

Saturday, December 7, 2024  
Time of Issue: 1415 hours IST  
(MID-DAY)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features:

#### Weather Systems and associated weather:

- ✓ Under the influence of the **upper air cyclonic circulation** over southeast Bay of Bengal & adjoining east Equatorial Indian Ocean, a **low pressure area** has formed over the same region at 0830 hours IST of today, the 07<sup>th</sup> December. It is likely to move west-northwestwards, become **more marked** during next 24 hours. It is very likely to continue to move west-northwestwards thereafter and reach over southwest Bay of Bengal off Sri-Lanka - Tamil Nadu coasts around 11<sup>th</sup> December. Under its influence, the following weather is expecting:

**Tamil Nadu, Puducherry & Karaikal:** Light to moderate rainfall at many places with **heavy rainfall** at isolated places very likely over Tamil Nadu, Puducherry & Karaikal during 10<sup>th</sup> -13<sup>th</sup> with **very heavy rainfall** at isolated places over coastal Tamil Nadu on 12<sup>th</sup> December.

**Coastal Andhra Pradesh & Yanam:** Light to moderate rainfall at many places with **heavy rainfall** at isolated places is very likely over Coastal Andhra Pradesh & Yanam on 11<sup>th</sup> & 12<sup>th</sup> December.

**Kerala & Mahe:** Light to moderate rainfall at many places with **heavy rainfall** at isolated places is very likely over Kerala & Mahe during 11<sup>th</sup>-13<sup>th</sup> December.

**Fisherman Warning:** Fishermen are advised not to venture into Southeast Bay of Bengal during 07<sup>th</sup> -11<sup>th</sup>; Southwest Bay of Bengal during 09<sup>th</sup> -12<sup>th</sup>; Westcentral Bay of Bengal on 11<sup>th</sup> & 12<sup>th</sup> December.

- ❖ A fresh **Western Disturbance** seen as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level runs roughly along Long. 68°E to the north of Lat. 28°N. It is very likely to cause

**Light/moderate rainfall/snowfall** over Western Himalayan Region during 08<sup>th</sup>-11<sup>th</sup> December, 2024 and light isolated rainfall over Punjab, Haryana, Chandigarh on 08<sup>th</sup> & 09<sup>th</sup> December, 2024.

**Dense fog conditions** very likely to prevail during late night/early morning hours in isolated pockets of Assam & Meghalaya & Nagaland, Manipur, Mizoram & Tripura till 09<sup>th</sup>, Punjab, Haryana, Chandigarh, Jharkhand during 08<sup>th</sup>-10<sup>th</sup>, Uttar Pradesh during 09<sup>th</sup>-12<sup>th</sup>; Sub-Himalayan West Bengal & Sikkim till 10<sup>th</sup> and Himachal Pradesh during 10<sup>th</sup> -12<sup>th</sup> December morning hours.

**Cold wave** conditions very likely in isolated pockets over North Rajasthan during 09<sup>th</sup>-13<sup>th</sup> December.

#### ii. Temperature Forecast:

##### Forecast of temperature:

- ❖ Gradual rise in minimum temperatures by 2-3°C likely over Northwest India (except Rajasthan) during next 2 days and gradual fall by 2-3°C thereafter. Gradual fall in minimum temperatures by 2-3°C likely over Rajasthan during next 4-5 days.
- ❖ Gradual rise in minimum temperatures by 2-3°C likely over East India during next 3 days and then gradual fall by 2-3°C thereafter.
- ❖ Gradual fall in minimum temperatures by 3-4°C likely over Maharashtra during next 4 days.
- ❖ Gradual fall in minimum temperatures by 2-4°C likely over Gujarat Region during next 2 days and no significant change thereafter.
- ❖ No significant change in minimum temperatures likely over Central India during next 2 days and gradual fall by 2-4°C thereafter.

#### Weather Realised (past 24 hours) & forecast (during 07<sup>th</sup> Dec. to 10<sup>th</sup> Dec. 2024) over Delhi/NCR

##### Past Weather:

There has been a fall in minimum temperature upto 02°C over Delhi/NCR during past 24hr. The Maximum and Minimum temperature over Delhi is in the range of 23 to 25°C and 07 to 09°C respectively. The maximum temperature was near normal and minimum temperature was below normal upto -1 to -4°C over most places. Mainly smog/ mist condition with predominant surface wind from northwest direction with wind speed reaching 10 to 16 kmph prevailed on 06.12.2024. Mainly clear sky condition with wind speed less than 10 kmph northwest direction prevailed over the region in the forenoon today.

##### Weather Forecast:

**07.12.2024:** Mainly clear sky. The predominant surface wind is likely to be northwest direction with wind speed less than 08 kmph till evening. It would decrease thereafter becoming less than 06 kmph from southeast direction during night. Smog/mist is likely in the evening/night.

**08.12.2024:** Partly cloudy sky and possibility of very light rain/drizzle. The predominant surface wind is likely to be from southeast direction with speed less than 10 kmph during morning hours. Shallow fog is most likely and low probability of moderate fog over the region in the morning. The wind speed will increase thereafter becoming less than 16 kmph from southeast direction during afternoon. It will decrease thereafter becoming less than 10 kmph from southeast direction during evening and night. Mist is likely in the evening/night.

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

**10.12.2024:** 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 northwest direction during afternoon. It will gradually decrease becoming less than 06 kmph from northwest direction during evening and night. Smog/shallow fog is likely in the evening/night.

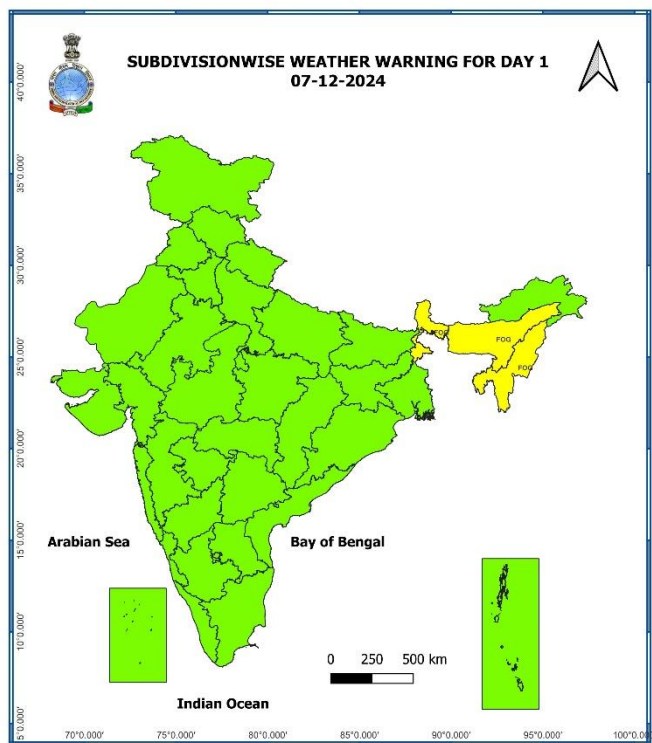
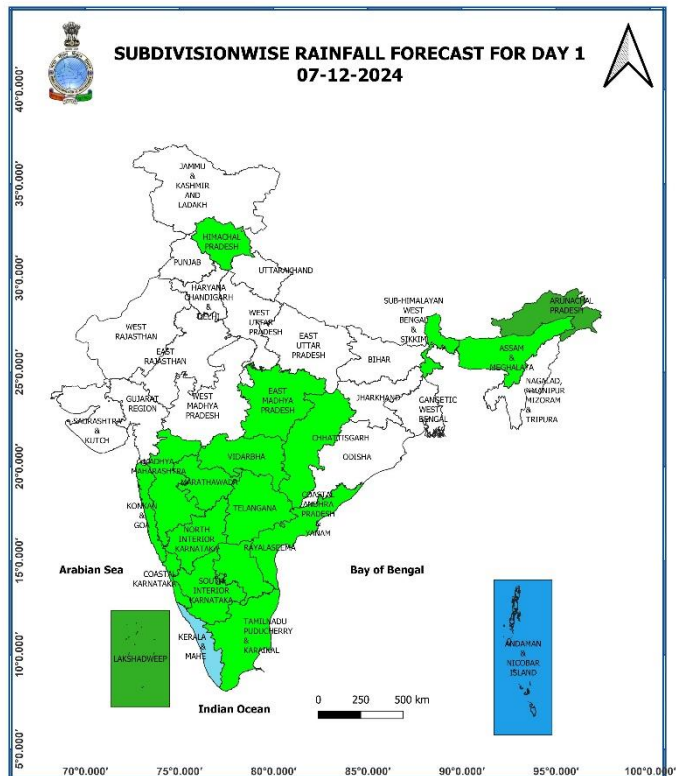
## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): **at a few** places over Andaman & Nicobar Islands and Lakshadweep; **at isolated** places over Arunachal Pradesh, Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, Odisha, Vidarbha, Konkan & Goa, Madhya Maharashtra, Marathwada, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Interior Karnataka, Coastal Andhra Pradesh & Yanam, Telangana and Rayalaseema.
- ❖ **Heavy to very heavy rainfall recorded** (from 0830 hours IST of yesterday to 0830 hours IST of today): **NIL**
- ❖ **Significant amount of rainfall** (from 0830 hours IST of yesterday to 0830 hours IST of today) (in cm): **Telangana:** Alladurg (dist Medak) 6, Jainoor (dist Kumaram Bheem) 5; **Coastal Karnataka:** Castle Rock (dist Uttara Kannada) 5; **North Interior Karnataka:** Chittapur (dist Kalaburgi) 4.
- ❖ **Fog conditions observed (at 0830 hours IST of today): Dense fog (visibility 50-200 m)** in isolated pockets of Sub-Himalayan West Bengal, Meghalaya and Manipur.
- ❖ **Visibility reported (at 0830 hours IST of today) ( $\leq 200$  metres): Sub-Himalayan West Bengal:** Cooch Behar 50; **Meghalaya:** Barapani 100; **Manipur:** Imphal 100.
- ❖ **Minimum Temperatures Departures (as on 07-12-2024):** Minimum temperatures are **markedly above normal ( $5.0^{\circ}\text{C}$  or more)** at most places over Telangana; at many places over Rayalaseema; at isolated places over Chhattisgarh, Odisha and Coastal Andhra Pradesh & Yanam; **appreciably above normal ( $3.1^{\circ}\text{C}$  to  $5.0^{\circ}\text{C}$ )** at isolated places over Tamil Nadu, Puducherry & Karaikal; **above normal ( $1.6^{\circ}\text{C}$  to  $3.0^{\circ}\text{C}$ )** at many places over Coastal Karnataka; at a few places over Kerala & Mahe. These are **appreciably below normal ( $-3.1^{\circ}\text{C}$  to  $-5.0^{\circ}\text{C}$ )** at isolated places over Haryana-Chandigarh and East Uttar Pradesh; **below normal ( $-1.6^{\circ}\text{C}$  to  $-3.0^{\circ}\text{C}$ )** at many places over Jammu-Kashmir; at isolated places over West Rajasthan and near normal over rest parts of the country. Today, **the lowest minimum temperature of  $4.5^{\circ}\text{C}$**  is reported at Hissar (**Haryana**) over the plains of the country. (Fig.4)
- ❖ **Maximum Temperature Departures (as on 06-12-2024):** Maximum temperatures were **appreciably above normal ( $3.1^{\circ}\text{C}$  to  $5.0^{\circ}\text{C}$ )** at isolated places over Odisha and Chhattisgarh; **above normal ( $1.6^{\circ}\text{C}$  to  $3.0^{\circ}\text{C}$ )** 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 ( $-1.6^{\circ}\text{C}$  to  $-3.0^{\circ}\text{C}$ )** at isolated places Bihar, Uttar Pradesh and Delhi. Yesterday, **the highest maximum temperature of  $35.8^{\circ}\text{C}$**  was reported at Nandigama (**Coastal Andhra Pradesh**) over the country. (Fig. 2)

## Meteorological Analysis (Based on 0830 hours IST)

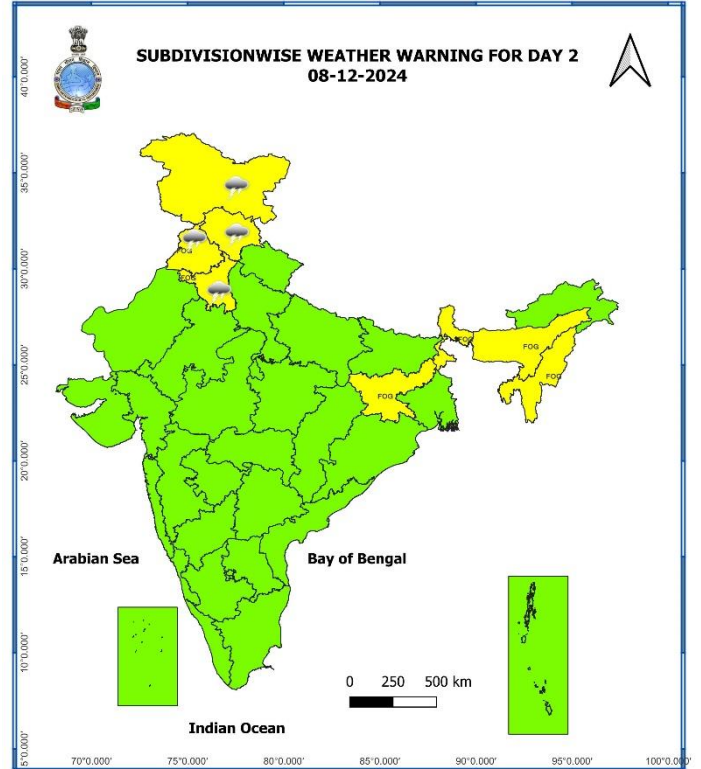
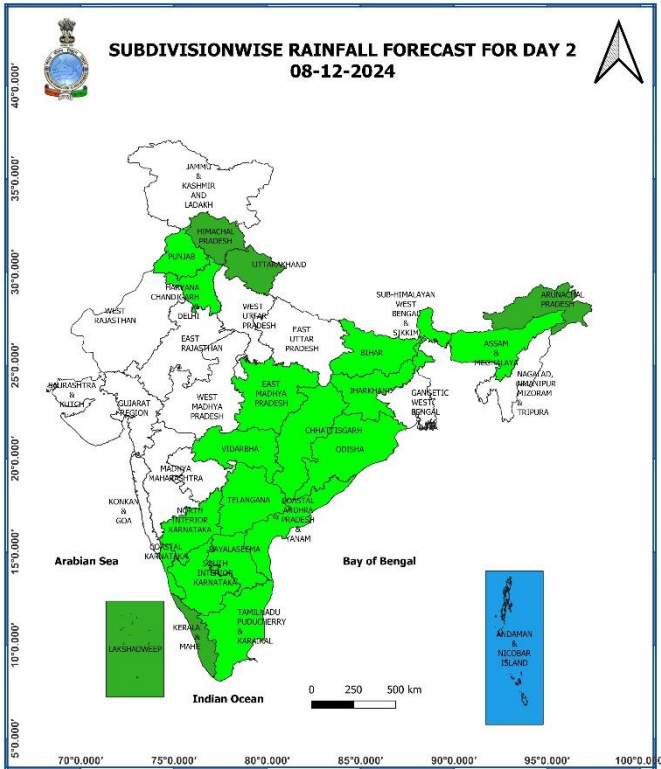
- ❖ Under the influence of the **upper air cyclonic circulation** over southeast Bay of Bengal & adjoining east Equatorial Indian Ocean, a **low pressure area** has formed over the same region at 0830 hours IST of today, the 07<sup>th</sup> December. The associated **cyclonic circulation** extends upto middle tropospheric levels. It is likely to move west-northwestwards, become **more marked** during next 24 hours. It is very likely to continue to move west-northwestwards thereafter and reach over southwest Bay of Bengal off Sri-Lanka – Tamil Nadu coasts around 11<sup>th</sup> December.
- ❖ The **upper air cyclonic circulation** over southwest & adjoining southeast Arabian sea extending upto 1.5 km above mean sea level persists.
- ❖ The **upper air cyclonic circulation** over northeast Assam persists and now seen at 1.5 km above mean sea level with a trough aloft in middle tropospheric westerlies with its axis between 3.1 & 4.5 km above mean sea level along Long. 92°E to the north of Lat. 25°N.
- ❖ A fresh **Western Disturbance** as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level runs roughly along Long. 68°E to the north of Lat. 28°N.
- ❖ **Subtropical westerly Jet Stream with core winds** of the order upto 120 knots at 12.6 km above mean sea level is prevailing over North India.

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



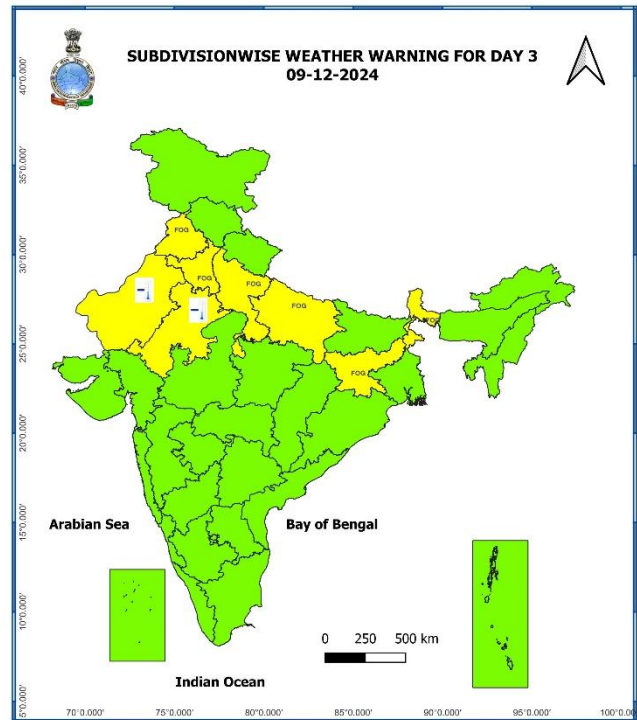
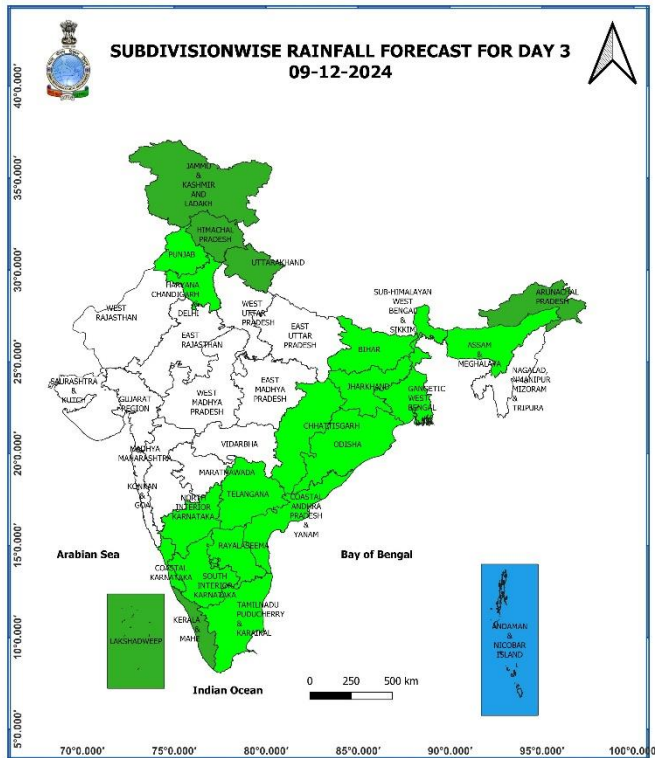
**07 December (Day 1):**

- ❖ **Dense fog** very likely in isolated pockets of Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura in night/morning hours.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Interior Karnataka.
- ❖ **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 winds with 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.



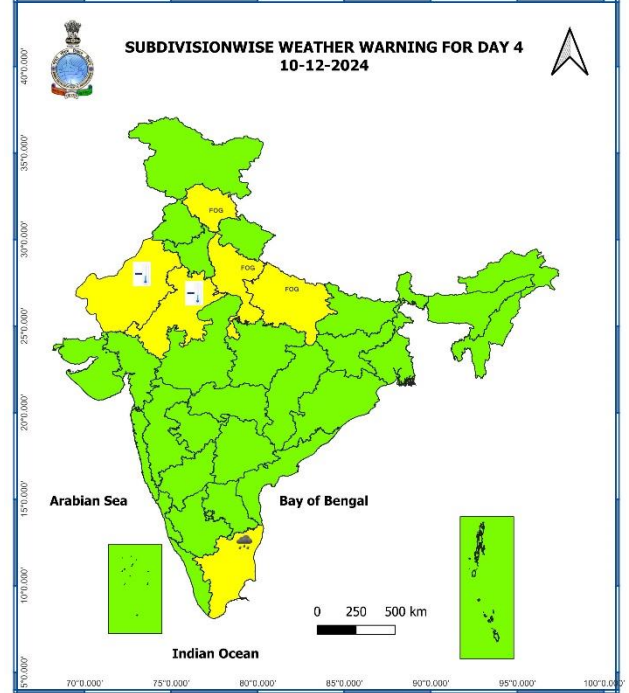
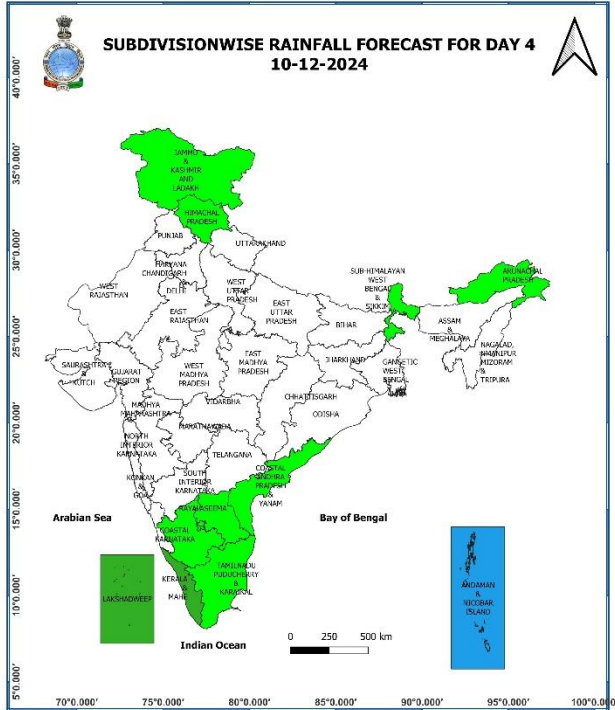
### 08 December (Day 2):

- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Punjab, Haryana-Chandigarh, north Chhattisgarh, Jharkhand and North & South Interior Karnataka.
- ❖ **Dense fog** very likely in isolated pockets of Punjab, Haryana-Chandigarh-Delhi, Sub-Himalayan West Bengal & Sikkim, Jharkhand, 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 winds with 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.



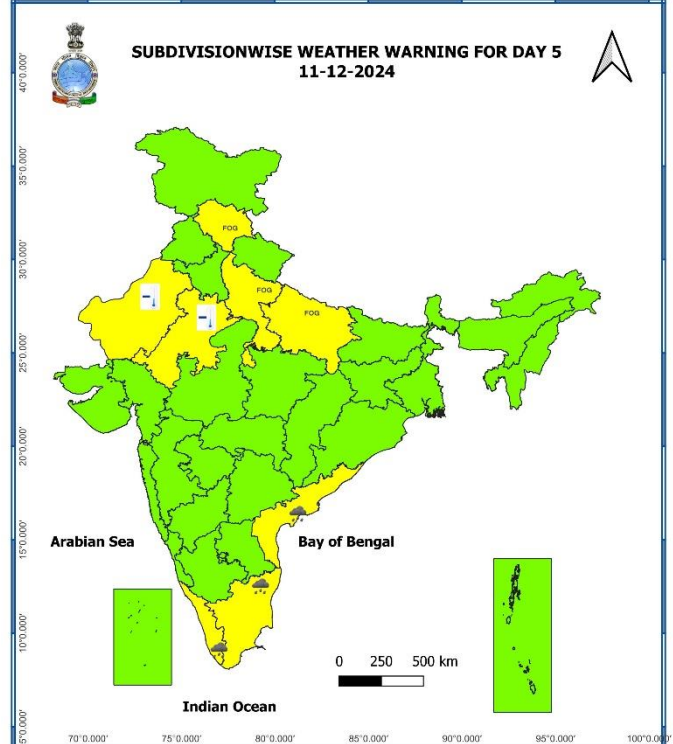
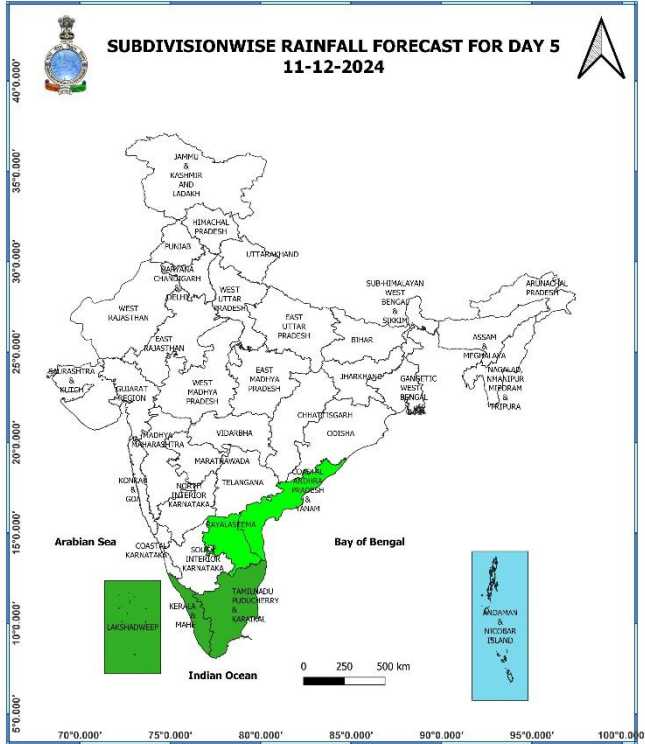
**09 December (Day 3):**

- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and North & South Interior Karnataka.
- ❖ **Dense fog** very likely in isolated pockets of Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim and Jharkhand in night/morning hours.
- ❖ **Cold Wave Conditions** likely in isolated pockets of Rajasthan.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevailing over central parts of south Bay of Bengal. **Squally winds with 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):

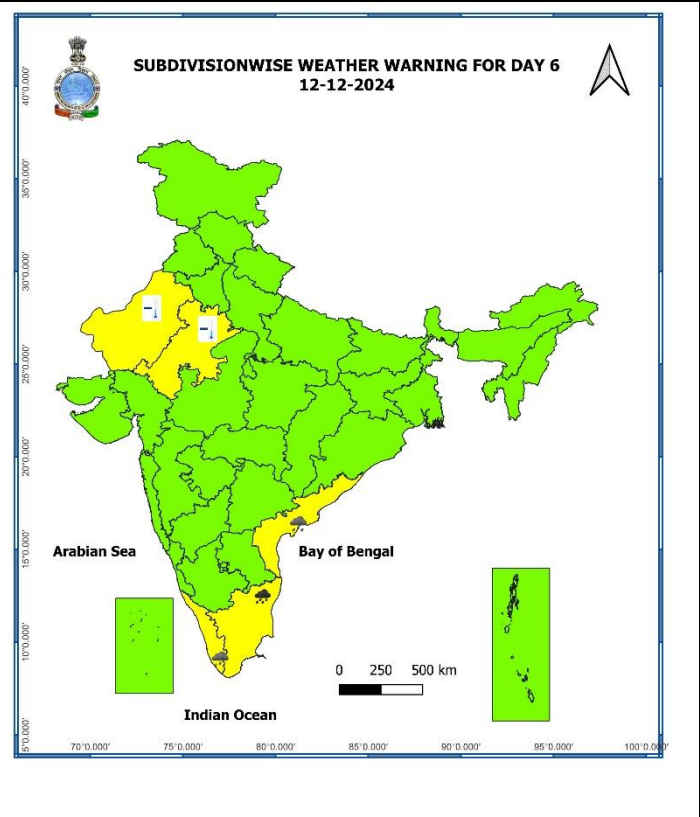
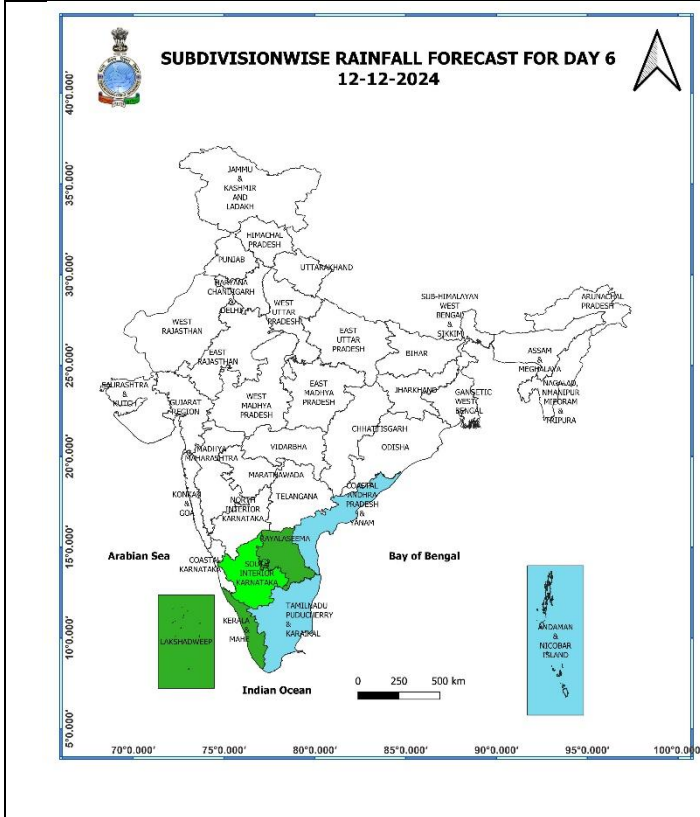
- ❖ **Heavy rainfall ( $\geq 7$  cm)** likely at isolated places over Tamil Nadu, Puducherry & Karaikal.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal and Coastal Andhra Pradesh & Yanam.
- ❖ **Dense fog** likely in isolated pockets of Himachal Pradesh and Uttar Pradesh in night/morning hours.
- ❖ **Cold Wave Conditions** likely in isolated pockets of Rajasthan.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevailing over many parts of southwest Bay of Bengal and adjoining parts of southeast & westcentral Bay of Bengal. Fishermen are advised not to venture into these areas.



### 11 December (Day 5):

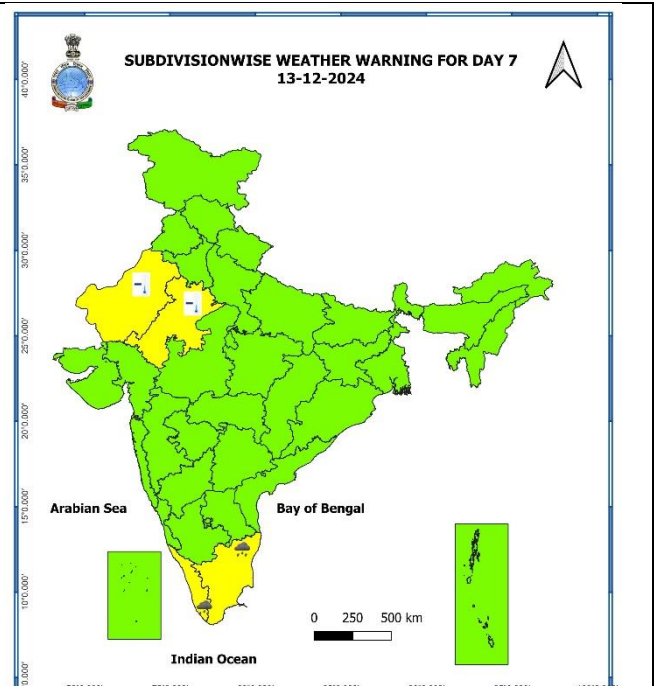
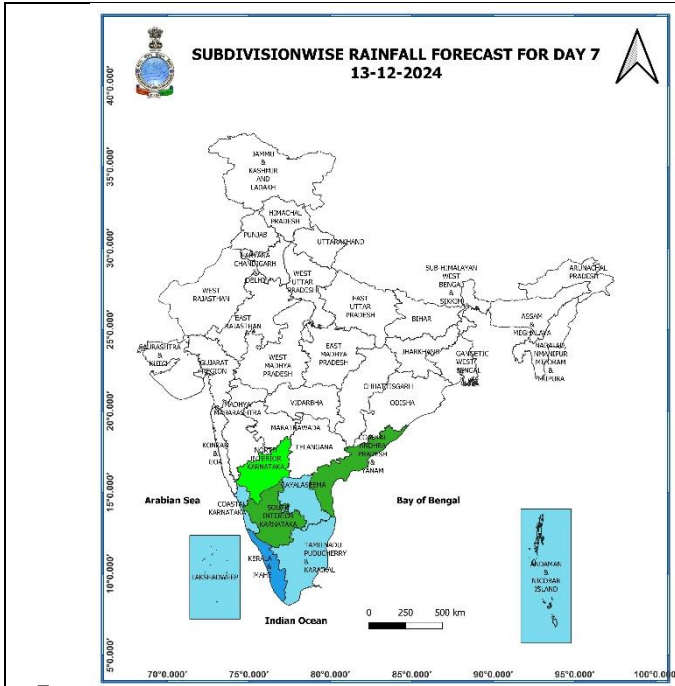
- ❖ **Heavy rainfall ( $\geq 7$  cm)** likely at isolated places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and Coastal Andhra Pradesh & Yanam.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Rayalaseema and Coastal Andhra Pradesh & Yanam.
- ❖ **Dense fog** likely in isolated pockets of Himachal Pradesh and Uttar Pradesh in night/morning hours.
- ❖ **Cold Wave Conditions** likely in isolated pockets of Rajasthan.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevailing over many parts of southwest Bay of Bengal and adjoining parts of southeast Bay of Bengal, southern parts of westcentral Bay of Bengal. Fishermen are advised not to venture into these areas.





### 12 December (Day 6):

- ❖ **Heavy to very Heavy rainfall ( $\geq 12$  cm)** likely at isolated places over Tamil Nadu, Puducherry & Karaikal; **Heavy rainfall ( $\geq 7$  cm)** likely at isolated places over Kerala & Mahe and Coastal Andhra Pradesh & Yanam.
- ❖ **Cold Wave Conditions** likely in isolated pockets of Rajasthan.



### 13 December (Day 7):

- ❖ **Heavy rainfall ( $\geq 7$  cm)** likely at isolated places over Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ **Cold Wave Conditions** likely in isolated pockets of Rajasthan.

### Weather Outlook for subsequent 3 days (During 14<sup>th</sup> December – 16<sup>th</sup> 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.

\* 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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### 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

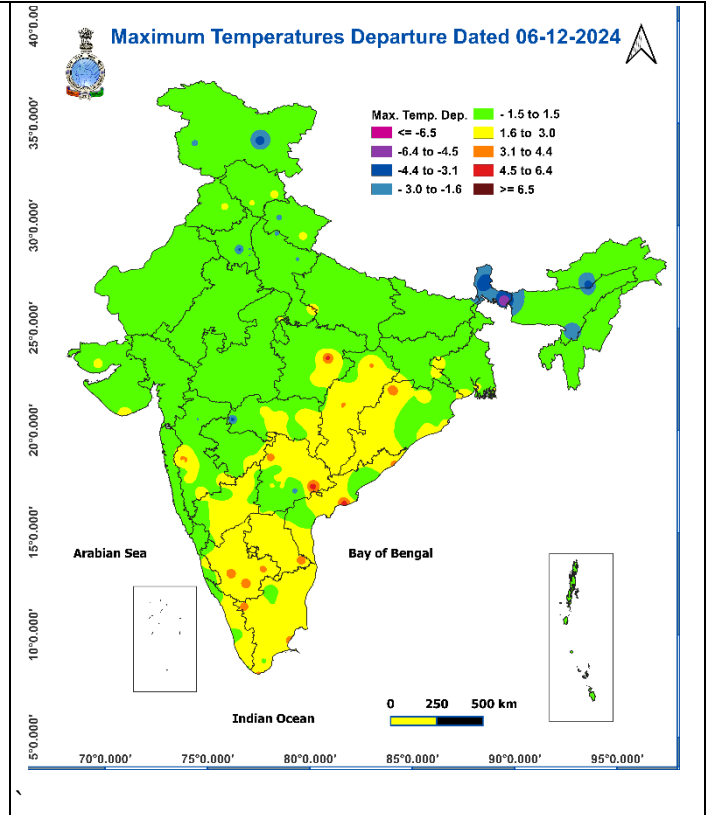
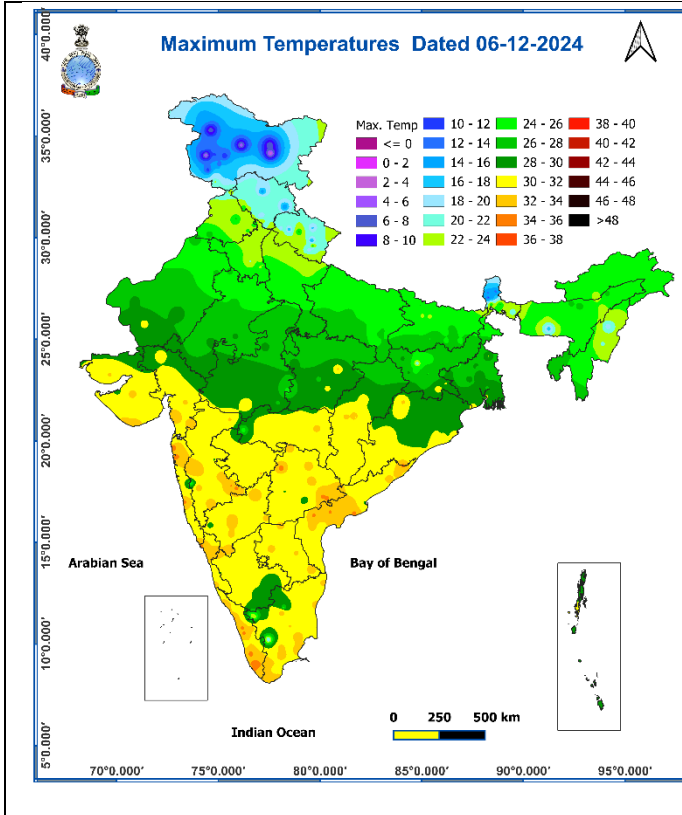
- ❖ An increased likelihood of various illnesses like flu, running/ stuffy nose or nosebleed, which usually set in or get aggravated due to prolonged exposure to cold.
- ❖ Do not ignore shivering. It is the first sign that the body is losing heat. Get Indoors.
- ❖ Frostbite can occur due to prolonged 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**

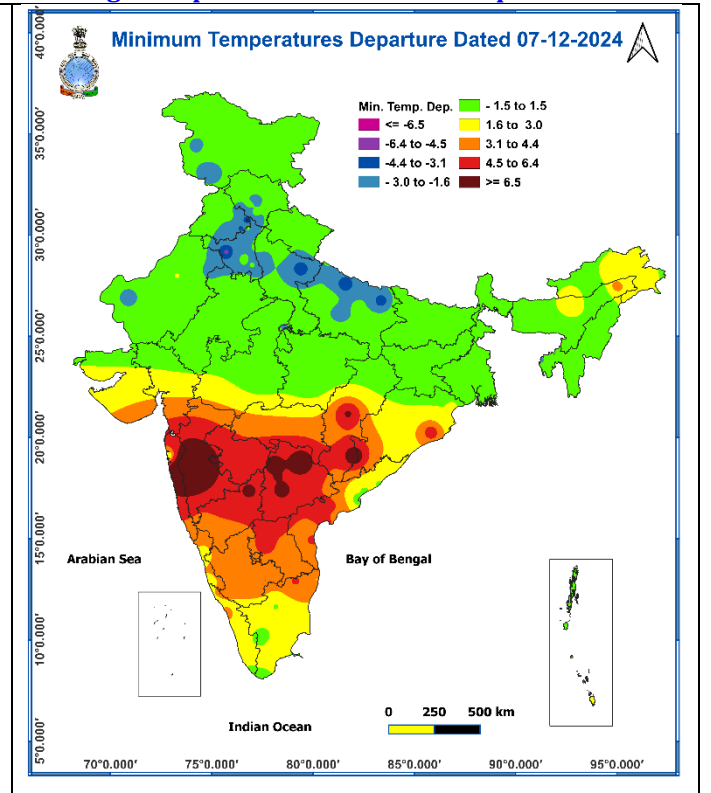
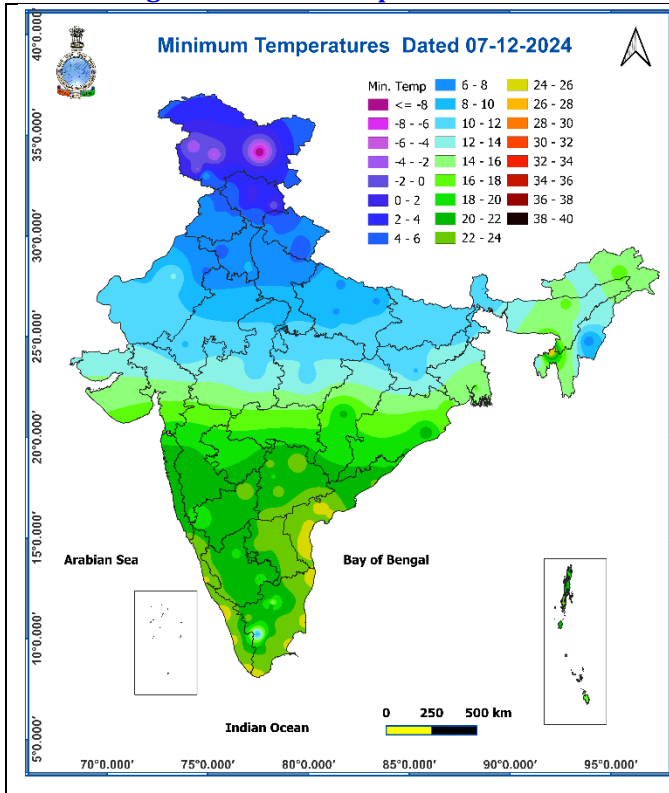
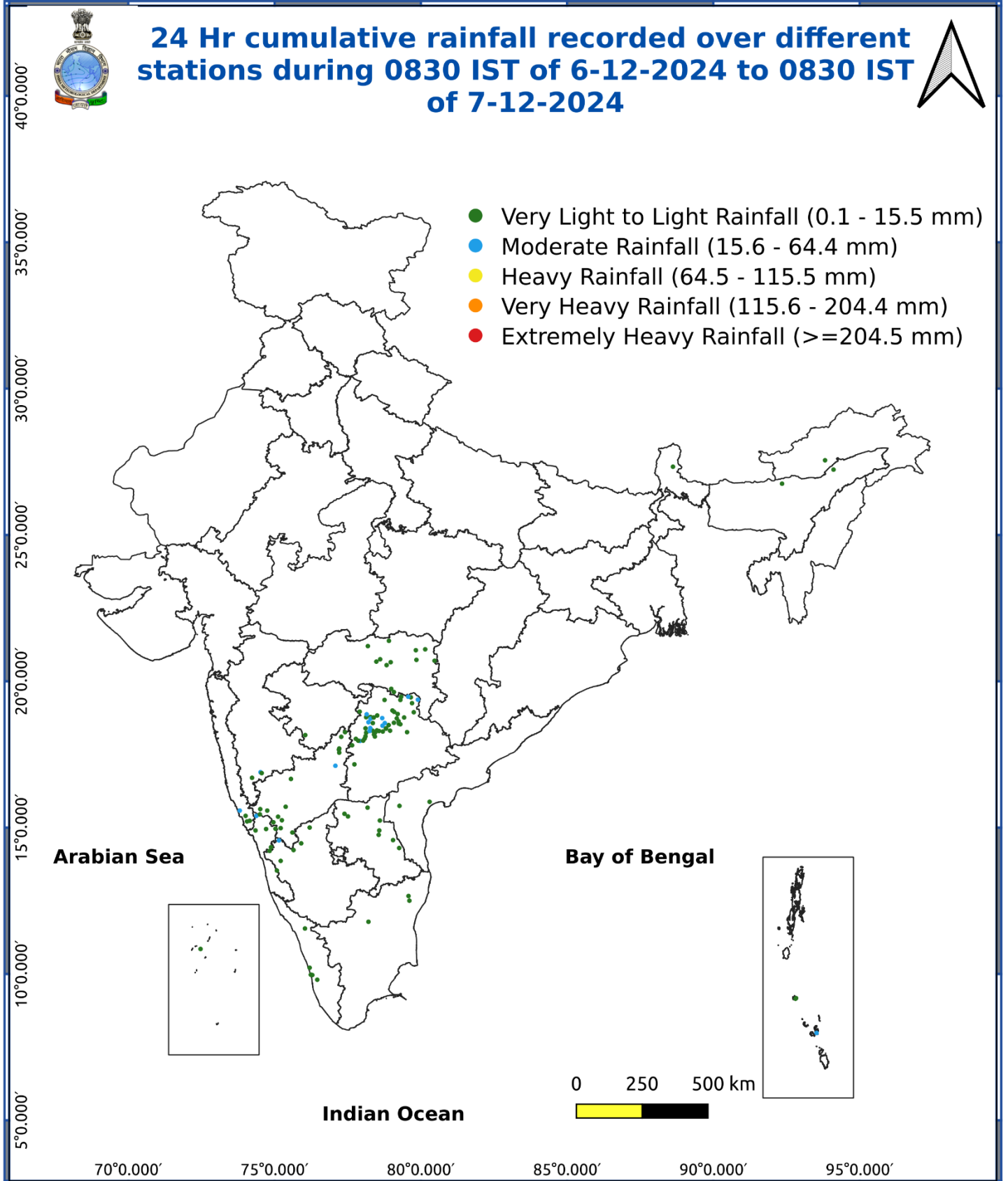


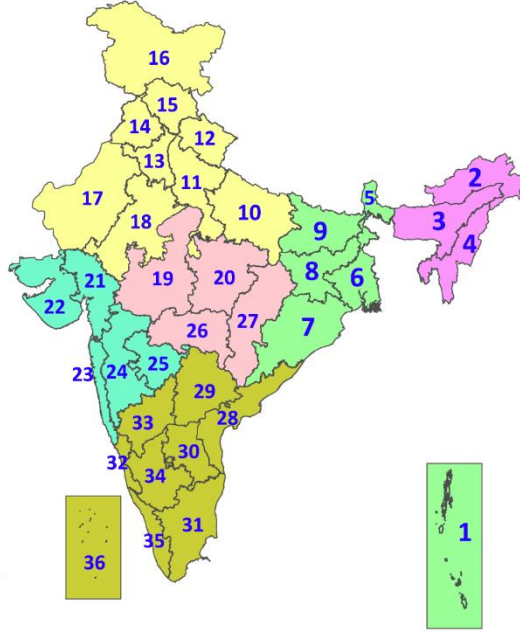
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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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)

- |                      |                      |              |
|----------------------|----------------------|--------------|
| 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

<b>Rain/ Snow *</b>	<p><b>Heavy:</b> 64.5 to 115.5 mm/cm *</p> <p><b>Very Heavy:</b> 115.6 to 204.4 mm/cm*</p> <p><b>Extremely Heavy:</b> &gt; 204.4 mm/cm *</p>
<b>Heat Wave</b>	<p>When maximum temperature of a station reaches <math>\geq 40^\circ\text{C}</math> for plains and <math>\geq 30^\circ\text{C}</math> for hilly regions</p> <p><b>(a) Based on Departure from normal</b></p> <p><b>Heat Wave:</b> Maximum Temperature Departure from normal <math>4.5^\circ\text{C}</math> to <math>6.4^\circ\text{C}</math>.</p> <p><b>Severe Heat Wave:</b> Maximum Temperature Departure from normal <math>\geq 6.5^\circ\text{C}</math></p> <p><b>(b). Based on Actual maximum temperature</b></p> <p><b>Heat Wave:</b> When actual maximum temperature <math>\geq 45^\circ\text{C}</math>.</p> <p><b>Severe Heat Wave:</b> When actual maximum temperature <math>\geq 47^\circ\text{C}</math></p> <p><b>(c) Criteria for heat wave for coastal stations</b></p> <p>When maximum temperature departure is <math>&gt;4.5^\circ\text{C}</math> from normal. Heat Wave may be described provided maximum temperature <math>\geq 37^\circ\text{C}</math></p>
<b>Warm Night</b>	<p>When maximum temperature remains <math>40^\circ\text{C}</math></p> <p><b>Warm Night:</b> When minimum temperature departure <math>4.5^\circ\text{C}</math> to <math>6.4^\circ\text{C}</math>.</p> <p><b>Severe Warm Night:</b> When minimum temperature departure <math>&gt;6.4^\circ\text{C}</math>.</p>
<b>Cold Wave</b>	<p>When minimum temperature of a station <math>\leq 10^\circ\text{C}</math> for plains and <math>\leq 0^\circ\text{C}</math> for hilly regions.</p> <p><b>(a). Based on departure</b></p> <p><b>Cold Wave:</b> Minimum Temperature Departure from normal <math>-4.5^\circ\text{C}</math> to <math>-6.4^\circ\text{C}</math>.</p> <p><b>Severe Cold Wave:</b> Minimum Temperature Departure from normal <math>\leq -6.5^\circ\text{C}</math></p> <p><b>(b) Based on actual Minimum Temperature (for Plains only)</b></p> <p><b>Cold Wave :</b> When Minimum Temperature is <math>\leq 4.0^\circ\text{C}</math></p> <p><b>Severe Cold Wave:</b> When Minimum Temperature is <math>\leq 2.0^\circ\text{C}</math></p> <p><b>(c) For Coastal Stations</b></p> <p>When Minimum Temperature departure is <math>\leq -4.5^\circ\text{C}</math> &amp; actual Minimum Temperature is <math>\leq 15^\circ\text{C}</math></p>
<b>Cold Day</b>	<p>When minimum temperature of a station <math>\leq 10^\circ\text{C}</math> for plains and <math>\leq 0^\circ\text{C}</math> for hilly regions</p> <p><b>Based on departure</b></p> <p><b>Cold Day:</b> Maximum Temperature Departure from normal <math>-4.5^\circ\text{C}</math> to <math>-6.4^\circ\text{C}</math>.</p> <p><b>Severe Cold Day:</b> Maximum Temperature Departure from normal <math>\leq -6.5^\circ\text{C}</math></p>
<b>Fog</b>	<p><b>Phenomenon of small droplets suspended in air and the horizontal visibility <math>&lt; 1\text{km}</math></b></p> <p><b>Moderate Fog:</b> When the visibility between 500-200 metres</p> <p><b>Dense Fog:</b> when the visibility between 50- 200 metres</p> <p><b>Very Dense Fog:</b> when the visibility <math>&lt; 50</math> metres</p>
<b>Thunderstorm</b>	Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)
<b>Dust/Sand Storm</b>	An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.
<b>Frost</b>	Ice deposits on ground Air temperature $\leq 4^\circ\text{C}$ ( over Plains)
<b>Squall</b>	A strong wind that rises suddenly, lasts for atleast 1 minute. <b>Moderate:</b> Wind speed 52-61 kmph <b>Severe:</b> Wind speed 62-87 kmph <b>Very Severe:</b> Wind speed $>87$ kmph
<b>Sea State</b>	Effect of various waves in the sea over specific area <b>Rough to very rough:</b> Wind speed 41-62 kmph (22-33 knots) & Wave height 2.5-6 metre <b>High to very high:</b> Wind speed 63-117 kmph ( 34-63 knots) & Wave height 6-14 metre <b>Phenomenal:</b> Wind speed $>117$ kmph ( $>63$ knots) & Wave height $>14$ metre
<b>Cyclone</b>	<b>Cyclonic Storm:</b> Wind speed 62-87 kmph (34-47 knots) <b>Severe Cyclonic Storm:</b> Wind speed 88-117 kmph (48-63 knots) <b>Very Severe Cyclonic Storm:</b> Wind speed 118-165 kmph (64 - 89 knots) <b>Extremely Severe Cyclonic Storm:</b> Wind speed 166-220 kmph (90 -119 knots) <b>Super Cyclone Strom:</b> Wind speed $>220$ kmph ( $>119$ knots)