

Wednesday, September 11, 2024
Time of Issue: 1345 hours IST
(MID-DAY)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems:

- ✓ Yesterday's **well marked low pressure** area over Northeast Madhya Pradesh and neighbourhood moved nearly north-northwestwards and re-intensified into a **depression** and lay centred at 0830 hours IST of today, the 11th September over Northeast Madhya Pradesh near latitude 24.0°N and longitude 80.0°E, about 60 km east-northeast of Damoh (Madhya Pradesh), 110 km south of Khajuraho (Madhya Pradesh), 110 km southwest of Satna (Madhya Pradesh) and 210 km southeast of Jhansi (Uttar Pradesh). It is likely to move slowly north-northwestwards during next 24 hrs. The system is under continuous surveillance of Doppler Weather Radar at Bhopal (Madhya Pradesh).
- ✓ The **monsoon trough** is active and south of its normal position at mean sea level. It is likely to continue so for next 3-4 days.
- ✓ A cyclonic circulation lies over south Gujarat at lower tropospheric levels.

Forecast & Warnings (upto 7 days)

❖ South Peninsular India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Coastal Karnataka, Kerala & Mahe, Lakshadweep; Scattered to Fairly widespread light/moderate rainfall over Coastal Andhra Pradesh & Yanam, Telangana; isolated to scattered rainfall over Rayalaseema, Tamil Nadu, Puducherry & Karaikal and Interior Karnataka during the week.

East & Northeast India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Nagaland, Manipur, Mizoram & Tripura, Assam & Meghalaya, Andaman & Nicobar Islands, West Bengal & Sikkim, Jharkhand during the week; Scattered to Fairly widespread light/moderate rainfall very likely over Arunachal Pradesh, Bihar, Odisha during the week.
- ✓ **Isolated extremely heavy rainfall very likely over Nagaland, Manipur, Mizoram & Tripura on 13th September.**
- ✓ **Isolated very heavy rainfall** very likely over Assam & Meghalaya on 11th, 13th & 14th; Nagaland, Manipur, Mizoram & Tripura on 13th; Gangetic West Bengal on 13th; Jharkhand on 14th September.
- ✓ **Isolated heavy rainfall** very likely over Assam & Meghalaya during next 7 days; Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura during 11th-16th; Gangetic West Bengal during 12th-14th; Sub-Himalayan West Bengal & Sikkim on 13th; Bihar, Odisha on 13th & 14th; Jharkhand during 13th -15th September.

West & Central India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Central India and Konkan & Goa, Gujarat Region during the week; Isolated to Scattered light/moderate rainfall very likely over Madhya Maharashtra, Marathwada, Saurashtra & Kutch during the week.
- ✓ **Isolated extremely heavy rainfall** very likely over West Madhya Pradesh on 11th & 12th; East Madhya Pradesh on 11th September.
- ✓ **Isolated very heavy rainfall very likely over** West Madhya Pradesh in 13th & 14th; East Madhya Pradesh on 12th; Gujarat Region on 11th September.
- ✓ **Isolated heavy rainfall** very likely over Konkan & Goa on 11th; Madhya Maharashtra on 11th & 12th; Madhya Pradesh during 11th -15th; Chhattisgarh during 15th -17th September.

Northwest India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Uttarakhand, East Rajasthan, Uttar Pradesh, Himachal Pradesh; isolated to scattered rainfall over the remaining region during the week.
- ✓ **Isolated extremely heavy rainfall** very likely over West Uttar Pradesh during 11th -13th; Uttarakhand on 12th & 13th; East Uttar Pradesh on 12th September.
- ✓ **Isolated very heavy rainfall** very likely over Uttarakhand, West Uttar Pradesh, East Rajasthan during 11th -13th; East Uttar Pradesh on 11th & 12th September.
- ✓ **Isolated heavy rainfall** very likely over Punjab on 11th; Uttar Pradesh, East Rajasthan during 11th -15th; Uttarakhand, Haryana-Chandigarh during 11th - 14th; Himachal Pradesh on 12th & 13th; West Rajasthan on 11th & 12th September.

Main Weather Observations:

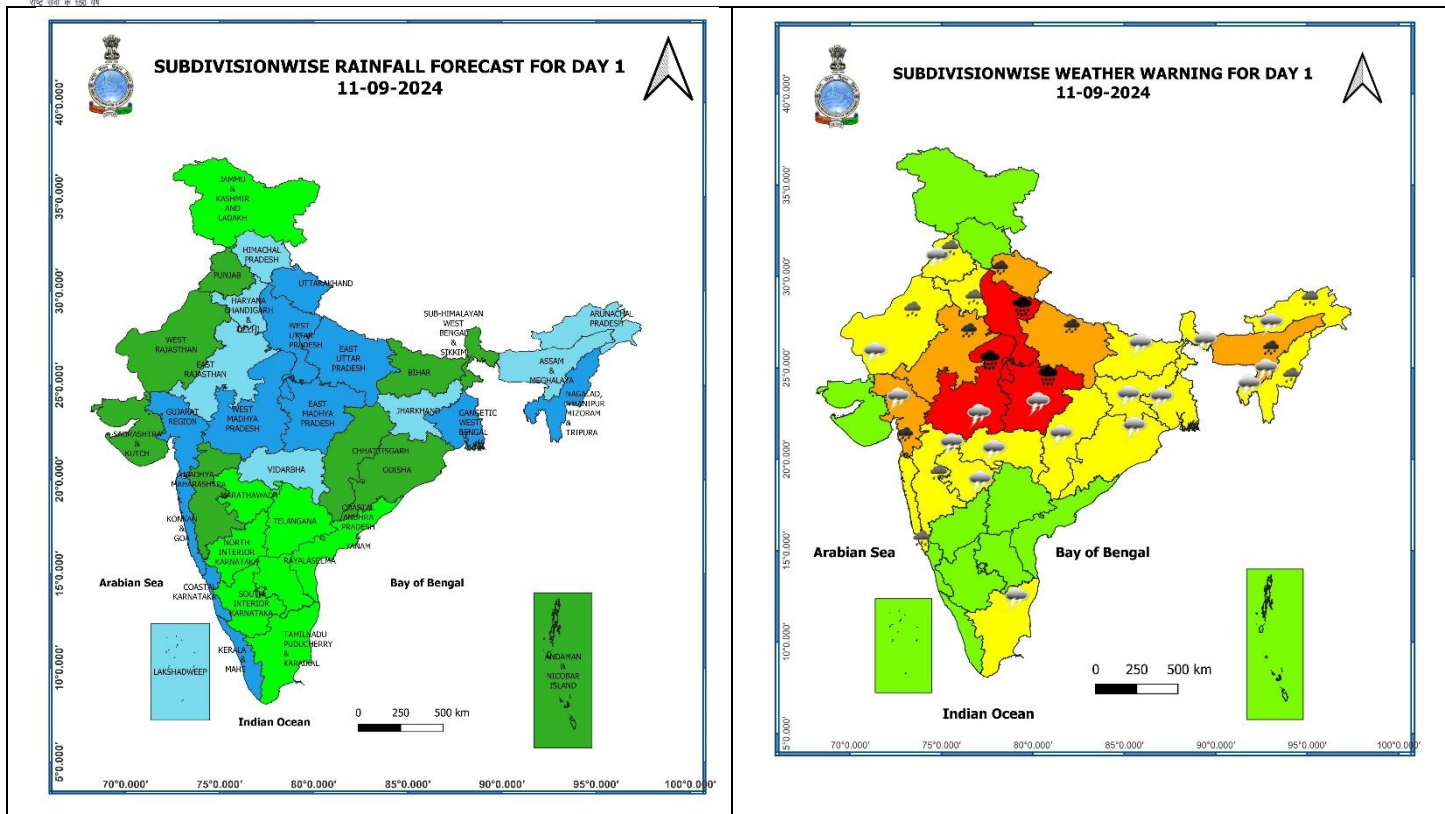
- ❖ **Rainfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): at most places over West Uttar Pradesh, Madhya Pradesh, Vidarbha, Chhattisgarh, Gangetic West Bengal, Jharkhand, Konkan & Goa, Kerala & Mahe, Coastal Karnataka **at many places** over Himachal Pradesh, Uttarakhand, East Uttar Pradesh, West Rajasthan, Arunachal Pradesh, Gujarat Region; **at a few places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Punjab, Haryana-Chandigarh-Delhi, Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim, Bihar, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Interior Karnataka ; **at isolated places** over West Rajasthan, Marathwada, Saurashtra & Kutch, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana.
- ❖ **Heavy rainfall recorded** (from 0830 hours IST of yesterday to 0830 hours IST of today): **Heavy to very heavy rainfall with isolated extremely heavy falls** at a few places over Madhya Pradesh, **Heavy to very heavy rainfall** at isolated places over Chhattisgarh, Arunachal Pradesh, Gujarat Region; **Heavy rainfall** at isolated places over Himachal Pradesh, Punjab, West Uttar Pradesh, Rajasthan, Jharkhand, Assam & Meghalaya and Telangana.
- ❖ **Significant amount of rainfall** (from 0830 hours IST of yesterday to 0830 hours IST of today): (in cm): **East Madhya Pradesh:** Shahgarh (dist Sagar) 30, Patharia (dist Damoh) 28, Buxwaha (dist Chhatarpur) 24, Damoh-aws (dist Damoh) 21, **West Madhya Pradesh:** Udaipura (dist Raisen) 25, Bareli (dist Raisen) 16, Pipariya (dist Narmadapuram) 16, **Gujarat Region:** Valia (dist Bharuch) 15, Umerpada (dist Surat) 14, Chhotaudepur_kvka Aws (dist Chhota Udepur) 8; **Arunachal Pradesh:** Pasighat_ Aero (dist East Siang) 15, Daparijo (dist Upper Subansiri) 9, Naharlagun (dist Papumpara) 7, **Chhattisgarh:** Gandai (dist Khairagarh Chh Gandai) 11, **East Rajasthan:** Khushalgarh (dist Banswara) 11, Banera(dist Bhilwara) 9, Ganeshpur(dist Dungarpur) 8; **Himachal Pradesh:** Nahan (dist Sirmaur) 9; **West Uttar Pradesh:** Mahroni (dist Lalitpur) 9, Muzaffarnagar (dist Muzaffarnagar) 9, **Jharkhand:** Baliapur(dist Dhanbad) 8, Purvi Tundi (dist Dhanbad) 6, **West Rajasthan:** Churu Tehsil(dist Churu) 7, **Telangana:** Jakranpalle (dist Nizamabad) 9; **Jharkhand:** Baliapur(dist Dhanbad) 8, Purvi Tundi (dist Dhanbad) 6, **Punjab:** Samrala (dist Ludhiana) 7, **Assam & Meghalaya:** Dholai (dist Cachar) 7, Naharkatia Arg (dist Dibrugarh) 7,
- ❖ **Minimum Temperature Departures (as on 11-09-2024):** Minimum temperatures are **appreciably above normal (3.1°C to 5.0°C)** at isolated places over East Uttar Pradesh, Andaman & Nicobar Islands and Bihar; **above normal (1.6°C to 3.0°C)** at isolated places over Haryana-Chandigarh-Delhi, East Rajasthan, Gujarat state, Vidarbha, East Madhya Pradesh, Madhya Maharashtra, Marathwada, Odisha, West Bengal & Sikkim, Nagaland, Manipur, Mizoram & Tripura, Odisha, Coastal Andhra Pradesh & Yanam, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe. These are **below normal (-1.6°C to -3.0°C)** at isolated places over Assam & Meghalaya and **near normal** over rest parts of the country. Today, **the lowest minimum temperature of 19.4°C** is reported at **Koraput (Odisha)** over the plains of the country. (Fig.4)
- ❖ **Maximum Temperature Departures (as on 10-09-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over Assam & Meghalaya; at isolated places over Sub-Himalayan West Bengal & Sikkim, Tamil Nadu, Puducherry & Karaikal; **above normal (1.6°C to 3.0°C)** at a few places East Uttar Pradesh; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, West Uttar Pradesh, West Madhya Pradesh, Konkan & Goa, Saurashtra & Kutch, Coastal Andhra Pradesh & Yanam, Gangetic West Bengal. These were **appreciably below normal (-3.1°C to -5.0°C)** at isolated places East Madhya Pradesh, Vidarbha, Chhattisgarh; **below normal (-1.6°C to -3.0°C)** at a few places over Telangana; **at isolated places** over Haryana-Chandigarh-Delhi, East Rajasthan, Odisha and **near normal** over rest parts of the country. Yesterday, **the highest Maximum Temperature** of 39.4°C was reported at **Madurai (Tamil Nadu)** over the country. (Fig. 2)

Meteorological Analysis (Based on 0830 hours IST)

- ❖ The **well marked low pressure** area over Northeast Madhya Pradesh and neighbourhood moved nearly north-northwestwards and re-intensified into a **depression** and lay centred at 0830 hours IST of today, the 11th September over Northeast Madhya Pradesh near latitude 24.0°N and longitude 80.0°E, about 60 km east-northeast of Damoh (Madhya Pradesh), 110 km south of Khajuraho (Madhya Pradesh), 110 km southwest of Satna (Madhya Pradesh) and 210 km southeast of Jhansi (Uttar Pradesh). It is likely to move slowly north-northwestwards during next 24 hrs.
- ❖ The **Monsoon trough** at mean sea level now passes through Bikaner, Sikar, Shivpuri, the centre of **depression** over Northeast Madhya Pradesh and neighbourhood, Pendra Road, Rourkela, Digha and thence southeastwards to central Bay of Bengal and extends upto 1.5 km above mean sea level.
- ❖ The **Western Disturbance** as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level roughly along Long. 72°E to the north of Lat. 28°N persists.
- ❖ The **off-shore trough** at mean sea level now runs along south Gujarat to North Kerala coast.
- ❖ The **cyclonic circulation** over south Gujarat persists and now seen between 3.1 & 5.8 km above mean sea level.
- ❖ The **cyclonic circulation** over northeast Assam now lies over central Assam extends upto 0.9 km above mean sea level.
- ❖ A **cyclonic circulation** lies over central parts of Myanmar extending upto mid tropospheric levels. It is likely to move west-northwest and lies over coastal Bangladesh and adjoining northwest Bay of Bengal during next 2 days.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 18th September, 2024)

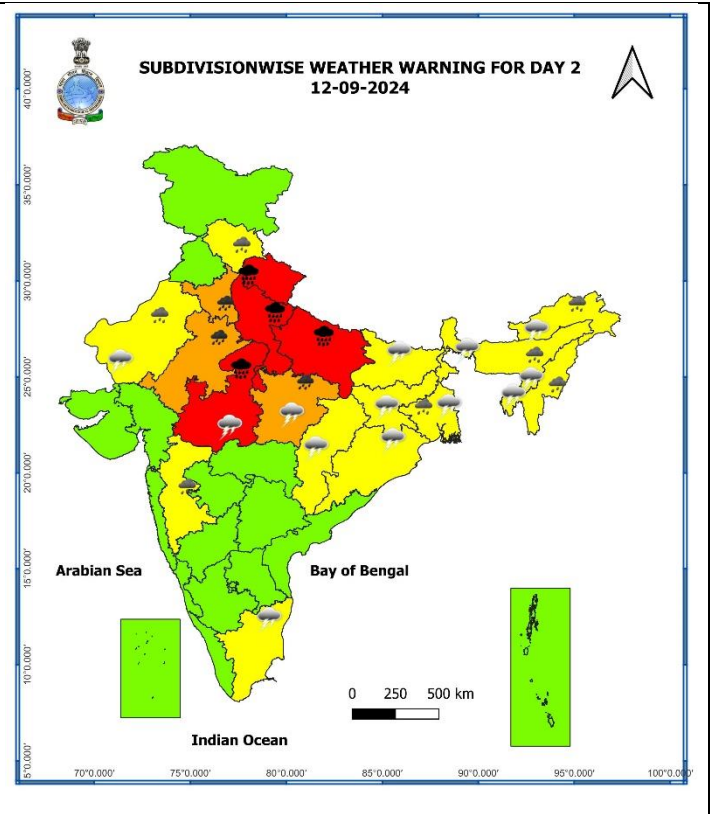
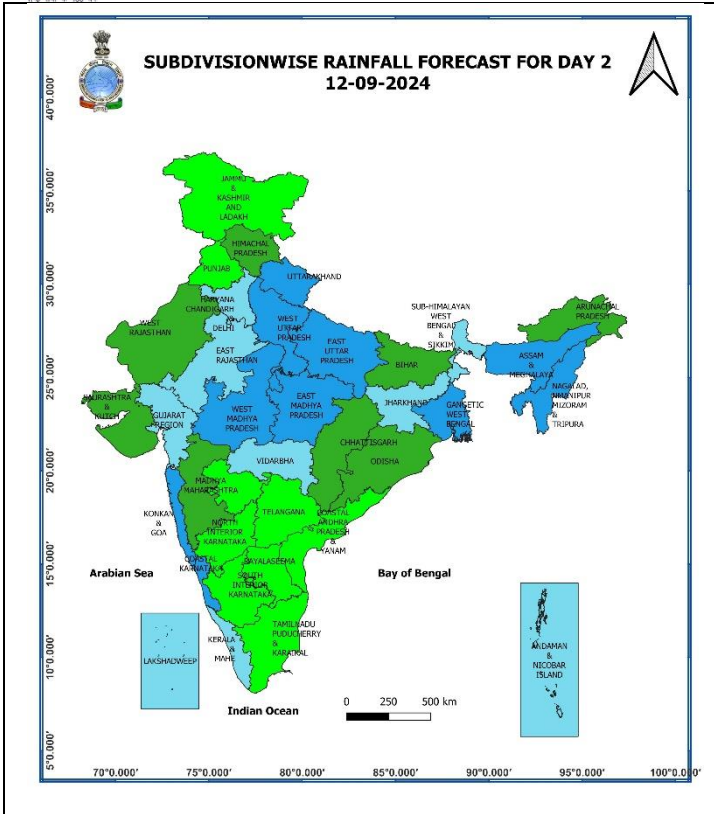
* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.
For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599
(Service to the Nation since 1875)



11 September (Day 1):

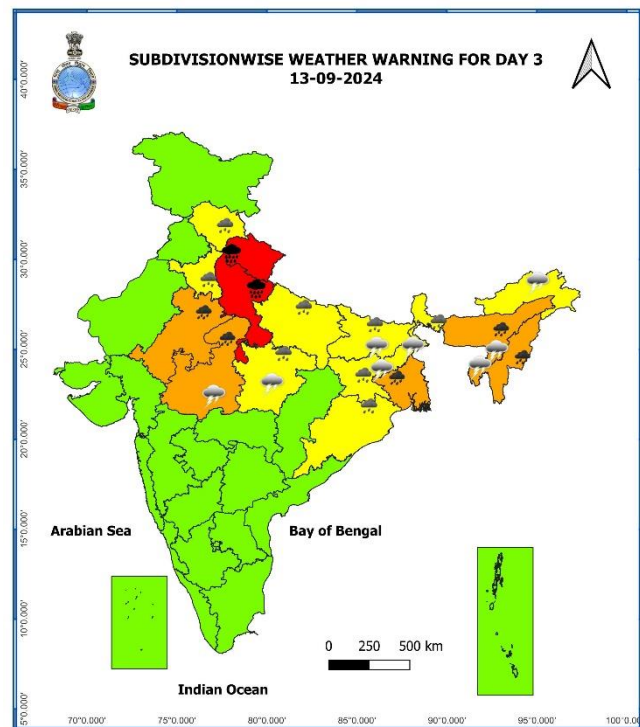
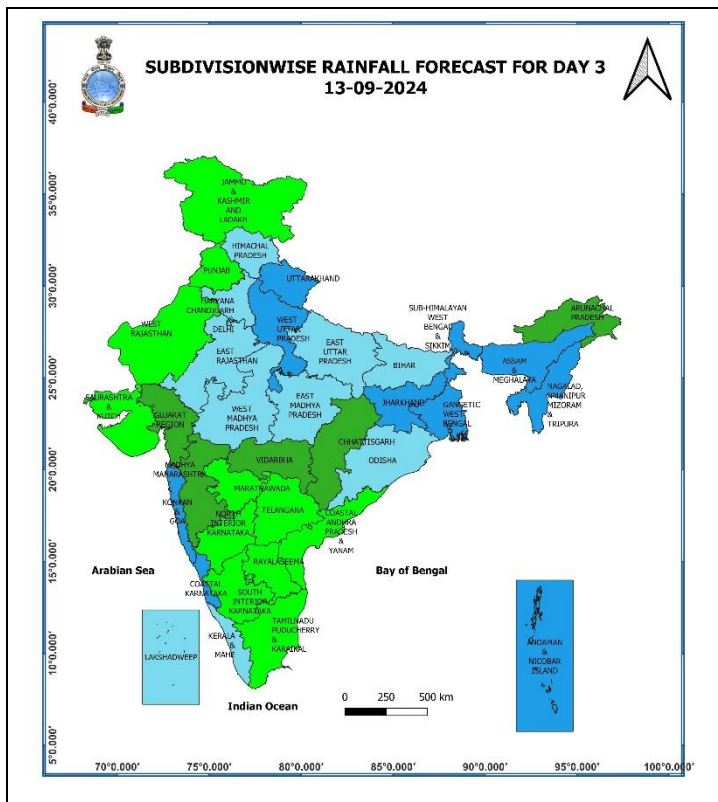
- ❖ **Heavy to very heavy rainfall (≥ 12 cm) with extremely heavy falls (> 20 cm)** very likely at isolated places over Madhya Pradesh, West Uttar Pradesh; **Heavy to very heavy rainfall (≥ 12 cm)** very likely at isolated places over Uttarakhand, East Uttar Pradesh, East Rajasthan, Assam & Meghalaya, Gujarat Region; **Heavy rainfall (≥ 7 cm)** at isolated places over Punjab, Haryana-Chandigarh, West Rajasthan, Arunachal Pradesh, Nagaland, Manipur, Konkan & Goa, Mizoram, Tripura.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Madhya Pradesh, Jharkhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Punjab, Vidarbha, Chhattisgarh, West Bengal & Sikkim, Bihar, Odisha, Arunachal Pradesh, Madhya Maharashtra, Marathwada, Gujarat Region, Tamil Nadu, Puducherry & Karaikal, West Rajasthan.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevail over few parts of east central and west central Arabian sea, northern parts of southwest Arabian sea, off Sri Lanka coast, most parts of south Bay of Bengal, many parts of central Bay of Bengal. **Squally weather with wind speed reaching 45 kmph to 55 kmph gusting to 65 kmph** is likely to prevail over gulf of manner. **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 parts of Westcentral Arabian sea, along and off Somalia coast, along and off Tamil Nadu coast. Fishermen are advised not to venture into these areas.

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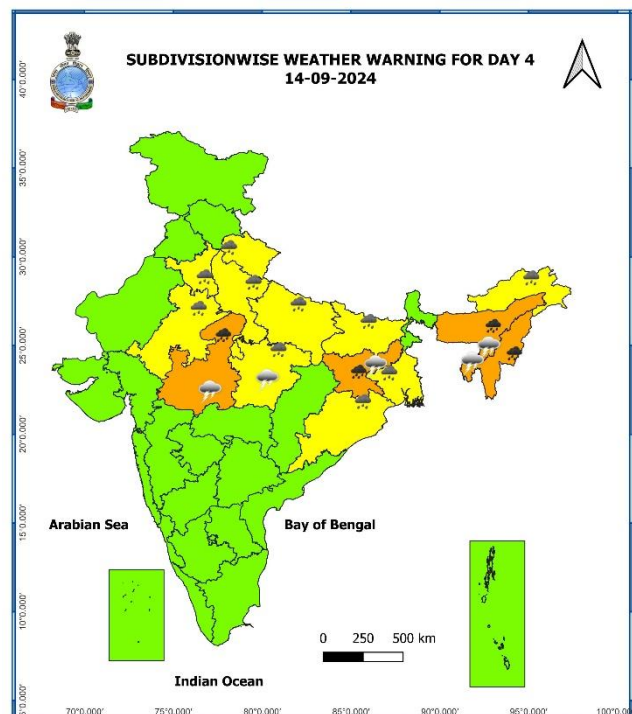
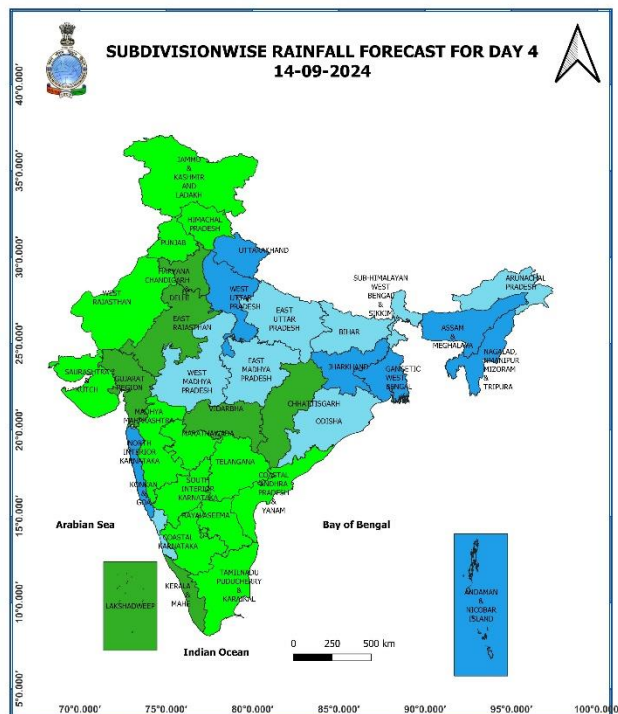
12 September (Day 2):

- ❖ **Heavy to very heavy rainfall (≥ 12 cm) with extremely heavy falls (> 20 cm)** very likely at isolated places over Uttarakhand, Uttar Pradesh, West Madhya Pradesh; **Heavy to very heavy rainfall (≥ 12 cm)** very likely at isolated places over Haryana-Chandigarh, East Rajasthan, East Madhya Pradesh; **Heavy rainfall (≥ 7 cm)** at isolated places over Himachal Pradesh, West Rajasthan, Gangetic West Bengal, Arunachal Pradesh, Assam & Meghalaya, Madhya Maharashtra, Mizoram, Tripura.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Madhya Pradesh, Jharkhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, West Rajasthan, Chhattisgarh, West Bengal & Sikkim, Bihar, Odisha, Arunachal Pradesh, Tamil Nadu, Puducherry & Karaikal.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevail over many parts of west central Arabian sea and adjoining east central Arabian sea, northern parts of southwest Arabian sea, off Sri Lanka coast, many parts of south and central Bay of Bengal, northeast Bay of Bengal. **Squally weather with wind speed reaching 45 kmph to 55 kmph gusting to 65 kmph** is likely to prevail over gulf of manner, Tamil Nadu coast. Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph likely to prevail over western parts of southwest Arabian sea & southwestern parts of Westcentral Arabian sea, along and off Somalia coast. Fishermen are advised not to venture into these areas.



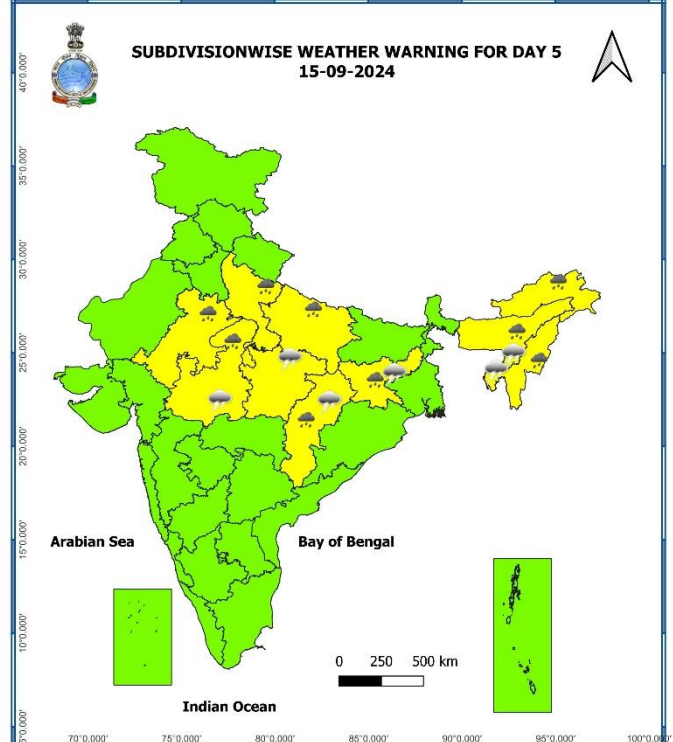
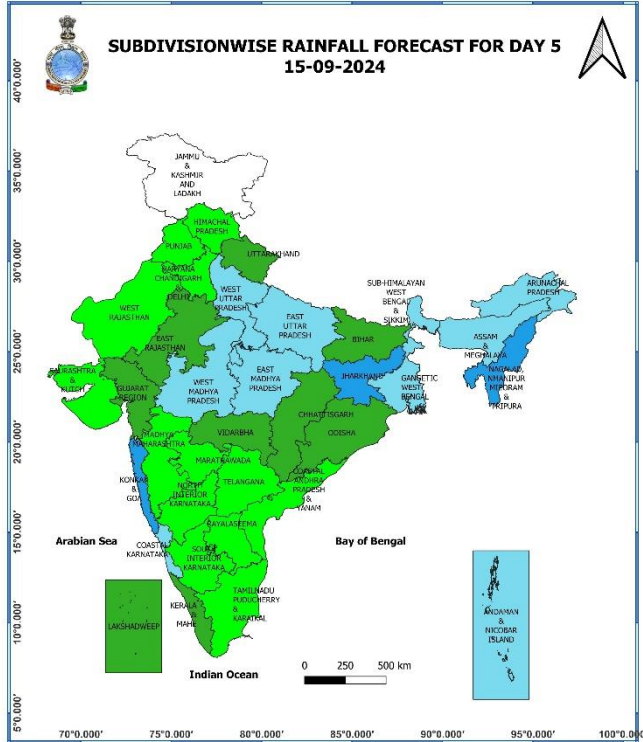
13 September (Day 3):

- ❖ **Heavy to very heavy rainfall (≥ 12 cm) with extremely heavy falls (> 20 cm) very likely at isolated places over Uttarakhand, West Uttar Pradesh; Heavy to very heavy rainfall (≥ 12 cm) very likely at isolated places over East Rajasthan, West Madhya Pradesh, Gangetic West Bengal, Assam & Meghalaya, Mizoram, Tripura; Heavy rainfall (≥ 7 cm) at isolated places over Himachal Pradesh, Haryana-Chandigarh, East Uttar Pradesh, East Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Bihar, Jharkhand, Odisha.**
- ❖ **Thunderstorm accompanied with lightning very likely at isolated places over Madhya Pradesh, Jharkhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim, Bihar, Arunachal Pradesh.**
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph is likely to prevail over central parts of central Arabian sea, over gulf of manner, off Sri Lanka coast, many parts of south and central Bay of Bengal, northeast & adjoining northwest Bay of Bengal, along and off west Bengal coast. Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph likely to prevail over western parts of southwest Arabian sea & southwestern parts of Westcentral Arabian sea, along and off Somalia coast. Fishermen are advised not to venture into these areas.**



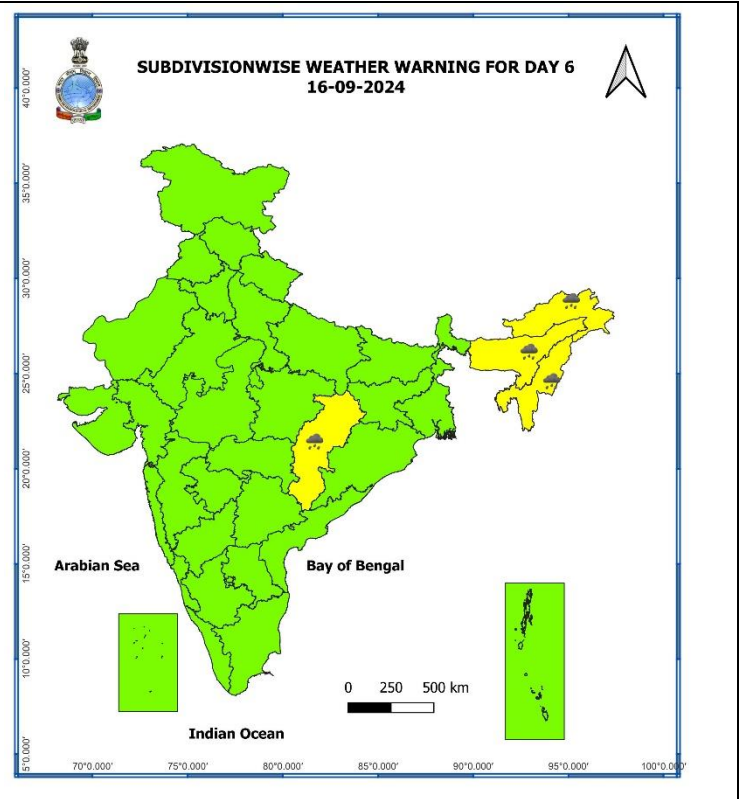
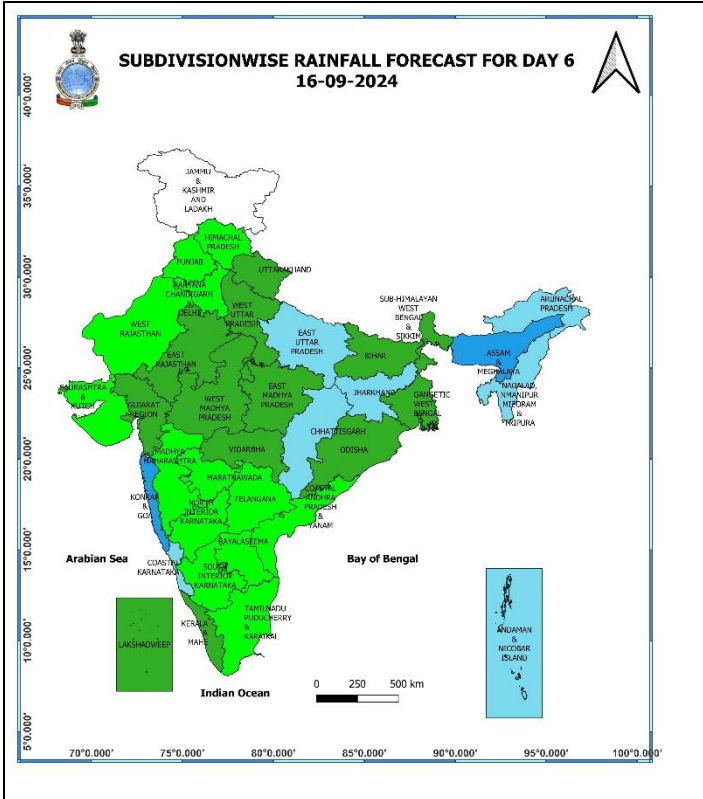
14 September (Day 4):

- ❖ **Heavy to very heavy rainfall (≥ 12 cm)** likely at isolated places over West Madhya Pradesh, Jharkhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura; **Heavy rainfall (≥ 7 cm)** likely at isolated places over Uttarakhnad, Haryana-Chandigarh, Uttar Pradesh, East Rajasthan, East Madhya Pradesh, Gangetic West Bengal, Bihar, Odisha, Arunachal Pradesh.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Madhya Pradesh, Jharkhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevail over central parts of central Arabian sea, over gulf of manner, off Sri Lanka coast, many parts of south and central Bay of Bengal, northeast & adjoining northwest Bay of Bengal, along and off west Bengal coast. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest Arabian sea & southwestern parts of Westcentral Arabian sea, along and off Somalia coast. Fishermen are advised not to venture into these areas.



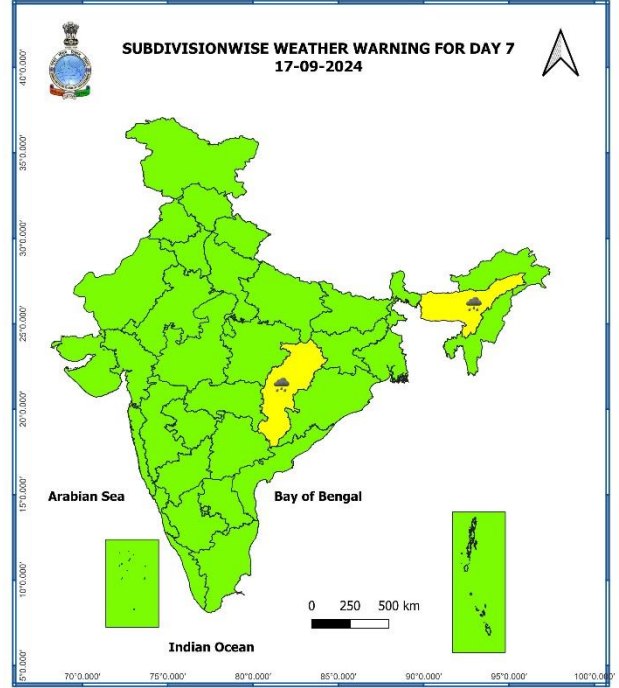
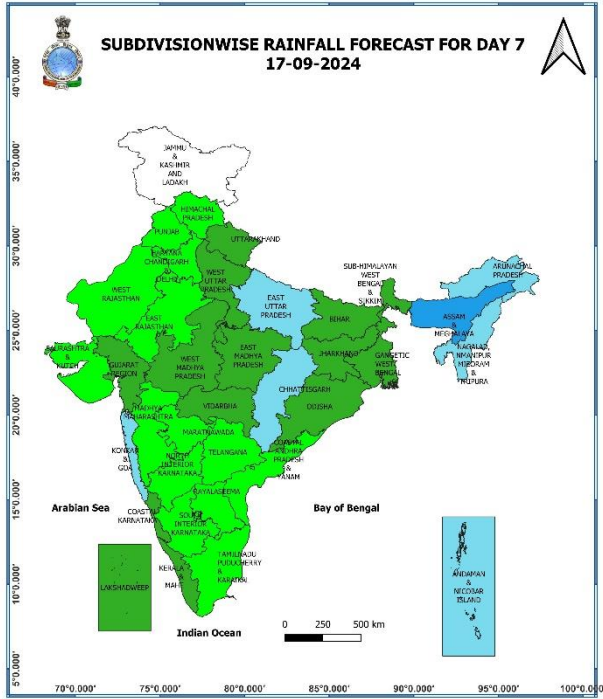
15 September (Day 5):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Uttar Pradesh, West Madhya Pradesh, Chhattisgarh, Jharkhand, Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Madhya Pradesh, Jharkhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Chhattisgarh.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevail over many parts of west central Arabian sea and adjoining parts of east central Arabian sea, over gulf of manner, off Sri Lanka coast, most parts of south and central Bay of Bengal. **Squally weather with wind speed reaching 45 kmph to 55 kmph gusting to 65 kmph** is likely to prevail over many parts of southeast Bay of Bengal & adjoining parts. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest and Westcentral Arabian sea, along and off Somalia coast.



16 September (Day 6):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Chhattisgarh, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.



17 September (Day 7):

- ❖ Heavy rainfall (≥ 7 cm) likely at isolated places over Assam & Meghalaya, Chhattisgarh.

Weather Outlook for subsequent 3 days (During 18th September– 20th September, 2024)

- ❖ Fairly widespread to widespread rainfall likely over most parts of the country except Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Rajasthan, Punjab, Tamil Nadu, Puducherry & Karaikal where isolated to scattered rainfall likely.

- 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 **extremely heavy rainfall** very likely over West Uttar Pradesh during 11th -13th; Uttarakhand on 12th & 13th; East Uttar Pradesh on 12th September. West Madhya Pradesh on 11th & 12th; East Madhya Pradesh on 11th; **Nagaland, Manipur, Mizoram & Tripura on 13th September.**
- ✓ **Very heavy rainfall** at isolated places over Mizoram & Tripura, Gujarat Region on 11th; Uttarakhand, West Uttar Pradesh, East Rajasthan during 11th -13th; East Uttar Pradesh on 11th & 12th; West Madhya Pradesh in 13th & 14th; East Madhya Pradesh on 12th; Assam & Meghalaya on 11th, 13th & 14th; Nagaland, Manipur, Mizoram & Tripura during 12th -14th; Gangetic West Bengal on 13th; Jharkhand on 14th September.
- ✓ **Moderate to High flash flood risk** likely over West Uttar Pradesh, Madhya Pradesh on 11th & 12th September. **(ANNEXURE IV)**

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 cotton, maize, soybean, pulses and vegetables in **Madhya Pradesh**; from maize, sorghum, pearl millet, groundnut, pulses and vegetables in **East Rajasthan**; from rice, groundnut, sesame, arhar, black gram and vegetables in **West Uttar Pradesh**; from rice, banana, cotton, pigeon pea, castor in **Gujarat** region to prevent water logging.
- Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Arunachal Pradesh, Uttarakhand, Konkan & Goa and Madhya Maharashtra.
- Provide mechanical support to horticultural crops & staking to vegetables.
- Keep the harvested produce at safer place.

Flash Flood Guidance:

24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 12-09-2024 :

Moderate to High flash flood risk likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 24 hours.

West Uttar Pradesh - Hamirpur, Jalaun, Jhansi and Lalitpur districts.

East Madhya Pradesh - Damoh and Sagar districts.

West Madhya Pradesh - Agar-Malwa, Ashoknagar, Bhind, Bhopal, Guna, Gwalior, Jhabua, Mandsaur, Morena, Nimach, Raisen, Rajgarh, Ratlam, Sehore, Shajapur, Sheopur, Shivpuri and Videsha districts.

Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 24 hours.

West Uttar Pradesh - Agra, Firozabad and Mainpuri districts.

Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.

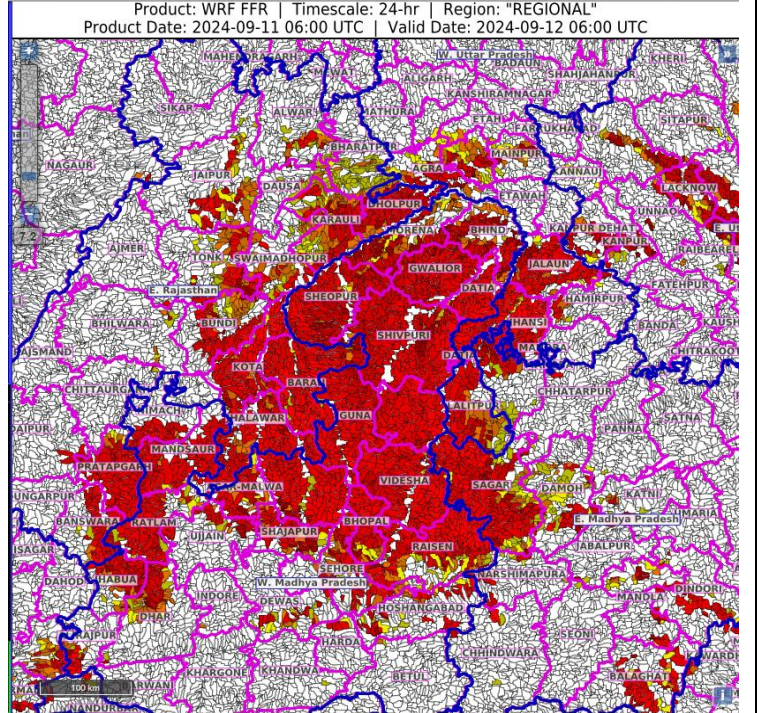


Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

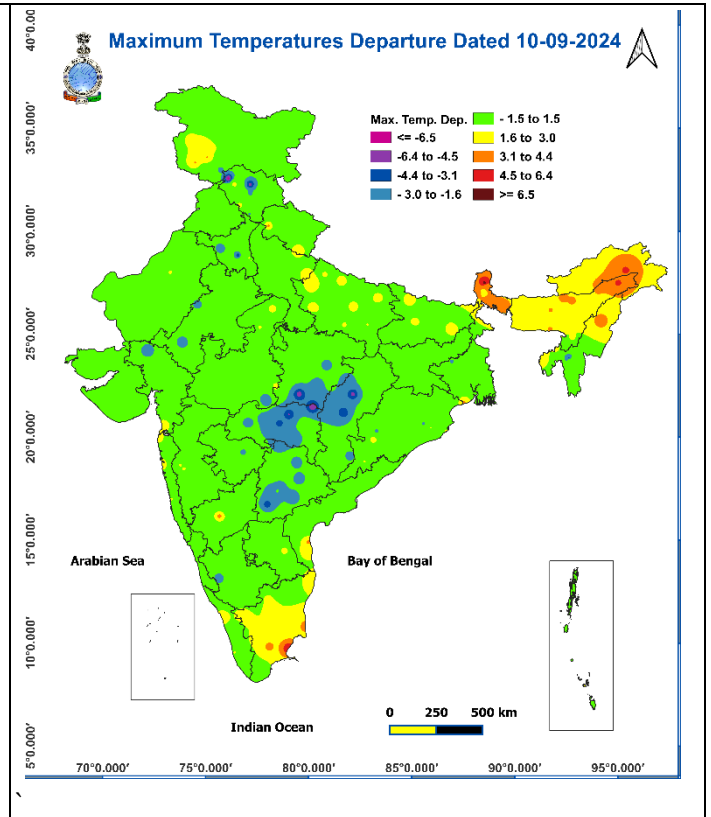
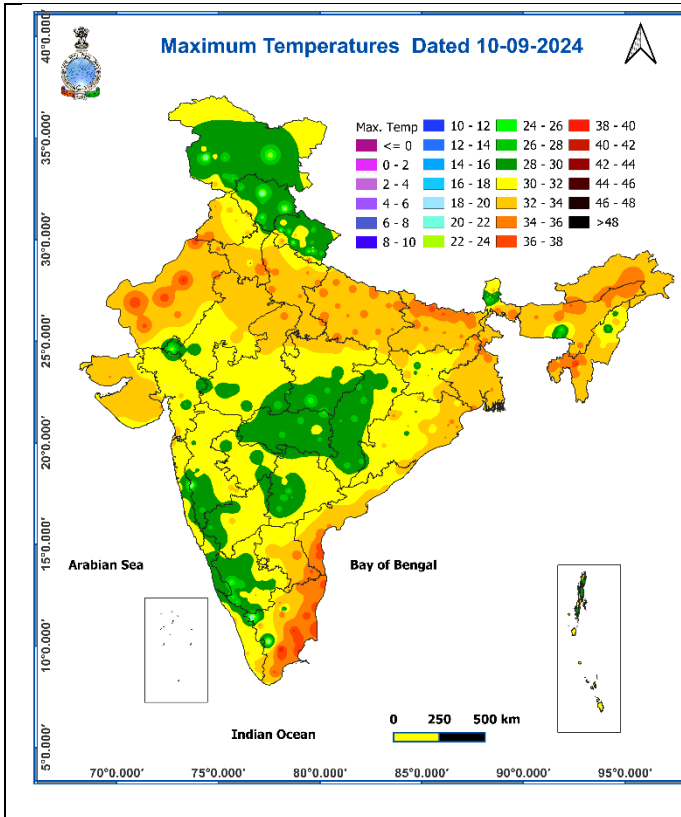


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

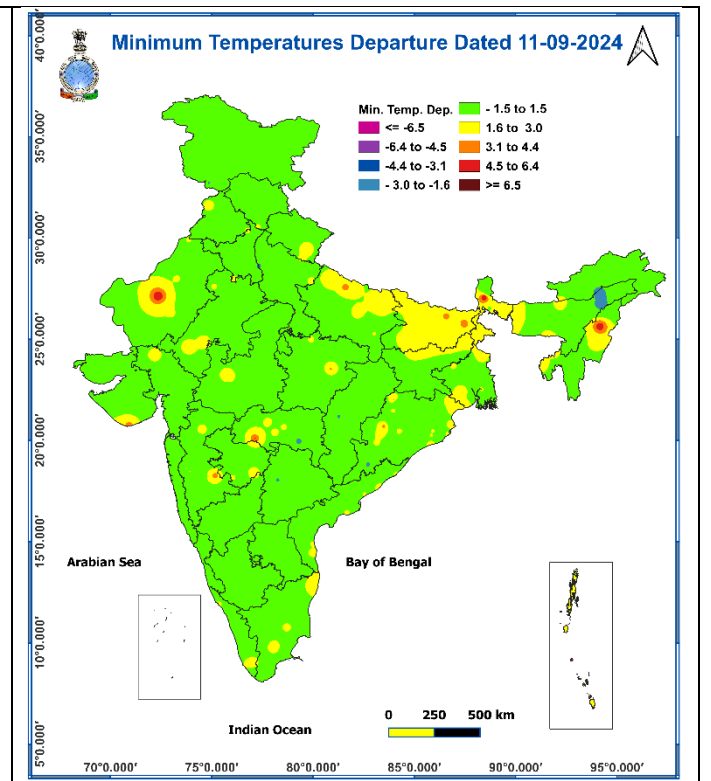
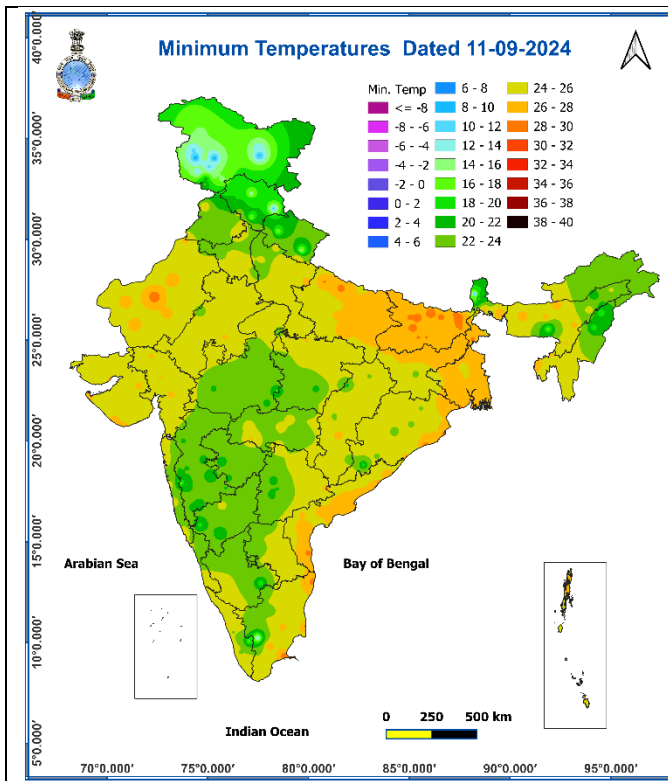
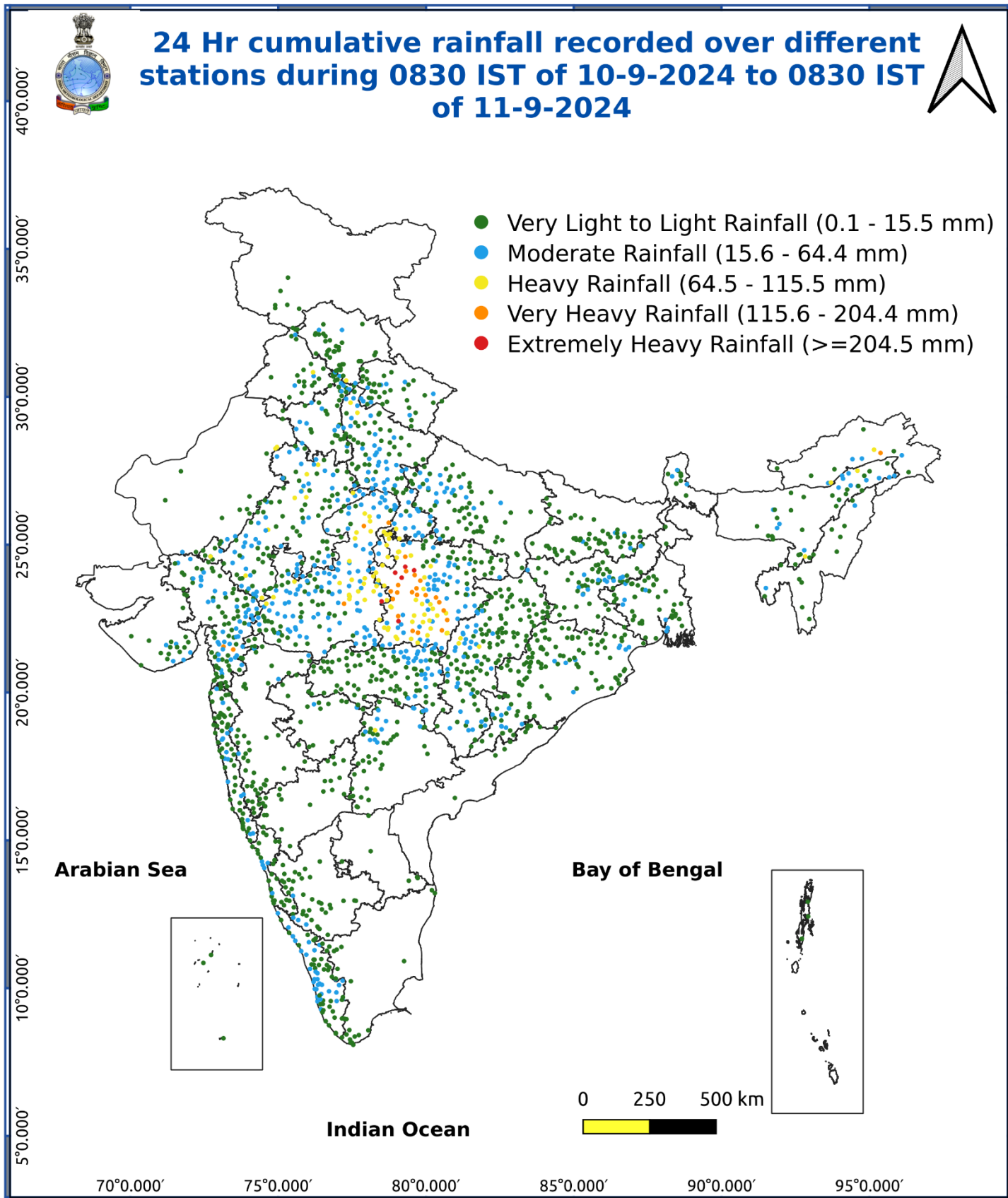


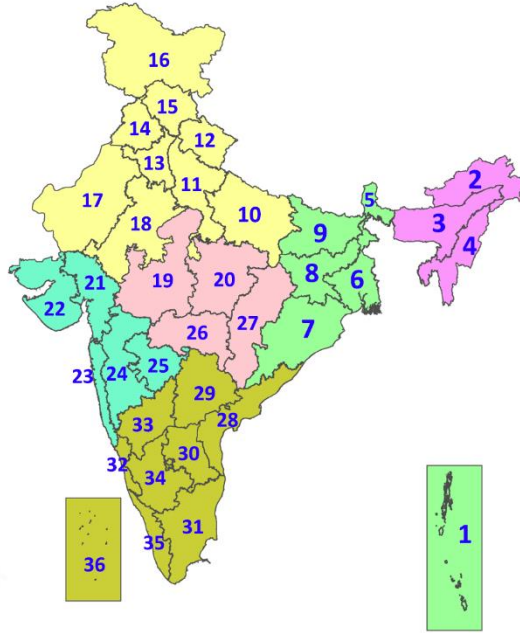
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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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 *

Heavy: 64.5 to 115.5 mm/cm *
Very Heavy: 115.6 to 204.4 mm/cm*
Extremely Heavy: > 204.4 mm/cm *

Heat Wave

When maximum temperature of a station reaches $\geq 40^\circ\text{C}$ for plains and $\geq 30^\circ\text{C}$ for hilly regions
(a) Based on Departure from normal

Heat Wave: Maximum Temperature Departure from normal 4.5°C to 6.4°C .

Severe Heat Wave: Maximum Temperature Departure from normal $\geq 6.5^\circ\text{C}$

(b). Based on Actual maximum temperature

Heat Wave: When actual maximum temperature $\geq 45^\circ\text{C}$.

Severe Heat Wave: When actual maximum temperature $\geq 47^\circ\text{C}$

(c) Criteria for heat wave for coastal stations

When maximum temperature departure is $> 4.5^\circ\text{C}$ from normal. Heat Wave may be described provided maximum temperature $\geq 37^\circ\text{C}$

Warm Night

When maximum temperature remains 40°C

Warm Night: When minimum temperature departure 4.5°C to 6.4°C .

Severe Warm Night: When minimum temperature departure $> 6.4^\circ\text{C}$.

Cold Wave

When minimum temperature of a station $\leq 10^\circ\text{C}$ for plains and $\leq 0^\circ\text{C}$ for hilly regions.
(a). Based on departure

Cold Wave: Minimum Temperature Departure from normal -4.5°C to -6.4°C .

Severe Cold Wave: Minimum Temperature Departure from normal $\leq -6.5^\circ\text{C}$

(b) Based on actual Minimum Temperature (for Plains only)

Cold Wave : When Minimum Temperature is $\leq 4.0^\circ\text{C}$

Severe Cold Wave: When Minimum Temperature is $\leq 2.0^\circ\text{C}$

(c) For Coastal Stations

When Minimum Temperature departure is $\leq -4.5^\circ\text{C}$ & actual Minimum Temperature is $\leq 15^\circ\text{C}$

Cold Day

When minimum temperature of a station $\leq 10^\circ\text{C}$ for plains and $\leq 0^\circ\text{C}$ for hilly regions
Based on departure

Cold Day: Maximum Temperature Departure from normal -4.5°C to -6.4°C .

Severe Cold Day: Maximum Temperature Departure from normal $\leq -6.5^\circ\text{C}$

Fog

Phenomenon of small droplets suspended in air and the horizontal visibility $< 1\text{km}$

Moderate Fog: When the visibility between 500-200 metres

Dense Fog: when the visibility between 50- 200 metres

Very Dense Fog: when the visibility < 50 metres

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)