

Wednesday, September 18, 2024
Time of Issue: 1330 hours IST
(MID-DAY)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems:

- ✓ Yesterday's **Depression** over Jharkhand & adjoining north Chhattisgarh weakened into a **Well Marked Low Pressure Area** and lay over central parts of north Madhya Pradesh & neighbourhood at 0830 hours IST of today. It is likely to weaken into a **low pressure area** over the same region during next 24 hours.
- ✓ The western end of **monsoon trough** is north of its normal position and eastern end is south of its normal position.

Forecast & Warnings (upto 7 days):

Central India:

- ✓ Scattered to Fairly Widespread light to moderate rainfall very likely over Madhya Pradesh, Vidarbha, Chhattisgarh during the week.
- ✓ Isolated **heavy rainfall** very likely over West Madhya Pradesh on 18th & 24th; East Madhya Pradesh on 18th, 23rd & 24th and over Chhattisgarh during 22nd-24th September.

Northwest India

- ✓ Scattered to Fairly widespread light to moderate rainfall very likely over the region on 18th and isolated light rainfall during subsequent 6 days.
- ✓ Isolated **very heavy rainfall** very likely over West Uttar Pradesh on 18th September.
- ✓ Isolated **heavy rainfall** very likely over Haryana-Chandigarh-Delhi and East Uttar Pradesh on 18th; Uttarakhand on 18th & 24th September.

East & Northeast India

- ✓ Fairly widespread to Widespread light/moderate rainfall very likely over Andaman & Nicobar Islands; Scattered to Fairly widespread light to moderate rainfall very likely over Assam & Meghalaya & Nagaland, Manipur, Mizoram & Tripura; Isolated to scattered light/moderate rainfall very likely over remaining East India & Arunachal Pradesh during the week.
- ✓ Isolated **heavy rainfall** very likely over Andaman & Nicobar Islands on 18th; Odisha on 18th, 22nd & 23rd; Assam & Meghalaya on 21st & 22nd; Nagaland, Manipur, Mizoram & Tripura during 21st-24th September.

West & South Peninsular India

- ✓ Fairly Widespread to Widespread light/moderate rainfall very likely over Konkan & Goa; Isolated to scattered light/moderate rainfall very likely over remaining region during the week.
- ✓ **Hot and Humid Weather** very likely over Tamil Nadu, Puducherry & Karaikal on 18th & 19th September.

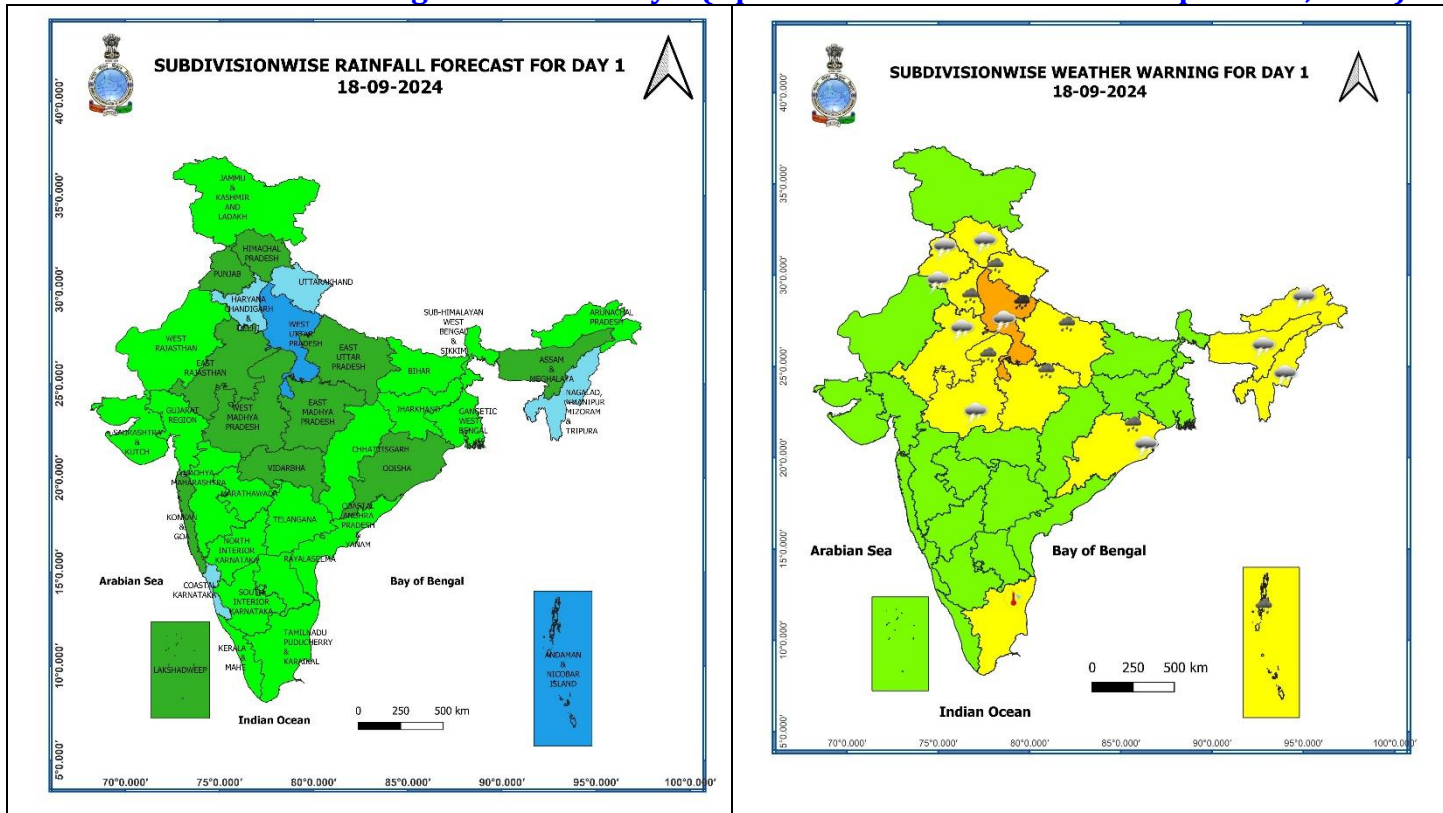
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): **at most places** over East Madhya Pradesh ; **at many places** over Uttar Pradesh, West Madhya Pradesh, Chhattisgarh, Odisha; **at a few places** over Vidarbha, Jharkhand, Lakshadweep, Coastal Karnataka; **at isolated places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Haryana-Chandigarh-Delhi, East Rajasthan, Vidarbha, Andaman & Nicobar Islands, West Bengal & Sikkim, Bihar, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Gujarat state, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, Interior Karnataka.
- ❖ **Heavy rainfall** recorded (from 0830 hours IST of yesterday to 0830 hours IST of today): **Heavy to very heavy rainfall with extremely heavy rainfall** at isolated places over West Uttar Pradesh; **Heavy to very heavy rainfall** at a few places over East Uttar Pradesh, Madhya Pradesh; at isolated places over Odisha; **Heavy rainfall** at isolated places over Jharkhand and Uttarakhand
- ❖ **Significant amount of rainfall** (from 0830 hours IST of yesterday to 0830 hours IST of today) (in cm): **West Uttar Pradesh:** Rath (Dist Hamirpur) 22, Hamirpur Obsy (Dist Hamirpur) 13, Etawah Obsy (Dist Etawah) 12, Chakkar Nagar (Dist Etawah) 12; **East Uttar Pradesh:** Attarra (Dist Banda) 16, Kanpur Obsy (Dist Kanpur City) 12, Mau Tehsil (Dist Chitrakoot) 12, Beberu (Dist Banda) 11, Manikpur (Dist Chitrakoot) 11, Rajapur (Dist Chitrakoot) 11, Karwi (Dist Chitrakoot) 11, Kanpur Iaf (Dist Kanpur City) 10, Banda (Dist Banda) 10, Lalganj (Dist Mirzapur) 10; **West Madhya Pradesh:** Roan (Dist Bhind) 15, Lahar (Dist Bhind) 12, Mihona (Dist Bhind) 11, Gohad (Dist Bhind) 11, Mau (Dist Bhind) 11; **East Madhya Pradesh:** Hanumana (Dist Rewa) 13, Chitrangi (Dist Singrauli) 10, Rewa-Aws (Dist Rewa) 10, Gaurihar (Dist Chhatarpur) 10, Mauganj (Dist Rewa) 9, Sarai (Dist Singrauli) 9, Ajaigarh (Dist Panna) 9, Mangawan (Dist Rewa) 8, Nowgong (Dist Chhatarpur) 8, Churhat (Dist Sidhi) 8, Devendranagar (Dist Panna) 7, Naigarhi (Dist Rewa) 7, Sidhi (Gopadbanas) (Dist Sidhi) 7, Nagode (Dist Satna) 7, Birsingpur (Dist Satna) 7, Raipurkarchuliyan (Dist Rewa) 7, Sihawal (Dist Sidhi) 7, Gudh (Dist Rewa) 7, Jawa (Dist Rewa) 7, Shahgarh (Dist Sagar) 7, Unchehra (Dist Satna) 7; **Orissa:** Dhenkanal Pto (Dhenkanal) 13, Dhenkanal (Dhenkanal) 13, Bhuban (Dhenkanal) 12, Banki (Cuttack) 10, Korei (Jajpur) 10; **Jharkhand:** Lohardaga Kvk Aws (dist Lohardaga) 8, Kharsema (dist Seraikela-kharsawan) 8; **Uttarakhand:** Rudraprayag (Rudraprayag) 7.
- ❖ **Minimum Temperature Departures (as on 18-09-2024):** Minimum temperatures are **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam; **above normal (1.6°C to 3.0°C)** at isolated places over Vidarbha East Rajasthan, Rayalaseema, Assam & Meghalaya, Arunachal Pradesh, Punjab, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad. These are **below normal (-1.6°C to -3.0°C)** at isolated places over Gangetic West Bengal, East Madhya Pradesh and Madhya Maharashtra and **near normal** over rest parts of the country. Today, **the lowest minimum temperature of 18.0°C** is reported at **Rajgarh (West Madhya Pradesh)** over the plains of the country. **(Fig.4)**
- ❖ **Maximum Temperature Departures (as on 17-09-2024):** Maximum temperatures were **markedly above normal (5.1°C or more)** at isolated places over Tamil Nadu, Puducherry & Karaikal and Assam & Meghalaya; **appreciably above normal (3.1°C to 5.0°C)** at a few places over Coastal Andhra Pradesh & Yanam; at isolated places over Jammu division, Rayalaseema and Kerala & Mahe; **above normal (1.6°C to 3.0°C)** at a few places over Himachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Marathwada; at isolated places over Punjab, Haryana-Chandigarh-Delhi, West Bengal & Sikkim, Madhya Maharashtra, Vidarbha, Telangana, Lakshadweep. These were **markedly below normal (-5.1°C or less)** at few places over East Madhya Pradesh and at isolated places over Odisha; **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over Bihar, East Uttar Pradesh, Chhattisgarh, Jharkhand; **below normal (-1.6°C to -3.0°C)** at isolated places over West Madhya Pradesh, Rajasthan and **near normal** over rest parts of the country. Yesterday, **the highest Maximum Temperature of 41.0°C** was reported at **Madurai (Tamil Nadu)** over the country. **(Fig. 2)**

Meteorological Analysis (Based on 0830 hours IST)

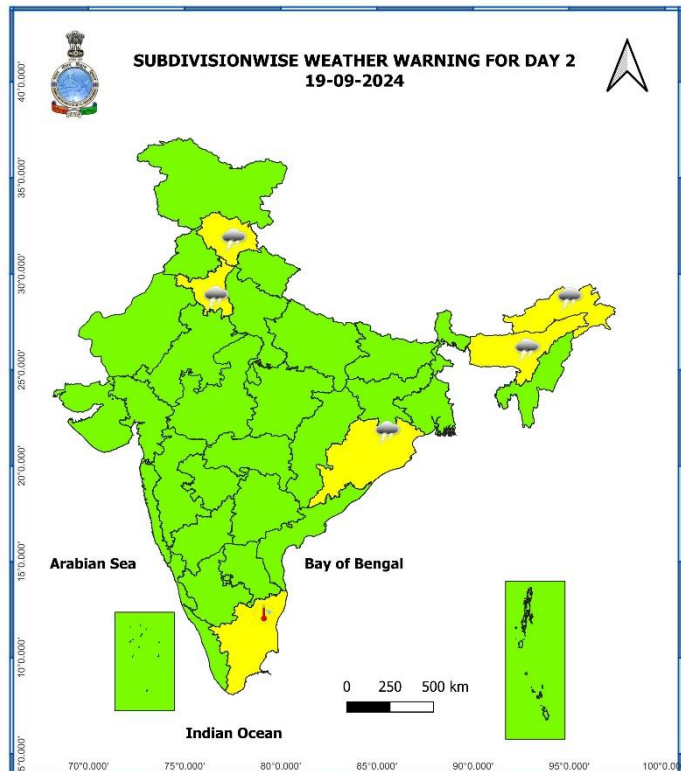
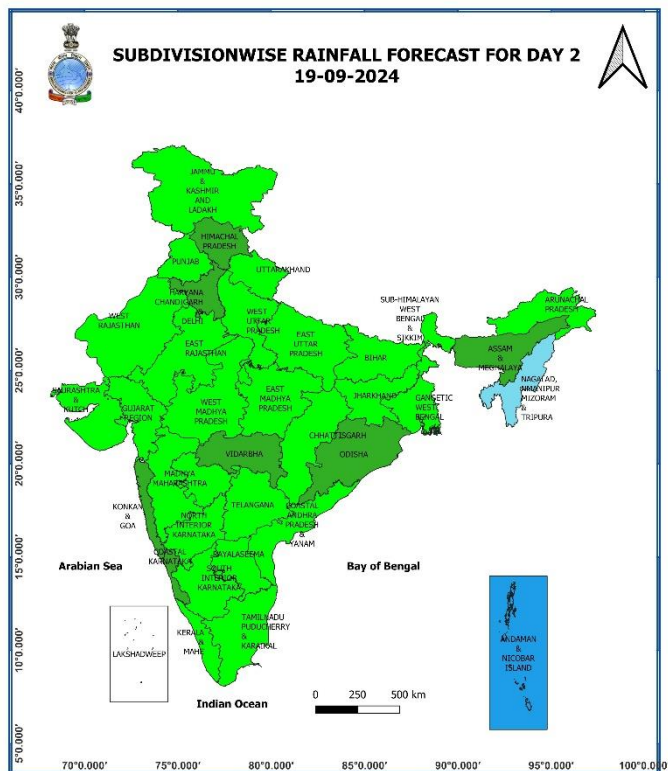
- ❖ The **Well Marked Low Pressure Area** over northeast Madhya Pradesh and adjoining southwest Uttar Pradesh now lies over central parts of north Madhya Pradesh & neighbourhood at 0830 hours IST of today, the 18th September 2024. The associated cyclonic circulation extends upto 5.8 km above mean sea level. It is likely to weaken into a **low pressure area** over the same area during next 24 hours.
- ❖ The **Monsoon trough** at mean sea level now passes through Ferozpur, Narnaul, the centre of **Well Marked Low Pressure Area** over central parts of north Madhya Pradesh & neighbourhood, Pendra Road, Puri and thence southeastwards to eastcentral Bay of Bengal.
- ❖ The **Western Disturbance** as a trough between middle tropospheric westerlies with its axis at 5.8 km above mean sea level now runs roughly along Long. 70°E to the north of Lat. 30°N.
- ❖ The **cyclonic circulation** over North Haryana now lies over north Punjab & neighbourhood at 1.5 km above mean sea level.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 25th September, 2024)



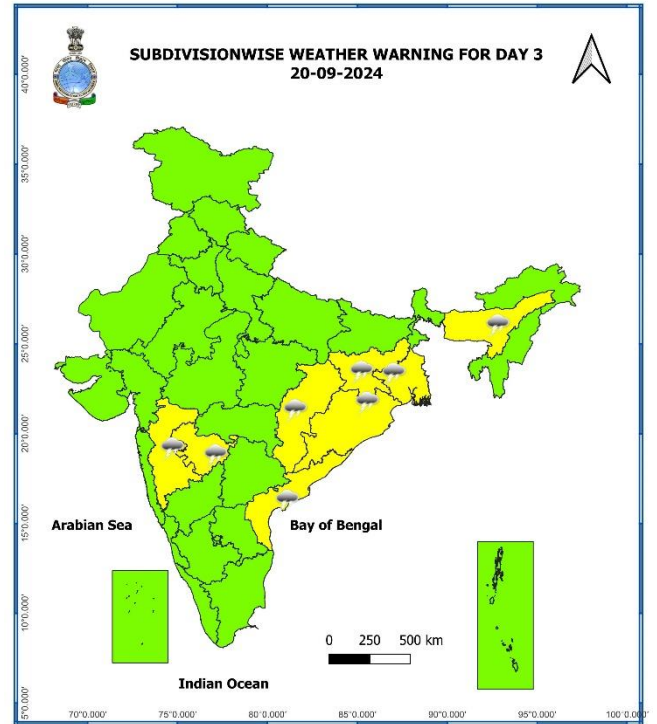
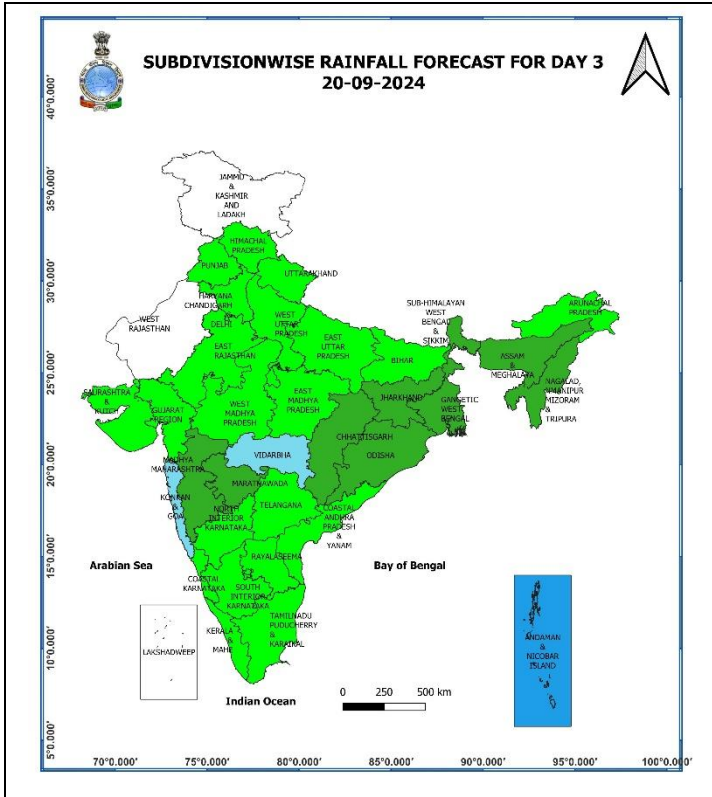
18 September (Day 1):

- ❖ **Heavy to very heavy rainfall (≥ 12 cm)** very likely at isolated places over West Uttar Pradesh; **Heavy rainfall (≥ 7 cm)** at isolated places over Uttarakhand, Haryana-Chandigarh-Delhi, East Uttar Pradesh, Madhya Pradesh, Andaman & Nicobar Islands, Odisha.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Himachal Pradesh, Punjab, Haryana-Chandigarh-Delhi, West Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Hot and Humid weather** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over many parts of westcentral adjoining southwest Arabian sea over gulf of Mannar, off Sri Lanka coast, most parts of south Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.



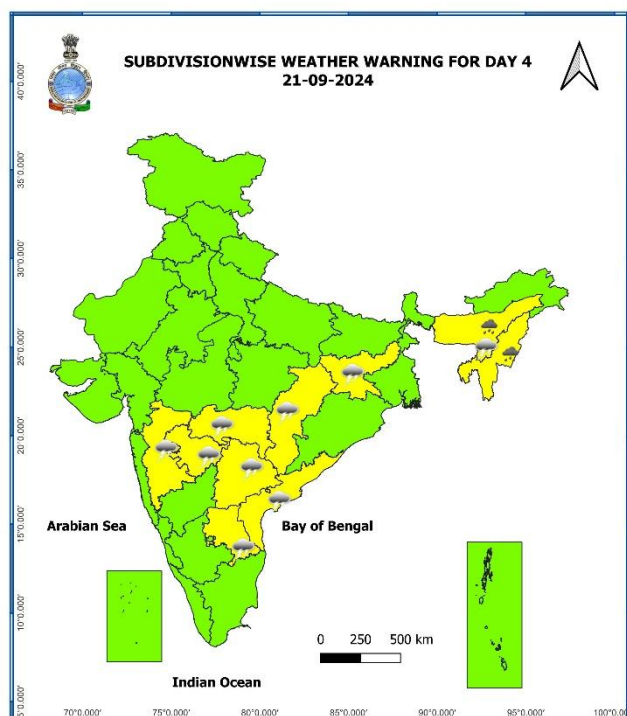
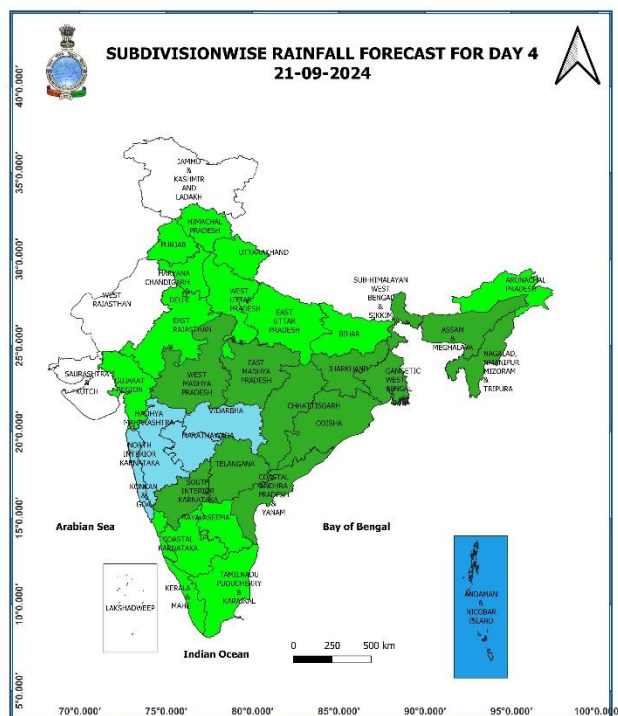
19 September (Day 2):

- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Himachal Pradesh, Haryana-Chandigarh-Delhi, Odisha, Arunachal Pradesh, Assam & Meghalaya, and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Hot and Humid weather** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail few parts of westcentral adjoining southwest Arabian sea over gulf of Mannar, off Sri Lanka coast, most parts of south Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest Arabian sea adjoining west central Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.



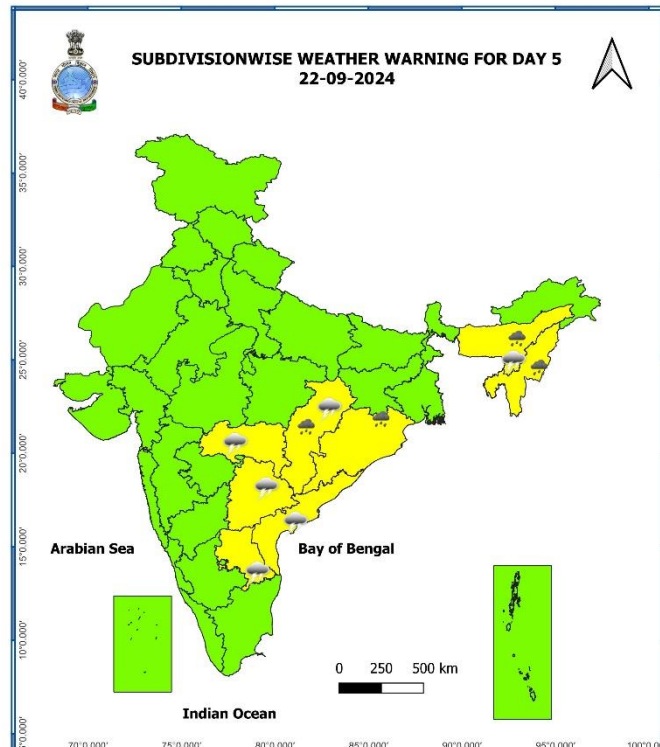
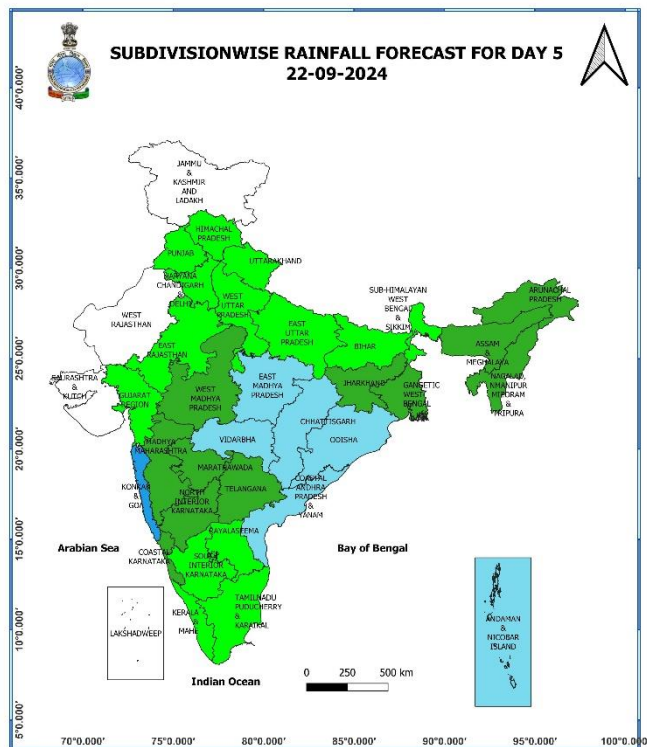
20 September (Day 3):

- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Chhattisgarh, Gangetic West Bengal, Jharkhand, Odisha, Assam & Meghalaya, Madhya Maharashtra, Marathwada and Coastal Andhra Pradesh & Yanam.
- ❖ **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, most parts of south Bay of Bengal. Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph likely to prevail over western parts of southwest Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.



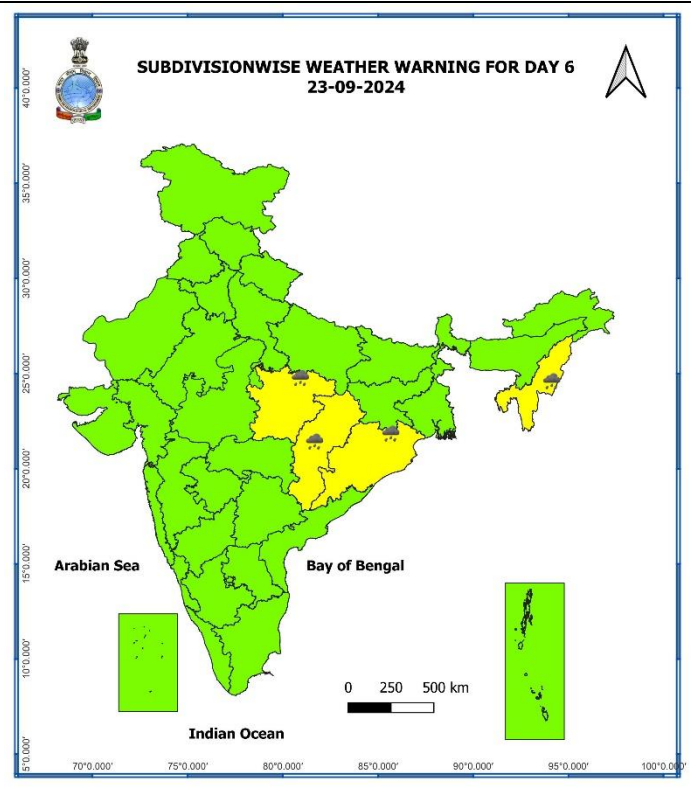
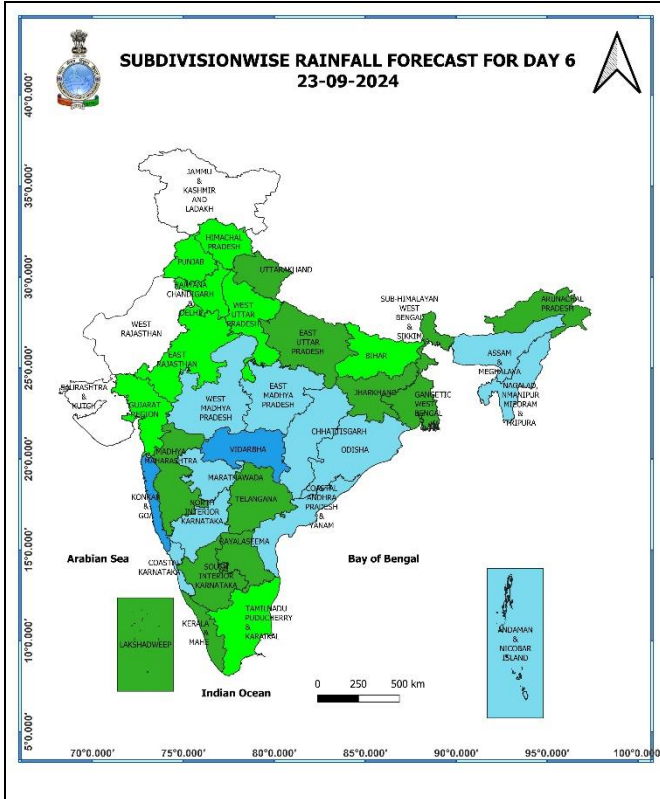
21 September (Day 4):

- ❖ **Heavy rainfall (≥ 7 cm)** at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Thunderstorm accompanied with lighting and gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Telangana; **Thunderstorm accompanied with lightning** likely at isolated places over Vidarbha, Chhattisgarh, Jharkhand, Madhya Maharashtra, Marathwada, Assam & Meghalaya, Rayalaseema and Coastal Andhra Pradesh & Yanam.
- ❖ **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 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.



22 September (Day 5):

- ❖ **Heavy rainfall (≥ 7 cm)** at isolated places over Chhattisgarh, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Thunderstorm accompanied with lighting and gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Telangana; **Thunderstorm accompanied with lightning** likely at isolated places over Vidarbha, Chhattisgarh, Assam & Meghalaya, Rayalaseema and Coastal Andhra Pradesh & Yanam.
- ❖ **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 Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over western parts of southwest Arabian sea adjoining west central Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.



23 September (Day6):

❖ **Heavy rainfall (≥ 7 cm)** at isolated places over East Madhya Pradesh, Chhattisgarh, Odisha, Nagaland, Manipur, Mizoram & Tripura.

Impact due to

- ✓ **Very heavy rainfall** at isolated places over West Uttar Pradesh on 18th September.
- ✓ **Low to Moderate flash flood risk** likely over few watersheds & neighbourhoods of West Uttar Pradesh & West Madhya Pradesh on 18th September.

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 kutchha 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 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 Andaman & Nicobar Islands, Odisha, Uttarakhand and Haryana.
- Provide mechanical support to horticultural crops & staking to vegetables.
- Keep the harvested produce at safer place.

Flash Flood Guidance:

ANNEXURE I

24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 19-09-2024 :

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

West Uttar Pradesh - Agra, Aligarh, Auraiya, Etah, Etawah, Firozabad, Jalaun, Jhansi, Kanshiramnagar, Mahamayanagar and Mainpuri districts.

West Madhya Pradesh - Bhind, Datia, Gwalior and Morena

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.

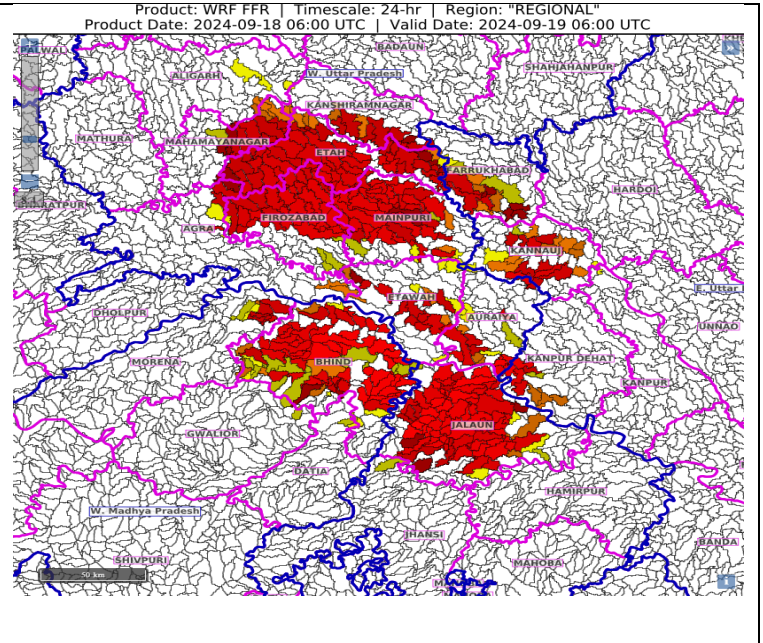


Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

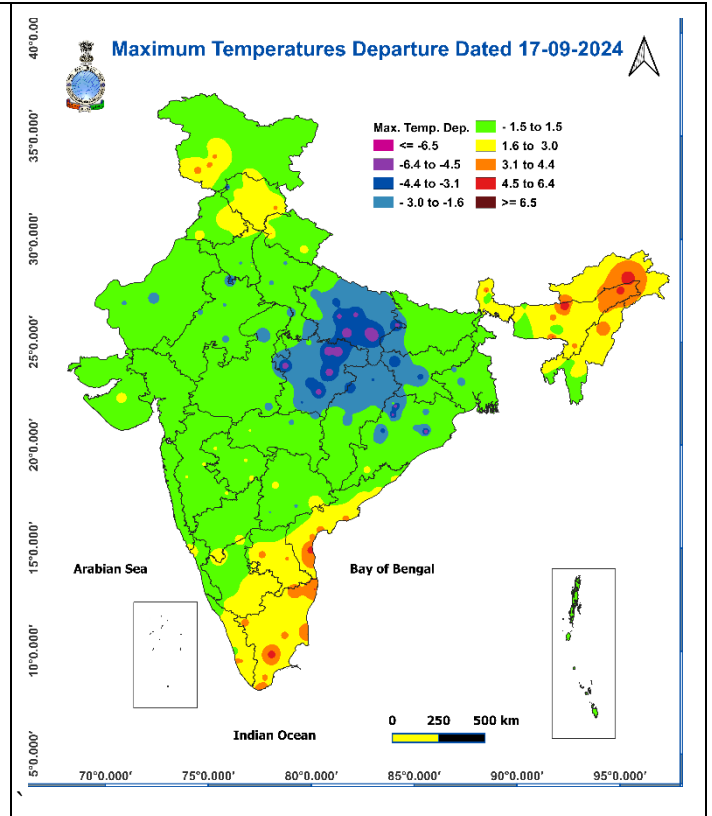
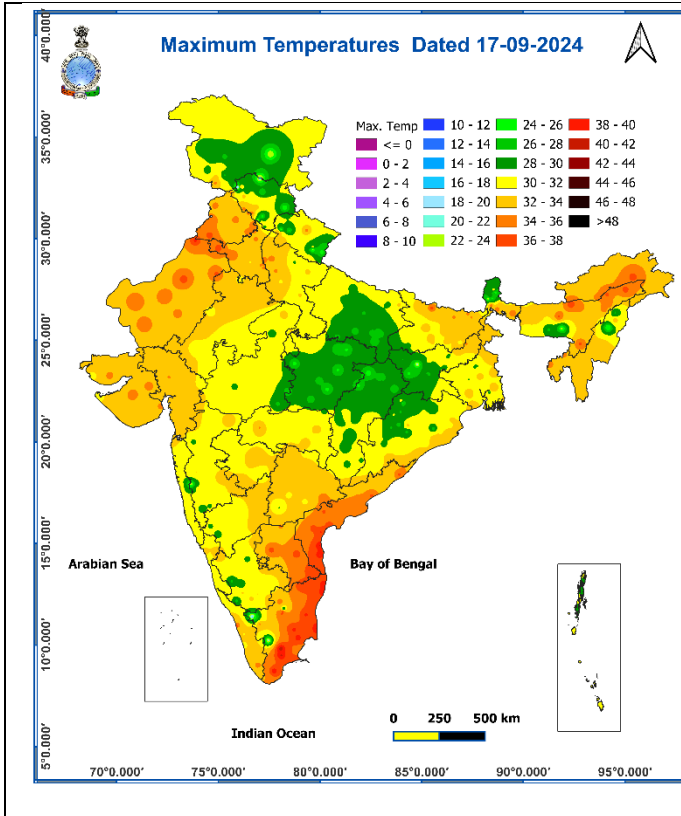
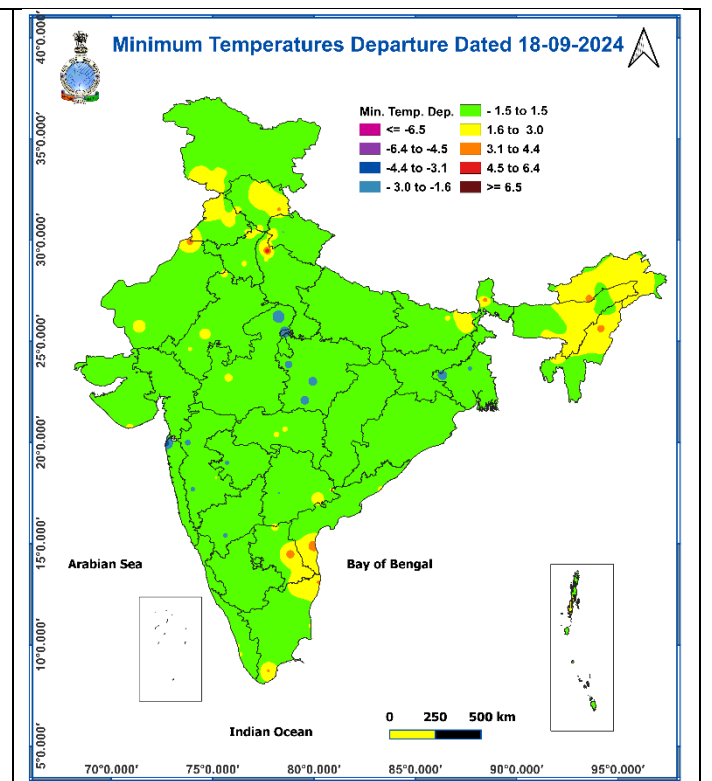
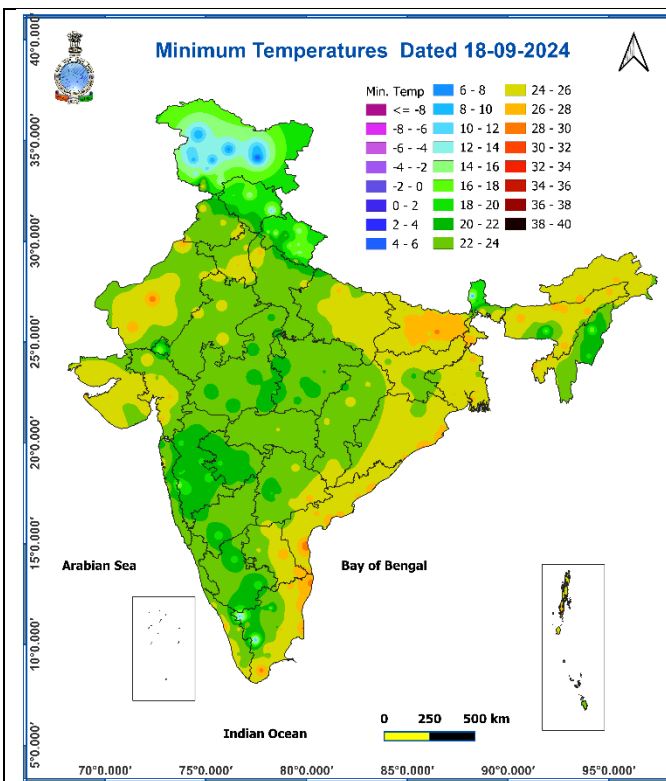


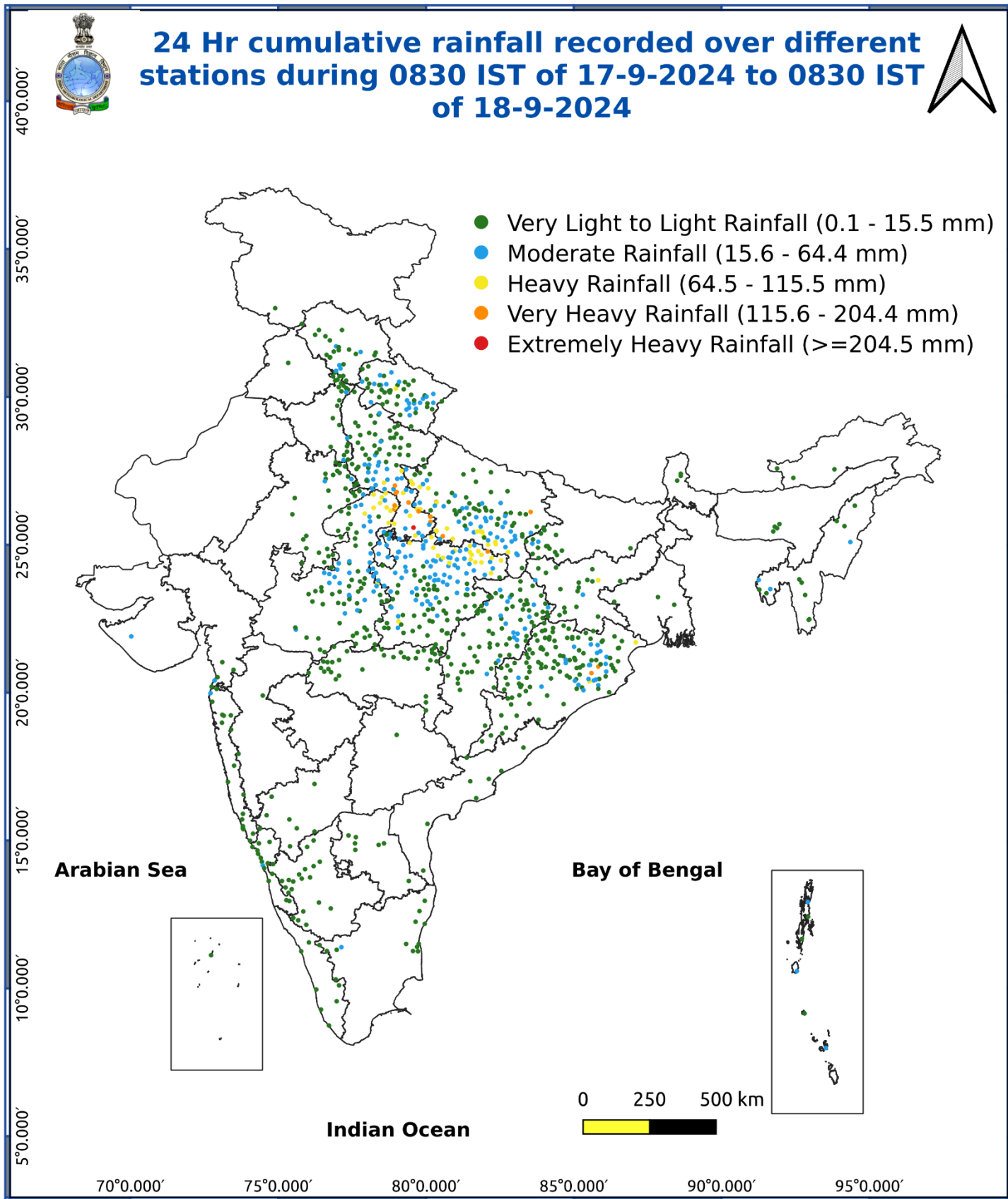
Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures



*** 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)

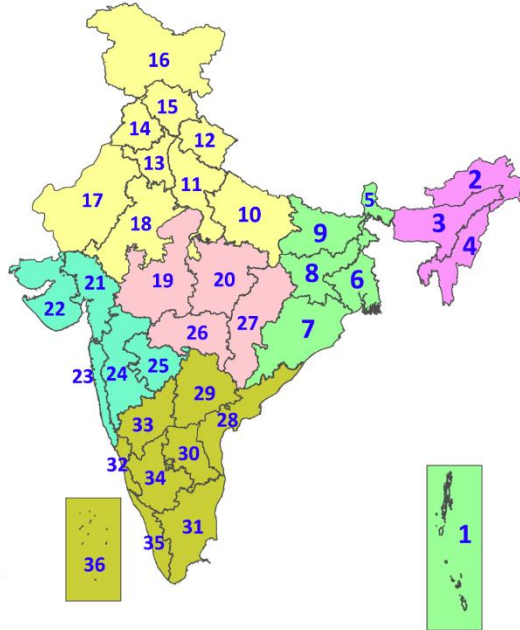
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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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>