Saturday, December 7, 2024
Time of Issue: 0800 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems and associated weather:

- A fresh **Western Disturbance** is likely to affect Western Himalayan Region and adjoining plains of Northwest India from 08th December. It is very likely to cause light/moderate rainfall/snowfall over Western Himalayan Region and light isolated rainfall over Punjab, Haryana, Chandigarh & West Uttar Pradesh on 08th & 09th December, 2024.
- The **cyclonic circulation** over Equatorial Indian Ocean & adjoining southeast Bay of Bengal now lies over southeast Bay of Bengal & adjoining Equatorial Indian Ocean and extends upto mid-tropospheric levels at 0530 hours IST of today, the 07th December. Under its influence, a low pressure area is likely to form over central parts of south Bay of Bengal during next 12 hours. The system is likely to move west-northwestwards and reach over southwest Bay of Bengal off Sri-Lanka – Tamil Nadu coasts around 12th December.

Forecast & Warnings (upto 7 day):

- ✓ **Heavy rainfall** at isolated places very likely over Tamil Nadu, Puducherry & Karaikal on 11th & 12th and Coastal Andhra Pradesh & Yanam & Rayalaseema on 12th December.
- ✓ **Dense fog conditions** very likely to prevail during late night/early morning hours in isolated pockets of Assam & Meghalaya & Nagaland, Manipur, Mizoram & Tripura till 09th, Punjab, Haryana, Chandigarh & Uttar Pradesh during 07th-10th, Sub-Himalayan West Bengal & Sikkim, Bihar during 08th-10th and Himachal Pradesh on 10th & 11th December morning hours.
- ✓ **Cold wave** conditions very likely in isolated pockets over North Rajasthan during 10th -12th December.

ii. Minimum Temperature Forecast:

- No significant change in minimum temperatures likely over Punjab, Haryana-Chandigarh during next 24 hours, then rise by 2°C during subsequent 2 days and fall thereafter.
- No significant change in minimum temperatures likely over Rajasthan during next 2 days and gradual fall by 2-3°C during subsequent 2 days.
- Gradual fall in minimum temperatures by 2-3°C likely over East India during next 24 hours and then gradual rise by 2-3°C during subsequent 3 days.
- Gradual fall in minimum temperatures by 3-5°C likely over West India during next 4 days.
- No significant change in minimum temperatures likely over Central India during next 2 days and gradual fall by 2-3°C during subsequent 2 days.

Weather forecast (during 07th Dec. to 09th Dec. 2024) over Delhi/NCR

07.12.2024: Mainly clear sky. The predominant surface wind is likely to be from northwest direction with speed less than 04 kmph during morning hours. Smog/shallow fog is likely in the morning. The wind speed will increase thereafter becoming less than 06 kmph from variable direction during afternoon. It will decrease thereafter becoming less than 04 kmph from southeast direction during evening and night. Smog/mist is likely in the evening/night.

08.12.2024: Partly cloudy sky. The predominant surface wind is likely to be from southeast direction with speed less than 08 kmph during morning hours. Smog/shallow to moderate fog is likely in the morning. The wind speed will gradually increase becoming 12-14 kmph from southeast direction during afternoon. It will decrease thereafter becoming less than 08 kmph from southeast direction during evening and night. Smog/mist is likely in the evening/night.

09.12.2024: Mainly clear sky. The predominant surface wind is likely to be from variable direction with wind speed less than 04 kmph during morning hours. Smog/ moderate fog in the morning. The wind speed will increase thereafter becoming 08-10 kmph from southeast direction during afternoon. It will gradually decrease becoming less than 06 kmph from southeast direction during evening and night. Smog/ shallow fog is likely in the evening/night.

Main Weather Observations:

- **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at isolated** places over Marathwada, Andaman & Nicobar Islands and Lakshadweep.

- **Heavy to very heavy rainfall recorded** (from 0830 hours IST to 1730 hours IST of yesterday): **NIL**

- **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **Andaman & Nicobar Islands:** Noncowry-1.

- **Fog conditions observed (at 0530 hours IST of today): Very dense fog** in isolated pockets of South Interior Karnataka; **Moderate to Dense fog** in isolated pockets of Manipur and **Shallow to Moderate fog** in isolated pockets of Assam, Bihar and Tripura.

- **Visibility reported (at 0530 hours IST of today) (≤500 metres): South Interior Karnataka:** Bangalore-0; **Manipur**: Imphal-200; **Assam**: Dhubri -500; **Bihar**: Bhagalpur & Purnea -500 each.

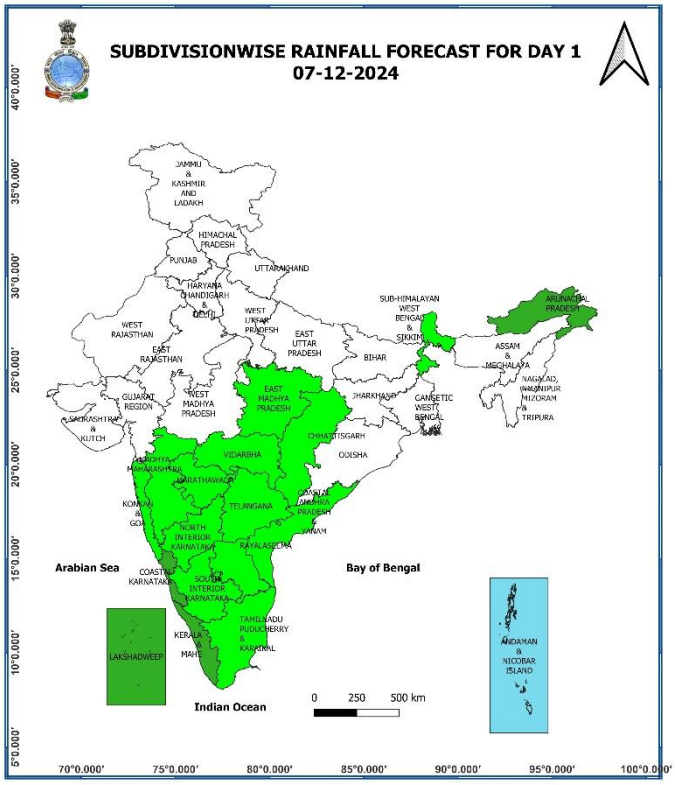
- **Minimum Temperatures Departures (as on 06-12-2024):** Minimum temperatures were **markedly above normal (5.0°C or more)** at many places over Madhya Maharashtra; at a few places over Marathwada, Telangana and Chhattisgarh; at isolated places over Vidarbha; **appreciably above normal (3.1°C to 5.0°C)** at many places over Konkan & Goa, North Interior Karnataka, Rayalaseema and Coastal Andhra Pradesh & Yanam; at isolated places over Uttar Pradesh, Bihar, Gujarat state, Madhya Pradesh and South Interior Karnataka; **above normal (1.6°C to 3.0°C)** at most places over Coastal Karnataka; at many places over Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe; at a few places over Jharkhand and Odisha; at isolated places over Rajasthan, Gangetic West Bengal, Uttar Pradesh and Nagaland, Manipur, Mizoram & Tripura. These were **below normal (-1.6°C to -3.0°C)** at isolated places Jammu-Kashmir, Punjab and Assam & Meghalaya and near normal over rest parts of the country. Yesterday, **the lowest minimum temperature** of **3.8°C** was reported at **Adampur_IAF (Punjab)** over the plains of the country. **(Fig.4)**

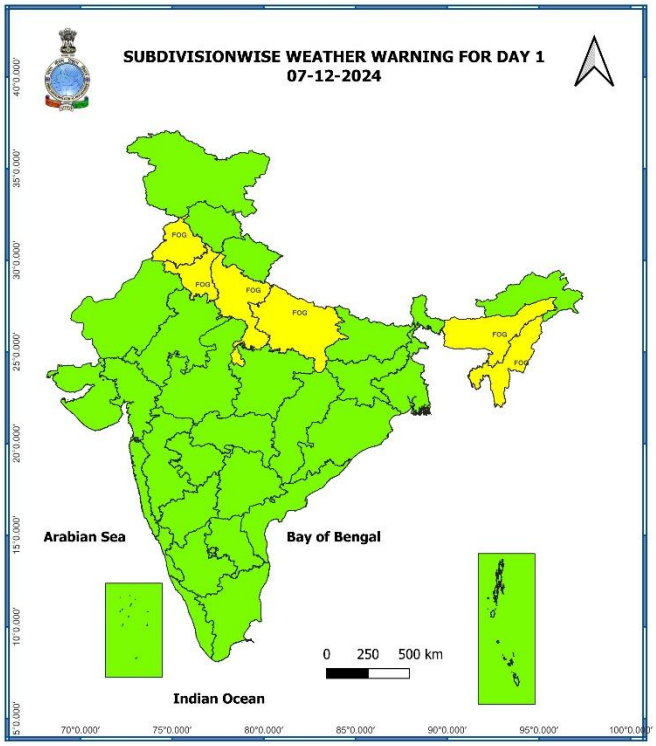
- **Maximum Temperature Departures (as on 06-12-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C**) at isolated places over Odisha and Chhattisgarh; **above normal (1.6°C to 3.0°C)** at a few places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Vidarbha and Telangana; at isolated places over Coastal Andhra Pradesh & Yanam and North Interior Karnataka. These were **below normal (-1.6°C to -3.0°C)** at isolated places Bihar, Uttar Pradesh and Delhi. Yesterday, **the highest maximum temperature** of **35.8°C** was reported at **Nandigama (Coastal Andhra Pradesh)** over the country. **(Fig. 2)**

Meteorological Analysis (Based on 0530 hours IST)

- The **cyclonic circulation** over Equatorial Indian Ocean & adjoining southeast Bay of Bengal now lies over southeast Bay of Bengal & adjoining Equatorial Indian Ocean and extends upto mid-tropospheric levels at 0530 hours IST of today, the 07th December. Under its influence, a low pressure area is likely to form over central parts of south Bay of Bengal during next 12 hours. The system is likely to move west-northwestwards and reach over southwest Bay of Bengal off Sri-Lanka – Tamil Nadu coasts around 12th December.
- The **cyclonic circulation** over southwest & adjoining southeast Arabian sea extending upto 1.5 km above mean sea level persists.
- The **cyclonic circulation** over northeast Assam at 3.1 km above mean sea level persists.
- **Jet Stream Winds** of the order upto 150 knots at 12.6 km above mean sea level continue to prevail over Northwest India.
- A fresh **Western Disturbance** is likely to affect Western Himalayan Region and adjoining plains of Northwest India from 08th December.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 14th December, 2024)

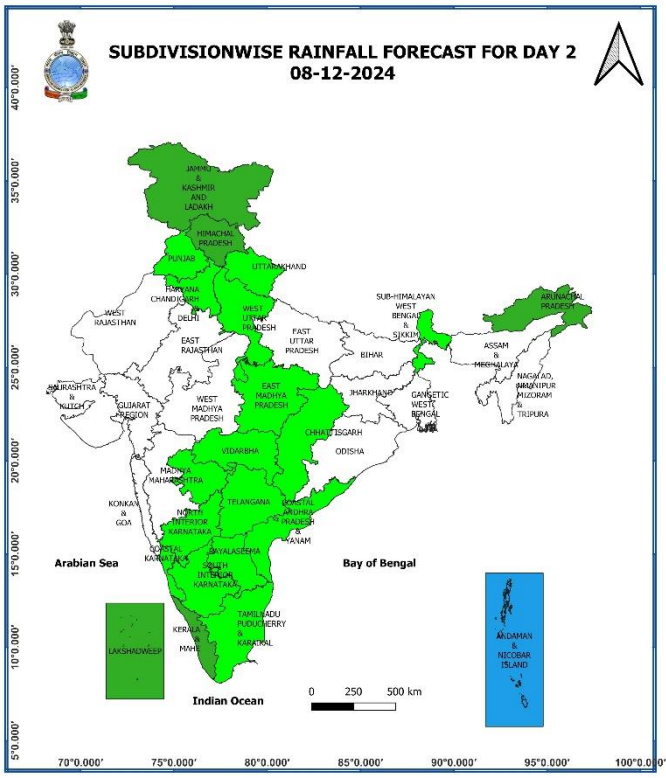


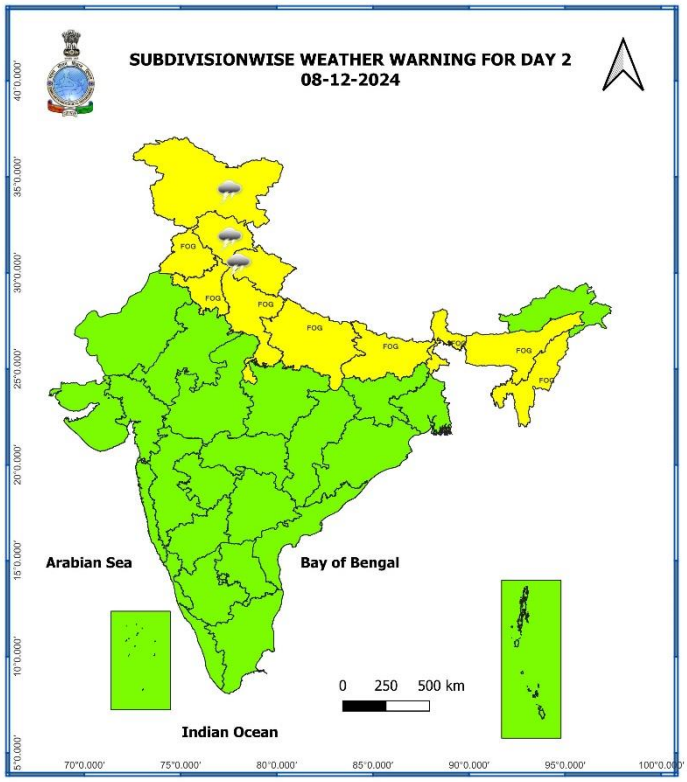


07 December (Day 1):

- **Dense fog** very likely in isolated pockets of Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura in night/morning hours.

- **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevailing over southern parts of southeast Bay of Bengal. **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** is likely to prevailing over along and off Somalia coast**,** parts of Northwest Arabian Sea. Fishermen are advised not to venture into these areas.



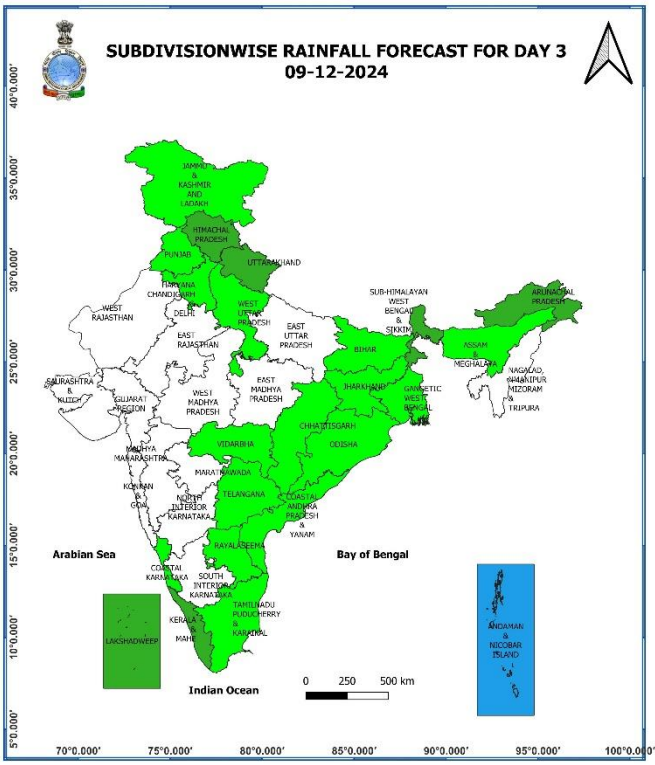


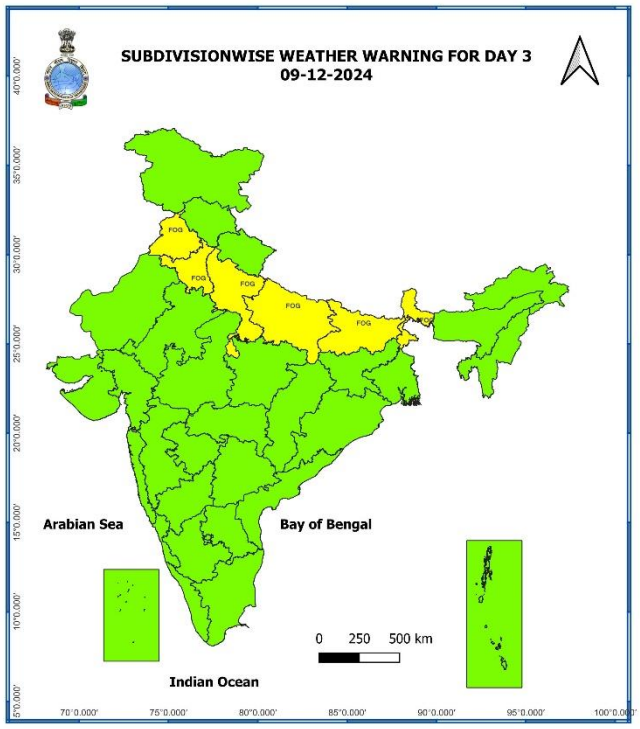
08 December (Day 2):

- **Thunderstorm accompanied with lightning** likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab and Haryana-Chandigarh-Delhi.

- **Dense fog** likely in isolated pockets of Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim, Bihar, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura in night/morning hours.

- **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevailing over southern parts of southeast and adjoining southwest Bay of Bengal. **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** is likely to prevailing over along and off Somalia coast**,** parts of northwest Arabian Sea. Fishermen are advised not to venture into these areas.

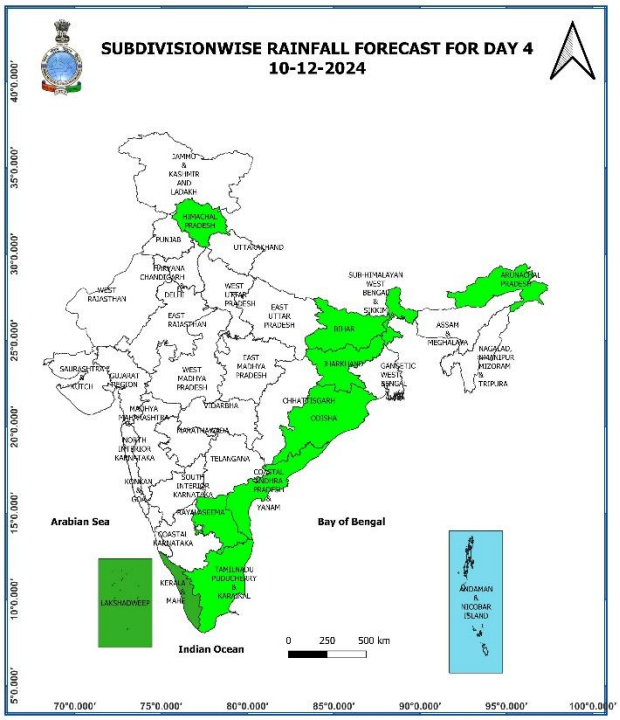


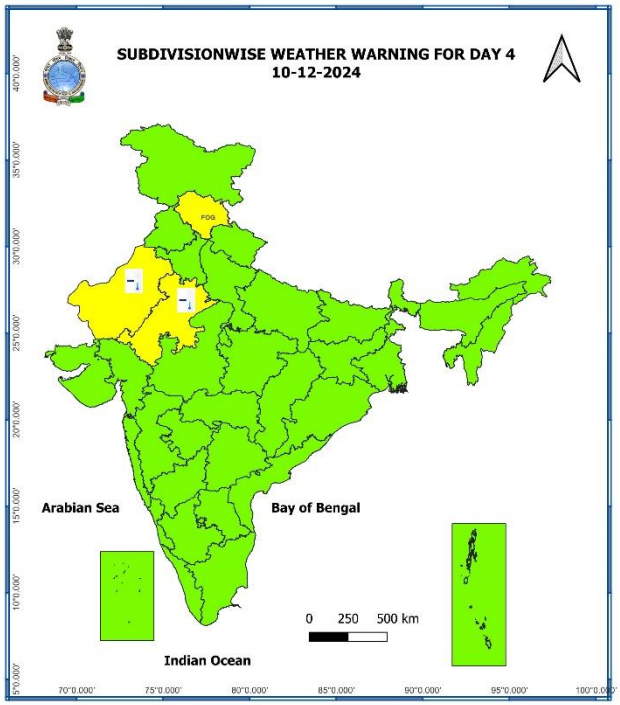


09 December (Day 3):

- **Dense fog** likely in isolated pockets of Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim and Bihar in night/morning hours.

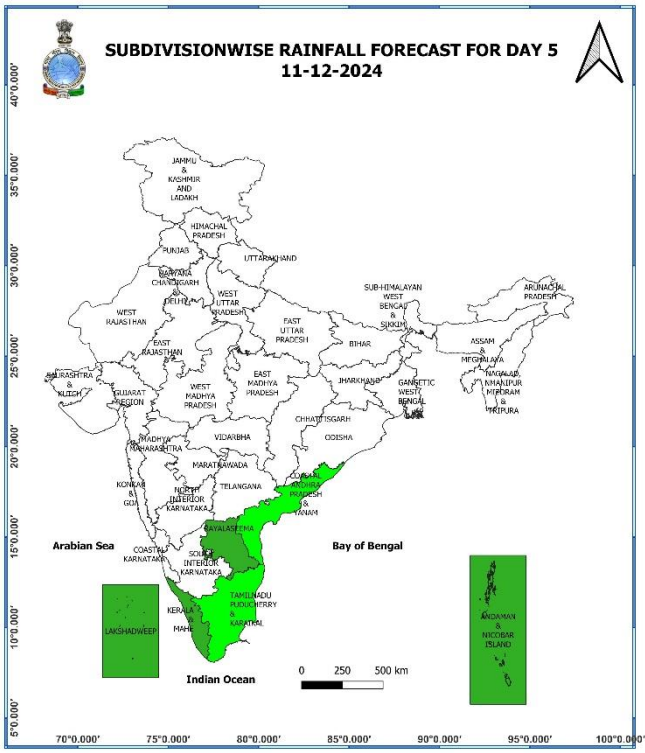
- **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevailing over Central parts south Bay of Bengal. **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** is likely to prevailing over parts of northwest Arabian Sea. Fishermen are advised not to venture into these areas.

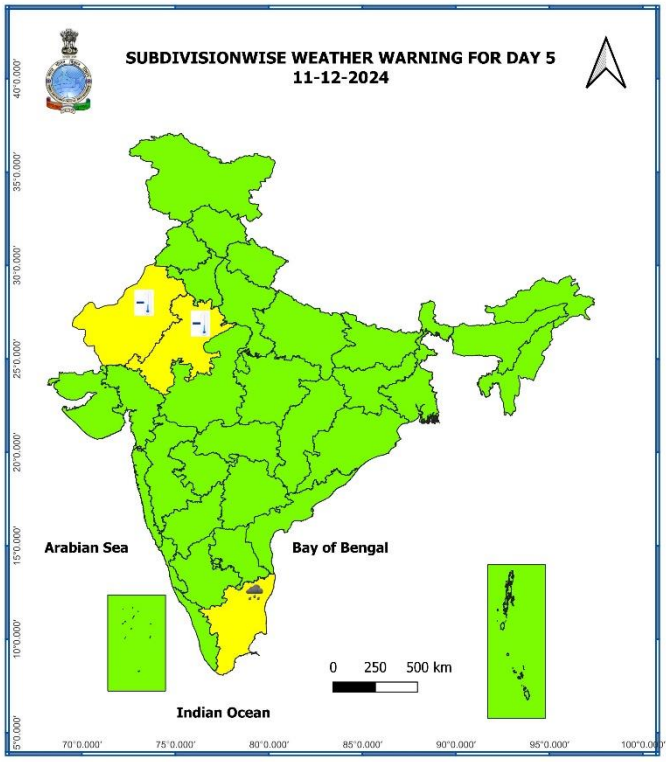




10 December (Day 4):

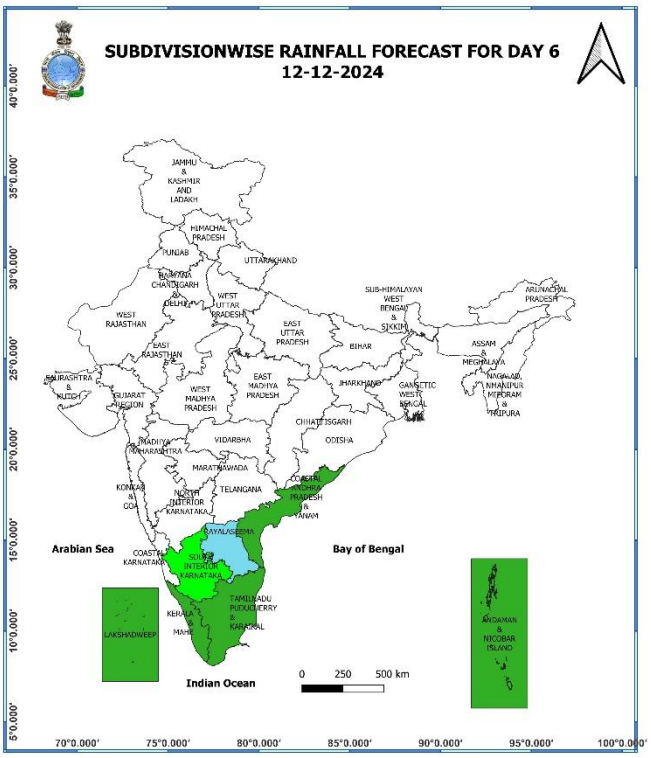
- **Dense fog** likely in isolated pockets of Himachal Pradesh night/morning hours.
- **Cold Wave Conditions** likely in isolated pockets of north Rajasthan.
- **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevailing over southwest and adjoining southeast Bay of Bengal**.** Fishermen are advised not to venture into these areas.

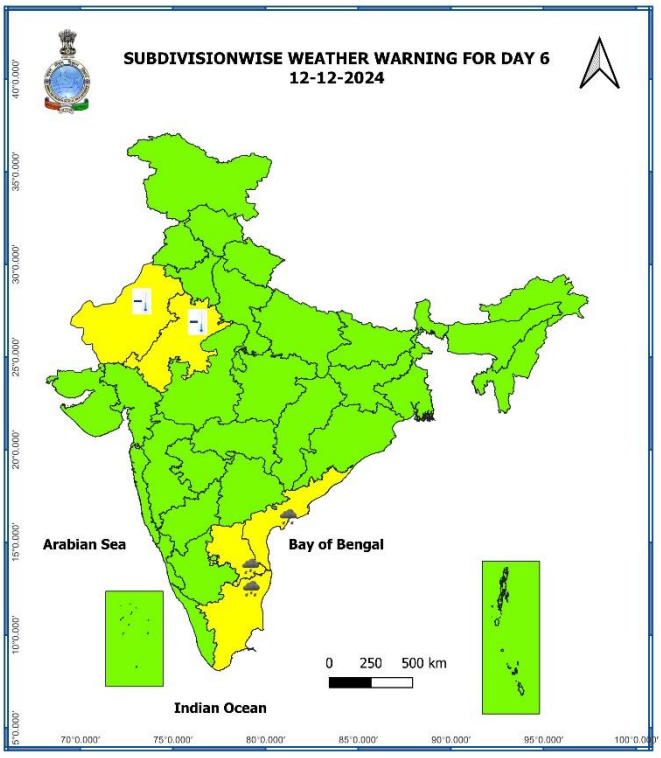




11 December (Day 5):

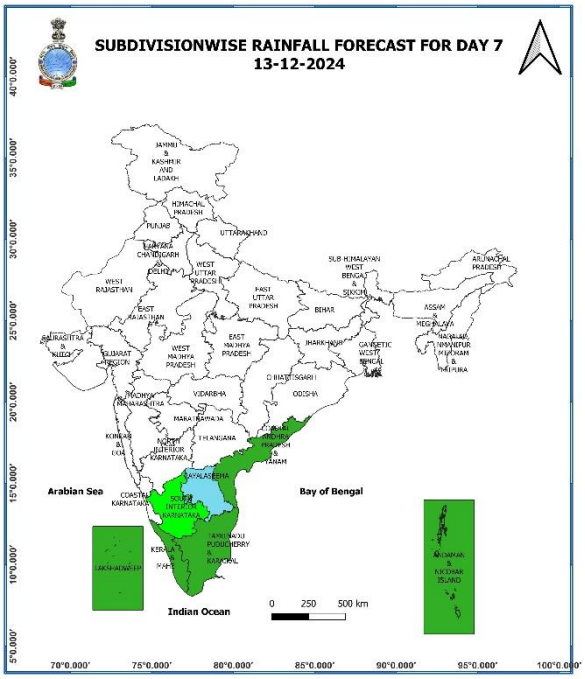
- **Heavy rainfall (≥7 cm)** likely at isolated places over Tamil Nadu, Puducherry & Karaikal.
- **Cold Wave Conditions** likely in isolated pockets of north Rajasthan.

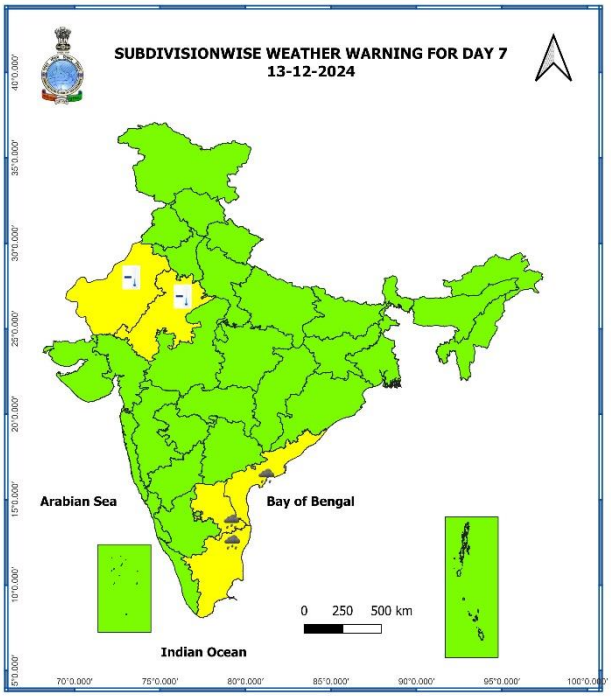




12 December (Day 6):

- **Heavy rainfall (≥7 cm)** likely at isolated places over Rayalaseema, Coastal Andhra Pradesh & Yanam and Tamil Nadu, Puducherry & Karaikal.
- **Cold Wave Conditions** likely in isolated pockets of north Rajasthan.





13 December (Day 7):

- **Heavy rainfall (≥7 cm)** likely at isolated places over Rayalaseema, Coastal Andhra Pradesh & Yanam and Tamil Nadu, Puducherry & Karaikal.
- **Cold Wave Conditions** likely in isolated pockets of north Rajasthan.

Weather Outlook for subsequent 3 days (During 14th December – 16th 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.**

Impact expected due to 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 wave/severe cold wave conditions over north Rajasthan

- 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 woolen 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.

Fig. 1: Maximum Temperatures

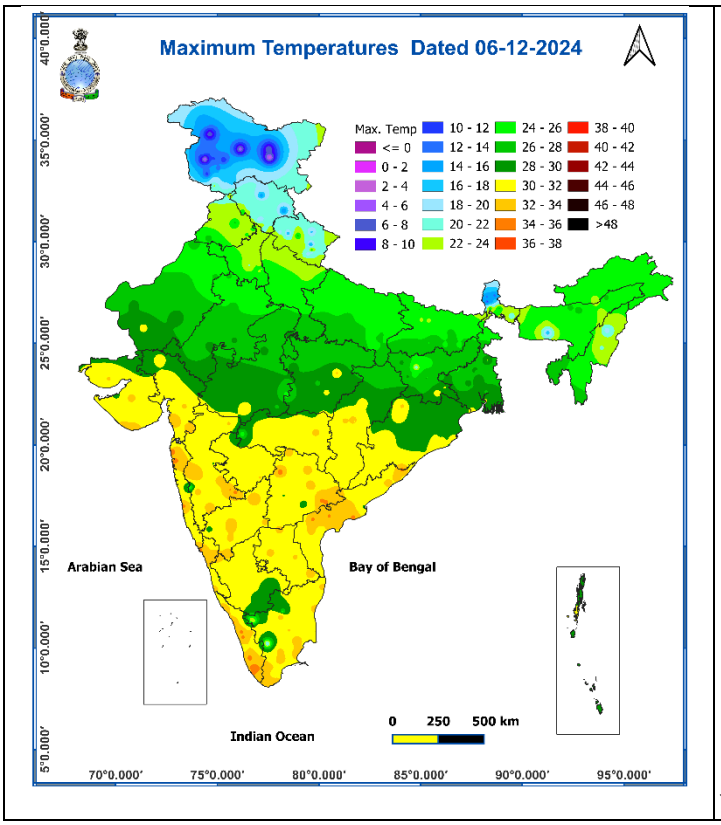


Fig. 2: Departure of Maximum Temperatures

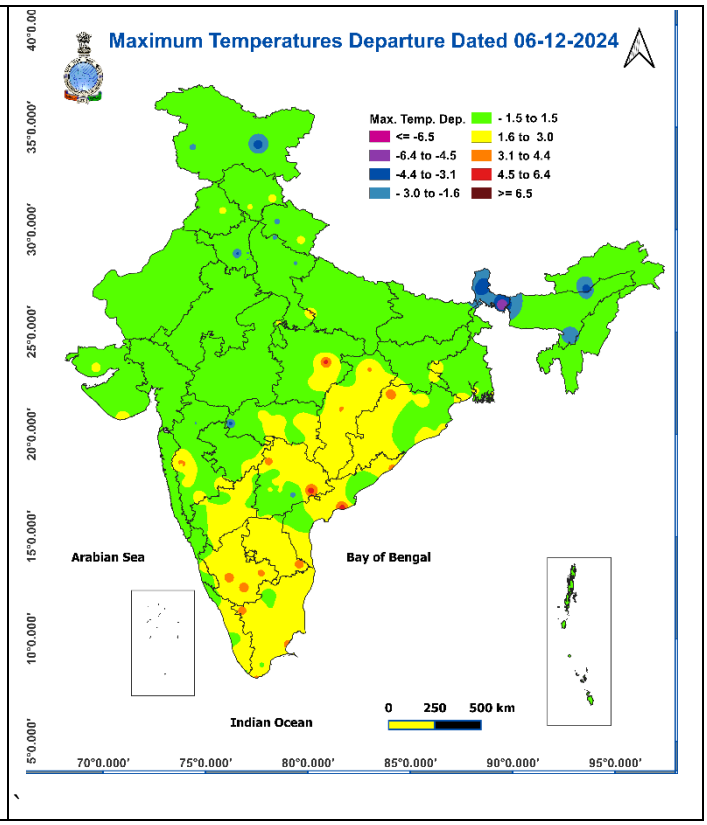


Fig. 3: Minimum Temperatures

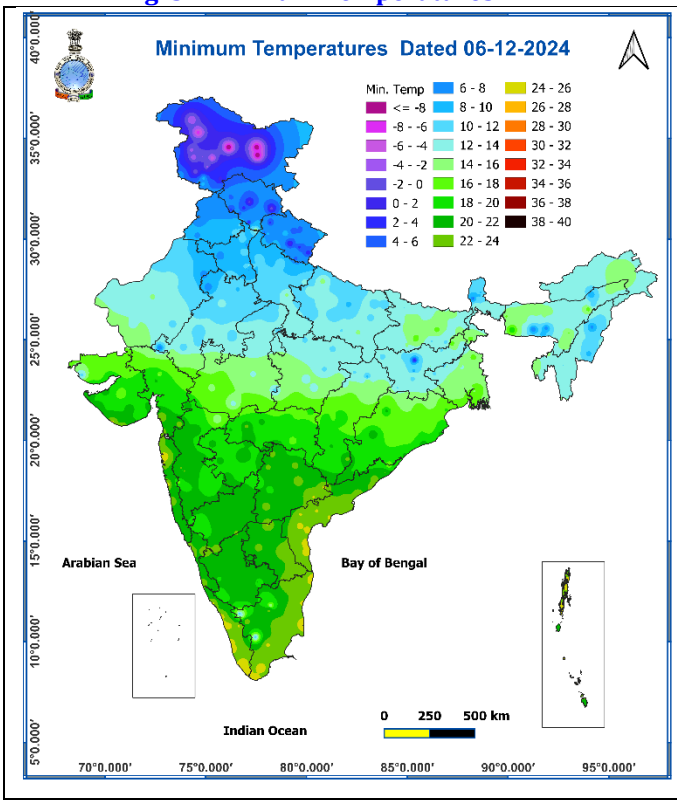
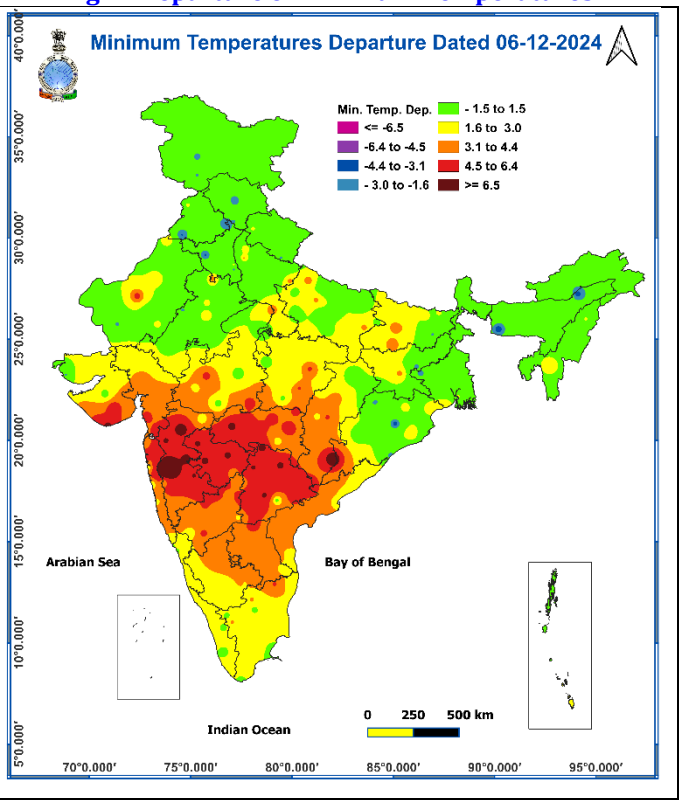
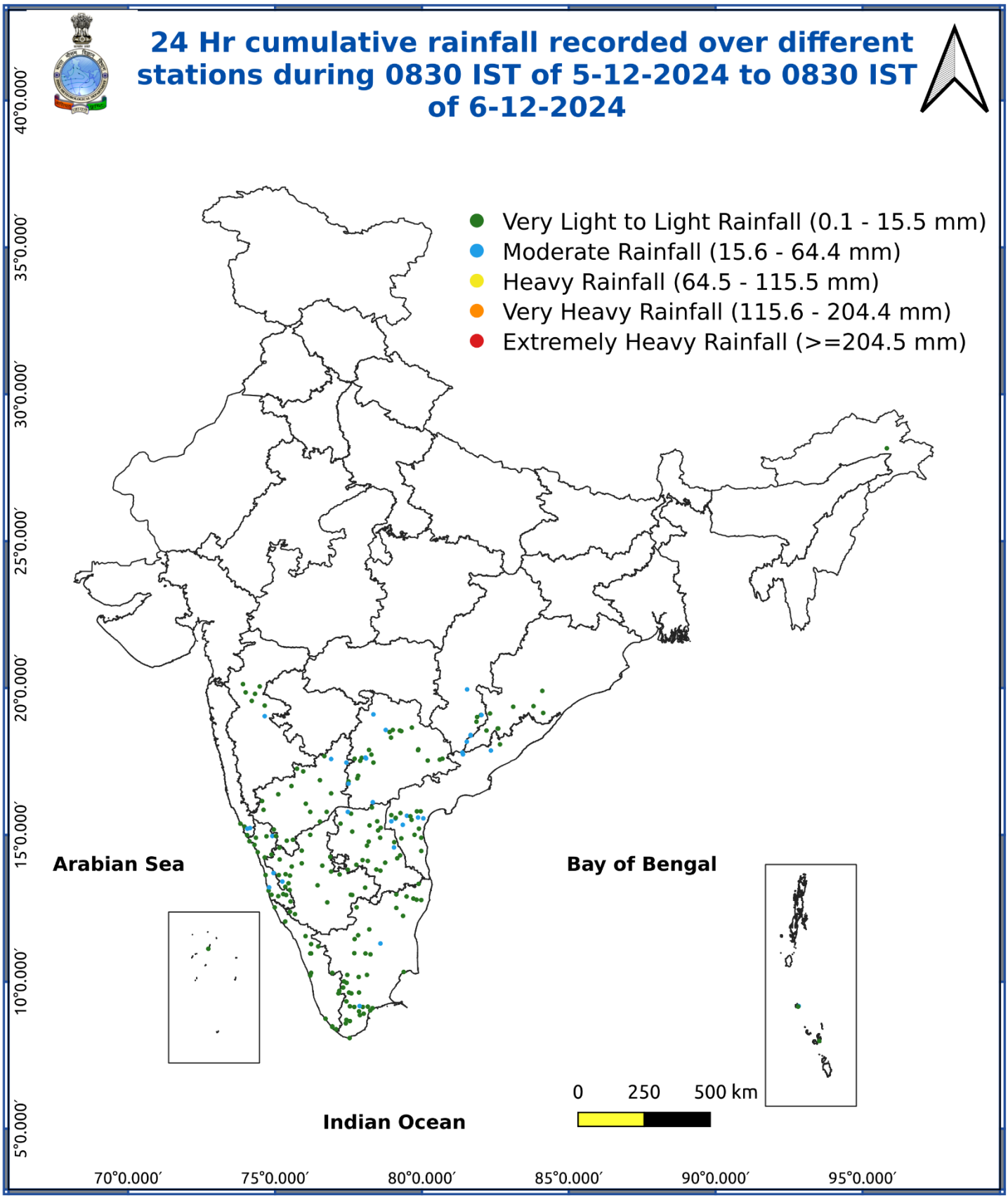


Fig. 4: Departure of Minimum Temperatures



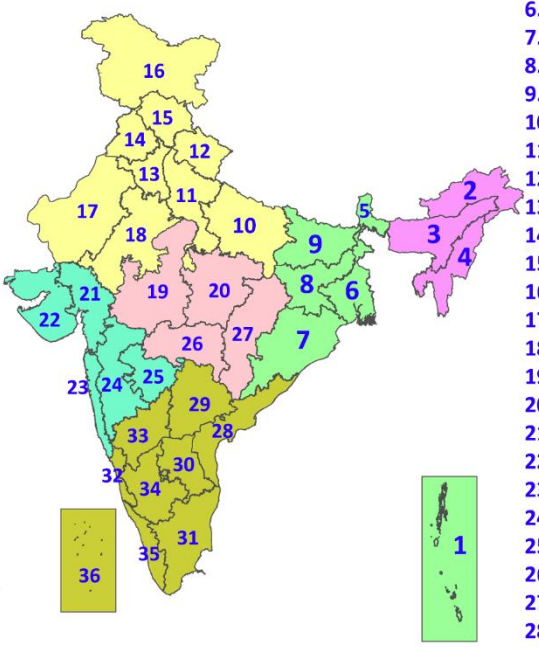
* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.
For more details, kindly visit https://mausam.imd.gov.in or contact: 011-2434-4599
(Service to the Nation since 1875)

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



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 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

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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 ≥40° C for plains and ≥30° 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 ≥6.5° C

(b). Based on Actual maximum temperature

- **Heat Wave:** When actual maximum temperature ≥45°C.
- **Severe Heat Wave:** When actual maximum temperature ≥47°C

(c). Criteria for heat wave for coastal stations

When maximum temperature departure is >4.5°C from normal. Heat Wave may be described provided maximum temperature ≥37°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 °C.

Cold Wave

When minimum temperature of a station ≤10°C for plains and ≤0°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 ≤ -6.5 °C

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

- **Cold Wave :** When Minimum Temperature is ≤ 4.0 °C
- **Severe Cold Wave:** When Minimum Temperature is ≤ 2.0 °C

(c) For Coastal Stations

When Minimum Temperature departure is ≤-4.5 °C & actual Minimum Temperature is ≤ 15 °C

Cold Day

When minimum temperature of a station ≤10°C for plains and ≤0°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 ≤ -6.5 °C

Fog

Phenomenon of small droplets suspended in air and the horizontal visibility < 1km

- **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 ≤4°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)

* 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
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