Saturday, September 14, 2024
Time of Issue: 0815 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems:

- ✓ The **depression** over Bangladesh coast moved west-northwestwards with a speed of 23 kmph during past 6 hours, intensified into a **deep depression** and lay centred at 0530 hrs IST of today, the 14th September 2024, over Bangladesh and adjoining Gangetic West Bengal near latitude 22.9° N and longitude 89.2° E, 90km northeast of Canning (West Bengal) and 100 km east-northeast of Kolkata (West Bengal). It is likely to continue to move west-northwestwards and maintain its intensity of deep depression till evening of today. Thereafter, it will move across Gangetic West Bengal & Jharkhand as depression during subsequent 48 hours.

Forecast & Warnings (upto 7 days):

Northwest India

- ✓ Scattered to Fairly widespread light/moderate rainfall very likely over Uttar Pradesh, Himachal Pradesh, Uttarakhand, East Rajasthan; Isolated to scattered rainfall over the remaining region during the week.
- ✓ Isolated **heavy rainfall** very likely over Uttarakhand on 14th; East Uttar Pradesh during 16th-18th; West Uttar Pradesh on 17th & 18th September.

West & Central India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Konkan & Goa; Scattered to Fairly widespread light/moderate rainfall very likely over Madhya Pradesh, Chhattisgarh; Isolated to Scattered light/moderate rainfall very likely over Vidarbha, Madhya Maharashtra, Marathwada & Gujarat State during the week.
- ✓ Isolated **very heavy rainfall** very likely over East Madhya Pradesh on 17th; Chhattisgarh on 16th September.
- ✓ Isolated **heavy rainfall** very likely over West Madhya Pradesh on 18th & 19th; East Madhya Pradesh during 16th -19th; Chhattisgarh during 14th -17th September.

East & Northeast India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Northeast India, Andaman & Nicobar Islands, Gangetic West Bengal & Jharkhand; Scattered to Fairly widespread light/moderate rainfall very likely over Bihar, Odisha, Sub-Himalayan West Bengal & Sikkim during the week.
- ✓ Isolated **extremely heavy rainfall** very likely over Gangetic West Bengal and north Odisha on 14th September.
- ✓ Isolated **very heavy rainfall** very likely over Gangetic West Bengal on 14th; Jharkhand on 14th & 15th; Odisha on 14th September.
- ✓ Isolated **heavy rainfall** very likely over Arunachal Pradesh during 14th -16th; Assam & Meghalaya; Nagaland & Manipur during 15th -17th; Mizoram & Tripura on 14th; Gangetic West Bengal during 14th -15th; Bihar, Jharkhand & Odisha during 14th-16th September.

South Peninsular India:

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

Main Weather Observations:

- **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at most places** over Uttarakhand and Andaman & Nicobar Islands; **at many places** over West Uttar Pradesh, Gangetic West Bengal and Himachal Pradesh; **at a few places** over Haryana-Chandigarh-Delhi, Odisha, Lakshadweep and Konkan & Goa; **at isolated places** over Jharkhand, East Uttar Pradesh, Chhattisgarh, Vidarbha, Saurashtra & Kutch, Madhya Maharashtra, North Interior Karnataka, Coastal Karnataka, Tamil Nadu, Puducherry & Karaikal, Madhya Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura .

- **Heavy rainfall recorded** (from 0830 hours IST to 1730 hours IST of yesterday): **Heavy to very heavy rainfall** at a few places over Uttarakhand.

- **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm):**Uttarakhand:** Pancheshwar & Nainital-15, Kashipur-14, Chorgalia & Bhimtal-13, Rudrapur-12, Champawat, Pati, Devidhura, Lohaghat-11 each, Dahari-10, Pithoragarh-9, Pantnagar-8, Mukteshwar-5, Khatima-3, New Tehri & Dehradun-2 each; **Delhi:** Palam-6, Ayanagar & Safdarjung-5 each; **Gangetic West Bengal:** Bagati-6, Berhampore, Haldia & Sagar Islands-5 each, Uluberia-4, Alipore-3, Barrackpore, Salt Lake & Digha-2 each; **Jharkhand:** Daltonganj-5; **Himachal Pradesh:** Shimla-2; **West Uttar Pradesh:** Sarsawa-4, Muzaffarnagar & Najibabad-2 each; **East Uttar Pradesh:** Kheri-2; **Vidarbha:** Gondia-2; **Odisha:** Rourkela-4.

- **Minimum Temperature Departures (as on 13-09-2024):** Minimum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over West Rajasthan, Bihar, Sub-Himalayan West Bengal & Sikkim, Vidarbha, Madhya Maharashtra; **above normal (1.6°C to 3.0°C**) at a few places over East Rajasthan, Gangetic West Bengal, Odisha, Andaman & Nicobar Islands; at isolated places over Punjab, Madhya Pradesh, Gujarat state, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal. These were **below normal (-1.6°C to -3.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, North Interior Karnataka and Delhi and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature** of **17.8°C** was reported at **Delhi-Ridge (New Delhi)** over the plains of the country. **(Fig.4)**

- **Maximum Temperature Departures (as on 13-09-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C**) at many places over Assam & Meghalaya; at a few places over Tamil Nadu, Puducherry & Karaikal; at isolated places over Jammu division, Sub-Himalayan West Bengal & Sikkim, Bihar and Coastal Andhra Pradesh & Yanam; **above normal (1.6°C to 3.0°C** at many places over Kerala & Mahe; at isolated places over Gangetic West Bengal, Odisha, Jharkhand, Nagaland, Manipur, Mizoram & Tripura and Konkan & Goa. These were **markedly below normal (-5.1°C or less**) at a few places over West Uttar Pradesh, Uttarakhand and Haryana-Chandigarh-Delhi; at isolated places over Himachal Pradesh; **appreciably below normal (-3.1°C to -5.0°C**) at isolated places over West Madhya Pradesh, and East Uttar Pradesh; **below normal (-1.6°C to -3.0°C)** at many places over Rajasthan; at isolated places over Gujarat state and Punjab and **near normal** over rest parts of the country. Yesterday, **the highest Maximum Temperature** of **40.1°C** was reported at **Thanjavur (Tamil Nadu)** over the country. **(Fig. 2)**

Meteorological Analysis (Based on 0530 hours IST)

- The **depression** over Bangladesh coast moved west-northwestwards with a speed of 23 kmph during past 6 hours, intensified into a **deep depression** and lay centred at 0530 hrs IST of today, the 14th September 2024, over Bangladesh and adjoining Gangetic West Bengal near latitude 22.9° N and longitude 89.2° E, 90km northeast of Canning (West Bengal) and 100 km east-northeast of Kolkata (West Bengal). It is likely to continue to move west-northwestwards and maintain its intensity of deep depression till evening of today. Thereafter, it will move across Gangetic West Bengal & Jharkhand as depression during subsequent 48 hours.

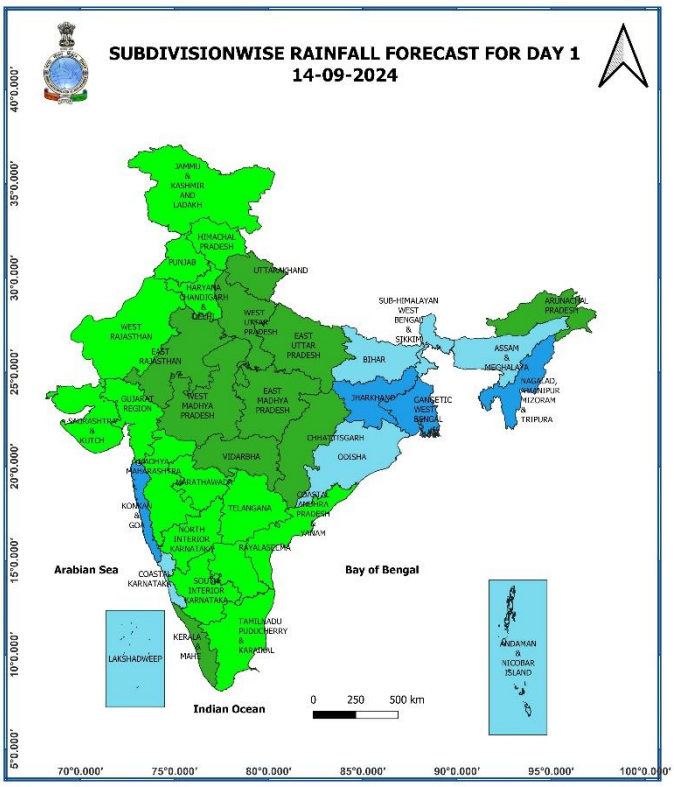
- The **Monsoon trough** at mean sea level now passes through Ganganagar, Hissar, Delhi, Bareilly, Bahraich, Patna, Bankura, the centre of **deep depression** over Bangladesh and adjoining Gangetic West Bengal and thence south-southeastwards to eastcentral Bay of Bengal.

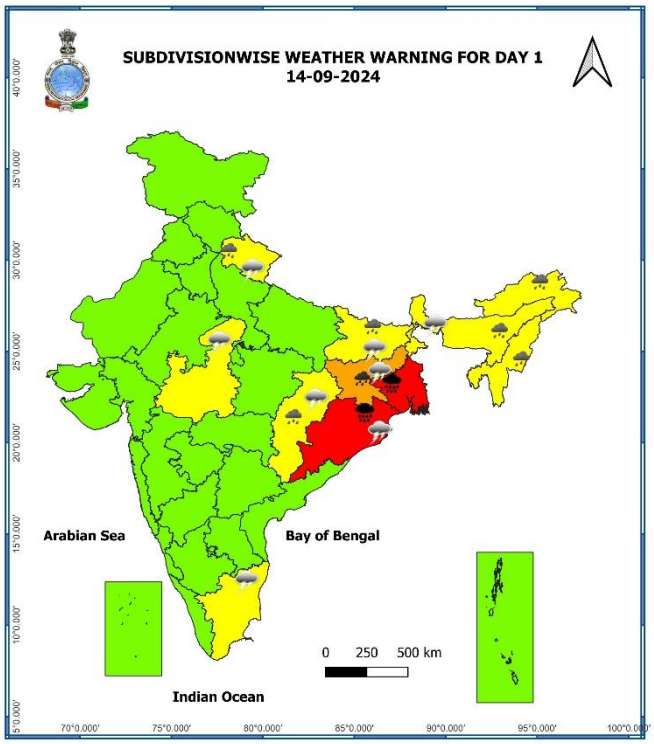
- The **cyclonic circulation** over Saurashtra & neighbourhood at 3.1 km above mean sea level persists.

- The **Western Disturbance** as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level now runs roughly along Long. 68°E to the north of Lat. 32°N.

- The **low pressure area** over northwest Uttar Pradesh and adjoining Uttarakhand with the associated cyclonic circulation extending upto 7.6 km above mean sea level has become less marked.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 21st September, 2024)



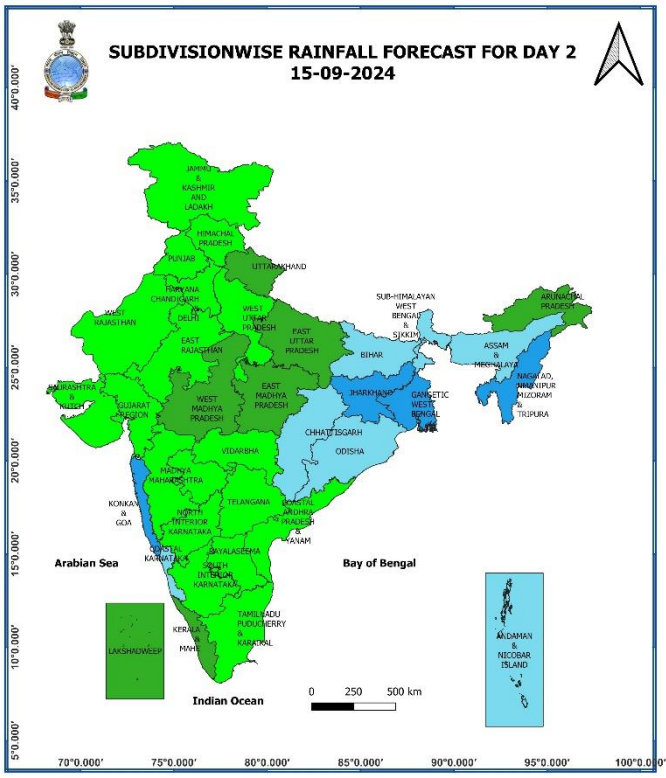


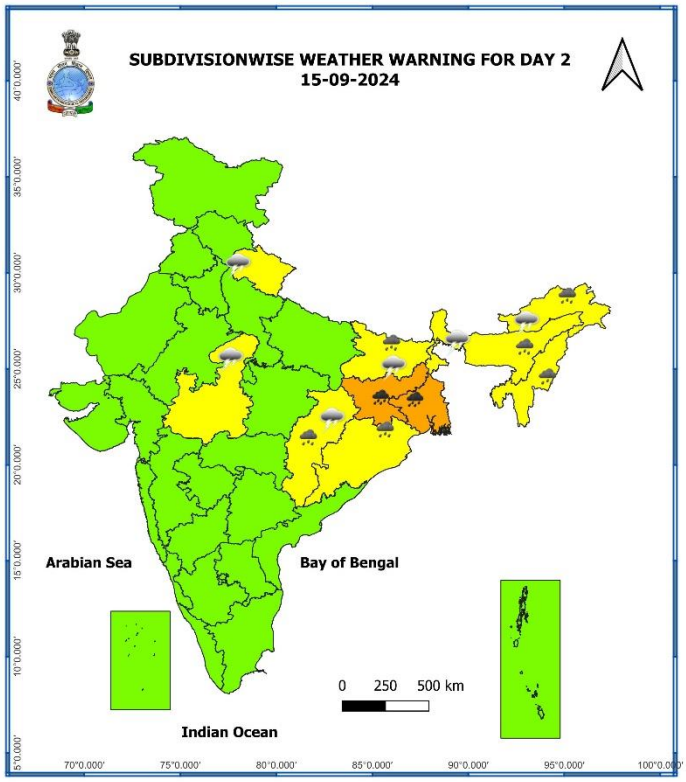
14 September (Day 1):

- **Heavy to very heavy rainfall (≥12 cm) with extremely heavy falls (>20 cm)** very likely at isolated places over Gangetic West Bengal, north Odisha; **Heavy to very heavy rainfall (≥12 cm)** at isolated places over Jharkhand; **Heavy rainfall (≥7 cm)** likely at isolated places over Uttarakhand, Chhattisgarh, Bihar, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.

- **Thunderstorm accompanied with lightning** is very likely at isolated places over Uttarakhand, West Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand, Odisha, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal.

- **Squally weather with wind speed reaching 30 kmph to 40 kmph gusting to 50 kmph** is very likely to prevail over central parts of central Arabian sea, off Sri Lanka coast, most parts of south Bay of Bengal, many parts of central Bay of Bengal, most parts of north Bay of Bengal, along and off Odisha, west Bengal and Bangladesh coasts & off north Myanmar coast. **Squally weather with wind speed reaching 45 kmph to 55 kmph gusting to 65 kmph** is likely to prevail over gulf of Mannar along and off west Bengal & adjoining Odisha, Bangladesh coasts. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest Arabian sea & many parts of westcentral Arabian sea, along and off Somalia, off Yemen and Oman coasts. Fishermen are advised not to venture into these areas.



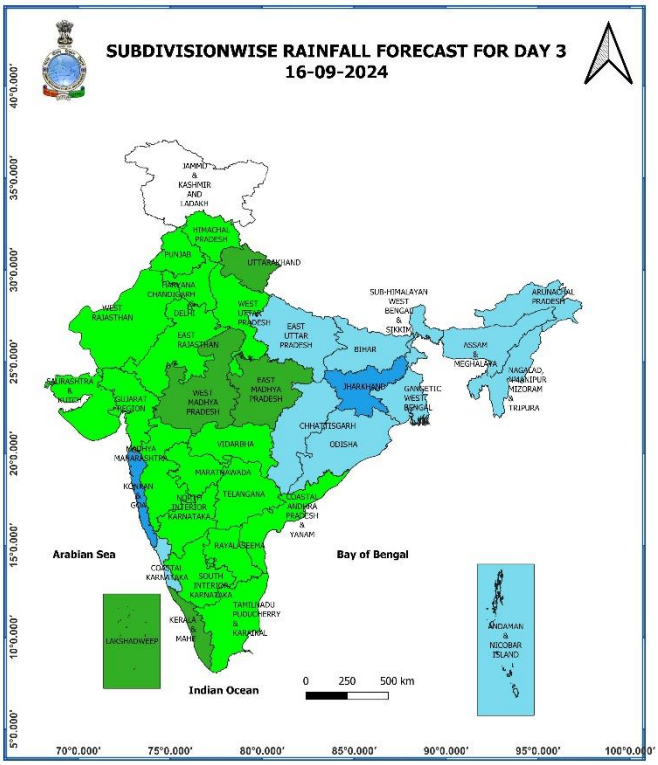


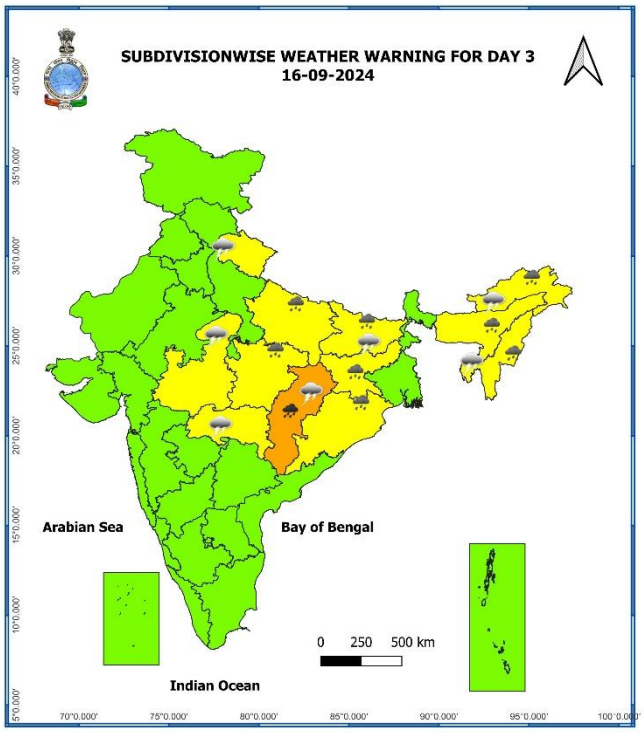
15 September (Day 2):

- **Heavy to very heavy rainfall (≥12 cm)** very likely at isolated places over Gangetic West Bengal, Jharkhand; **Heavy rainfall (≥7 cm)** at isolated places over Chhattisgarh, Bihar, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.

- **Thunderstorm accompanied with lightning** very likely at isolated places over Uttarakhand, West Madhya Pradesh, Chhattisgarh, Bihar, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya.

- **Squally weather with wind speed reaching 30 kmph to 40 kmph gusting to 50 kmph** is very likely to prevail over many parts of west central Arabian sea and adjoining east central Arabian sea, off Sri Lanka coast, most parts of south Bay of Bengal, many parts of central Bay of Bengal, most parts of north Bay of Bengal, along and off Odisha, west Bengal and Bangladesh, coasts, off north Myanmar coast. **Squally weather with wind speed reaching 45 kmph to 55 kmph gusting to 65 kmph** is likely to prevail over gulf of Mannar along and off north Odisha, west Bengal coasts, and adjoining Bangladesh 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 & many parts of westcentral Arabian sea, along and off Somalia coast, and off Oman coast. Fishermen are advised not to venture into these areas.



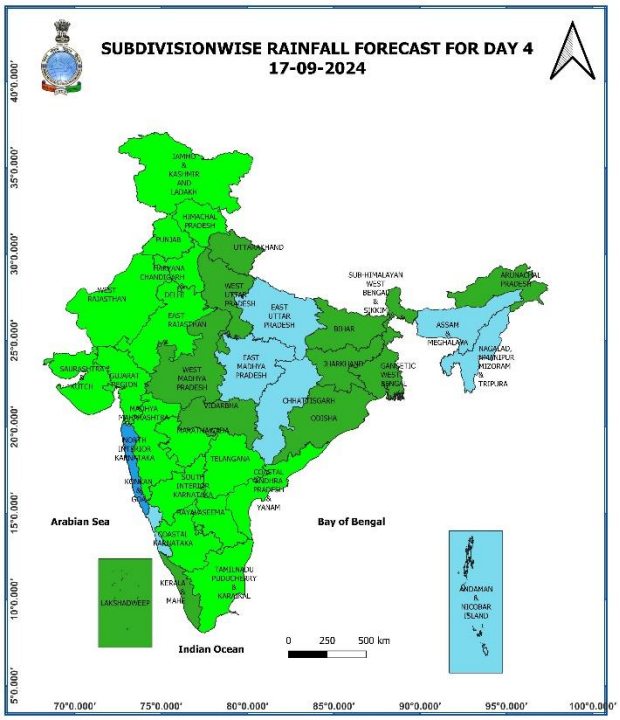


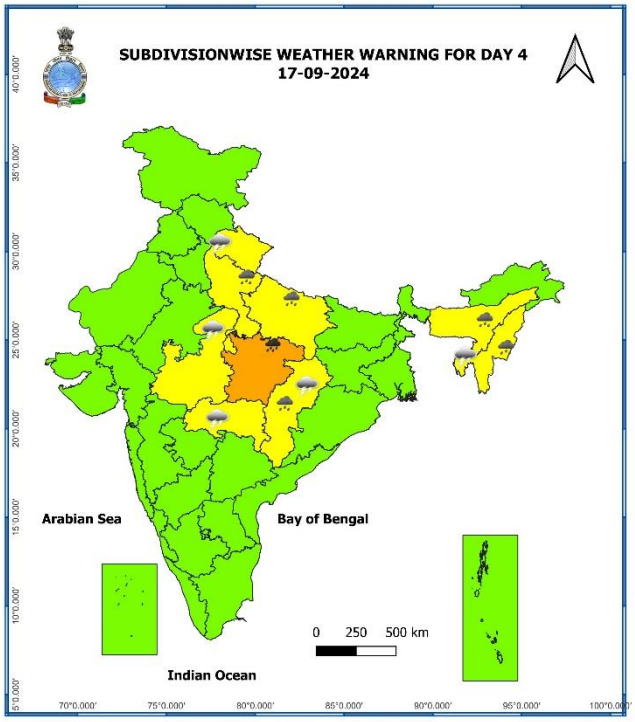
16 September (Day 3):

- **Heavy to very heavy rainfall (≥12 cm)** likely at isolated places over Chhattisgarh; **Heavy rainfall (≥7 cm)** at isolated places over East Uttar Pradesh, East Madhya Pradesh, Bihar, Jharkhand, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.

- **Thunderstorm accompanied with lightning** likely at isolated places over Uttarakhand, West Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.

- **Squally weather with wind speed reaching 30 kmph to 40 kmph gusting to 50 kmph** is likely to prevail over many parts of west central Arabian sea and adjoining parts of east central Arabian sea, northern parts of southwest Arabian sea, over gulf of Mannar, off Sri Lanka coast, most parts of south Bay of Bengal & many parts of central Bay of Bengal, along and off north Odisha, west Bengal coasts and adjoining sea areas. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest Arabian sea & many parts of westcentral Arabian sea, along and off Somalia coast, and off Oman coast. Fishermen are advised not to venture into these areas.



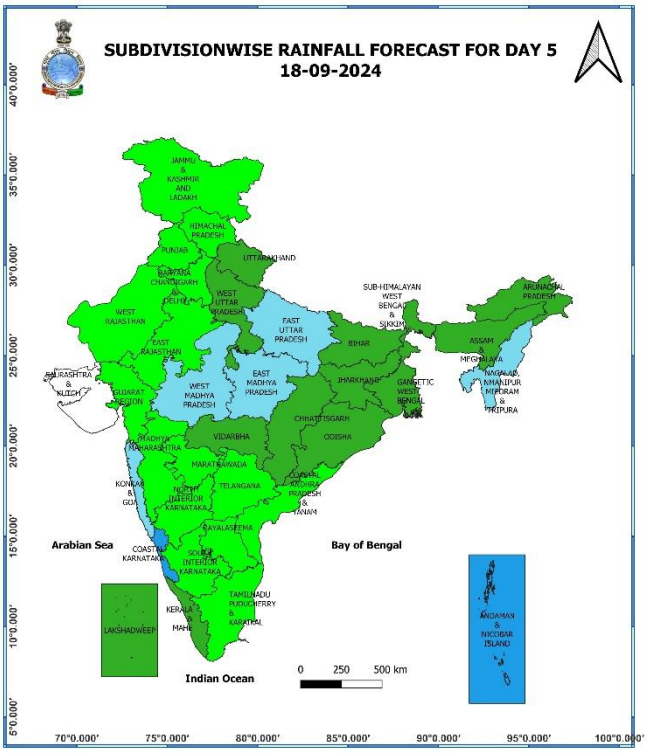


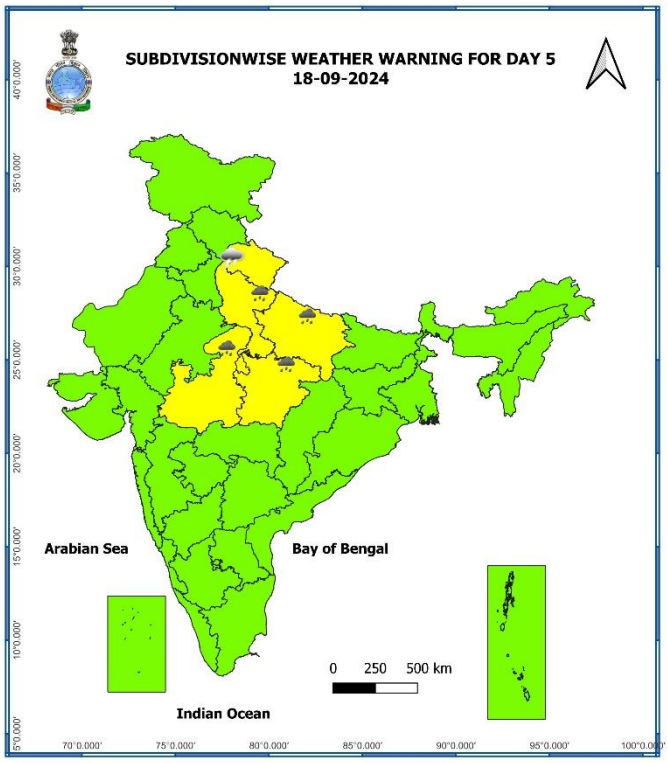
17 September (Day 4):

- **Heavy to very heavy rainfall (≥12 cm)** likely at isolated places over East Madhya Pradesh; **Heavy rainfall (≥7 cm)** at isolated places over Uttar Pradesh, Chhattisgarh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.

- **Thunderstorm accompanied with lightning** likely at isolated places over Uttarakhand, West Madhya Pradesh, Vidarbha, Chhattisgarh, Nagaland, Manipur, Mizoram & Tripura.

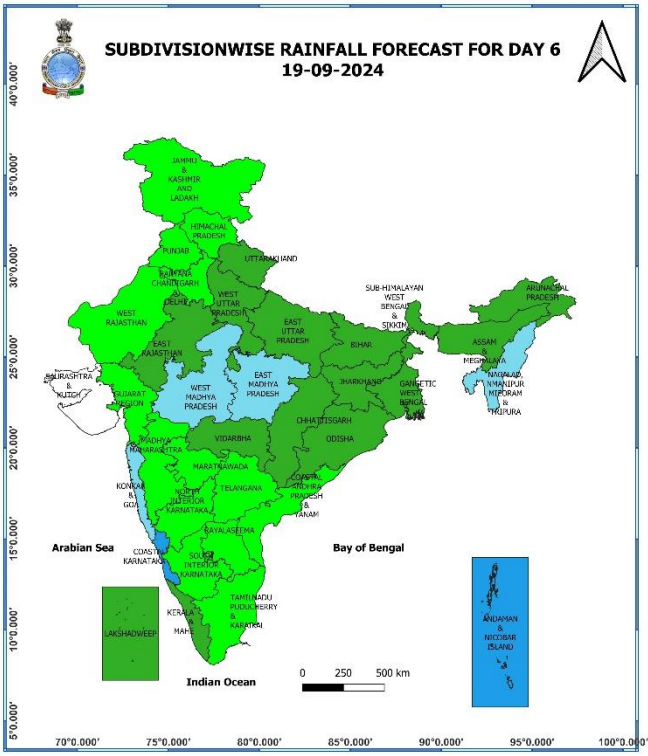
- **Squally weather with wind speed reaching 30 kmph to 40 kmph gusting to 50 kmph** is likely to prevail over many parts of west central Arabian sea and adjoining parts of east central Arabian sea, northern parts of southwest Arabian sea, over gulf of Mannar, off Sri Lanka coast, most parts of south Bay of Bengal & adjoining 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 & some parts of westcentral Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.

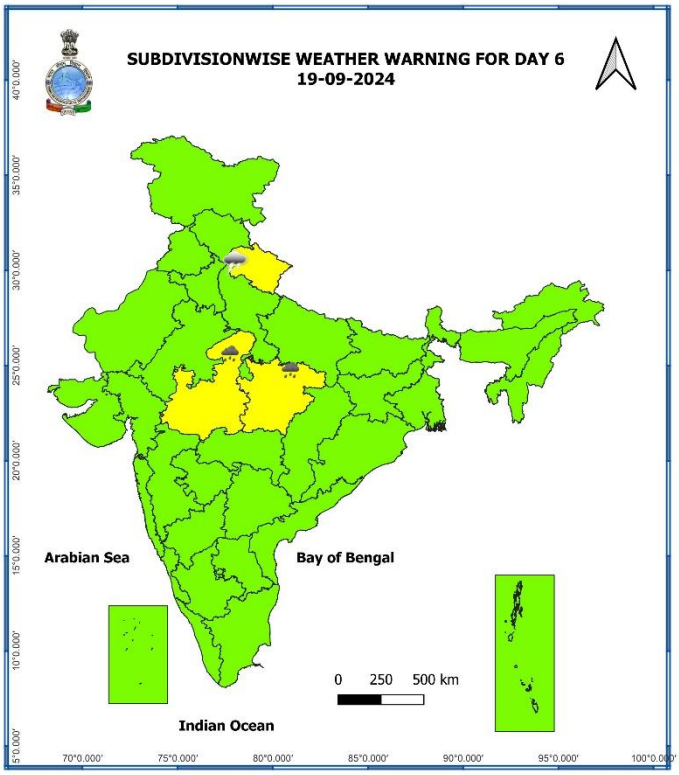




18 September (Day 5):

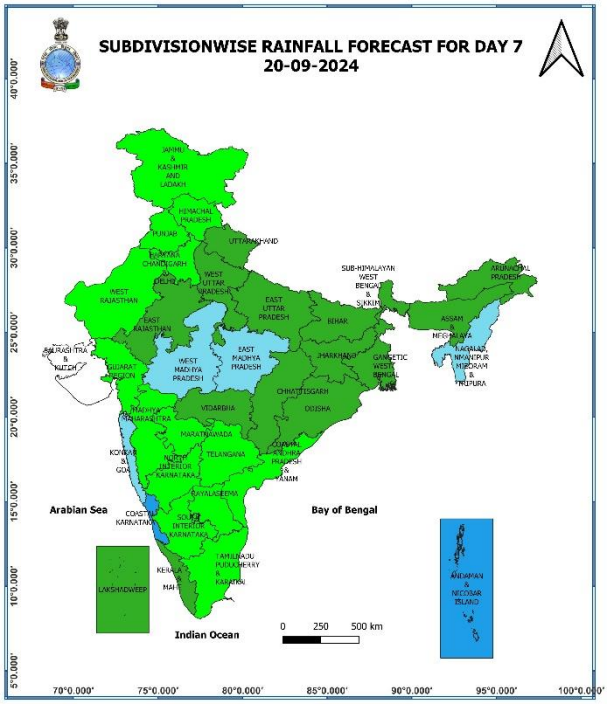
- **Heavy rainfall (≥7 cm)** likely at isolated places over Uttar Pradesh, Madhya Pradesh.
- **Thunderstorm accompanied with lightning** likely at isolated places over Uttarakhand.

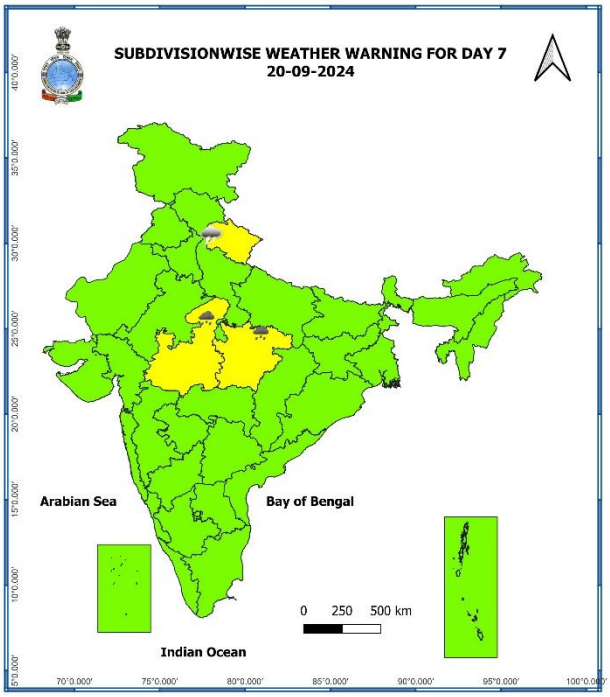




19 September (Day 6):

- **Heavy rainfall (≥7 cm)** likely at isolated places over Madhya Pradesh.
- **Thunderstorm accompanied with lightning** likely at isolated places over Uttarakhand.





20 September (Day 7):

- **Heavy rainfall (≥7 cm)** likely at isolated places over Madhya Pradesh.
- **Thunderstorm accompanied with lightning** likely at isolated places over Uttarakhand.

Weather Outlook for subsequent 3 days (During 21st September– 23rd 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 Uttarakhand on 13th; Gangetic West Bengal on 13th & 14th; Odisha on 14th September.
- **Very heavy rainfall** at isolated places over West Uttar Pradesh, Gangetic West Bengal, Mizoram & Tripura on 13th; East Madhya Pradesh on 17th; Chhattisgarh on 16th; Jharkhand on 14th & 15th September.
- **Moderate to High flash flood risk** likely over Odisha, Gangetic West Bengal, Jharkhand and Nagaland, Manipur, Mizoram & Tripura; **Moderate flash flood risk** likely over Himachal Pradesh and Uttarakhand on 13th & 14th 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.
- ✓ Disruption of traffic in major cities and roadways due to water logging in roads leading to increased travel time.
- ✓ Minor damage to kutcha roads.
- ✓ Possibilities of damage to vulnerable structure.
- ✓ Localized Landslides/Mudslides/landslips/mud slips/land sinks/mud sinks.
- ✓ Damage to horticulture and standing crops in some areas due to inundation and wind.
- ✓ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC)

Action Suggested

- ✓ Judicious regulation of surface transports including railways and roadways.
- ✓ Check for traffic congestion on your route before leaving for your destination.
- ✓ Follow any traffic advisories that are issued in this regard.
- ✓ Avoid going to areas that face the water logging problems often.
- ✓ Avoid staying in vulnerable structure

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

- ✓ Drain out excess water from rice, maize, soybean, finger millet, pigeon pea and vegetables in **Uttarakhand;** from rice, maize, groundnut, sesame, arhar, black gram and vegetables in **Uttar Pradesh** to prevent water logging.
- ✓ Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Assam & Meghalaya, NMMT, Gangetic West Bengal, Odisha and Jharkhand
- ✓ Provide mechanical support to horticultural crops & staking to vegetables.
- ✓ Keep the harvested produce at safer place.

ANNEXURE I

Flash Flood Guidance:

24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 15-09-2024 :

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

Odisha **- Baleshwar, Bhadrak, Deogarh, Jajapur, Kendujhar, Mayurbhanj and Sundargarh districts.**
Gangetic West Bengal **- Bankura, Bardaman, Birbhum, Eastmednipur, Haora, Kolkata, North 24 Pragana, Pashchim Medinipur, Puruliya and South 24 Parganas districts.**
Jharkhand **- Bokaro, Dhanbad, East Singhbhum, Giridih, Hazaribagh, Jamtara, Khunti, Koderma, Ranchi, Saraikela and West Singhbhum 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.

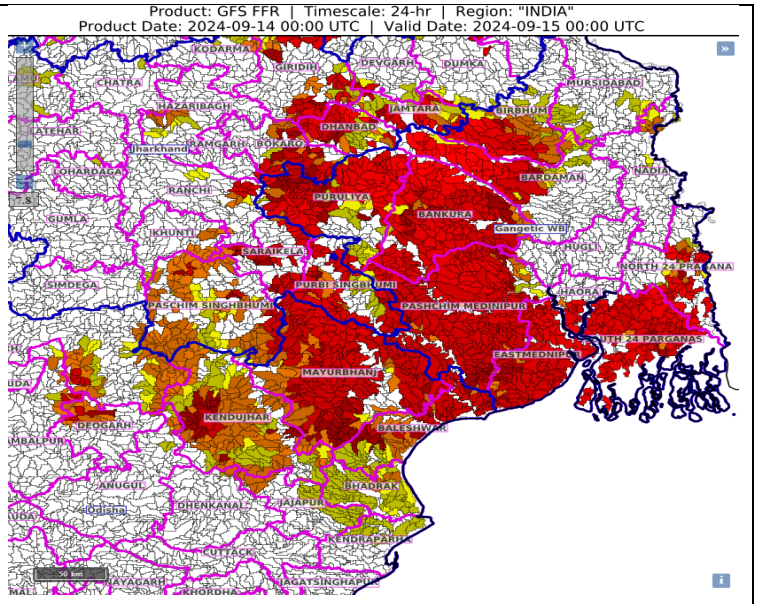


Fig. 1: Maximum Temperatures

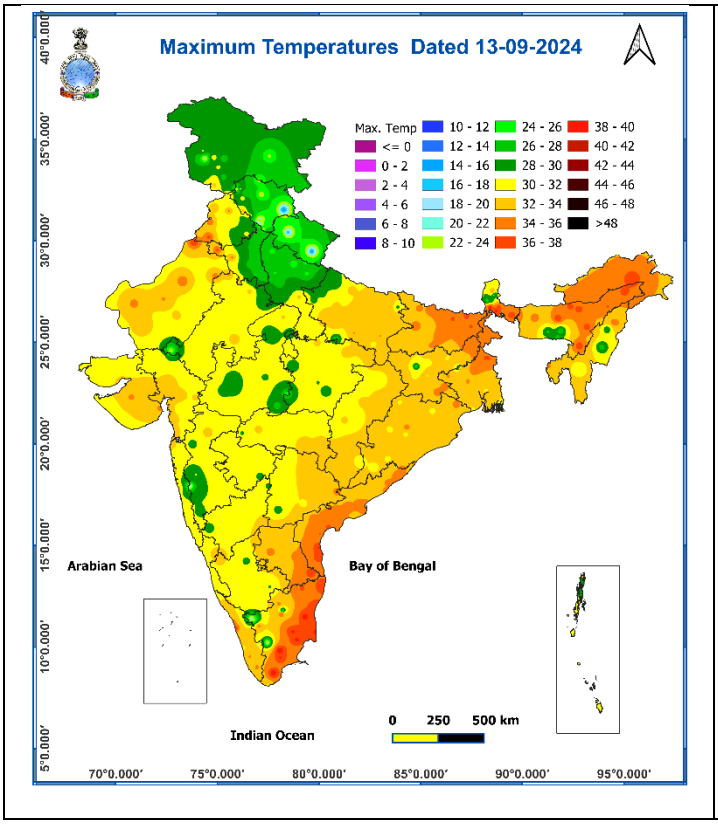


Fig. 2: Departure of Maximum Temperatures

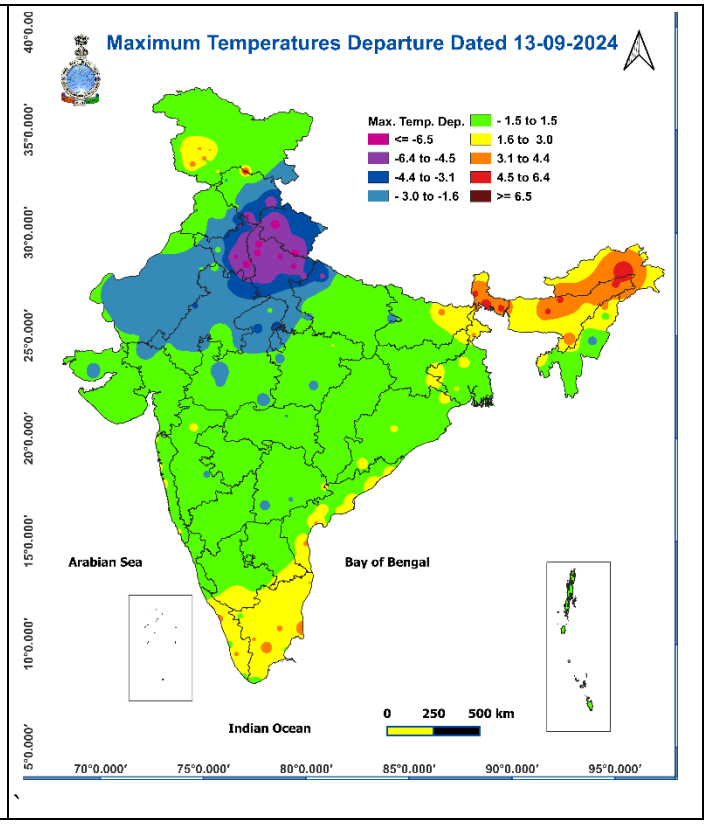


Fig. 3: Minimum Temperatures

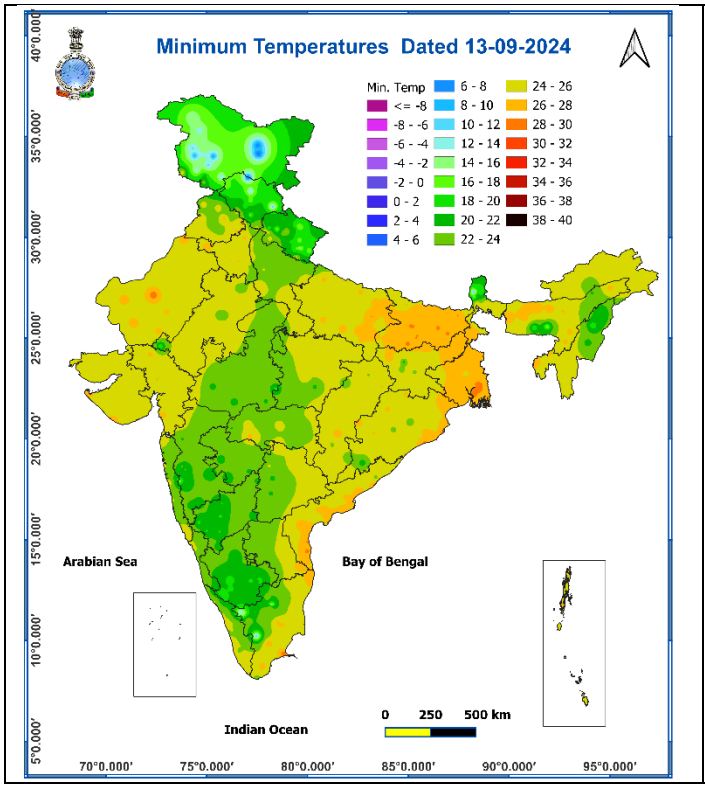


Fig. 4: Departure of Minimum Temperatures

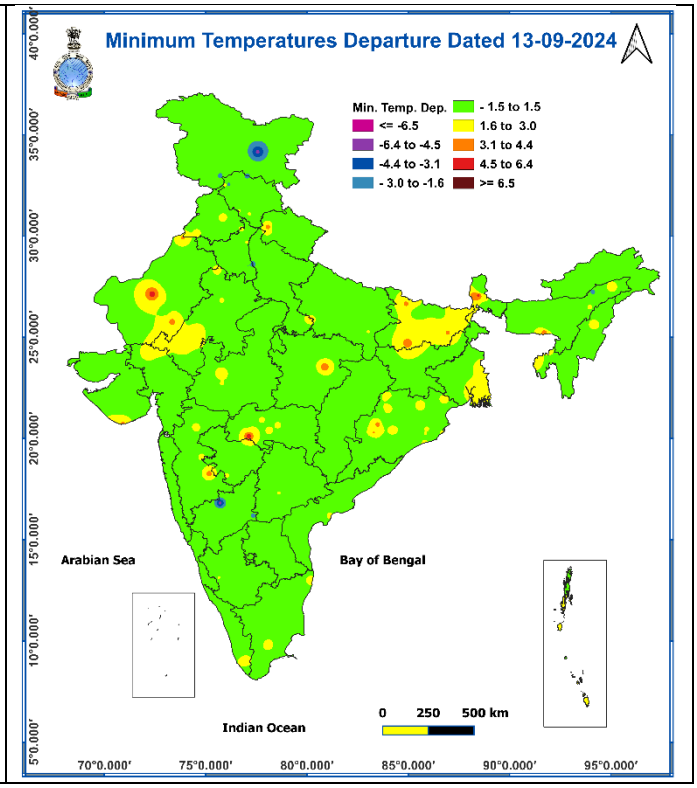
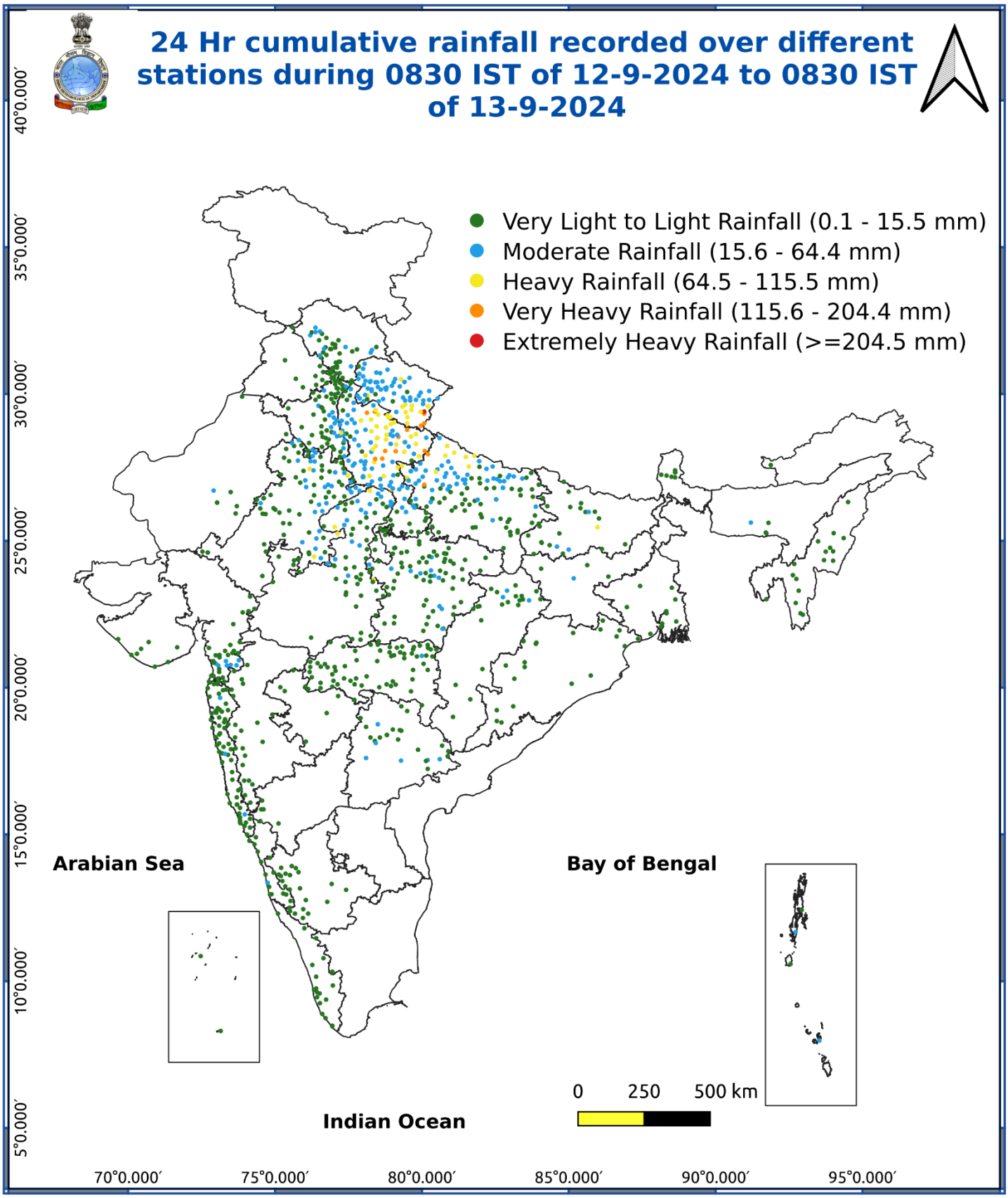
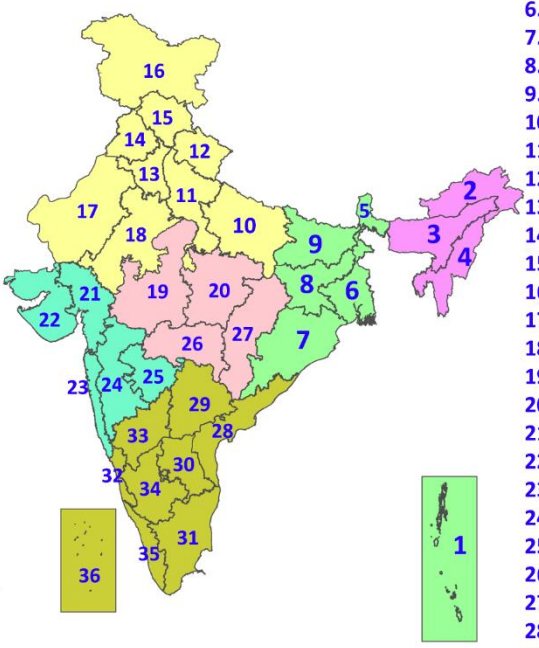


Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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. आतंरिक उत्तरी कर्नाटक
34. आतंरिक 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 Rain
Very Heavy Rain
Extremely Heavy Rain
Thunder & Lightning
Hailstorm
Dust Raising Winds

Heavy Snow
Dust Storm
Heat Wave
Warm Night
Hot Day
Hot & Humid
Strong Surface Winds

Cold Wave
Cold Day
Ground Frost

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

* 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)

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 ≥40° C for plains and ≥30° 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 ≥6.5° C **(b). Based on Actual maximum temperature** **Heat Wave:** When actual maximum temperature ≥45°C. **Severe Heat Wave:** When actual maximum temperature ≥47°C **(c). Criteria for heat wave for coastal stations** When maximum temperature departure is >4.5°C from normal. Heat Wave may be described provided maximum temperature ≥37°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 °C.
Cold Wave	**When minimum temperature of a station ≤10°C for plains and ≤0°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 ≤ -6.5 °C **(b) Based on actual Minimum Temperature (for Plains only)** **Cold Wave :** When Minimum Temperature is ≤ 4.0 °C **Severe Cold Wave:** When Minimum Temperature is ≤ 2.0 °C **(c) For Coastal Stations** When Minimum Temperature departure is ≤-4.5 °C & actual Minimum Temperature is ≤ 15 °C
Cold Day	**When minimum temperature of a station ≤10°C for plains and ≤0°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 ≤ -6.5 °C
Fog	**Phenomenon of small droplets suspended in air and the horizontal visibility < 1km** **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 ≤4°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)