

Wednesday, December 4, 2024  
Time of Issue: 1300 hours IST  
(MID-DAY)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features:

#### Weather Systems:

- ❖ The **well marked low pressure area** over Coastal Karnataka and adjoining east central Arabian sea moved westwards and weakened into a **low pressure area** over eastcentral & adjoining southeast Arabian sea at 0830 hours IST of today, the 04<sup>th</sup> December, 2024. It is likely to move westwards and become less marked during next 24 hours.
- ❖ A fresh **Western Disturbance** is likely to affect Western Himalayan Region from the night of 7<sup>th</sup> December and adjoining plains of Northwest India from 08<sup>th</sup> December. It is likely to cause isolated to scattered light/moderate rainfall/snowfall over the Western Himalayan Region during 07<sup>th</sup>-09<sup>th</sup> and over the adjoining plains of Northwest India on 08<sup>th</sup> December, 2024.

#### Forecast & Warnings (upto 7 days):

- ✓ **Dense fog conditions** very likely to prevail during late night/early morning hours in isolated pockets of Punjab, Haryana and Chandigarh during 07<sup>th</sup>-09<sup>th</sup> December morning hours.

#### ii. 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 a few places over Madhya Maharashtra, Marathwada, Vidarbha, Telangana; at isolated places over Madhya Pradesh, Saurashtra & Kutch, Chhattisgarh, Odisha; **appreciably above normal (3°C to 5°C)** at a few places over Konkan & Goa, Rayalaseema, Coastal Andhra Pradesh & Yanam; at isolated places over Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, West Rajasthan, Gujarat Region, North Interior Karnataka, Tamil Nadu, Puducherry & Karaikal; **above normal (1°C to 3°C)** at a few places over Jharkhand, Coastal Karnataka, Kerala & Mahe; at isolated places over Bihar, Gangetic West Bengal, South Interior Karnataka. These are **below normal (-3°C to -1°C)** at isolated places over Assam & Meghalaya and near normal over rest parts of the country. Today, **the lowest minimum temperature of 9.9°C** is reported at **Hissar (Haryana)** over the plains of the country.

##### Forecast of temperature:

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

#### Weather Forecast:

**04.12.2024:** Mainly clear sky. The predominant surface wind is likely to be northwest direction with wind speed less than 14 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.

**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 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.

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

**07.12.2024:** Mainly clear sky. The predominant surface wind is likely to be from northwest direction with wind speed less than 04 kmph during morning hours. Smog/shallow fog in the morning. The wind speed will increase thereafter becoming 06-08 kmph from north direction during afternoon. It will gradually decrease becoming less than 04 kmph from east direction during evening and night. Smog/mist is likely in the evening/night.

\* 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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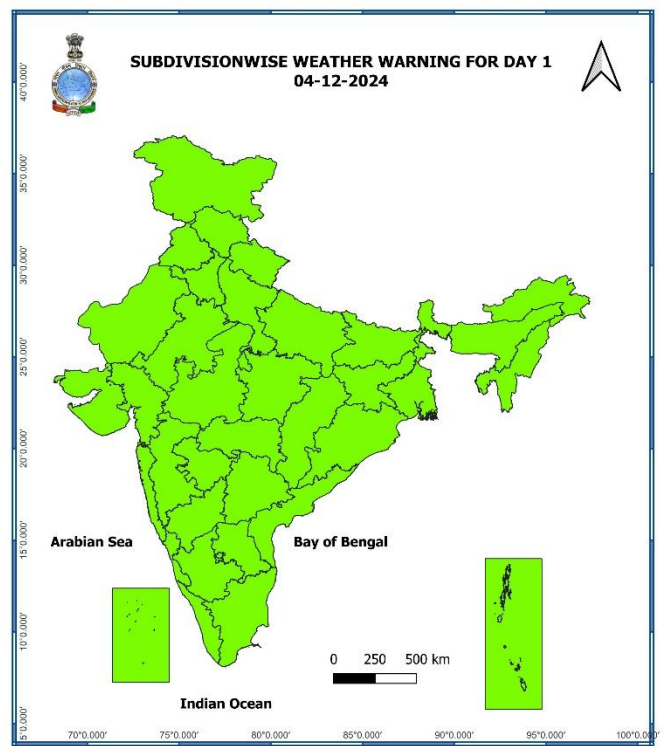
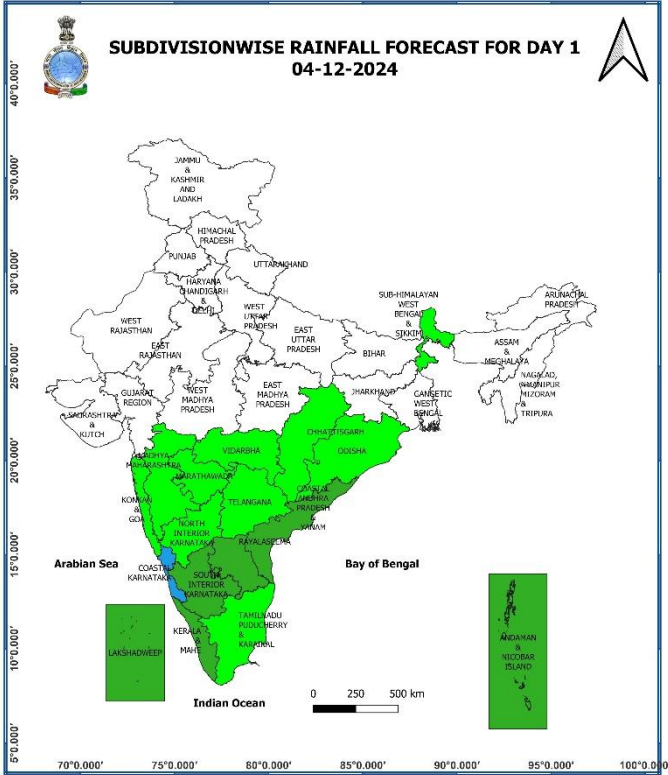
## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): **at a few places** over Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema, Coastal Karnataka, North Interior Karnataka; **at isolated** places over Konkan & Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Odisha, Telangana, South Interior Karnataka.
- ❖ **Heavy rainfall recorded** (from 0830 hours IST of yesterday to 0830 hours IST of today): **Heavy to very heavy rainfall** has been recorded at isolated places over Rayalaseema and **Heavy rainfall** at isolated places over Coastal Andhra Pradesh & Yanam.
- ❖ **Significant amount of rainfall** (from 0830 hours IST of yesterday to 0830 hours IST of today) (in cm): **Rayalaseema:** Gorantla (dist Sri Sathyasai District) 14, Atmakur (dist Anantapuramu) 8, Atmakur (dist Nandyal) 8; **Coastal Andhra Pradesh & Yanam:** Atmakur (dist Spsr Nellore) 8, Nellore (dist Spsr Nellore) 4.
- ❖ **Fog conditions observed** (upto 0830 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 0830 hours IST of today) ( $\leq 500$ 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 04-12-2024):** Minimum temperatures are **markedly above normal ( $5^{\circ}\text{C}$  or more)** at a few places over Madhya Maharashtra, Marathwada, Vidarbha, Telangana; at isolated places over Madhya Pradesh, Saurashtra & Kutch, Chhattisgarh, Odisha; **appreciably above normal ( $3^{\circ}\text{C}$  to  $5^{\circ}\text{C}$ )** at a few places over Konkan & Goa, Rayalaseema, , Coastal Andhra Pradesh & Yanam; at isolated places over Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, West Rajasthan, Gujarat Region, North Interior Karnataka, Tamil Nadu, Puducherry & Karaikal; **above normal ( $1^{\circ}\text{C}$  to  $3^{\circ}\text{C}$ )** at a few places over Jharkhand. Coastal Karnataka, Kerala & Mahe; at isolated places over Bihar, Gangetic West Bengal, South Interior Karnataka. These are **below normal ( $-3^{\circ}\text{C}$  to  $-1^{\circ}\text{C}$ )** at isolated places over Assam & Meghalaya and near normal over rest parts of the country. Today, **the lowest minimum temperature** of  $9.9^{\circ}\text{C}$  is reported at **Hissar (Haryana)** over the plains of the country. **(Fig.4)**
- ❖ **Maximum Temperature Departures (as on 03-12-2024):** Maximum temperatures were **appreciably above normal ( $3.1^{\circ}\text{C}$  to  $5.0^{\circ}\text{C}$ )** at isolated places over Punjab, West Uttar Pradesh; **above normal ( $1.6^{\circ}\text{C}$  to  $3.0^{\circ}\text{C}$ )** 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 ( $-5.1^{\circ}\text{C}$  or less)** at a few places over Kerala & Mahe; **appreciably below normal ( $-5.0^{\circ}\text{C}$  to  $-3.1^{\circ}\text{C}$ )** at isolated places over Kerala & Mahe, Coastal Karnataka; **below normal ( $-1.6^{\circ}\text{C}$  to  $-3.0^{\circ}\text{C}$ )** 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  $35.2^{\circ}\text{C}$  was reported at **Ratnagiri (Konkan & Goa)** over the country. **(Fig. 2)**

## Meteorological Analysis (Based on 0830 hours IST)

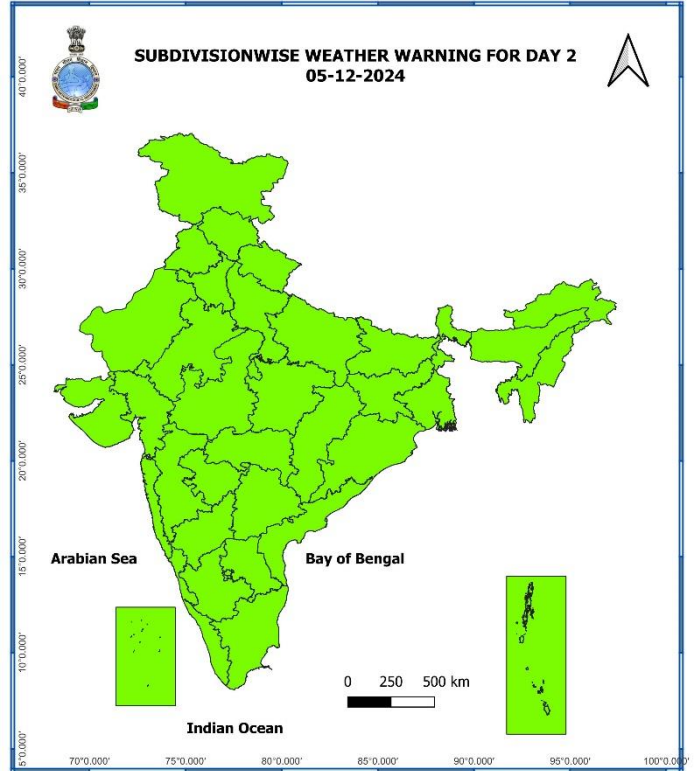
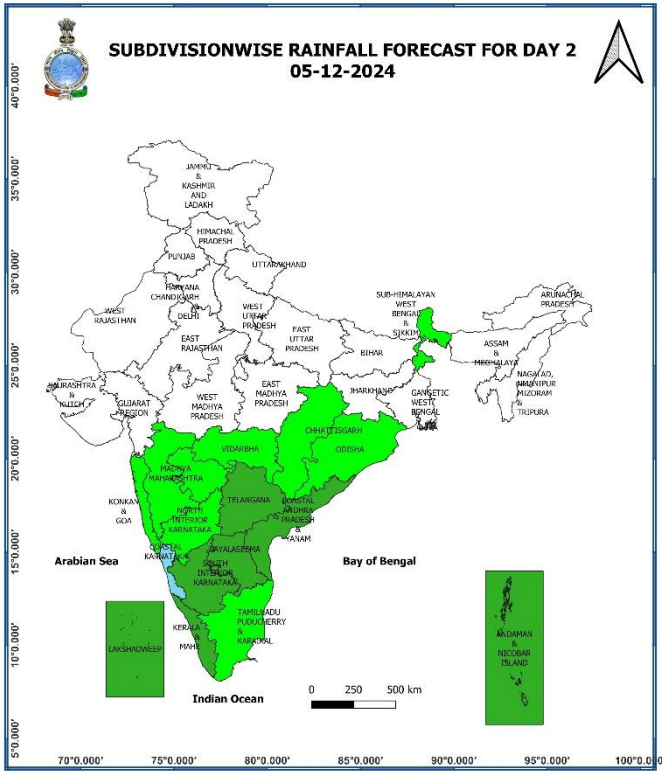
- ❖ **The Well marked low pressure area** over east central Arabian sea & adjoining Coastal Karnataka weakened into a **low pressure area** over eastcentral & adjoining southeast Arabian sea at 0830 hours IST of today, the 04<sup>th</sup> December, 2024. The associated cyclonic circulation extends upto 5.8 km above mean sea level. It is likely to move westwards and become less marked during next 24 hours.
- ❖ The **Cyclonic circulation** over east Bangladesh and adjoining south Assam now lies over south Assam & neighbourhood at 1.5 km above mean sea level.
- ❖ **Jet Stream Winds** of the order upto 135 knots at 12.6 km above mean sea level is prevailing over Northwest India.
- ❖ A fresh **Western Disturbance** is likely to affect Western Himalayan Region from the night of 7<sup>th</sup> December and adjoining plains of Northwest India from 08<sup>th</sup> December.

**Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 11<sup>th</sup> December, 2024)**



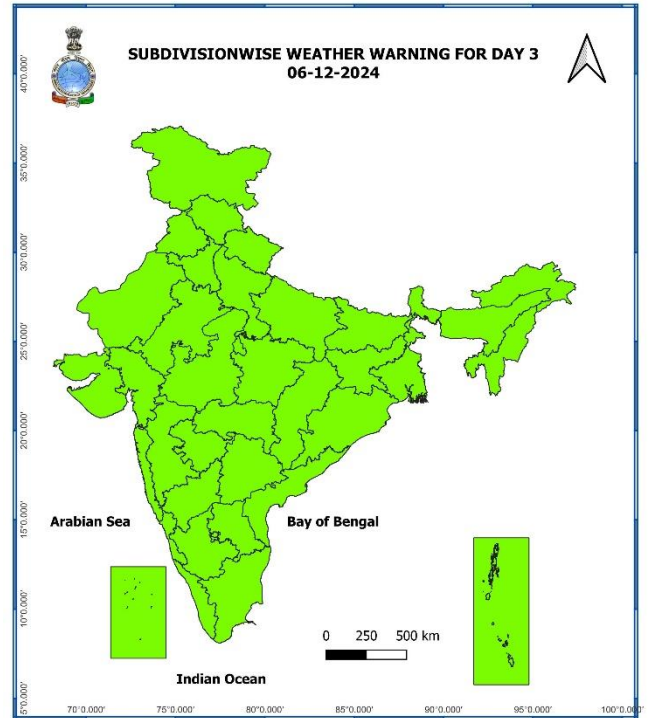
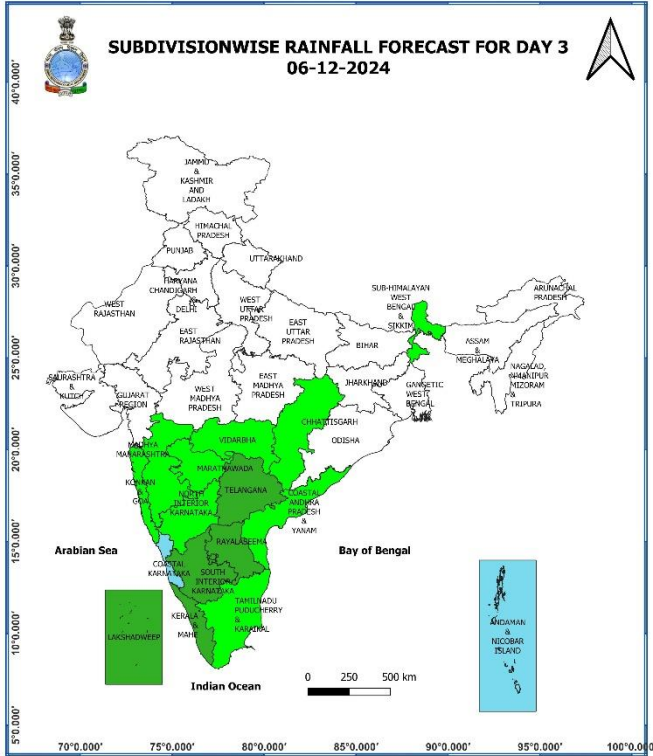
**04 December (Day 1):**

- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over 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 Lakshadweep area, adjoining southeast Arabian sea, southern parts of eastcentral Arabian sea. Fishermen are advised not to venture into these areas.



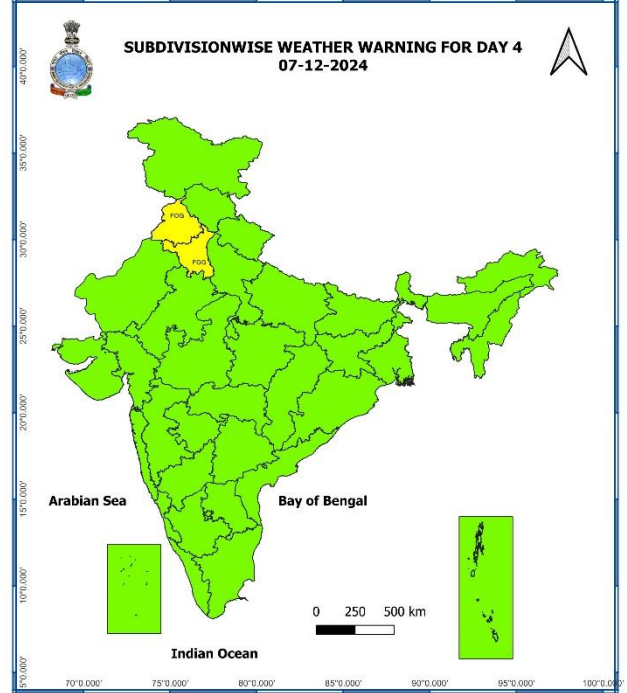
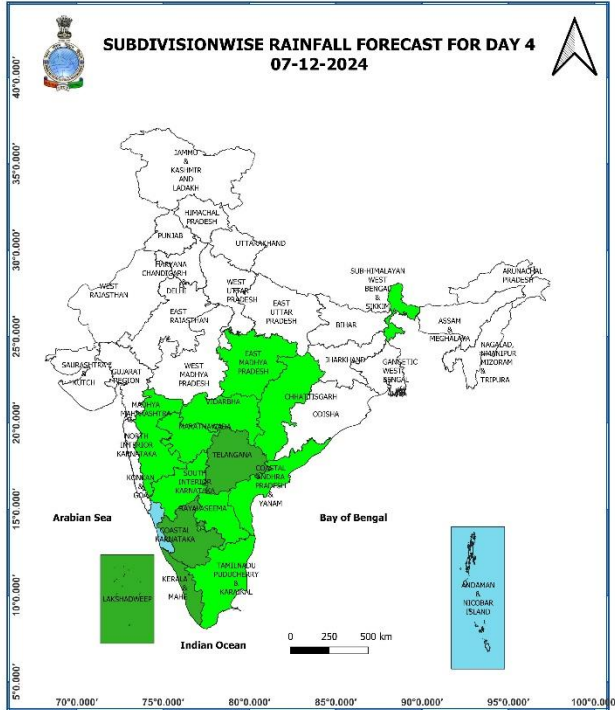
### 05 December (Day 2):

- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Konkan & Goa, Madhya Maharashtra, 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 northern parts of southeast Arabian sea adjoining Lakshadweep area and adjoining east central and southwest Arabian sea area. Fishermen are advised not to venture into these areas.



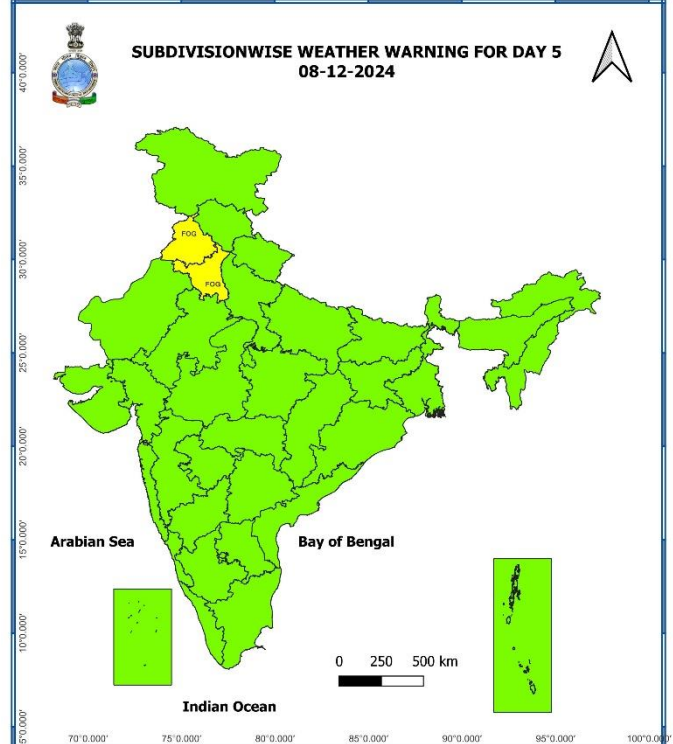
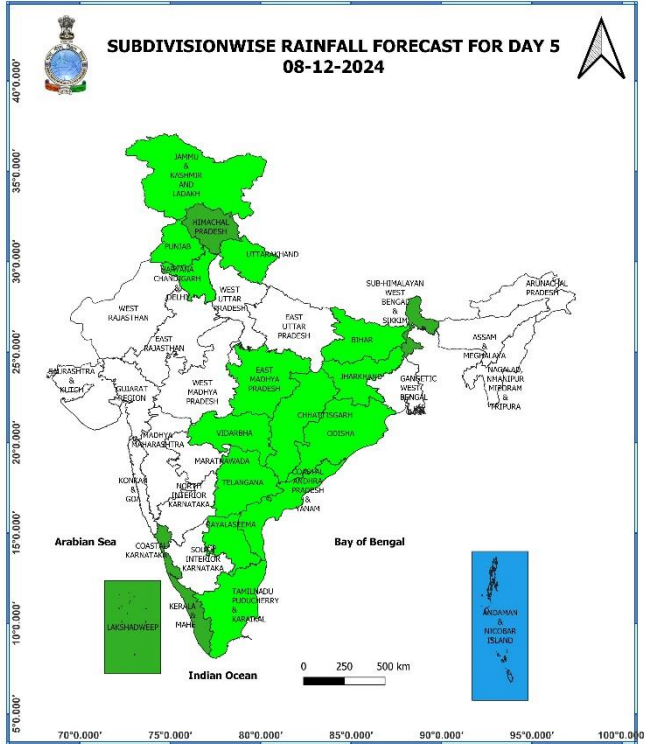
### 06 December (Day 3):

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



### 07 December (Day 4):

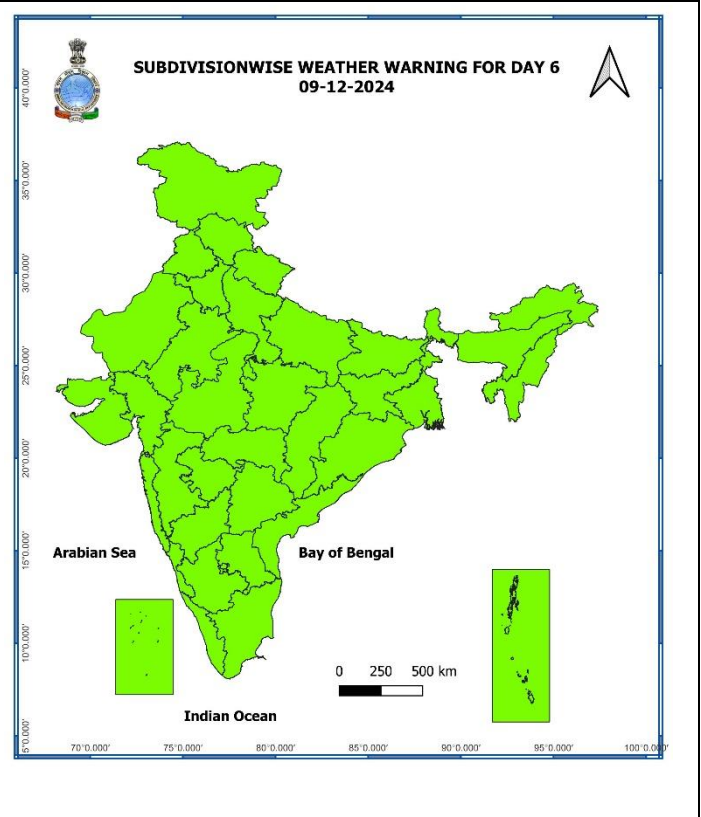
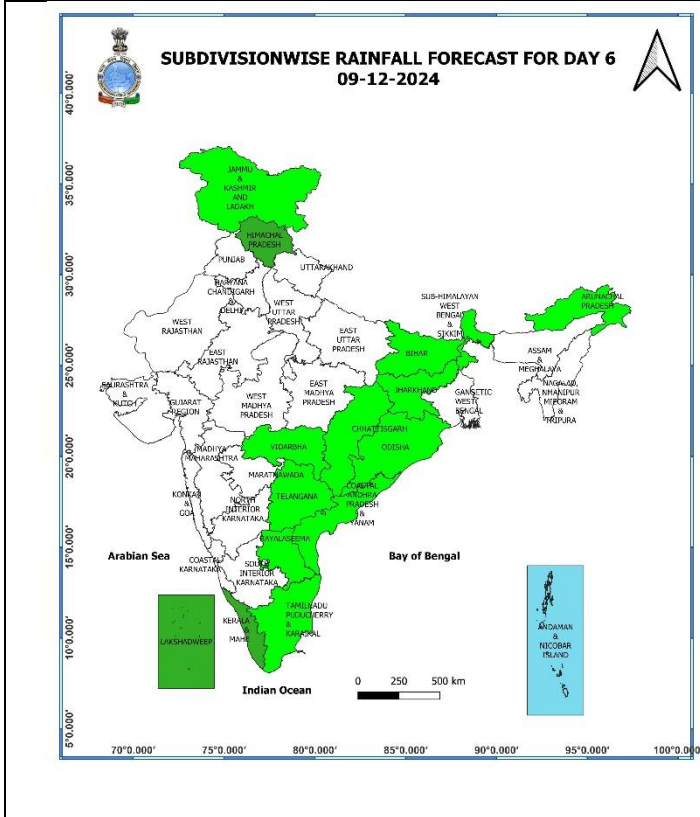
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over East Madhya Pradesh, South Interior Karnataka.
- ❖ **Dense fog** likely in isolated pockets of Punjab, Haryana-Chandigarh-Delhi in night/morning hours.



### 08 December (Day 5):

- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over East Madhya Pradesh.
- ❖ **Dense fog** likely in isolated pockets of Punjab, Haryana-Chandigarh-Delhi in night/morning hours.

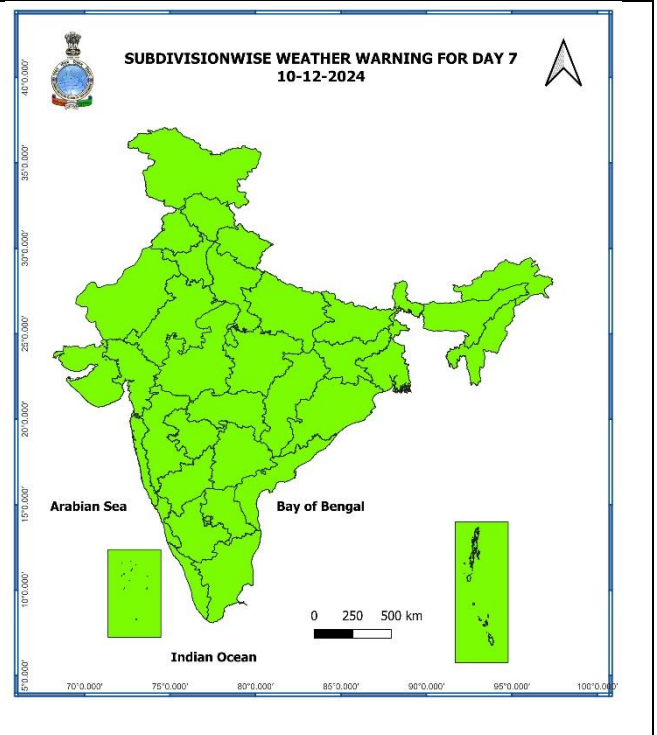
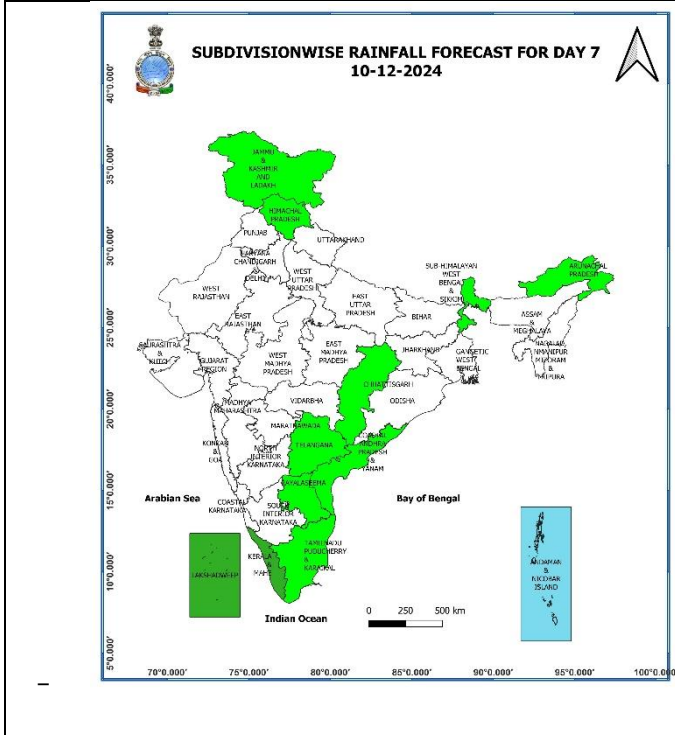




**09 December (Day 6):**

❖ **No Warning.**

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**10 December (Day 7):**

❖ **No Warning.**

**Weather Outlook for subsequent 3 days (During 11<sup>th</sup> December – 13<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.

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Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

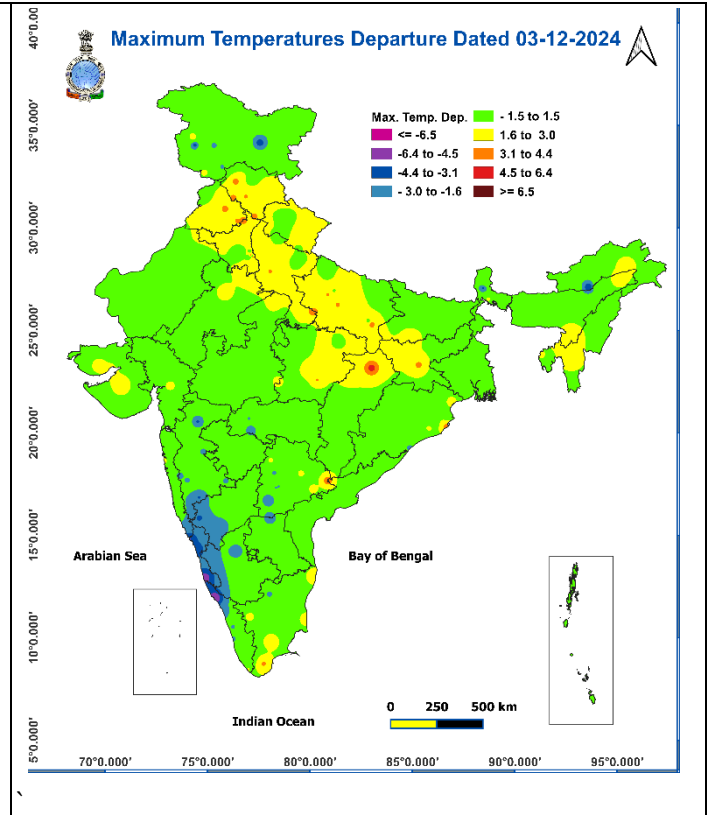
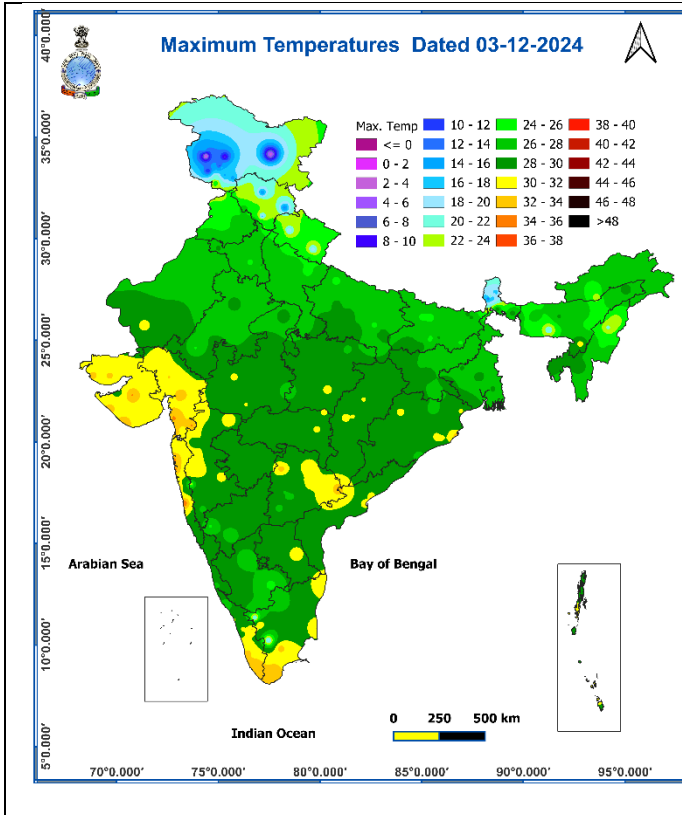


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

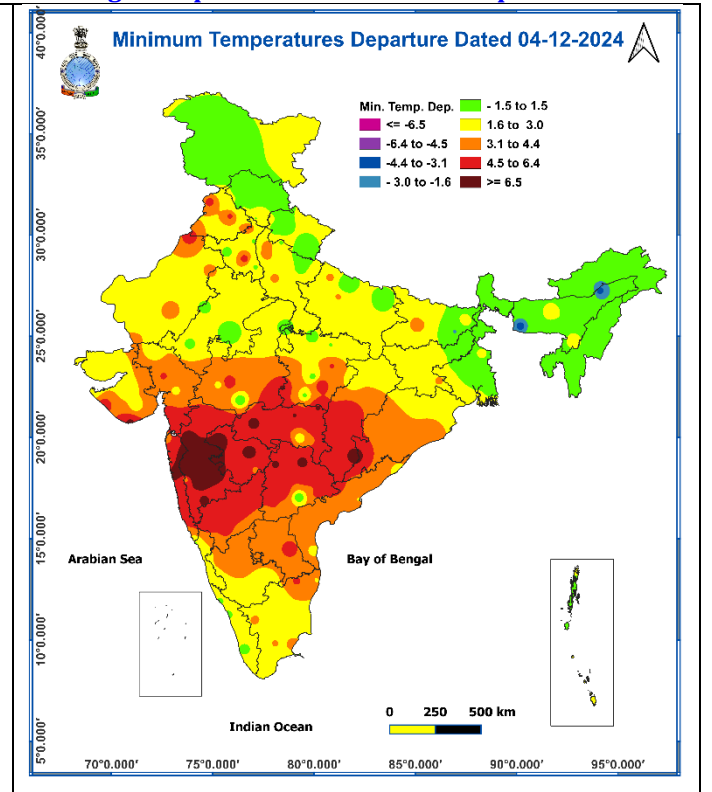
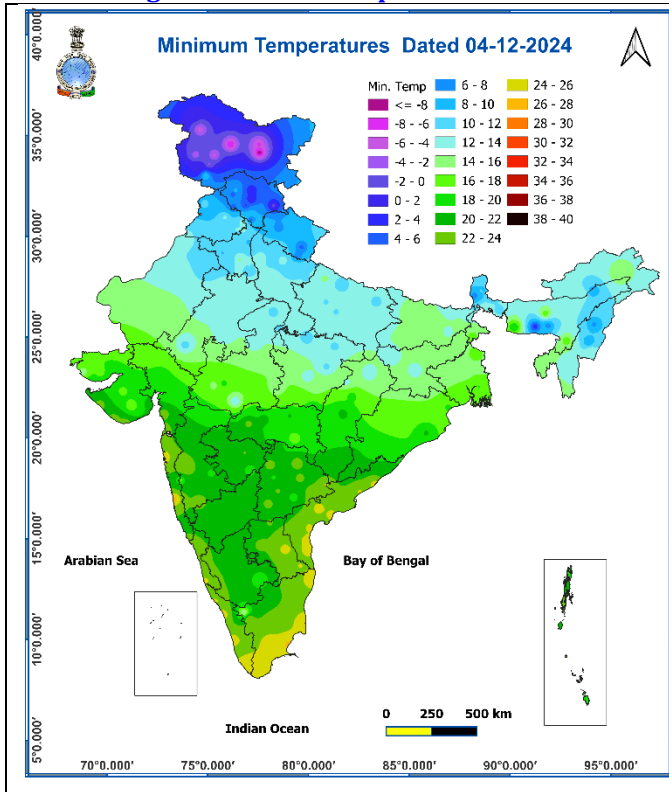
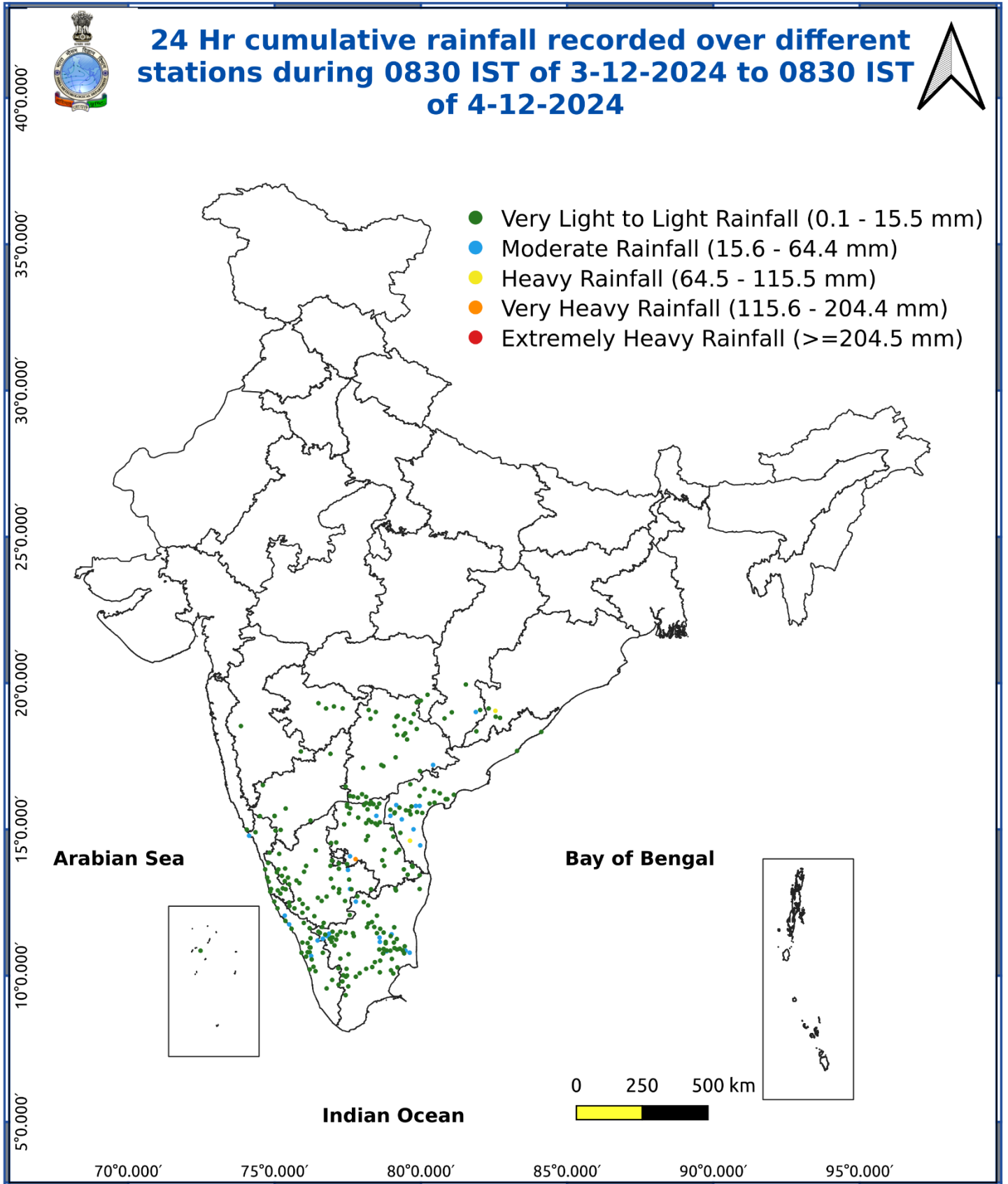


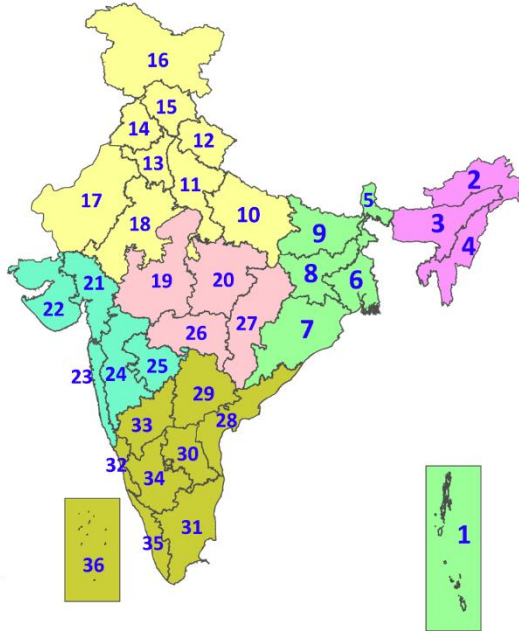
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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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><b>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</b></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><b>When maximum temperature remains <math>40^\circ\text{C}</math></b></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><b>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.</b></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><b>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</b></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>	<p><b>Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)</b></p>
<b>Dust/Sand Storm</b>	<p><b>An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.</b></p>
<b>Frost</b>	<p><b>Ice deposits on ground</b></p> <p>Air temperature <math>\leq 4^\circ\text{C}</math> ( over Plains)</p>
<b>Squall</b>	<p><b>A strong wind that rises suddenly, lasts for atleast 1 minute.</b></p> <p><b>Moderate:</b> Wind speed 52-61 kmph</p> <p><b>Severe:</b> Wind speed 62-87 kmph</p> <p><b>Very Severe:</b> Wind speed <math>&gt;87</math> kmph</p>
<b>Sea State</b>	<p><b>Effect of various waves in the sea over specific area</b></p> <p><b>Rough to very rough:</b> Wind speed 41-62 kmph (22-33 knots) &amp; Wave height 2.5-6 metre</p> <p><b>High to very high:</b> Wind speed 63-117 kmph ( 34-63 knots) &amp; Wave height 6-14 metre</p> <p><b>Phenomenal:</b> Wind speed <math>&gt;117</math> kmph (<math>&gt;63</math> knots) &amp; Wave height <math>&gt;14</math> metre</p>
<b>Cyclone</b>	<p><b>Cyclonic Storm:</b> Wind speed 62-87 kmph (34-47 knots)</p> <p><b>Severe Cyclonic Storm:</b> Wind speed 88-117 kmph (48-63 knots)</p> <p><b>Very Severe Cyclonic Storm:</b> Wind speed 118-165 kmph (64 - 89 knots)</p> <p><b>Extremely Severe Cyclonic Storm:</b> Wind speed 166-220 kmph (90 -119 knots)</p> <p><b>Super Cyclone Strom:</b> Wind speed <math>&gt;220</math> kmph (<math>&gt;119</math> knots)</p>