

Thursday, October 3, 2024  
Time of Issue: 1315 hours IST  
(MID-DAY)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features:

#### Weather Systems:

- ✓ The upper air circulation over southeast Bangladesh & neighbourhood extending upto middle tropospheric levels persists. Under its influence, a Low Pressure Area is likely to form over North Bay of Bengal & neighbourhood around 04<sup>th</sup> October.
- ✓ Yesterday's cyclonic circulation over Maldives area now lies over Lakshadweep area in lower tropospheric levels.

#### Forecast & Warnings (upto 7 days):

##### East & Northeast India:

- ✓ Fairly widespread to widespread light to moderate rainfall very likely over Northeast region during the week; Widespread light to moderate rainfall very likely over Sub-Himalayan West Bengal & Sikkim during next 2 days & Scattered to Fairly widespread light to moderate rainfall during the next subsequent 5 days; Scattered to Fairly widespread light to moderate rainfall very likely Gangetic West Bengal; Isolated to Scattered light to moderate rainfall over the remaining region during the week.
- ✓ **Isolated heavy to very Heavy rainfall** very likely over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura on 03<sup>rd</sup> & 04<sup>th</sup> October.
- ✓ **Isolated heavy rainfall** very likely over Northeast India during next 7 days; Sub-Himalayan West Bengal & Sikkim during 03<sup>rd</sup> -05<sup>th</sup>; Gangetic West Bengal on 04<sup>th</sup> October.

##### South Peninsular India:

- ✓ Fairly widespread to widespread light to moderate rainfall very likely over Kerala & Mahe, Lakshadweep, South Interior Karnataka; Scattered to Fairly widespread light to moderate rainfall very likely over Tamil Nadu, Puducherry & Karaikal, Coastal Karnataka, North Interior Karnataka; Isolated to Scattered light to moderate rainfall very likely over Rayalaseema, Telangana, Coastal Andhra Pradesh & Yanam during the week.
- ✓ **Isolated heavy rainfall** very likely over Kerala & Mahe during the next 7 days; South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal during 03<sup>rd</sup>-08<sup>th</sup>; Rayalaseema during 03<sup>rd</sup>-05<sup>th</sup>; North Interior Karnataka on 03<sup>rd</sup> October.

##### Northwest, West & Central India:

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

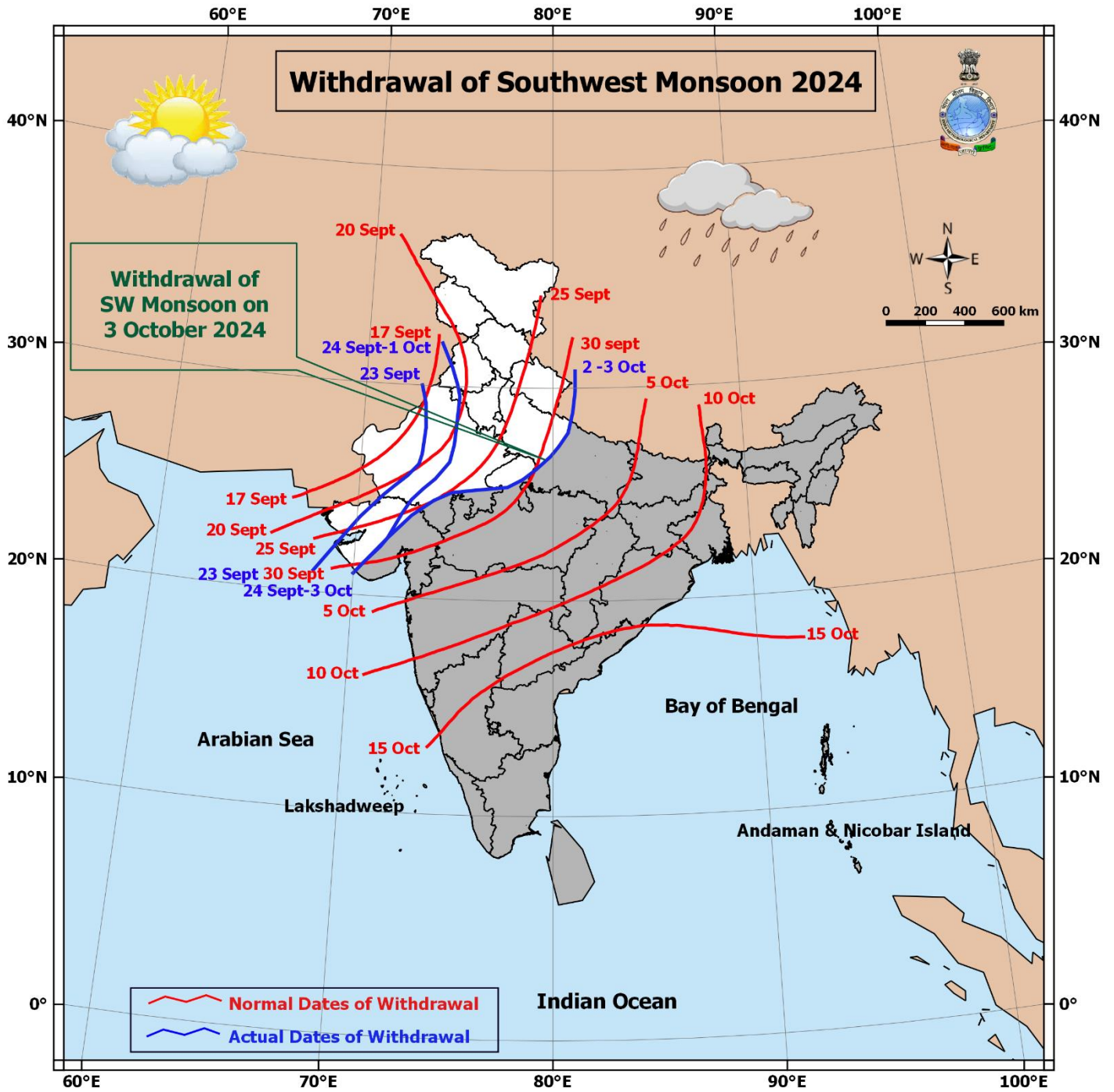
## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): **at many places** over Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Lakshadweep, South Interior Karnataka; **at a few places** over Gangetic West Bengal, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, North Interior Karnataka; **at isolated places** over Uttarakhand, East Uttar Pradesh, West Madhya Pradesh, Vidarbha, Bihar, Jharkhand, Odisha, Konkan & Goa, Madhya Maharashtra, Marathwada, Gujarat state, Coastal Karnataka .
- ❖ **Heavy rainfall** recorded (from 0830 hours IST of yesterday to 0830 hours IST of today): **Heavy to very Heavy rainfall** at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura; **Heavy rainfall** at isolated places over Assam & Meghalaya, Saurashtra & Kutch, Rayalaseema, Interior Karnataka, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal.
- ❖ **Significant amount of rainfall** (from 0830 hours IST of yesterday to 0830 hours IST of today) (in cm): **Sub-Himalayan West Bengal & Sikkim:** Darjeeling (dist Darjeeling) 17, Bijonbari (dist Darjeeling) 13, Algarah (dist Kalimpong) 9, Amfu Kalimpong (dist Kalimpong) 9, Kalimpong (dist Kalimpong) 8; **Arunachal Pradesh:** Pakke\_Kesang (aws) 16, Huri (AWS) 9, Sarli (AWS) 7; **Nagaland, Manipur, Mizoram & Tripura:** Nutanbazar CWC 15, Belonia (ARG) 11; **South Interior Karnataka:** Gubbi (dist Tumakuru) 9; **Assam & Meghalaya:** Lumding 9; **Tamil Nadu:** Natrampalli (dist Tirupathur), Yelagiri ARG (dist Tirupathur), Kelavarapalli Dam (dist Krishnagiri) 9 each, Vadapudupattu (dist Tirupathur), Ambur (dist Tirupathur) 8 each; **Saurashtra & Kutch:** Khambha (dist Amreli) 9; **Rayalaseema:** Chenne Kothapalle (dist Sri Sathyasai District) 8, Madanapalle (dist Annamayya District) 8; **Kerala & Mahe:** Airport Chakka (dist Thiruvananthapuram) 7; **North Interior Karnataka:** Vijayapura Pto (dist Vijayapura) 7.
- ❖ **Minimum Temperature Departures (as on 03-10-2024):** Minimum temperatures are **markedly above normal (5.1°C or above)** at isolated places over East Rajasthan, West Madhya Pradesh; **appreciably above normal (3.0°C to 5.0°C)** at isolated places over Punjab, West Rajasthan, Haryana, Delhi, West Uttar Pradesh, Bihar, Madhya Maharashtra; **above normal (1.6°C to 3.0°C)** at most place over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim, Gujarat state, Odisha, Jharkhand, Chhattisgarh, Vidarbha, Konkan & Goa, Coastal Karnataka, North Interior Karnataka; at many places over Gangetic West Bengal, Marathwada, South Interior Karnataka, Coastal Andhra Pradesh & Yanam; at a few places over Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal, Assam & Meghalaya; at isolated places over Arunachal Pradesh, Telangana, Rayalaseema. Today, the lowest minimum temperature of **20.5°C** is reported at **Delhi-Ridge (New Delhi)** over the plains of the country. **(Fig.4)**
- ❖ **Maximum Temperature Departures (as on 02-10-2024):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, East Uttar Pradesh, Tamil Nadu, Puducherry & Karaikal; **above normal (1.6°C to 3.0°C)** at most places over Gujarat state, Vidarbha, South Interior Karnataka, Rayalaseema; at many places over Himachal Pradesh, Punjab, West Rajasthan, Madhya Pradesh, Chhattisgarh, Madhya Maharashtra, Marathwada, Konkan & Goa, North Interior Karnataka, Coastal Karnataka, Coastal Andhra Pradesh & Yanam, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal; at a few places over Haryana-Chandigarh-Delhi, East Rajasthan, Telangana; at isolated places over West Uttar Pradesh, Odisha, Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya. These are **below normal (-1.6°C to -3.0°C)** at isolated places Gangetic West Bengal and **near normal** over rest parts of the country. Yesterday, **the highest Maximum Temperature** of **40.7°C** was reported at **Nellore (Coastal Andhra Pradesh & Yanam)** over the country. **(Fig. 2)**

## Meteorological Analysis (Based on 0830 hours IST)

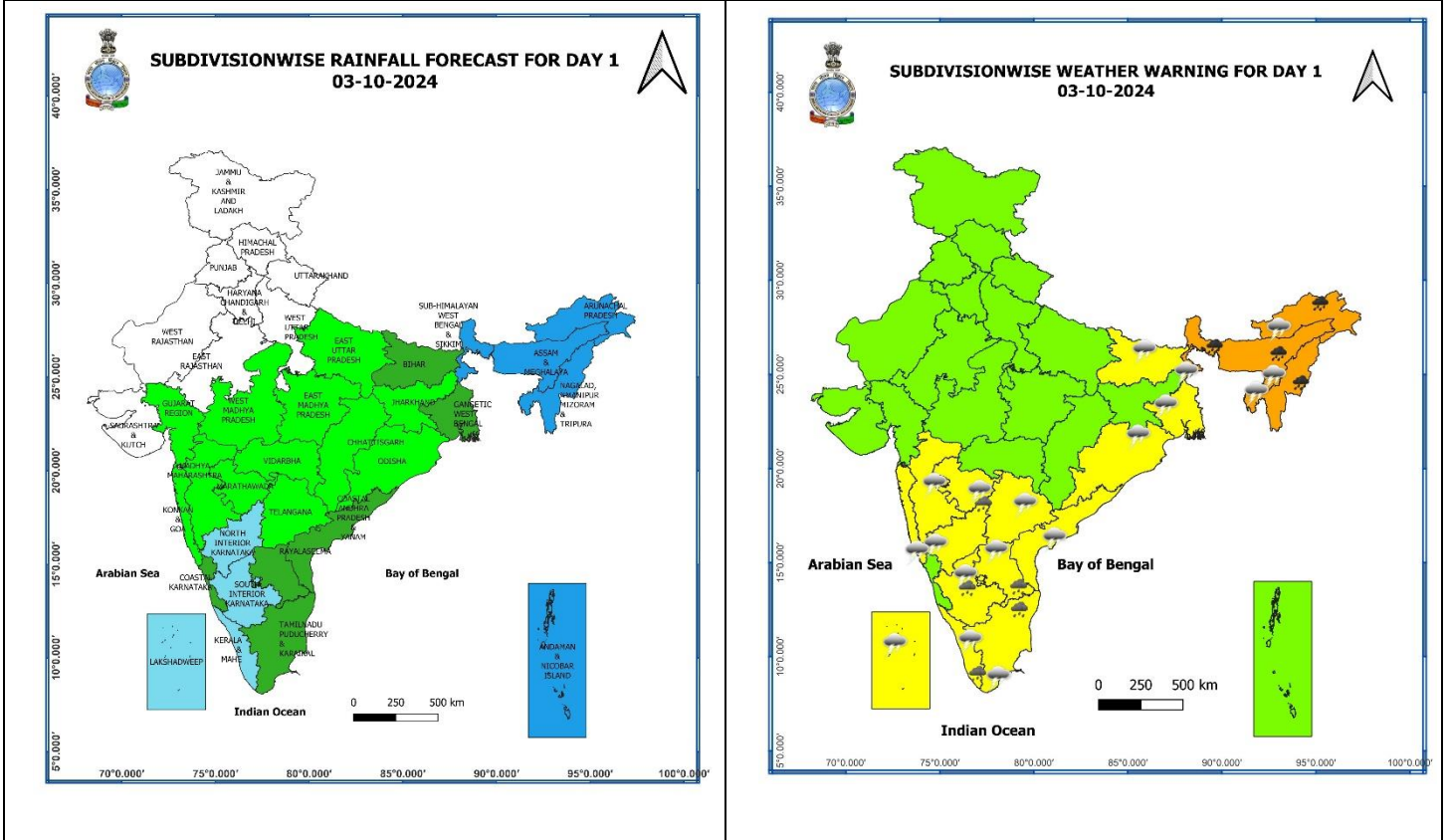
- ❖ The **line of withdrawal of Southwest Monsoon** continues to pass through 30.8°N/81.2°E, Lakhimpur Kheri, Shivpuri, Kota, Udaipur, Deesa, Surendranagar, Junagarh and 21°N/70°E.
- ❖ Conditions are favourable for further withdrawal of **Southwest Monsoon** from remaining parts of West Uttar Pradesh, some more parts Madhya Pradesh, remaining parts of East Rajasthan, some more parts of Gujarat and some parts of Maharashtra during next 2-3 days.
- ❖ The **upper air circulation** over southeast Bangladesh & neighbourhood extending upto 5.8 km above mean sea level persists. The **trough** from the cyclonic circulation over southeast Bangladesh & neighbourhood to North Andaman Sea across Myanmar coast now runs from northeast Bihar to north Andaman Sea across the above cyclonic circulation over southeast Bangladesh and east Bay of Bengal at 0.9 km above mean sea level. Under its influence, a **Low Pressure Area** is likely to form over North Bay of Bengal & neighbourhood around 04<sup>th</sup> October.
- ❖ The **cyclonic circulation** over Maldives & neighbourhood is now seen over Lakshadweep & neighbourhood and extends upto 4.5 km above mean sea level tilting south-westwards with height.

### Withdrawal of Southwest Monsoon 2024



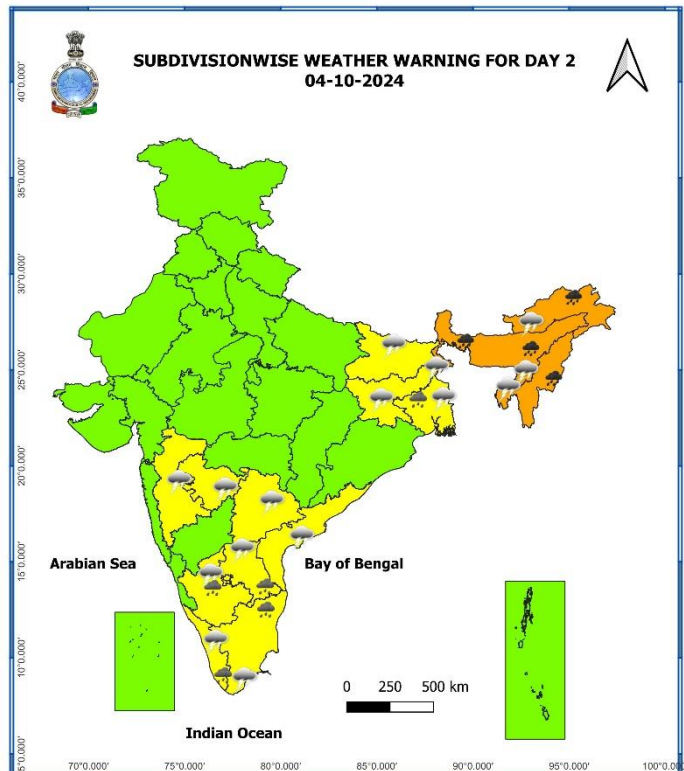
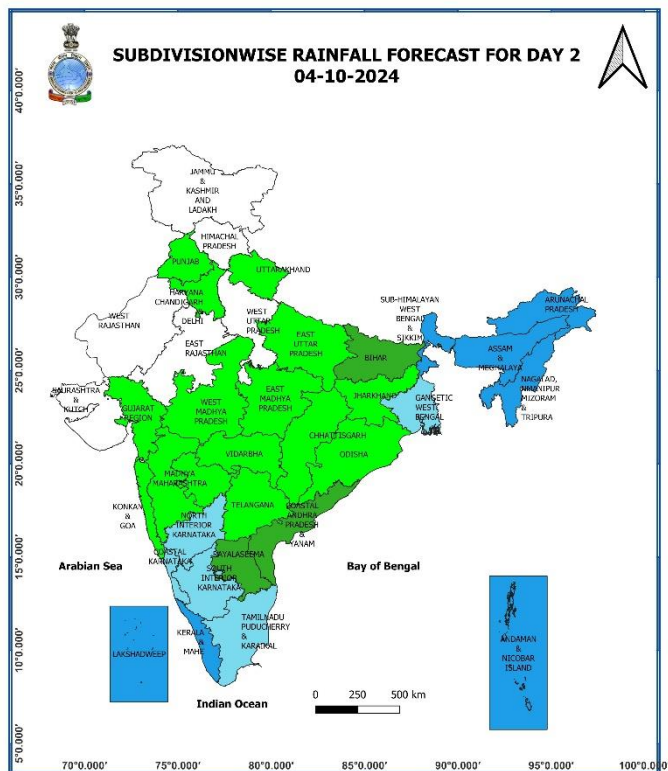
\* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".  
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.  
For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599  
(Service to the Nation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

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 10<sup>th</sup> October, 2024)



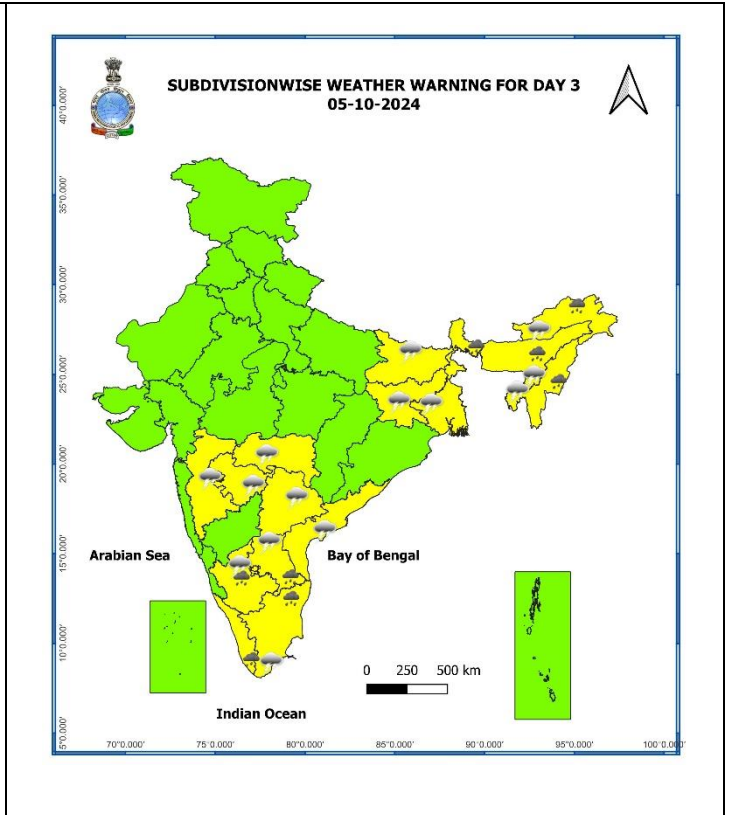
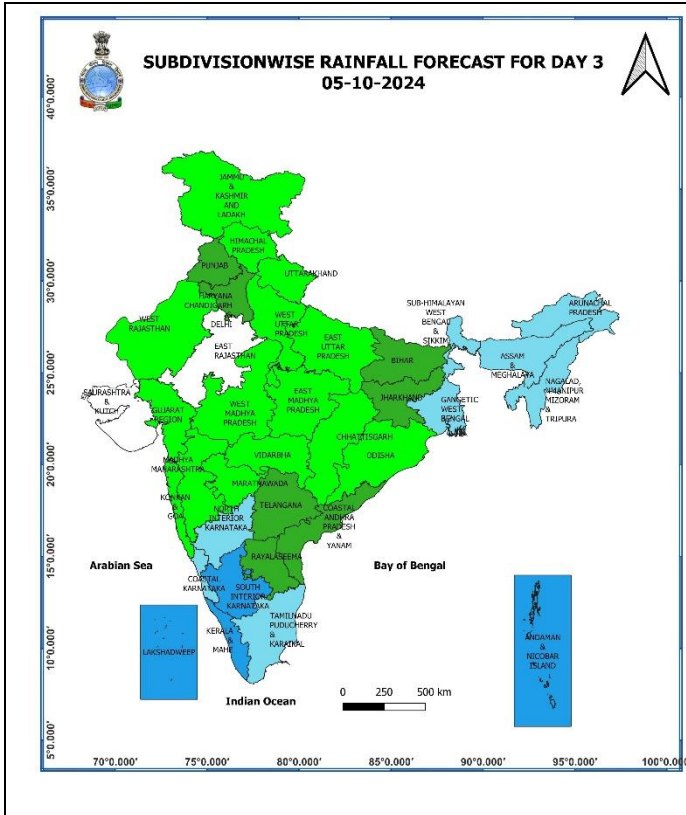
03 October (Day 1):

- ❖ **Heavy to very Heavy rainfall ( $\geq 12$  cm)** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **Heavy rainfall ( $\geq 7$  cm)** at isolated places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Rayalaseema, Interior Karnataka.
- ❖ **Thunderstorm with lightning** very likely at isolated places over West Bengal & Sikkim, Bihar, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Marathwada, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Lakshadweep, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, 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, most parts of eastcentral Bay of Bengal & adjoining parts of northeast Bay of Bengal. Fishermen are advised not to venture into these areas.



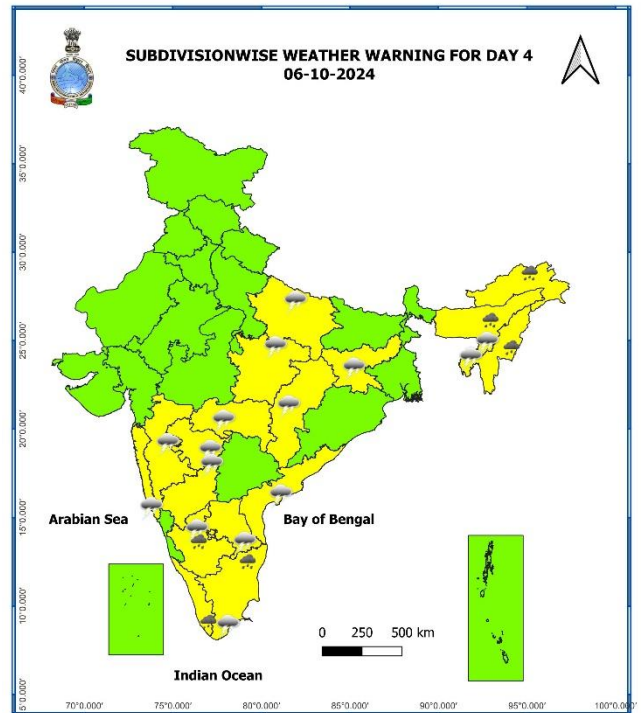
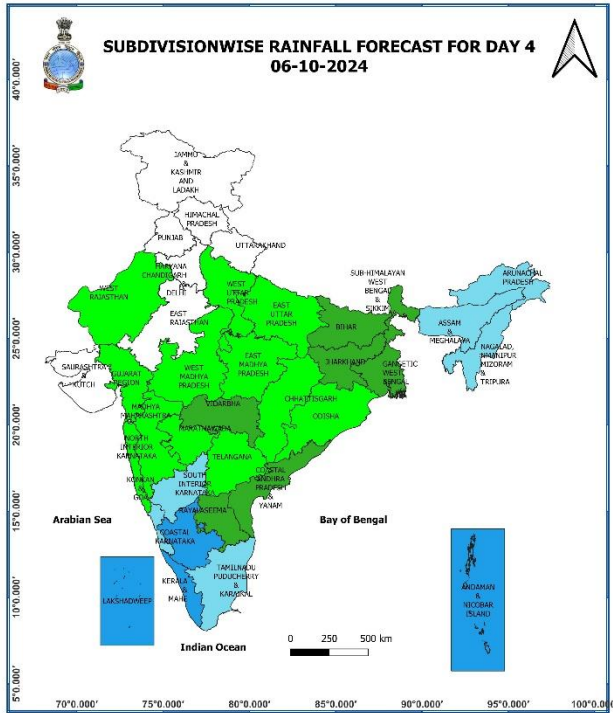
#### 04 October (Day 2):

- ❖ **Heavy to very Heavy rainfall ( $\geq 12$  cm)** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim; **Heavy rainfall ( $\geq 7$  cm)** very likely at isolated places over Gangetic West Bengal, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Rayalaseema, South Interior Karnataka.
- ❖ **Thunderstorm with lightning** very likely at isolated places over West Bengal & Sikkim, Bihar, Jharkhand, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, South 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, most parts of eastcentral Bay of Bengal & adjoining parts of westcentral & northeast Bay of Bengal. Fishermen are advised not to venture into these areas.



### 05 October (Day 3):

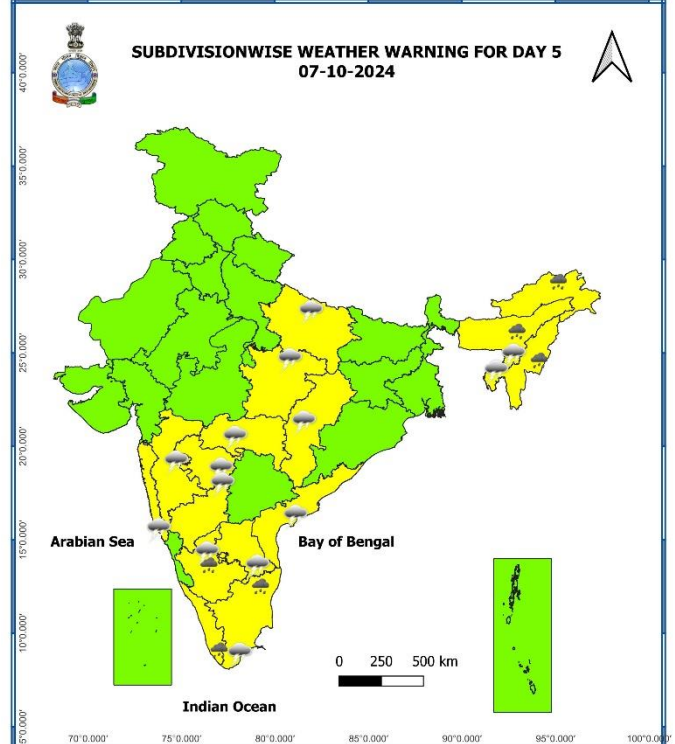
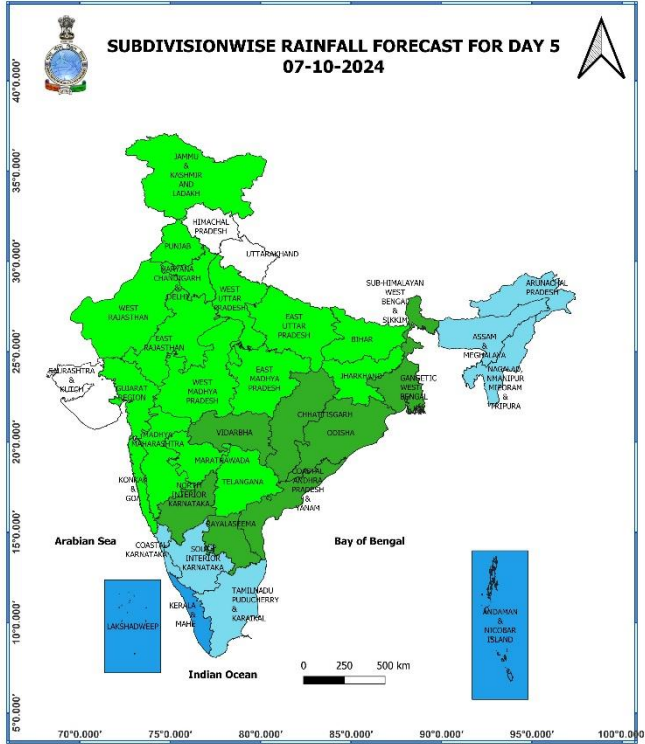
- ❖ **Heavy rainfall ( $\geq 7$  cm)** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Rayalaseema, South Interior Karnataka.
- ❖ **Thunderstorm with lightning** very likely at isolated places over Vidarbha, Gangetic West Bengal, Bihar, Jharkhand, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, South Interior Karnataka.



### 06 October (Day 4):

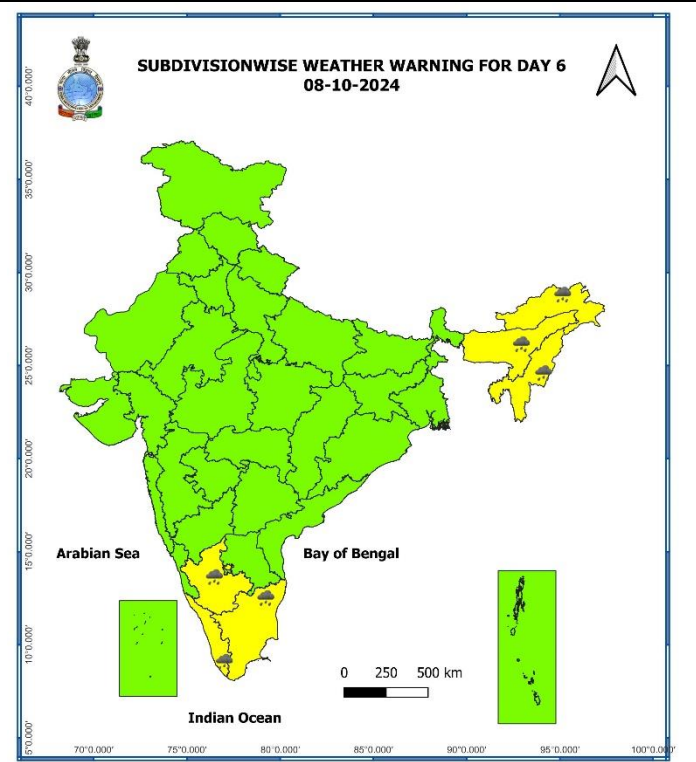
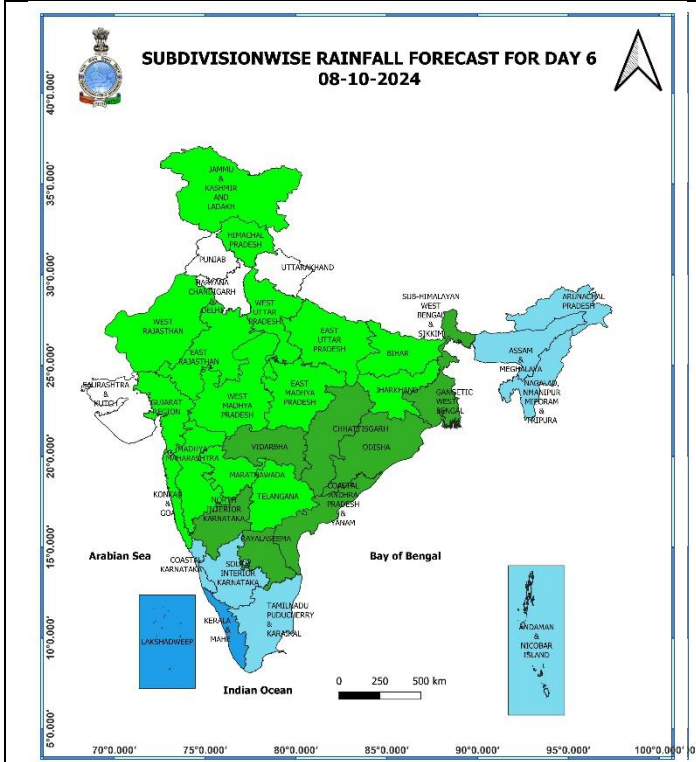
- ❖ **Heavy rainfall ( $\geq 7\text{cm}$ )** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, South Interior Karnataka.
- ❖ **Thunderstorm with lightning** likely at isolated places over East Uttar Pradesh, East Madhya Pradesh, Vidarbha, Chhattisgarh, Jharkhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Marathwada, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka.





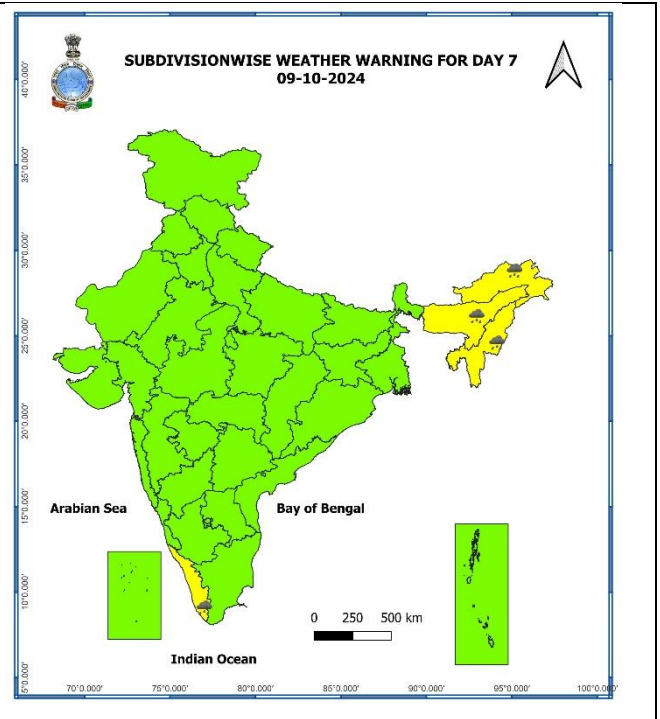
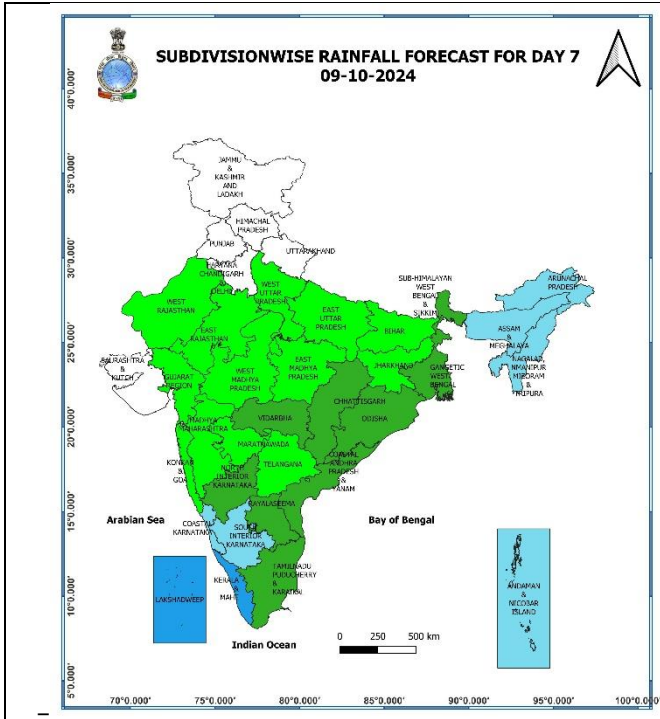
**07 October (Day 5):**

- ❖ **Heavy rainfall ( $\geq 7\text{cm}$ )** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, South Interior Karnataka.
- ❖ **Thunderstorm with lightning** likely at isolated places over East Uttar Pradesh, East Madhya Pradesh, Vidarbha, Chhattisgarh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Marathwada, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka.



**08 October (Day 6):**

- ❖ **Heavy rainfall ( $\geq 7\text{cm}$ )** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, South Interior Karnataka.



### 09 October (Day 7):

- ❖ **Heavy rainfall ( $\geq 7\text{cm}$ ) likely** at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Kerala & Mahe.

### Weather Outlook for subsequent 3 days (During 10<sup>th</sup> October- 12<sup>th</sup> October, 2024)

- ❖ Fairly widespread to widespread rainfall likely over Eastern and North Eastern India and Islands.
- ❖ Isolated to Scattered rainfall likely over remaining Peninsular and West coast of 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.

## Impact due to

- **Isolated Heavy to Very Heavy rainfall** at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura on 03<sup>rd</sup> & 04<sup>th</sup> October.

## 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

- ✓ Make provision for draining out excess water from standing crop fields and fruit orchards to avoid water stagnation in Sub Himalayan West Bengal & Sikkim, Tamil Nadu, Kerala, Interior Karnataka, Telangana and North Eastern States.
- ✓ 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

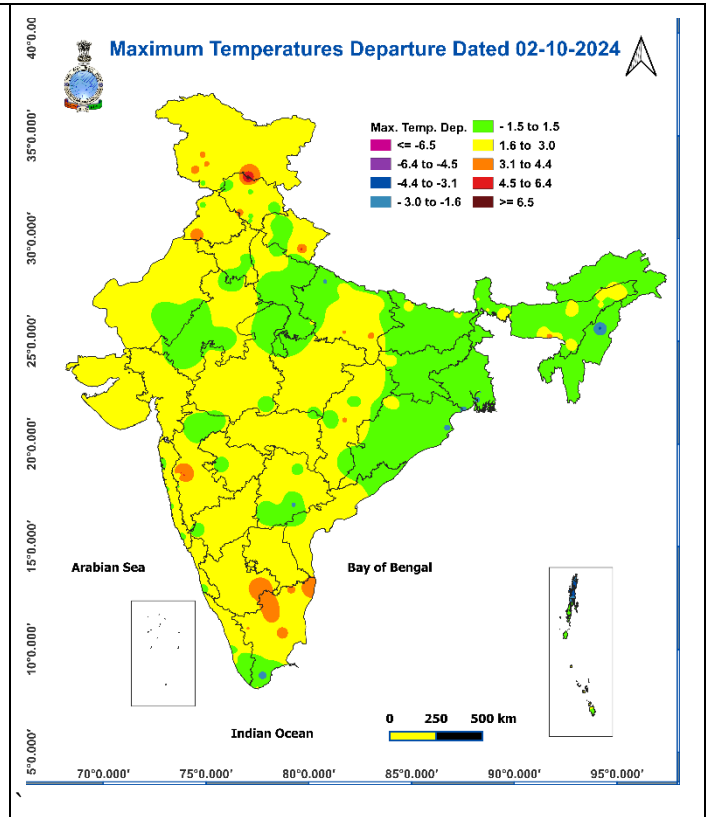
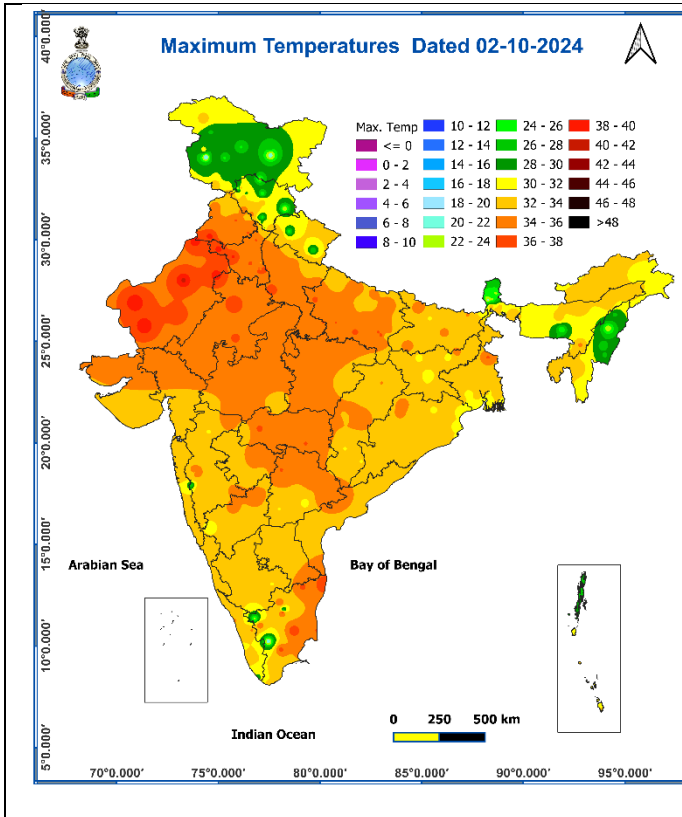


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

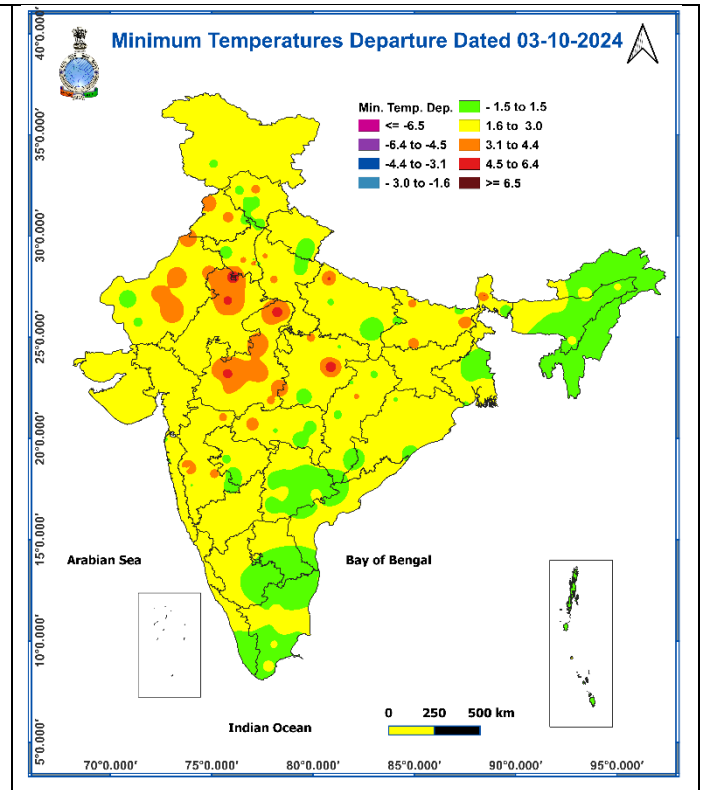
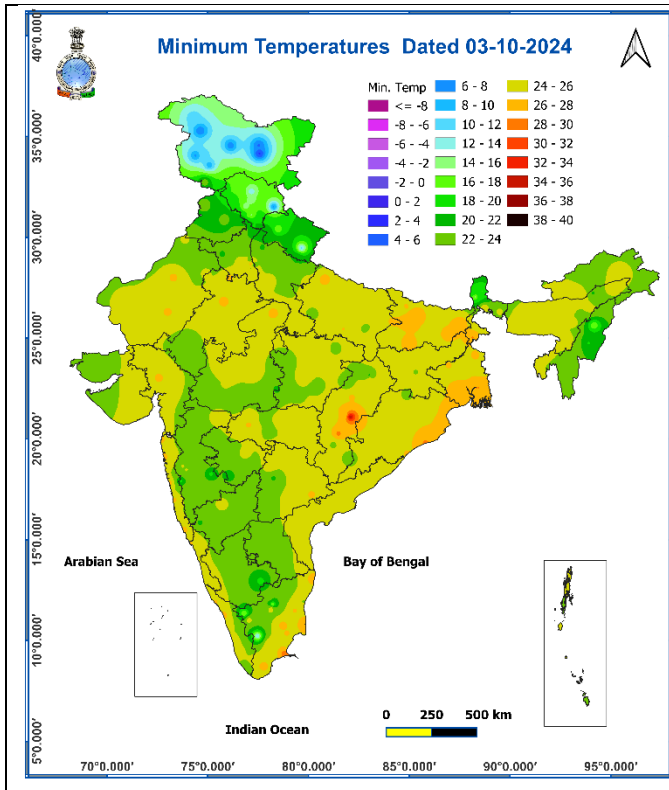
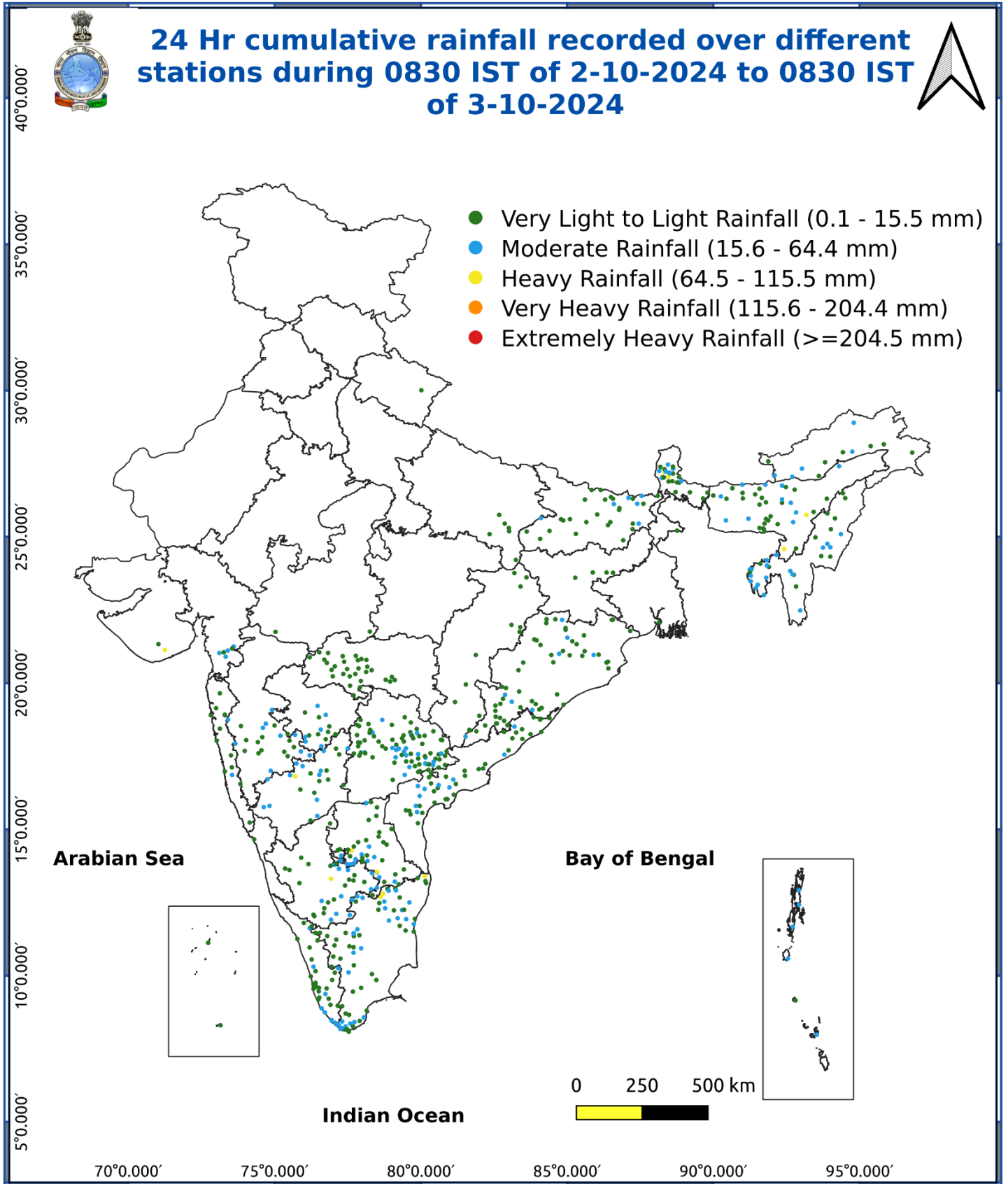


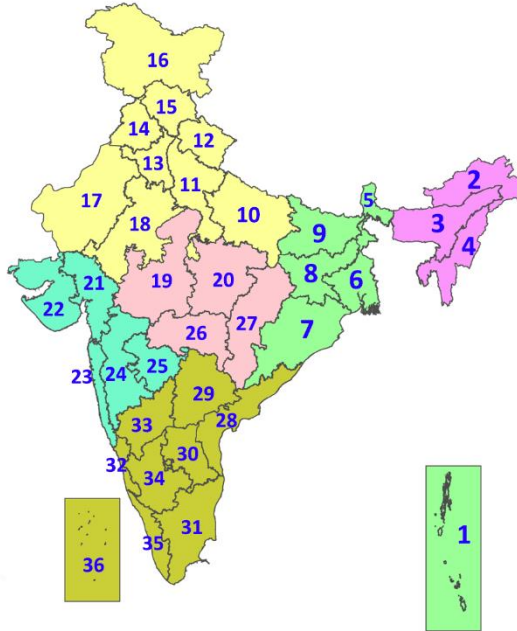
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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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)

- |                      |                      |              |
|----------------------|----------------------|--------------|
| 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 \*

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  $4.5^\circ\text{C}$  to  $6.4^\circ\text{C}$ .  
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  $40^\circ\text{C}$

Warm Night: When minimum temperature departure  $4.5^\circ\text{C}$  to  $6.4^\circ\text{C}$ .  
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  $-4.5^\circ\text{C}$  to  $-6.4^\circ\text{C}$ .  
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  $-4.5^\circ\text{C}$  to  $-6.4^\circ\text{C}$ .  
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)