturbance** as a cyclonic circulation over northwest Uttar Pradesh & neighbourhood at 3.1 km above mean sea level persists.
- ❖ Another **Western Disturbance** as a trough in lower and middle tropospheric level with its axis at 3.1 km above mean sea level now runs roughly along Long. 55°E to the north of Lat. 30°N.
- ❖ The **cyclonic circulation** over northeast Assam & neighbourhood at 3.1 km above mean sea level persists.
- ❖ Subtropical **westerly Jet Stream** with core winds of the order upto 115 knots at 12.6 km above mean sea level continues to prevail over North India.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 24th January, 2025)



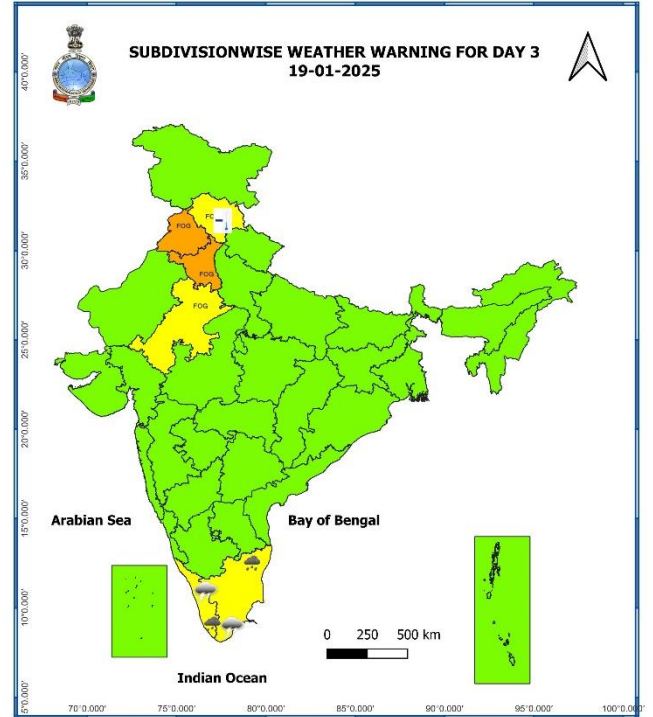
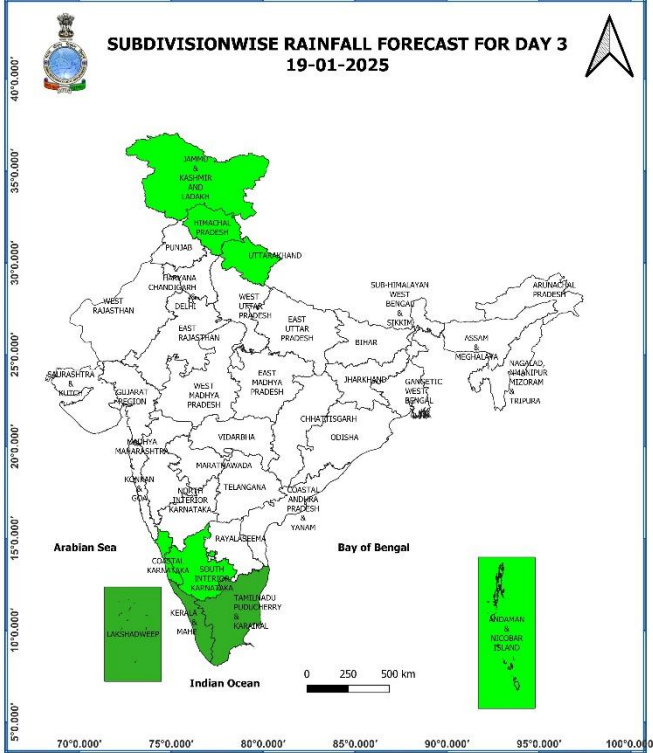
17th January (Day 1):

- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal.
- ❖ **Dense to very dense fog conditions** very likely in many parts of Punjab and Haryana-Chandigarh; isolated places over Uttar Pradesh and Rajasthan; **Dense fog conditions** in isolated pockets of Himachal Pradesh, Uttarakhand during night/morning hours.
- ❖ **Cold day conditions** very likely in isolated pockets of Punjab, Haryana-Chandigarh and Rajasthan.
- ❖ **Cold wave conditions** very likely in isolated pockets of Himachal Pradesh.
- ❖ **Ground frost conditions** very likely at isolated places over Himachal Pradesh, Uttarakhand.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over Comorin area and adjoining gulf of Mannar, over southern parts of southeast Bay of Bengal and adjoining southwest Bay of Bengal. **Squally wind with speed 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over Somalia coast and adjoining sea areas. Fishermen are advised not to venture in to these areas.



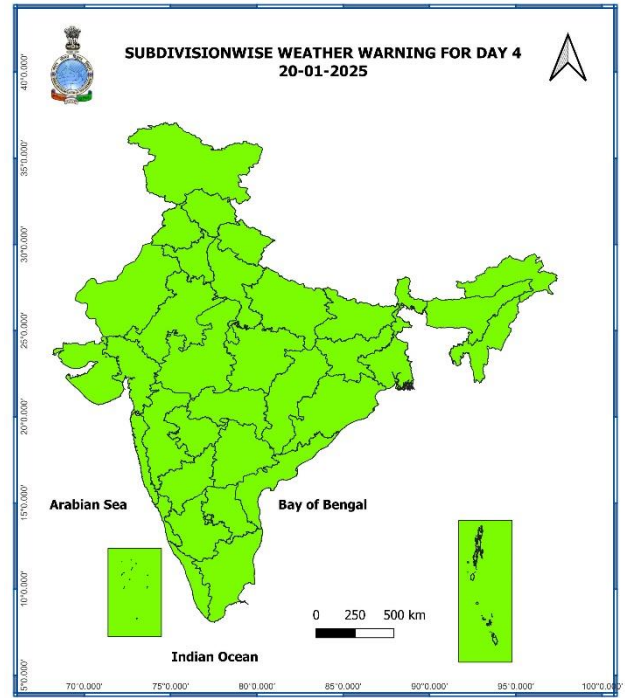
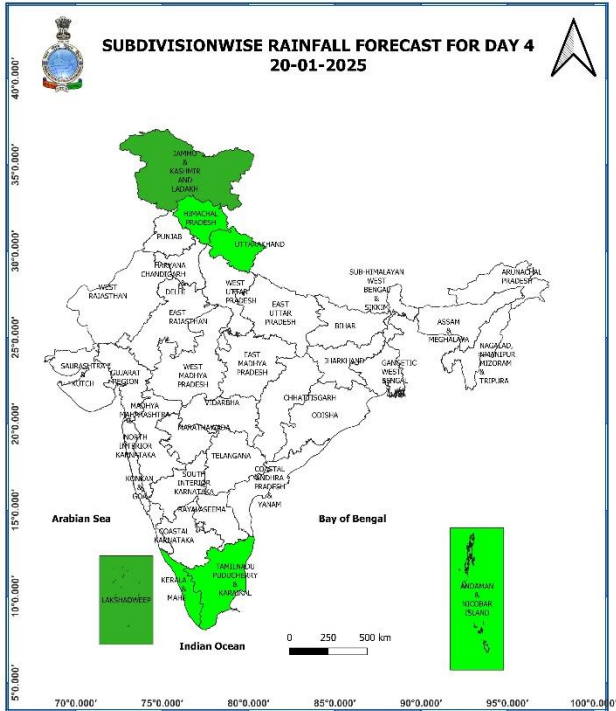
18th January (Day 2):

- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal.
- ❖ **Dense to very dense fog conditions** very likely at a few places over Punjab and Haryana-Chandigarh, at isolated places over East Rajasthan; **dense fog conditions** likely at isolated pockets of Himachal Pradesh, Uttar Pradesh, West Rajasthan during night/morning hours.
- ❖ **Cold day conditions** very likely in isolated pockets of Punjab, Haryana-Chandigarh.
- ❖ **Cold wave conditions** very likely in isolated pockets of Himachal Pradesh.
- ❖ **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. Fishermen are advised not to venture in to these areas.



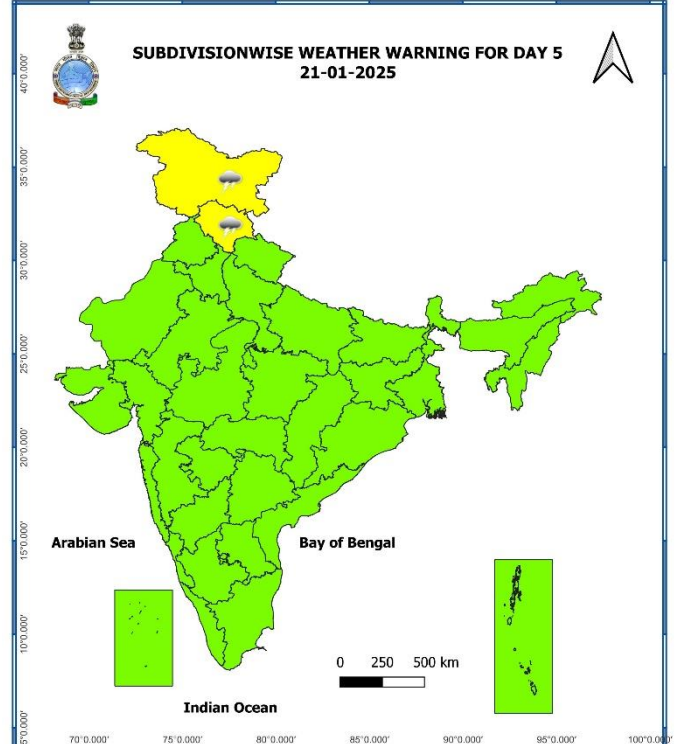
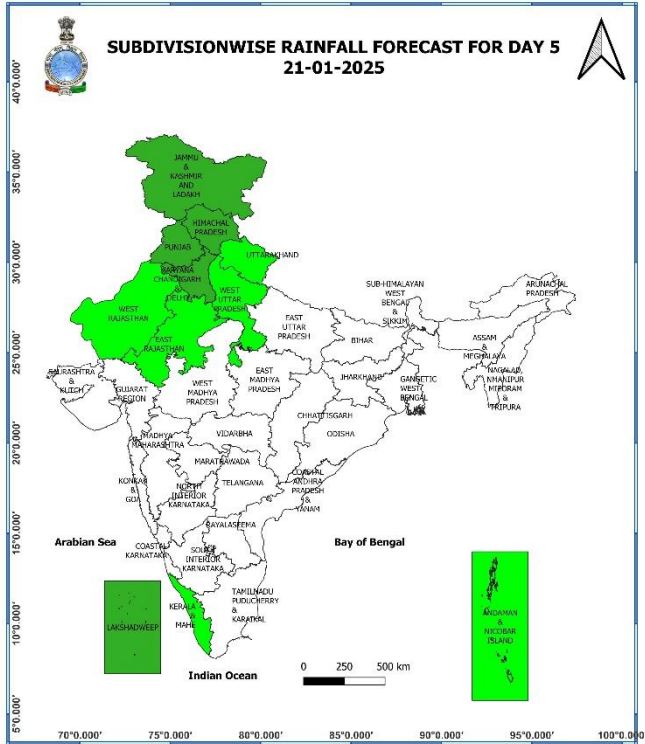
19th January (Day 3):

- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ **Cold wave conditions** very likely in isolated pockets of Himachal Pradesh.
- ❖ **Dense to very dense fog conditions** very likely at isolated pockets over Punjab, Haryana-Chandigarh; **Dense fog conditions** likely in isolated pockets of Himachal Pradesh, East Rajasthan during night/morning hours.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over Comorin area and adjoining gulf of Mannar. Fishermen are advised not to venture in to these areas.



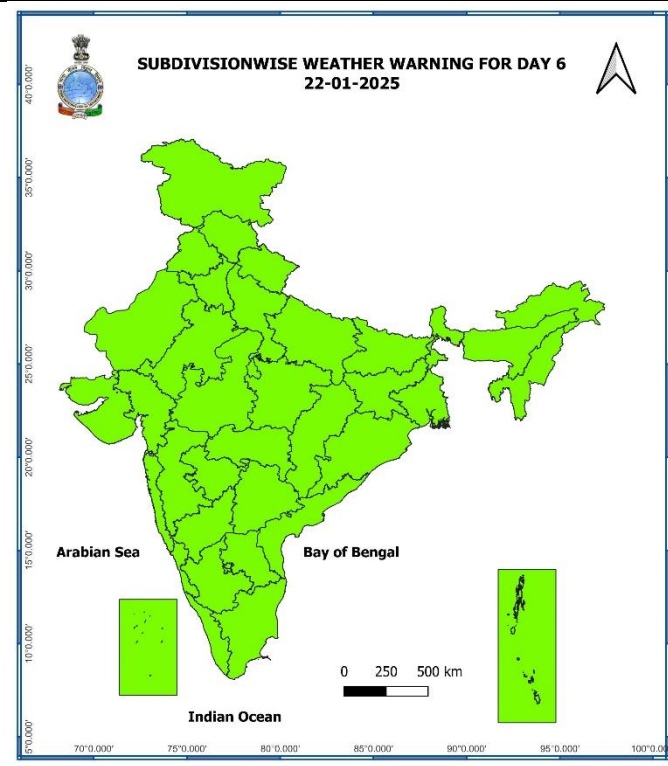
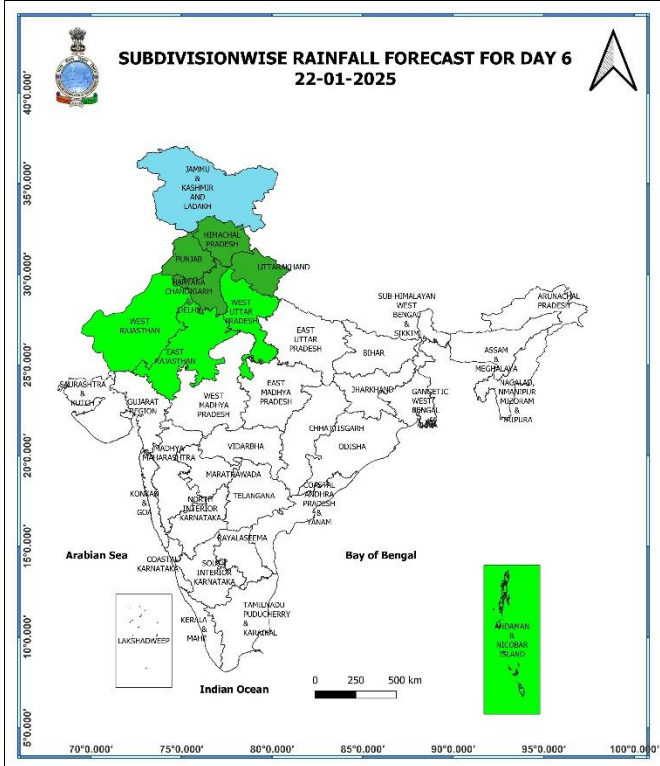
20th January (Day 4):

❖ **No Weather Warning.**



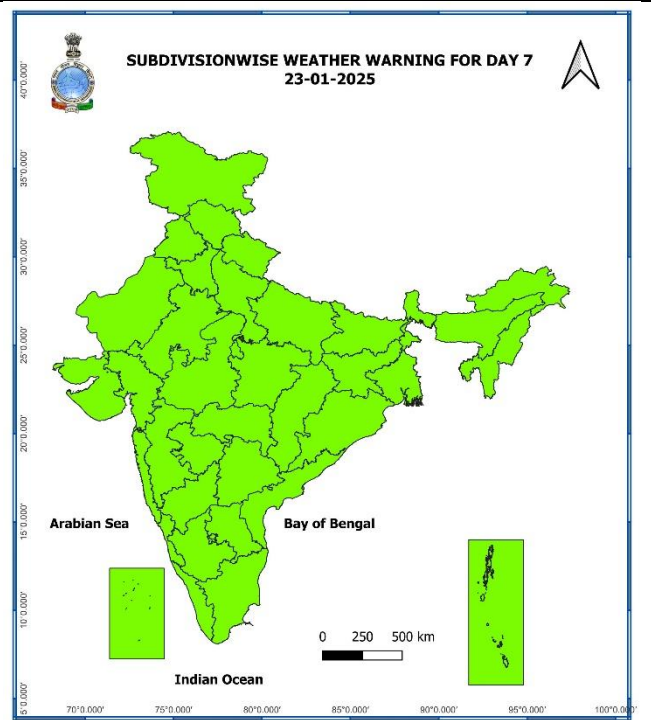
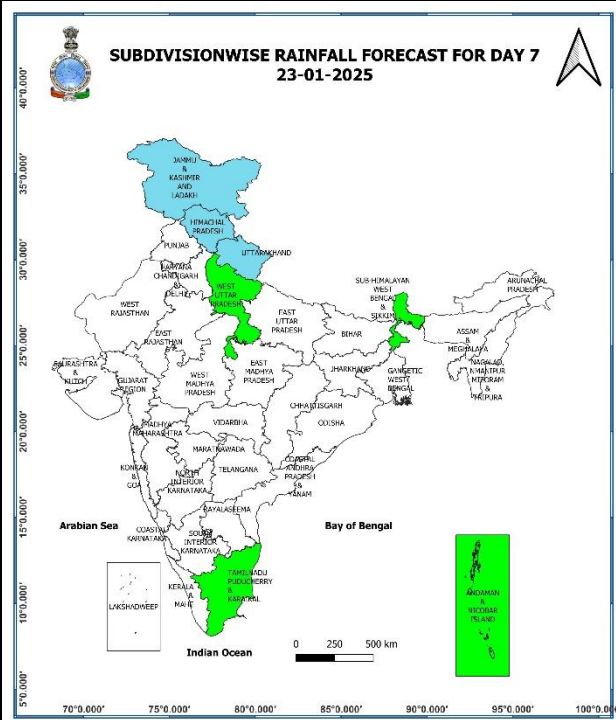
21st January (Day 5):

❖ **Thunderstorm accompanied with lightning** likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh.



22nd January (Day 6):

❖ **No Weather Warning.**



23rd January (Day 7):

❖ **No Weather Warning.**

Weather Outlook for subsequent 3 days (During 24th January– 26th 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

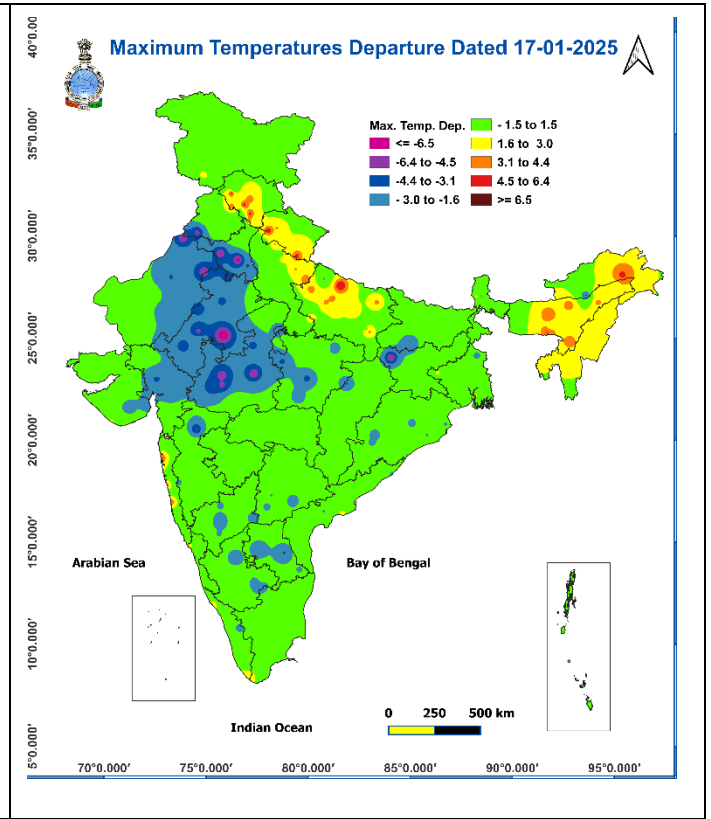
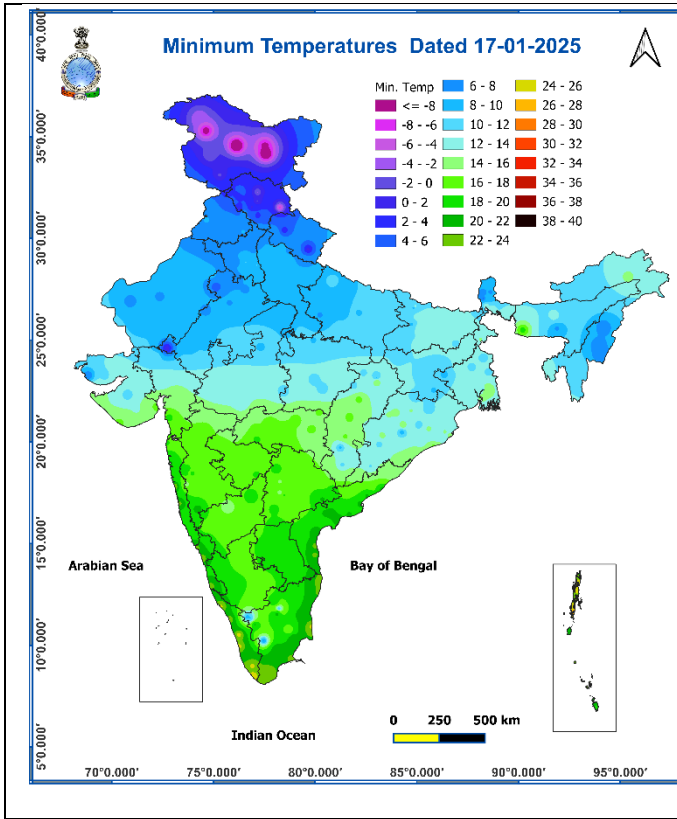


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

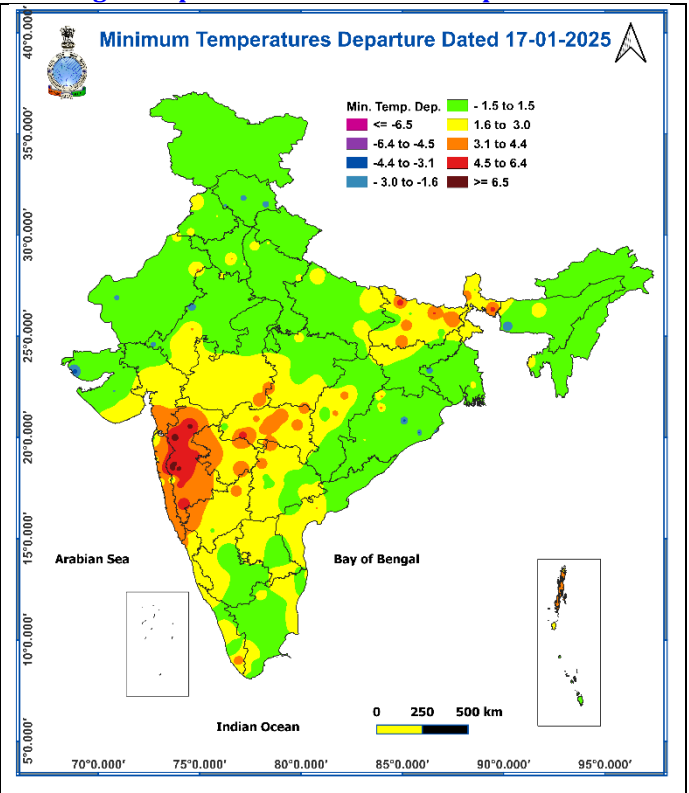
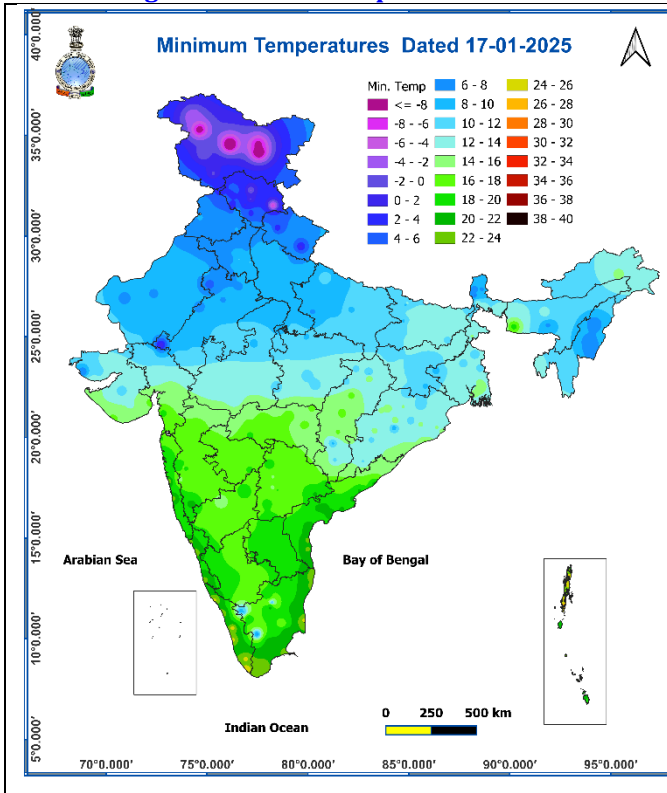
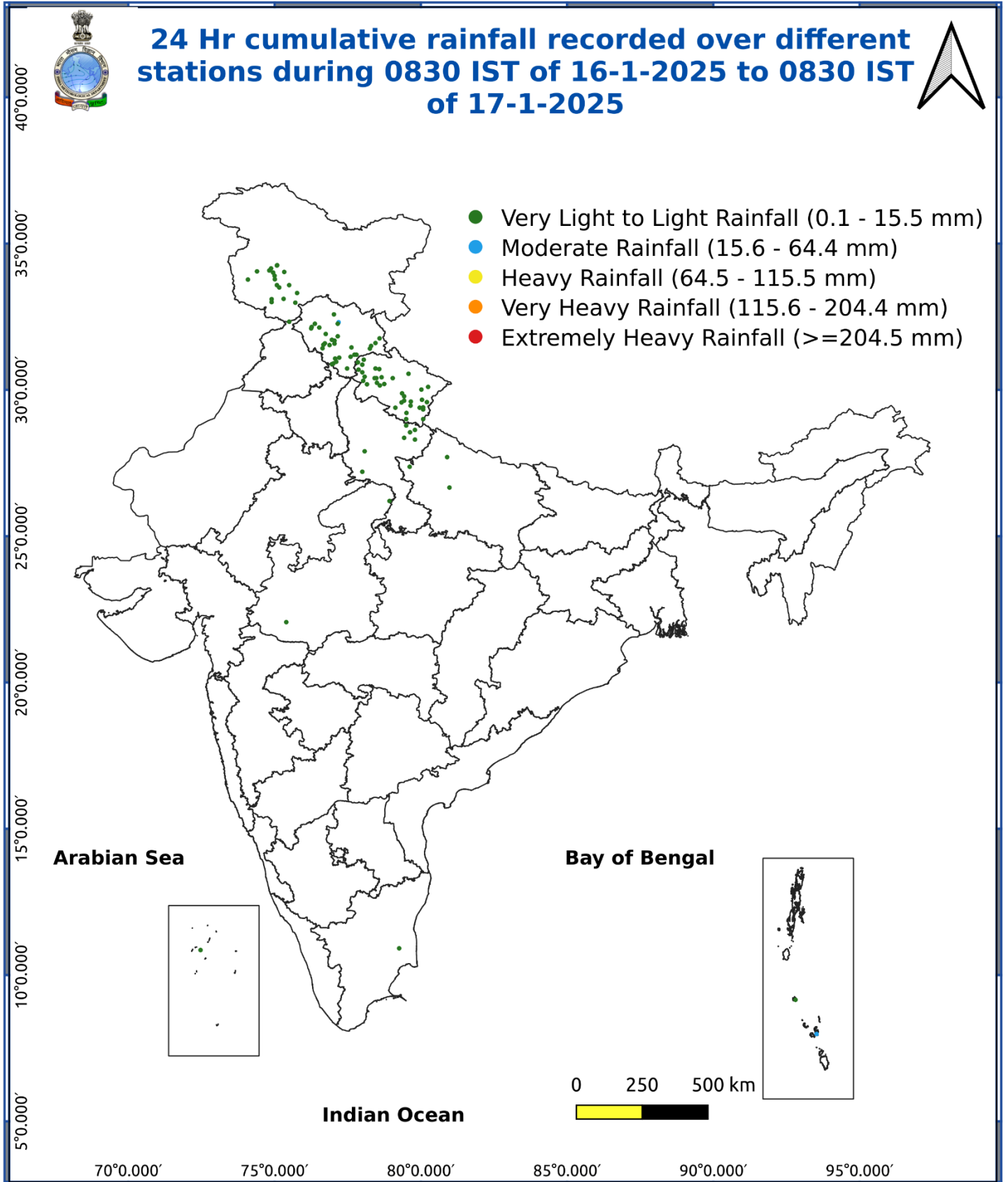


Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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 Heavy Rainfall / Cold Wave/ Ground Frost

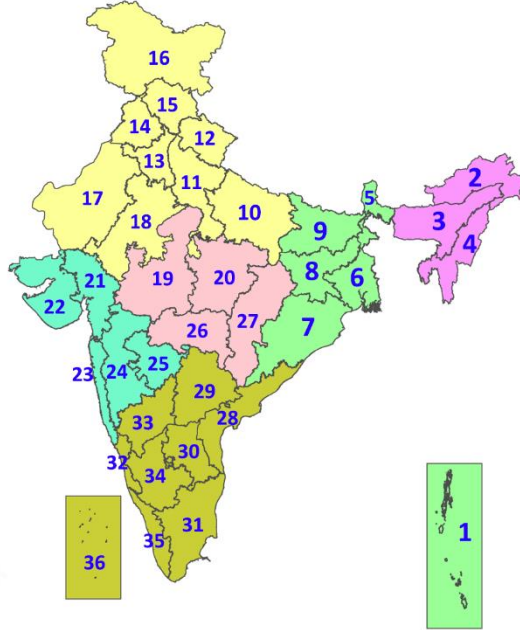
- In **Himachal Pradesh** and **Uttarakhand**, apply light and frequent irrigation to the standing crops in the evening to protect them from low temperature stress or cold injuries. Use mulching and cover vegetable nurseries and young fruit plants with straw/polythene sheets to maintain optimum soil temperature.
- Drain out excess water from rice, sugarcane, cotton, vegetables and other standing crop fields, as well as orchards in **Tamil Nadu** and keep the harvested produce in safe places.
- 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.
 - ❖ 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 *

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 $\geq 40^\circ\text{C}$ for plains and $\geq 30^\circ\text{C}$ 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 $\geq 6.5^\circ\text{C}$

(b). Based on Actual maximum temperature

Heat Wave: When actual maximum temperature $\geq 45^\circ\text{C}$.

Severe Heat Wave: When actual maximum temperature $\geq 47^\circ\text{C}$

(c) Criteria for heat wave for coastal stations

When maximum temperature departure is $> 4.5^\circ\text{C}$ from normal. Heat Wave may be described provided maximum temperature $\geq 37^\circ\text{C}$

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 $> 6.4^\circ\text{C}$.

Cold Wave

When minimum temperature of a station $\leq 10^\circ\text{C}$ for plains and $\leq 0^\circ\text{C}$ 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 $\leq -6.5^\circ\text{C}$

(b) Based on actual Minimum Temperature (for Plains only)

Cold Wave : When Minimum Temperature is $\leq 4.0^\circ\text{C}$

Severe Cold Wave: When Minimum Temperature is $\leq 2.0^\circ\text{C}$

(c) For Coastal Stations

When Minimum Temperature departure is $\leq -4.5^\circ\text{C}$ & actual Minimum Temperature is $\leq 15^\circ\text{C}$

Cold Day

When minimum temperature of a station $\leq 10^\circ\text{C}$ for plains and $\leq 0^\circ\text{C}$ 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 $\leq -6.5^\circ\text{C}$

Fog

Phenomenon of small droplets suspended in air and the horizontal visibility $< 1\text{km}$

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