

Wednesday, September 11, 2024
Time of Issue: 0800 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems:

- ✓ The **well marked low pressure area** over Northeast Madhya Pradesh and neighbourhood persists at 0530 hours IST of today, the 11th September. The associated cyclonic circulation extends upto mid tropospheric level. It is likely to intensify into a depression over the same region during next 12 hours.
- ✓ 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.
- ✓ Isolated **heavy rainfall** very likely over South Interior Karnataka on 11th; Coastal Karnataka on 11th on 12th September.

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 Tripura, Mizoram and south Manipur on 13th September.
- ✓ Isolated **very heavy rainfall** very likely over Assam & Meghalaya on 13th & 14th; south Mizoram on 12th September.
- ✓ Isolated **heavy rainfall** very likely over Assam & Meghalaya during next 6 days; Arunachal Pradesh during 13th - 17th; Nagaland, Manipur, Mizoram & Tripura during 11th -14th; West Bengal & Sikkim, Bihar, Odisha during 12th - 14th; Jharkhand on 13th & 14th September.

West & Central India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Central India and Konkan & Goa during the week; Scattered to Fairly widespread light/moderate rainfall very likely over Madhya Maharashtra, Marathwada, Gujarat State during the week.
- ✓ Isolated **extremely heavy rainfall** very likely over West Madhya Pradesh on 11th September.
- ✓ Isolated **very heavy rainfall** very likely over Vidarbha on 11th; Madhya Pradesh during 11th -14th September.
- ✓ Isolated **heavy rainfall** very likely over Madhya Pradesh during next 7 days; Konkan & Goa, ghats areas of Madhya Maharashtra, Gujarat Region on 11th; Chhattisgarh during 14th -17th September.

Northwest India

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

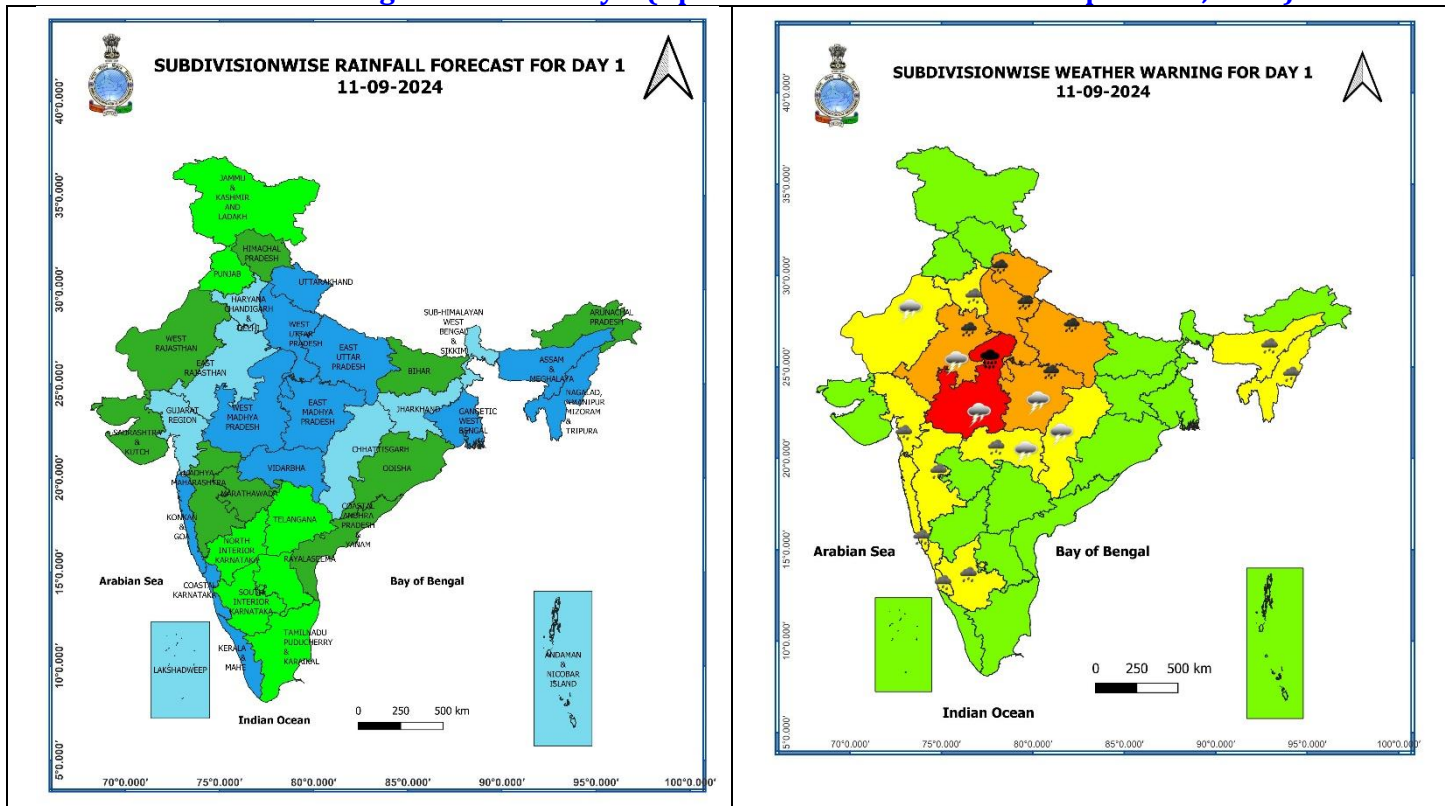
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at many places** over Andaman & Nicobar Islands Uttarakhand, Kerala & Mahe ; **at a few places** over Telangana, Madhya Pradesh, Chhattisgarh, Jharkhand, Bihar, Gangetic West Bengal, Gujarat Region, Konkan & Goa, Madhya Maharashtra, Uttar Pradesh, Himachal Pradesh, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Haryana-Chandigarh-Delhi, Assam & Meghalaya, East Rajasthan, Punjab; **at isolated places** over Sub-Himalayan West Bengal & Sikkim, Nagaland, Manipur, Mizoram & Tripura, Saurashtra & Kutch, South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal, West Rajasthan.
- ❖ **Heavy rainfall recorded** (from 0830 hours IST to 1730 hours IST of yesterday): **Heavy to very heavy rainfall** at isolated places over East Madhya Pradesh; **Heavy rainfall** at isolated places West Uttar Pradesh, East Rajasthan, Gujarat state.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **East Madhya Pradesh:** Seoni 16, Malanjhand 8, Mandla 7, Chhindwara 6; **Gujarat State:** Surat 9, Navsari 6, Chhotaudepur 6, Patan 3 Ahmadabad 3, Dahod 2; **West Uttar Pradesh:** Muzaffarnagar 9, **East Rajasthan:** Churu 7, Ajmer 4, Mount Abu 3; **Meghalaya:** Barapani 4; **Himachal Pradesh:** Dharmsala 4; **Uttarakhand:** Dehradun 3; **Vidarbha:** Gondia 3; **Kerala:** Ayyankunnu, Aralam, and Panniyoor, 3 each; Pinarayi, 2 **Jharkhand:** Ranchi 2.
- ❖ **Minimum Temperature Departures (as on 10-09-2024):** Minimum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over East Rajasthan and Bihar; **above normal (1.6°C to 3.0°C)** at a few places over West Rajasthan, Himachal Pradesh, Vidarbha; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Madhya Pradesh, Odisha, Coastal Andhra Pradesh & Yanam, Madhya Maharashtra, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Assam & Meghalaya, Rayalaseema, Kerala & Mahe and Gujarat state. These were **below normal (-1.6°C to -3.0°C)** at isolated places over Chhattisgarh and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature of 18.8°C** was reported at **Bulsar (Gujarat Region)** 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 0530 hours IST)

- ❖ The **well marked low pressure** area over Northeast Madhya Pradesh and neighbourhood persists at 0530 hours IST of today, the 11th September. The associated **cyclonic circulation** extends upto mid tropospheric level. It is likely to intensify into a depression over the same region during next 12 hours.
- ❖ The **Monsoon trough** at mean sea level now passes through Bikaner, Kota, Guna, the centre of **well marked low pressure area** over Northeast Madhya Pradesh and neighbourhood, Ambikapur, Jamshedpur, 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 now runs roughly along Long. 72°E to the north of Lat. 28°N.
- ❖ The **off-shore trough** at mean sea level along south Gujarat to central Kerala coast persists.
- ❖ The **cyclonic circulation** over south Gujarat at 3.1km above mean sea level persists.
- ❖ The **cyclonic circulation** over northeast Assam extending upto 3.1km above mean sea level persists.

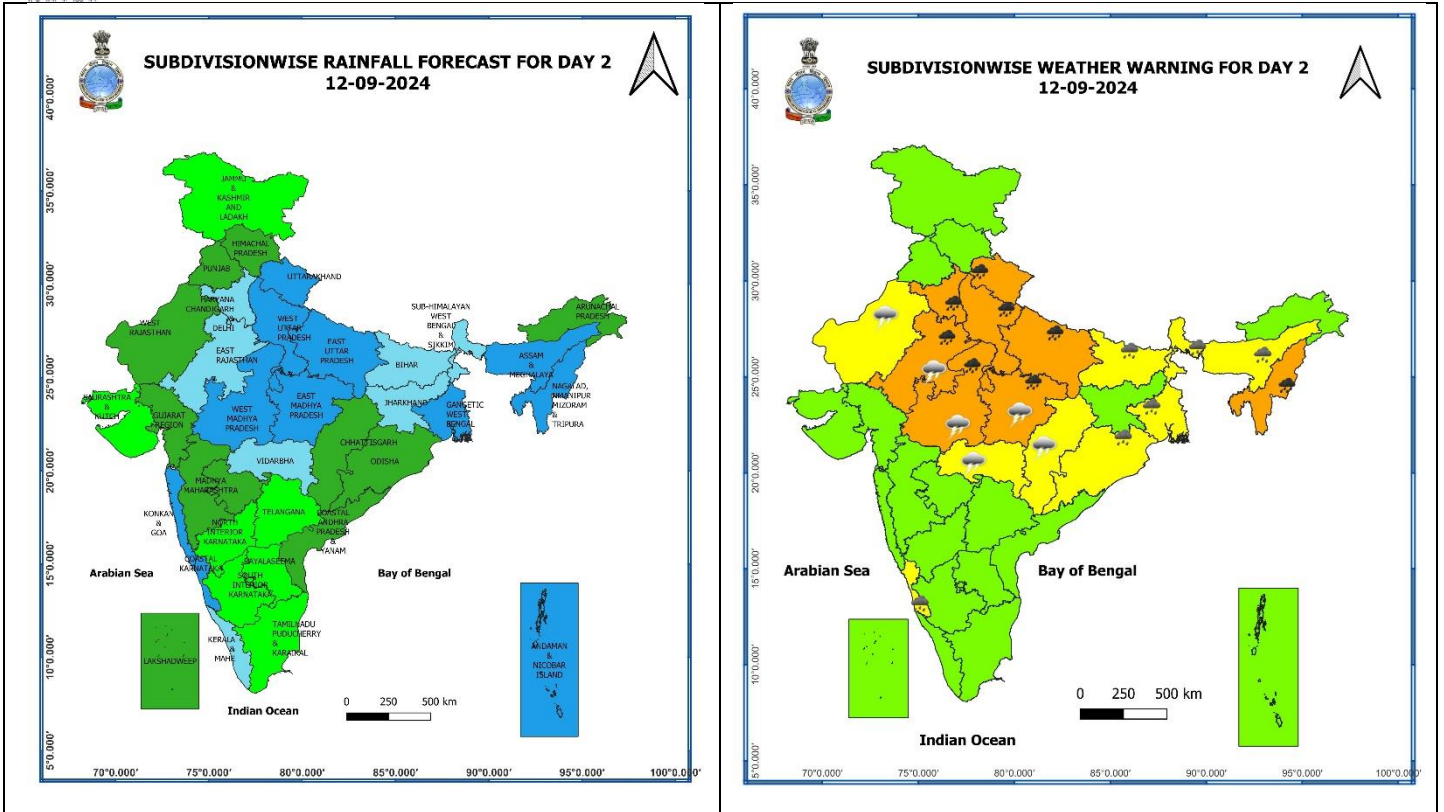
Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 18th September, 2024)



11 September (Day 1):

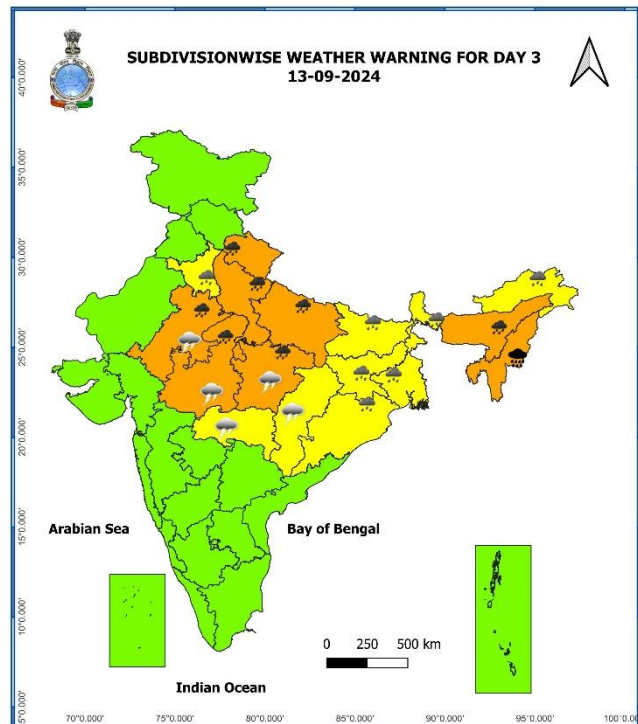
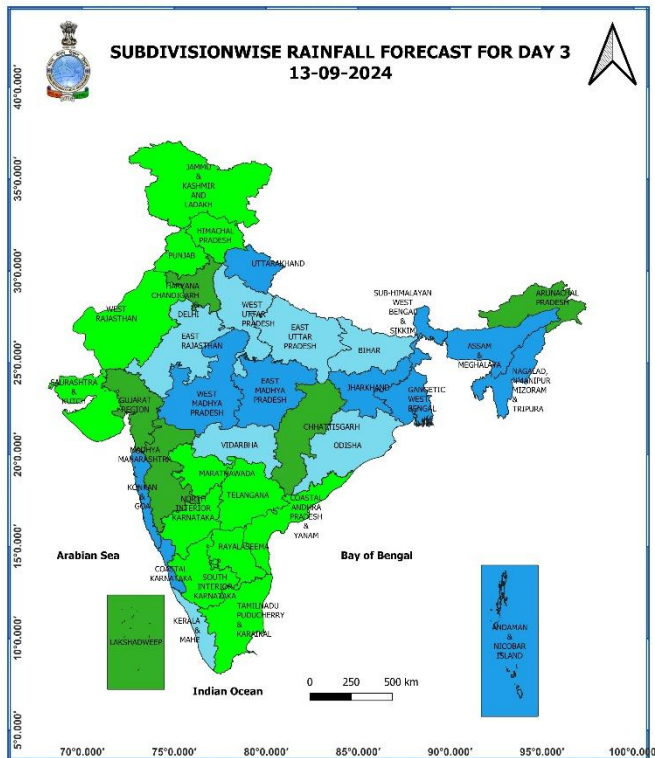
- ❖ **Heavy to very heavy rainfall (≥ 12 cm) with extremely heavy falls (> 20 cm)** very likely at isolated places over West Madhya Pradesh; **Heavy to very heavy rainfall (≥ 12 cm)** very likely at isolated places over Uttarakhand, Uttar Pradesh, East Rajasthan, Vidarbha and East Madhya Pradesh; **Heavy rainfall (≥ 7 cm)** at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, ghat areas of Madhya Maharashtra, Gujarat Region, Coastal & South Interior Karnataka, Uttarakhand and Haryana-Chandigarh-Delhi.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh, and Rajasthan.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** is very likely to prevail over few parts of east central and west central Arabian sea, northern parts of southwest and adjoining south east Arabian sea, off Sri Lanka coast, many parts of south Bay of Bengal, most parts of central Bay of Bengal and adjoining parts of northwest Bay of Bengal, off north Andhra Pradesh coast. **Squally weather with wind speed reaching 45 kmph to 55 kmph gusting to 65 kmph** is likely to prevail over gulf of Mannar. **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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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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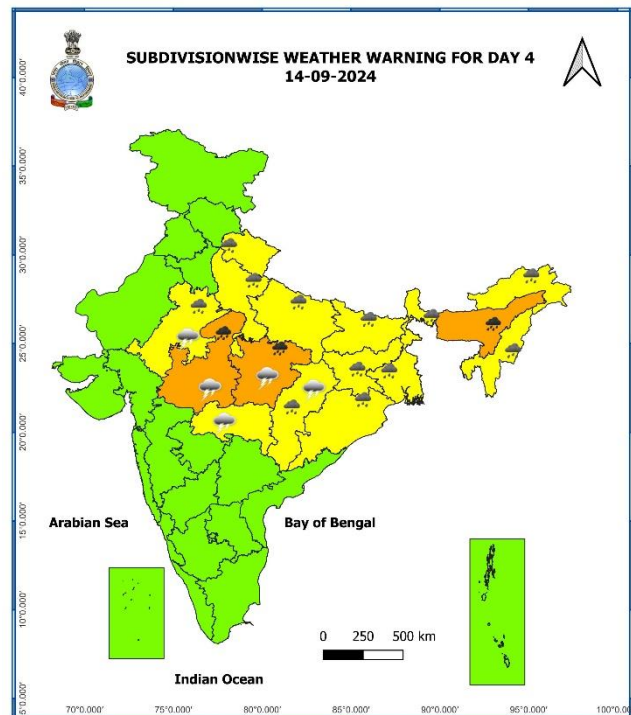
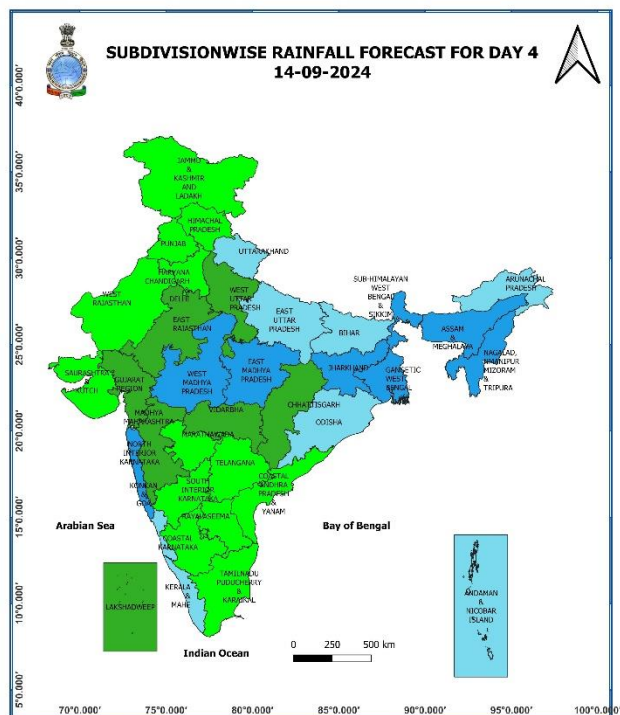
12 September (Day 2):

- ❖ **Heavy to very heavy rainfall (≥ 12 cm)** very likely at isolated places over Madhya Pradesh, Uttarakhand, Haryana-Chandigarh-Delhi, Uttar Pradesh, East Rajasthan and south Mizoram; **Heavy rainfall (≥ 7 cm)** at isolated places over Assam & Meghalaya, West Bengal & Sikkim, Bihar, Odisha and Coastal Karnataka.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Madhya Pradesh, Chhattisgarh and Rajasthan.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** is very likely to prevail over many parts of central Arabian sea, northern parts of southwest & adjoining southeast Arabian sea, over gulf of Mannar, off Sri Lanka coast, many 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 & adjoining parts of 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 & southwestern parts of westcentral Arabian sea, along and off Somalia coast. Fishermen are advised not to venture into these areas.



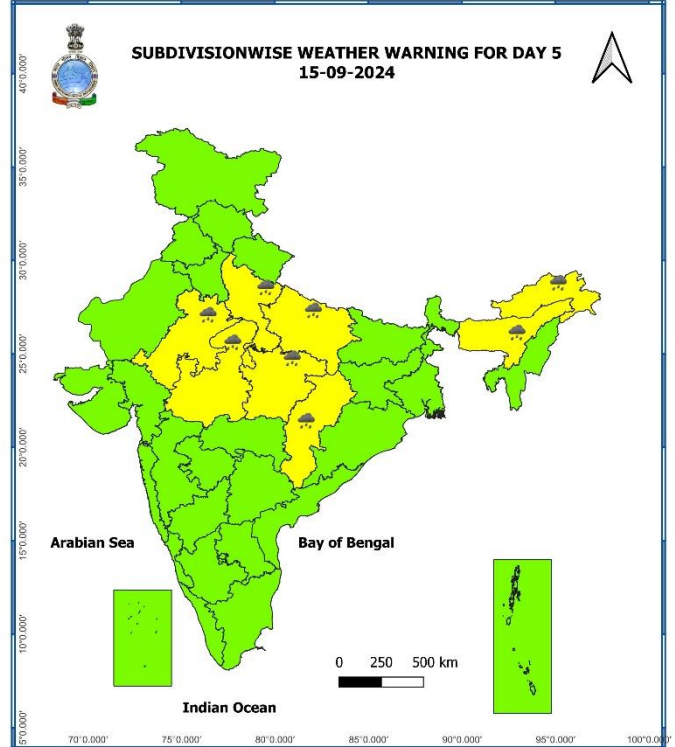
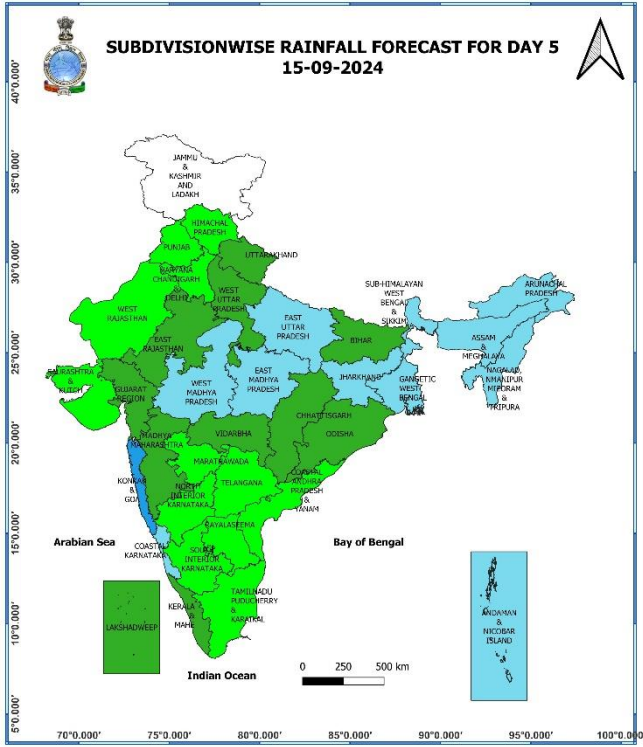
13 September (Day 3):

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



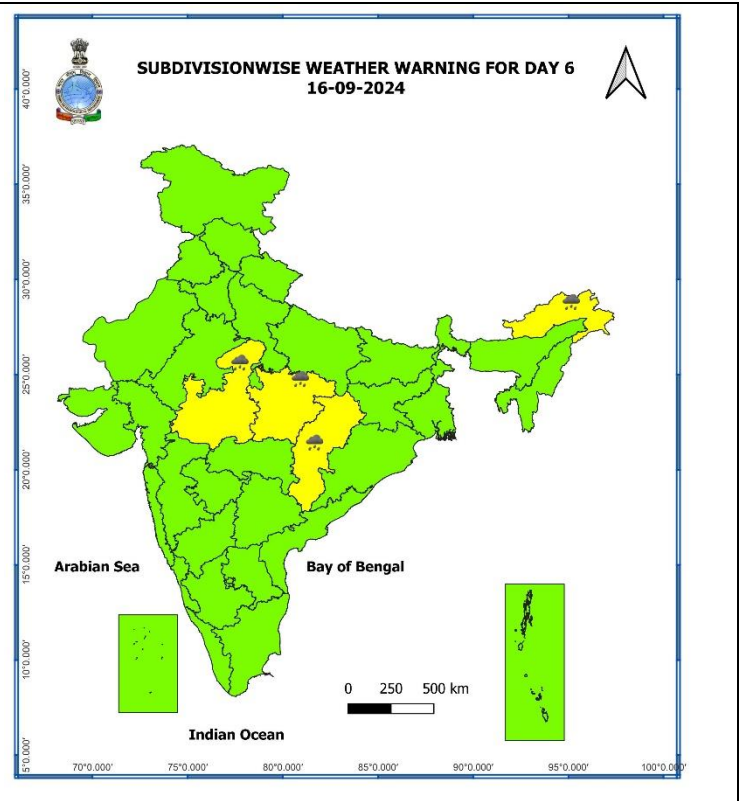
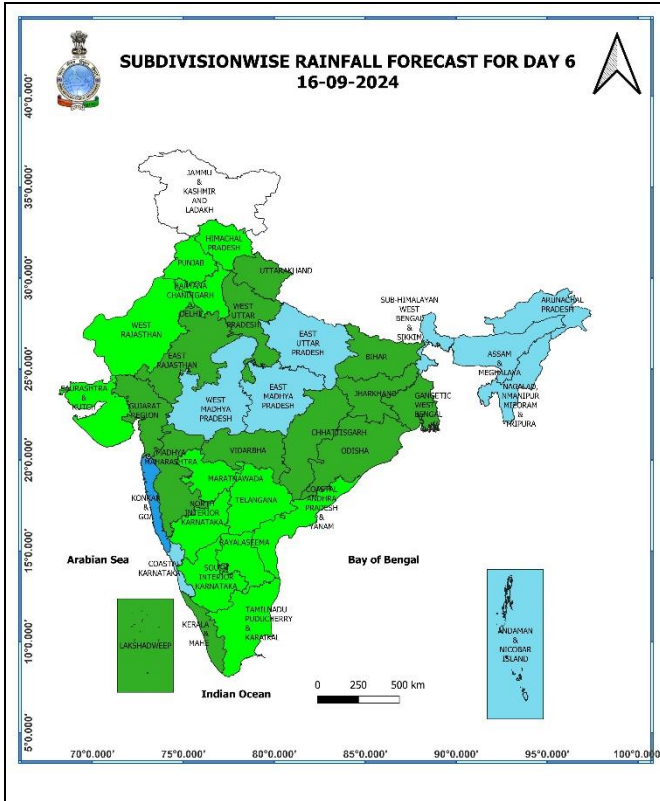
14 September (Day 4):

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



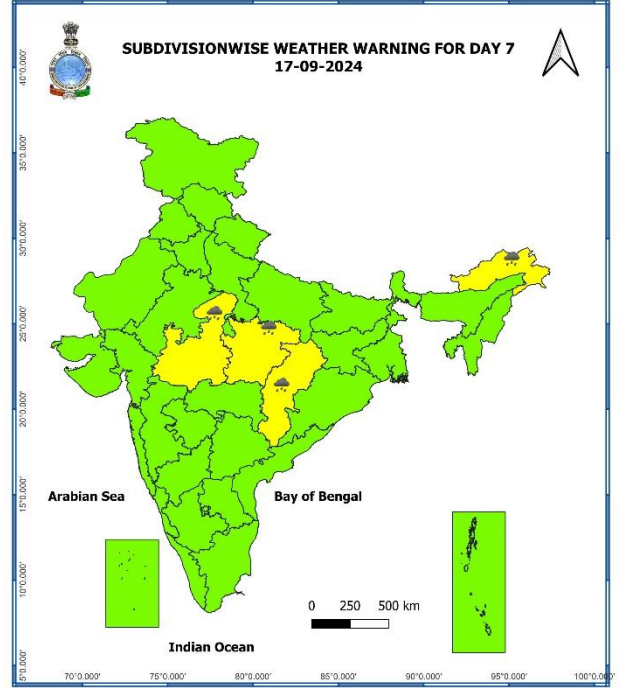
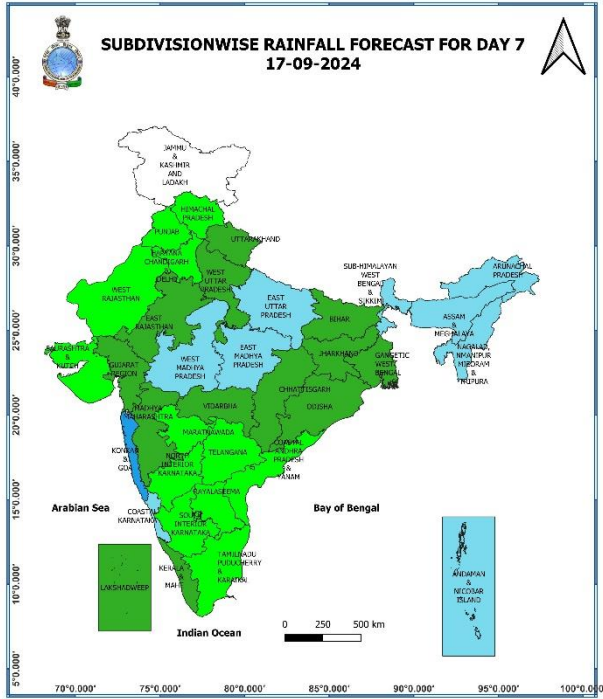
15 September (Day 5):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Madhya Pradesh, Chhattisgarh, Uttar Pradesh, East Rajasthan, Arunachal Pradesh and Assam & Meghalaya.



16 September (Day 6):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Madhya Pradesh, Chhattisgarh and Arunachal Pradesh.



17 September (Day 7):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Madhya Pradesh, Chhattisgarh and Arunachal Pradesh.

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 Madhya Pradesh on 11th; Tripura, Mizoram and south Manipur on 13th September.
- **Very heavy rainfall** at isolated places over Vidarbha on 11th; Madhya Pradesh during 11th-14th; Assam & Meghalaya on 13th & 14th; Haryana, south Mizoram on 12th; Uttarakhand, Uttar Pradesh, East Rajasthan during 11th -13th September.
- **Moderate to High flash flood risk** likely over few watersheds & neighbourhoods of Madhya Pradesh, West Uttar Pradesh; **Low to Moderate flash flood risk** likely over few watersheds & neighbourhoods of Uttarakhand on 11th & 12th September. **(ANNEXURE I)**

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.
- ✓ Reduction of visibility over sea area due to sea spray induced by strong wind and heavy rainfall.
- ✓ Disruption of traffic in major cities due to water logging in roads leading to increased travel time.
- ✓ Minor damage to kutch 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.
- ✓ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC)

Action Suggested

- ✓ Judicious regulation of offshore/onshore Operations
- ✓ 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, finger millet, maize and groundnut in **Odisha**; from rice, maize, sugarcane, black gram, horse gram and niger crops in **Chhattisgarh**; from rice, cotton, soybean, pigeon pea, orchards and vegetables in **Vidarbha**; from cotton, maize, soybean, pulses and vegetables in **Madhya Pradesh** to prevent water logging.
- ✓ Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Uttarakhand, East Rajasthan, Konkan & Goa, Madhya Maharashtra, Gujrat region, Kerala and Coastal Karnataka.
- ✓ Provide mechanical support to horticultural crops & staking to vegetables.
- ✓ Keep the harvested produce at safer place.

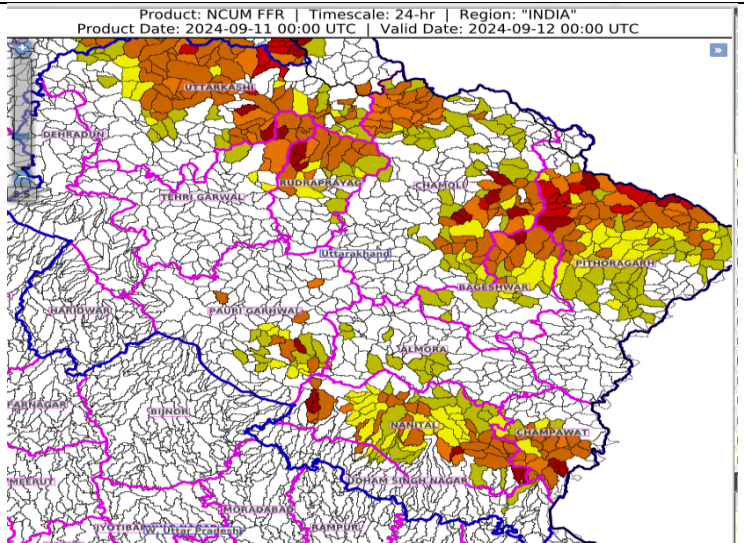
Flash Flood Guidance:

24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 12-09-2024:

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

Uttarakhand - Almora, Bageshwar, Chamoli, Champawat, Nanital, Pauri Garhwal, Pithoragarh, Rudraprayag, Tehri Garwal and Uttarkashi 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.

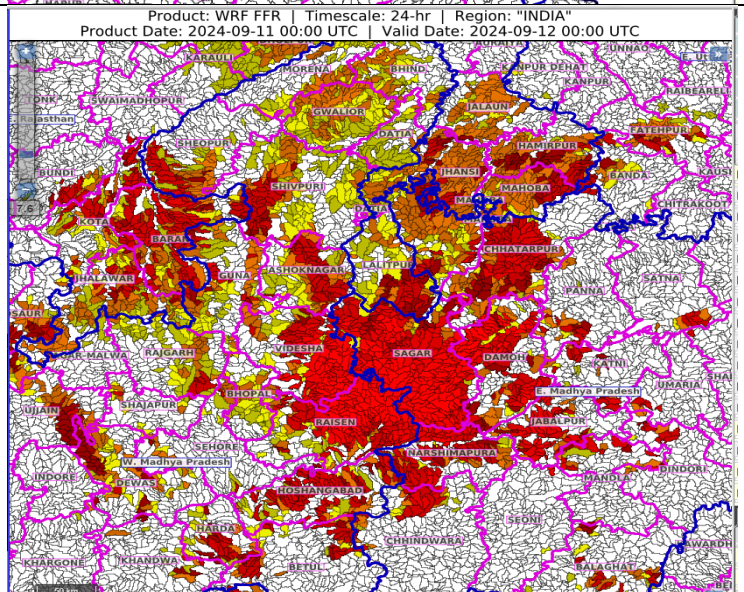


24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 12-09-2024:

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

West Uttar Pradesh - Lalitpur district.
East Madhya Pradesh - Chhatarpur, Damoh, Narshimpura, Sagar and Tikamgarh districts.
West Madhya Pradesh - Ashoknagar, Raisen, Videsha and Hoshangabad 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.



24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 12-09-2024:

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

East Madhya Pradesh - Balaghat, Chhindwara, Dindori, Jabalpur, Mandla and Panna districts.
West Madhya Pradesh - Agar-Malwa, Bhind, Bhopal, Datia, Guna, Gwalior, Harda, Jhabua, Khandwa, Morena, Rajgarh, Ratlam, Sehore, Shajapur, Sheopur, Shivpuri and Ujjain districts.
West Uttar Pradesh- Jhansi, Mahoba, Hamirpur and Jalaun district.

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.

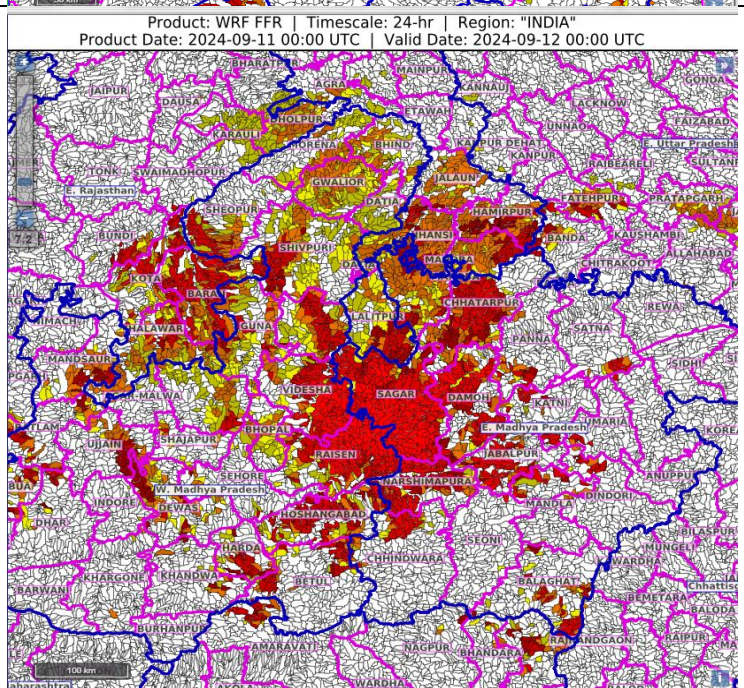


Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

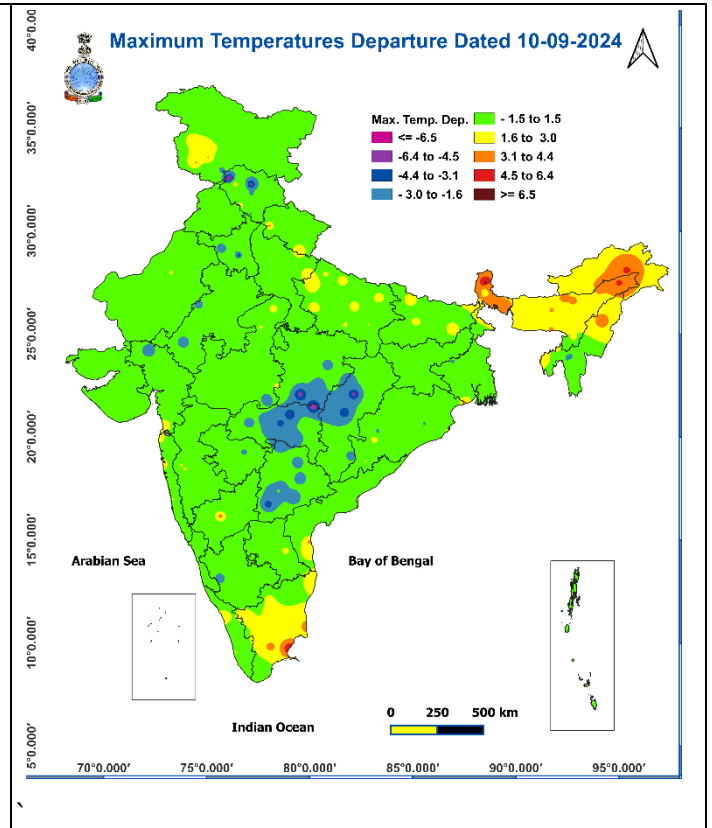
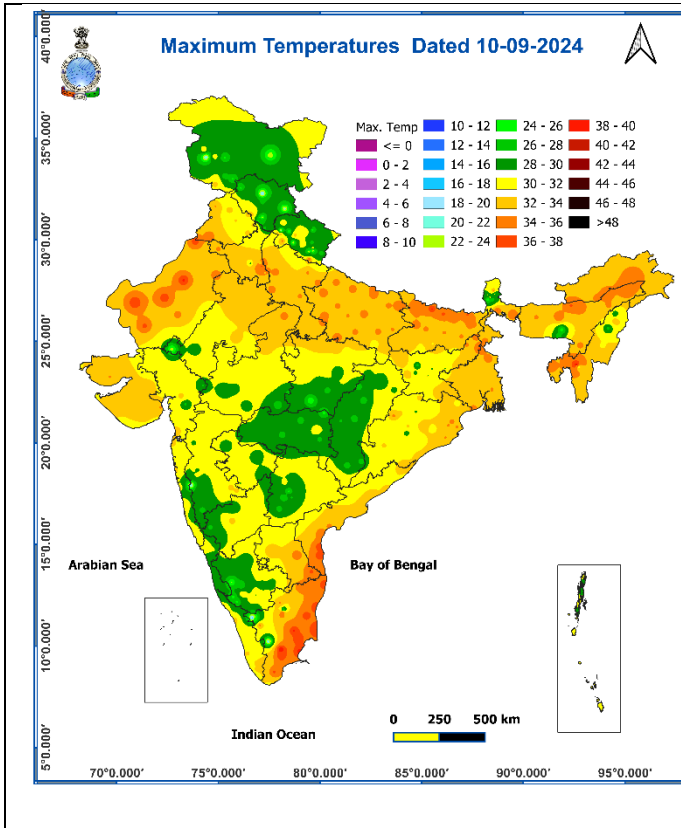


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

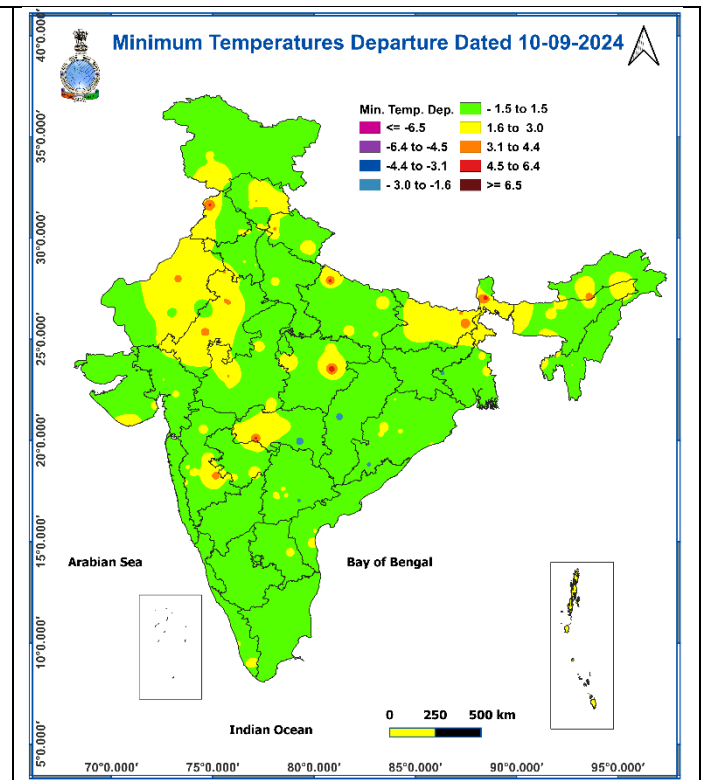
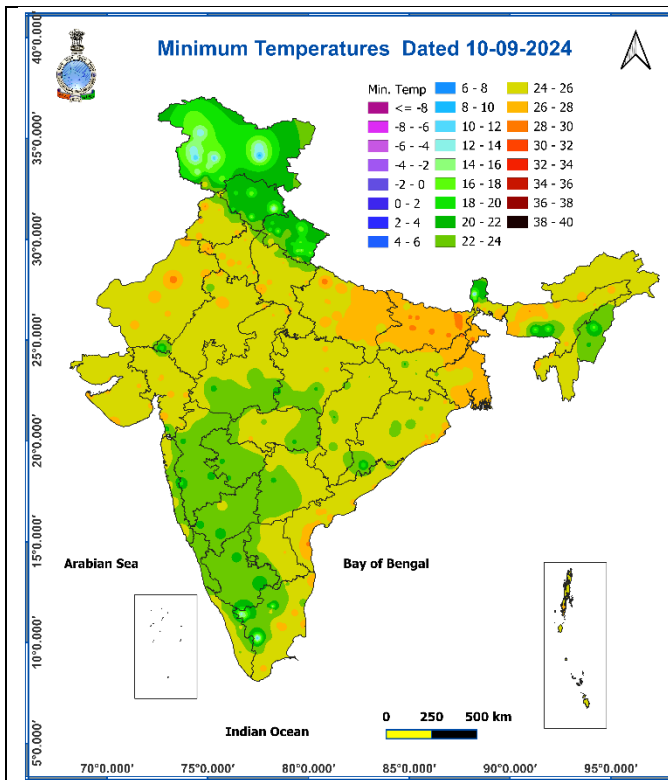
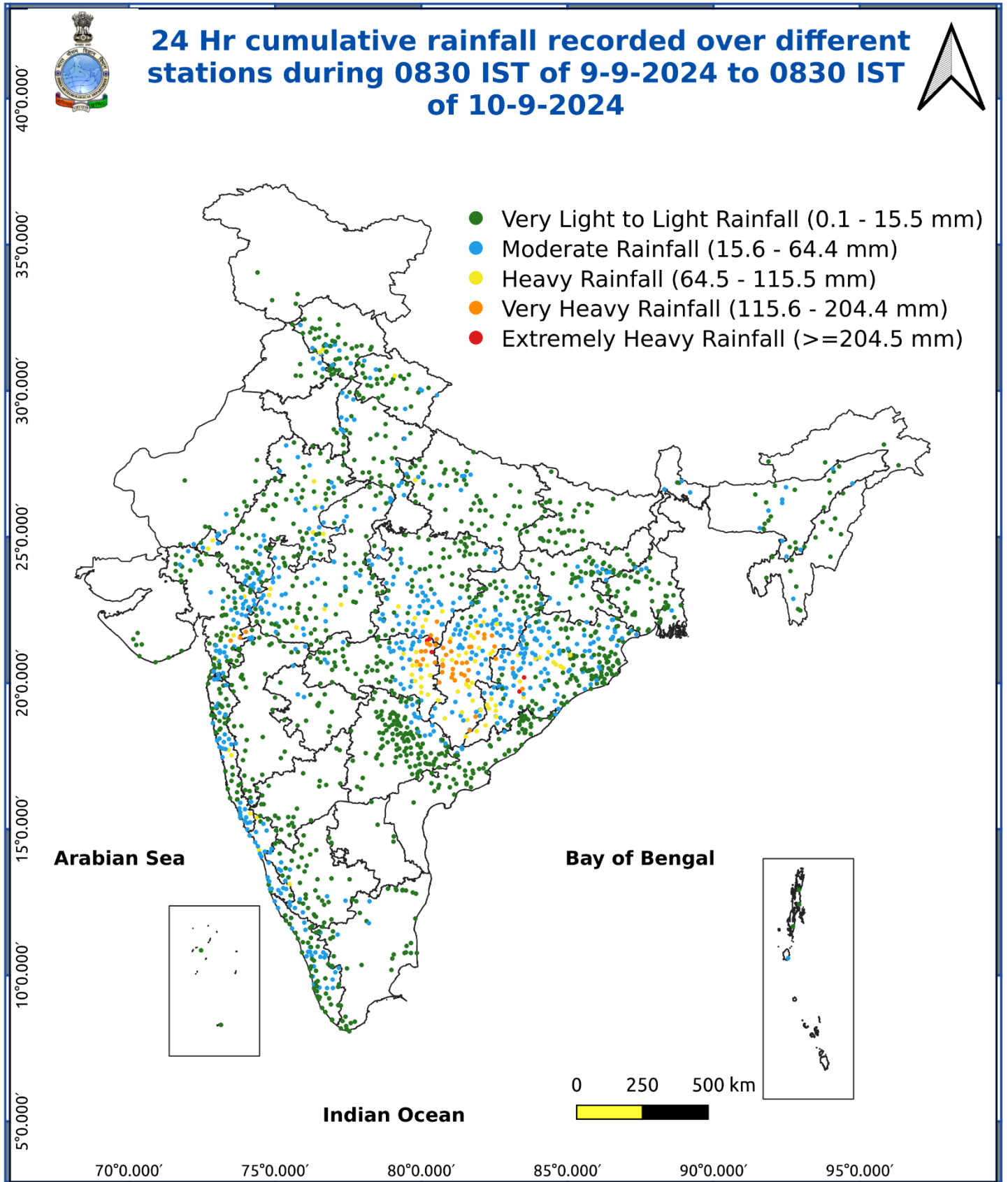


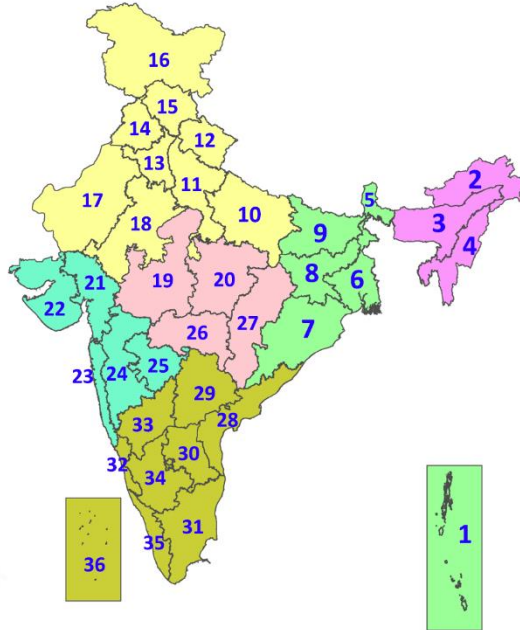
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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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)