

Wednesday, December 4, 2024
Time of Issue: 0745 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems:

- ❖ The **well marked low pressure area** over east central Arabian sea and adjoining Coastal Karnataka persists at 0530 hours IST of today, the 04th December, 2024. The associated cyclonic circulation extends upto mid tropospheric levels. It is likely to move west-northwestwards over eastcentral Arabian sea during next 2 days. It is likely to maintain the intensity for next 12 hours and weaken gradually thereafter.
- ❖ A fresh **Western Disturbance** is likely to affect Western Himalayan Region from 7th night and adjoining plains of Northwest India from 08th December. It is likely to cause isolated to scattered light/moderate rainfall/snowfall over the Western Himalayan Region during 07th-09th and over the adjoining plains of Northwest India on 08th December, 2024

Forecast & Warnings (upto 7 days)

- ✓ No significant rainfall activity over the country.

Temperature conditions and Forecast:

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

Minimum temperatures are in the range of 10-15°C in the plain of Northwest India and 15-20°C over Central India, Gujarat State, Maharashtra and eastern parts of India. Minimum temperatures are **markedly above normal (5°C or more)** at most places over Telangana, Odisha and parts of Punjab & Maharashtra; **appreciably above normal (3°C to 5°C)** at a few places over Tamil Nadu, Puducherry & Karaikal; at isolated places over Gangetic West Bengal, Karnataka and Nagaland, Manipur, Mizoram & Tripura; **above normal (1°C to 3°C)** at a few places over Rajasthan, Uttar Pradesh, Bihar, Gujarat State; at isolated places over Haryana-Chandigarh-Delhi, Madhya Pradesh and Kerala & Mahe. These are **below normal (-3°C to -1°C)** at isolated places over Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim and near normal over rest parts of the country. Today, **the lowest minimum temperature of 8.0°C** is reported at **Bathinda (Punjab)** over the plains of the country.

Forecast of temperature:

- ❖ No significant change in minimum temperatures likely over Northwest, Central & East India, Maharashtra during next 2 days and gradual fall by 2-4°C thereafter during subsequent 3 days.
- ❖ Rise in minimum temperatures by 2-3°C over Gujarat Region during next 3 days and gradual fall by 3-4°C thereafter during subsequent 3 days.
- ❖ No significant change in minimum temperatures likely over rest parts of the country during next 4-5 days.

Weather Forecast:

03.12.2024: Mainly clear sky. The predominant surface wind is likely to be northwest direction with wind speed less than 16 kmph till evening. It would decrease thereafter becoming less than 10 kmph from northwest direction during night. Smog/mist is likely in the evening/night.

04.12.2024: Mainly clear sky. The predominant surface wind is likely to be from northwest direction with speed less than 10 kmph during morning hours. Smog/ mist is likely in the morning. The wind speed will increase thereafter becoming less than 16 kmph from northwest direction during afternoon. It will decrease thereafter becoming less than 10 kmph from northwest direction during evening and night. Smog/mist is likely in the evening/night.

05.12.2024: Mainly clear sky. The predominant surface wind is likely to be from northwest direction with speed less than 10 kmph during morning hours. Smog/mist is likely in the morning. The wind speed will gradually increase becoming 12-16 kmph from northwest direction during afternoon. It will decrease thereafter becoming less than 10 kmph from northwest direction during evening and night. Smog/mist is likely in the evening/night.

06.12.2024: Mainly clear sky. The predominant surface wind is likely to be from northwest direction with wind speed less than 08 kmph during morning hours. Smog/mist in the morning. The wind speed will increase thereafter becoming 10-12 kmph from northwest direction during afternoon. It will gradually decrease becoming less than 08 kmph from northwest direction during evening and night. Smog/ mist is likely in the evening/night.

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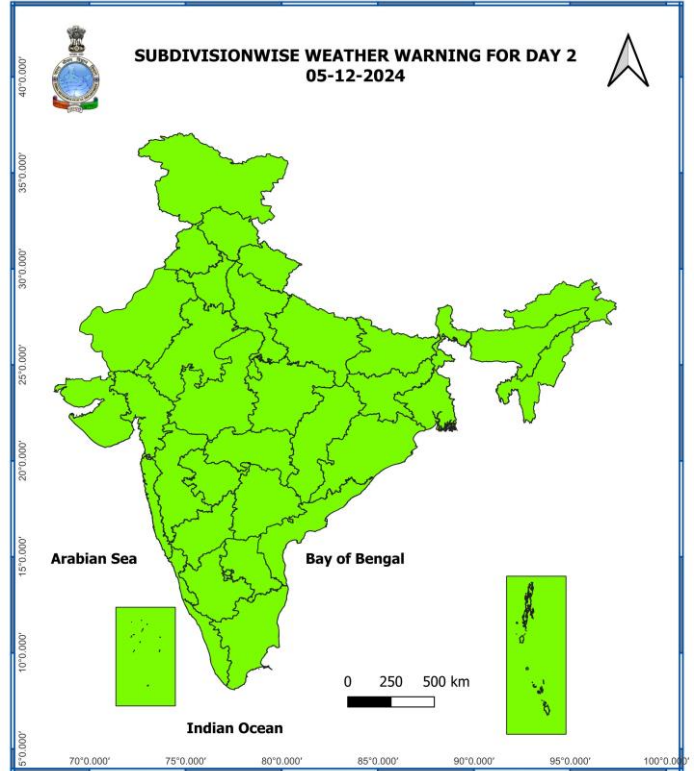
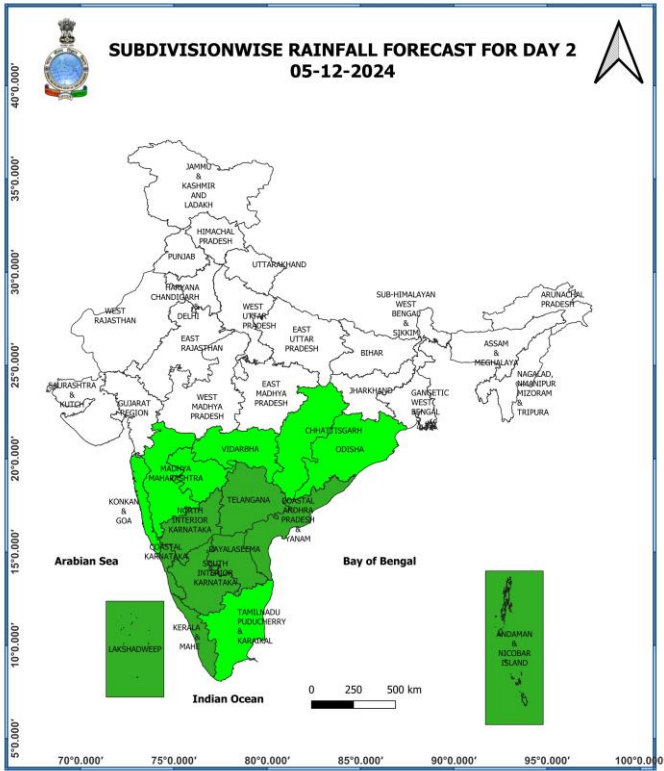
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Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of today): **at a few places** over Kerala & Mahe; **at isolated** places over Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema, Karnataka, Madhya Maharashtra, Tamil Nadu, Puducherry & Karaikal.
- ❖ **Heavy rainfall recorded** (from 0830 hours IST to 1730 hours IST of today): **Nil**.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of today) (in cm): **Coastal Andhra Pradesh & Yanam:** Nellore 4; **Kerala & Mahe:** Kannur 3; **Rayalaseema:** Nandyal 2.
- ❖ **Fog conditions observed** (upto 0530 hours IST of today): **Dense Fog** reported in isolated pockets of East Uttar Pradesh, Bihar; **Shallow to Moderate fog** reported in isolated pockets over West Uttar Pradesh.
- ❖ **Visibility reported** (at 0530 hours IST of today) (≤ 500 metres): **East Uttar Pradesh:** Babatpur 200, Gorakhpur_IAF, Prajagraj_IAF 500 each; **Bihar:** Bhagalpur 200, Purnea 500; **West Uttar Pradesh:** Hindan_IAF 500.
- ❖ **Minimum Temperatures Departures (as on 03-12-2024):** Minimum temperatures were **markedly above normal (5°C or more)** at a few places over Telangana and Odisha; at isolated places over Maharashtra and Punjab; **appreciably above normal (3°C to 5°C)** at a few places over Tamil Nadu, Puducherry & Karaikal; at isolated places over Gangetic West Bengal, Karnataka and Nagaland, Manipur, Mizoram & Tripura; **above normal (1°C to 3°C)** at a few places over Rajasthan, Uttar Pradesh, Bihar, Gujarat State; at isolated places over Haryana-Chandigarh-Delhi, Madhya Pradesh and Kerala & Mahe. These were **below normal (-3°C to -1°C)** at isolated places over Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim and near normal over rest parts of the country. Yesterday, **the lowest minimum temperature of 8.0°C** was reported at **Bathinda (Punjab)** over the plains of the country. **(Fig.4)**
- ❖ **Maximum Temperature Departures (as on 03-12-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Punjab, West Uttar Pradesh; **above normal (1.6°C to 3.0°C)** at few places over Delhi and East Uttar Pradesh; at isolated places over Madhya Pradesh, Nagaland, Manipur, Mizoram & Tripura, Chhattisgarh, Odisha, Tamil Nadu, Puducherry & Karaikal. These were **markedly below normal (-5.1°C or less)** at a few places over Kerala & Mahe; **appreciably below normal (-5.0°C to -3.1°C)** at isolated places over Kerala & Mahe, Coastal Karnataka; **below normal (-1.6°C to -3.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Madhya Maharashtra, Telangana, Rayalaseema, Vidarbha, Coastal Andhra Pradesh & Yanam. Yesterday, **the highest maximum temperature of 35.2°C** was reported at **Ratnagiri (Konkan & Goa)** over the country. **(Fig. 2)**

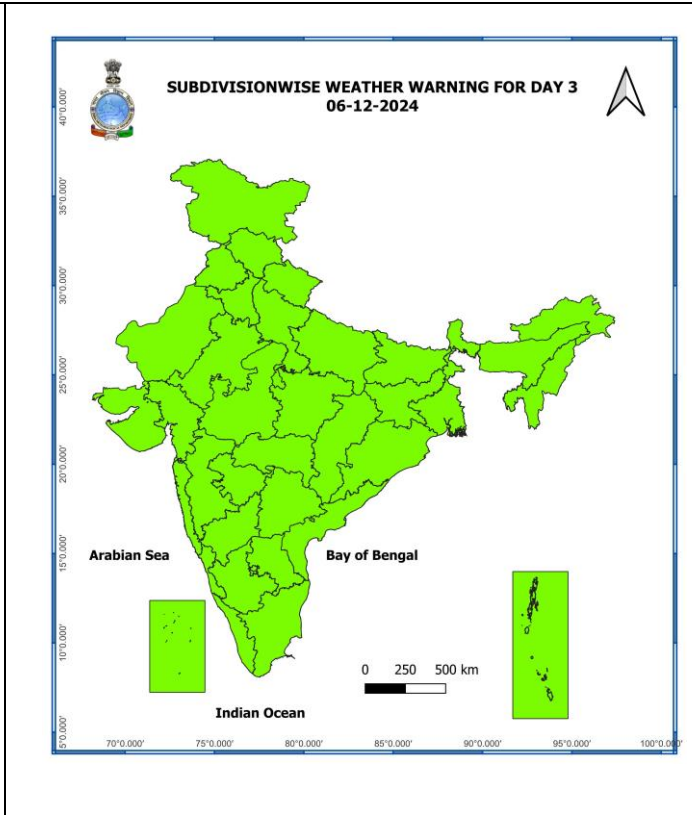
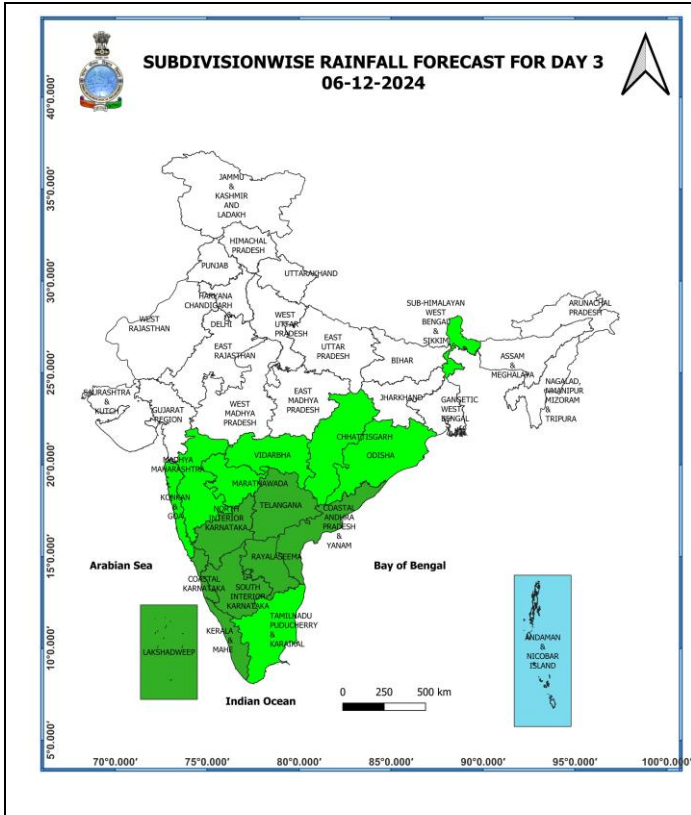
Meteorological Analysis (Based on 0530 hours IST)

- ❖ **The well marked low pressure area** over east central Arabian sea and adjoining Coastal Karnataka persists at 0530 hours IST of today, the 04th December, 2024. The associated cyclonic circulation extends upto mid tropospheric levels. It is likely to move west-northwestwards over eastcentral Arabian sea during next 2 days. It is likely to maintain the intensity for next 12 hours and weaken gradually thereafter.
- ❖ The **Cyclonic circulation** over east Bangladesh and adjoining south Assam at 1.5 km above mean sea level persists.
- ❖ **Jet Stream Winds** of the order upto 120 knots at 12.6 km above mean sea level continue to prevail over North India.



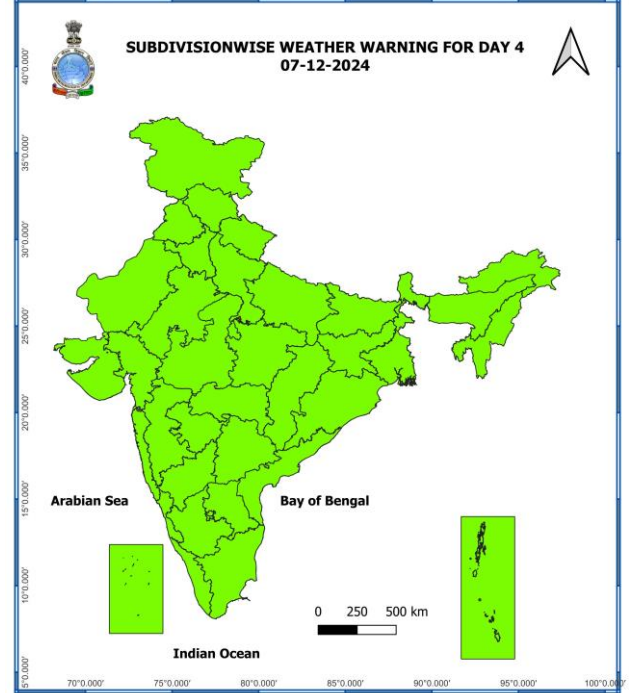
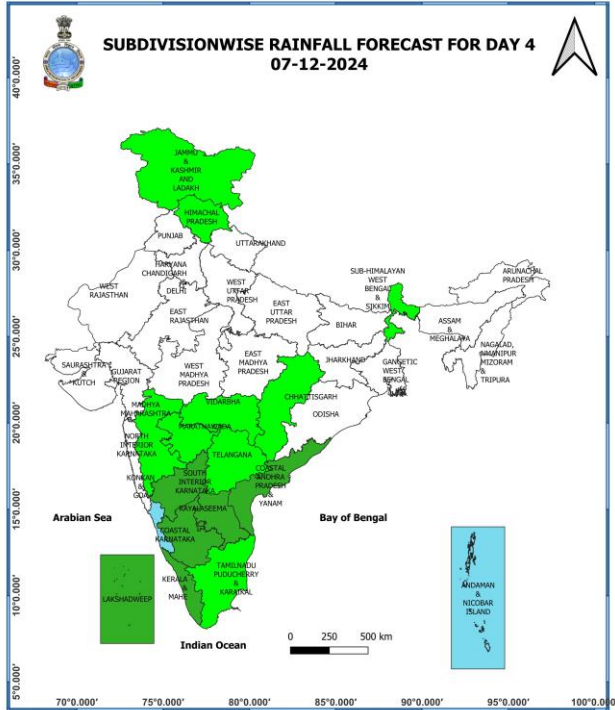
05 December (Day 2):

- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Konkan & Goa, Madhya Maharashtra, Coastal Karnataka, Coastal Andhra Pradesh & Yanam and Rayalaseema.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevailing over southern parts of eastcentral adjoining parts of southeast Arabian sea and off Lakshadweep area. Fishermen are advised not to venture into these areas.



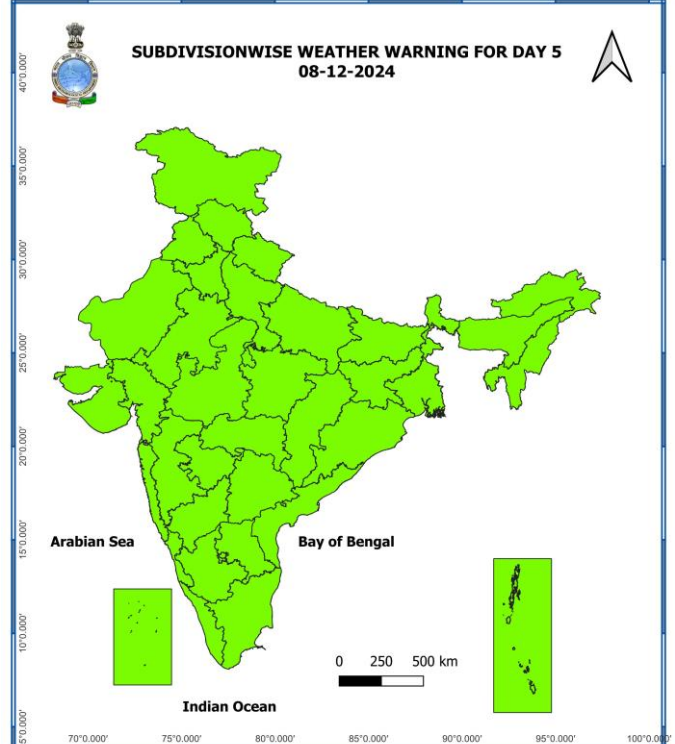
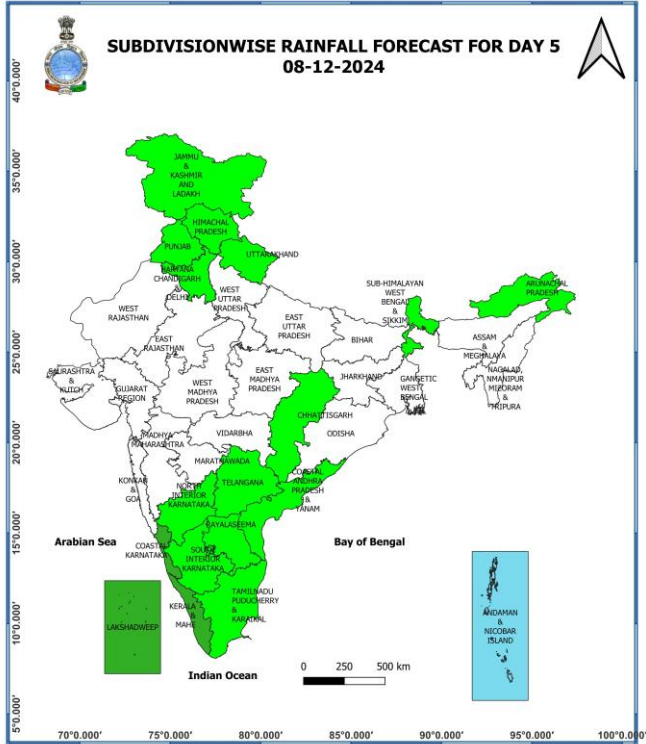
06 December (Day 3):

- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Madhya Maharashtra and Coastal Karnataka.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevailing over central parts of south Arabian sea, adjoining parts of central Arabian sea area. Fishermen are advised not to venture into these areas.



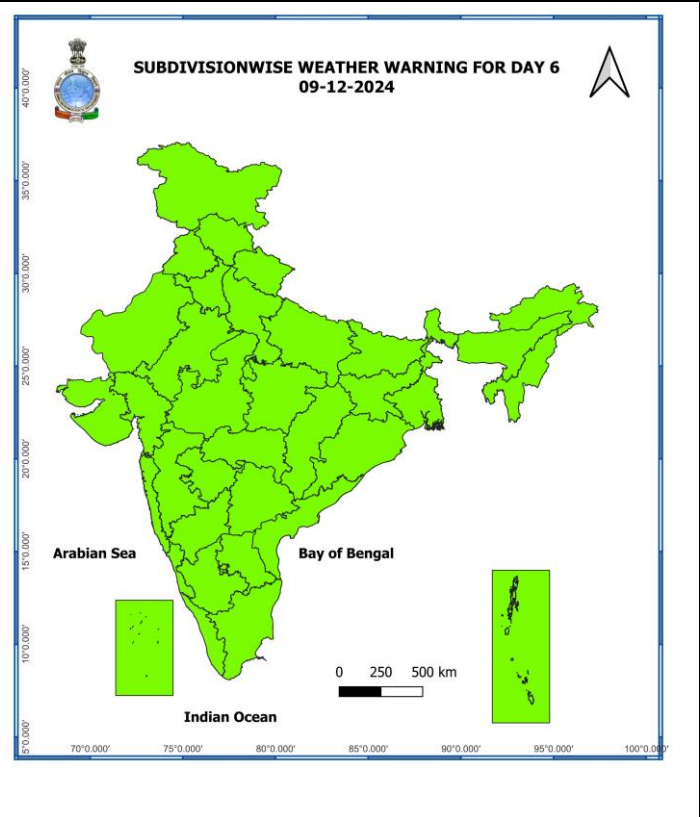
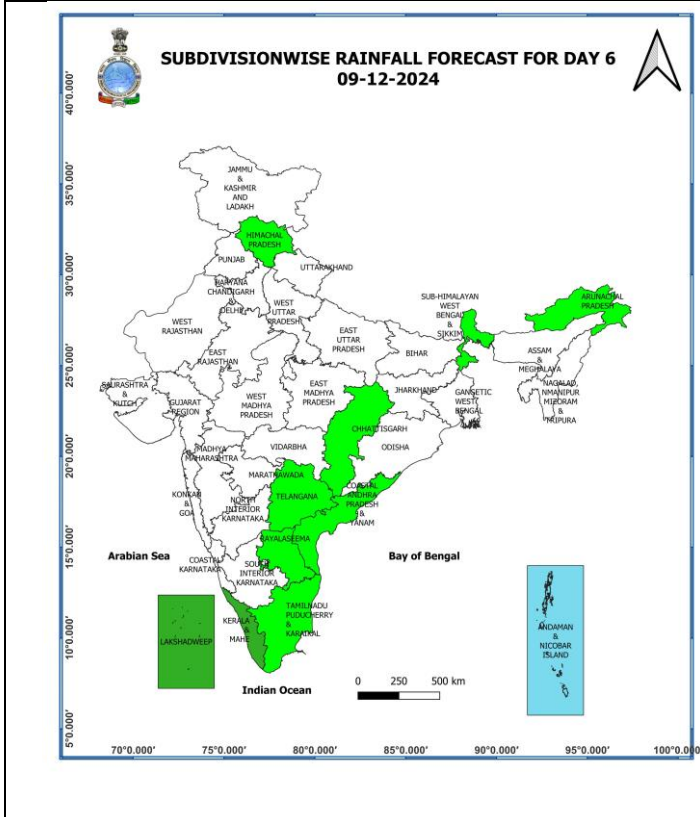
07 December (Day 4):

- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Coastal Karnataka.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevailing over southwest Arabian sea and adjoining areas. Fishermen are advised not to venture into these areas.



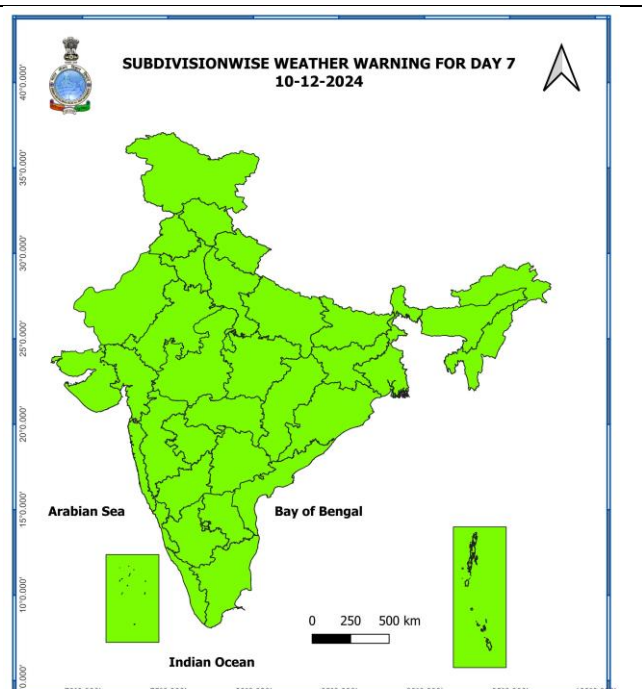
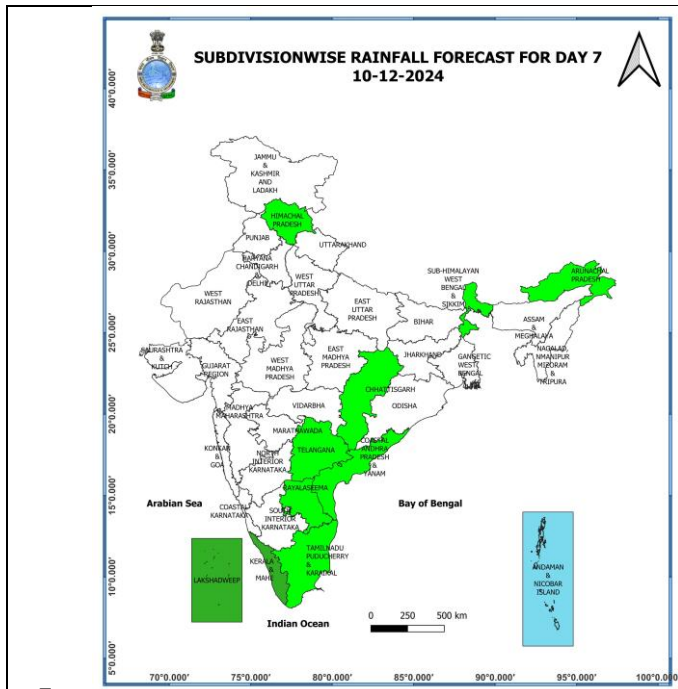
08 December (Day 5):

❖ **No Warning.**



09 December (Day 6):

❖ **No Warning.**



10 December (Day 7):

❖ **No Warning.**

Weather Outlook for subsequent 3 days (During 11th December – 13th December, 2024)

- ❖ Isolated to Scattered to light to moderate rainfall likely over some parts of south peninsular India and light rainfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad.
- ❖ 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.

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Agromet advisories for Heavy Rainfall likely over Tamil Nadu, Kerala, Coastal & South Interior Karnataka:

- 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**; from rice, coffee, banana, coconut, arecanut, ginger, pepper, cardamom and other standing crops in **Kerala**; from cotton, rice, maize, groundnut, finger millet, pigeon pea, areca nut, fruits and vegetables in **South Interior Karnataka** and from arecanut, cashew, coconut, banana, jasmine, black pepper, other standing crops and fruit orchards in **Coastal Karnataka**.
- 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 and Fishery

- Keep the animals inside the shed during heavy rainfall and provide balanced feed.
- Store the feed and fodder at safer place to avoid spoilage from rainfall.
- Hang gunny bags all around poultry sheds.
- Check and disinfect poultry houses to prevent disease outbreaks due to dampness.
- Check the huts and other weaker structures before relocation of the animals.
- Remove excess water from fish ponds to avoid losses of fish (if feasible).
- Check and repair dykes around the ponds to avoid entry of runoff water from the catchment areas.

Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

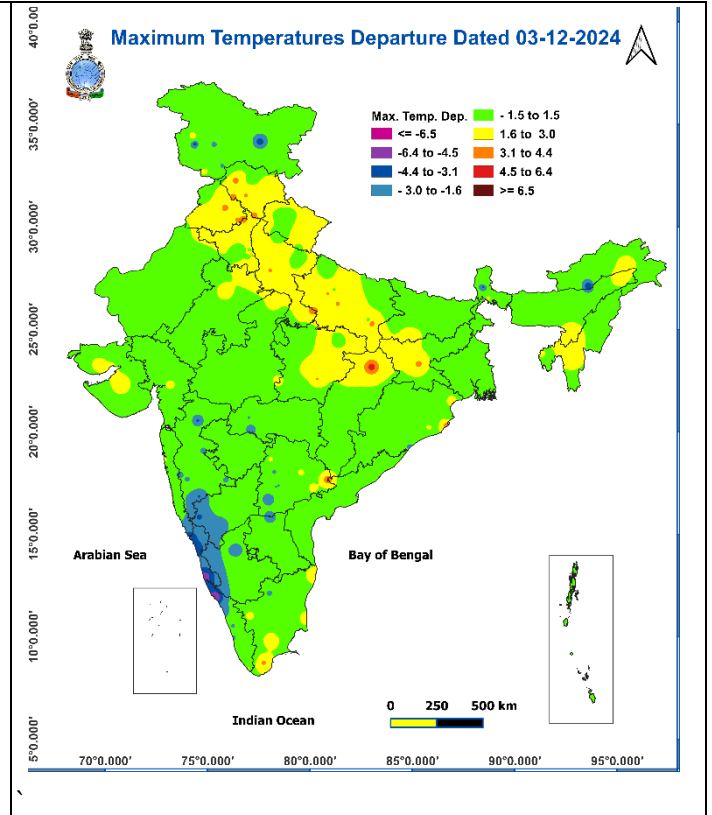
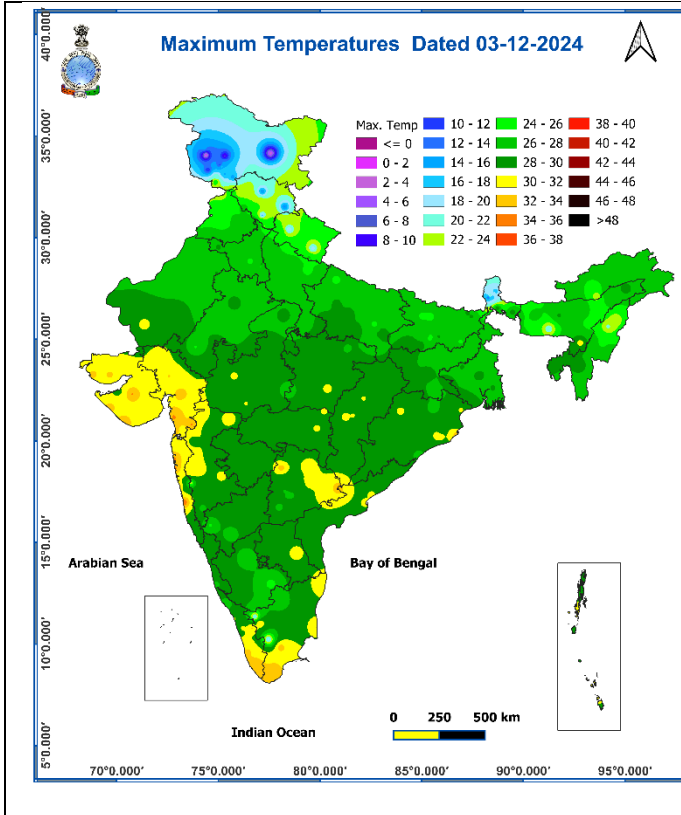


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

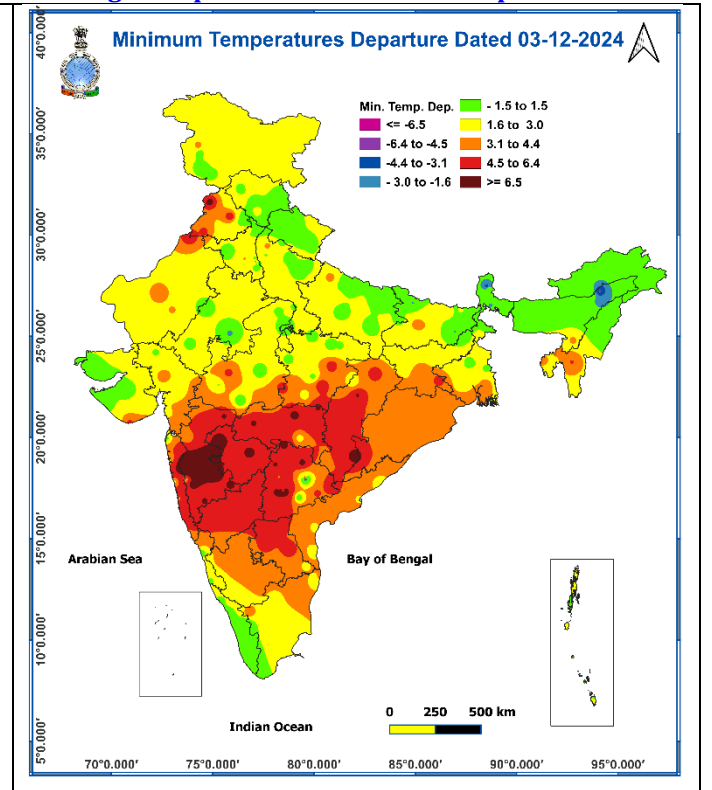
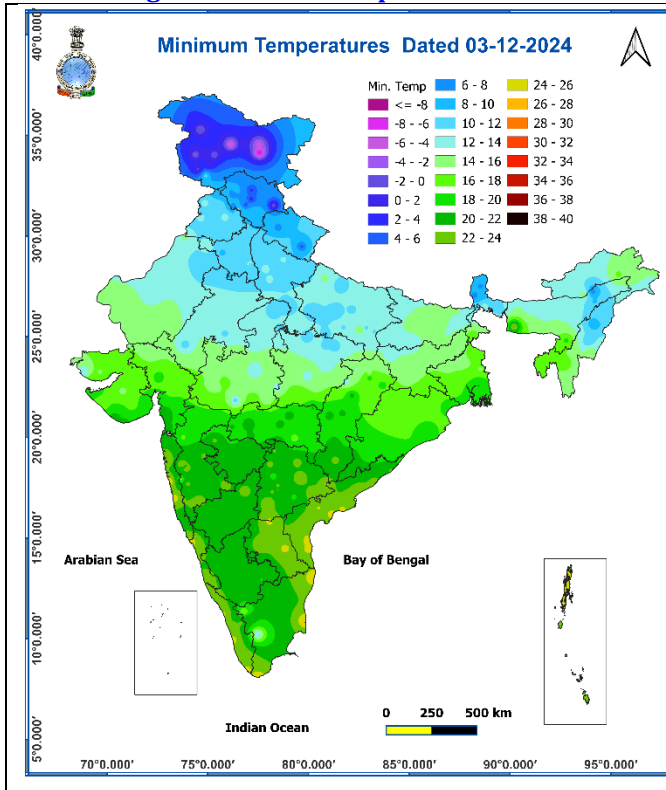
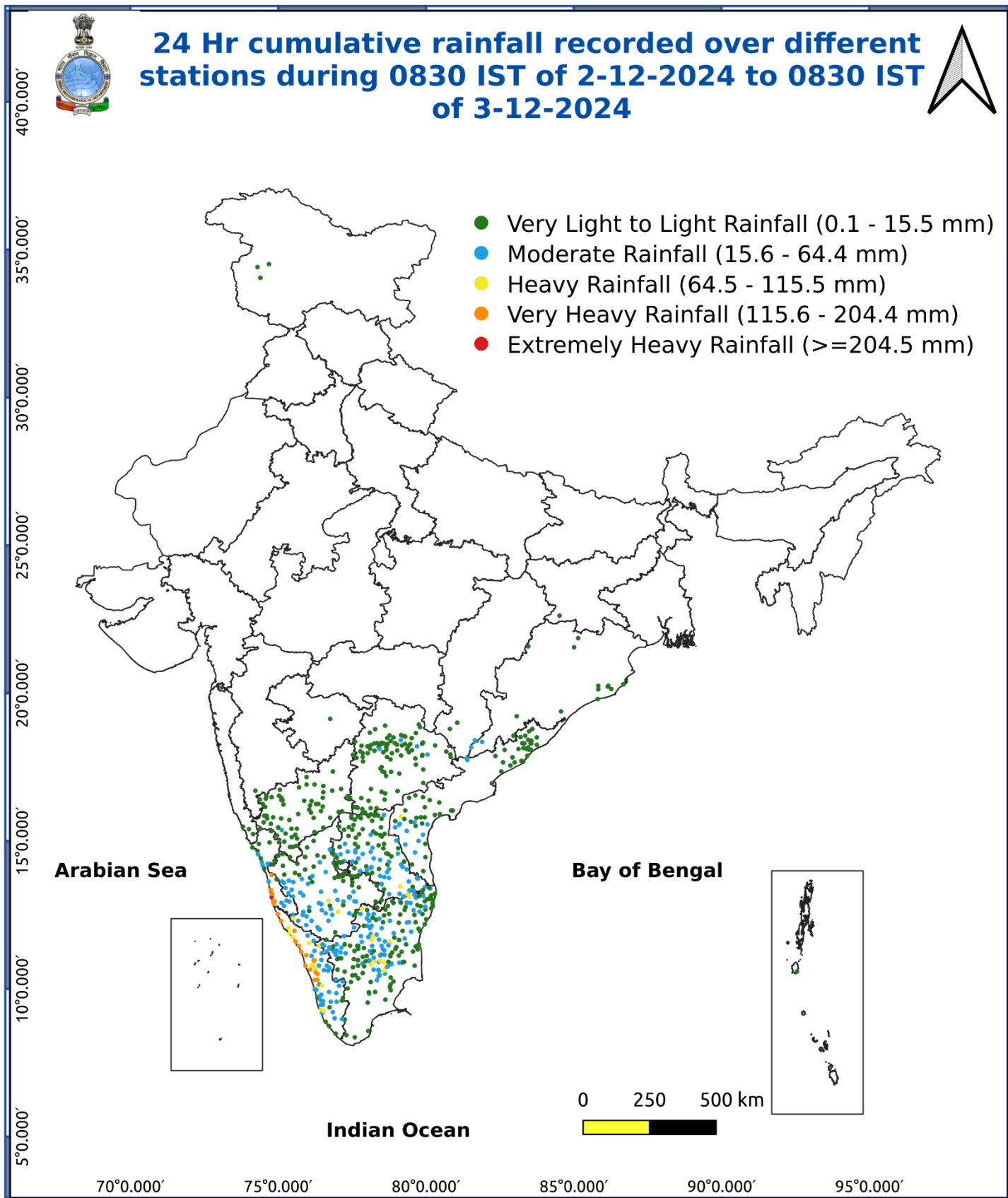


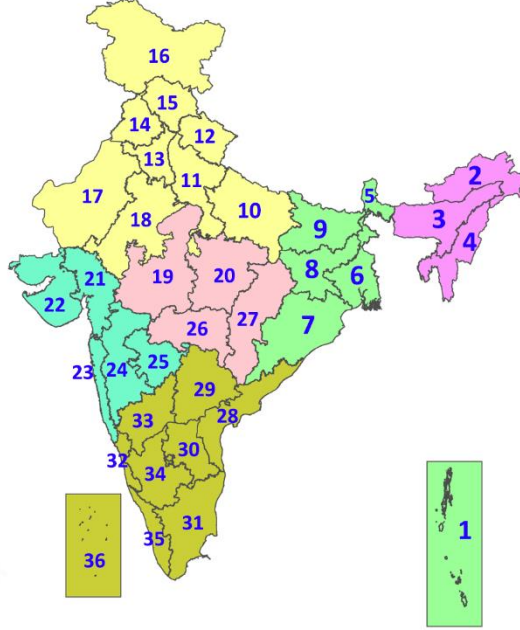
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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LEGENDS

1. अंडमान और निकोबार द्वीपसमूह
2. अरुणाचल प्रदेश
3. असम और मेघालय
4. नागालैंड, मणिपुर, मिजोरम और त्रिपुरा
5. उप-हिमालयी पश्चिम बंगाल और सिक्किम
6. गंगीय पश्चिम बंगाल
7. ओडिशा
8. झारखंड
9. बिहार
10. पूर्वी उत्तर प्रदेश
11. पश्चिम उत्तर प्रदेश
12. उत्तराखंड
13. हरियाणा, चंडीगढ़ और दिल्ली
14. पंजाब
15. हिमाचल प्रदेश
16. जम्मू और कश्मीर और लद्दाख
17. पश्चिम राजस्थान
18. पूर्वी राजस्थान
19. पश्चिम मध्य प्रदेश
20. पूर्वी मध्य प्रदेश
21. गुजरात
22. सौराष्ट्र
23. कोंकण और गोवा
24. मध्य महाराष्ट्र
25. मराठवाड़ा
26. विदर्भ
27. छत्तीसगढ़
28. तटीय आंध्र प्रदेश और यनम
29. तेलंगाना
30. रायलसीमा
31. तमिलनाडु, पुडुचेरी और कराईकल
32. तटीय कर्नाटक
33. आंतरिक उत्तरी कर्नाटक
34. आंतरिक दक्षिणी कर्नाटक
35. केरल और माहे
36. लक्षद्वीप



1. Andaman & Nicobar Islands
2. Arunachal Pradesh
3. Assam & Meghalaya
4. Nagaland, Manipur, Mizoram & Tripura
5. Sub-Himalayan West Bengal & Sikkim
6. Gangetic West Bengal
7. Odisha
8. Jharkhand
9. Bihar
10. East Uttar Pradesh
11. West Uttar Pradesh
12. Uttarakhand
13. Haryana, Chandigarh & Delhi
14. Punjab
15. Himachal Pradesh
16. Jammu & Kashmir and Ladakh
17. West Rajasthan
18. East Rajasthan
19. West Madhya Pradesh
20. East Madhya Pradesh
21. Gujarat
22. Saurashtra
23. Konkan & Goa
24. Madhya Maharashtra
25. Marathwada
26. Vidarbha
27. Chhattisgarh
28. Coastal Andhra Pradesh & Yanam
29. Telangana
30. Rayalaseema
31. Tamilnadu, Puducherry & Karaikal
32. Coastal Karnataka
33. North Interior Karnataka
34. South Interior Karnataka
35. Kerala & Mahe
36. Lakshadweep

SPATIAL DISTRIBUTION (% of Stations reporting)

% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/A Few Places)
51-75	Fairly Widespread (FWS/Many Places)	1-25	Isolated (ISOL)



Heavy Rain

Very Heavy Rain

Extremely Heavy Rain

Thunder & Lightning

Hailstorm

Dust Raising Winds

Heavy Snow

Dust Storm

Heat Wave

Warm Night

Hot Day

Hot & Humid

Strong Surface Winds

Cold Wave

Cold Day

Ground Frost

COLOUR CODED WARNING

No Warning (No Action)

Watch (Be Aware)

Alert (Be Prepared To Take Action)

Warning (Take Action)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

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>