

Saturday, August 31, 2024
Time of Issue: 0900 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems:

- ❖ The **Cyclonic Storm "ASNA" (pronounced as As-Na)** over northeast Arabian Sea off Pakistan coast moved westwards with a speed of 10 kmph during past 6 hours and lay centered at 0530 hours IST of 31st August, 2024 over the same region near latitude 23.6°N and longitude 65.8°E, 310 km west of Naliya (Gujarat), 200 km southwest of Karachi (Pakistan), 300 km southeast of Pasni (Pakistan) and 760 km east of Muscat (Oman). It is likely to continue to move nearly west-northwestwards over northeast & northwest Arabian Sea away from Indian coast and maintain its intensity till morning of 1st September. Thereafter, it is likely to move west-southwestwards for subsequent 24 hours and weaken gradually into a depression by morning of 2nd September 2024.
- ❖ The **well marked low pressure area** over westcentral & adjoining northwest Bay of Bengal off north Andhra Pradesh & South Odisha coasts moved west-northwestwards, intensified into a **Depression** and lay centered at 0530 hours IST of today, the 31st August, 2024 over the same region near latitude 17.5°N and longitude 84.5°E. It is likely to move further west-northwestwards and cross north Andhra Pradesh and adjoining south Odisha coasts between Vishakhapatnam and Gopalpur close to Kalingapatnam around midnight of today, the 31st August 2024.
- ❖ Monsoon trough at mean sea level lies to the south of its normal position.

Forecast & Warnings (upto 7 days):

❖ West & Central India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over West & Central India during the week.
- ✓ Isolated **very heavy rainfall** also very likely over Vidarbha on 01st & 02nd September; Chhattisgarh on 31st August & 01st September; East Madhya Pradesh on 02nd September; Gujarat Region during 02nd -04th September; West Madhya Pradesh on 03rd September; Madhya Maharashtra during 03rd - 05th September.
- ✓ Isolated **Heavy rainfall** very likely over Central India and Madhya Maharashtra during next 7 days; Konkan & Goa, Gujarat Region during 01st - 05th September; Marathwada during 01st - 03rd September; Saurashtra & Kutch during 02nd - 04th September.

❖ East & Northeast India

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Nagaland, Manipur, Mizoram & Tripura, Andaman & Nicobar Islands, Odisha and Scattered to Fairly widespread light/moderate rainfall very likely over Assam & Meghalaya, Arunachal Pradesh, West Bengal & Sikkim, Bihar and Jharkhand during the week.
- ✓ Isolated **very heavy rainfall** also very likely over Odisha on 31st August.
- ✓ Isolated **heavy rainfall** very likely over Odisha on 31st August & 01st September; Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 31st August- 03rd September; Sub-Himalayan West Bengal & Sikkim on 31st; Arunachal Pradesh during 31st August-03rd September.

❖ South Peninsular India:

- ✓ Fairly widespread to widespread light/moderate rainfall very likely over Coastal Karnataka, Coastal Andhra Pradesh & Yanam, Lakshadweep, Kerala & Mahe; Scattered to Fairly widespread light/moderate rainfall very likely Telangana and Interior Karnataka; isolated to scattered rainfall over Rayalaseema and Tamil Nadu, Puducherry & Karaikal during the week.
- ✓ Isolated **extremely heavy rainfall** also very likely over Coastal Andhra Pradesh & Yanam on 31st August
- ✓ Isolated **very heavy rainfall** also very likely over Coastal Andhra Pradesh & Yanam, Coastal Karnataka on 31st August; Telangana during 31st August - 02nd September.
- ✓ Isolated **heavy rainfall** very likely over Kerala & Mahe, Coastal Karnataka during next 7 days; Rayalaseema, Interior Karnataka on 31st August; Coastal Andhra Pradesh & Yanam, Telangana during 31st August- 03rd September.

❖ Northwest India

- ✓ Scattered to Fairly widespread light/moderate rainfall very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, East Rajasthan; isolated to scattered rainfall over Uttar Pradesh, Haryana-Chandigarh-Delhi, Punjab, West Rajasthan during the week.
- ✓ Isolated **heavy rainfall** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 02nd & 03rd September; Himachal Pradesh, Punjab, Haryana on 02nd September; Uttarakhand during 02nd - 04th September; Uttar Pradesh during 01st-03rd September; East Rajasthan during 01st - 05th September; West Rajasthan on 04th September.

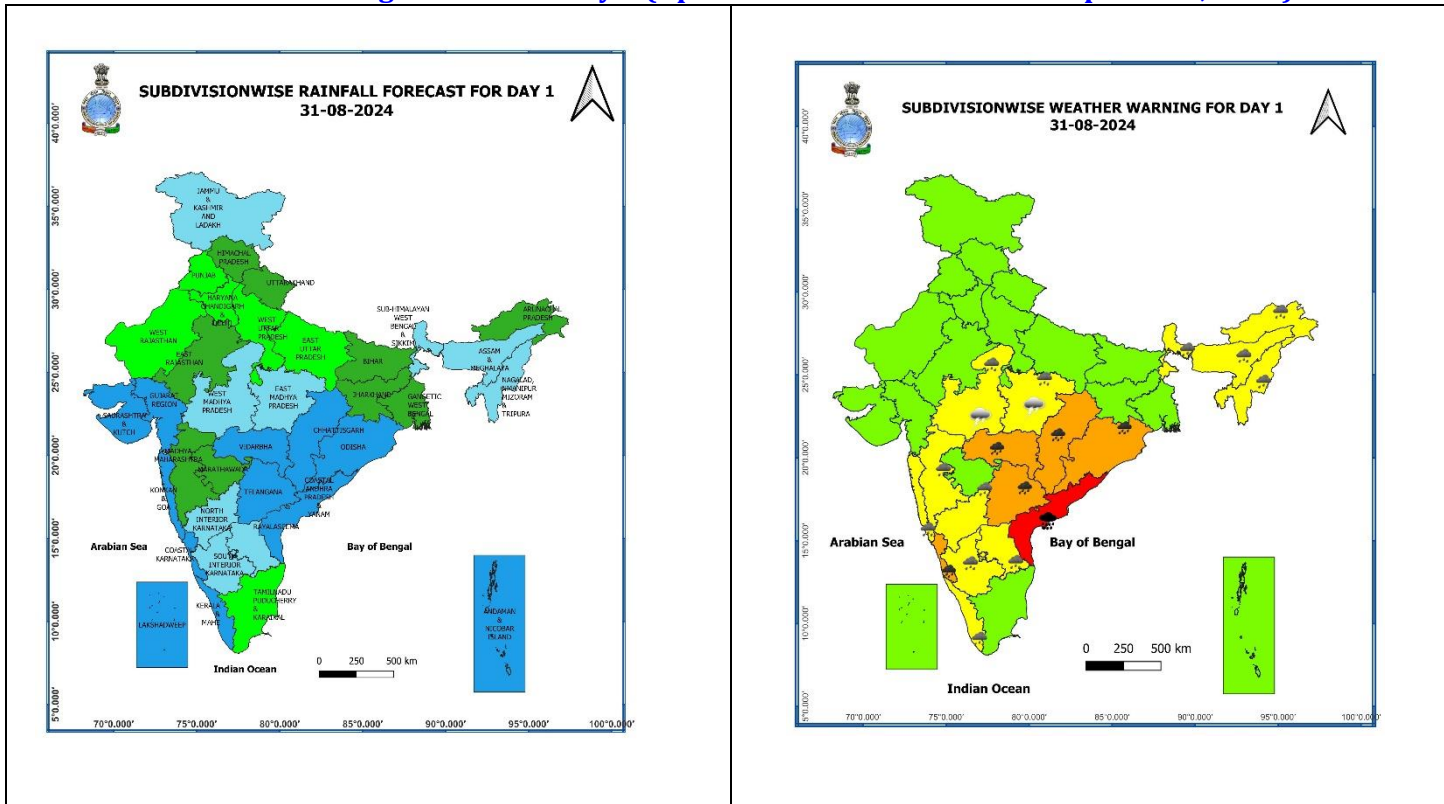
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at most places** over Kerala & Mahe; **at many places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, East Madhya Pradesh, Vidarbha, Odisha, Coastal Andhra Pradesh & Yanam, Lakshadweep, Andaman & Nicobar Islands, Gangetic West Bengal; **at a few places** over Saurashtra & Kutch, West Madhya Pradesh, Konkan & Goa; **at isolated places** over Punjab, Haryana-Chandigarh-Delhi, Rajasthan, Gujarat Region, Uttar Pradesh, Chhattisgarh, Madhya Maharashtra, Karnataka, Telangana, Rayalaseema, Tamil Nadu, Puducherry & Karaikal, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya.
- ❖ **Heavy rainfall recorded** (from 0830 hours IST to 1730 hours IST of yesterday): Nil.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **Meghalaya:** Barapani-6, **Saurashtra & Kutch:** Okha-2, Kandla, Bhuj, Veraval & Naliya-1 each; **Madhya Pradesh:** Hoshangabad, Umaria & Mandla-3 each, Indore, Gwalior, Chhindwara, Tikamgarh, Narsinghpur & Khajuraho-1 each; **Kerala:** Punalur-3, Alappuzha-2, Kottayam, Thrissur & Kozhikode-1 each; **Tamilnadu:** Dharmapuri-2, Valprai-1, **Haryana:** Bhiwani-1, **Odisha:** Baripada-1, **Coastal Andhra Pradesh:** Vishakhapatnam-3, Tuni, Kakinada & Machilipatnam-2 each, Narsapur, Nandigama, Bapatla & Ongole-1 each, **Chhattisgarh:** Pendra road-1, **Himachal Pradesh:** Sundernagar-4, Shimla-2, Manali-1, **Jammu-Kashmir:** Gulmarg-2, Srinagar-1, **South Interior Karnataka:** Gadag-1, **West Rajasthan:** Churu-2, Ganganagar & Barmer-1 each, **Vidarbha:** Nagpur-6, Wardha & Amraotio-1 each, **Konkan & Goa:** Matheran-2, **Lakshadweep:** Minicoy-2, **West Bengal:** Malda-3, Kolkata (Salt Lake) & Haldia-1 each, **Andaman & Nicobar Islands:** Port Blair-3, Hut Bay-2,
- ❖ **Minimum Temperature Departures (as on 30-08-2024):** Minimum temperatures were **above normal (1.6°C to 3.0°C)** at a few places Assam & Meghalaya, Konkan & Goa, Vidarbha; at isolated places over Uttar Pradesh, Himachal Pradesh, East Rajasthan, East Madhya Pradesh, Saurashtra & Kutch. These were **below normal (-1.6°C to -3.0°C)** at isolated places over Haryana-Chandigarh-Delhi, Gujarat Region, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Coastal Andhra Pradesh & Yanam, Tamil Nadu, Puducherry & Karaikal **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 30-08-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at most places over Arunachal Pradesh; at many places over Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim; at isolated places over Bihar, Nagaland, Manipur, Mizoram & Tripura; **above normal (1.6°C to 3.0°C)** at many places over East Uttar Pradesh, East Madhya Pradesh, Gangetic West Bengal; at a few places over Jharkhand, Chhattisgarh, Konkan & Goa; at isolated places over West Uttar Pradesh, Uttarakhand, Vidarbha, Madhya Maharashtra, Marathwada. These were **markedly below normal (-5.1°C or less)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Coastal Andhra Pradesh & Yanam; **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over Saurashtra & Kutch; **below normal (-1.6°C to -3.0°C)** at isolated places over West Rajasthan, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal and **near normal** over rest parts of the country. Yesterday, **the highest Maximum Temperature of 39.6°C** was reported at **Lunding (Assam)** over the country. **(Fig. 2)**

Meteorological Analysis (Based on 0530 hours IST)

- ❖ The **Cyclonic Storm "ASNA" (pronounced as As-Na)** over northeast Arabian Sea off Pakistan coast moved westwards with a speed of 10 kmph during past 6 hours and lay centered at 0530 hours IST of 31st August, 2024 over the same region near latitude 23.6°N and longitude 65.8°E, 310 km west of Naliya (Gujarat), 200 km southwest of Karachi (Pakistan), 300 km southeast of Pasni (Pakistan) and 760 km east of Muscat (Oman). It is likely to continue to move nearly west-northwestwards over northeast & northwest Arabian Sea away from Indian coast and maintain its intensity till morning of 1st September. Thereafter, it is likely to move west-southwestwards for subsequent 24 hours and weaken gradually into a depression by morning of 2nd September 2024.
- ❖ The **well marked low pressure area** over westcentral & adjoining northwest Bay of Bengal off north Andhra Pradesh & South Odisha coasts moved west-northwestwards, intensified into a **Depression** and lay centered at 0530 hours IST of today, the 31st August, 2024 over the same region near latitude 17.5°N and longitude 84.5°E. It is likely to move further west-northwestwards and cross north Andhra Pradesh and adjoining south Odisha coasts between Vishakhapatnam and Gopalpur close to Kalingapatnam around midnight of today, the 31st August 2024.
- ❖ The **Monsoon trough** at mean sea level now passes through centre of **cyclonic storm** over northeast Arabian Sea off Pakistan coast, Jalgaon, Brahmapuri, Jagdalpur, Kalingapatnam and thence southeastwards to **Depression** over westcentral & adjoining northwest Bay of Bengal off north Andhra Pradesh & South Odisha coasts.
- ❖ The **offshore trough** at mean sea level from south Gujarat to Kerala coasts persists.
- ❖ The **Western Disturbance** as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level roughly along Long. 67°E to the north of Lat. 30°N persists.

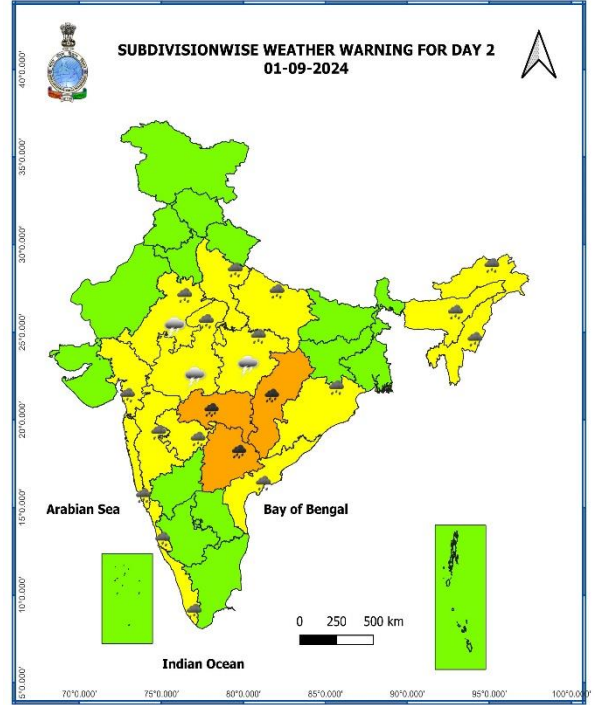
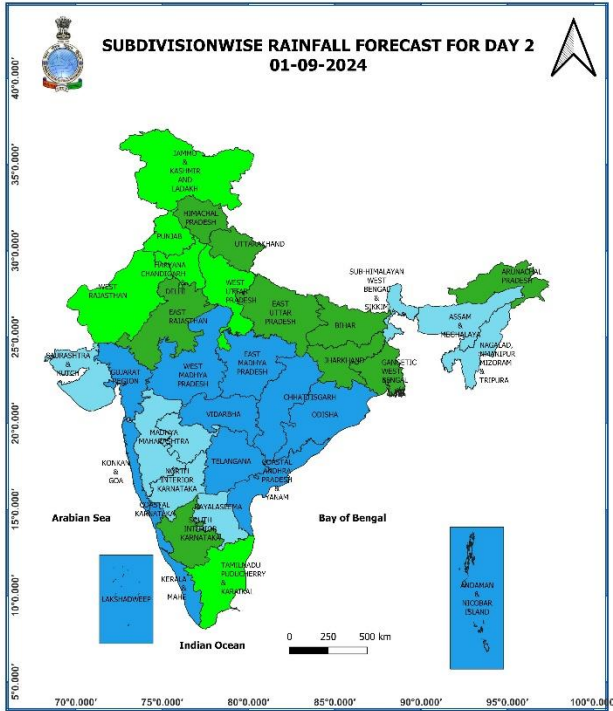
Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 07th September, 2024)



31 August (Day 1):

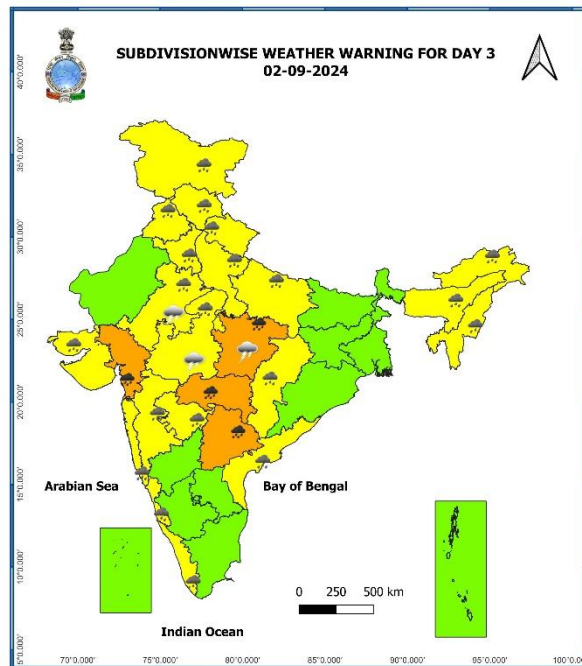
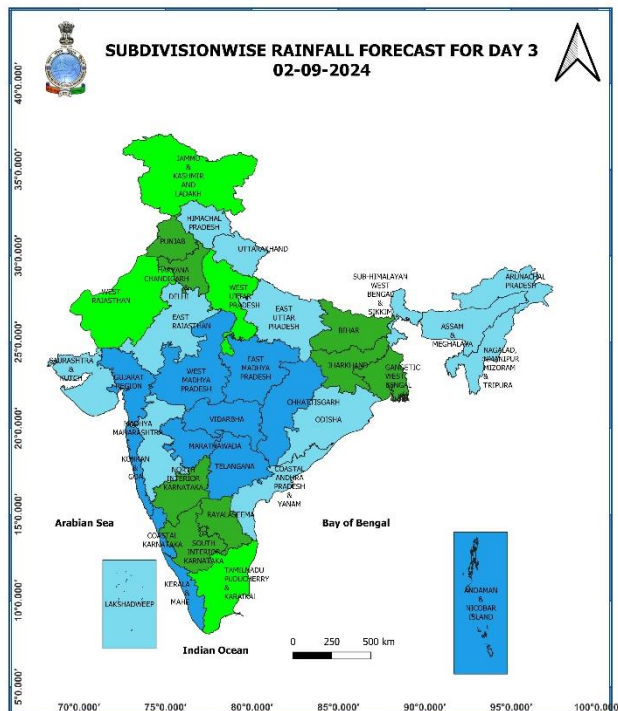
- ❖ **Heavy to very heavy rainfall (≥ 12 cm) at a few places with extremely heavy falls (> 20 cm) very likely** at isolated places over Coastal Andhra Pradesh & Yanam; **Heavy to very heavy rainfall (≥ 12 cm)** at isolated places over Vidarbha, Chhattisgarh, Odisha, Telangana, Coastal Karnataka; **Heavy rainfall (≥ 7 cm)** at isolated places over Madhya Pradesh, Goa, ghat areas of Madhya Maharashtra, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Kerala & Mahe, Rayalaseema, Interior Karnataka.
- ❖ **Thunderstorm accompanied with lighting** very likely at isolated places over Madhya Pradesh.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** is very likely to prevail over north, central Arabian sea and northern parts of south Arabian sea, along and off Gujarat, Maharashtra, Konkan, Goa, Karnataka, Kerala coasts, Lakshadweep area, over Gulf of Manner, and Sri Lanka coast; many parts of south Bay of Bengal, most parts of central Bay of Bengal, and southern parts of northwest and adjoining northeast Bay of Bengal, along and off Andhra Pradesh, Odisha, west Bengal coasts, north Andaman sea. **squally weather with winds speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail along and off Gujarat coast, northeast Arabian sea, many parts of northwest, east central Arabian sea, adjoining Westcentral Arabian sea, many parts of central and adjoining parts of northwest Bay of Bengal. Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph likely to prevail over most parts of Westcentral, western parts of southwest Arabian sea, along and off Somalia, Yemen, Oman coasts. **Squally winds with speed reaching 55 kmph to 65 kmph gusting to 75 kmph** likely to prevail along and off Gujarat coast and adjoining Pakistan coast and adjoining northeast and east central Arabian sea. Gale winds with speed reaching 65 kmph to 75 kmph gusting to 85 kmph likely to prevail over north adjoining Westcentral Arabian sea, off Gujarat, Pakistan, Iran coasts. Strong wind speed reaching 40-50 kmph gusting to 60 kmph is likely to prevail along and off north Maharashtra coasts. Fishermen are advised not to venture into these areas.

*** Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".**
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.
For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599
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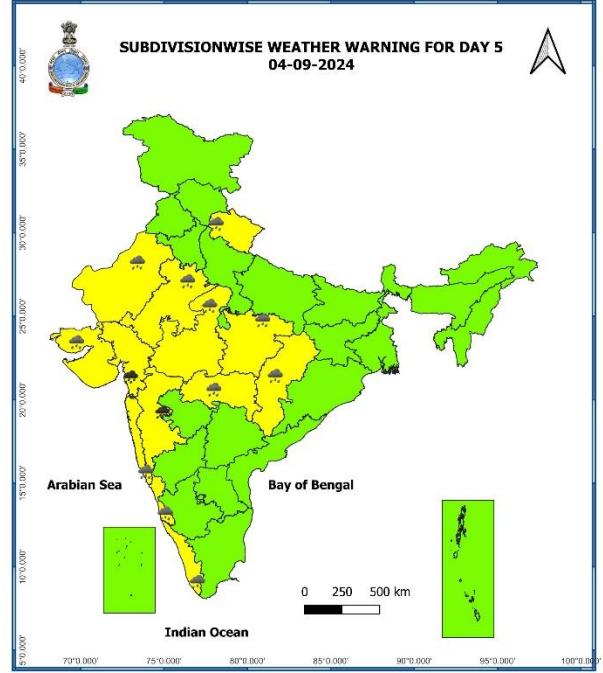
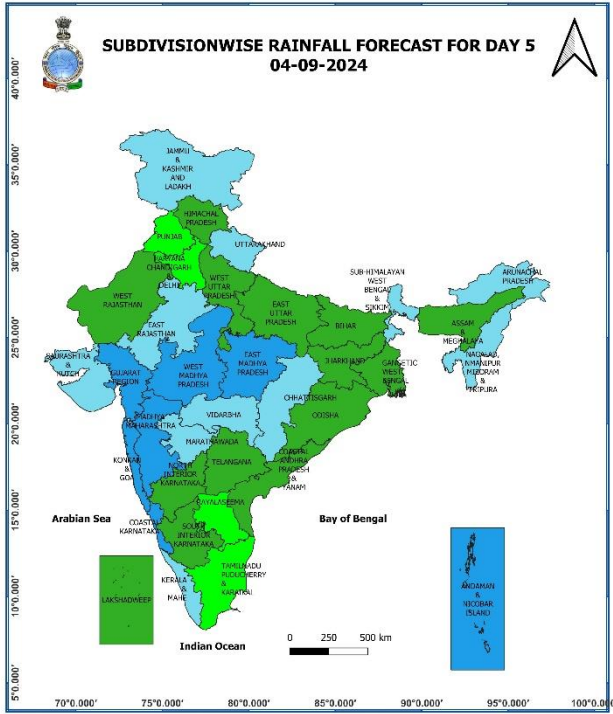
01 September (Day 2):

- ❖ **Heavy to very heavy rainfall (≥ 12 cm)** very likely at isolated places over Vidarbha, Chhattisgarh and Telangana; **Heavy rainfall (≥ 7 cm)** at isolated places over Uttar Pradesh, East Rajasthan, Madhya Pradesh, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, ghats of Madhya Maharashtra, Marathwada, Gujarat Region, Coastal Andhra Pradesh & Yanam, Coastal Karnataka, Kerala & Mahe.
- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over East Rajasthan, Madhya Pradesh.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** is very likely to prevail over north, central Arabian sea, along and off Gujarat, Maharashtra coasts, over gulf of manner, and Shri Lanka coast; most parts of central Bay of Bengal, northern parts of south Bay of Bengal and southern parts of northwest and adjoining northeast Bay of Bengal, along and off north Andhra Pradesh and Odisha coasts. **Squally weather with winds speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over most parts of Westcentral Arabian sea, adjoining parts of east central Arabian sea, many parts of northwest and adjoining northeast Arabian sea, many parts of central Bay of Bengal and adjoining areas. Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph likely to prevail over most parts of Westcentral, western parts of southwest Arabian sea, along and off Somalia, Yemen, south Oman coasts. **Squally winds with speed reaching 55 kmph to 65 kmph gusting to 75 kmph** likely to prevail along and off Gujarat coast and adjoining Pakistan coast and adjoining northeast and east central Arabian sea. Gale winds with speed reaching 65 kmph to 75 kmph gusting to 85 kmph likely to prevail over north adjoining Westcentral Arabian sea, off Gujarat, Pakistan, Iran coasts. Fishermen are advised not to venture into these areas.



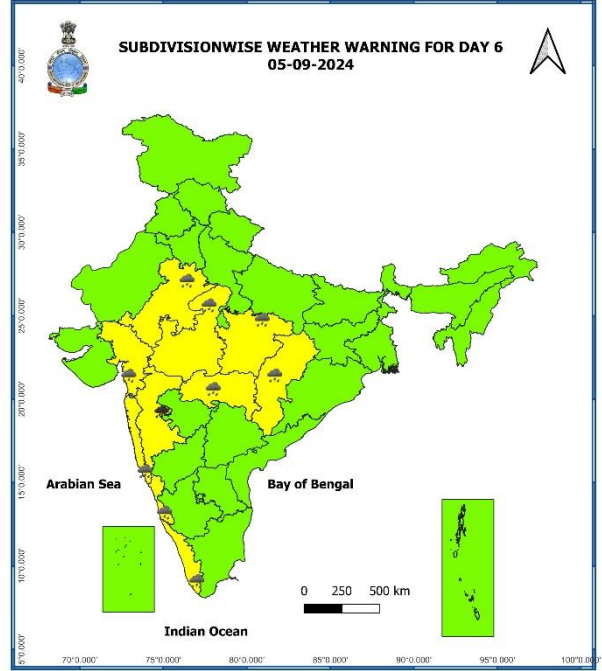
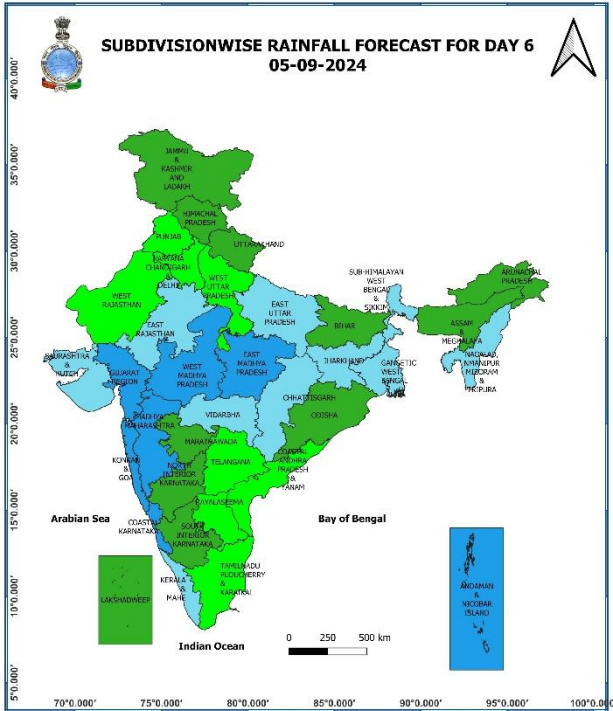
02 September (Day 3):

- ❖ **Heavy to very heavy rainfall (≥ 12 cm)** likely at isolated places over East Madhya Pradesh, Vidarbha, Gujarat Region, Telangana; **Heavy rainfall (≥ 7 cm)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh, Uttar Pradesh, East Rajasthan, West Madhya Pradesh, Chhattisgarh, Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Marathwada, Saurashtra & Kutch, Coastal Andhra Pradesh & Yanam, Kerala & Mahe, Coastal Karnataka
- ❖ **Thunderstorm accompanied with lighting** likely at isolated places over East Rajasthan and Madhya Pradesh.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevail over north, central Arabian sea, along and off Gujarat coast, over gulf of manner, and Shri Lanka coast; most parts of southwest Bay of Bengal and adjoining parts of southeast Bay of Bengal, most parts of central Bay of Bengal. **Squally weather with winds speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over many parts of Westcentral Bay of Bengal. **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over most parts of Westcentral, western parts of southwest Arabian sea, along and off Somalia, Yemen, south Oman coasts.



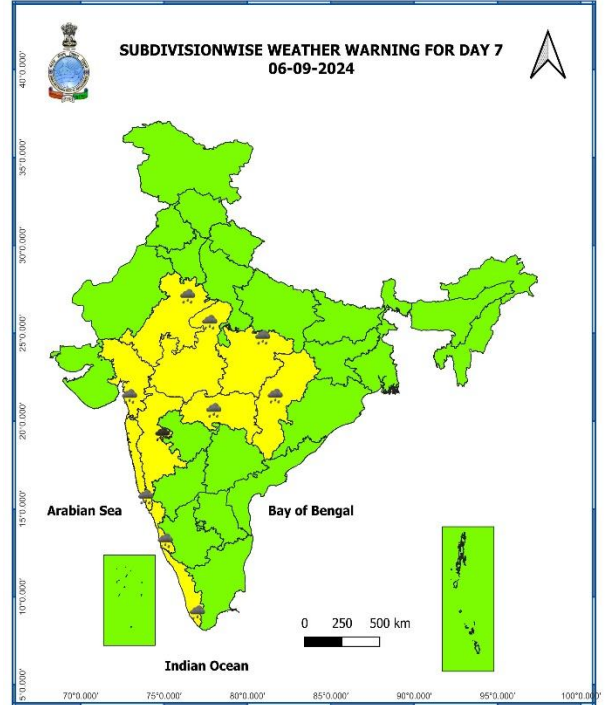
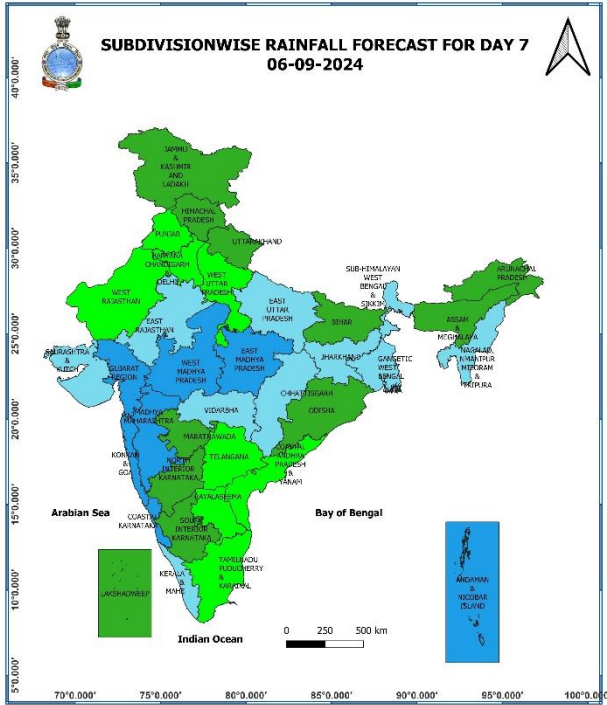
04 September (Day 5):

- ❖ **Heavy to very heavy rainfall (≥ 12 cm)** likely at isolated places over Gujarat Region, Madhya Maharashtra; **Heavy rainfall (≥ 7 cm)** at isolated places over Uttarakhand, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Konkan & Goa, Saurashtra & Kutch, Kerala & Mahe, Coastal Karnataka.



05 September (Day 6):

- ❖ **Heavy to very heavy rainfall (≥ 12 cm)** likely at isolated places over ghat areas of Madhya Maharashtra; **Heavy rainfall (≥ 7 cm)** at isolated places over East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Konkan & Goa, Gujarat Region, Kerala & Mahe, Coastal Karnataka.



06 September (Day 7):

- ❖ **Heavy to very heavy rainfall (≥ 12 cm)** likely at isolated places over ghat areas of Madhya Maharashtra; **Heavy rainfall (≥ 7 cm)** at isolated places over East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Konkan & Goa, Gujarat Region, Kerala & Mahe, Coastal Karnataka.

Weather Outlook for subsequent 3 days (During 07th September– 09th September, 2024)

- ❖ Fairly widespread to widespread rainfall likely over most parts of the country except Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Rajasthan, Punjab, Haryana-Chandigarh-Delhi and 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

- ✓ **Extremely heavy rainfall** over Coastal Andhra Pradesh & Yanam on 31st August
- ✓ **Very heavy rainfall** at isolated over Coastal Karnataka, Odisha on 31st; Telangana during 31st August – 02nd September; Vidarbha on 01st & 02nd September; Chhattisgarh on 31st August & 01st September; East Madhya Pradesh on 02nd September; Gujarat Region during 02nd - 04th September; West Madhya Pradesh on 03rd September; Madhya Maharashtra during 03rd – 05th September.
- ✓ **Low flash flood risk** likely over few watersheds & neighbourhoods of Coastal Andhra Pradesh & Yanam and Telangana on 31st August & 01st 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 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.
- ✓ 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 field crops and horticultural crops in Gujarat, ghat regions of Madhya Maharashtra, Jammu & Kashmir, Uttarakhand, Punjab, Odisha, Chhattisgarh, Kerala, Karnataka Coastal Andhra Pradesh and Telangana.
- Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in North Eastern States, Madhya Pradesh and Vidarbha.
- Drain out excess water from pigeon pea, soybean, cotton and sesame crop fields in Saurashtra & Kutch; from rice, castor, cotton, pearl millet, groundnut, sesame and maize fields in Gujarat; from maize, groundnut, ragi, vegetables, niger and banana in South Odisha.
- Due to prolonged heavy rainfall, transplanted Aman rice and vegetable crops in low-lying areas of Tripura are submerged, with young rice seedlings unlikely to recover. It is recommended to procure short-duration rice varieties for re-sowing after the cessation of rains, or alternatively, prepare in advance for winter vegetable cultivation.
- Provide mechanical support to horticultural crops & staking to vegetables.

Flash Flood Guidance:

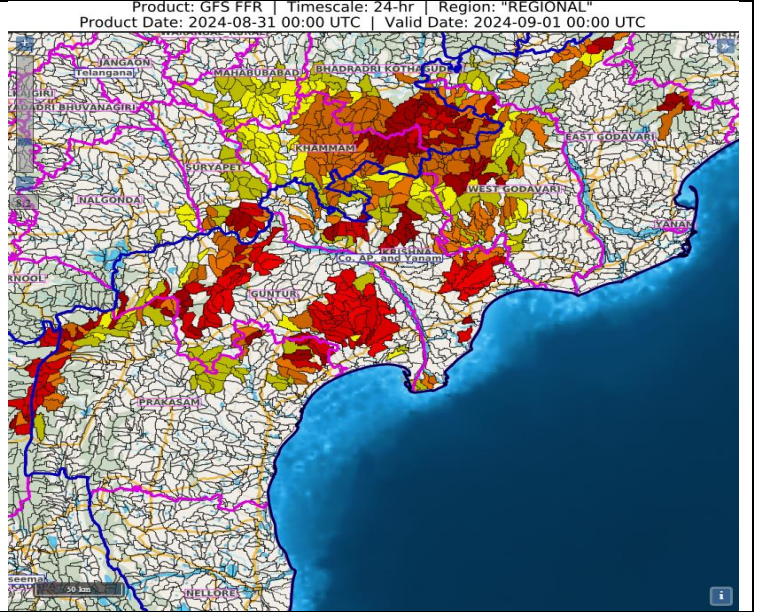
ANNEXURE I

24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 01-09-2024:

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

Coastal AP & Yanam - East Godavari, Krishna, Prakasam and West Godavari districts.
Telangana - B. Kothagudem, Khammam and Suryapet districts.

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



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Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

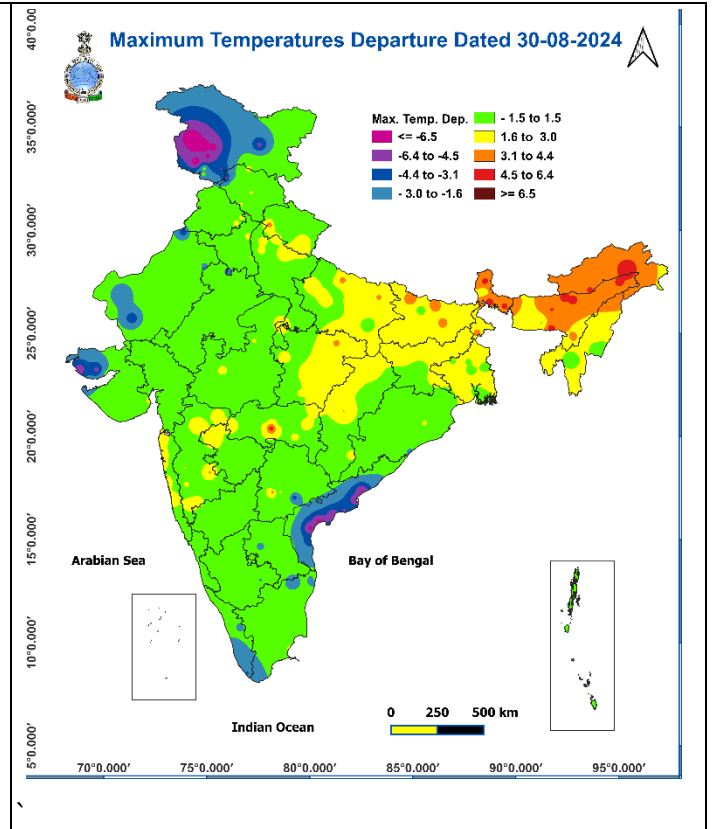
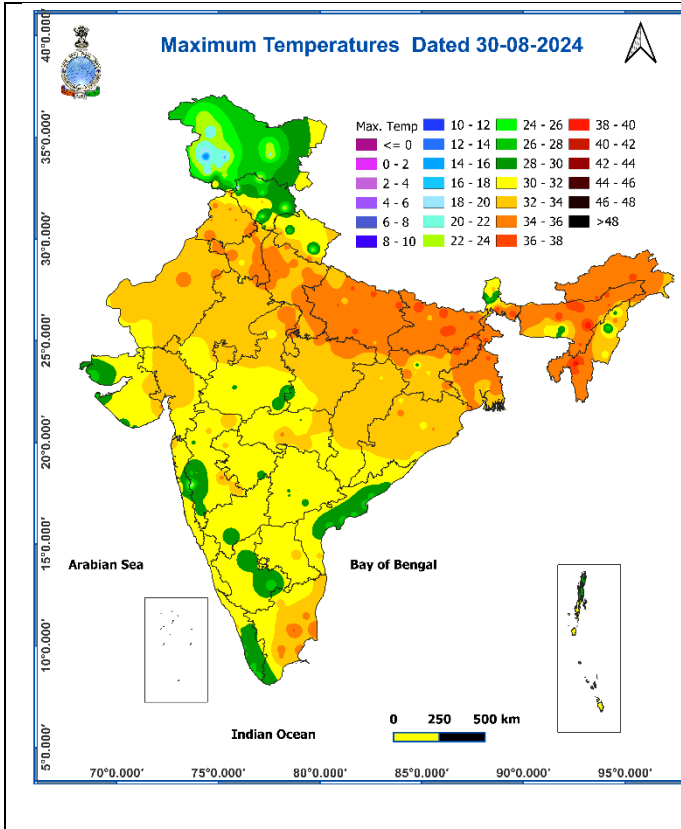


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

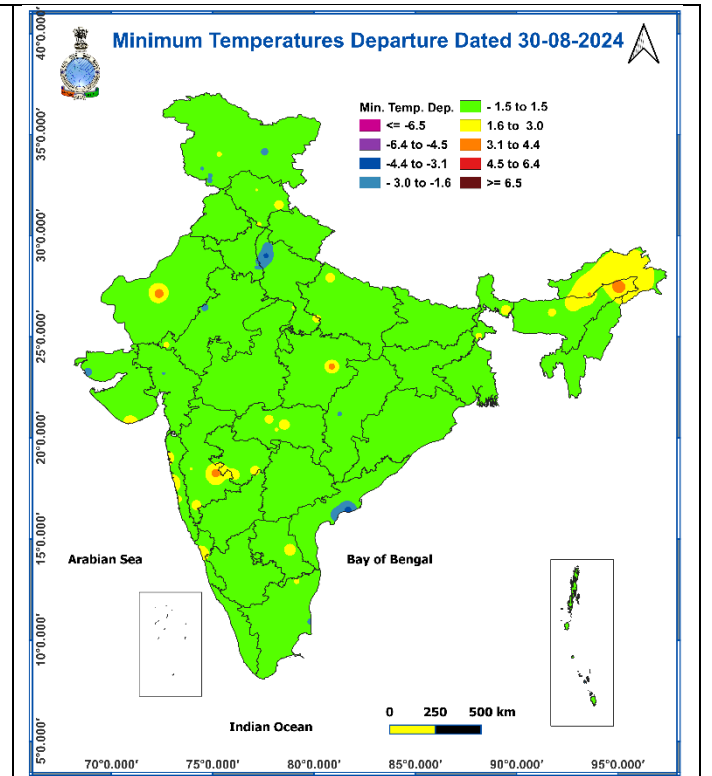
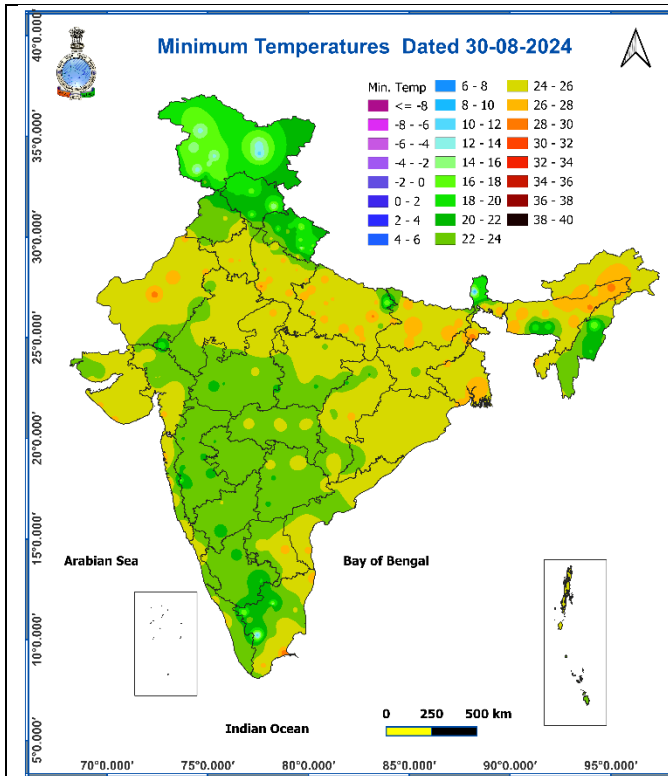
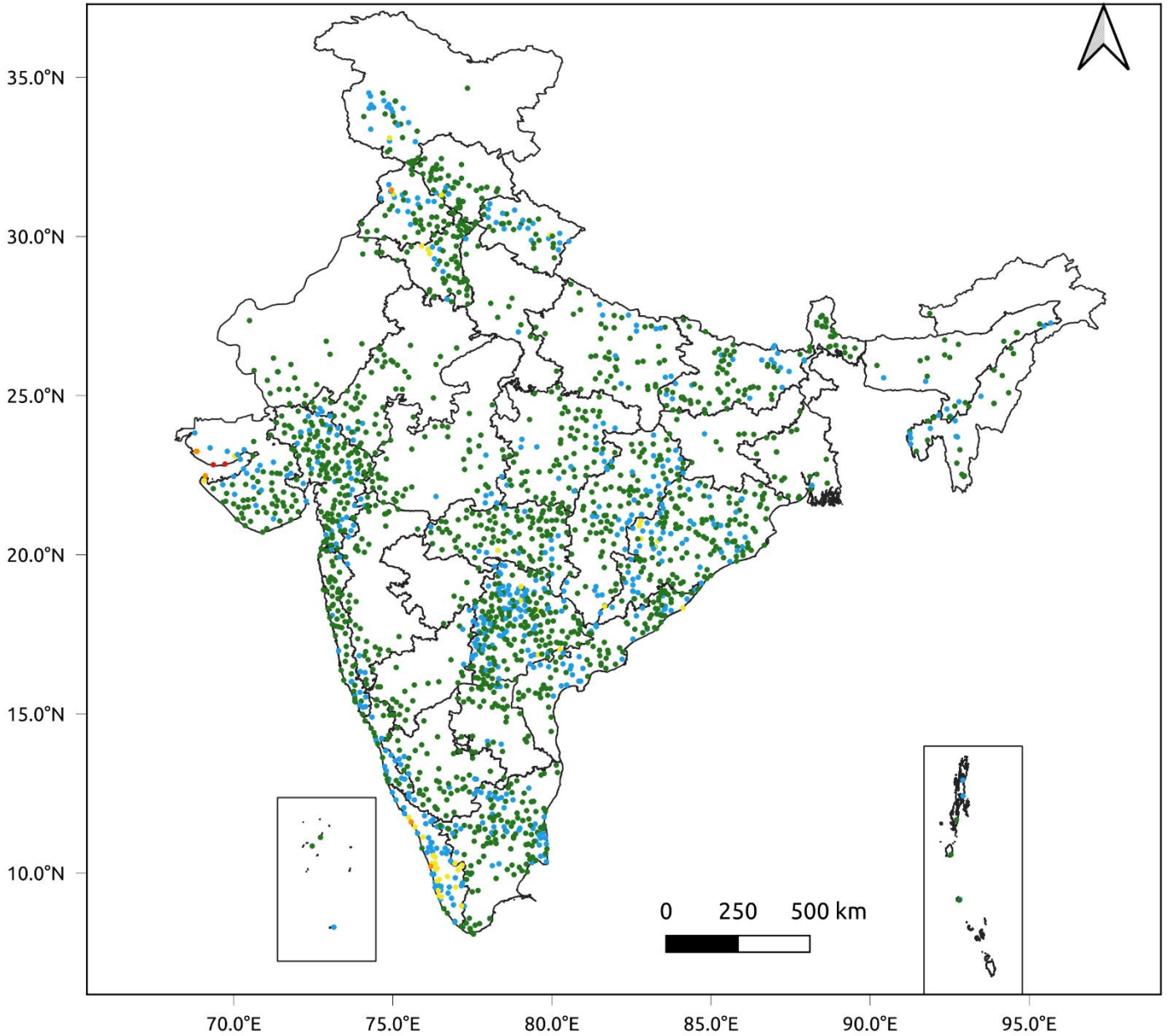


Fig. 5: Accumulated Rainfall (mm) during past 24 hours

24 Hr cumulative rainfall recorded over different stations during 0830 IST of 29-8-2024 to 0830 IST of 30-8-2024

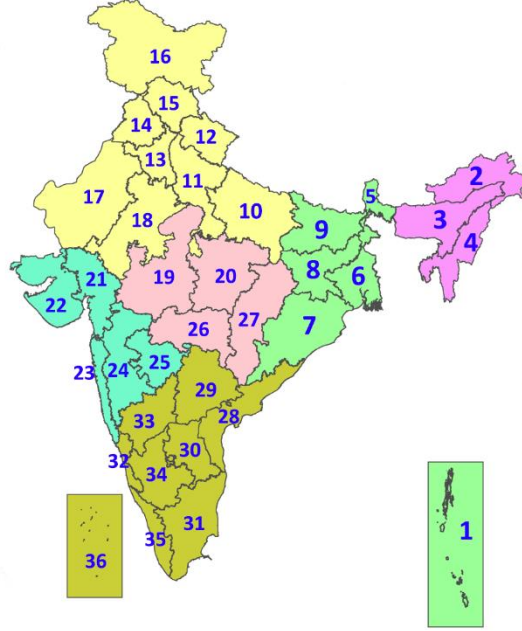


Legends

- Very Light to Light Rainfall (0.1 - 15.5 mm)
- Moderate Rainfall (15.6 - 64.4 mm)
- Heavy Rainfall (64.5 - 115.5 mm)
- Very Heavy Rainfall (115.6 - 204.4 mm)
- Extremely Heavy Rainfall (≥ 204.5 mm)

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

COLOUR CODED WARNING

No Warning (No Action)

Watch (Be Aware)

Alert (Be Prepared To Take Action)

Warning (Take Action)



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

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)