

Saturday, September 28, 2024
Time of Issue: 0800 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems:

- ✓ The **cyclonic circulation** over north Madhya Maharashtra & neighbourhood lies over southwest Madhya Pradesh & neighbourhood extending upto middle tropospheric levels.
- ✓ The **trough** runs from south Gujarat to northwest Bihar across the cyclonic circulation over southwest Madhya Pradesh extending upto middle tropospheric levels.
- ✓ A **cyclonic circulation** lies over northeast Assam & neighbourhood extending upto middle tropospheric levels.
- ✓ A **Western Disturbance** as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level runs roughly along Long. 68°E to the north of Lat. 30°N.

Forecast & Warnings (upto 7 days):

West India

- ✓ Fairly widespread to widespread light to moderate rainfall very likely over Konkan & Goa, Madhya Maharashtra, Gujarat State during next 3 days; Isolated to Scattered light to moderate rainfall over the same region during subsequent 4 days; Isolated to Scattered light to moderate rainfall over Marathwada during the week.
- ✓ **Isolated heavy rainfall** very likely over Madhya Maharashtra, Gujarat State on 28th September.

East & Northeast India

- ✓ Scattered to Fairly widespread light to moderate rainfall very likely over East India during next 4 days and Fairly widespread to widespread light/moderate rainfall over the remaining region during subsequent next 3 days; Fairly widespread to widespread light/moderate rainfall very likely over East India during next 2 days & Isolated to Scattered light to moderate rainfall during the next subsequent 5 days.
- ✓ **Isolated heavy to very heavy rainfall** very likely over Bihar on 28th September.
- ✓ **Isolated heavy rainfall** very likely over Arunachal Pradesh during 01st-03rd October; Assam & Meghalaya during 29th September-03rd October; Sub-Himalayan West Bengal & Sikkim, Bihar on 28th September; Nagaland, Manipur, Mizoram & Tripura during 30th September-03rd October.

Central India:

- ✓ Scattered to Fairly widespread light to moderate rainfall over central India during the next 3 days and Isolated to Scattered light to moderate rainfall over the same region during subsequent 4 days.
- ✓ **Isolated heavy rainfall** very likely over West Madhya Pradesh on 28th September.

Northwest India

- ✓ Fairly widespread to widespread light to moderate rainfall very likely over East Uttar Pradesh during next 3 days & Isolated to Scattered light to moderate rainfall over the same region during subsequent next 4 days; Scattered to Fairly widespread light to moderate rainfall over Uttarakhand during next 2 days & Isolated to Scattered light to moderate rainfall over Himachal Pradesh, Punjab, Haryana-Chandigarh-Delhi, Rajasthan, West Uttar Pradesh during next 3-4 days and dry weather likely to prevail over the same region during subsequent next 3-4 days.
- ✓ **Isolated heavy to very heavy rainfall** very likely over East Uttar Pradesh on 28th September.
- ✓ **Isolated heavy rainfall** very likely over Uttarakhand on 28th September.

South Peninsular India

- ✓ Fairly widespread to widespread light to moderate rainfall very likely over Kerala & Mahe, Lakshadweep during the week; Scattered to Fairly widespread light to moderate rainfall over the region during the week.
- ✓ **Isolated heavy rainfall** very likely over Tamil Nadu, Puducherry & Karaikal on 28th & 29th; Kerala & Mahe during 28th September- 02nd October.

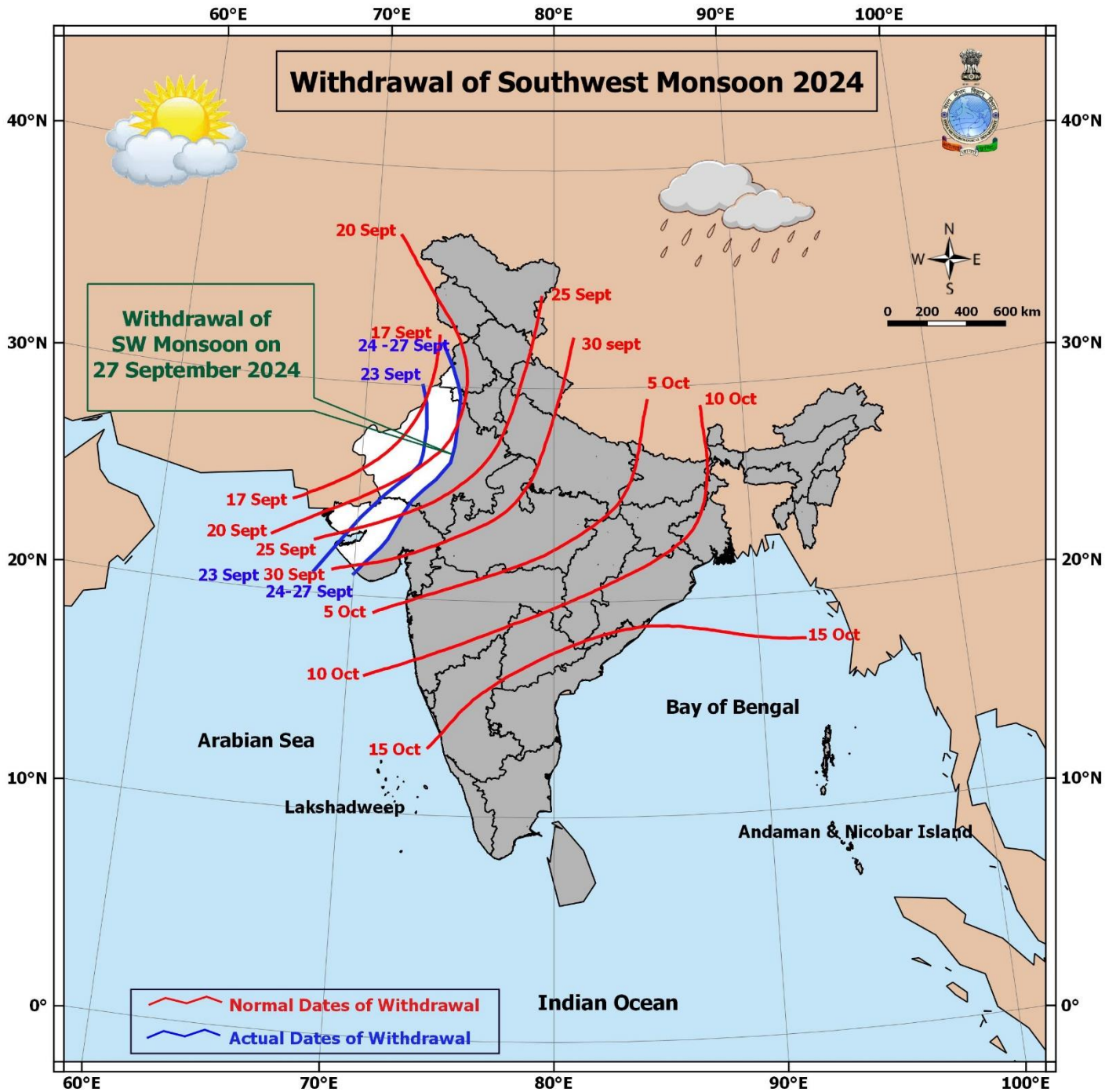
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at many places** over Sub-Himalayan West Bengal & Sikkim, East Uttar Pradesh, East Madhya Pradesh, Gujarat state, Konkan & Goa, Coastal Karnataka, Gangetic West Bengal, Chhattisgarh, Jharkhand; **at a few places** over Arunachal Pradesh, Bihar, West Uttar Pradesh, Punjab, West Madhya Pradesh, Madhya Maharashtra, Kerala & Mahe, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; **at isolated places** over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Haryana-Chandigarh-Delhi, Rajasthan, Interior Karnataka, Telangana, Rayalaseema, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Uttarakhand.
- ❖ **Heavy rainfall** recorded (from 0830 hours IST to 1730 hours IST of yesterday): **Heavy rainfall** at isolated places over Bihar and Sub-Himalayan West Bengal & Sikkim.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **Refer annexure II.**
- ❖ **Minimum Temperature Departures (as on 27-09-2024):** Minimum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over West Rajasthan, at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Punjab, East Madhya Pradesh; **above normal (1.6°C to 3.0°C)** at a few places over Saurashtra & Kutch, Madhya Maharashtra, Marathwada, Tamil Nadu, Puducherry & Karaikal and West Madhya Pradesh; at isolated places over East Rajasthan, Odisha, Chhattisgarh, Coastal Andhra Pradesh & Yanam, Rayalaseema. These were **below normal (-1.6°C to -3.0°C)** at isolated places over Assam & Meghalaya, Gangetic West Bengal and **near normal** over rest parts of the country. Yesterday, **the lowest minimum temperature of 19.4°C** was reported at **Koraput (Odisha)** over the plains of the country. (Fig.4)
- ❖ **Maximum Temperature Departures (as on 27-09-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Nagaland, Manipur, Mizoram & Tripura; **above normal (1.6°C to 3.0°C)** at isolated places over West Rajasthan, Assam & Meghalaya, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal. These were **markedly below normal (-5.1°C or less)** at most places over Sub-Himalayan West Bengal & Sikkim; at a few places over East Uttar Pradesh; isolated places over West Madhya Pradesh, Gujarat Region, Coastal Andhra Pradesh & Yanam, Bihar; **below normal (-1.6°C to -3.0°C)** at most places over Odisha, Saurashtra & Kutch, East Rajasthan, East Madhya Pradesh, Madhya Maharashtra; at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Jharkhand, Vidarbha, Marathwada Uttarakhand; at isolated places over Punjab, Arunachal Pradesh, Gangetic West Bengal, Telangana, Chhattisgarh, Himachal Pradesh and **near normal** over rest parts of the country. Yesterday, **the highest Maximum Temperature of 41.7°C** was reported at **Pokharan (West Rajasthan)** over the country. (Fig. 2)

Meteorological Analysis (Based on 0530 hours IST)

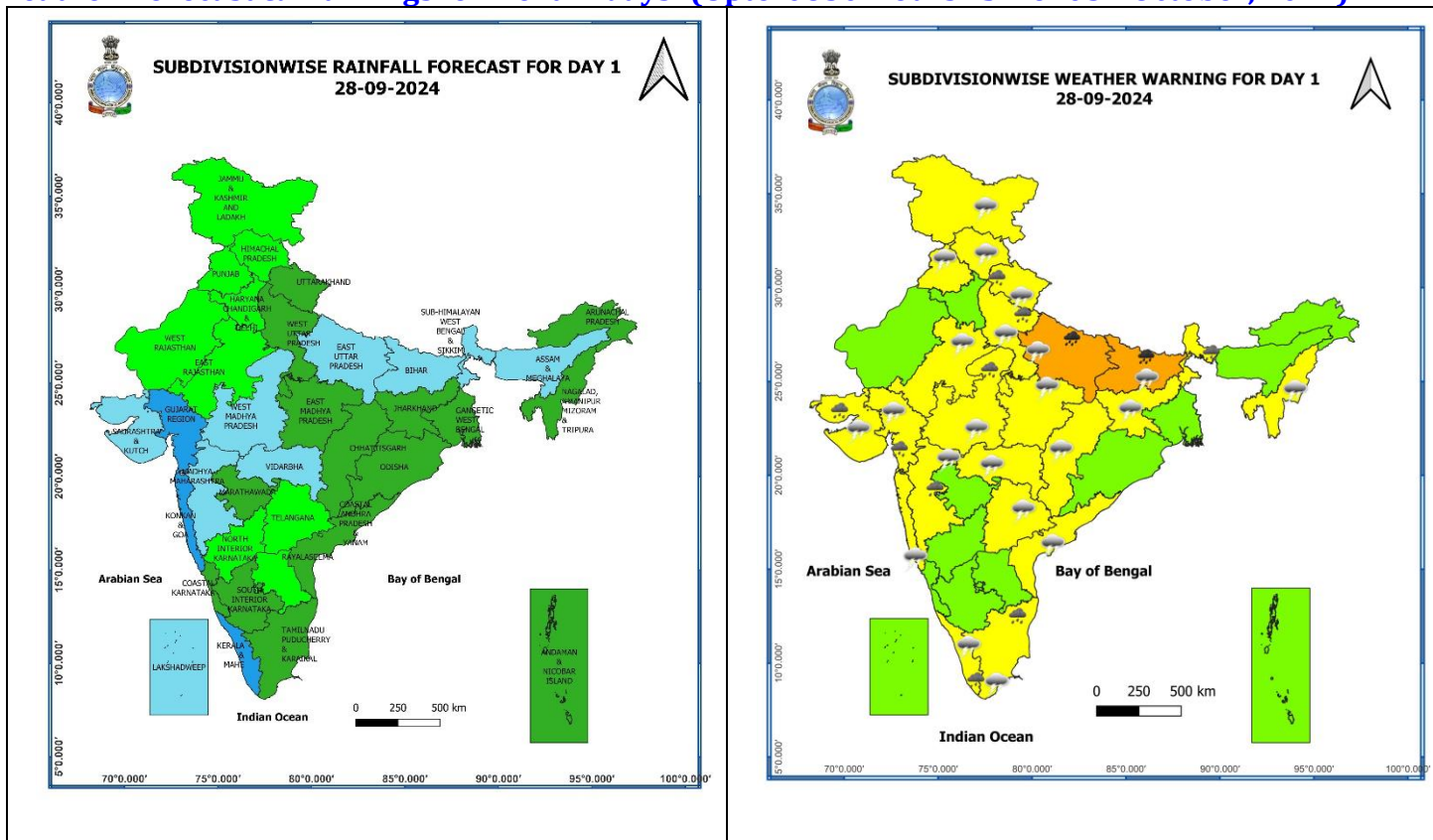
- ❖ The **line of withdrawal of southwest monsoon** continues to pass through Firozpur, Sirsa, Churu, Ajmer, Mount Abu, Deesa, Surendranagar, Junagarh and 21°N/70°E.
- ❖ The **cyclonic circulation** over southwest Madhya Pradesh now lies over southwest Uttar Pradesh & neighbourhood and extends upto 5.8 km above mean sea level tilting southwestwards with height.
- ❖ The **trough** now runs from south Gujarat to the cyclonic circulation over southwest Uttar Pradesh & neighbourhood across West Madhya Pradesh between 1.5 km & 5.8 km above mean sea level.
- ❖ The **cyclonic circulation** over northeast Assam and neighbourhood extending upto 5.8 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. 70°E to the north of Lat. 30°N.

Withdrawal of Southwest Monsoon 2024



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

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 05th October, 2024)



28 September (Day 1):

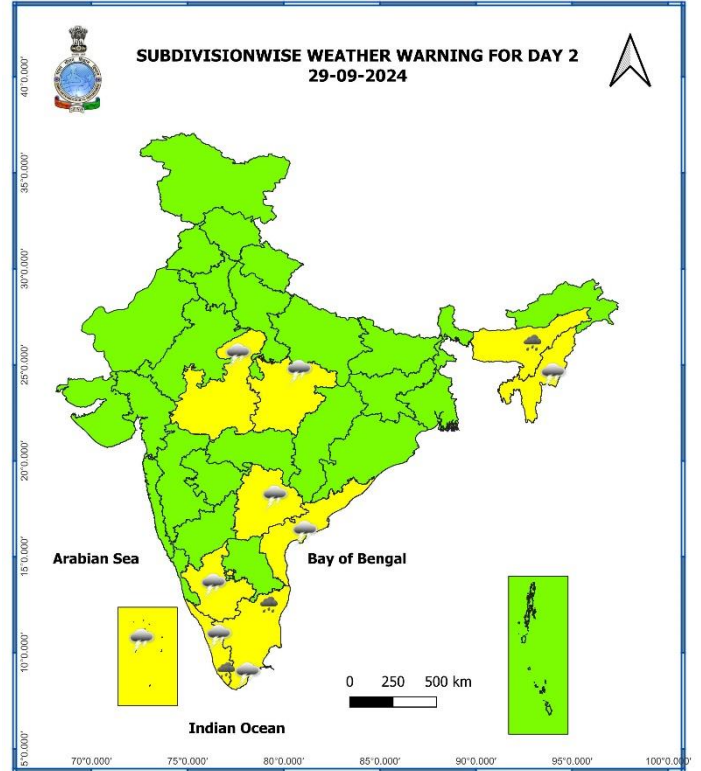
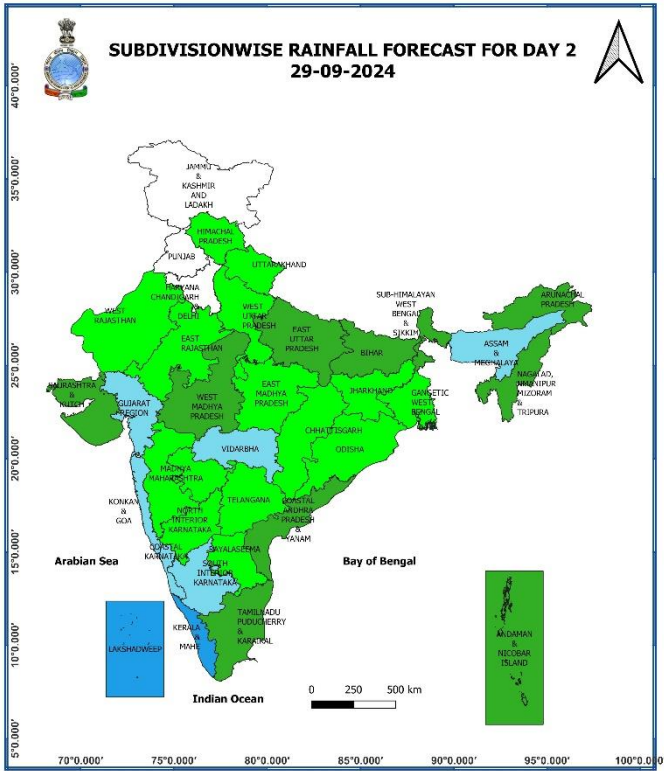
- ❖ **Heavy to very Heavy rainfall (≥ 12 cm)** very likely at isolated places over East Uttar Pradesh, Bihar; **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Uttarakhand, West Uttar Pradesh, West Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Bihar, Madhya Maharashtra, Gujarat state, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Kerala & Mahe; **with lightning** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Punjab, Uttarakhand, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Bihar, Jharkhand, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Gujarat state, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Telangana.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 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 few parts of westcentral Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.

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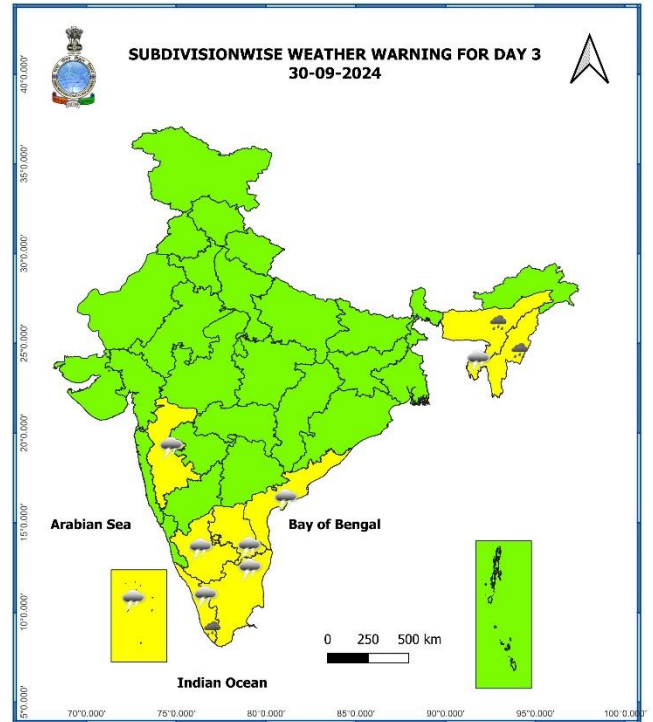
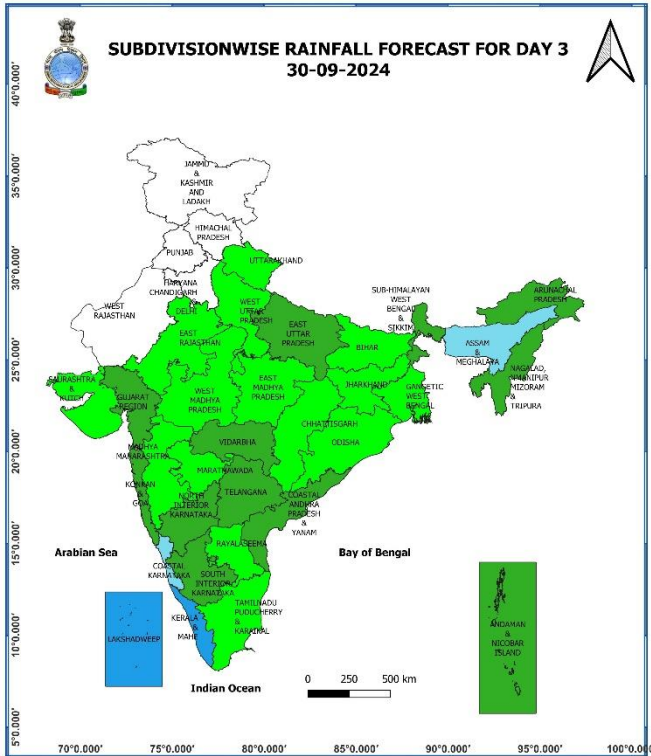
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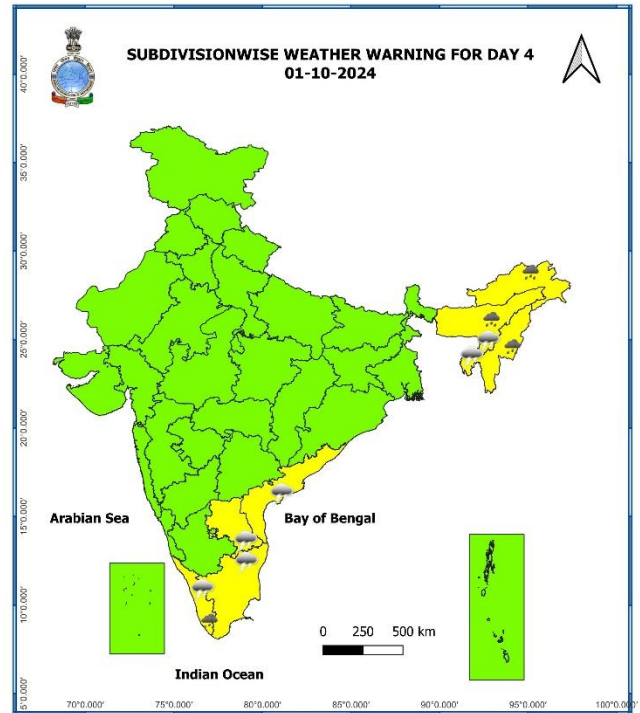
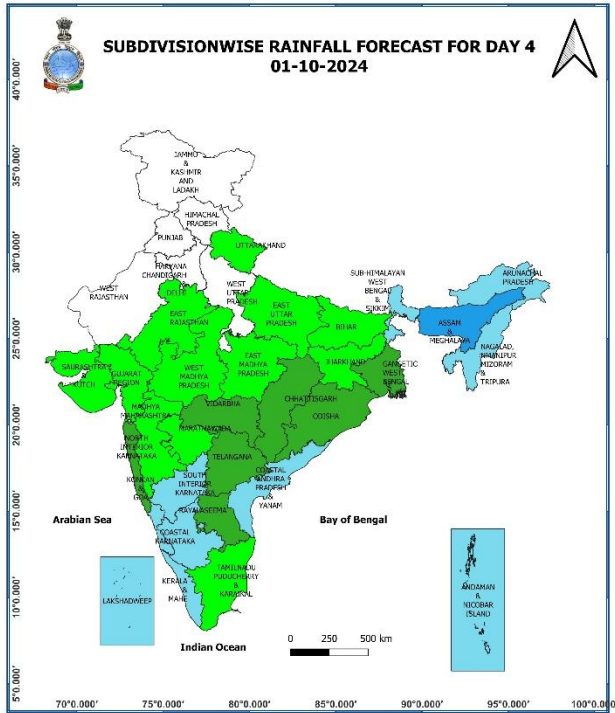
29 September (Day 2):

- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Assam & Meghalaya, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Kerala & Mahe, Lakshadweep; **with lightning** very likely at isolated places over Madhya Pradesh, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Telangana, South Interior Karnataka.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevail over gulf of Mannar, Kerala coast and Lakshadweep area. **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 few parts of westcentral Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.



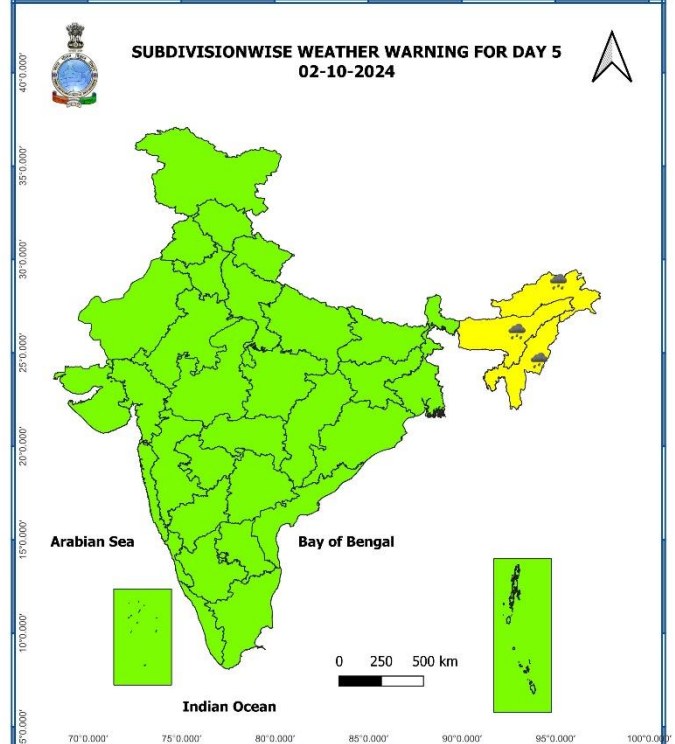
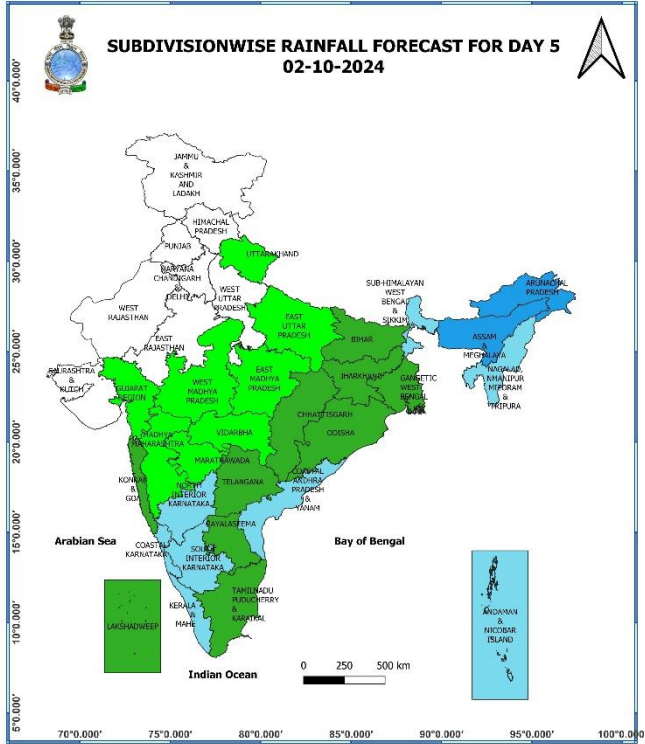
30 September (Day 3):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Kerala & Mahe.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 30-40 kmph)** likely at isolated places over Kerala & Mahe, Lakshadweep; **with lightning** likely at isolated places over Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema, South Interior Karnataka.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevail over gulf of Mannar, Kerala coast and Lakshadweep area. **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 few parts of westcentral Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.



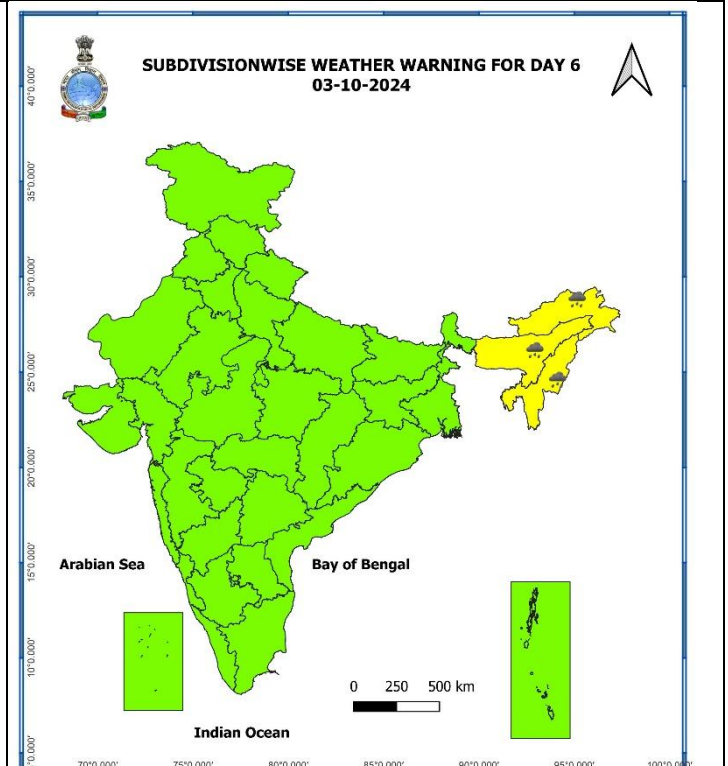
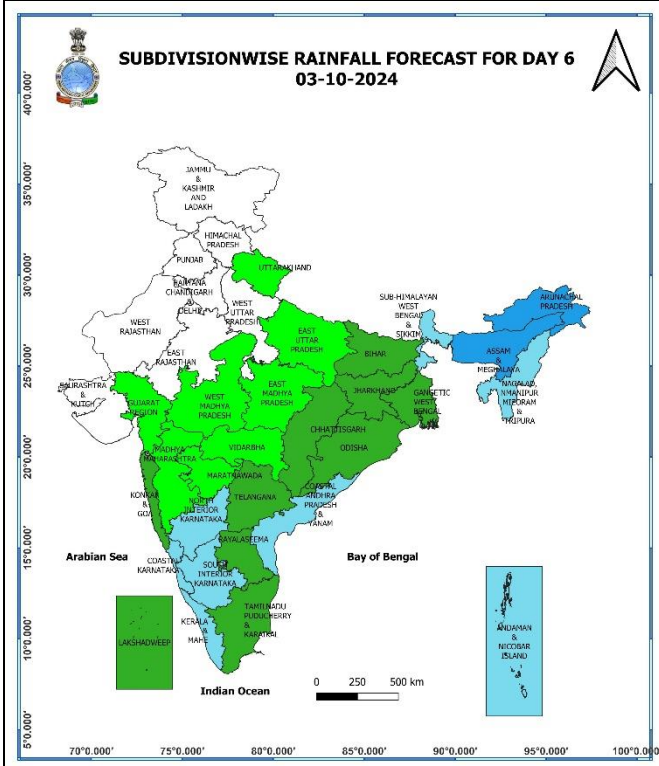
01 October (Day 4):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Kerala & Mahe.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 30-40 kmph)** likely at isolated places over Kerala & Mahe; **with lightning** likely at isolated places over Assam & Meghalaya, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema.
- ❖ **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 few parts of westcentral Arabian sea along and off Somalia coast. Fishermen are advised not to venture into these areas.



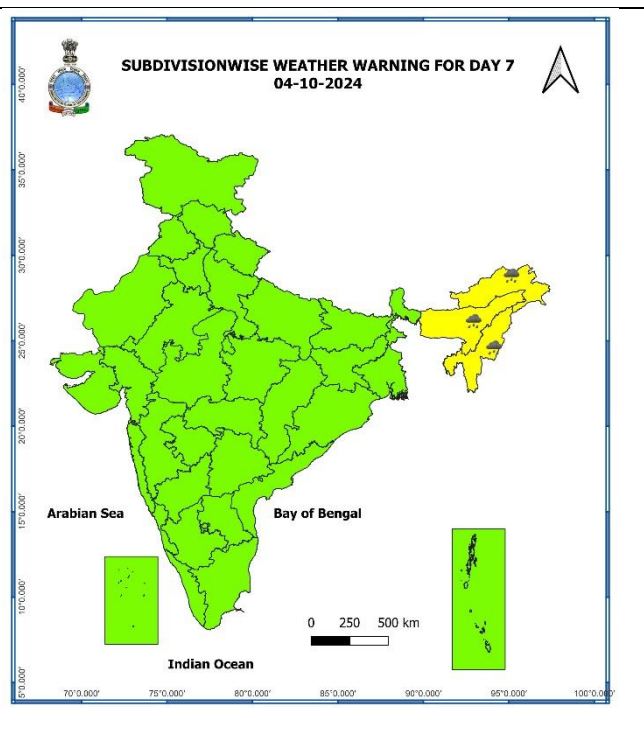
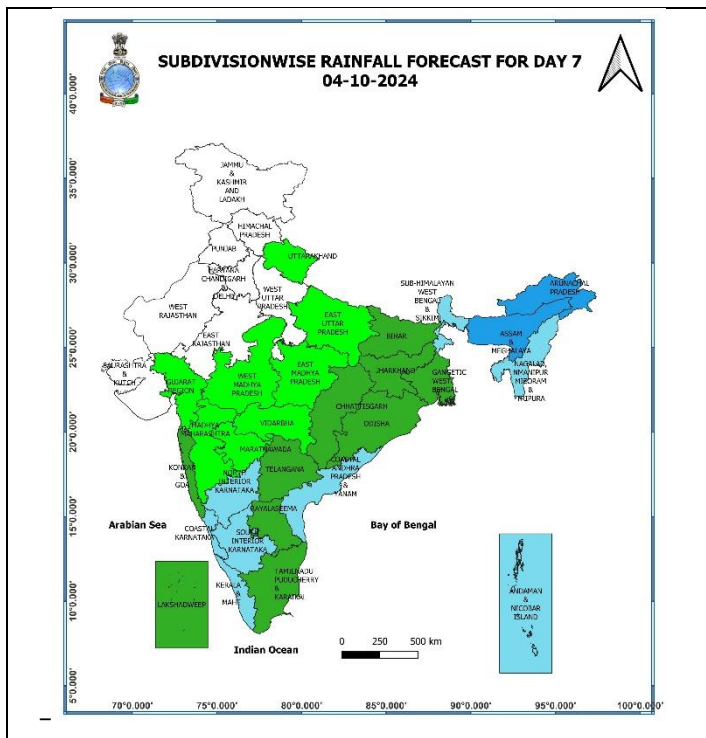
02 October (Day 5):

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



03 October (Day 6):

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



04 October (Day 7):

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

Weather Outlook for subsequent 3 days (During 05th October- 07th October, 2024)

- ❖ Dry weather likely to prevail over West Rajasthan, north Gujarat, Punjab, Haryana-Chandigarh-Delhi, and Isolated rainfall activity likely over Himachal Pradesh, Uttarakhand, East Rajasthan and Uttar Pradesh.
- ❖ Isolated to Scattered rainfall likely over Central, Eastern, North Eastern and Peninsular India.

- 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 heavy to very heavy rainfall** very likely over East Uttar Pradesh, Bihar on 28th September.
- ✓ **Moderate flash flood risk** likely over few watersheds & neighbourhoods of south Gujarat Region, East Uttar Pradesh, Bihar on 28th & 29th 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 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

- ✓ In Madhya Maharashtra region of **Maharashtra**, postpone harvesting of matured soybean, groundnut, maize and pearl millet. Immediately move the harvested produce to safer places and cover them with plastic sheets or tarpaulin.
- ✓ In Konkan region of **Maharashtra**, make arrangements to drain out excess water from rice, finger millet, turmeric, groundnut, vegetables and orchards.
- ✓ Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Tamilnadu, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Gujarat, Goa, West Bengal, Odisha, Bihar and Jharkhand.
- ✓ Keep the harvested produce at safer places.
- ✓ Provide mechanical support to horticultural crops & staking to vegetables.

Flash Flood Guidance:

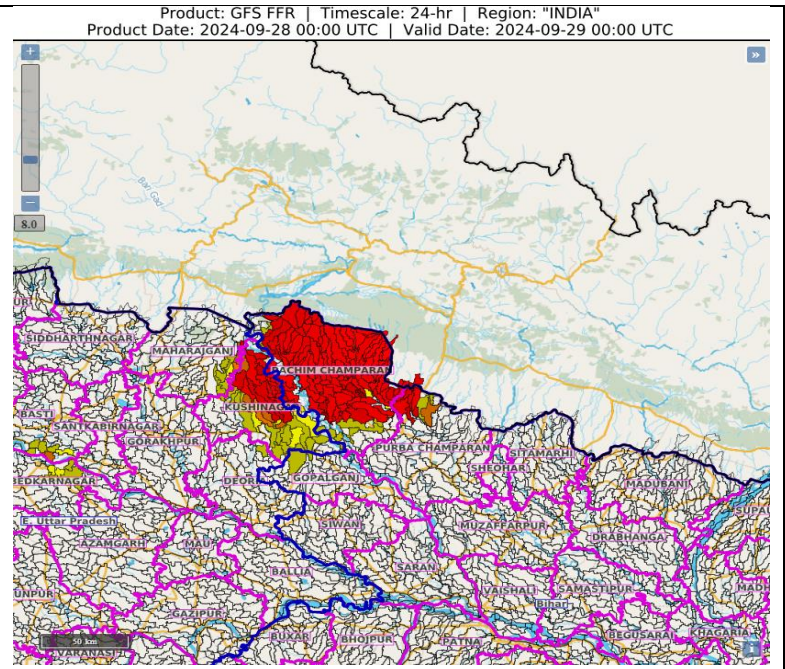
ANNEXURE I

24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 29-09-2024:

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

East Uttar Pradesh - Kushinagar, Maharajganj and Deoria districts.
Bihar - Gopalganj, Pachim Champaran, Purba Champaran, 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.

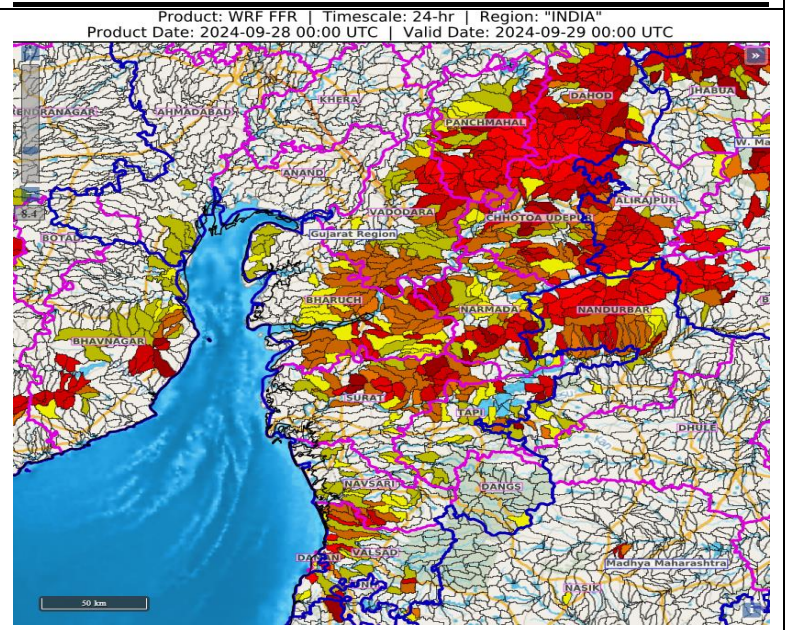


24 hours Outlook for the Flash Flood Risk (FFR) till 0530 IST of 29-09-2024:

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

South Gujarat Region - Dadar & Nagar Haveli, Daman, Anand, Bharuch, Chhota Udepur, Dahod, Dangs, Narmada, Navsari, Panchmahal, Surat, Tapi, Vadodara and Valsad 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.



ANNEXURE II

Significant Rainfall recorded from 0830 hrs IST to 1730 hours IST of 27.09.2024 (in cm):

- ❖ **Bihar:** Motihari-10, Muzaffarpur-2, Supaul-1;
- ❖ **East Uttar Pradesh:** Kanpur-6, Gorakhpur & Sultanpur-5 each, Allahabad & Hardoi- 2each, Lucknow-1;
- ❖ **West Uttar Pradesh:** Shahjahanpur-4;
- ❖ **Haryana-Chandigarh-Delhi:** Chandigarh-2, Nahan-1;
- ❖ **East Rajasthan:** Udaipur dabok-1;
- ❖ **East Madhya Pradesh:** Khajurao & Tikamgarh-2 each, Satna & Damoh- 1each;
- ❖ **West Madhya Pradesh:** Hoshangabad-2, Indore-1;
- ❖ **Chhattisgarh:** Bilashpur-2; Ambikapur-1;
- ❖ **Saurashtra & Kutch:** Surendranagar-2, Keshod-1;
- ❖ **Sub-Himalayan West Bengal & Sikkim:** Jalpaiguri-10; Darjeeling-7; Bagdogra & hasimar-6 each; Kaling pong & Gangtok-5 each; Cooch Behar-2;
- ❖ **West Uttar Pradesh:** Sultanpur-4;
- ❖ **Madhya Maharashtra:** Mahabaleshwar-3; Nasik-1;
- ❖ **Konkan & Goa:** Matheran-4, Damoh, TBIA , Santacruz & Colaba – 2each.
- ❖ **Jharkhand:** Daltonganj- 1;
- ❖ **Coastal Andhra Pradesh & Yanam:** Visakhapatnam (dist Vishakhapatnam) 3, Kakinada-4, Tuni-1;
- ❖ **Odisha:** Puri-3, Balasore-1;
- ❖ **Gangetic West Bengal:** Barrackpore, Kalikunda & Contai- 1each;
- ❖ **Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad:** Udhampur-3, Jammu-2
- ❖ **Himachal Pradesh:** Una-2;

Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

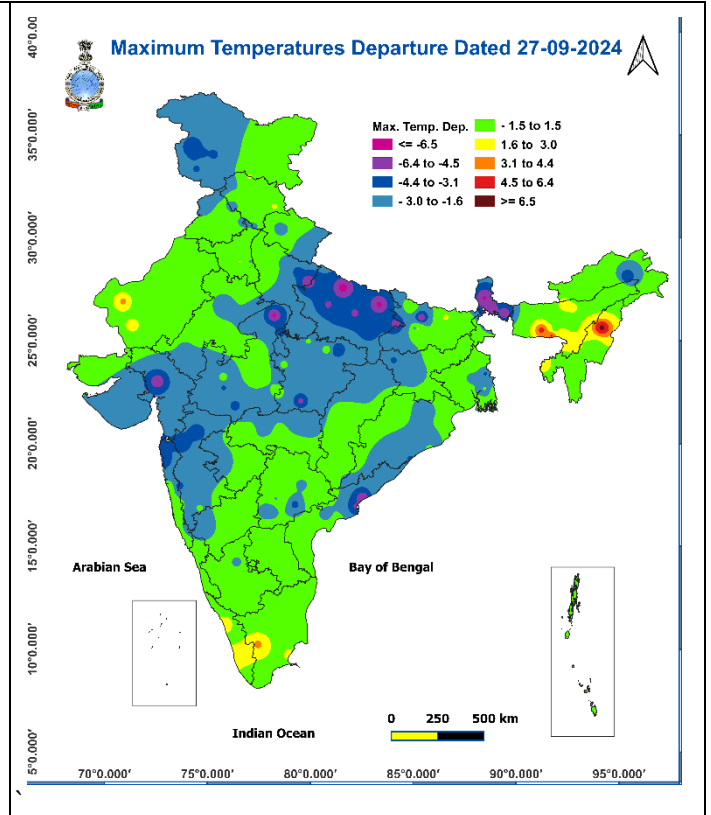
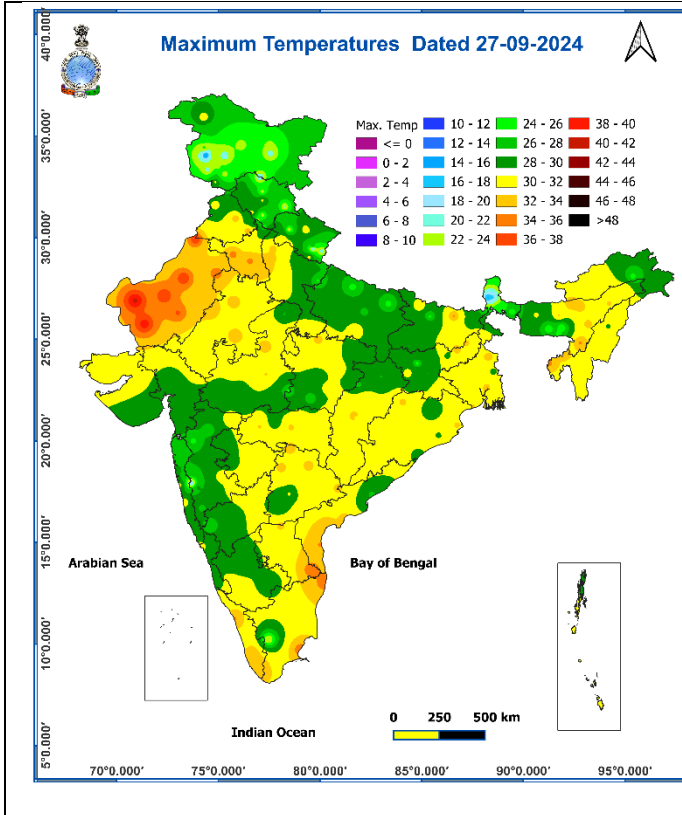


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

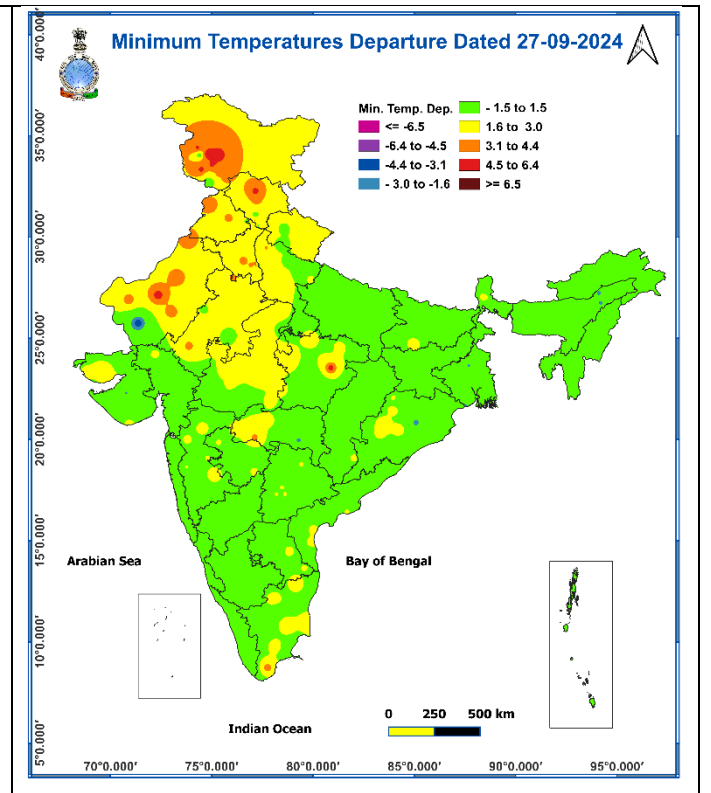
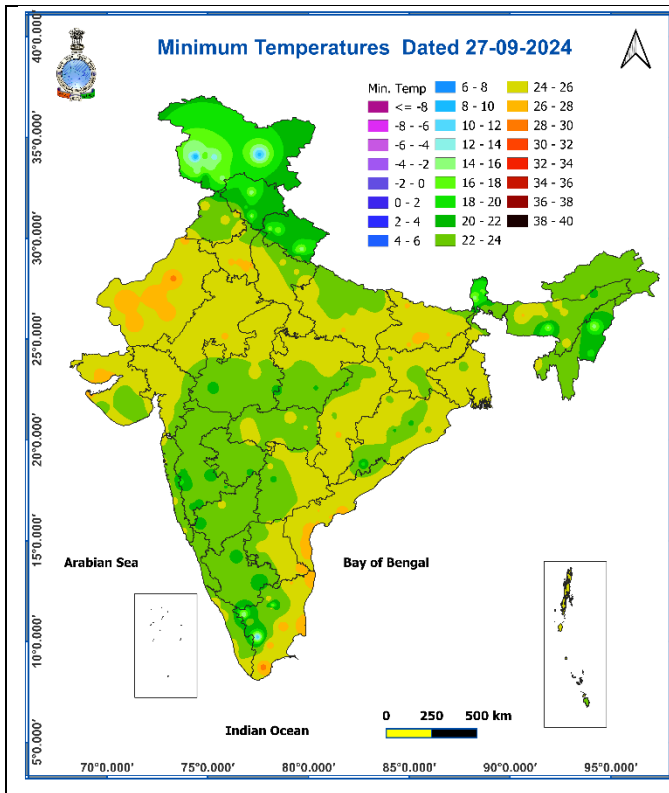
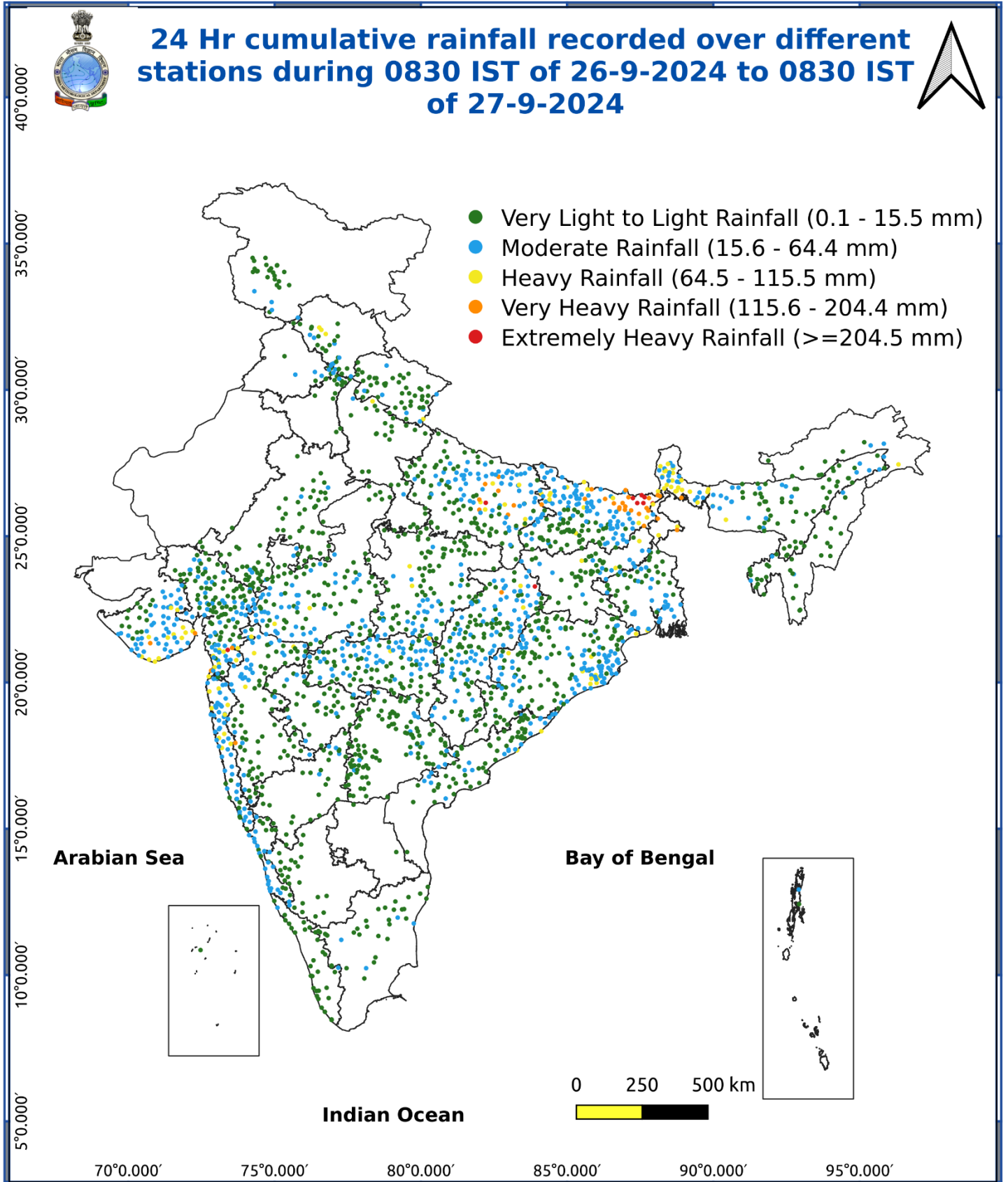


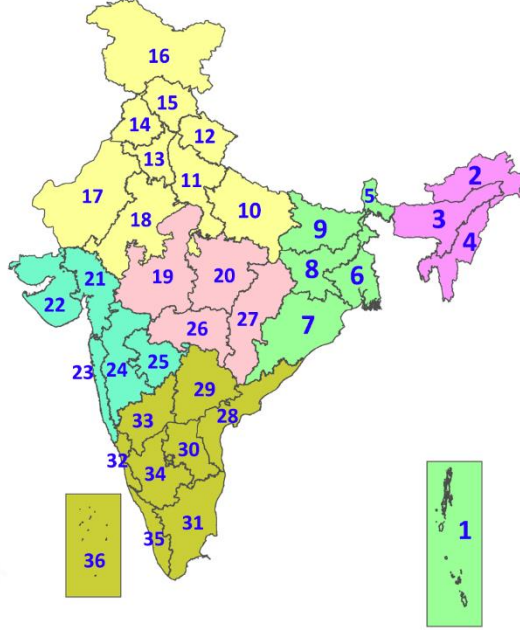
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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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 *	<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>