

Monday, September 30, 2024
Time of Issue: 0800 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems:

- ✓ An upper air cyclonic circulation over northwest Madhya Pradesh & neighbourhood in lower tropospheric levels.
- ✓ A trough runs from Comorin area to Rayalaseema in lower tropospheric levels.
- ✓ A cyclonic circulation over south Gujarat & neighbourhood in middle tropospheric levels.

Forecast & Warnings (upto 7 days):

East & Northeast India

- ✓ Fairly widespread to widespread light to moderate rainfall very likely over Assam & Meghalaya during the week; Scattered to Fairly widespread light to moderate rainfall very likely over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura during next 2 days & Fairly widespread to widespread light to moderate rainfall during the next subsequent 5 days over the same region; Scattered to Fairly widespread light to moderate rainfall very likely over Andaman & Nicobar Islands, Bihar, Sub-Himalayan West Bengal & Sikkim; Isolated to Scattered light to moderate rainfall over Gangetic West Bengal, Jharkhand & Odisha during the week.
- ✓ **Isolated heavy to very Heavy rainfall** very likely over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 02nd - 04th October.
- ✓ **Isolated heavy rainfall** very likely over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during the week; Arunachal Pradesh during 01st -05th October.

South Peninsular India

- ✓ Fairly widespread to widespread light to moderate rainfall very likely over Kerala & Mahe, Coastal Karnataka, Lakshadweep; Scattered to Fairly widespread light to moderate rainfall very likely over Interior Karnataka, Coastal Andhra Pradesh & Yanam; Isolated to Scattered light to moderate rainfall very likely over Tamil Nadu, Puducherry & Karaikal, Rayalaseema, Telangana during the week.
- ✓ **Isolated heavy rainfall** very likely over South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal on 30th September; Kerala & Mahe during 30th September – 01st October.

West & Central India:

- ✓ Isolated to Scattered light to moderate rainfall over central India during the week; Scattered to Fairly widespread light to moderate rainfall very likely over Konkan & Goa during the week; Scattered to Fairly widespread light to moderate rainfall very likely over the remaining region during next 2 days & Isolated to Scattered light to moderate rainfall over the next subsequent 5 days, except Saurashtra & Kutch where dry weather is likely to prevail from 2nd October;

Northwest India

- ✓ Isolated to Scattered light to moderate rainfall very likely over Uttarakhand, East Uttar Pradesh, East Rajasthan during the week; Isolated to Scattered light to moderate rainfall over remaining region during next 2 days & Dry weather likely to prevail during next subsequent 5 days over the same region.

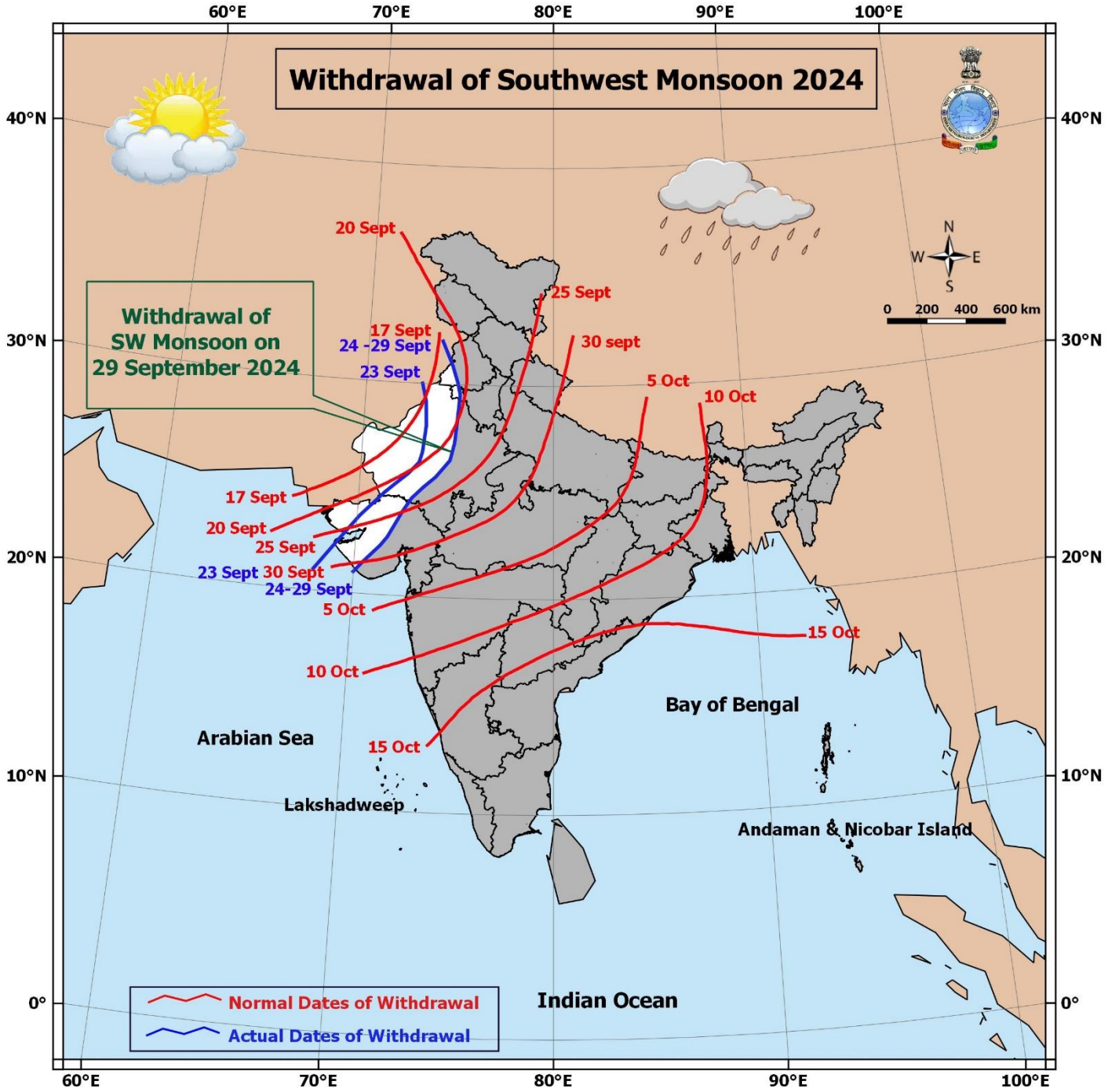
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at many places** over Assam & Meghalaya; **at a few places** over Gujarat Region and West Madhya Pradesh; **at isolated places** over East Uttar Pradesh, East Madhya Pradesh, Saurashtra & Kutch, Konkan & Goa, Madhya Maharashtra, Vidarbha, Chhattisgarh, Gangetic West Bengal, Odisha, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, North Interior Karnataka, Kerala & Mahe, Rayalaseema and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Heavy rainfall recorded** (from 0830 hours IST to 1730 hours IST of yesterday): **Heavy to very Heavy rainfall** at isolated places over Gujarat Region.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday): (in cm): **Gujarat Region:** Baroda-13; **East Uttar Pradesh:** Furstaganj-4; **West Madhya Pradesh:** Ratlam & Shivpuri-2 each; **Odisha:** Bhubaneshwar-2; **Assam:** North Lakhimpur, Kumbhigram & Silchar-2 each.
- ❖ **Minimum Temperature Departures (as on 29-09-2024):** Minimum temperatures were **markedly above normal (5.1°C or above)** at isolated places over Rajasthan; **appreciably above normal (3.0°C to 5.0°C)** at isolated places over Himachal Pradesh, Punjab; **above normal (1.6°C to 3.0°C)** at many places over Madhya Pradesh; at a few places over Haryana-Chandigarh, Vidarbha, Andaman & Nicobar Islands; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Uttar Pradesh, Jharkhand, West Bengal & Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Odisha, Chhattisgarh, Gujarat Region, Marathwada, Madhya Maharashtra, Coastal Andhra Pradesh & Yanam, Telangana, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal. Yesterday, **the lowest minimum temperature of 19.4°C** was reported at **Delhi Ridge (New Delhi)** over the plains of the country. (Fig.4)
- ❖ **Maximum Temperature Departures (as on 29-09-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Gangetic West Bengal; **above normal (1.6°C to 3.0°C)** at many places over Rayalaseema; at a few places over Odisha, Coastal Andhra Pradesh & Yanam and Tamil Nadu, Puducherry & Karaikal; at isolated places over Chhattisgarh, North Interior Karnataka, Kerala & Mahe and Telangana. These were **appreciably below normal (-3.0°C to -5.0°C)** at isolated places over Gujarat state, East Uttar Pradesh, Assam & Meghalaya and West Madhya Pradesh; **below normal (-1.6°C to -3.0°C)** at isolated places Haryana-Chandigarh-Delhi, Bihar, East Rajasthan and Madhya Maharashtra and **near normal** over rest parts of the country. Yesterday, **the highest Maximum Temperature of 38.5°C** was reported at **K. Paramathy (Tamilnadu)** over the country. (Fig. 2)

Meteorological Analysis (Based on 0530 hours IST)

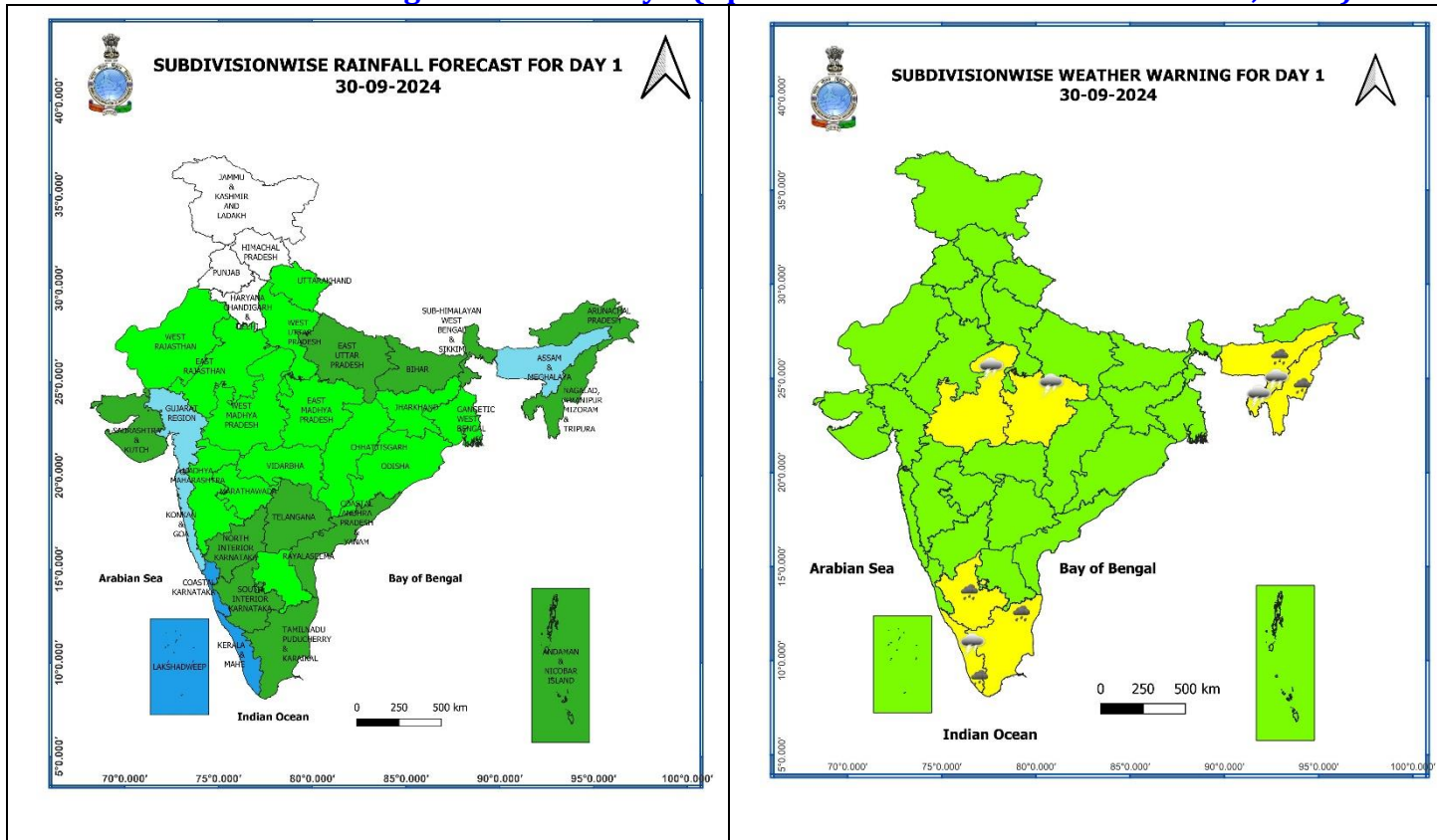
- ❖ The **line of withdrawal of southwest monsoon** continues to pass through Firozpur, Sirsa, Churu, Ajmer, Mount Abu, Deesa, Surendranagar, Junagarh and 21°N/70°E.
- ❖ The **cyclonic circulation** over northwest Madhya Pradesh & neighbourhood extending upto 4.5 km above mean sea level tilting southwestwards with height persists.
- ❖ The **cyclonic circulation** over south Gujarat & neighbourhood extending upto 5.8 km above mean sea level persists.
- ❖ The **trough** from Comorin area to Rayalaseema across Interior Tamil Nadu extending upto 0.9 km above mean sea level persists.

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



30 September (Day 1):

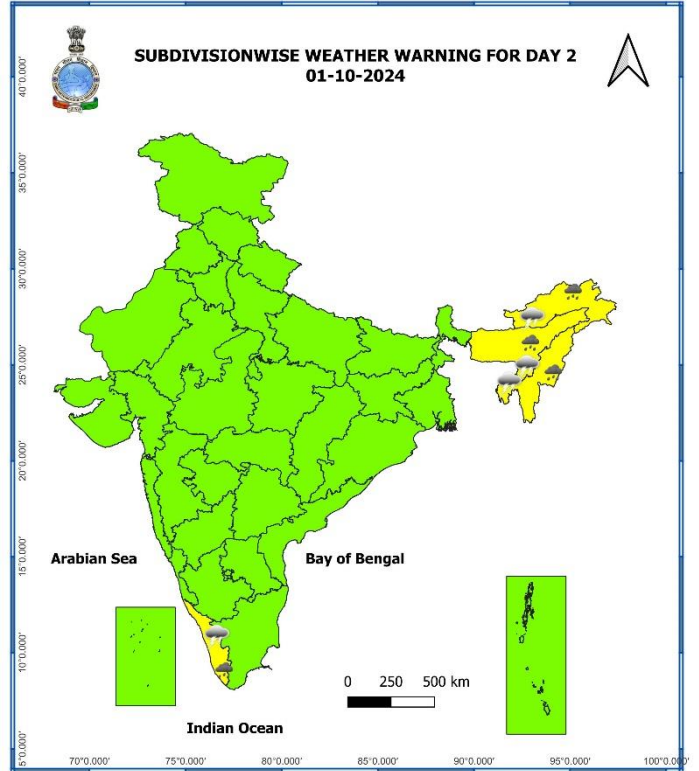
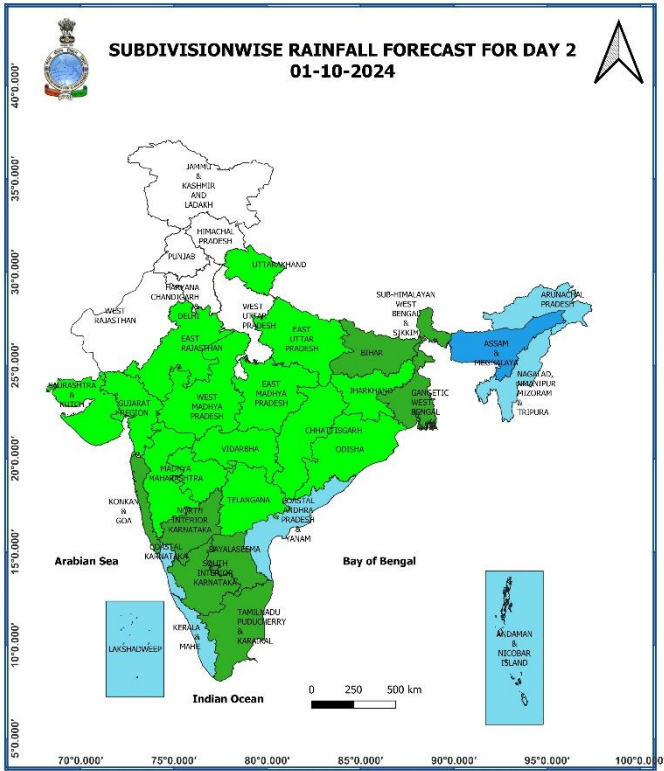
- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, South Interior Karnataka.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Kerala & Mahe, Telangana; **with lightning** very likely at isolated places over Madhya Pradesh, Bihar, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Marathwada, Tamil Nadu, Puducherry & Karaikal, Lakshadweep, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka.
- ❖ **Squally weather with wind speed reaching 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over gulf of Mannar, along and off 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.

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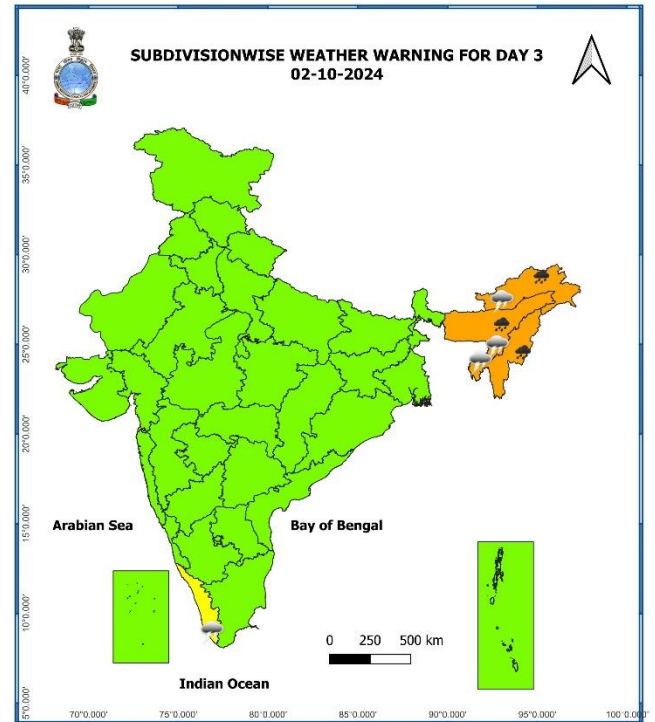
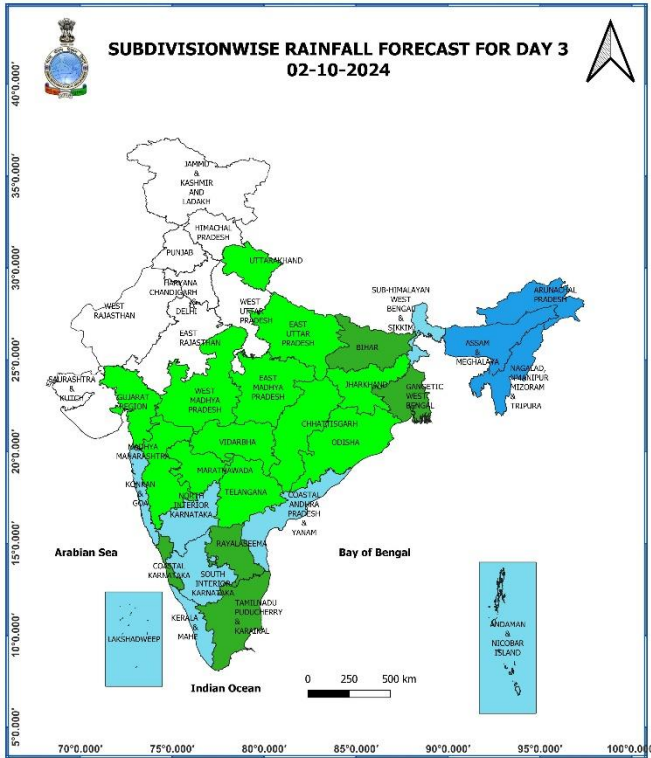
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01 October (Day 2):

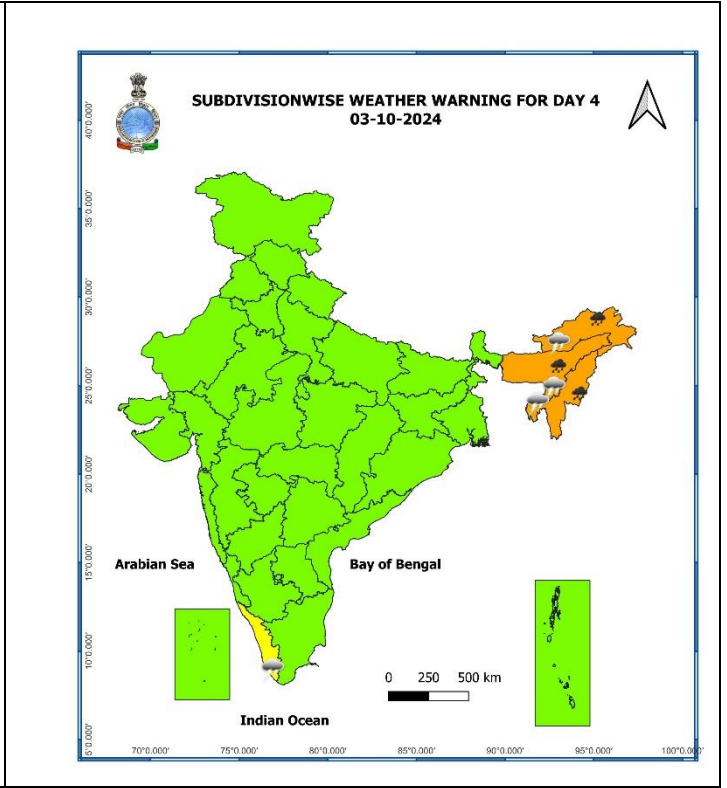
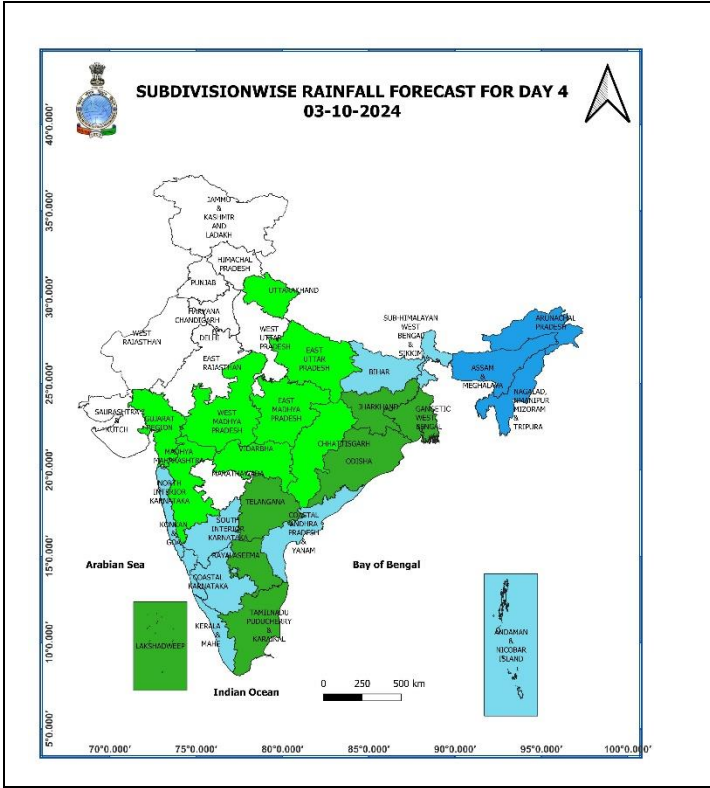
- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Kerala & Mahe.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Kerala & Mahe; **with lightning** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Tamil Nadu, Puducherry & Karaikal, Interior Karnataka.
- ❖ **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** very 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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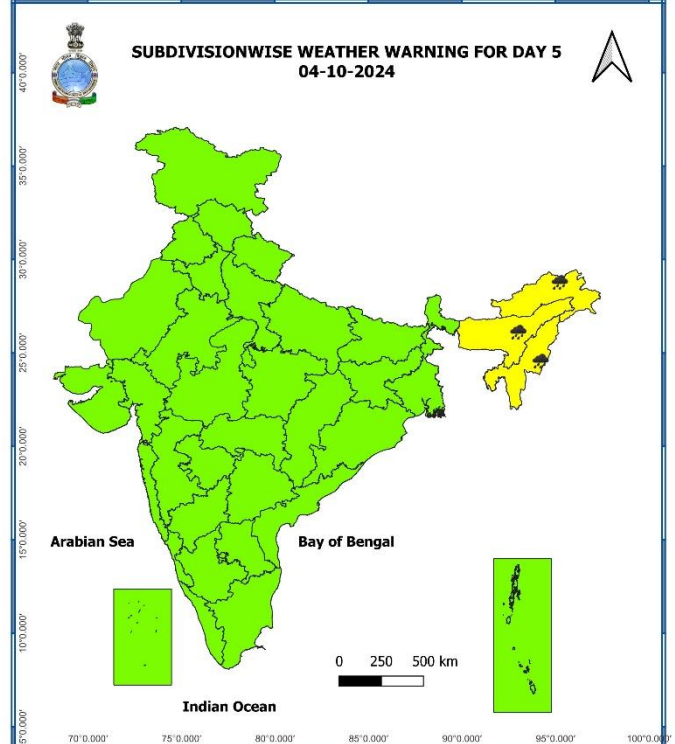
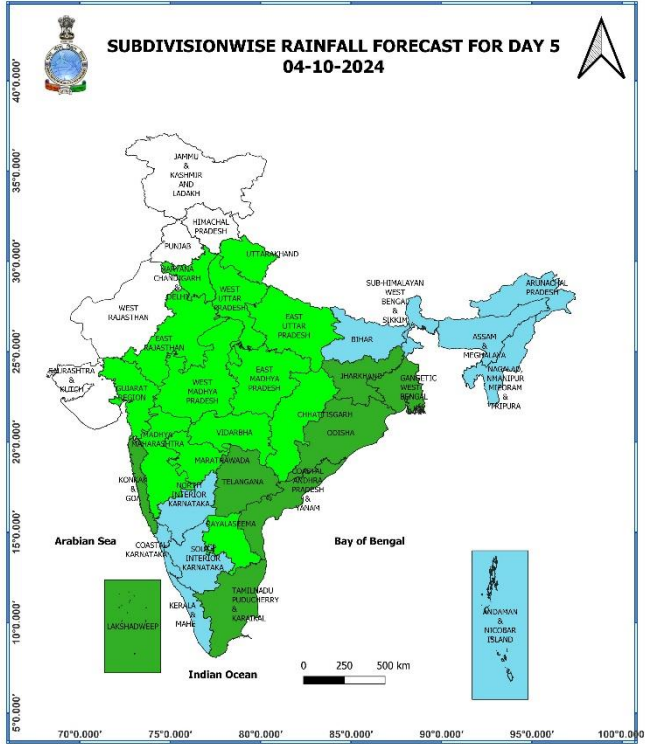
02 October (Day 3):

- ❖ **Heavy to very Heavy rainfall (≥ 12 cm)** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Interior Karnataka.



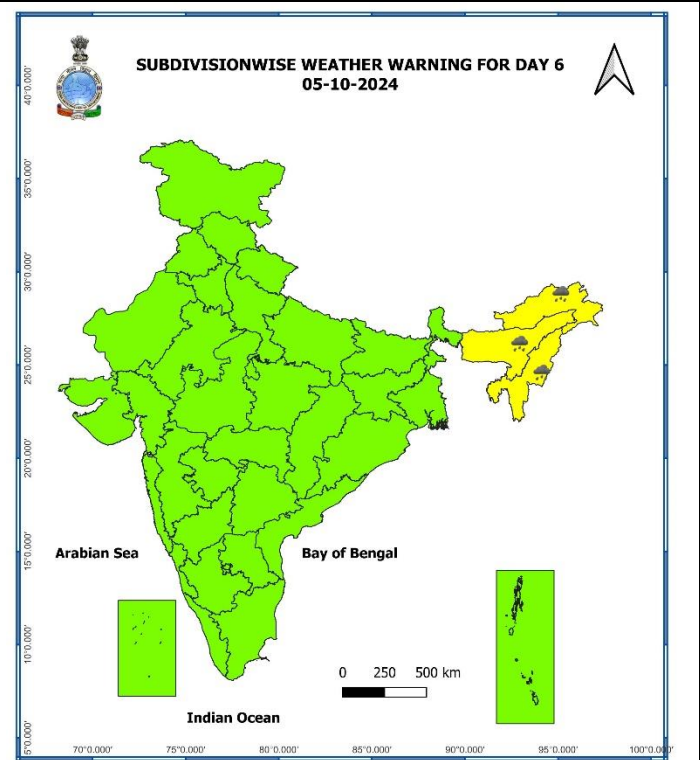
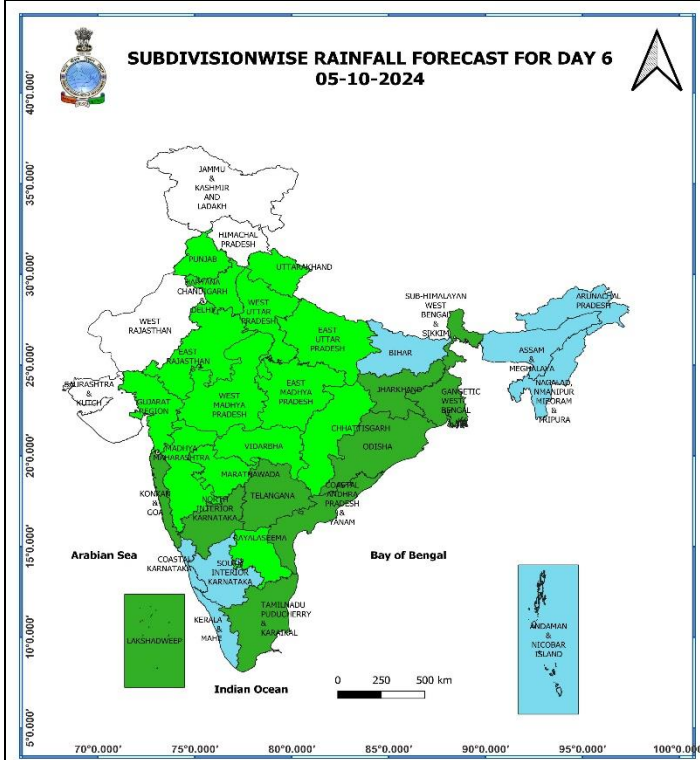
03 October (Day 4):

- ❖ **Heavy to very Heavy rainfall (≥ 12 cm)** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe.
- ❖ **Squally winds with speed reaching 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over parts of westcentral Bay of Bengal.



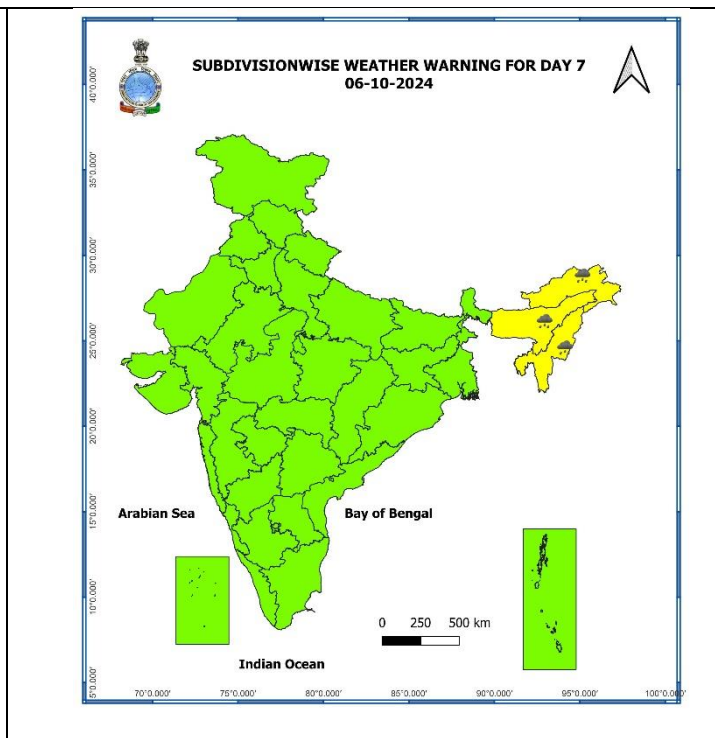
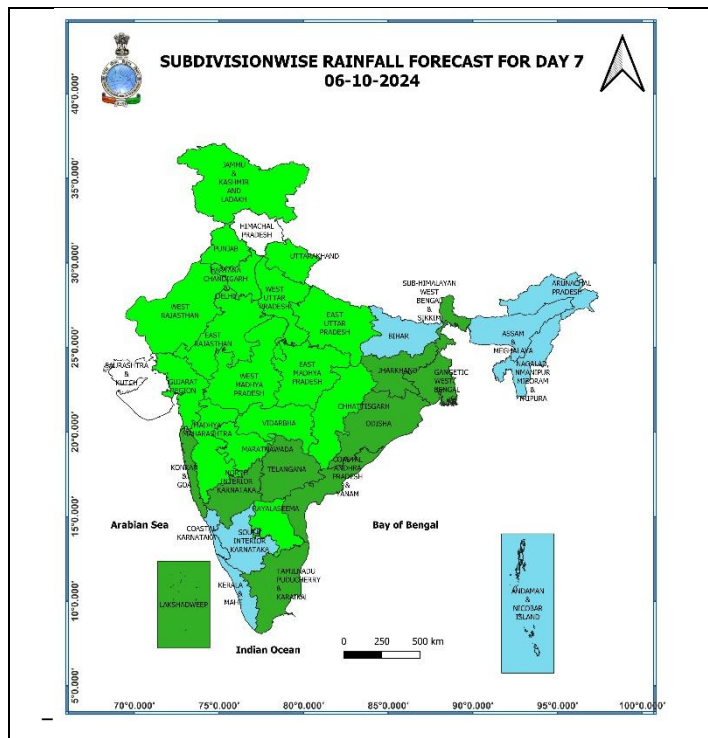
04 October (Day 5):

- ❖ **Heavy to very Heavy rainfall (≥ 12 cm)** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.



05 October (Day 6):

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



06 October (Day 7):

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

Weather Outlook for subsequent 3 days (During 07th October- 09th 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 Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 02nd - 04th October.
- ✓ **Low to moderate flash flood risk** No Warning .

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 standing crop fields and fruit orchards to avoid water stagnation in Sub Himalayan West Bengal, Bihar, East Uttar Pradesh, East Rajasthan, Madhya Pradesh, Saurashtra & Kutch, Tamil Nadu and Rayalaseema.
- ✓ Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Assam & Meghalaya, Kerala and South Interior Karnataka.
- ✓ Keep the harvested produce at safer places.
- ✓ Provide mechanical support to horticultural crops & staking to vegetables.
- ✓

Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

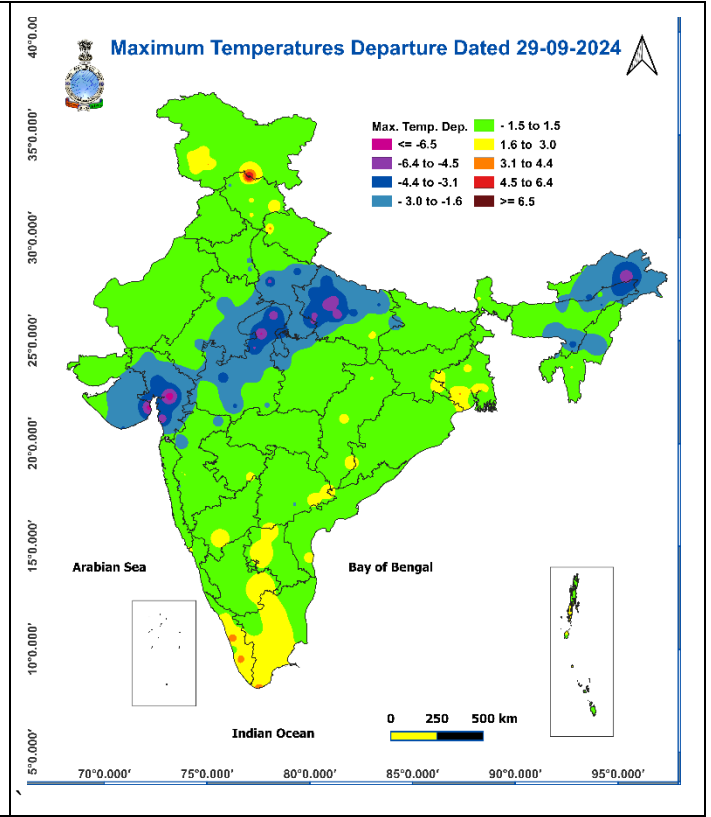
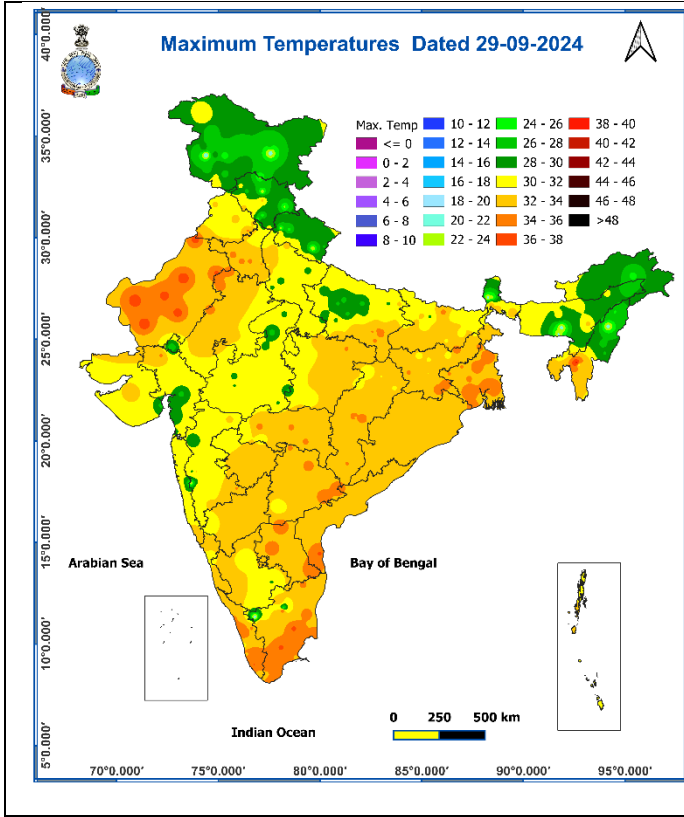


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

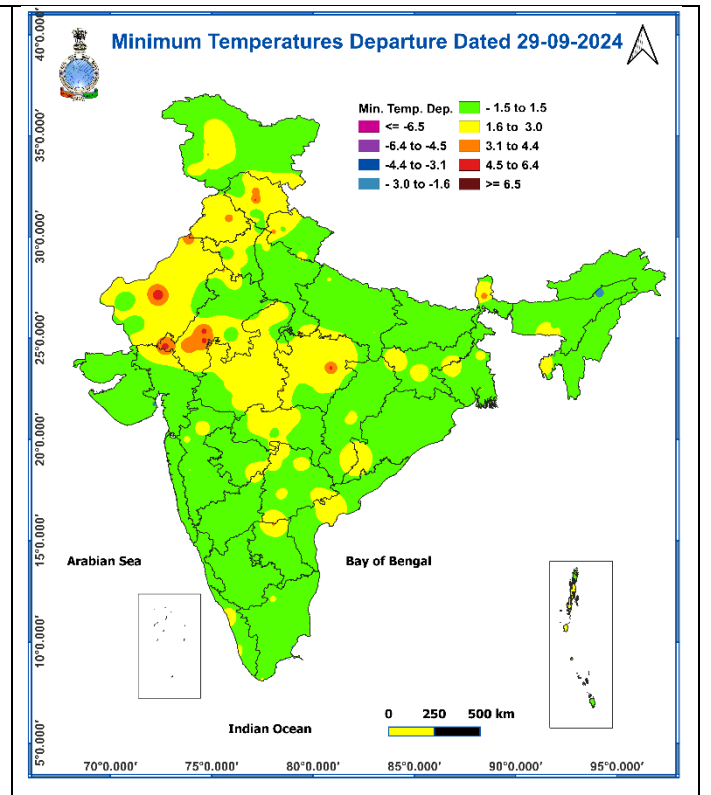
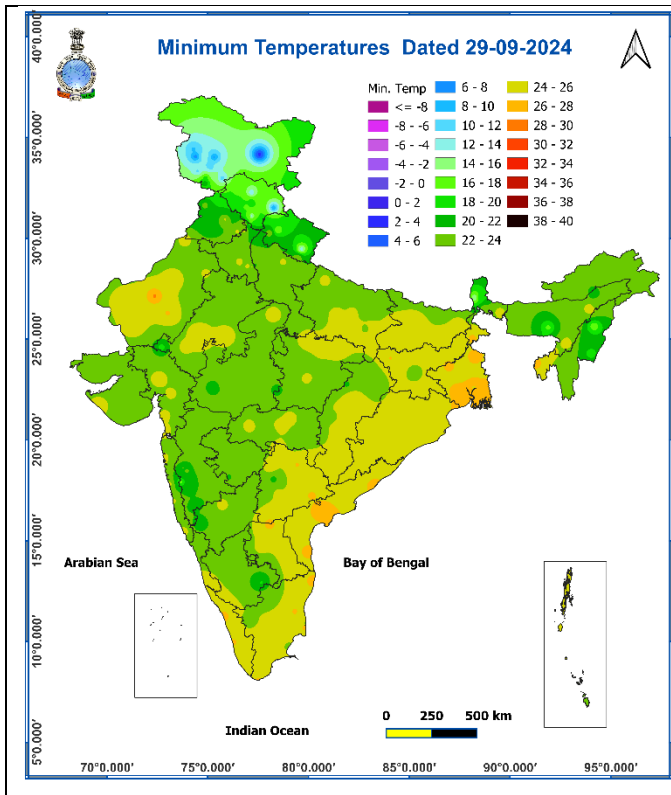
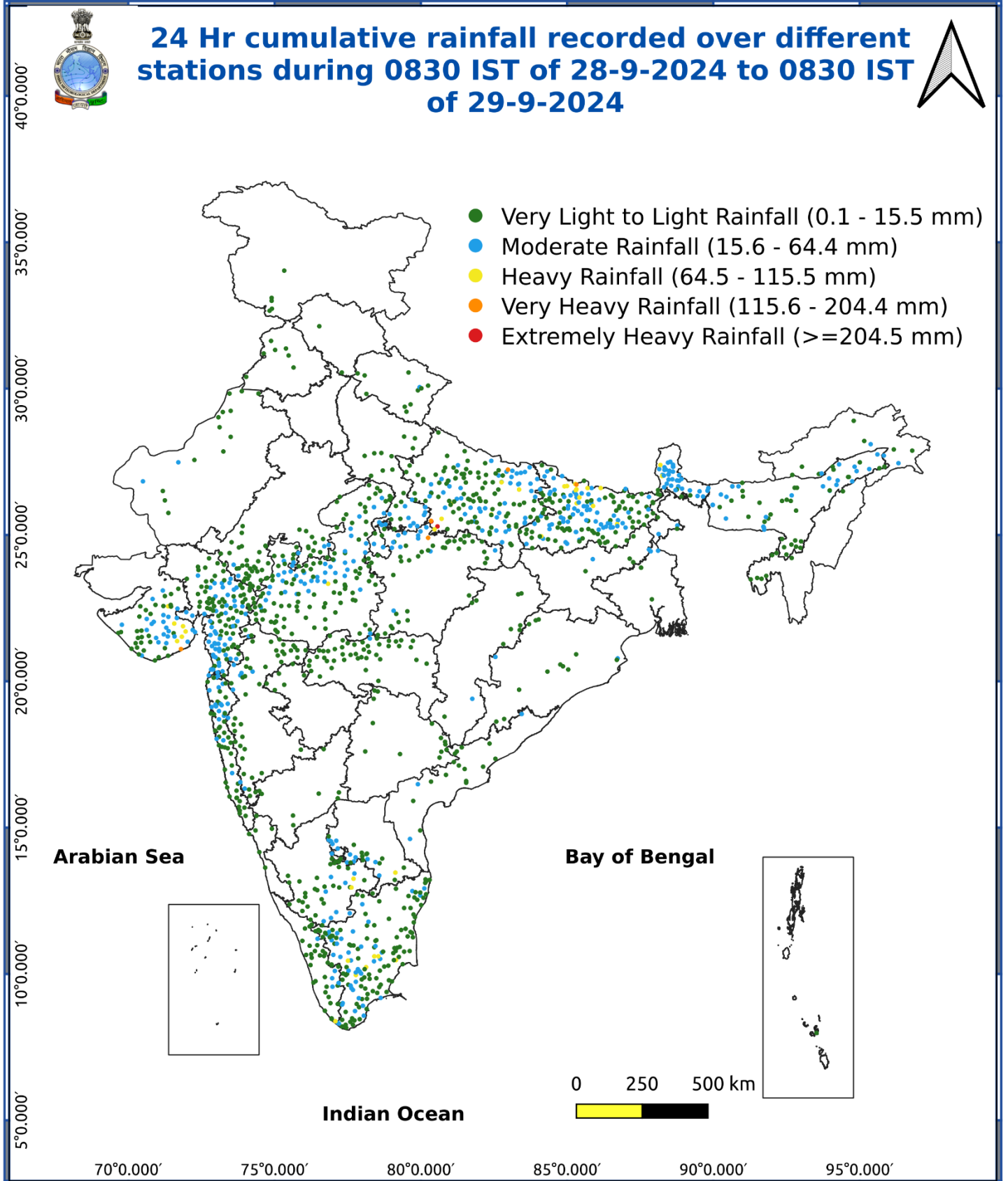


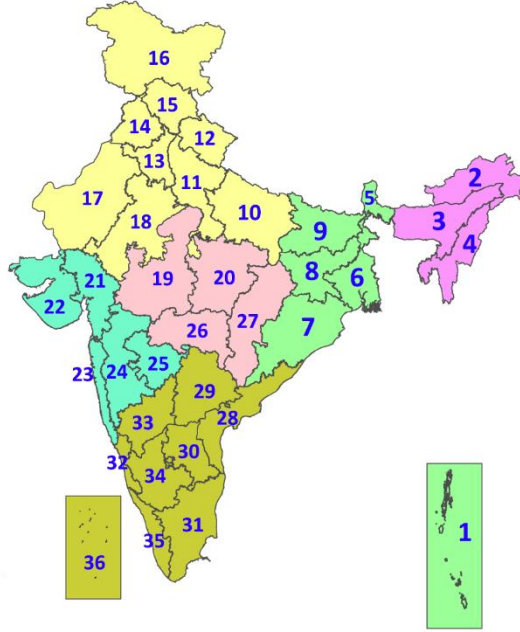
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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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)



COLOUR CODED WARNING

No Warning (No Action)
Watch (Be Aware)
Alert (Be Prepared To Take Action)
Warning (Take Action)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

DEFINITION/CRITERIA

Rain/ Snow *

Heavy: 64.5 to 115.5 mm/cm *
Very Heavy: 115.6 to 204.4 mm/cm*
Extremely Heavy: > 204.4 mm/cm *

Heat Wave

When maximum temperature of a station reaches $\geq 40^\circ\text{C}$ for plains and $\geq 30^\circ\text{C}$ for hilly regions
(a) Based on Departure from normal

Heat Wave: Maximum Temperature Departure from normal 4.5°C to 6.4°C .
Severe Heat Wave: Maximum Temperature Departure from normal $\geq 6.5^\circ\text{C}$

(b). Based on Actual maximum temperature

Heat Wave: When actual maximum temperature $\geq 45^\circ\text{C}$.
Severe Heat Wave: When actual maximum temperature $\geq 47^\circ\text{C}$

(c) Criteria for heat wave for coastal stations

When maximum temperature departure is $>4.5^\circ\text{C}$ from normal. Heat Wave may be described provided maximum temperature $\geq 37^\circ\text{C}$

Warm Night

When maximum temperature remains 40°C

Warm Night: When minimum temperature departure 4.5°C to 6.4°C .
Severe Warm Night: When minimum temperature departure $>6.4^\circ\text{C}$.

Cold Wave

When minimum temperature of a station $\leq 10^\circ\text{C}$ for plains and $\leq 0^\circ\text{C}$ for hilly regions.
(a). Based on departure

Cold Wave: Minimum Temperature Departure from normal -4.5°C to -6.4°C .
Severe Cold Wave: Minimum Temperature Departure from normal $\leq -6.5^\circ\text{C}$

(b) Based on actual Minimum Temperature (for Plains only)

Cold Wave : When Minimum Temperature is $\leq 4.0^\circ\text{C}$
Severe Cold Wave: When Minimum Temperature is $\leq 2.0^\circ\text{C}$

(c) For Coastal Stations

When Minimum Temperature departure is $\leq -4.5^\circ\text{C}$ & actual Minimum Temperature is $\leq 15^\circ\text{C}$

Cold Day

When minimum temperature of a station $\leq 10^\circ\text{C}$ for plains and $\leq 0^\circ\text{C}$ for hilly regions
Based on departure

Cold Day: Maximum Temperature Departure from normal -4.5°C to -6.4°C .
Severe Cold Day: Maximum Temperature Departure from normal $\leq -6.5^\circ\text{C}$

Fog

Phenomenon of small droplets suspended in air and the horizontal visibility $< 1\text{km}$

Moderate Fog: When the visibility between 500-200 metres
Dense Fog: when the visibility between 50- 200 metres
Very Dense Fog: when the visibility < 50 metres

Thunderstorm

Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)

Dust/Sand Storm

An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.

Frost

Ice deposits on ground

Air temperature $\leq 4^\circ\text{C}$ (over Plains)

Squall

A strong wind that rises suddenly, lasts for atleast 1 minute.

Moderate: Wind speed 52-61 kmph
Severe: Wind speed 62-87 kmph
Very Severe: Wind speed >87 kmph

Sea State

Effect of various waves in the sea over specific area

Rough to very rough: Wind speed 41-62 kmph (22-33 knots) & Wave height 2.5-6 metre
High to very high: Wind speed 63-117 kmph (34-63 knots) & Wave height 6-14 metre
Phenomenal: Wind speed >117 kmph (>63 knots) & Wave height >14 metre

Cyclone

Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots)
Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots)
Very Severe Cyclonic Storm: Wind speed 118-165 kmph (64 - 89 knots)
Extremely Severe Cyclonic Storm: Wind speed 166-220 kmph (90 -119 knots)
Super Cyclone Strom: Wind speed >220 kmph (>119 knots)