

Friday, October 18, 2024
Time of Issue: 0750 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems:

- ❖ A fresh **upper air cyclonic circulation** very likely to form over North Andaman Sea around 20th October. Under its influence, a low pressure area likely to form over Central Bay of Bengal around 22nd October, thereafter, it is likely to move northwestwards and intensify further.

Forecast & Warnings (upto 7 days):

South Peninsular India

- ✓ Fairly widespread to widespread light to moderate rainfall very likely over Kerala & Mahe, Lakshadweep, Karnataka; Scattered to Fairly widespread light to moderate rainfall over Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana during the week.
- ✓
- ✓ **Isolated heavy rainfall** very likely over Tamil Nadu, Puducherry & Karaikal on 18th, 20th & 21st; South Interior Karnataka during 18th-22nd; Kerala & Mahe on 22nd & 23rd October.

West India

- ✓ Scattered to Fairly widespread light to moderate rainfall very likely over Konkan & Goa, Madhya Maharashtra during next 5 days and isolated to scattered light to moderate rainfall during subsequent 2 days over the same region; Isolated to Scattered light to moderate rainfall over Marathwada, Gujarat State next 5 days and isolated light to moderate rainfall during subsequent 2 days over the same region;
- ✓ **Isolated heavy rainfall** very likely over Saurashtra & Kutch on 20th & 21st; Gujarat Region on 19th & 20th October.

Northwest, East, Central & Northeast India:

- ✓ No significant rainfall likely over these regions during the week.

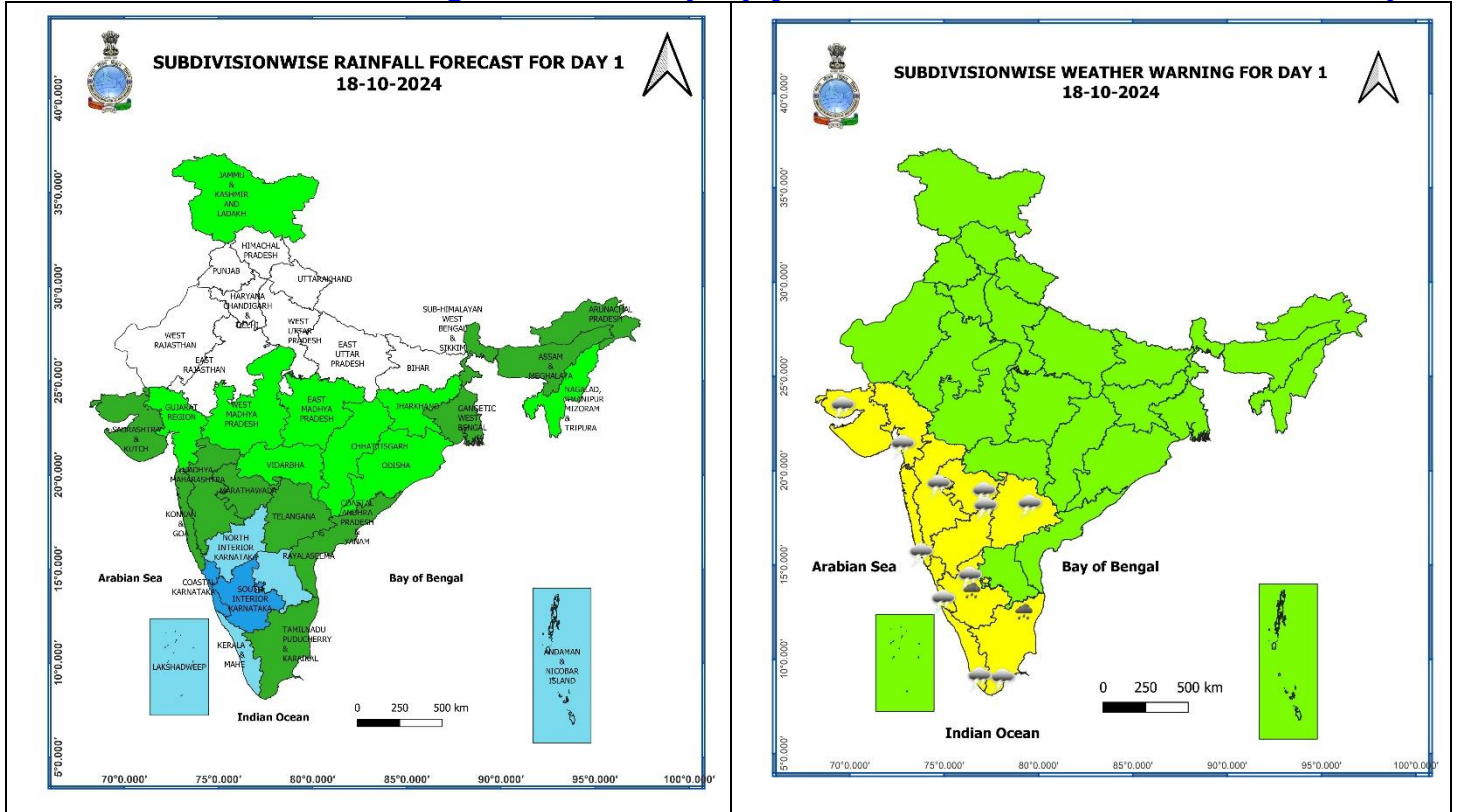
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at most places** over Konkan & Goa, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Karnataka; **at many places** over Andaman & Nicobar Islands, Gangetic West Bengal, Lakshadweep, Coastal Andhra Pradesh & Yanam, Telangana; **at a few places** over Arunachal Pradesh, Sub-Himalayan West Bengal & Sikkim, Madhya Maharashtra, Saurashtra & Kutch; **at isolated places** Uttarakhand, Punjab, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Marathwada, Madhya Pradesh, Chhattisgarh.
- ❖ **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): **Gangetic West Bengal**- Bankura-2, Kolkata_Saltlake-1; **Odisha**: Gopalpur-2; **Coastal Andhra Pradesh & Yanam**- Vishakhapatnam_Waltair-3; **Kerala & Mahe**- Palakkad & Karipur Airport- 1 each; **North Interior Karnataka**- Belgaum-1; **Andaman & Nicobar Islands**- Nancowry-1.
- ❖ **Minimum Temperature Departures (as on 17-10-2024)**: Minimum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over Madhya Maharashtra, at isolated places over Gujarat state, Madhya Pradesh, West Rajasthan, Marathwada, Vidarbha; **above normal (1.6°C to 3.0°C)** at a few places over Odisha, **Chhattisgarh, Punjab**; at isolated places over Himachal Pradesh, Haryana-Chandigarh-Delhi, Uttar Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Coastal Andhra Pradesh & Yanam, Telangana. These were **below normal (-1.6°C to -3.0°C)** at isolated places over Tamil Nadu, Puducherry & Karaikal, Assam & Meghalaya. Yesterday, **the lowest minimum temperature** of 16.4°C was reported at **Delhi ridge (New Delhi)** over the plains of the country. (Fig.4)
- ❖ **Maximum Temperature Departures (as on 17-10-2024)**: Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Odisha, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; **above normal (1.6°C to 3.0°C)** at many places over Punjab, Himachal Pradesh; at a few places over Haryana-Chandigarh-Delhi; at isolated places over Rajasthan, Chhattisgarh, West Uttar Pradesh, West Madhya Pradesh and Gangetic West Bengal. These were **below normal (-1.6°C to -3.0°C)** at a few places over Arunachal Pradesh, Coastal Karnataka; at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Saurashtra & Kutch, Konkan & Goa and Coastal Andhra Pradesh & Yanam. Yesterday, **the highest Maximum Temperature** of 39.6°C was reported at **Pokharan_IAF (West Rajasthan)** over the country. (Fig. 2)

Meteorological Analysis (Based on 0530 hours IST)

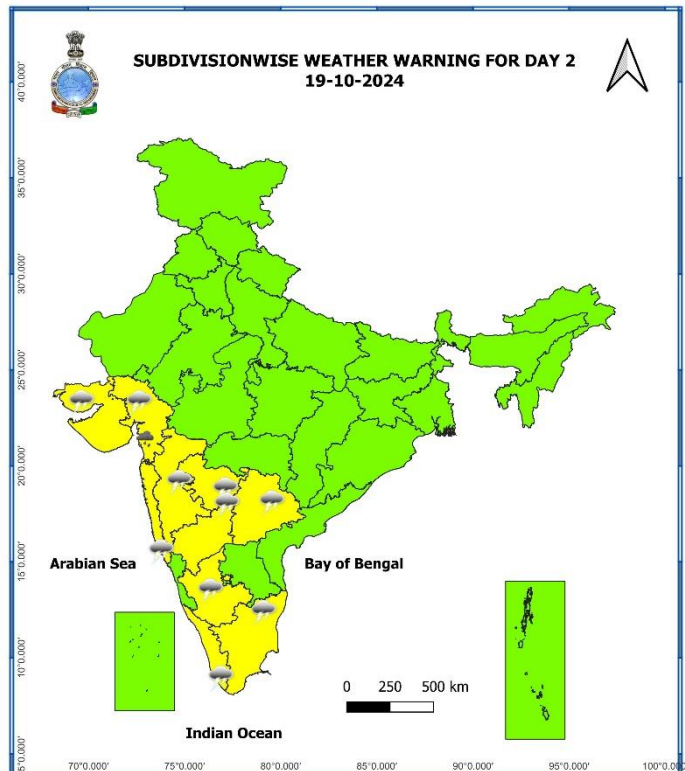
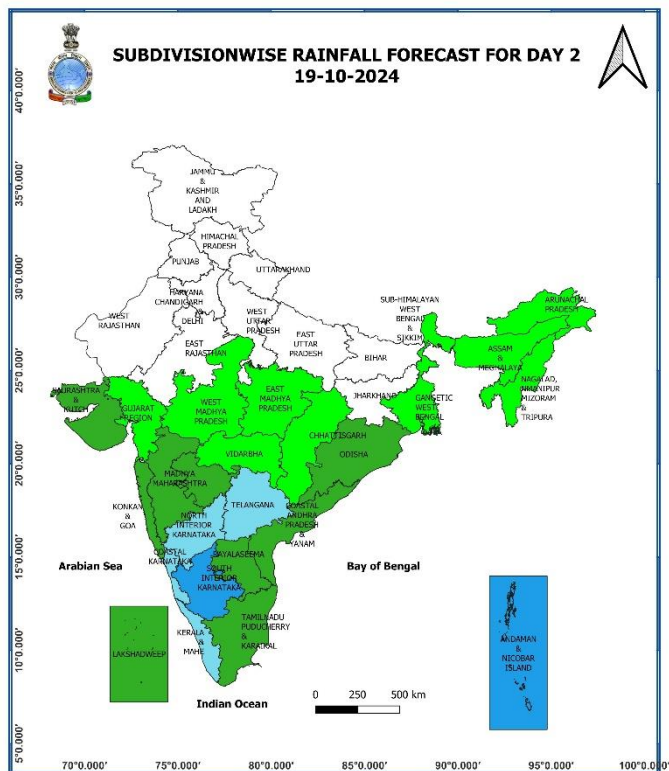
- ❖ The **cyclonic circulation** over north Lakshadweep lay over eastcentral Arabian sea & adjoining north Lakshadweep area and extended upto 5.8 km above mean sea level.
- ❖ The **low pressure** area over Rayalaseema and neighbourhood became less marked. The associated cyclonic merged with the above **cyclonic circulation** over eastcentral Arabian sea & adjoining north Lakshadweep area.
- ❖ The **cyclonic circulation** over east Assam & neighbourhood at 1.5 km above mean sea level with a trough aloft at 3.1 Km above mean sea level roughly along longitude 93° E to the north of latitude 25° N persisted.
- ❖ A fresh **upper air cyclonic circulation** very likely to form over North Andaman Sea around 20th October. Under its influence, a low pressure area likely to form over Central Bay of Bengal around 22nd October, thereafter, it is likely to move northwestwards and intensify further.

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



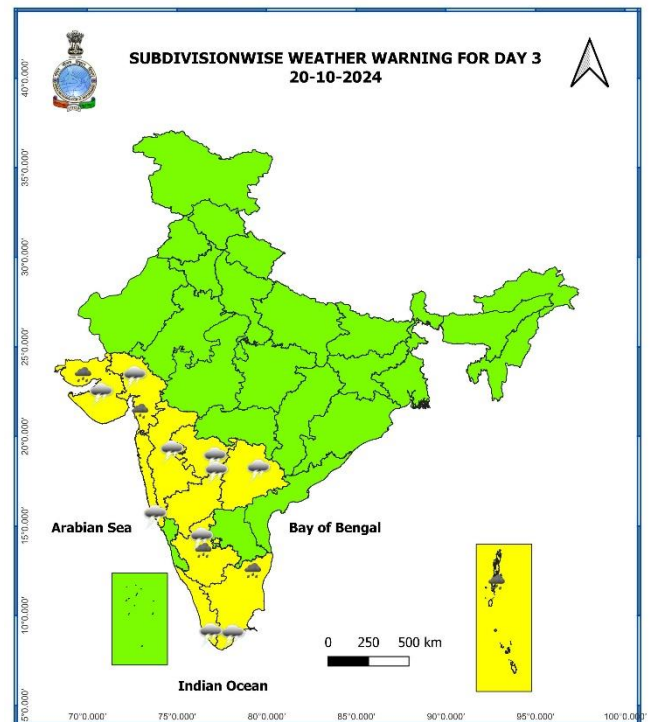
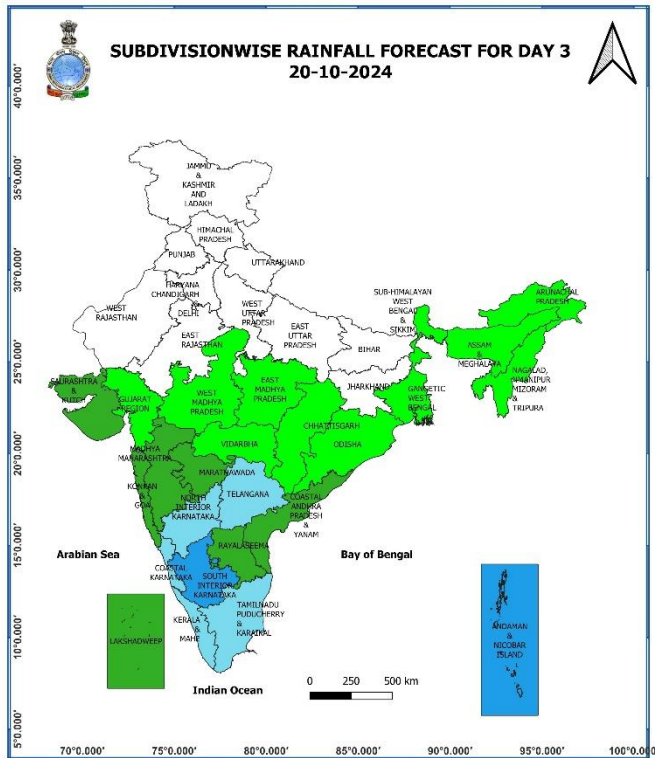
18 October (Day 1):

- ❖ **Heavy rainfall ($\geq 7\text{cm}$)** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal, South Interior Karnataka.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (30-40 kmph)** very likely at isolated places over Telangana; **with lightning** very likely at isolated places over Madhya Maharashtra, Marathwada, Gujarat state, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal & Interior Karnataka.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevail over along and off Kerala, Karnataka, goa, south Maharashtra coasts, over Lakshadweep area. Fishermen are advised not to venture into this area.



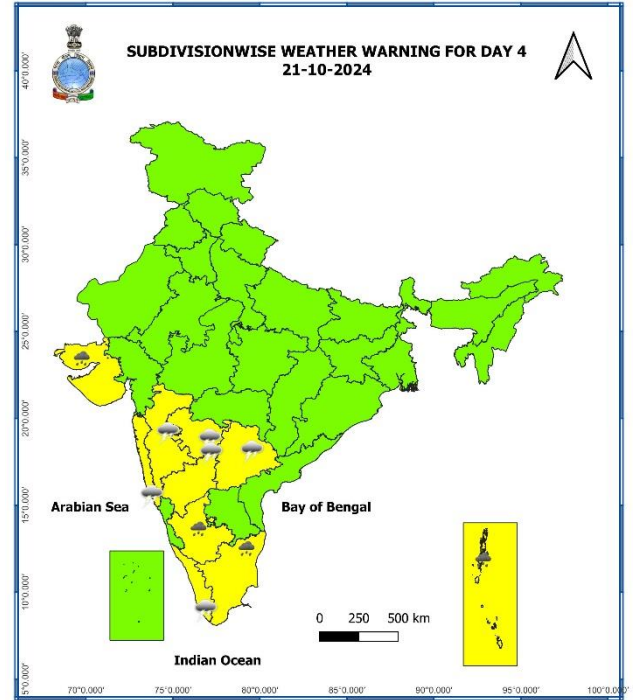
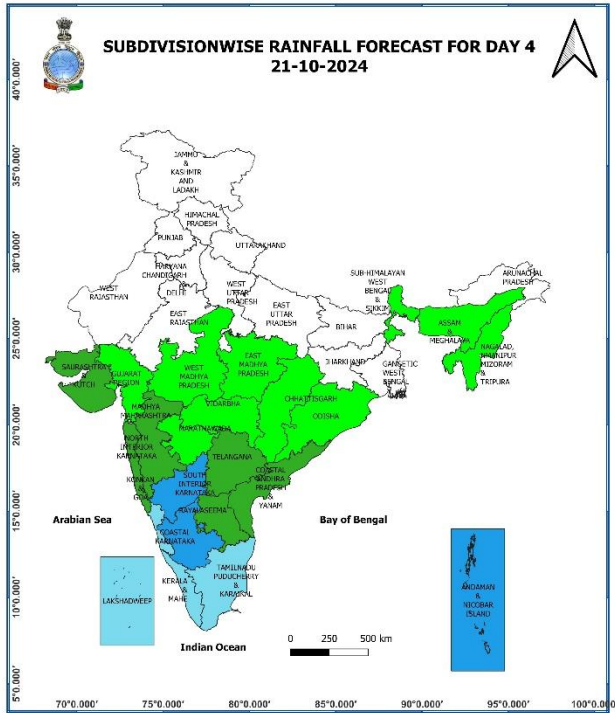
19 October (Day 2):

- ❖ **Heavy rainfall ($\geq 7\text{cm}$)** very likely at isolated places over Gujarat Region.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (30-40 kmph)** very likely at isolated places over Telangana; **with lightning** very likely at isolated places over Konkan & Goa, Madhya Maharashtra, Marathwada, Gujarat state, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Interior Karnataka.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevail over along and off south Maharashtra coasts. Fishermen are advised not to venture into this area.



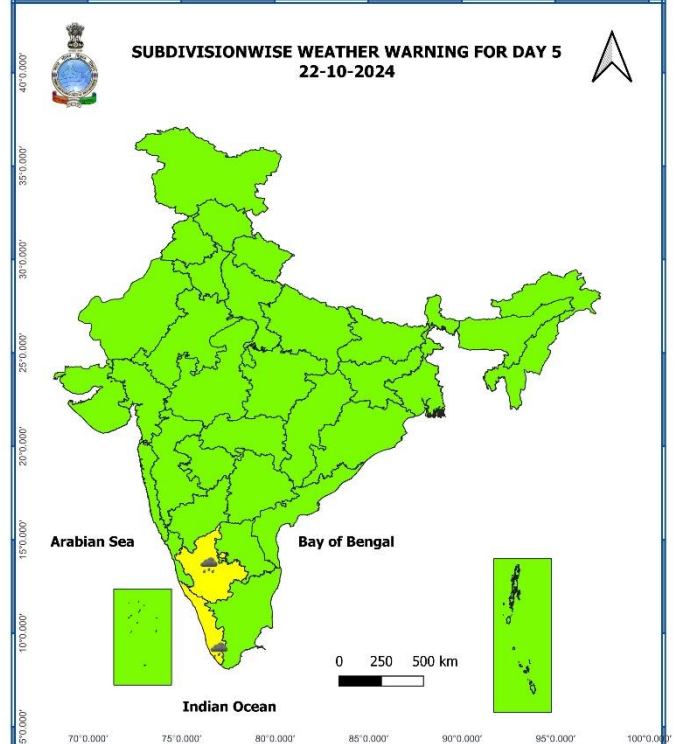
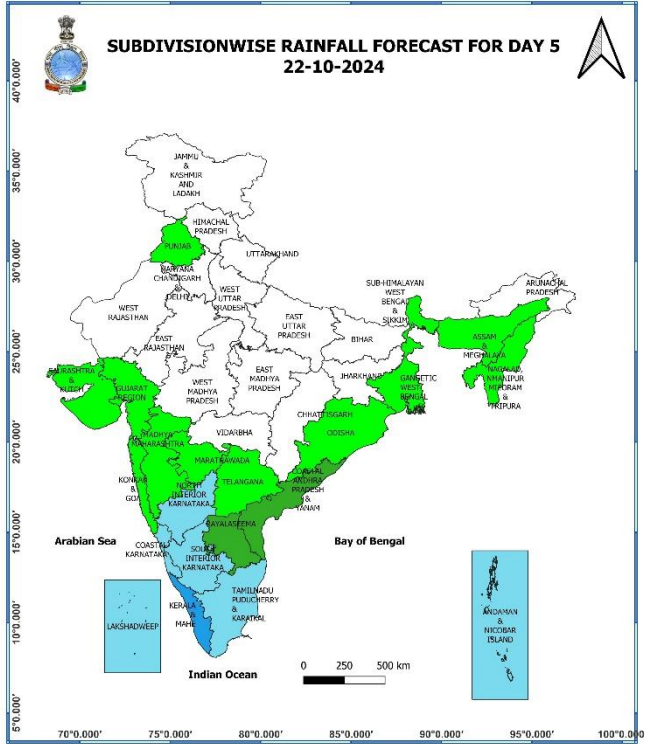
20 October (Day 3):

- ❖ **Heavy rainfall (≥7cm)** likely at isolated places over Andaman & Nicobar Islands, Gujarat state, Tamil Nadu, Puducherry & Karaikal, South Interior Karnataka.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (30-40 kmph)** likely at isolated places over Telangana; with lightning very likely at isolated places over Konkan & Goa, Madhya Maharashtra, Marathwada, Gujarat state, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Interior Karnataka.



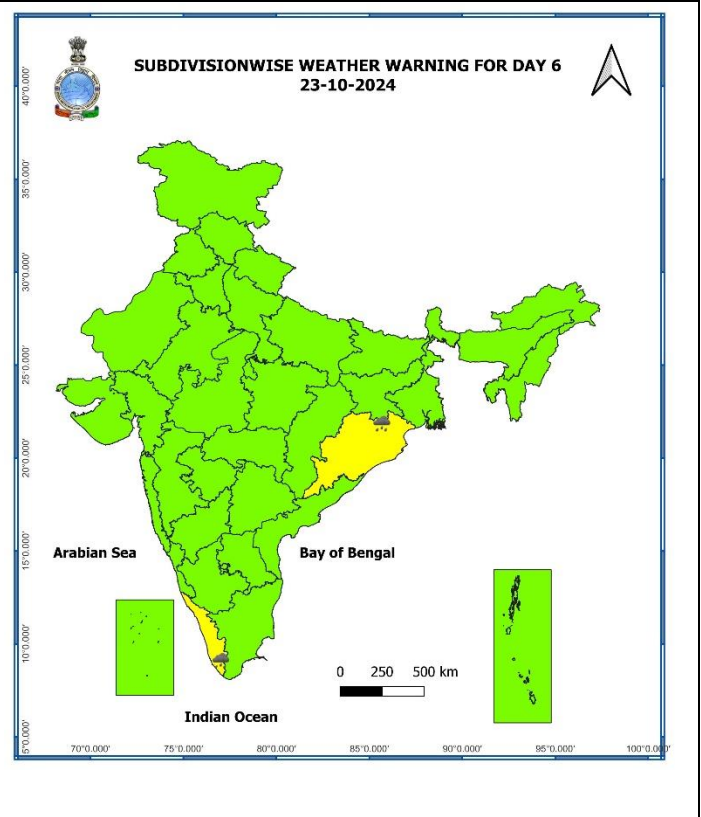
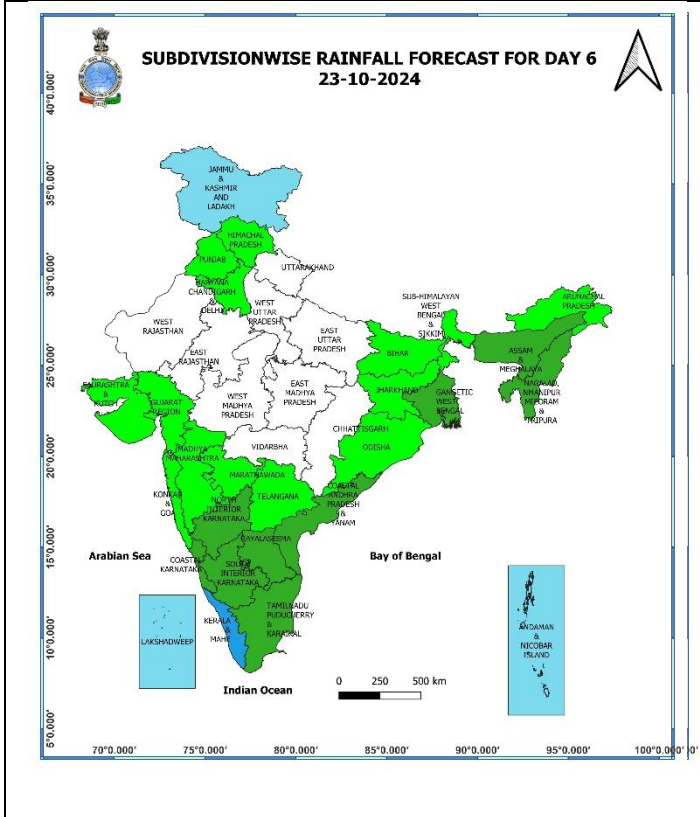
21 October (Day 4):

- ❖ **Heavy rainfall ($\geq 7\text{cm}$)** likely at isolated places over Andaman & Nicobar Islands, Saurashtra & Kutch, Tamil Nadu, Puducherry & Karaikal, South Interior Karnataka.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (30-40 kmph)** likely at isolated places over Telangana; **with lightning** very likely at isolated places over Konkan & Goa, Madhya Maharashtra, Marathwada, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Interior Karnataka.



22 October (Day 5):

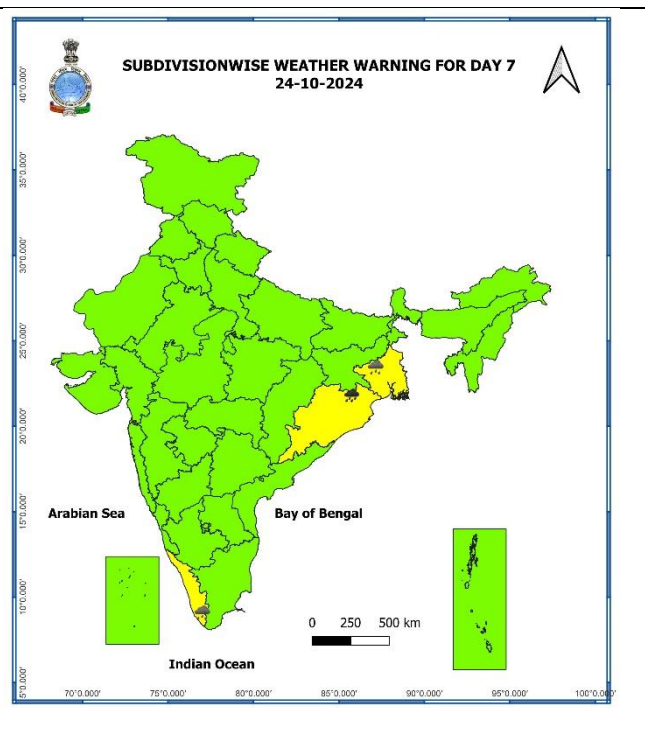
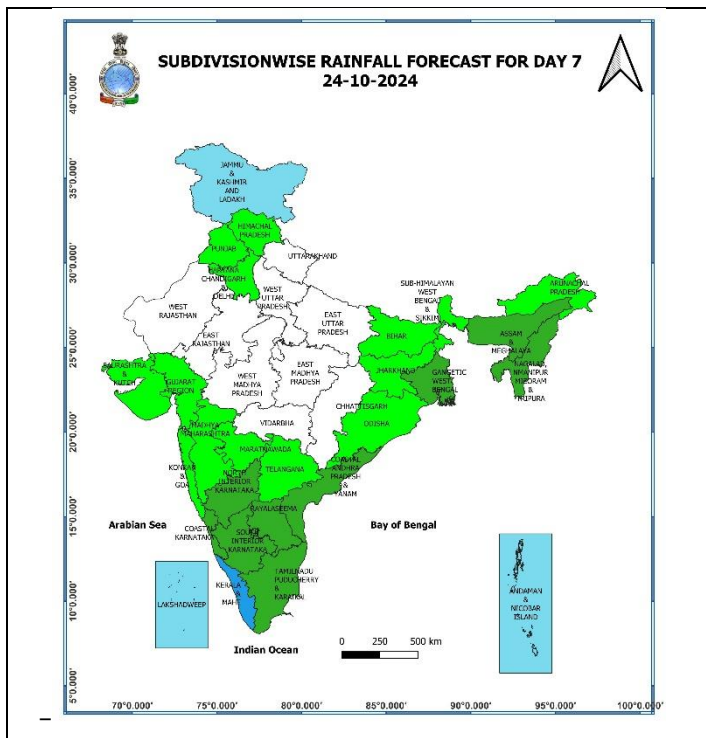
❖ **Heavy rainfall ($\geq 7\text{cm}$)** likely at isolated places over Kerala & Mahe, South Interior Karnataka.



23 October (Day 6):

❖ Heavy rainfall ($\geq 7\text{cm}$) likely at isolated places over Odisha, Kerala & Mahe.

* 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)



24 October (Day 7):

- ❖ **Heavy to very Heavy rainfall (≥ 12 cm)** likely at isolated places over Odisha; **Heavy rainfall (≥ 7 cm)** likely at isolated places over Gangetic West Bengal, Kerala & Mahe.

Weather Outlook for subsequent 3 days (During 25th October- 27th October, 2024)

- ❖ Fairly widespread to widespread rainfall likely over South Peninsular India and Islands.
- ❖ Isolated to Scattered rainfall likely over some parts of East and Northeast India.
- ❖ Mainly dry weather will prevail over rest parts of country.

- 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.

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Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

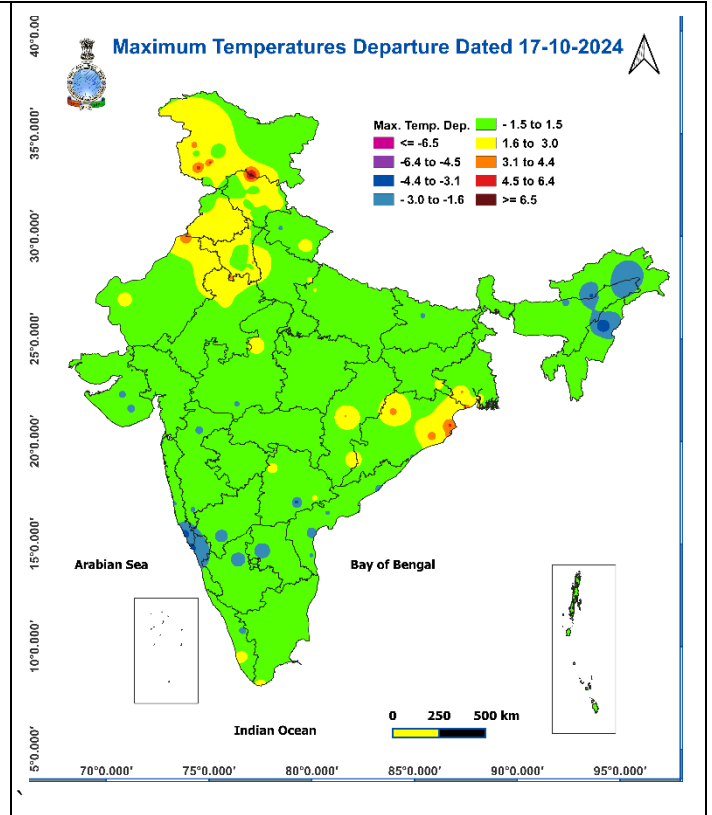
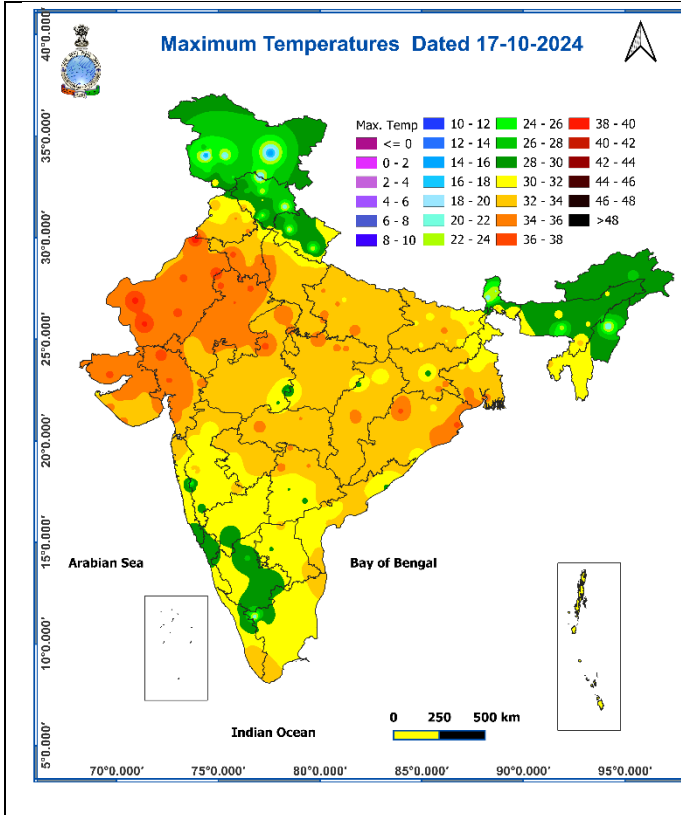


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

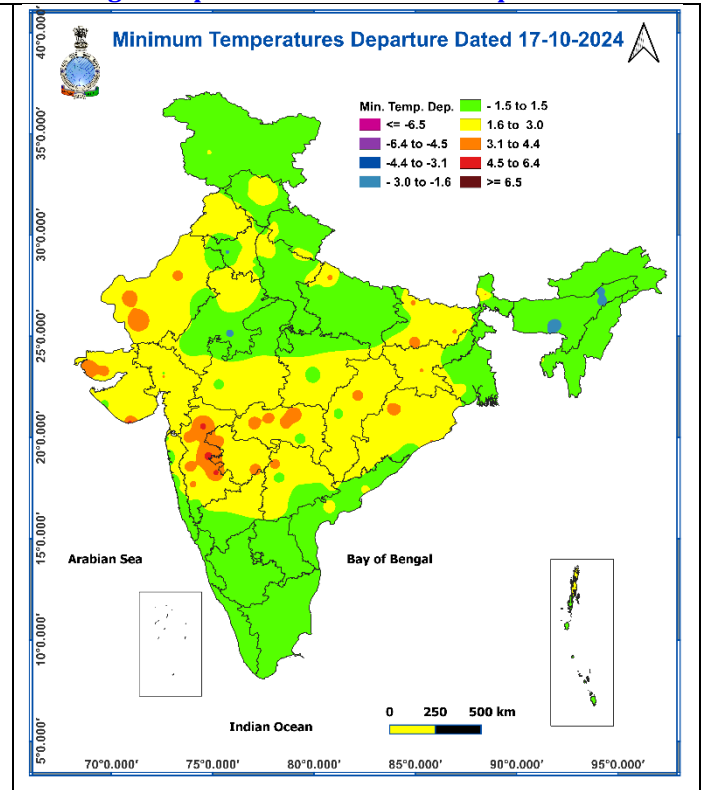
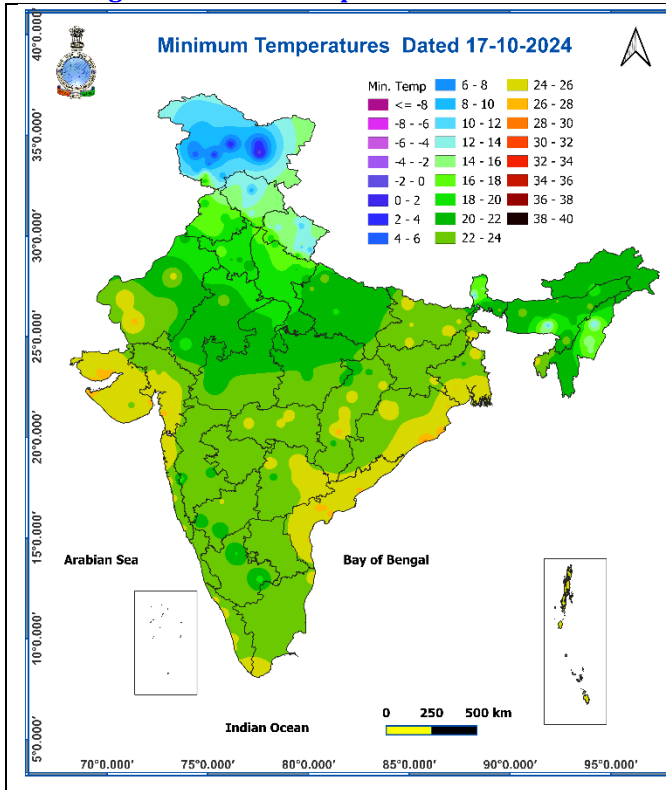
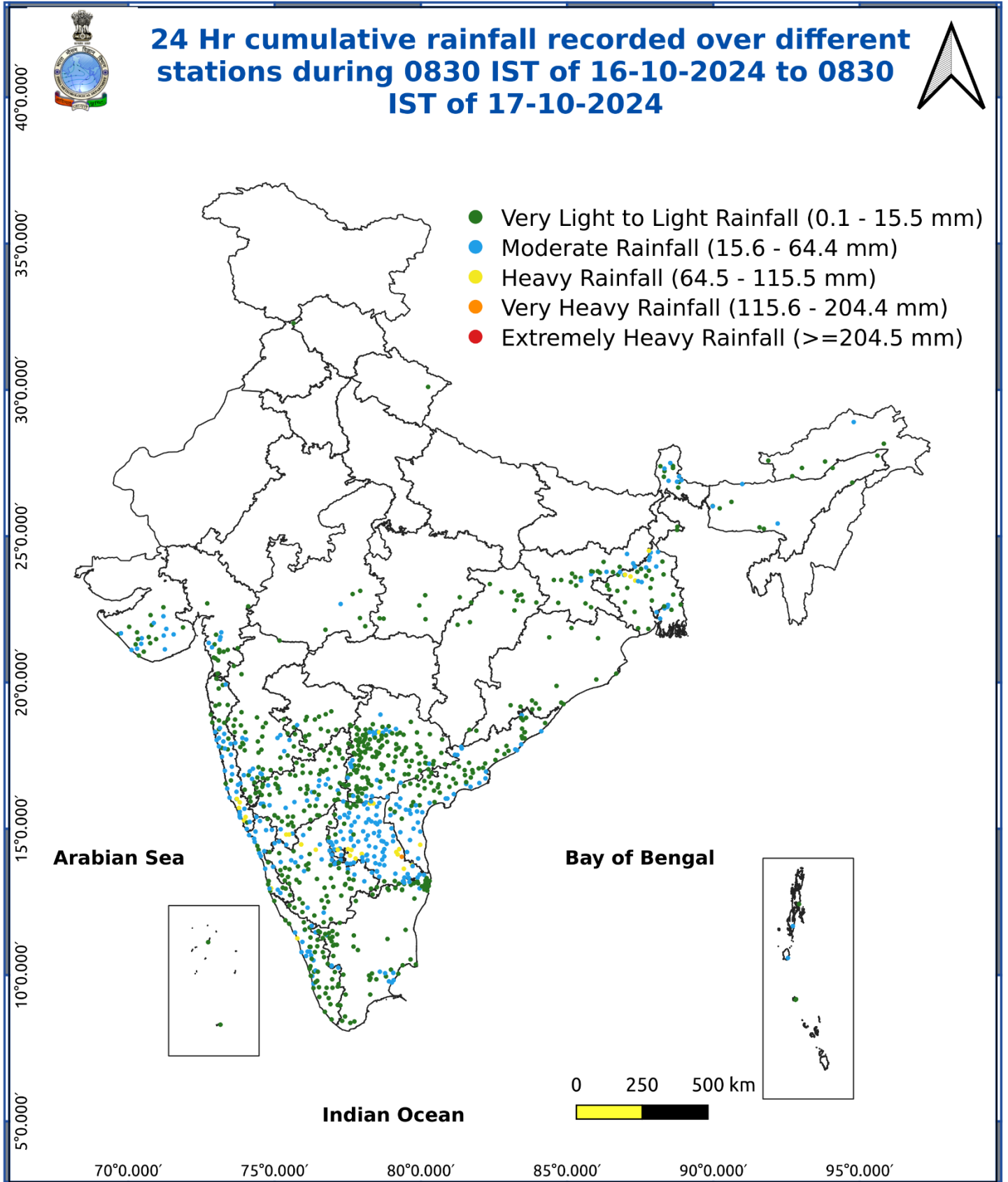


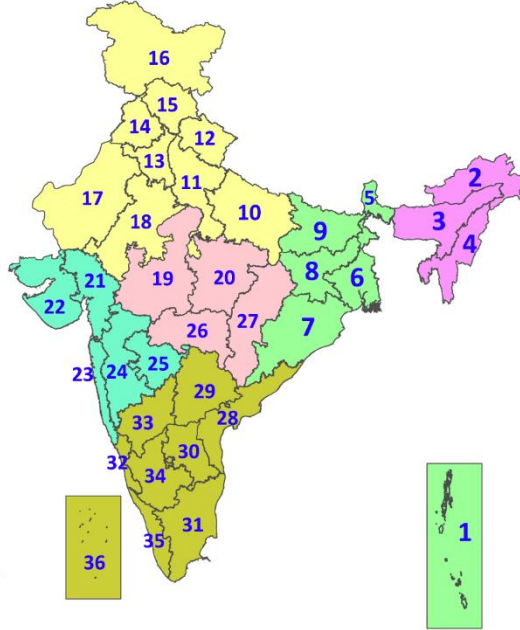
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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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)