

Saturday, September 21, 2024
Time of Issue: 0815 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems:

- ✓ Conditions are becoming favourable for withdrawal of **Southwest Monsoon** from parts of West Rajasthan and Kachchh around from 23rd September.
- ✓ An upper air **cyclonic circulation** is likely over north Andaman Sea & neighborhood during next 24 hours. It is likely to move northwestwards, thereafter, under its influence, a low pressure area is likely to form over northwest & adjoining westcentral Bay of Bengal around 23rd September 2024.
- ✓ A **cyclonic circulation** over lies over northeast Rajasthan & neighbourhood in lower tropospheric levels.

Forecast & Warnings (upto 7 days):

Central India:

- ✓ Isolated to Scattered light to moderate rainfall very likely over the region during next 3 days; Scattered to Fairly Widespread light to moderate rainfall very likely over remaining days over the region during the week.
- ✓ Isolated **heavy rainfall** very likely over Chhattisgarh during 23rd-26th; Vidarbha & East Madhya Pradesh during 24th-26th; West Madhya Pradesh on 25th & 26th September.

East & Northeast India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Andaman & Nicobar Islands; Scattered to Fairly widespread light to moderate rainfall very likely over Odisha, Gangetic West Bengal during the week; Isolated to Scattered light to moderate rainfall very likely over Bihar, Jharkhand & Sub-Himalayan West Bengal & Sikkim next 5 days & Scattered to Fairly widespread light to moderate rainfall during subsequent 2 days.
- ✓ Isolated **heavy rainfall** very likely over Odisha during 22nd-24th; Nagaland, Manipur, Mizoram & Tripura during 22nd-26th; Arunachal Pradesh, Assam & Meghalaya during 23rd-26th; Sub-Himalayan West Bengal & Sikkim on 26th September.
- ✓ **Hot and Humid Weather** very likely over Sub-Himalayan West Bengal & Sikkim on 21st; Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 21st-22nd September.
- ✓ **Above normal Maximum temperature** very likely over Northeast India during next 3 days.

Northwest India:

- ✓ Isolated to Scattered light to moderate rainfall very likely over the region except West Rajasthan where mainly dry weather likely to prevail during the week.

West & South Peninsular India:

- ✓ Isolated to Scattered light rainfall very likely over the region during next 4 days & Scattered to Fairly widespread light to moderate rainfall thereafter for subsequent 3 days.
- ✓ Isolated **heavy rainfall** very likely over Madhya Maharashtra, Konkan & Goa on 24th & 25th; Marathwada on 25th; Gujarat Region on 25th & 26th; Coastal Andhra Pradesh & Yanam on 24th & 25th; North Interior Karnataka on 24th September.
- ✓ **Above normal Maximum temperature** very likely over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe during next 3 days.

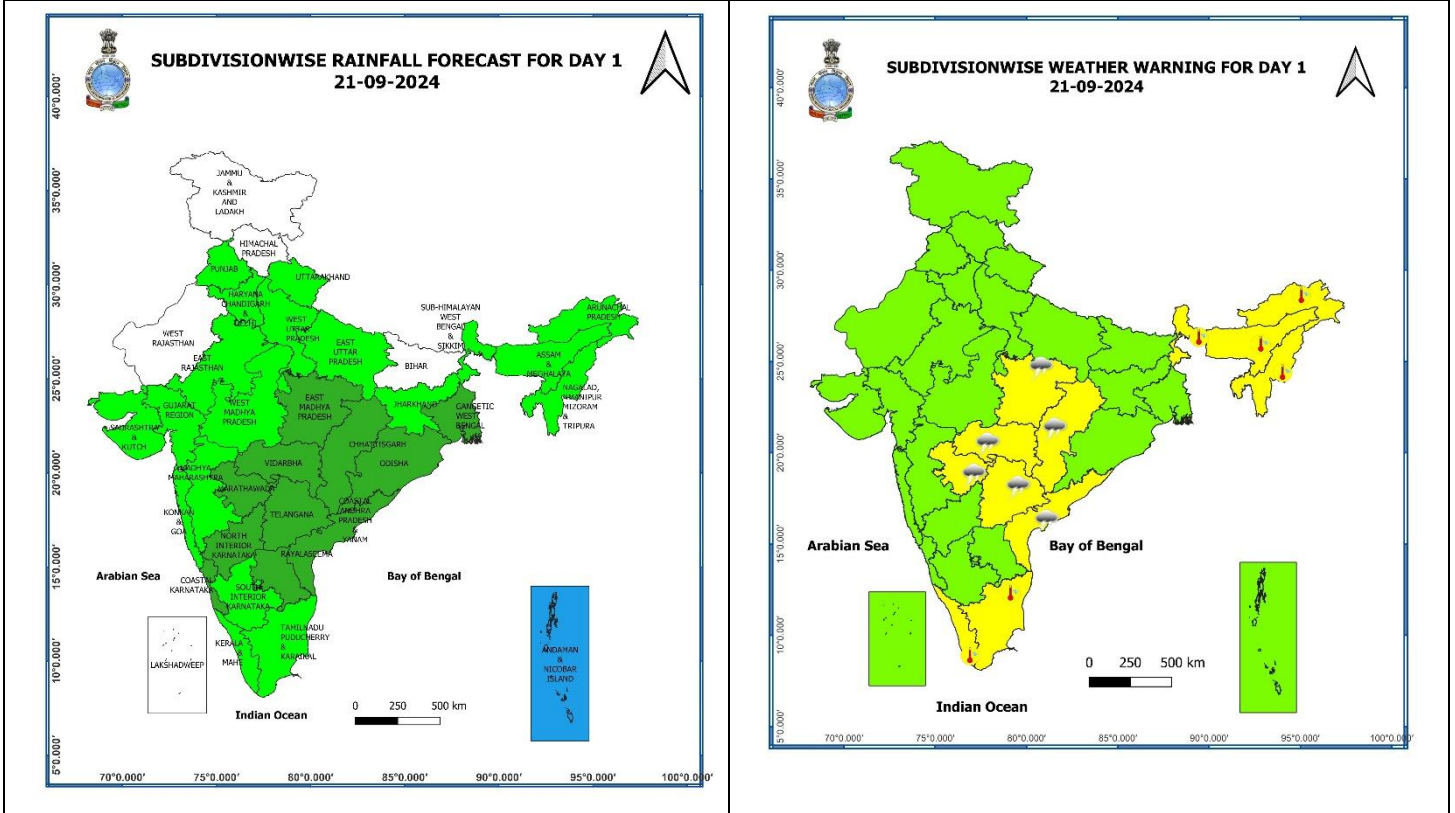
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at a few places** over Odisha, Coastal Andhra Pradesh & Yanam, Andaman & Nicobar Islands; **at isolated places** over East Madhya Pradesh, Vidarbha, Madhya Maharashtra, Marathwada, Gangetic West Bengal, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Telangana.
- ❖ **Heavy rainfall recorded** (from 0830 hours IST to 1730 hours IST of yesterday): **Nil**
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **Coastal Andhra Pradesh & Yanam:** Tuni 3, **Odisha:** Sambalpur 2, Koraput 1; **Marathwada:** Parbhani 1, **Andaman & Nicobar Islands:** Hut Bay 1.
- ❖ **Minimum Temperature Departures (as on 20-09-2024):** Minimum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Arunachal Pradesh, Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim and Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; **above normal (1.6°C to 3.0°C)** at many places over Bihar; at a few places over Rayalaseema and Marathwada: at isolated places over Gangetic West Bengal, Jharkhand, East Uttar Pradesh, Vidarbha Coastal Andhra Pradesh, Madhya Maharashtra, Gujarat region, Madhya Pradesh, East Rajasthan, Telangana and Tamil Nadu, Puducherry & Karaikal and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature** of 20.2°C was reported at **Narsinghpur (East Madhya Pradesh)** over the plains of the country. **(Fig.4)**
- ❖ **Maximum Temperature Departures (as on 20-09-2024):** Maximum temperatures were **markedly above normal (5.1°C or more)** at a few places over Assam & Meghalaya, Arunachal Pradesh; at isolated places over Uttarakhand, Bihar, Sub-Himalayan West Bengal & Sikkim, Nagaland, Manipur, Mizoram & Tripura; **appreciably above normal (3.1°C to 5.0°C)** at a few places over Himachal Pradesh, Gangetic West Bengal, Rayalaseema; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Odisha, Vidarbha, Madhya Maharashtra, Telangana, Coastal Andhra Pradesh & Yanam, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal; **above normal (1.6°C to 3.0°C)** at many places over West Uttar Pradesh, East Madhya Pradesh, Jharkhand, Marathwada, Interior Karnataka; at a few places over East Uttar Pradesh, Coastal Karnataka; at isolated places over Punjab, West Madhya Pradesh, Gujarat state. These were **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over East Rajasthan; **below normal (-1.6°C to -3.0°C)** at isolated places over Haryana-Chandigarh-Delhi, West Rajasthan and **near normal** over rest parts of the country. Yesterday, **the highest Maximum Temperature** of 39.8°C was reported at **Kavali (Coastal Andhra Pradesh & Yanam)** over the country. **(Fig. 2)**

Meteorological Analysis (Based on 0530 hours IST)

- ❖ Conditions are becoming favourable for withdrawal of **Southwest Monsoon** from parts of West Rajasthan and Kachchh around from 23rd September.
- ❖ The **Monsoon trough** at mean sea level now passes through Bikaner, Sagar, Jamshedpur, Digha and thence southeastwards to eastcentral Bay of Bengal.
- ❖ The **cyclonic circulation** over northeast Rajasthan extending upto 3.1 km above mean sea level tilting southwestwards with height persists.
- ❖ The **cyclonic circulation** over westcentral & adjoining southwest Bay of Bengal between 3.1 and 5.8 km above mean sea level persists.
- ❖ The **cyclonic circulation** over Punjab and adjoining Pakistan at 0.9 km above mean sea level persists.
- ❖ An upper air **cyclonic circulation** is likely over north Andaman Sea & neighborhood during next 24 hours. It is likely to move northwestwards, thereafter, under its influence, a **low pressure area** is likely to form over northwest & adjoining westcentral Bay of Bengal around 23rd September 2024.

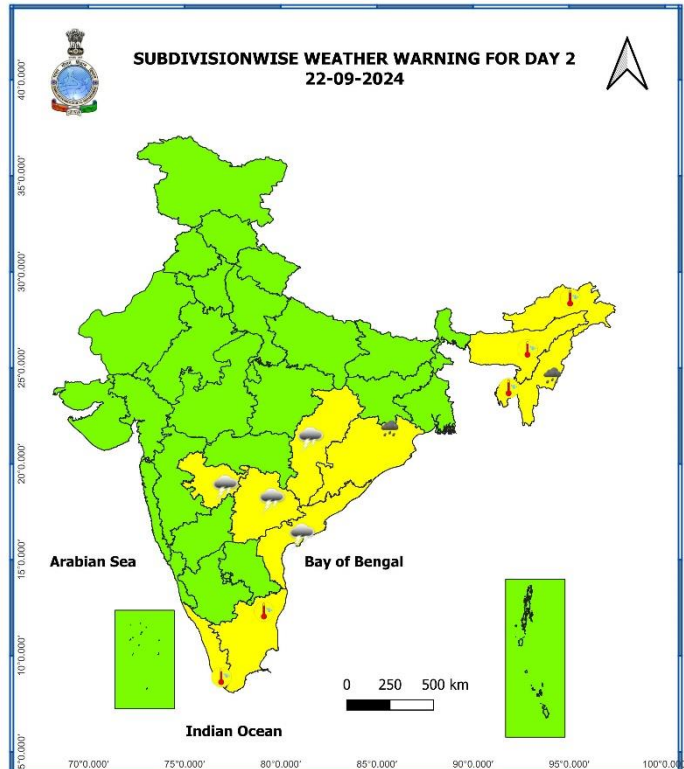
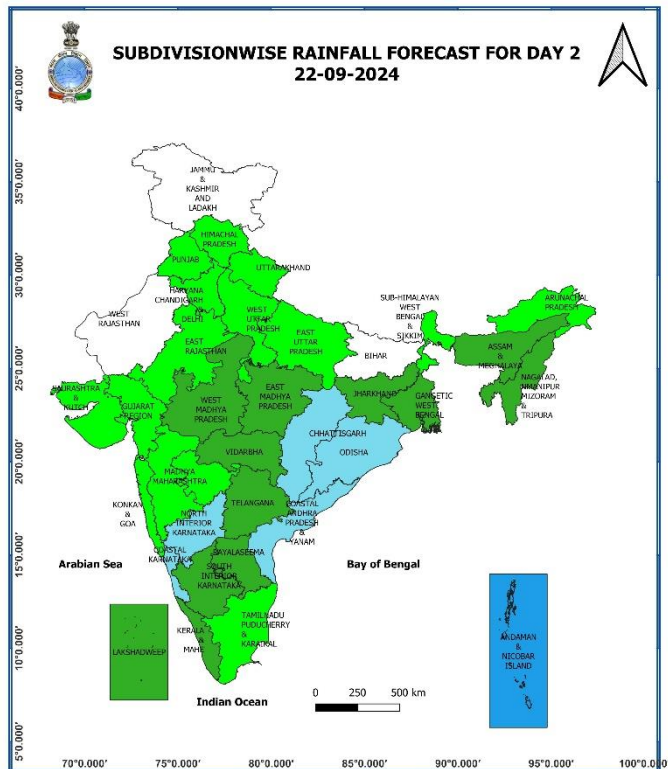
Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 27th September, 2024)



21 September (Day 1):

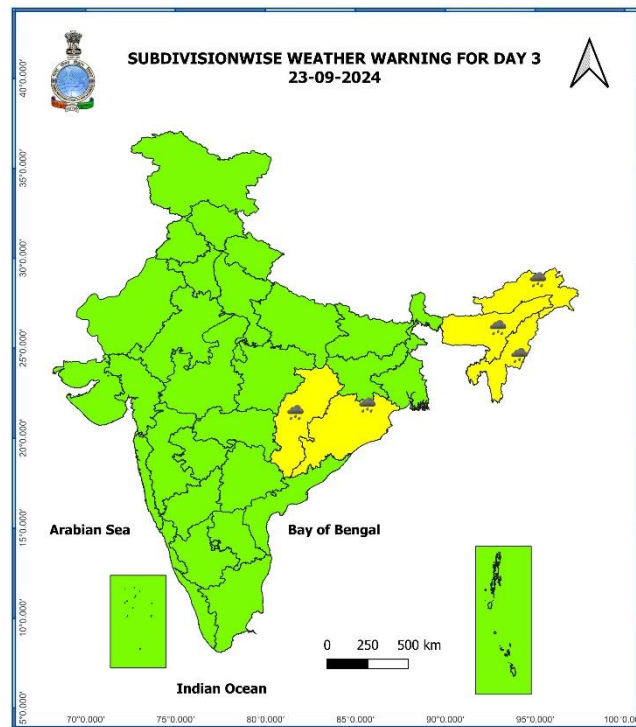
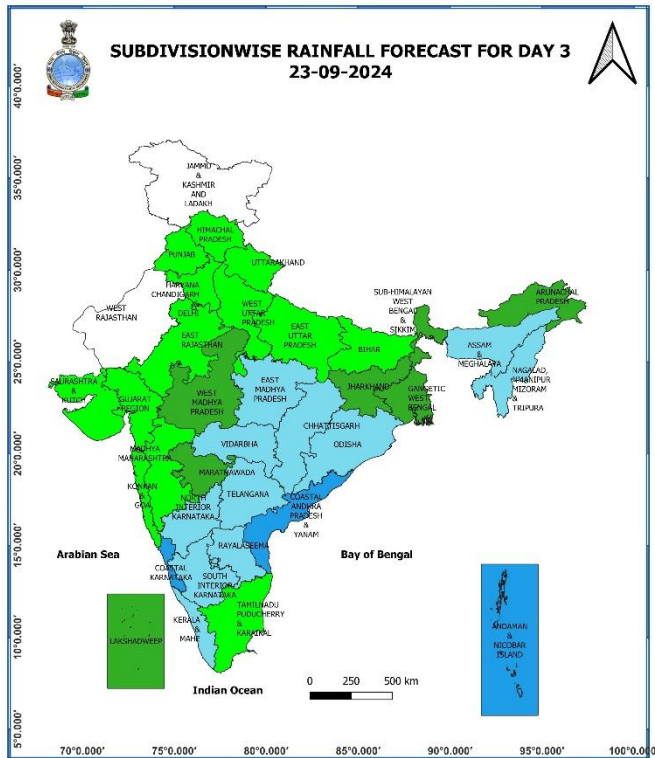
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Marathwada, Tamil Nadu, Puducherry & Karaikal, Vidarbha, East Madhya Pradesh, Coastal Andhra Pradesh & Yanam, Telangana, Chhattisgarh, Gangetic West Bengal, Odisha.
- ❖ **Hot & humid weather** very likely at isolated places over Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over gulf of Mannar, off Sri Lanka coast, many parts of south Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest Arabian sea adjoining west central Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.

* 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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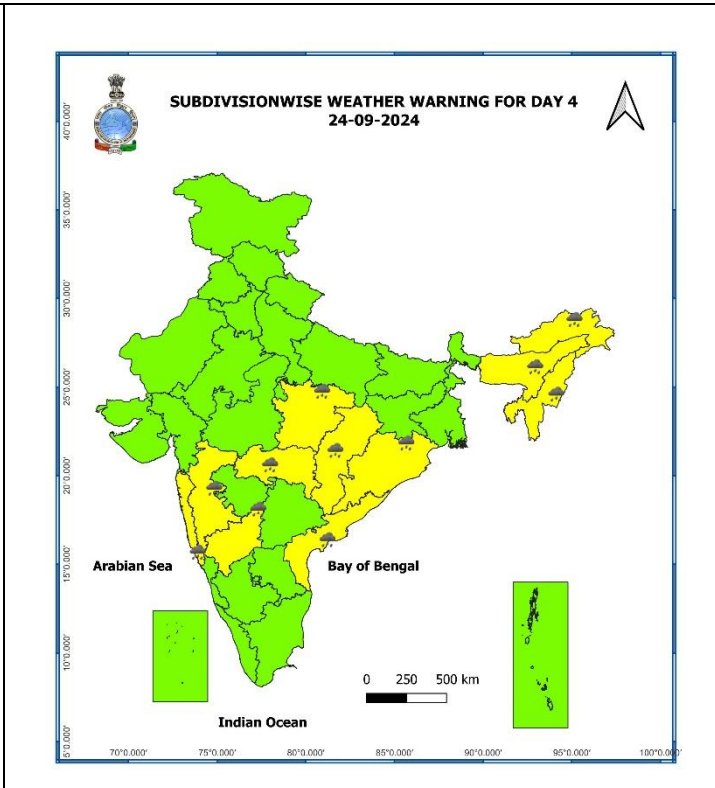
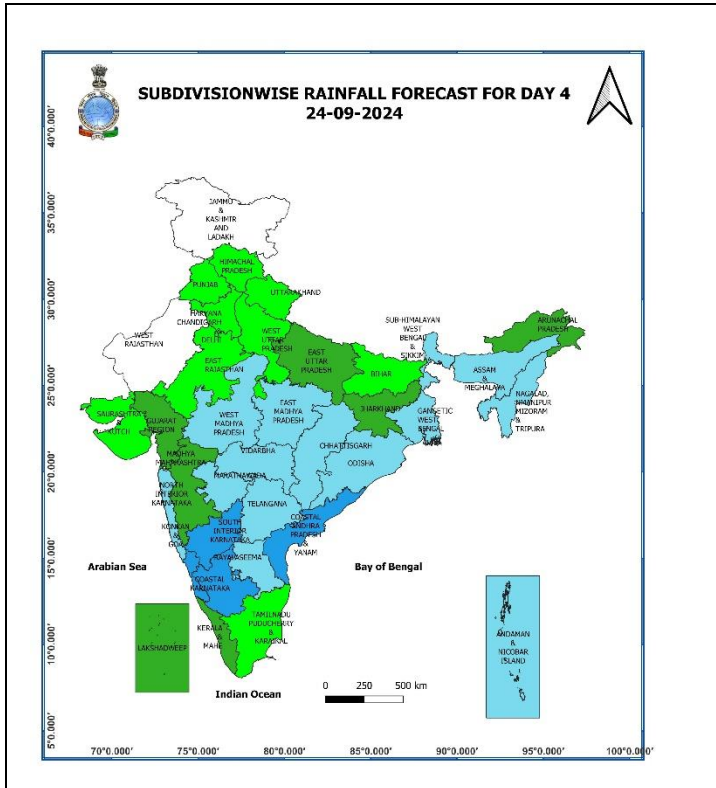
22 September (Day 2):

- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Odisha and Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Marathwada, Coastal Andhra Pradesh & Yanam, Telangana, East Madhya Pradesh, Vidarbha, Chhattisgarh, Gangetic West Bengal, Jharkhand.
- ❖ **Hot & humid weather** very likely at isolated places over Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal, Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over gulf of Mannar, off Sri Lanka coast, many parts of south Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest Arabian sea adjoining west central Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.



23 September (Day 3):

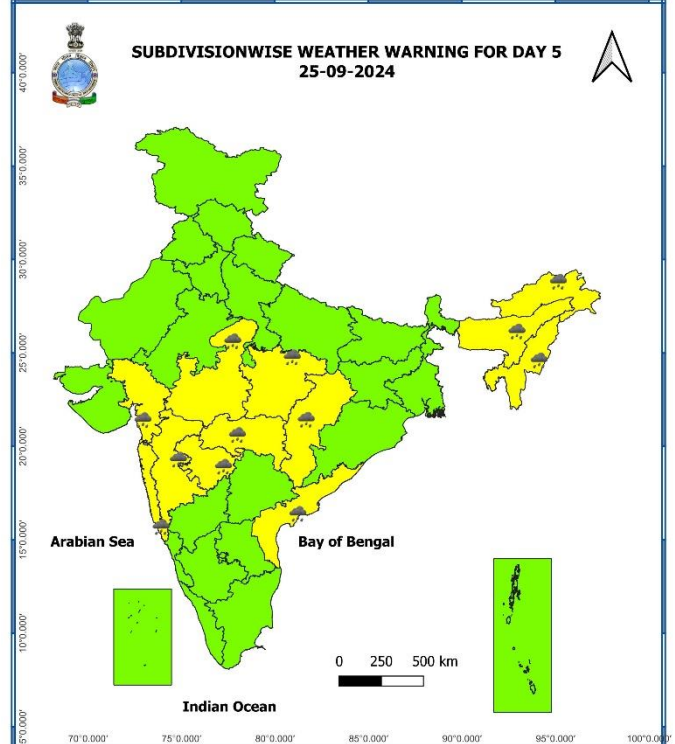
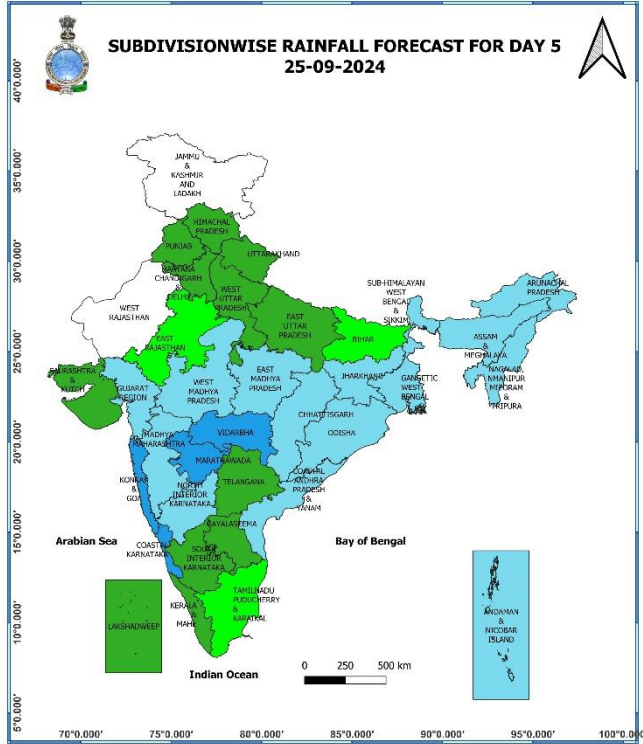
- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Chhattisgarh and Odisha.
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Rayalaseema, Karnataka, Madhya Pradesh, Vidarbha, Jharkhand and Chhattisgarh.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail gulf of Mannar, off Sri Lanka coast, many parts of south Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest Arabian sea adjoining west central Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.



24 September (Day 4):

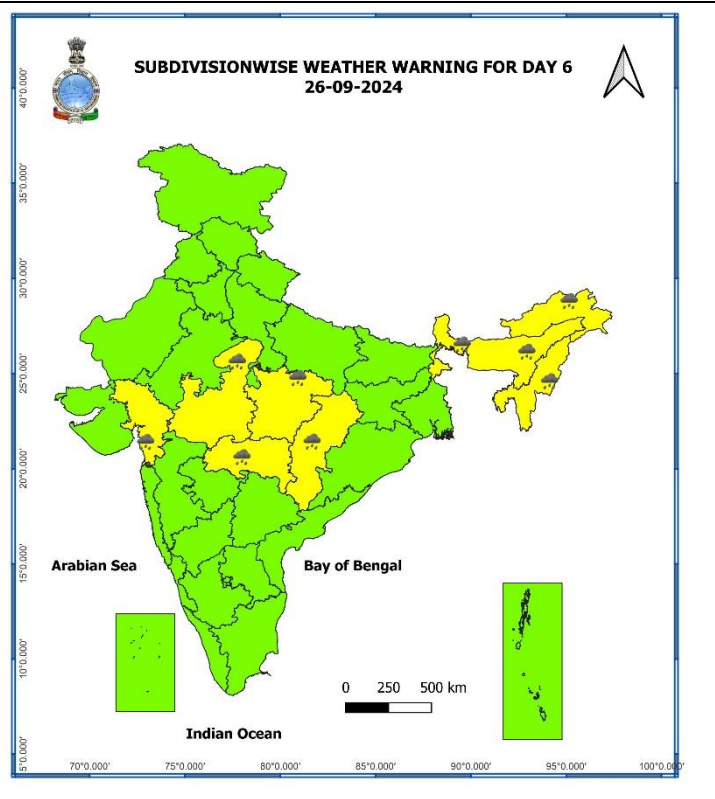
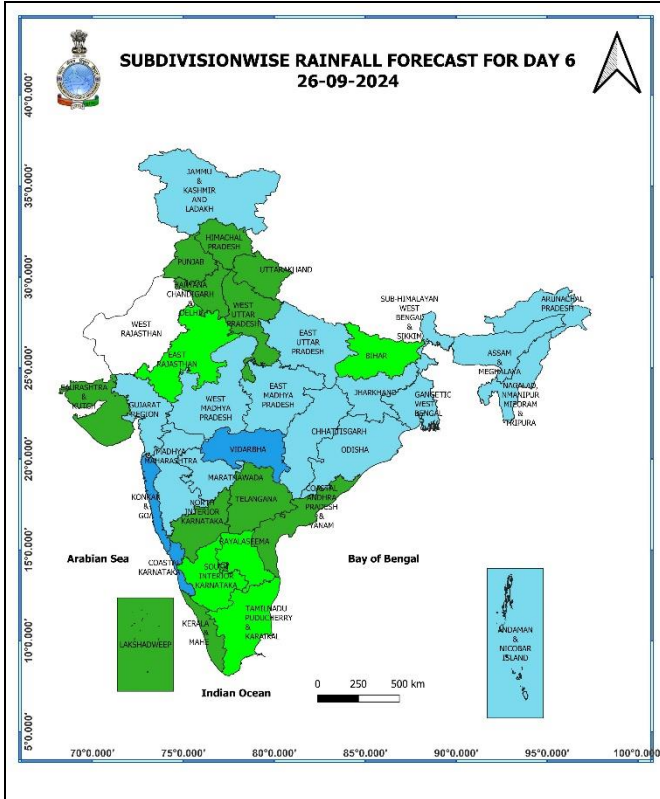
- ❖ **Heavy rainfall (≥7 cm)** likely at isolated places over Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Coastal Andhra Pradesh & Yanam, North Interior Karnataka, East Madhya Pradesh, Vidarbha, Chhattisgarh and Odisha.
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Marathwada, Rayalaseema, Karnataka, Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over gulf of Mannar, off Sri Lanka coast, many parts of south and adjoining central Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest Arabian sea adjoining west central Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.

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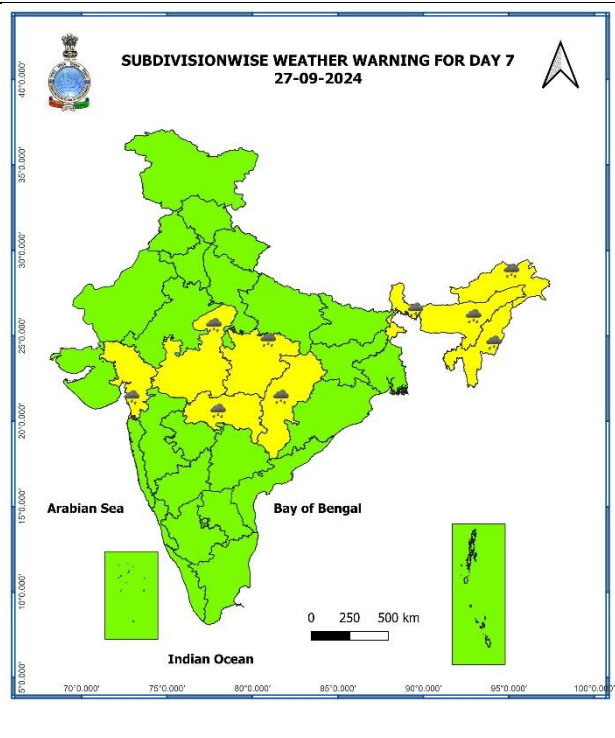
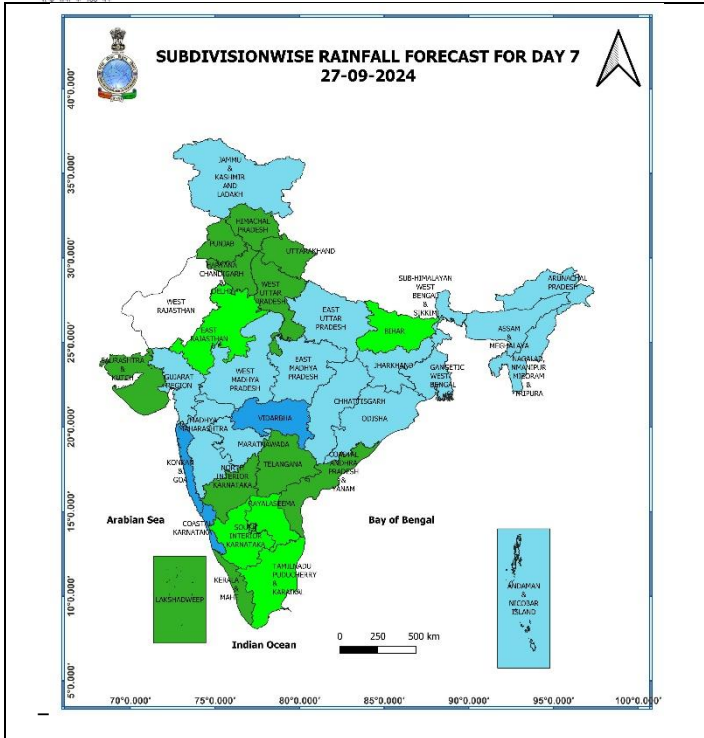
25 September (Day 5):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Konkan & Goa, Madhya Maharashtra, Marathwada, Gujarat Region, Coastal Andhra Pradesh & Yanam, Madhya Pradesh, Vidarbha, Chhattisgarh, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.



26 September (Day 6):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Gujarat Region, Madhya Pradesh, Vidarbha, Chhattisgarh, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Sub-Himalayan West Bengal & Sikkim.



27 September (Day 7):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Gujarat Region, Madhya Pradesh, Vidarbha, Chhattisgarh, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Sub-Himalayan West Bengal & Sikkim.

Weather Outlook for subsequent 3 days (During 28th September– 30th September, 2024)

- ❖ Scattered to Fairly widespread rainfall likely over many parts of the Westcentral & Eastern India; Isolated to Scattered rainfall likely over northern and peninsular India.

- 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.

Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

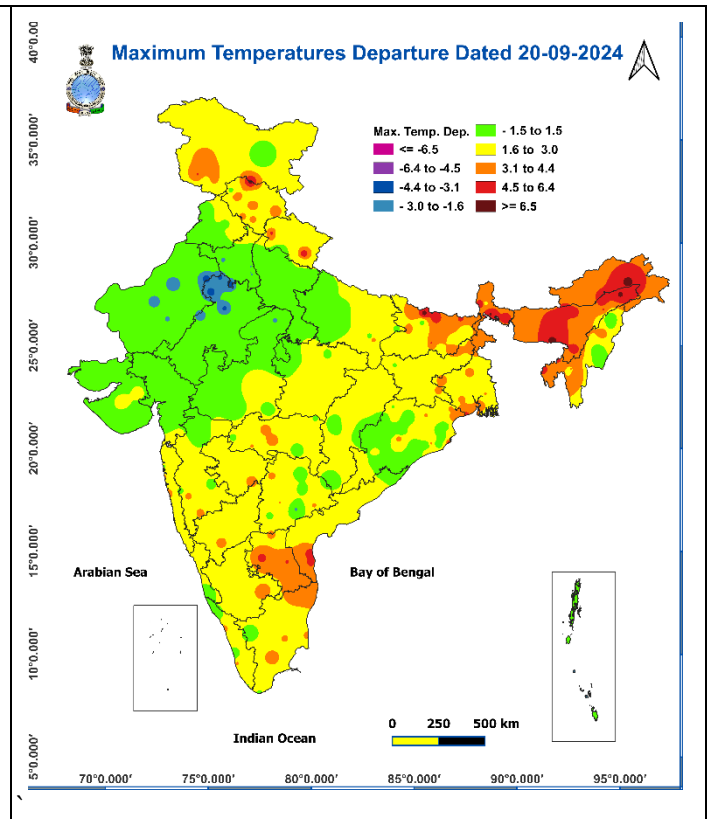
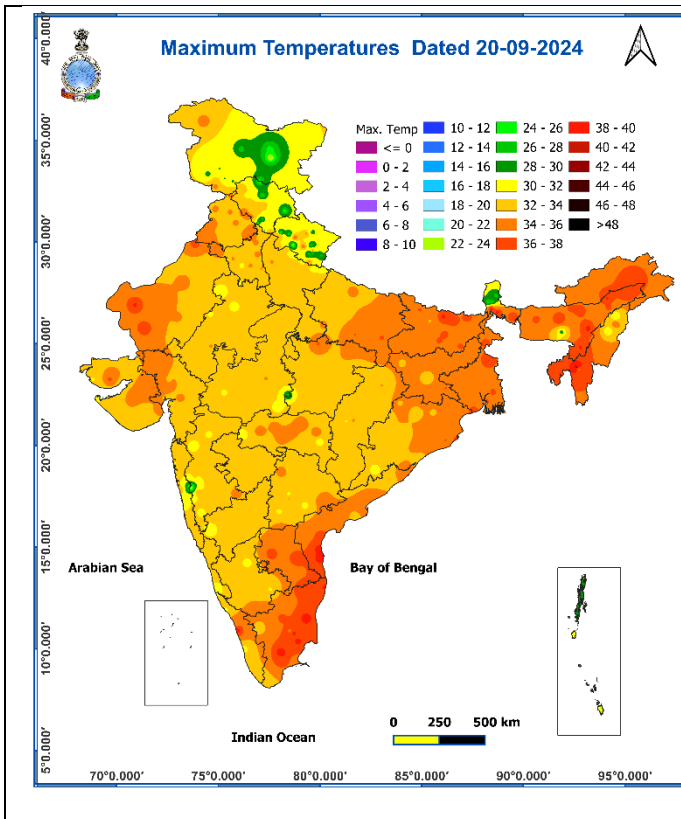


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

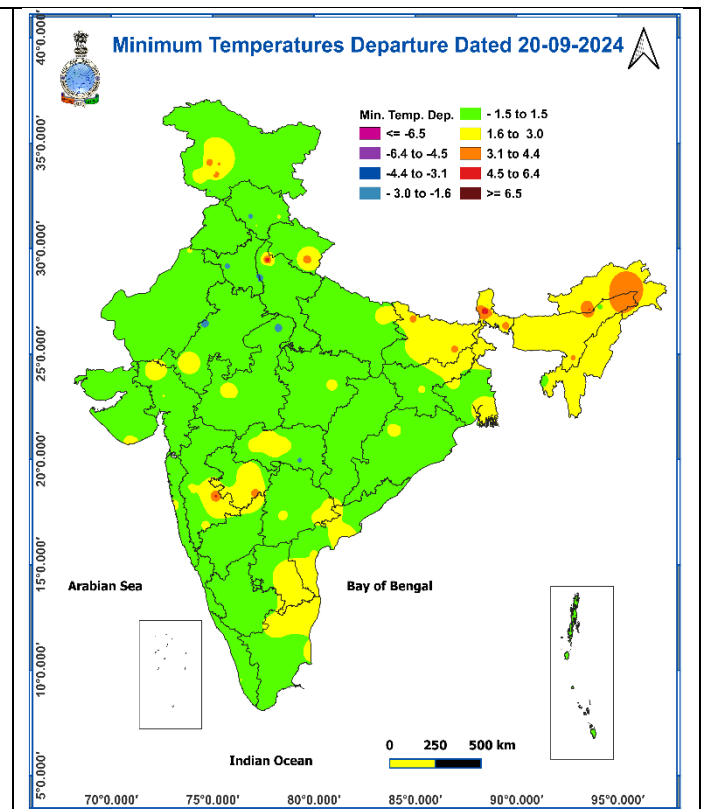
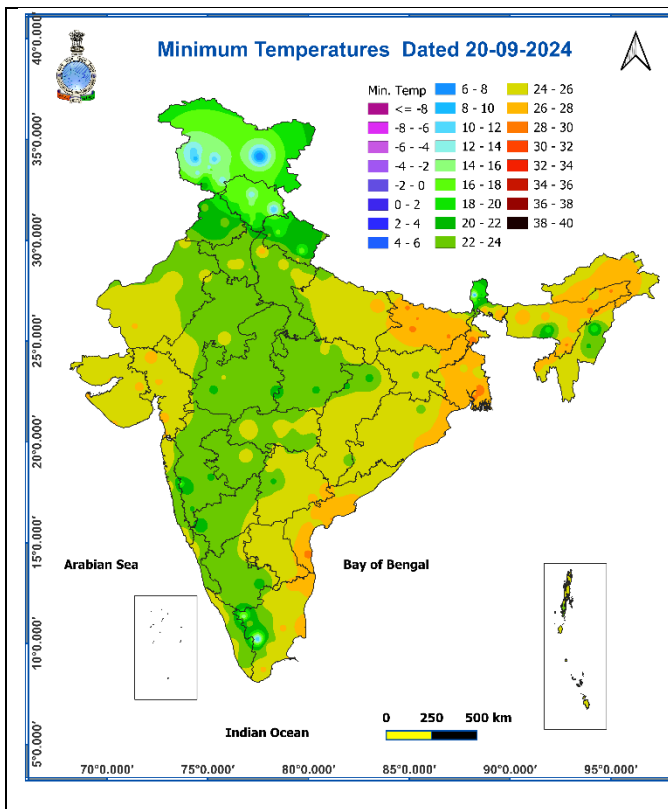
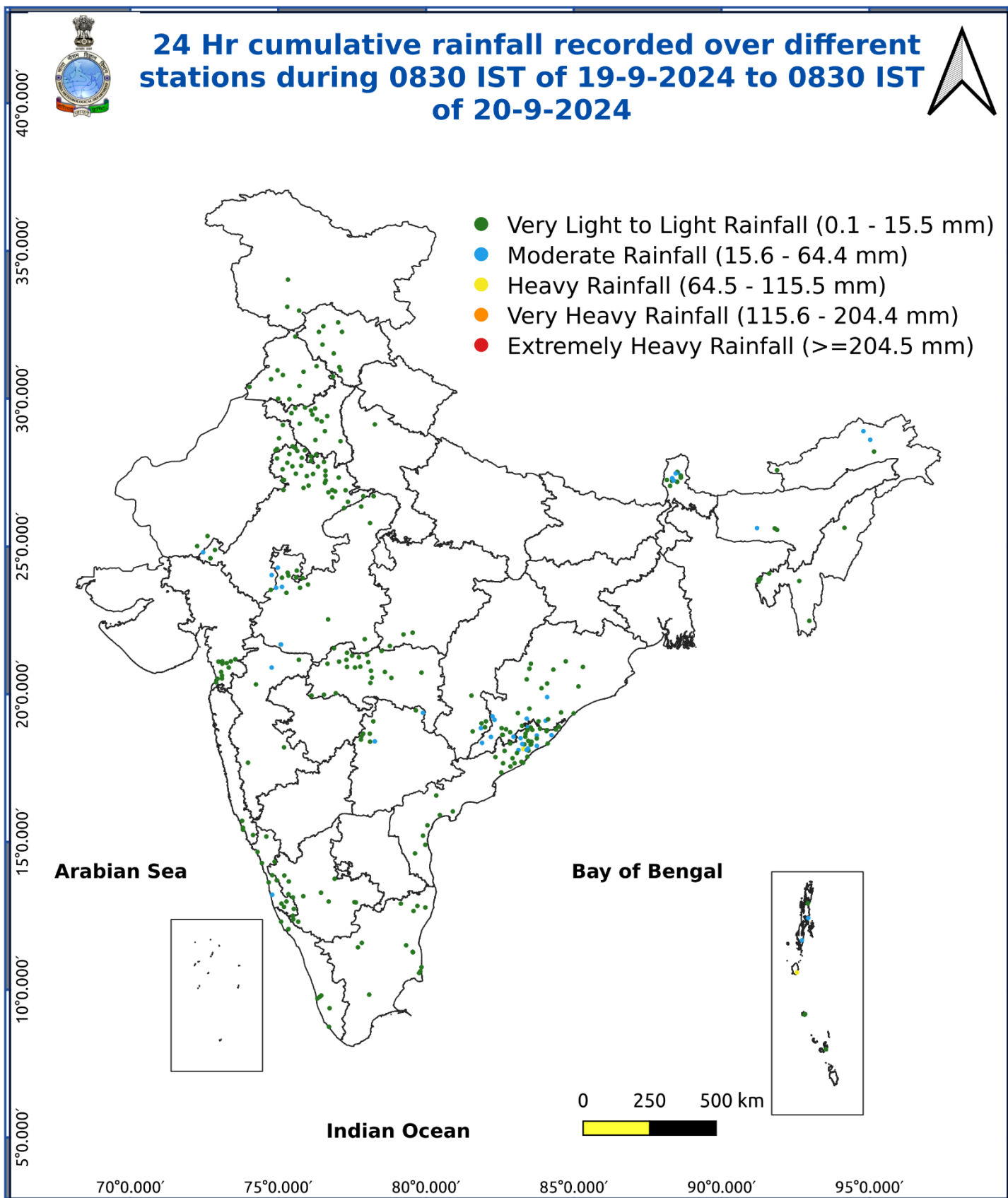


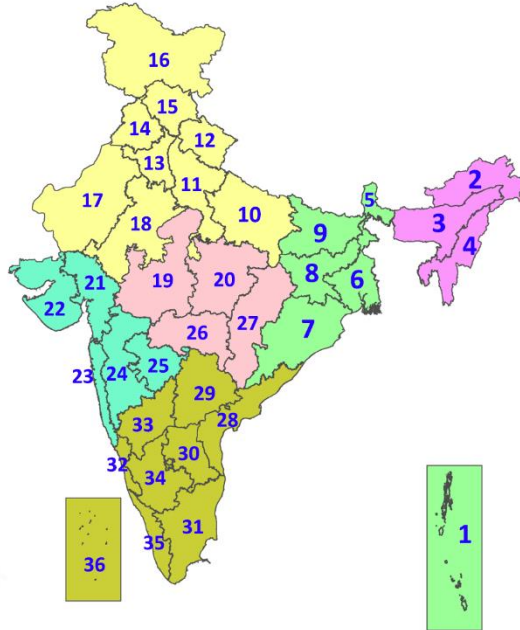
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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