

Monday, December 2, 2024
Time of Issue: 0915 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems:

The Depression (Remnant of Cyclonic Storm "FENGAL") over north coastal Tamil Nadu & Puducherry moved nearly westwards and weakened into a Well Marked Low Pressure Area at 0530 hrs IST of today, the 02nd December 2024, over North Interior Tamil Nadu. The remnant low pressure area is likely to emerge over southeast and adjoining east-central Arabian Sea off north Kerala-Karnataka coasts around 3rd December 2024.

The **Western disturbance** as a trough in middle tropospheric westerlies now runs roughly along Long. 68°E to the north of Lat. 30°N.

Forecast & Warnings (upto 7 days)

Tamil Nadu & Puducherry: Light to moderate rainfall at many places with **heavy to very heavy rainfall** at isolated places is very likely over interior Tamil Nadu on 02nd December & **heavy rainfall** at isolated places over the interior districts of Tamil Nadu adjoining to Kerala on 03rd December.

Royalaseema: Light to moderate rainfall at many places with **heavy rainfall** at isolated places is very likely on 02nd December.

South Interior Karnataka: Light to moderate rainfall at many places with **heavy rainfall** at isolated places is very likely on 03rd December and heavy to very heavy rainfall at isolated places is very likely on 02nd December.

Coastal Karnataka: Light to moderate rainfall at many places with **heavy rainfall** at isolated places is very likely on 02nd and 03rd December.

Kerala: Light to moderate rainfall at most places with **heavy to very heavy rainfall** at a few places & **extremely heavy** at isolated places on 02nd and heavy rainfall at isolated places on 03rd December.

Lakshadweep: Light to moderate rainfall at a few places with isolated **heavy rainfall** is likely on 03rd & 04th December.

ii. Temperature conditions and Forecast:

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

There was no significant change in minimum temperature over most parts of the country during past 24 hours. Minimum temperatures are **markedly above normal (5°C or more)** at isolated places over Telangana and Odisha; **appreciably above normal (3°C to 5°C)** at isolated places over Gangetic West Bengal, Nagaland, Manipur, Mizoram & Tripura, Bihar, Punjab and Coastal Andhra Pradesh & Yanam; **above normal (1°C to 3°C)** at a few places over Andaman & Nicobar Islands, Kerala & Mahe and Telangana; at isolated places over West Rajasthan and Haryana. These are **appreciably below normal (-5°C to -3°C)** at few places over West Madhya Pradesh; at isolated places over Assam & Meghalaya; **below normal (-3°C to -1°C)** at isolated places over Saurashtra & Kutch, Konkan & Goa and East Uttar Pradesh and near normal over rest parts of the country. Today, **the lowest minimum temperature of 7.2°C** is reported at **Nowgong (West Madhya Pradesh)** over the plains of the country.

Forecast of temperature:

No significant change in minimum temperatures likely over Northwest and East India during next 5 days.

Gradual rise in minimum temperature over Central India by 2-3°C during next 3 days and no significant change thereafter.

Gradual fall in minimum temperature over West India by 2-4°C during next 3 days and no significant change thereafter.

Weather Realised (past 24 hours) & forecast (during 01st Dec. to 04th Dec. 2024) over Delhi/NCR

Past Weather:

There has been a rise in minimum temperature upto 2°C and slight rise in maximum temperature over Delhi/NCR during past 24hr. The Maximum and Minimum temperature over Delhi is in the range of 24 to 27°C and 10 to 13°C respectively. The maximum and minimum temperature were near normal over most places. Mainly smog/ shallow fog condition with predominant surface wind from northwest direction with wind speed reaching 04 to 12 kmph prevailed during day time and calm wind during night time on 30.11.2024. Shallow fog reported at Safdarjung airport during early morning today. Safdarjung airport recorded lowest visibility 500 m at 0700 hours IST which improved thereafter becoming 600m at 0730 hours IST. Mainly smog condition with wind speed less than 06 kmph northwest direction prevailed over the region in the forenoon today.

Weather Forecast:

02.12.2024: Mainly clear sky. The predominant surface wind is likely to be from northwest direction with speed less than 04 kmph during morning hours. Smog/ moderate fog is likely in the morning. The wind speed will increase thereafter becoming less than 08 kmph from northwest direction during afternoon. It will decrease thereafter becoming less than 04 kmph from north direction during evening and night. Smog/Shallow fog is likely in the evening/night.

03.12.2024: Mainly clear sky. The predominant surface wind is likely to be from north 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 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/shallow fog is likely in the evening/night.

04.12.2024: 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/shallow fog in the morning. The wind speed will increase thereafter becoming 12-16 kmph from northwest direction during afternoon. It will gradually decrease becoming less than 08 kmph from northwest direction during evening and night. Smog/ shallow fog is likely in the evening/night.

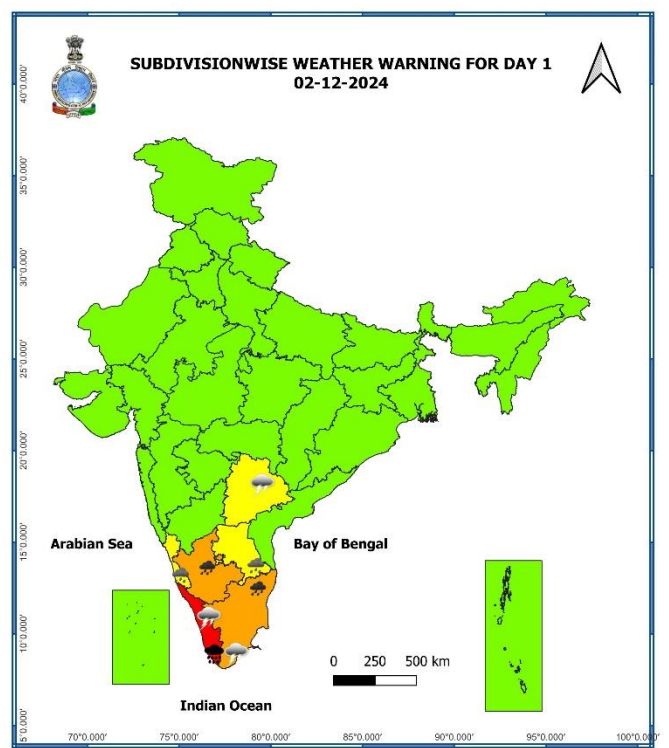
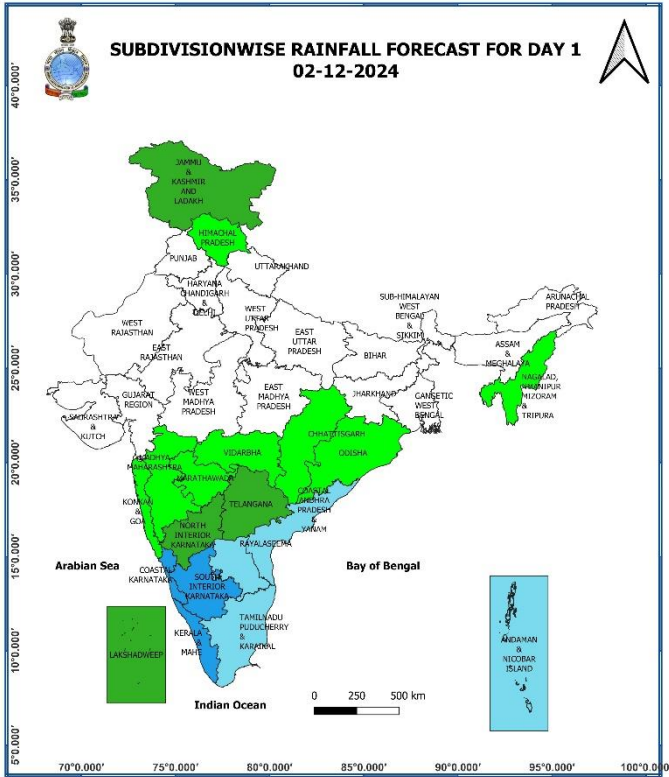
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at most places** over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe; **at many places** over Coastal Andhra Pradesh & Yanam; **at a few places** over Rayalaseema; **at isolated places** over Odisha, Chhattisgarh, Telangana, South Interior Karnataka.
- ❖ **Heavy rainfall observed** (from 0830 hours IST to 1730 hours IST of yesterday): **Heavy to very heavy rainfall** at isolated places over Tamil Nadu, Puducherry & Karaikal; **Heavy rainfall** at isolated places over Kerala & Mahe.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **Tamil Nadu, Puducherry & Karaikal:** Tiruvannamalai 15, Yercaud 7, Tiruppattur, Dharmapuri, Cuddalore 3 each, Vellore, Parangipettai, Salem 2 each; **Kerala & Mahe:** Ranni_Chethackal (Pathanamthitta dist), Seethathode (Pathanamthitta dist), Laha (Pathanamthitta dist) 7 each, Kunnamthanam (Pathanamthitta dist) 5; Kottayam, Konni (Pathanamthitta dist), Thycattussery (Alappuzha dist) 3 each, Kumarakom_Afmu (Kottayam Dist) 2; **Coastal Andhra Pradesh & Yanam:** Chittor 4; **Rayalaseema:** Arogyavaram 2.
- ❖ **Fog conditions observed** (at 0530 hours IST of today): Shallow to **Moderate Fog** reported in isolated pockets of Bihar, Uttar Pradesh and Odisha.
- ❖ **Visibility reported** (at 0530 hours IST of today) (≤ 500 metres) (in m): **West Uttar Pradesh:** Bareilly 200, Hindon 500; **Bihar:** Purnea 200, Bhagalpur 500; **East Uttar Pradesh:** Gorakhpur, Varanasi, Prayagraj, Lucknow 500 each; **Odisha:** Jharsiguda 500.
- ❖ **Minimum Temperature Departures (as on 01-12-2024):** Minimum temperatures were **markedly above normal (5.1°C or more)** at isolated places over Telangana and Odisha; **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Gangetic West Bengal, Nagaland, Manipur, Mizoram & Tripura, Bihar, Punjab and Coastal Andhra Pradesh & Yanam; **above normal (1.6°C to 3.0°C)** at a few places over Andaman & Nicobar Islands, Kerala & Mahe and Telangana; at isolated places over West Rajasthan and Haryana. These were **appreciably below normal (-5.0°C to -3.1°C)** at a few places over West Madhya Pradesh; at isolated places over Assam & Meghalaya; **below normal (-3.0°C to -1.6°C)** at isolated places over Saurashtra & Kutch, Konkan & Goa and East Uttar Pradesh and near normal over rest parts of the country. Yesterday, **the lowest minimum temperature** of 7.2°C was reported at **Nowgong (West Madhya Pradesh)** over the plains of the country. (Fig.4)
- ❖ **Maximum Temperature Departures (as on 01-12-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Uttarakhand; **above normal (1.6°C to 3.0°C)** at many places over Himachal Pradesh; at isolated places over Punjab, Assam & Meghalaya, Telangana, Nagaland, Manipur, Mizoram & Tripura. These were **markedly below normal (-5.1°C or less)** at a few places over Odisha, Tamil Nadu, Puducherry & Karaikal; at isolated places over Chhattisgarh, Madhya Maharashtra, Kerala & Mahe; **appreciably below normal (-5.0°C to -3.1°C)** at isolated places over West Madhya Pradesh, South Interior Karnataka, Rayalaseema, Coastal Andhra Pradesh & Yanam, Telangana; **below normal (-1.6°C to -3.0°C)** at most places over Gujarat Region; at many places Marathwada; at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, East Rajasthan; at isolated places over East Madhya Pradesh, Vidarbha, Gangetic West Bengal, Jharkhand. Yesterday, **the highest maximum temperature** of 34.6°C was reported at **Karwar (Coastal Karnataka)** over the country. (Fig. 2)

Meteorological Analysis (Based on 0530 hours IST)

- ❖ **The Depression (Remnant of Cyclonic Storm “FENGAL”)** over north coastal Tamil Nadu & Puducherry moved nearly westwards and weakened into a Well Marked Low Pressure Area at 0530 hrs IST of today, the 02nd December 2024, over North Interior Tamil Nadu. The remnant low pressure area is likely to emerge over southeast and adjoining east-central Arabian Sea off north Kerala-Karnataka coasts around 3rd December 2024.
- ❖ The **Western disturbance** as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level now runs roughly along Long. 68°E to the north of Lat. 30°N.
- ❖ **Jet Stream Winds** of the order upto 120 knots at 12.6 km above mean sea level continue to prevail over North India.

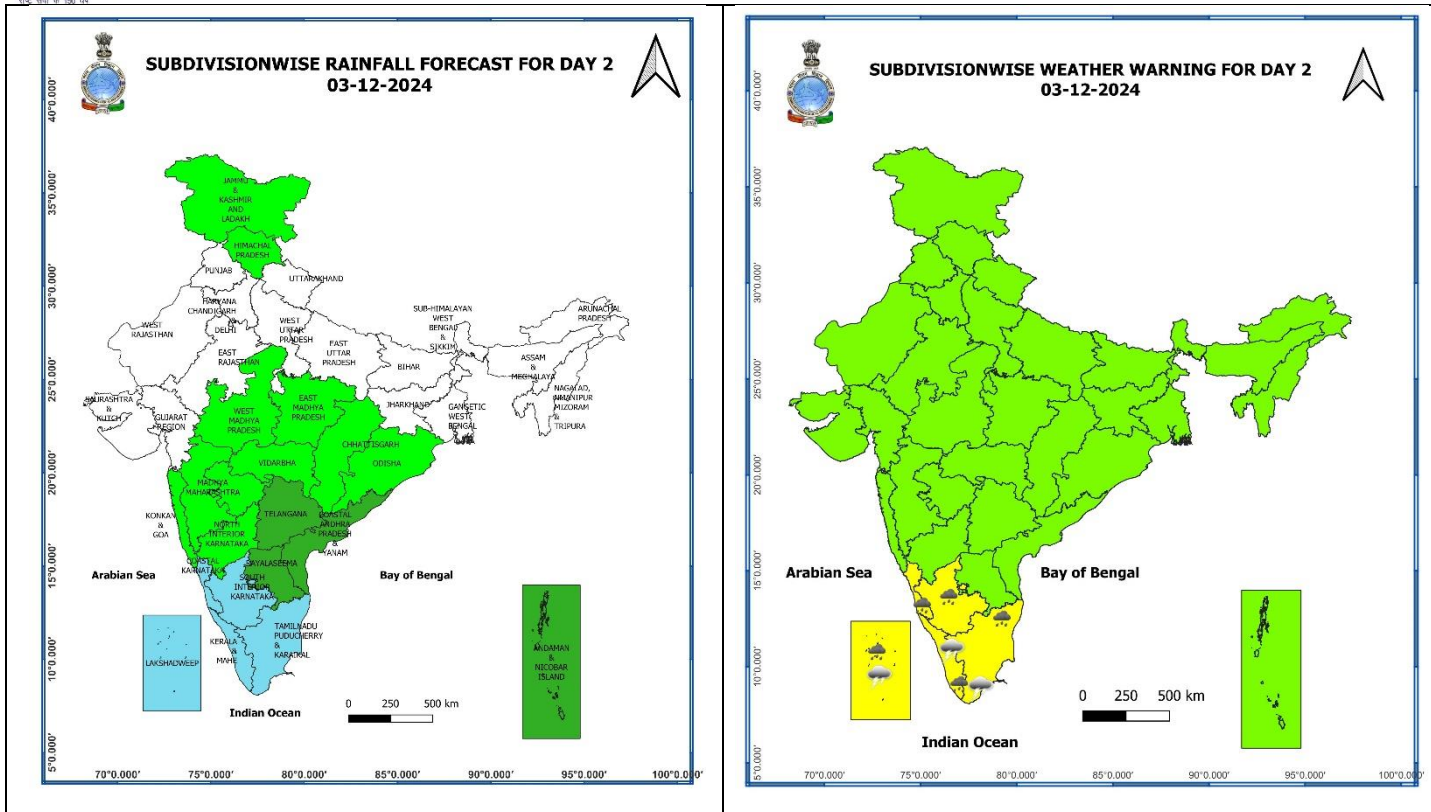
Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 09th December, 2024)



02 December (Day 1):

- ❖ **Light to moderate rainfall** at most places with **heavy to very heavy rainfall** at a few places & **extremely heavy rainfall** at isolated places over Kerala; **Light to moderate rainfall** at many places with **heavy to very heavy rainfall** at isolated places is very likely over interior Tamil Nadu, Rayalaseema; **Heavy to very heavy rainfall** at isolated places is very likely over South Interior Karnataka; **Light to moderate rainfall** at many places with **heavy rainfall** at isolated places is very likely over Coastal Karnataka;
- ❖ **Thunderstorm accompanied lightning & gusty winds (speed 30-40 kmph)** very likely at isolated places over Kerala & Mahe and Telangana;

Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely to prevail over south west Bay of Bengal adjoining west central Bay of Bengal along & off South Tamil Nadu coast and Gulf of Mannar, Along & off East Sri Lanka coasts, along & off North Tamil Nadu – Puducherry and adjoining South Andhra Pradesh coasts & adjoining areas of westcentral Bay of Bengal. Fishermen are advised not to venture into these areas.

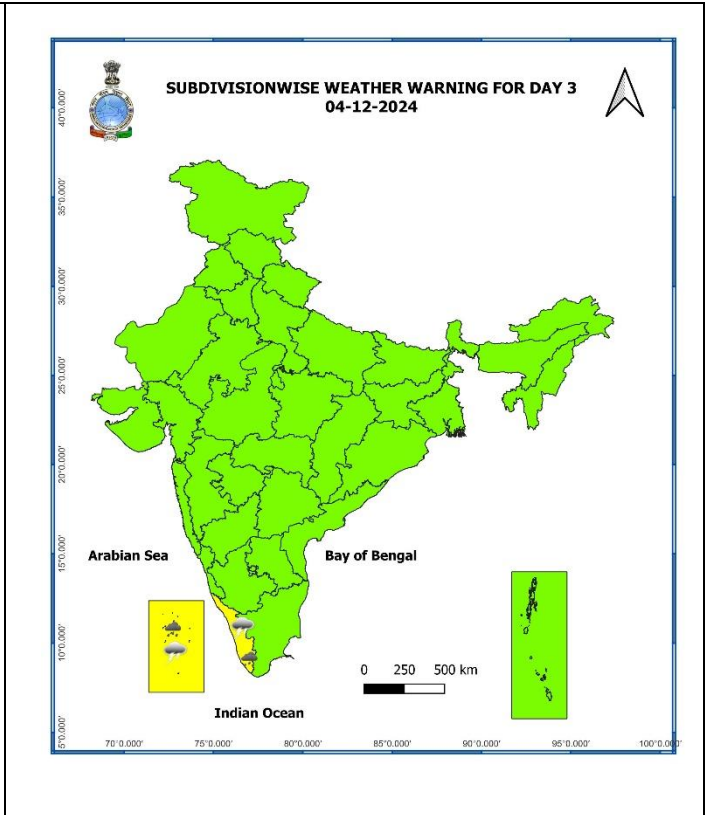
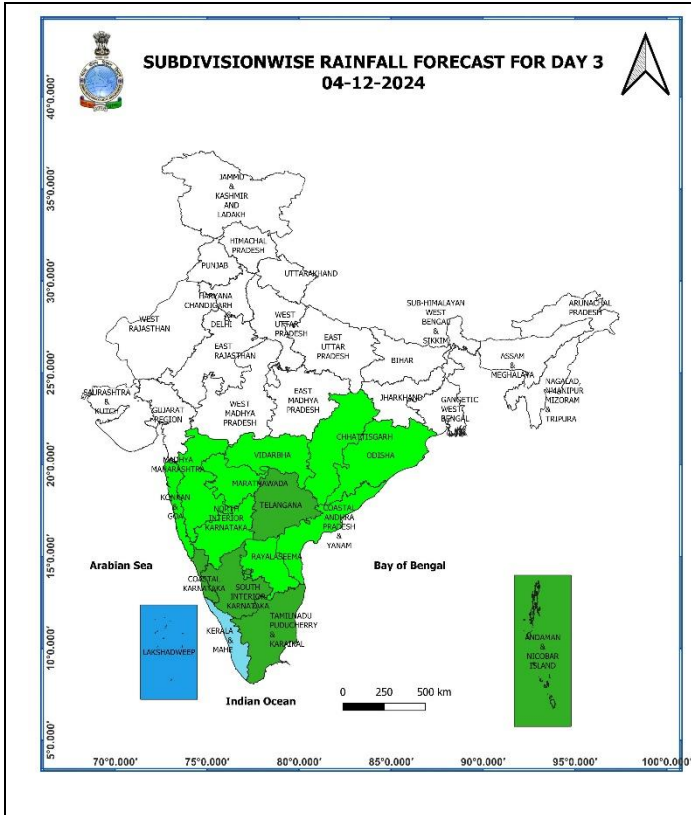


03 December (Day 2):

- ❖ **Light to moderate rainfall** at most places with **heavy to very heavy rainfall** at a few places & **extremely heavy** rainfall at isolated places over Kerala. **Heavy rainfall** at isolated places over the interior districts of Tamil Nadu adjoining to Kerala; **Light to moderate rainfall** at many places with **heavy rainfall** at isolated places over South Interior & Coastal Karnataka and Lakshadweep;
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and Lakshadweep.

Squally wind speed reaching 35-45 kmph gusting to 55 kmph very likely to prevail over along & off East Sri Lanka coasts, Lakshadweep Sea adjoining east central Arabian sea along and off Kerala and Coastal Karnataka coasts. Fishermen are advised not to venture into these areas.

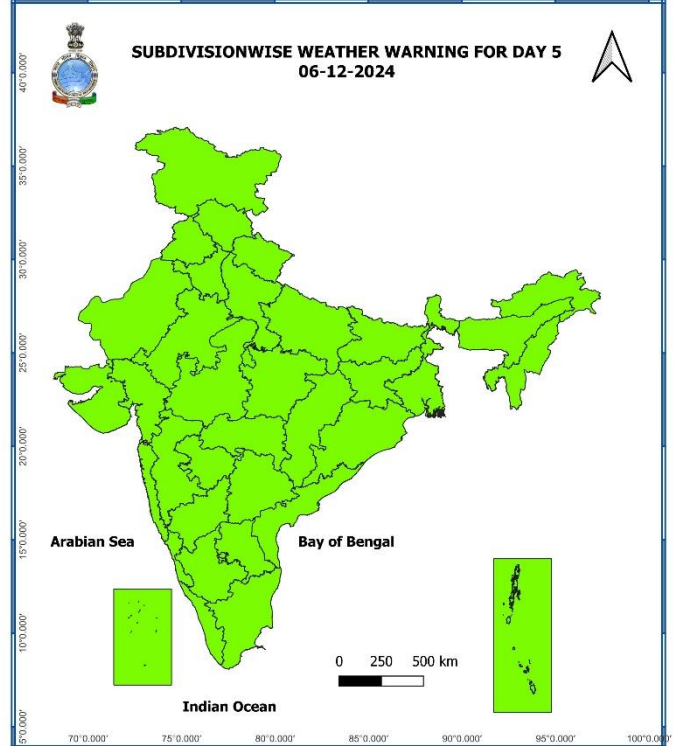
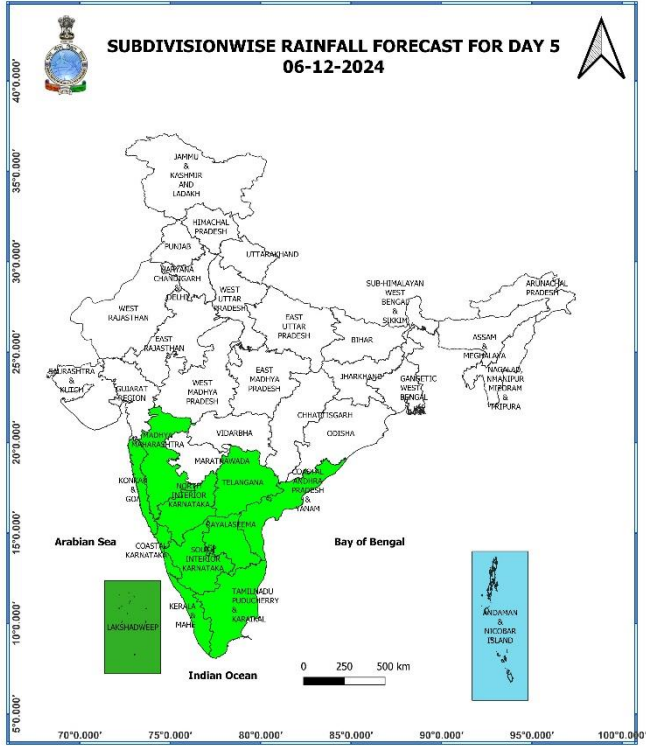
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Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.
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04 December (Day 3):

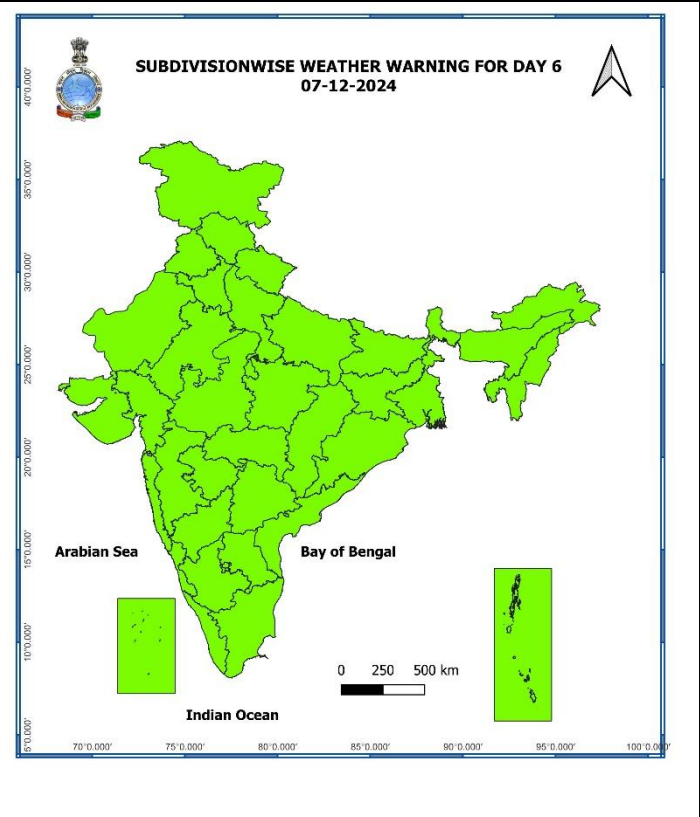
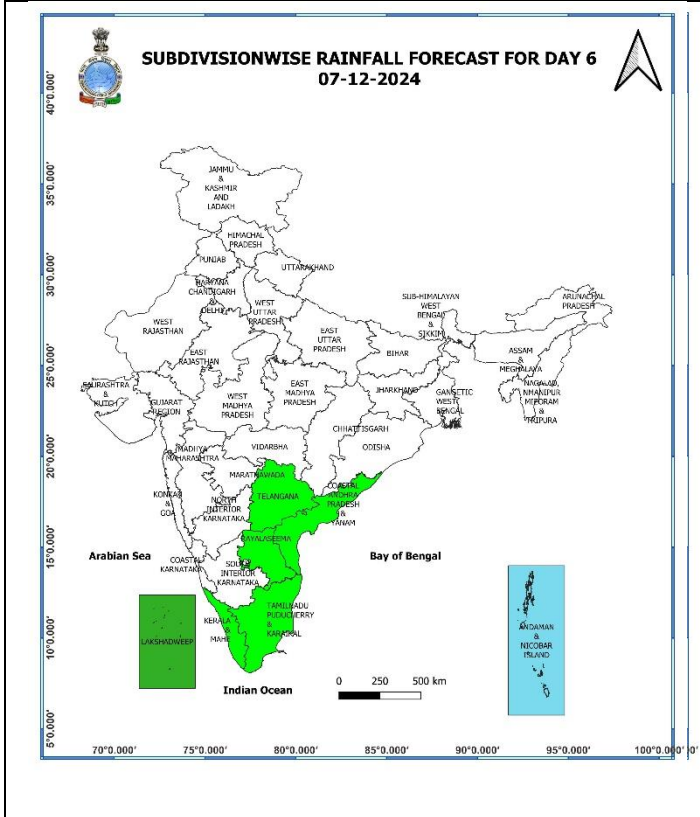
- ❖ **Heavy rainfall (≥ 7 cm)** at isolated places over Kerala & Mahe and Lakshadweep.
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Kerala & Mahe and Lakshadweep.

Squally wind speed reaching 35-45 kmph gusting to 55 kmph likely to prevail over along & off South Tamil Nadu coast and Gulf of Mannar, Along & off East Sri Lanka coasts, Lakshadweep Sea adjoining east central Arabian sea along and off Kerala and Coastal Karnataka coasts. Fishermen are advised not to venture into these areas.



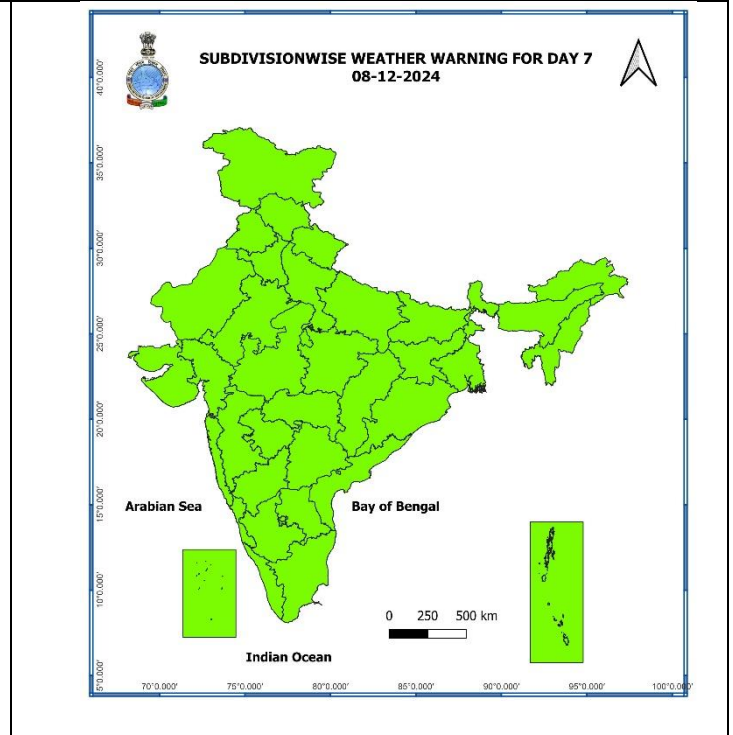
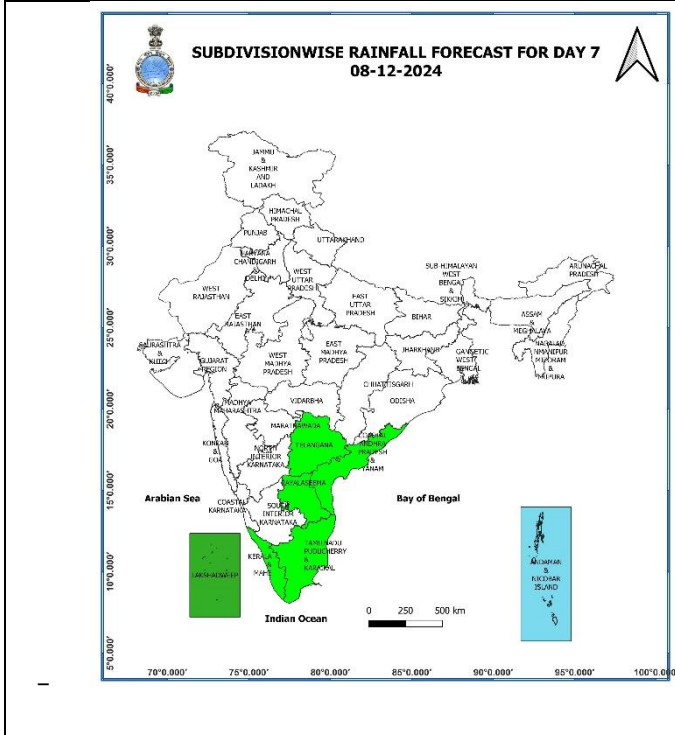
06 December (Day 5):

❖ **No Warning.**



07 December (Day 6):

❖ **No Warning.**



08 December (Day 7):

❖ **No Warning.**

Weather Outlook for subsequent 3 days (During 09th December – 11th 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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Impact & Action Suggested due to Tropical Cyclonic Storm "FENGAL"

Impact Expected due to Cyclonic Storm "FENGAL" [pronounced as FEINJAL] over coastal districts of North Tamil Nadu (Tiruvallur, Chennai, Chengalpattu, Puducherry Cuddalore, Mayiladuthurai, Nagappattinam, Dharampuri, Krishnagiri and Villupuram) and Andhra Pradesh (Tirupati, Nellore, Kadapa and Prakasham)

- Damage to thatched huts.
- Minor damage to power and communication lines due to breaking of branches.
- Major damage to Kutcha and minor damage to Pucca roads.
- Some damage to paddy crops, banana, papaya trees and orchards.
- Sea water inundation in low lying areas after erosion of Kutcha embankments.
- Localized Flooding of roads, water logging in low lying areas and closure of underpasses mainly in urban areas of the above region.
- Occasional reduction in visibility due to heavy rainfall.
- Disruption of traffic in major cities due to water logging in roads leading to increased travel time.
- Damage to horticulture and standing crops in some areas due to inundation.
- Breaking of tree branches, uprooting of small trees including banana, papaya and drumstick.

Action Suggested

- ❖ Total suspension of fishing operations.
- ❖ Fishermen are advised not venture into southwest Bay of Bengal adjoining areas of westcentral Bay of Bengal, Gulf of Mannar and along & off Tamil Nadu-Puducherry, South Andhra Pradesh and East Sri Lanka coasts till 30th November.
- ❖ Fishermen out at sea are advised to return to coast.
- ❖ The ships plying over the area need to be regulated.
- ❖ People should stay in safe places during 30th morning to evening.
- ❖ Check for traffic congestion on your route before leaving for your destination.
- ❖ Follow any traffic advisories that are issued in this regard.
- ❖ Avoid going to areas that face the water logging problems often.
- ❖ Special care may be taken for fishing ponds and poultry over coastal areas.
- ❖ Avoid staying in vulnerable structure.

Impact expected due to Heavy Rainfall

- ✓ **Heavy to very heavy rainfall with extremely heavy falls** at isolated places over Kerala & Mahe on 2nd December;
- ✓ **Isolated heavy to very heavy rainfall** over Tamil Nadu, South Interior Karnataka on 02nd December.

A. Impact Expected

- ❖ Localized Flooding of roads, water logging in low lying areas and closure of underpasses mainly in urban areas of the above region.
- ❖ Occasional reduction in visibility due to heavy rainfall.
- ❖ Disruption of traffic in major cities due to water logging in roads leading to increased travel time.
- ❖ Minor damage to kutcha roads.
- ❖ Possibilities of damage to vulnerable structure.
- ❖ Localized Landslides/Mudslides
- ❖ Damage to horticulture and standing crops in some areas due to inundation.
- ❖ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC).

B. Action Suggested

- ❖ Check for traffic congestion on your route before leaving for your destination.
- ❖ Follow any traffic advisories that are issued in this regard.
- ❖ Avoid going to areas that face the water logging problems often.
- ❖ Avoid staying in vulnerable structure.

Impact expected due to dense/ very dense fog in the late night /morning hours

❖ 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.

Agromet advisories for Heavy Rainfall likely over Tamil Nadu, Kerala, South Interior Karnataka Coastal Andhra Pradesh and Rayalaseema:

- In **Tamil Nadu**, drain out excess water from rice, sugarcane, cotton, turmeric, vegetables, and other standing crop fields, as well as coconut and banana orchards. Undertake propping in sugarcane. Provide mechanical support to banana plants to prevent lodging.
- Undertake picking of matured cotton bolls and harvesting of matured rice, maize, groundnut, finger millet, pigeon pea, arecanut, fruits and vegetables immediately in **South Interior Karnataka**.
- Postpone harvesting of rice in **South Coastal Andhra Pradesh** and **Rayalaseema**.
- Keep the harvested produce in safer places or cover the produce with tarpaulin sheets in the fields.
- Provide adequate drainage facilities for removal of excess water from standing crop fields and fruit orchards in Andhra Pradesh, Kerala and South Interior Karnataka.
- 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.
- Construct an outlet with proper netting around the pond to drain out excess rain water, thereby preventing fishes/fingerlings from escaping in case of overflowing.
- 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

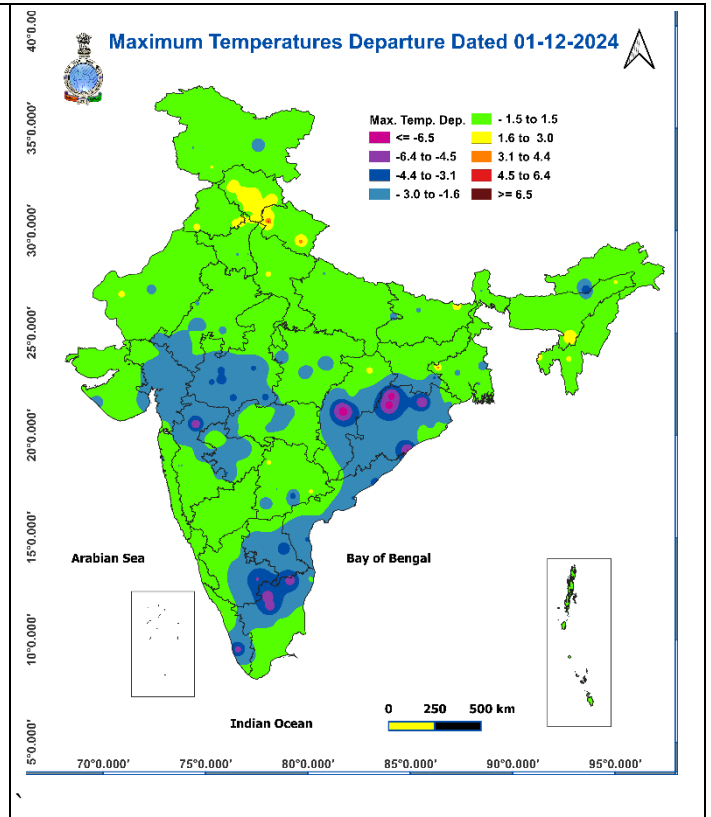
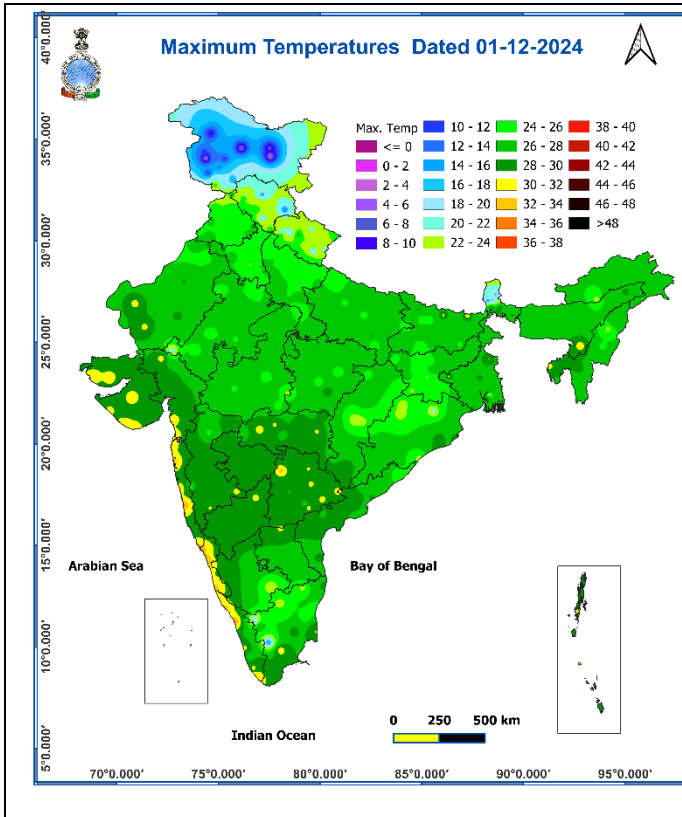


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

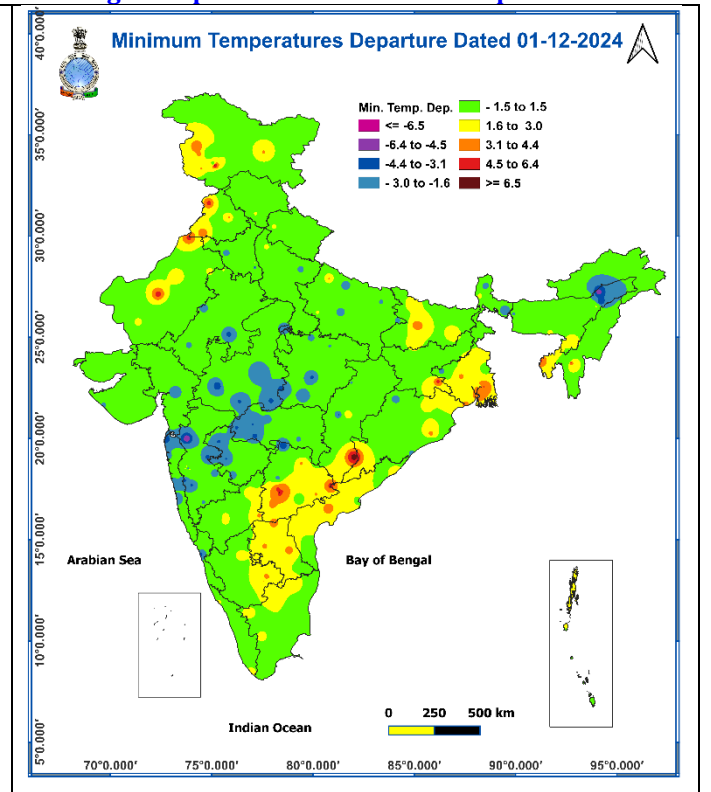
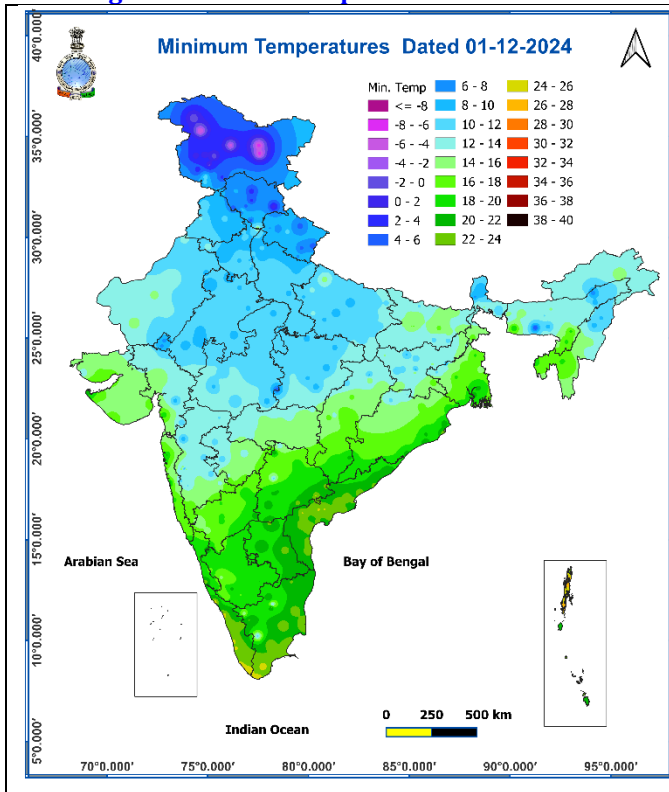
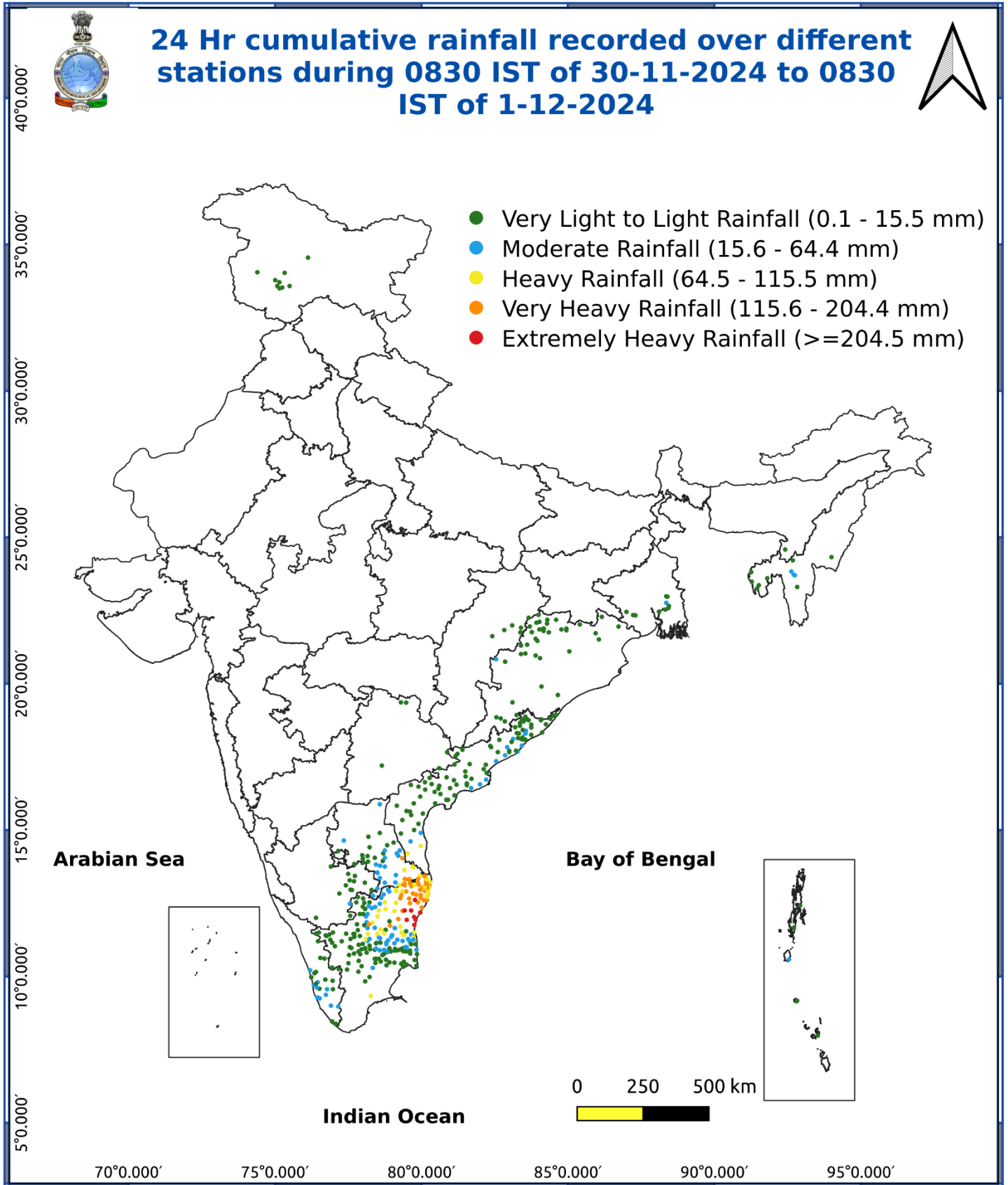


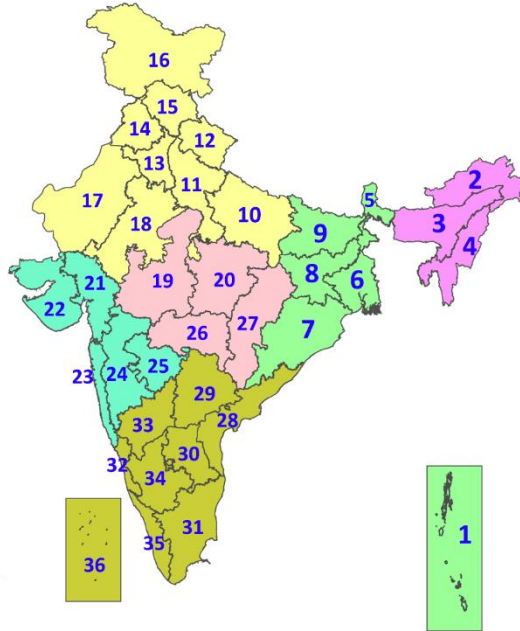
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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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)

- | | | |
|----------------------|----------------------|--------------|
| Fog | Heavy Snow | Cold Wave |
| Heavy Rain | Dust Storm | Cold Day |
| Very Heavy Rain | Heat Wave | Ground Frost |
| Extremely Heavy Rain | Warm Night | |
| Thunder & Lightning | Hot Day | |
| Hailstorm | Hot & Humid | |
| Dust Raising Winds | Strong Surface Winds | |

COLOUR CODED WARNING

No Warning (No Action)
Watch (Be Aware)
Alert (Be Prepared To Take Action)
Warning (Take Action)

Probabilistic Forecast

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

DEFINITION/CRITERIA

Rain/ Snow *	<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>