

Monday, October 7, 2024
Time of Issue: 0745 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

On further Withdrawal of Southwest Monsoon

- ✓ The **line of withdrawal of Southwest Monsoon** passes through 29°N/84°E, Nautanwa, Sultanpur, Panna, Narmadapuram, Khargaon, Nandurbar, Navsari and 20°N/70°E.
- ✓ Conditions are favourable for further **withdrawal of Southwest Monsoon** from remaining parts of Gujarat, Madhya Pradesh and some more parts of Maharashtra during next 2-3 days.

Weather Systems:

- ✓ An **upper air cyclonic circulation** lies over southwest & adjoining westcentral Bay of Bengal off North Tamil Nadu-south Andhra Pradesh coasts in lower and middle tropospheric levels.

Forecast & Warnings (upto 7 days):

South Peninsular India

- ✓ Fairly widespread to widespread light to moderate rainfall very likely over Kerala & Mahe, Lakshadweep, Karnataka, Tamil Nadu during the week; Isolated to Scattered light to moderate rainfall very likely over Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana during the week.
- ✓ **Isolated heavy to very heavy rainfall** very likely over Kerala & Mahe during 07th-12th October.
- ✓ **Heavy rainfall** over Tamil Nadu, Puducherry & Karaikal during 07th-11th October.
- ✓ **Isolated heavy rainfall** also very likely over South Interior Karnataka during 07th-08th; Lakshadweep during 08th -12th October.

East & Northeast India

- ✓ Fairly widespread to widespread light to moderate rainfall very likely over Northeast India, Andaman & Nicobar Islands during the week and isolated to Scattered light to moderate rainfall over East India during the week.
- ✓ **Isolated heavy rainfall** very likely over Arunachal Pradesh during next 6 days; Assam & Meghalaya during next 5 days; Nagaland, Manipur, Mizoram & Tripura on 07th October.

Northwest, West & Central India:

- ✓ No significant rainfall likely over these regions during next one week.

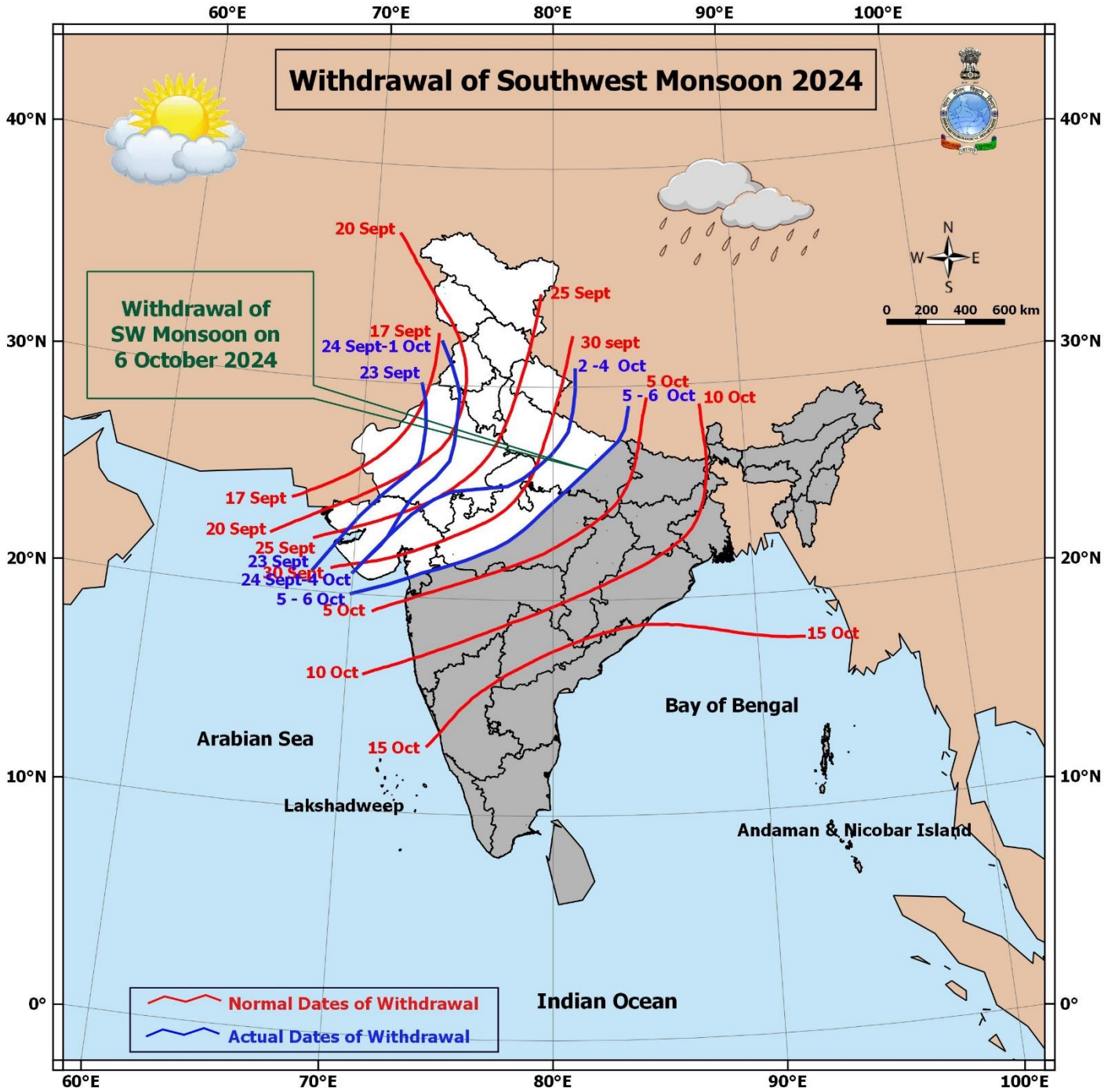
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of Yesterday): **at many places** over Kerala & Mahe; **at few places** over Gangetic West Bengal, Tamil Nadu, Puducherry & Karaikal, Madhya Maharashtra; **at isolated places over** East Uttar Pradesh, East Madhya Pradesh, Bihar, Jharkhand, Odisha, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Gujarat Region, North Interior Karnataka, Coastal Karnataka, Telangana, Coastal Andhra Pradesh & Yanam.
- ❖ **Heavy rainfall** recorded (from 0830 hours IST to 1730 hours IST of yesterday): **Heavy rainfall** at isolated places over Kerala & Mahe.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **Kerala & Mahe:** Kannur Airport 9, Anakayam (dist Malappuram) 7, Panathur (dist Kasaragod) & Panniyoor (dist Kannur) 6 each, Udumbannoor (dist Idukki) 5, Nilambur (dist Malappuram) 4, Palakkad 3; **Gangetic West Bengal:** Malda 3; **Odisha:** Cuttack 3.
- ❖ **Minimum Temperature Departures (as on 06-10-2024):** Minimum temperatures were **above normal (1.6°C to 3.0°C)** at a few places over Sub-Himalayan West Bengal & Sikkim, East Uttar Pradesh, Marathwada; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Haryana-Chandigarh-Delhi, Madhya Pradesh, Rajasthan, Odisha, Chhattisgarh, Bihar West Uttar Pradesh, North Interior Karnataka and Kerala & Mahe. These are **below normal (-1.6°C to -3.0°C)** at isolated places over Assam & Meghalaya and Gangetic West Bengal. Yesterday, **the lowest minimum temperature of 19.5°C** was reported at **Dhar & Ridge (West Madhya Pradesh & Delhi)** over the plains of the country. (Fig.4)
- ❖ **Maximum Temperature Departures (as on 06-10-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Coastal Andhra Pradesh & Yanam; **above normal (1.6°C to 3.0°C)** at a few places over Himachal Pradesh, Vidarbha, Konkan & Goa; at isolated places over Uttarakhand, Punjab, West Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Odisha, Marathwada, Madhya Maharashtra, Telangana, Rayalaseema, Coastal Karnataka, Kerala & Mahe. These were **markedly below normal (-5.1°C or less)** at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh; **below normal (-1.6°C to -3.0°C)** at a few places over Assam & Meghalaya; at isolated places over Gujarat Region, Bihar, Gangetic West Bengal, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal. Yesterday, **the highest Maximum Temperature of 38.3°C** was reported at **Ganganagar (West Rajasthan)** over the country. (Fig. 2)

Meteorological Analysis (Based on 0530 hours IST)

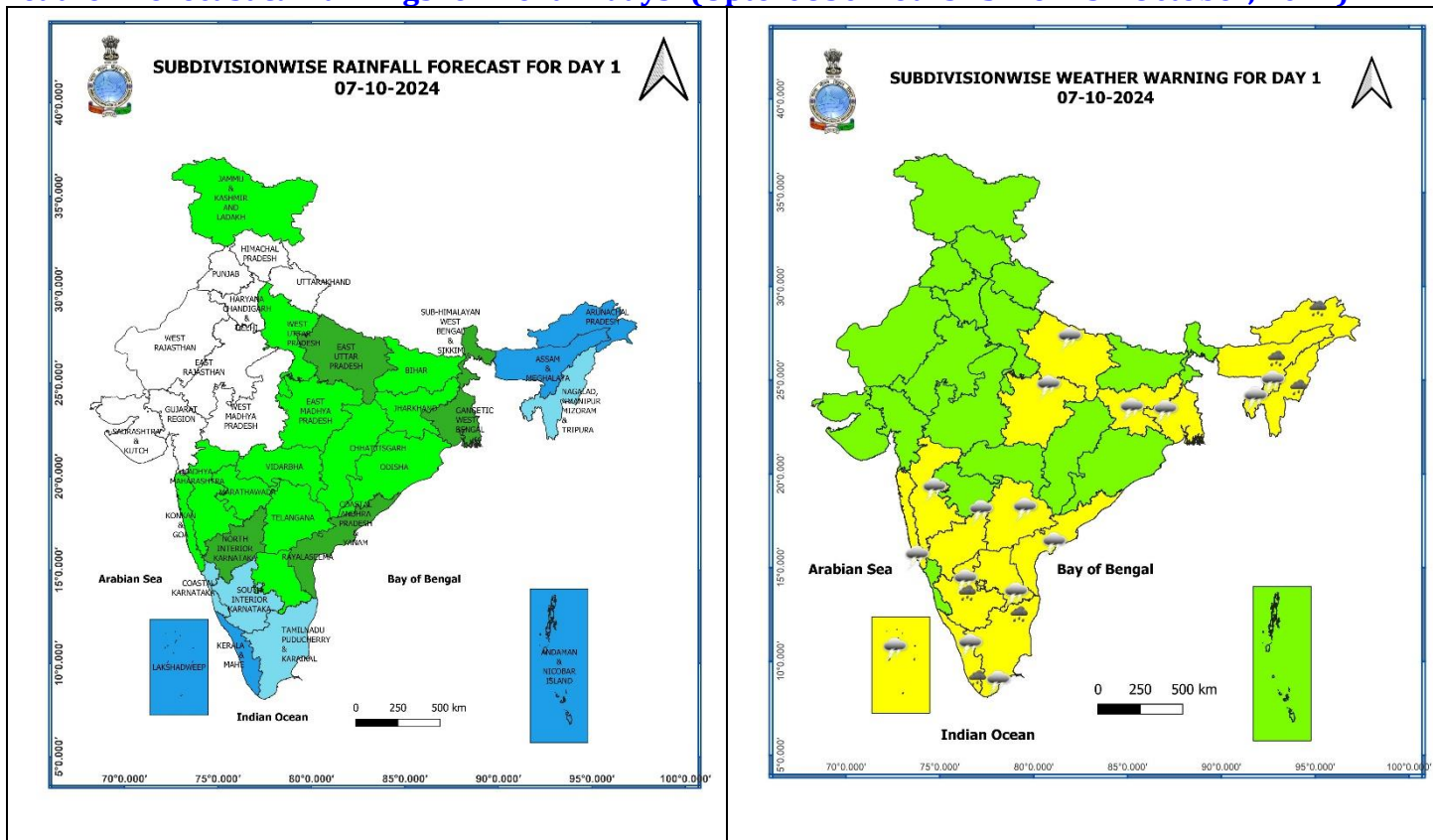
- ❖ The **line of withdrawal of Southwest Monsoon** continues to pass through 29°N/84°E, Nautanwa, Sultanpur, Panna, Narmadapuram, Khargaon, Nandurbar, Navsari and 20°N/70°E.
- ❖ Conditions are favourable for further **withdrawal of Southwest Monsoon** from remaining parts of Gujarat, Madhya Pradesh and some more parts of Maharashtra during next 2-3 days.
- ❖ The **cyclonic circulation** over northern parts of Gangetic West Bengal & neighbourhood extending upto 3.1 km above mean sea level persists.
- ❖ The **trough** from Jharkhand to Manipur across above cyclonic circulation over northern parts of Gangetic West Bengal & neighbourhood at 0.9 km above mean sea level persists.
- ❖ The **upper air cyclonic circulation** over southwest & adjoining westcentral Bay of Bengal off north Tamil Nadu-south Andhra Pradesh coasts between 1.5 km to 5.8 km above mean sea level tilting southwestwards with height persists.
- ❖ The **trough** from southeast Arabian Sea to Rayalaseema across north Kerala & South Interior Karnataka at 0.9 km above mean sea level persists.
- ❖ The **cyclonic circulation** over north Pakistan & adjoining Punjab between 1.5 km & 3.1 km above mean sea level persists.
- ❖ The **Western Disturbance** as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level now lies over Long. 64°E to the north of Lat. 31°N.

Withdrawal of Southwest Monsoon 2024



* 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.
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Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 13th October, 2024)



07 October (Day 1):

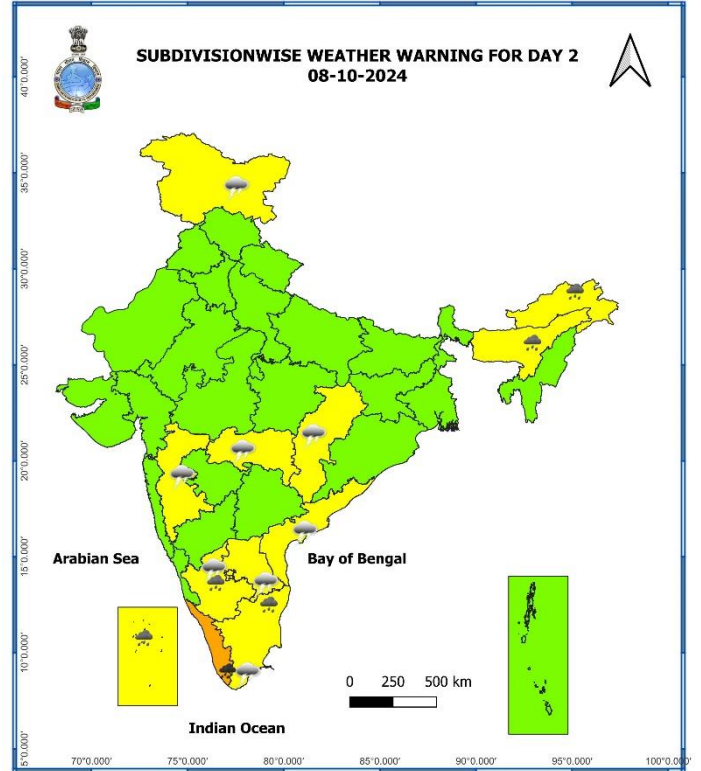
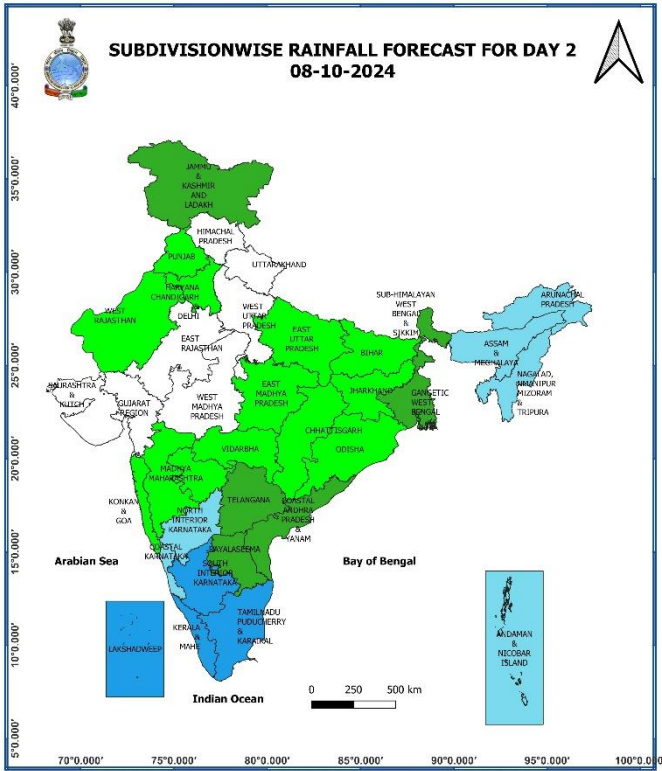
- ❖ **Heavy rainfall ($\geq 7\text{cm}$)** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and South Interior Karnataka.
- ❖ **Thunderstorm with lightning** very likely at isolated places over East Uttar Pradesh, East Madhya Pradesh, Gangetic West Bengal, Jharkhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Lakshadweep, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana and Interior Karnataka.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over Maldives, Lakshadweep & adjoining Comorin area & gulf of Mannar and along & off Kerala coast. **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over southwest Arabian sea adjoining westcentral Arabian sea and along & off Somalia coast. **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over southwest bay of Bengal and along & off Tamil Nadu coast. Fishermen are advised not to venture into these areas.

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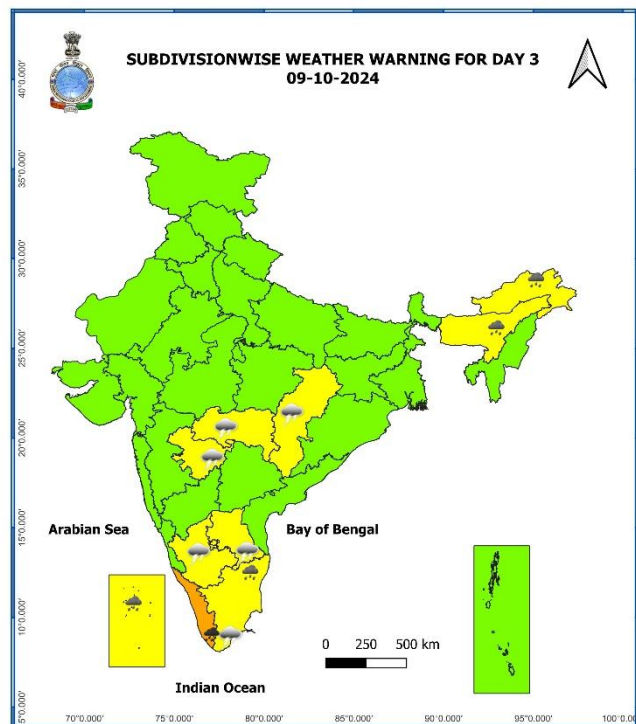
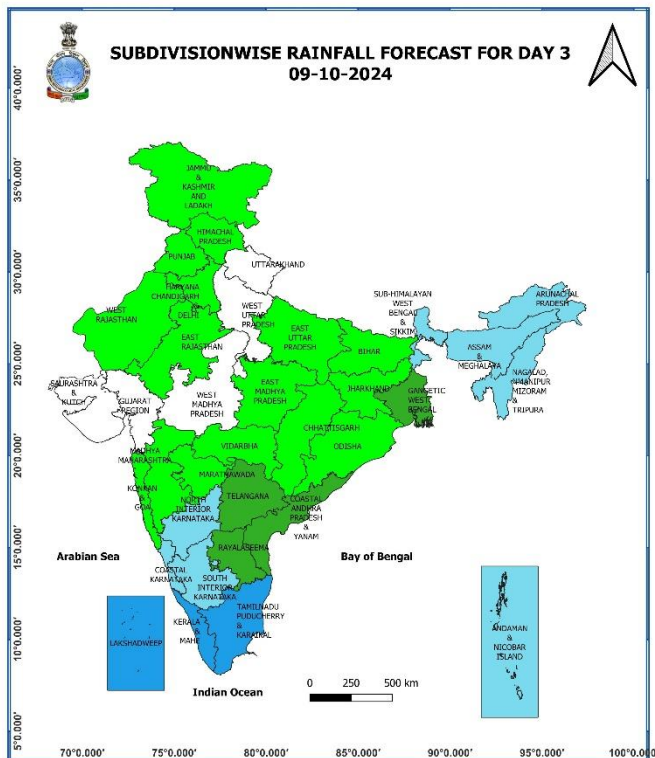
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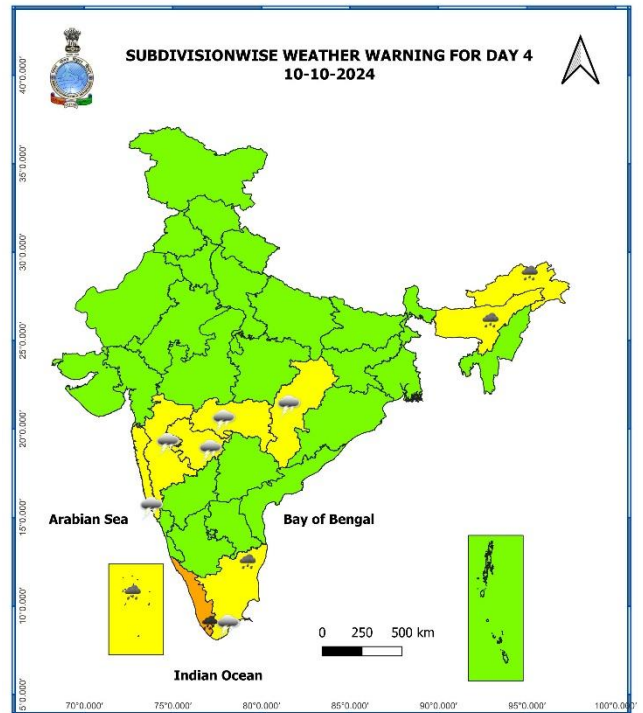
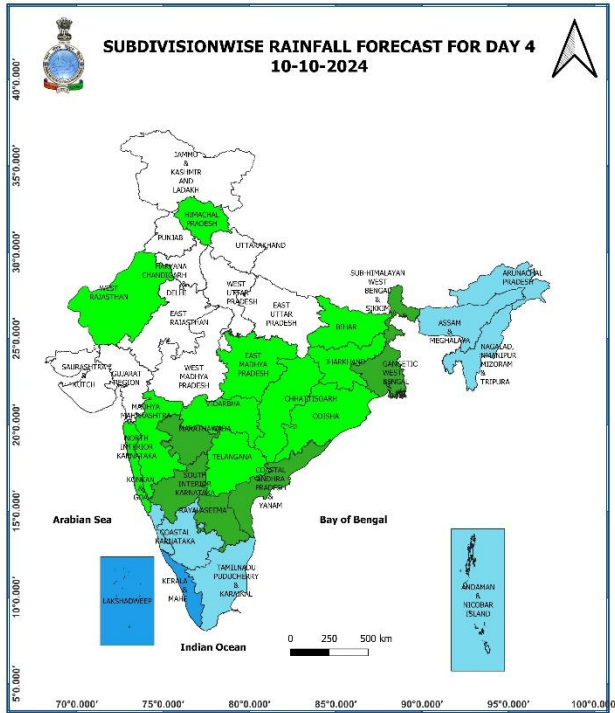
08 October (Day 2):

- ❖ **Heavy to very Heavy rainfall (≥ 12 cm)** very likely at isolated places over Kerala & Mahe; **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Tamil Nadu, Puducherry & Karaikal, Lakshadweep and South Interior Karnataka.
- ❖ **Thunderstorm with lightning** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal, Madhya Maharashtra, Coastal Andhra Pradesh & Yanam, Rayalaseema, South Interior Karnataka, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Vidarbha and Chhattisgarh.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over Maldives, Lakshadweep & adjoining Comorin area & gulf of Mannar and along & off Kerala coast. **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over southwest Arabian sea adjoining westcentral Arabian sea and along and off Somalia coast. Fishermen are advised not to venture into these areas.



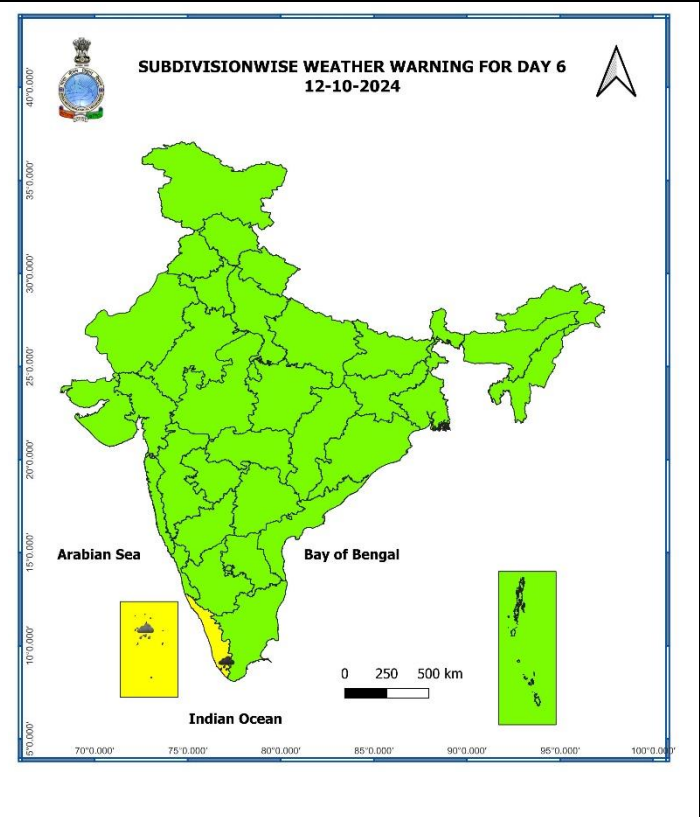
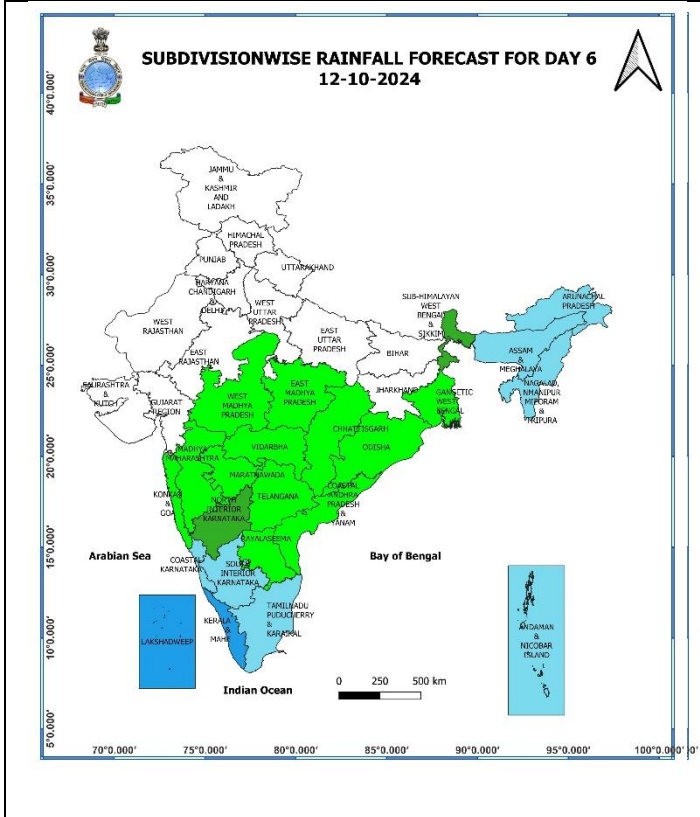
09 October (Day 3):

- ❖ **Heavy to very Heavy rainfall (≥ 12 cm)** likely at isolated places over Kerala & Mahe; **Heavy rainfall (≥ 7 cm)** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.
- ❖ **Thunderstorm with lightning** likely at isolated places over Vidarbha, Chhattisgarh, Marathwada, Tamil Nadu, Puducherry & Karaikal, Rayalaseema and South Interior Karnataka.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over southeast Arabian sea, Lakshadweep, Maldives, Comorin area & gulf of Mannar and along & off Kerala and Karnataka coasts. **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over southwest Arabian sea adjoining westcentral Arabian sea and along and off Somalia coast. Fishermen are advised not to venture into these areas.



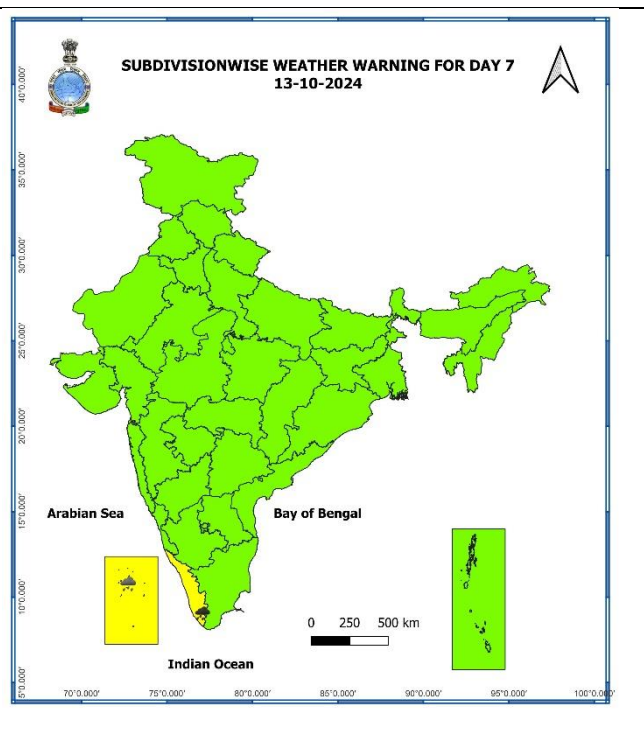
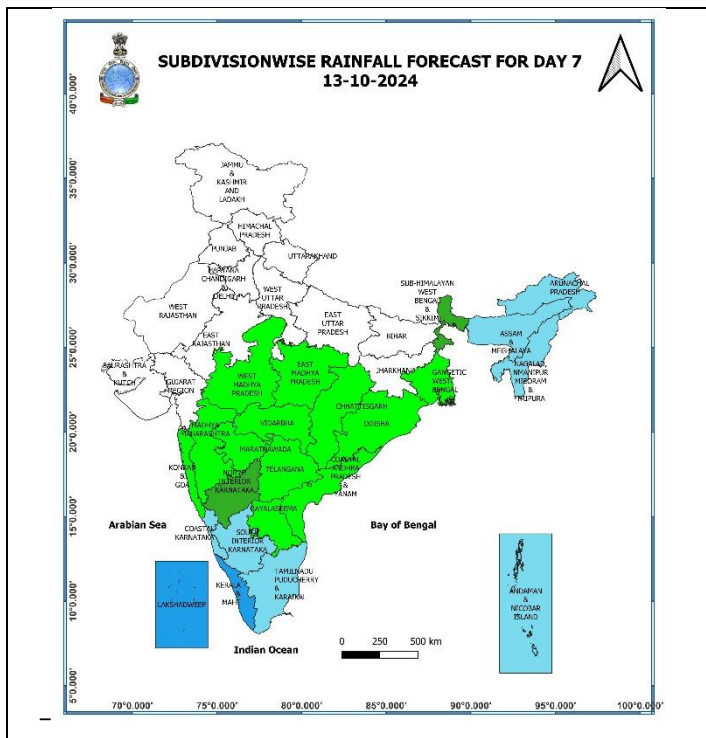
10 October (Day 4):

- ❖ **Heavy to very Heavy rainfall (≥ 12 cm)** likely at isolated places over Kerala & Mahe; **Heavy rainfall (≥ 7 cm)** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.
- ❖ **Thunderstorm with lightning** likely at isolated places over Vidarbha, Chhattisgarh, Konkan & Goa, Madhya Maharashtra, Marathwada, Tamil Nadu and Puducherry & Karaikal.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over southeast Arabian sea, Lakshadweep, Maldives, Comorin area & gulf of Mannar and along & off Kerala and Karnataka coasts. **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over southwest Arabian sea adjoining westcentral Arabian sea and along and off Somalia coast. Fishermen are advised not to venture into these areas.



12 October (Day 6):

- ❖ **Heavy to very Heavy rainfall (≥ 12 cm)** likely at isolated places over Kerala & Mahe; **Heavy rainfall (≥ 7 cm)** likely at isolated places over Lakshadweep.



13 October (Day 7):

- ❖ **Heavy to very Heavy rainfall (≥12 cm)** likely at isolated places over Kerala & Mahe; **Heavy rainfall (≥7cm)** likely at isolated places over Lakshadweep.

Weather Outlook for subsequent 3 days (During 14th October- 16th October, 2024)

- ❖ Fairly widespread to widespread rainfall likely over Peninsular and adjoining Central India and Islands.
- ❖ Scattered to fairly widespread rainfall over East and Northeast India.
- ❖ 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 due to

- ❖ **Isolated heavy to very heavy rainfall** very likely over Kerala & Mahe during 08th -12th October.

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 and roadways 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/landslips/mud slips/land sinks/mud sinks.
- ✓ Damage to horticulture and standing crops in some areas due to inundation and wind.
- ✓ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC)

Action Suggested

- ✓ Judicious regulation of surface transports including railways and roadways.
- ✓ 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

Agromet advisories for Heavy Rainfall likely over various parts of the country

- ✓ Drain out excess water from rice, millets, cowpea, French bean, vegetable crops and orchards in Meghalaya.
- ✓ Drain out excess water from standing crop fields and fruit orchards to avoid water stagnation in Tamil Nadu, Kerala, Coastal Karnataka, South Interior Karnataka, Rayalaseema and North Eastern States.
- ✓ Keep the harvested produce at safer places.
- ✓ Provide mechanical support to horticultural crops & staking to vegetables.

Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

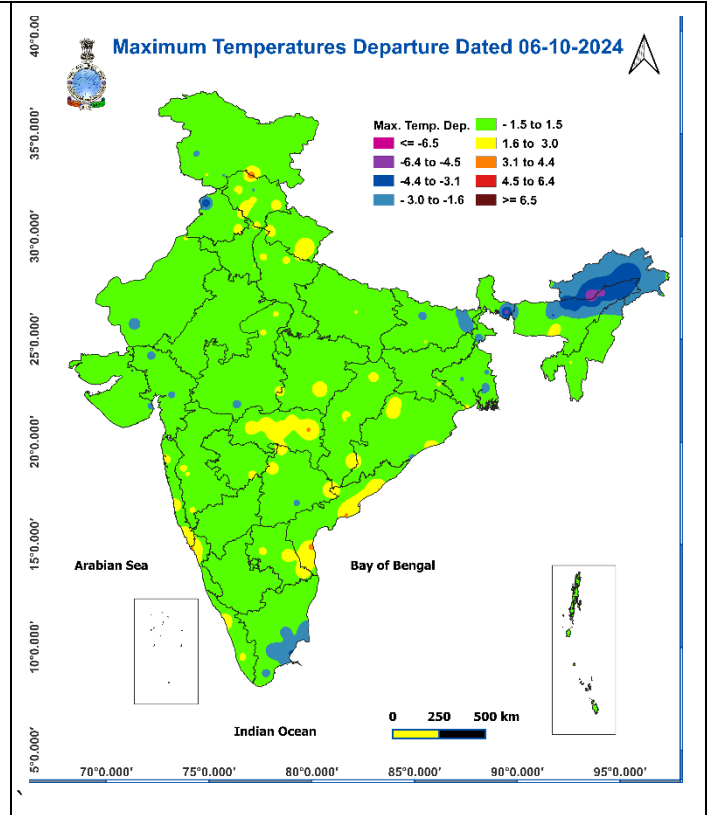
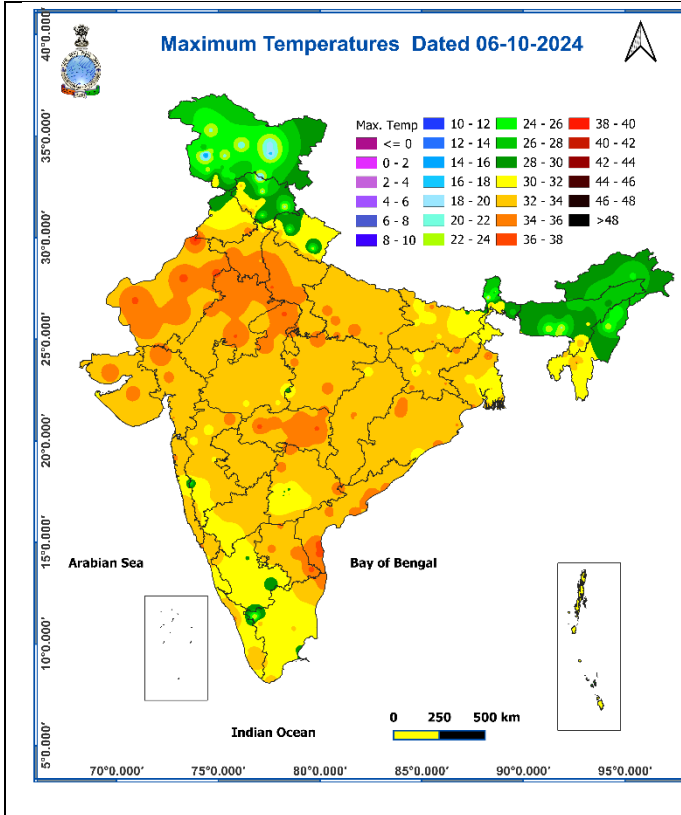


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

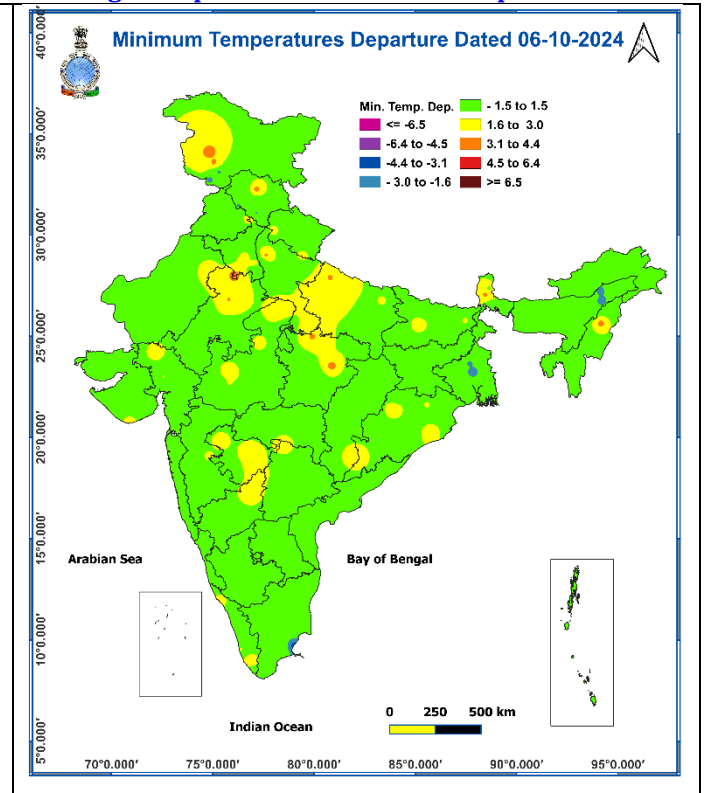
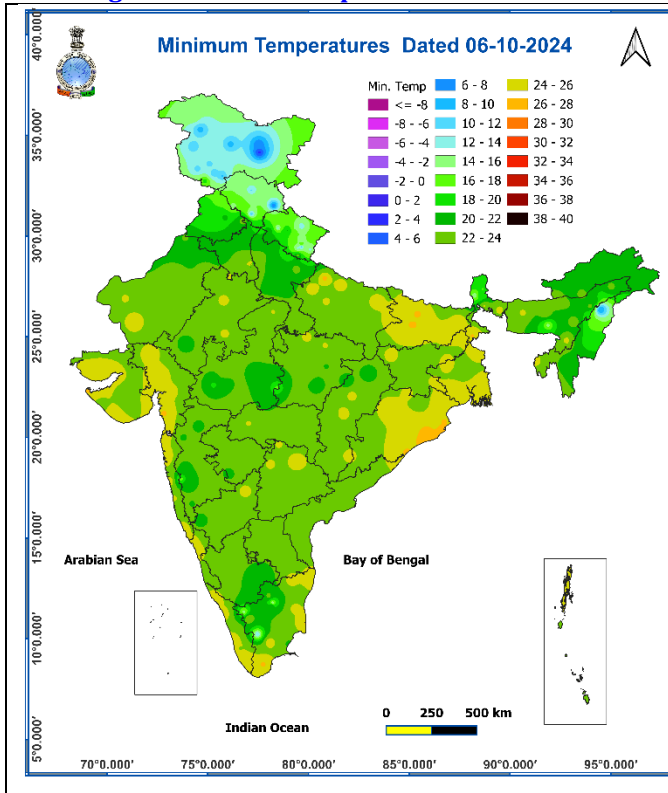
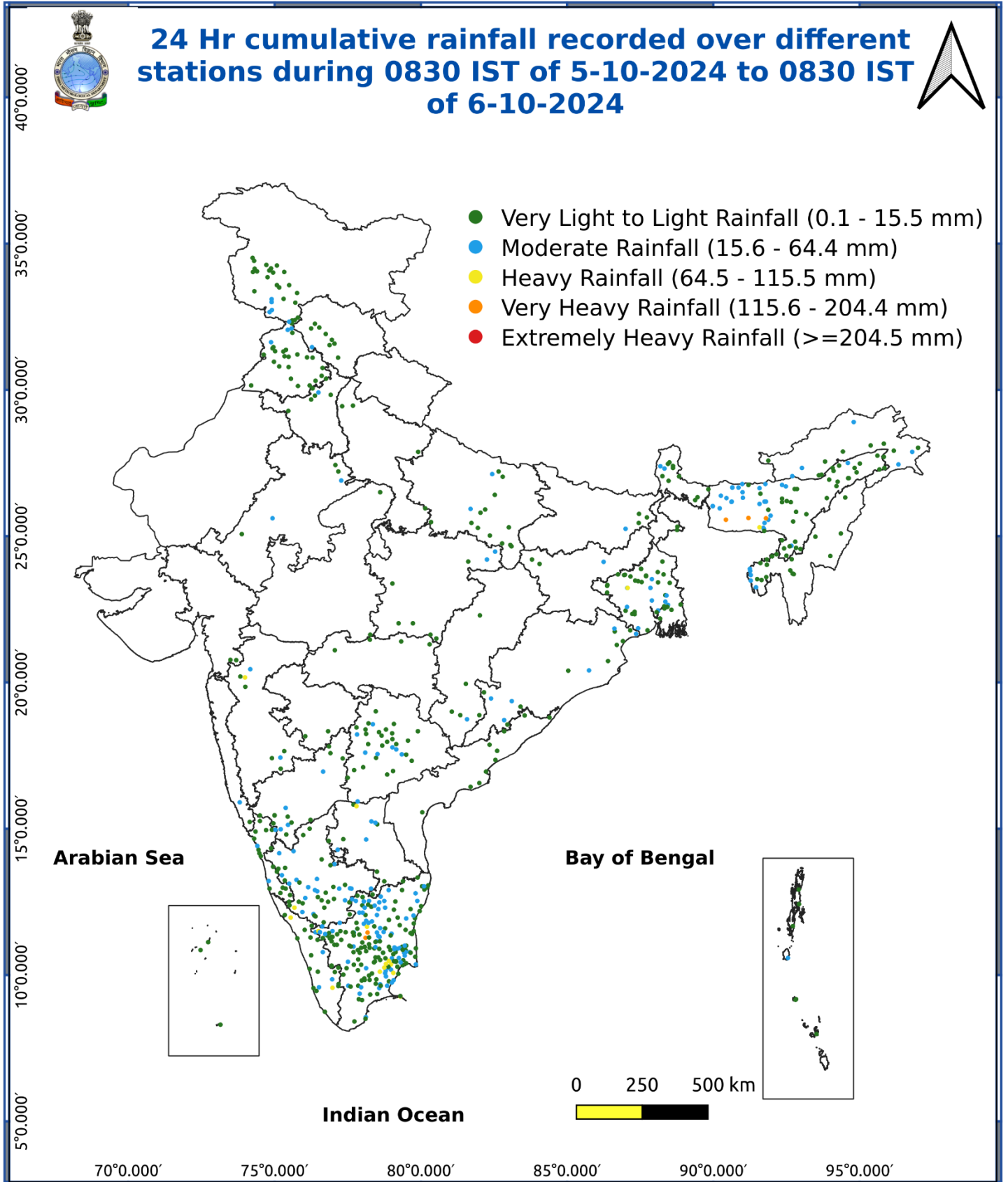


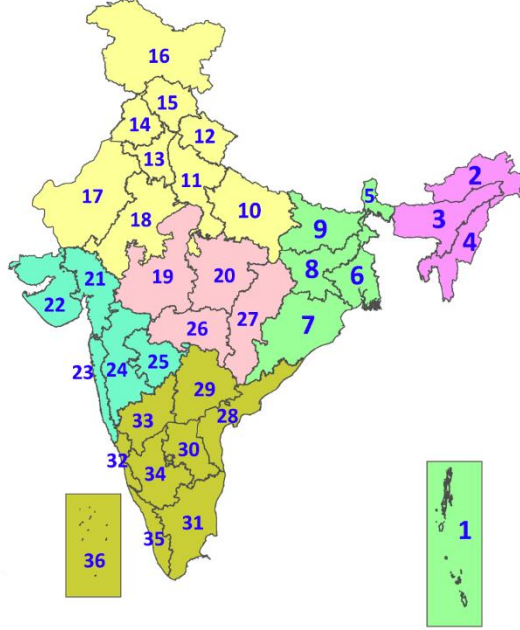
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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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>