

Saturday, September 21, 2024
Time of Issue: 1345 hours IST
(MID-DAY)

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.
- ✓ Embedded with an East-West shear zone, yesterday's **upper air cyclonic circulation** over westcentral Bay of Bengal & adjoining southwest Bay of Bengal lay over westcentral Bay of Bengal and extends upto mid tropospheric levels. Another **upper air cyclonic circulation** lay over northern parts of Thailand & neighbourhood and extends upto mid tropospheric levels. The later upper air cyclonic circulation is likely to move west-northwestwards.
- ✓ Under the influence of these two **upper air cyclonic circulations**, a **low-pressure area** is likely to form over northwest & adjoining westcentral Bay of Bengal around 23rd September 2024.

Forecast & Warnings (upto 7 days)

Central India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Vidarbha; Scattered to Fairly widespread light to moderate rainfall very likely over Chhattisgarh; Isolated to Scattered light to moderate rainfall during next 3 days over Madhya Pradesh & Scattered to Fairly widespread light to moderate rainfall during the next subsequent 4 days over Madhya Pradesh during the week.
- ✓ Isolated **heavy rainfall** very likely over Vidarbha during 23th-27th; Chhattisgarh during 23th -26th; Madhya Pradesh during 24th -27th September.

East & Northeast India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Odisha, Andaman & Nicobar Islands; Isolated to Scattered light to moderate rainfall during next 3 days over West Bengal & Sikkim, Jharkhand, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Fairly widespread to widespread light/moderate rainfall during next subsequent 4 days over the same region; Isolated to Scattered light to moderate rainfall very likely over Bihar during the week.
- ✓ Isolated **heavy rainfall** very likely over Nagaland, Manipur, Mizoram & Tripura during the next 7days; Arunachal Pradesh, Assam & Meghalaya during 23rd -27th; Bihar during 23rd -25th; Andaman & Nicobar Islands on 23rd; West Bengal & Sikkim on 25th September.
- ✓ **Hot and Humid Weather** very likely over Sub-Himalayan West Bengal & Sikkim on 21th & 22nd; Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 21th-23rd September.

Northwest India & West India

- ✓ Isolated to Scattered light to moderate rainfall very likely over northwest India except West Rajasthan where mainly dry weather likely to prevail during the week; Isolated to Scattered light to moderate rainfall very likely over Saurashtra & Kutch; Isolated to Scattered light to moderate rainfall very likely during next 3 days over the region & Scattered to Fairly widespread light to moderate rainfall very likely over the same region during the next subsequent 4 days during the week.
- ✓ Isolated **heavy rainfall** very likely over Marathwada on 23rd & 24th; Madhya Maharashtra, Konkan & Goa during 24th -27th; Gujarat Region during 25th -27th September.

South Peninsular India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Coastal Karnataka, North Interior Karnataka; Scattered to Fairly widespread light to moderate rainfall very likely over South Interior Karnataka, Rayalaseema, Telangana, Coastal Andhra Pradesh & Yanam; Isolated to Scattered light to moderate rainfall very likely over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Lakshadweep during the week.
- ✓ Isolated **heavy rainfall** very likely over Tamil Nadu, Puducherry & Karaikal on 21st; Coastal Andhra Pradesh & Yanam during 21st -23rd; North Interior Karnataka during 21st -24th; Telangana during 21st & 23rd -25th; South Interior Karnataka on 22nd & 23rd; Rayalaseema on 24th & 25th September.
- ✓ **Above normal Maximum temperature** very likely over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe during next 3 days.

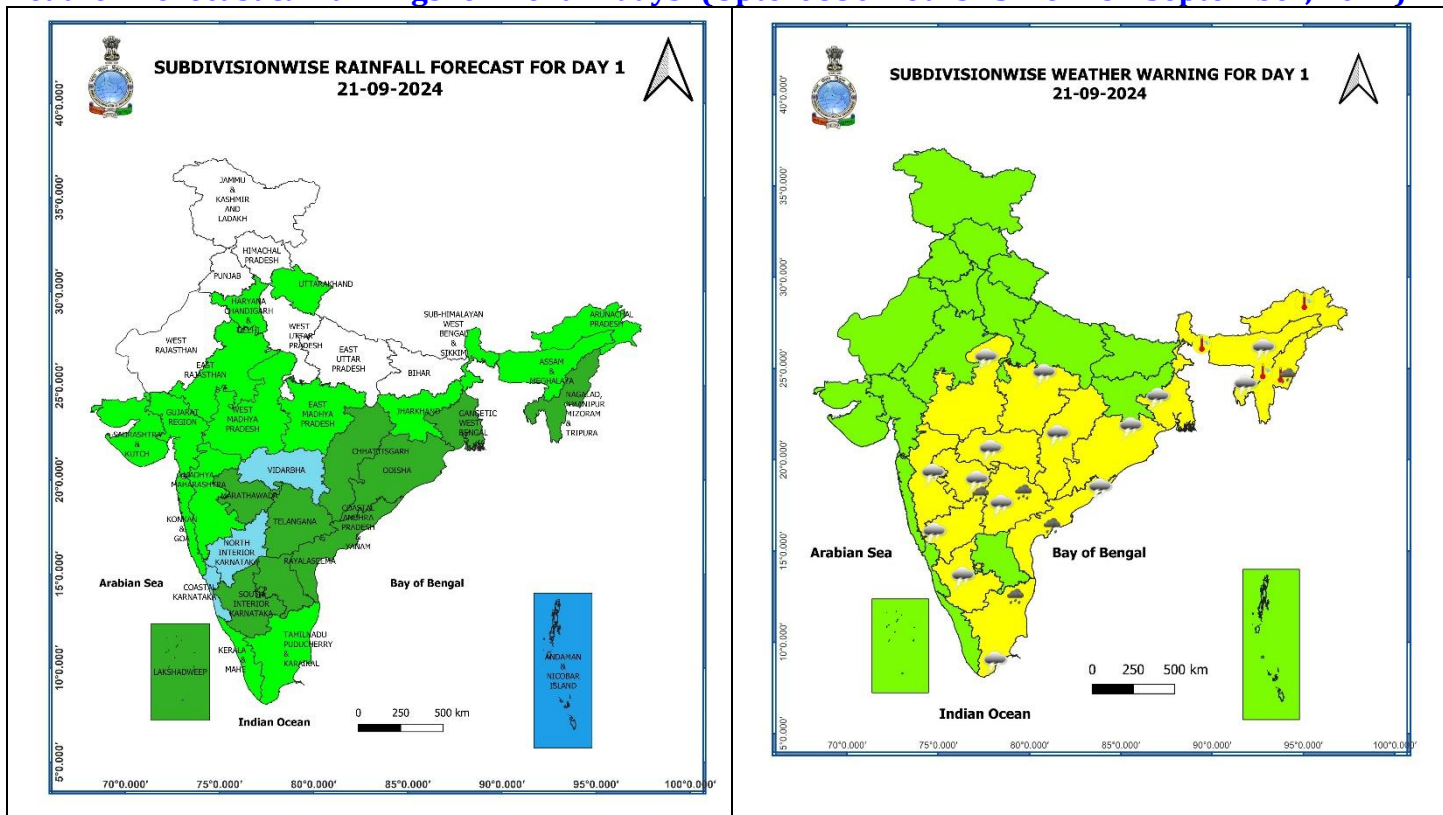
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): **at most places** over Andaman & Nicobar Islands; **at many places** over Vidarbha, Coastal Andhra Pradesh & Yanam, Telangana; **at a few places** over Marathwada, Coastal Karnataka; **at isolated places** over East Rajasthan, Madhya Pradesh, Chhattisgarh, West Bengal & Sikkim, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Gujarat Region, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Rayalaseema, Interior Karnataka.
- ❖ **Heavy rainfall recorded** (from 0830 hours IST of yesterday to 0830 hours IST of today): **Heavy to very Heavy rainfall** at isolated places over Tamil Nadu, Puducherry & Karaikal; **Heavy rainfall** at isolated places over Telangana, North Interior Karnataka.
- ❖ **Significant amount of rainfall** (from 0830 hours IST of yesterday to 0830 hours IST of today) (in cm): **Tamil Nadu, Puducherry & Karaikal:** Zone 15 Sholinganallur (dist Chennai) 17, Sholinganallur (dist Chennai) 10, Satyabama Uty ARG (dist Kancheepuram) 9, Tambaram (dist Chengalpattu); **Telangana:** Himayatnagar (dist Hyderabad) 9, Kodakandla (dist Jangaon) 7; **North Interior Karnataka:** Chitaguppa (dist Bidar) 7.
- ❖ **Minimum Temperature Departures (as on 21-09-2024):** Minimum temperatures are **markedly above normal (5.1°C or more)** at isolated places over Arunachal Pradesh, Sub-Himalayan West Bengal & Sikkim, West Rajasthan; **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Assam & Meghalaya, Odisha, East Rajasthan, Vidarbha, Madhya Maharashtra; **above normal (1.6°C to 3.0°C)** at many places over Uttarakhand, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa; at a few places over Himachal Pradesh, Bihar, West Madhya Pradesh, Marathwada, Tamil Nadu, Puducherry & Karaikal: at isolated places over Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, East Madhya Pradesh, Jharkhand, Gangetic West Bengal, Chhattisgarh, Gujarat state, North Interior Karnataka, Rayalaseema and **near normal** over rest parts of the country. Today, **the lowest minimum temperature** of 20.4°C is reported at **Raisen (West 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 0830 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, Guna, Mandla, Rajnandgaon, Gopalpur and thence southeastwards to westcentral Bay of Bengal.
- ❖ The **cyclonic circulation** over northeast Rajasthan and now lies over north Rajasthan & extends upto 1.5 km above mean sea level.
- ❖ The **cyclonic circulation** over Punjab and adjoining Pakistan has merged with above cyclonic circulation over north Rajasthan.
- ❖ Embedded with an East-West shear zone, yesterday's upper air cyclonic circulation over westcentral Bay of Bengal & adjoining southwest Bay of Bengal lay over westcentral Bay of Bengal and extends upto mid tropospheric levels. Another upper air cyclonic circulation lay over northern parts of Thailand & neighbourhood and extends upto mid tropospheric levels. The later upper air cyclonic circulation is likely to move west-northwestwards.
- ❖ Under the influence of these two upper air cyclonic circulations, a **low-pressure area** is likely to form over northwest & adjoining westcentral Bay of Bengal around 23rd September 2024.
- ❖ A **cyclonic circulation** lies over Tripura & neighbourhood at 0.9 km above mean sea level.

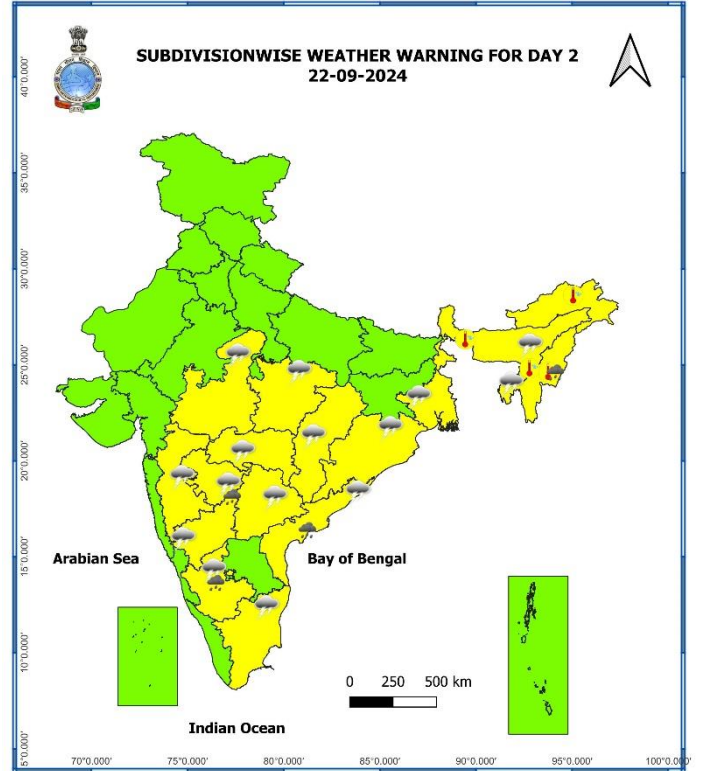
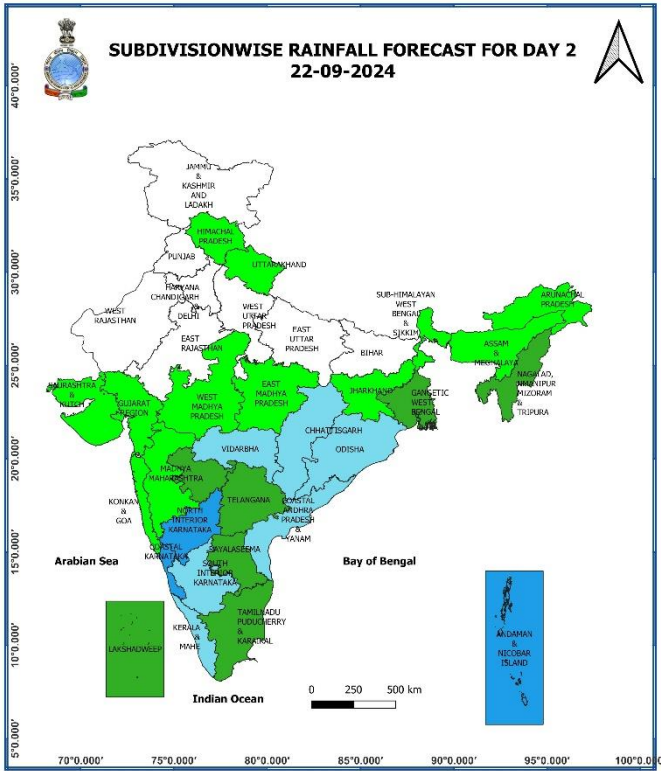
Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 28th September, 2024)



21 September (Day 1):

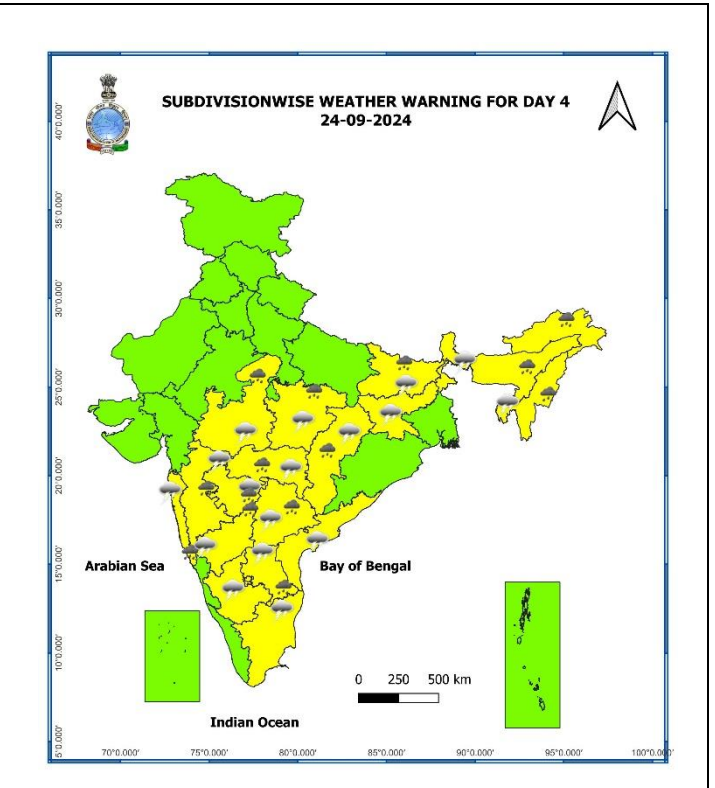
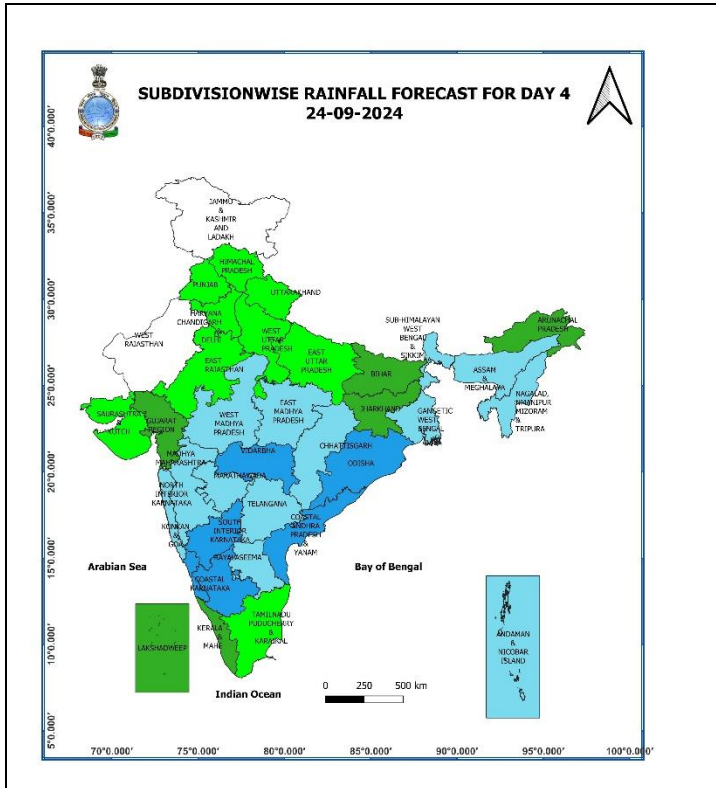
- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Telangana, North Interior Karnataka.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Madhya Pradesh, Vidarbha, Odisha, Telangana; **with lightning** very likely at isolated places over Chhattisgarh, Gangetic West Bengal, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Interior Karnataka.
- ❖ **Hot & humid weather** very likely at isolated places 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, along and off Tamilnadu adjoining south Andhra Pradesh coasts, south Bay of Bengal and most parts of westcentral and adjoining eastcentral 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.
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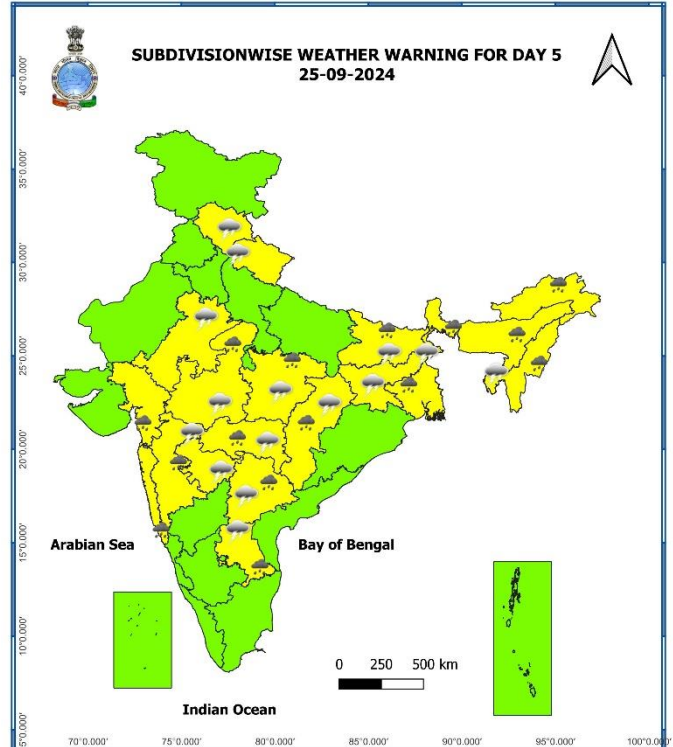
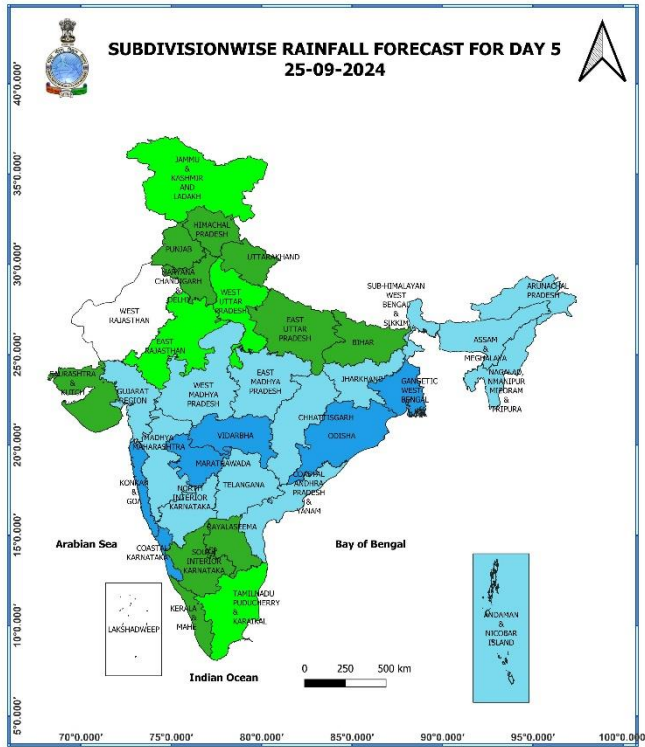
22 September (Day 2):

- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Interior Karnataka.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Madhya Pradesh, Vidarbha, Telangana; **with lightning** very likely at isolated places over Chhattisgarh, Gangetic West Bengal, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Interior Karnataka, Odisha.
- ❖ **Hot & humid weather** very likely at isolated places 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 and 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.



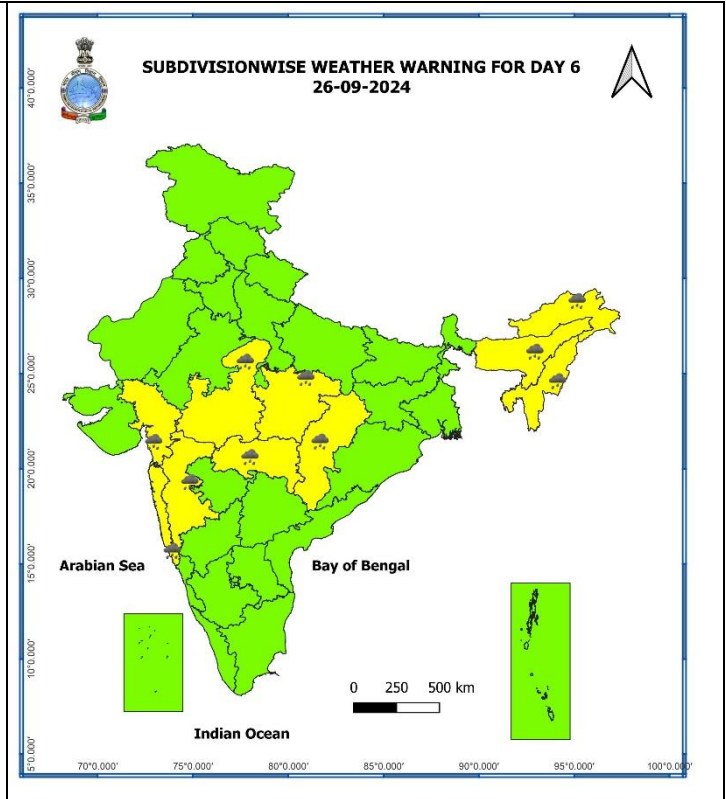
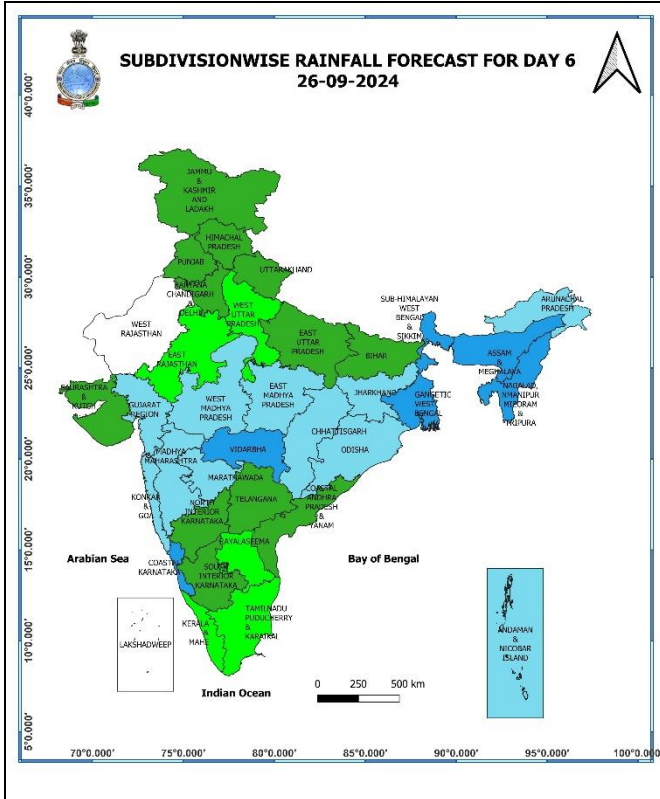
24 September (Day 4):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Madhya Pradesh, Bihar, Vidarbha, Chhattisgarh, Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Marathwada, Rayalaseema, Telangana, North Interior Karnataka.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 40-50 kmph)** very likely at isolated places over Telangana; **gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Madhya Pradesh; **with lightning** likely at isolated places over Vidarbha, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Bihar, Jharkhand, Konkan & Goa, Madhya Maharashtra, Marathwada, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka.
- ❖ **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.



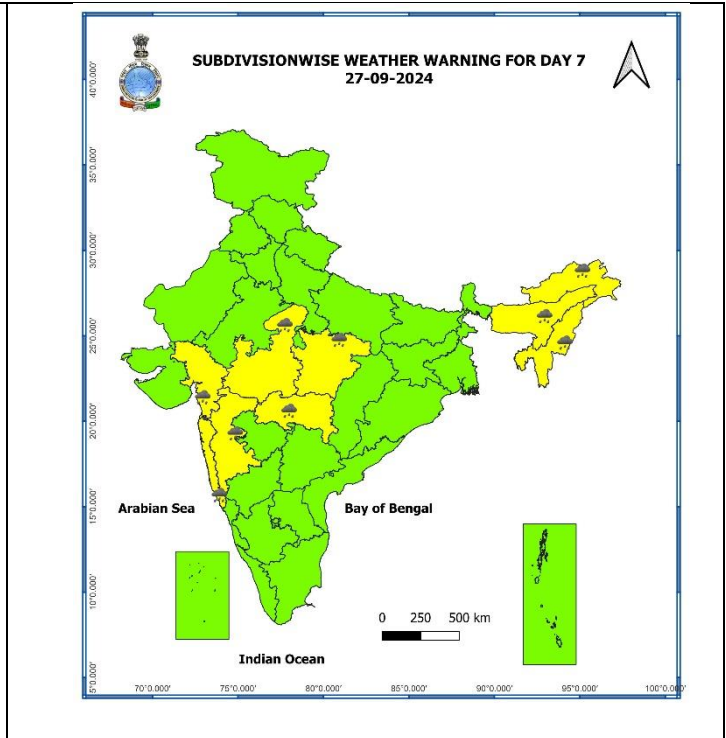
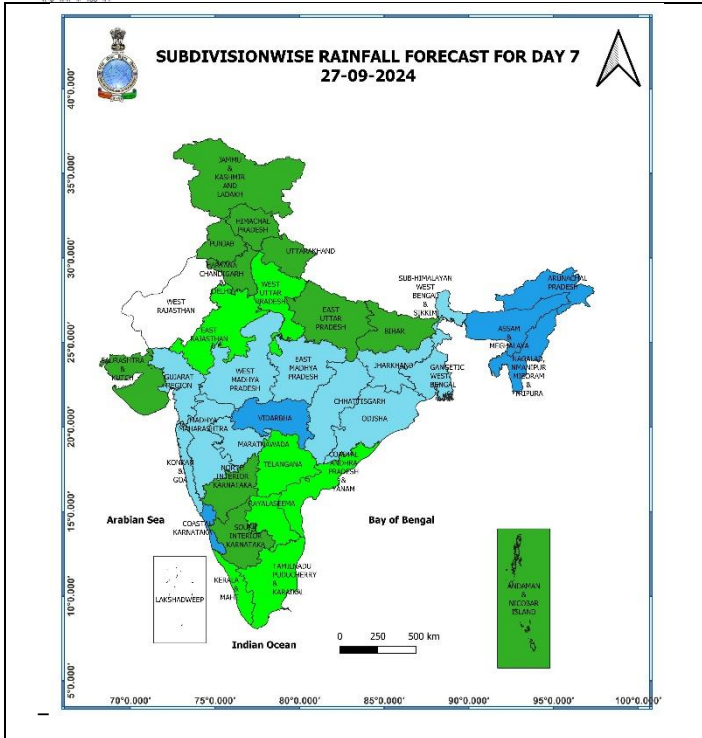
25 September (Day 5):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh, West Bengal & Sikkim, Bihar, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Gujarat Region, Rayalaseema, Telangana.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 40-50 kmph)** very likely at isolated places over Telangana; **gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Madhya Pradesh; **with lightning** likely at isolated places over Himachal Pradesh, Uttarakhand, East Rajasthan, Vidarbha, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Bihar, Jharkhand, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Rayalaseema.
- ❖ **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, most parts of southwest Bay of Bengal, many parts of southeast Bay of Bengal adjoining southern parts of 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 few parts of west central Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas



26 September (Day 6):

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



27 September (Day 7):

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

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

❖ Isolated to Scattered rainfall likely over Central, Eastern 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.



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

- Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Tamil Nadu, Noeth Interior Karnataka, South Interior Karnataka, Andhra Pradesh, Telangana, Arunachal Pradesh, Assam & Meghalaya, NMMT, Odisha, Chhattisgarh, Madhya Pradesh and Maharashtra.
- Provide mechanical support to horticultural crops & staking to vegetables.
- Keep the harvested produce at safer place.

Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

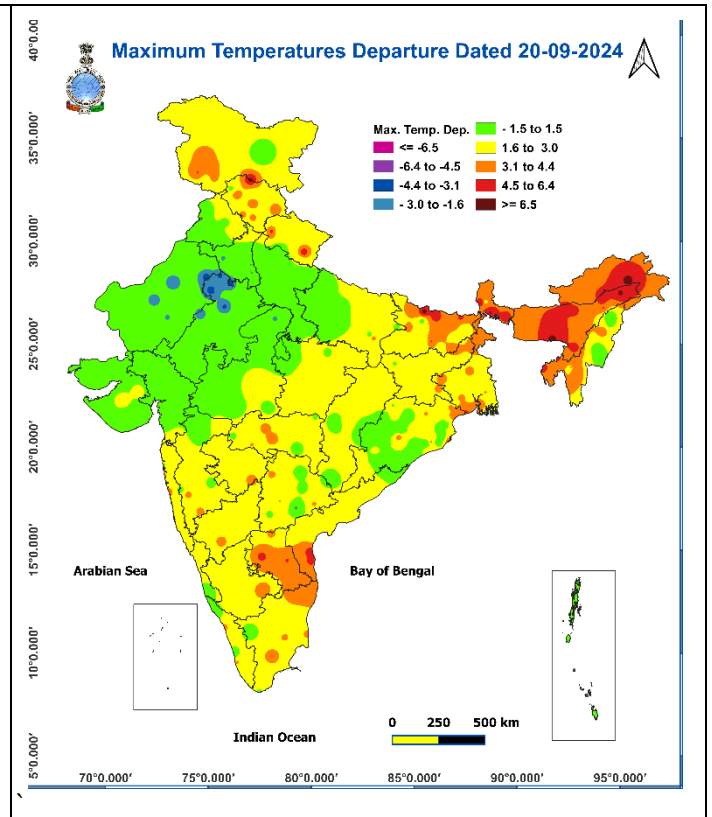
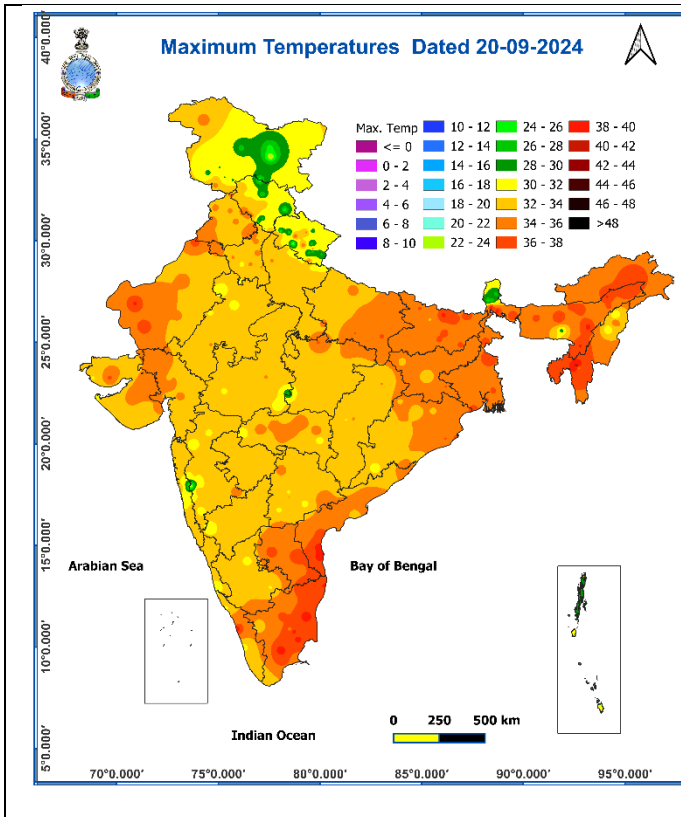


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

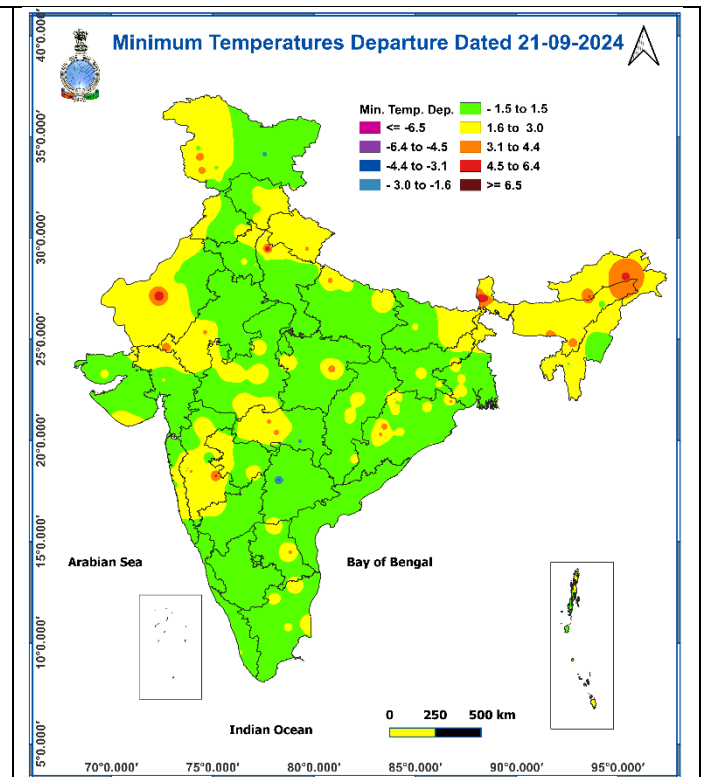
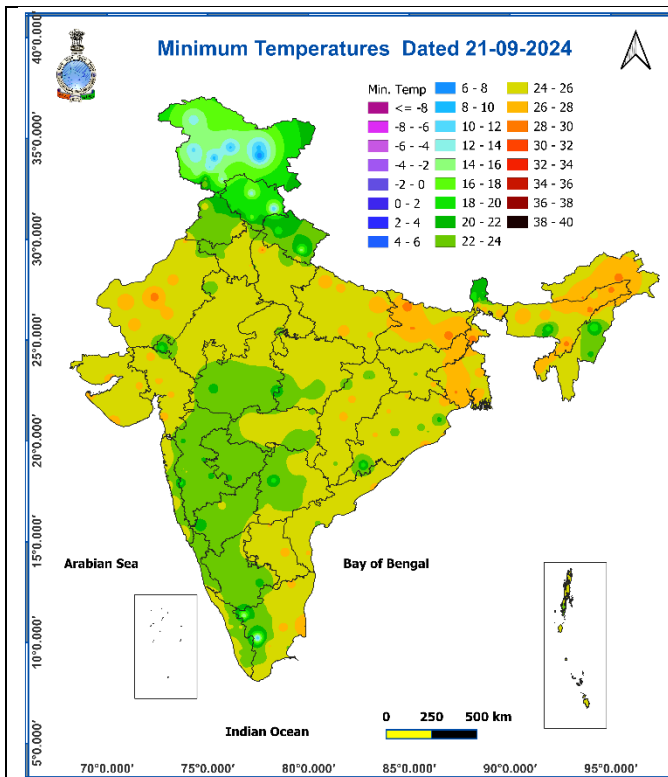
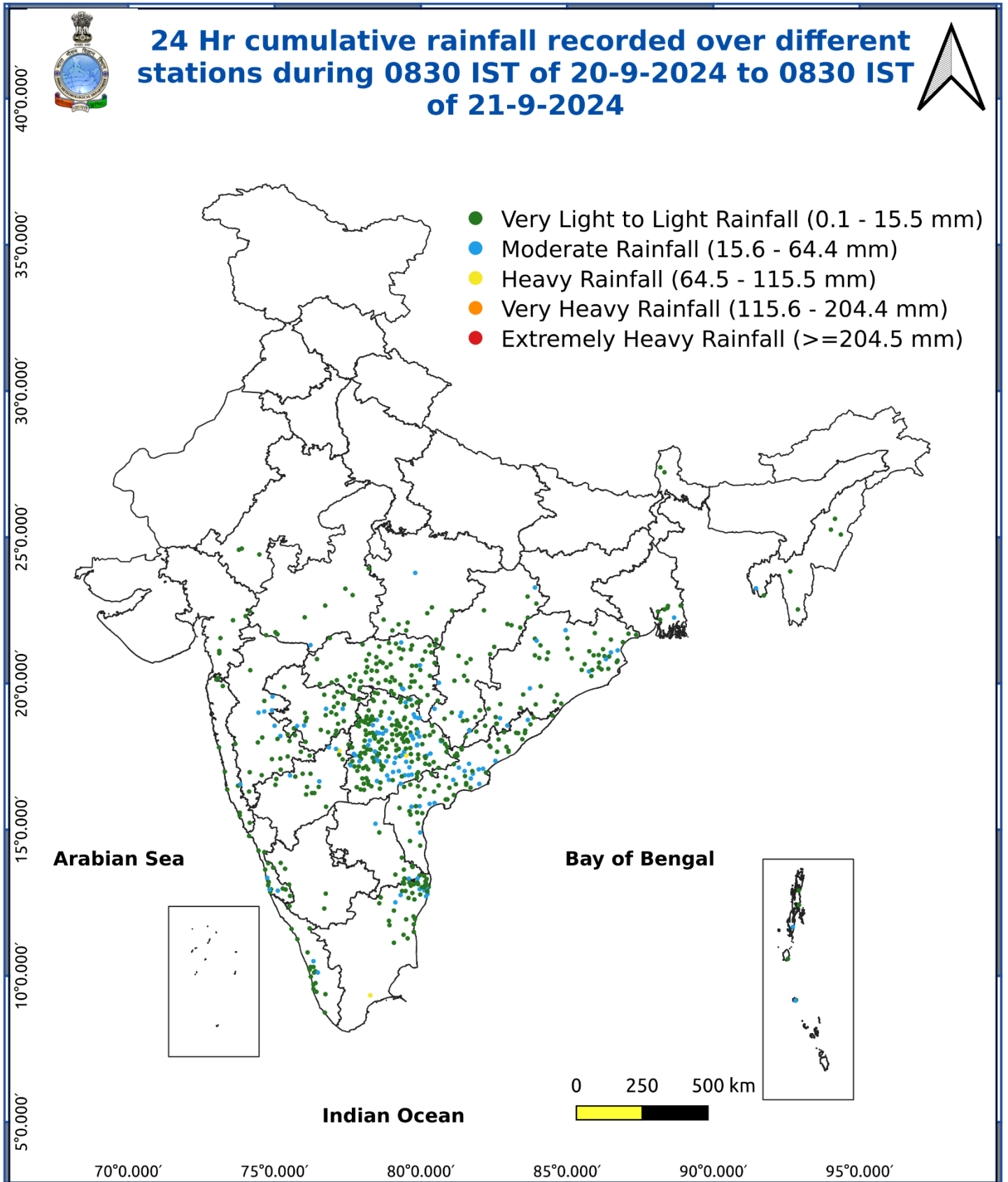


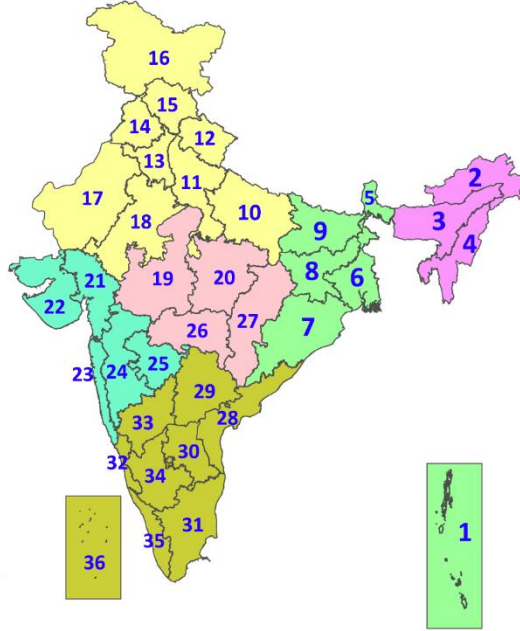
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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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>