

Monday, October 21, 2024  
Time of Issue: 1945 hours IST  
(NIGHT)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features:

#### Weather Systems:

- ❖ The **Well Marked Low Pressure Area** over eastcentral Bay of Bengal at 1730 hours IST of today, the 21st October 2024 persists over the same region. It is very likely to move west-northwestwards and intensify into a **Depression** by 22nd October morning and into a **Cyclonic Storm** by 23rd October, 2024 over eastcentral Bay of Bengal. Thereafter, it is very likely to move northwestwards, intensify into a **Severe Cyclonic Storm** over northwest Bay of Bengal in the morning of 24th October, 2024 and cross north Odisha and West Bengal coasts between Puri and Sagar Island during night of 24th and early morning 25th October, 2024 as a **Severe Cyclonic Storm** with a wind speed of 100-110 kmph gusting 120 kmph.
- ❖ Yesterday's **Low Pressure Area** over westcentral Arabian Sea persisted over the same region. It is very likely to move west-northwestwards away from Indian coast and weaken further during next 12 hours.
- ❖ An **upper air cyclonic circulation** lies over Tamil Nadu in lower and middle tropospheric levels.

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

##### East India

- ✓ Light to moderate rainfall at most places with **heavy rainfall** at isolated places very likely over Andaman & Nicobar Islands on 21<sup>st</sup> October.
- ✓ Light to moderate rainfall at most places with **heavy rainfall** at isolated places very likely over Odisha on 23<sup>rd</sup> & 26<sup>th</sup>; **heavy to very heavy rainfall** at a few places with **extremely heavy rainfall** at isolated places on 24<sup>th</sup> & 25<sup>th</sup> October.
- ✓ **Light to moderate rainfall at most places with heavy rainfall** at isolated places very likely over Gangetic West Bengal on 23<sup>rd</sup> **heavy to very heavy rainfall** on 24<sup>th</sup> & 25<sup>th</sup> October.
- ✓ Light to moderate rainfall at a few places with **heavy rainfall** at isolated places very likely over Jharkhand on 24<sup>th</sup> October.

##### South Peninsular India

- ✓ Light to moderate rainfall at many places accompanied with isolated thunderstorm and lightning very likely over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal & South Interior Karnataka; light to moderate rainfall at Isolated places very likely over rest of the region during the week.
- ✓ **Isolated very heavy rainfall** very likely over Tamil Nadu, Puducherry & Karaikal on 21<sup>st</sup> October.
- ✓ **Isolated heavy rainfall** very likely over Kerala & Mahe, Coastal & South Interior Karnataka during 21<sup>st</sup>-23<sup>rd</sup>; North Interior Karnataka on 21<sup>st</sup>; Tamil Nadu, Puducherry & Karaikal on 22<sup>nd</sup> & 23<sup>rd</sup>; Coastal Andhra Pradesh & Yanam on 24<sup>th</sup> & 25<sup>th</sup> October.

##### West India

- ✓ Light to moderate rainfall at many places accompanied with isolated thunderstorm and lightning very likely over Konkan & Goa; light to moderate rainfall at Isolated places very likely over rest of the region during next 4 days and where dry weather is likely to prevail subsequent 3 days.
- ✓ **Isolated heavy rainfall** very likely over Konkan & Goa, Madhya Maharashtra, Marathwada, Gujarat State on 21<sup>st</sup> October.

##### Northeast, Central & Northwest India

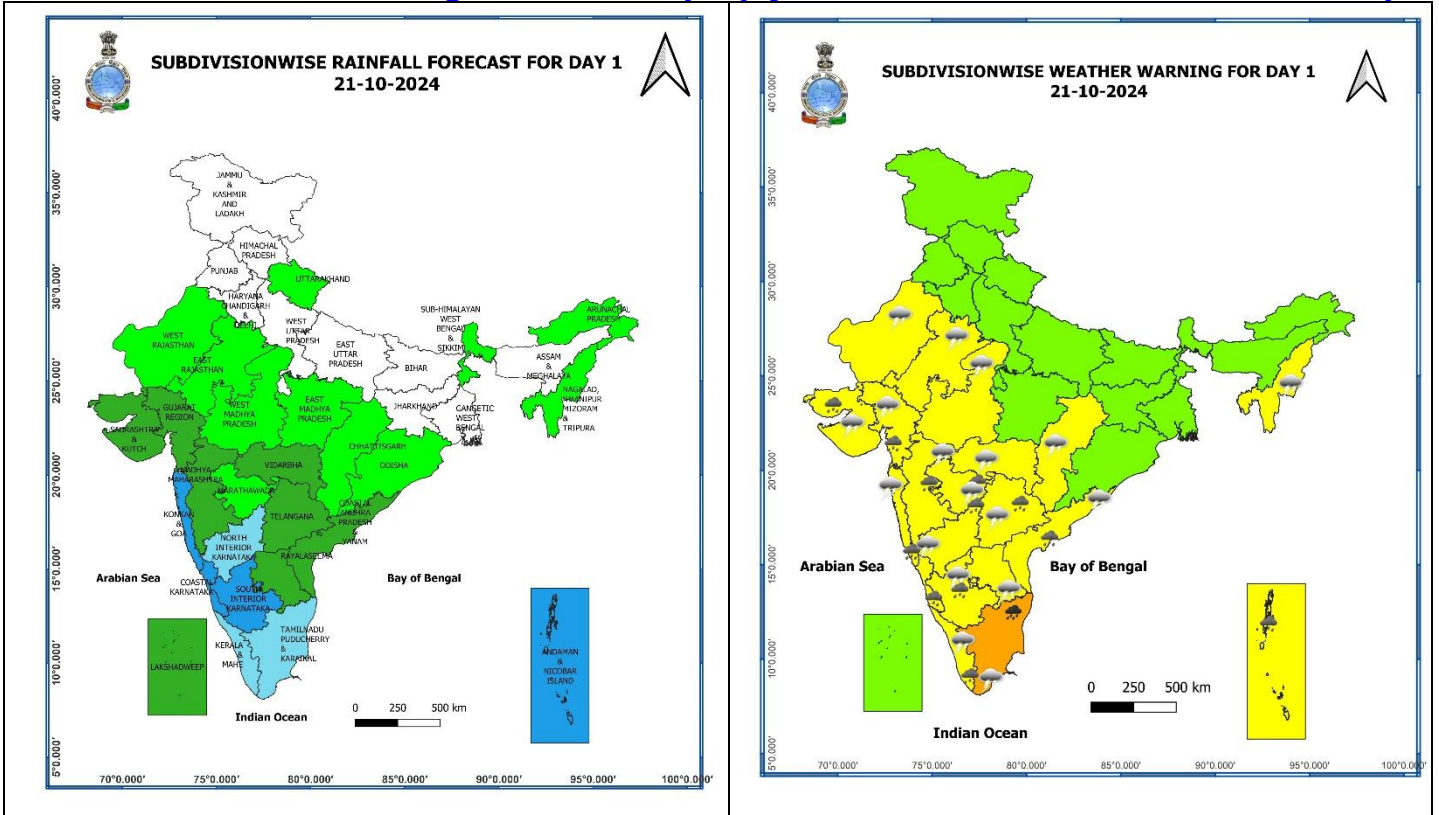
## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of today): **at many places** over Andaman & Nicobar Islands; **at a few places** over Coastal Andhra Pradesh & Yanam, Telangana, Marathwada and Lakshadweep; **at isolated places** over Rajasthan, Gujarat state, Konkan & Goa, Madhya Maharashtra, Karnataka, Rayalaseema, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Heavy rainfall recorded** (from 0830 hours IST to 1730 hours IST of today): **Heavy rainfall ( $\geq 7\text{cm}$ )** at isolated places over Tamil Nadu, Puducherry & Karaikal.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of today) (in cm): **Coastal Andhra Pradesh & Yanam:** Navsapur-3, Ongle-1; **Telangana:** Hanami Kanda, Nazimabad, Medak-3 each; **Madhya Maharashtra:** Jeur-5; **Gujarat Region:** Surat-1; **Saurashtra & Kutch:** Dwarka-2; **North Interior Karnataka :** Gadag-5; **Rayalaseema:** Tirupathi-1; **Tamil Nadu, Puducherry & Karaikal:** Tiruvarur -8; Tiruppattur & Connor-1 each; **Kerala & Mahe:** Kozhikode & Punallur-1 each; **Lakshadweep:** Aminidivi & Agathi -1 each; **Andaman & Nicobar Islands :** Maya Bandar-2;
- ❖ **Minimum Temperature Departures (as on 21-10-2024):** Minimum temperatures are **markedly above normal ( $5.1^{\circ}\text{C}$  or more)** at isolated places over East Rajasthan, Saurashtra & Kutch; **appreciably above normal ( $3.1^{\circ}\text{C}$  to  $5.0^{\circ}\text{C}$ )** at a few places over West Rajasthan, Madhya Maharashtra, Marathwada; at isolated places over Haryana-Chandigarh-Delhi, East Uttar Pradesh, Madhya Pradesh, Vidarbha, Telangana; **above normal ( $1.6^{\circ}\text{C}$  to  $3.0^{\circ}\text{C}$ )** at a few places over Punjab, West Uttar Pradesh, Chhattisgarh, Odisha; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Bihar, Jharkhand, Gangetic West Bengal, Rayalaseema, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, North Interior Karnataka. Today, **the lowest minimum temperature of  $16.1^{\circ}\text{C}$**  is reported at **Ridge (Delhi)** over the plains of the country. (Fig.4)
- ❖ **Maximum Temperature Departures (as on 21-10-2024):** Maximum temperatures are **markedly above normal ( $5.1^{\circ}\text{C}$  or above)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; **appreciably above normal ( $3.1^{\circ}\text{C}$  to  $5.0^{\circ}\text{C}$ )** at isolated places over Assam & Meghalaya; **above normal ( $1.6^{\circ}\text{C}$  to  $3.0^{\circ}\text{C}$ )** at many places over East Uttar Pradesh; at a few place over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura; at isolated places over Himachal Pradesh, Uttarakhand, Rajasthan , Bihar, East Madhya Pradesh, Telangana, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe. Today, **the highest Maximum Temperature of  $38.0^{\circ}\text{C}$**  is reported at **Churu (East Rajasthan)** over the country. (Fig. 2)

## Meteorological Analysis (Based on 1730 hours IST)

- ❖ The **Well Marked Low Pressure Area** over eastcentral Bay of Bengal at 1730 hours IST of today, the 21st October 2024 persists over the same region. It is very likely to move west-northwestwards and intensify into a **Depression** by 22nd October morning and into a **Cyclonic Storm** by 23rd October, 2024 over eastcentral Bay of Bengal. Thereafter, it is very likely to move northwestwards, intensify into a **Severe Cyclonic Storm** over northwest Bay of Bengal in the morning of 24th October, 2024 and cross north Odisha and West Bengal coasts between Puri and Sagar Island during night of 24th and early morning 25th October, 2024 as a **Severe Cyclonic Storm** with a wind speed of 100-110 kmph gusting 120 kmph.
- ❖ The **Low Pressure Area** over westcentral Arabian Sea with the associated cyclonic circulation extending upto 3.1 km above mean sea level over the same region persists. It is likely to move west-northwestwards away from Indian coast and weaken further during next 12 hours.
- ❖ The **upper air cyclonic circulation** over Tamil Nadu & neighbourhood extending upto 5.8 km above mean sea level persists.
- ❖ The **upper air cyclonic circulation** over eastcentral Arabian Sea off north Karnataka coast at 1.5 km above mean sea level persists.
- ❖ The **upper air cyclonic circulation** over east Bangladesh & neighbourhood between 1.5 km & 3.1 km above mean sea level persists.

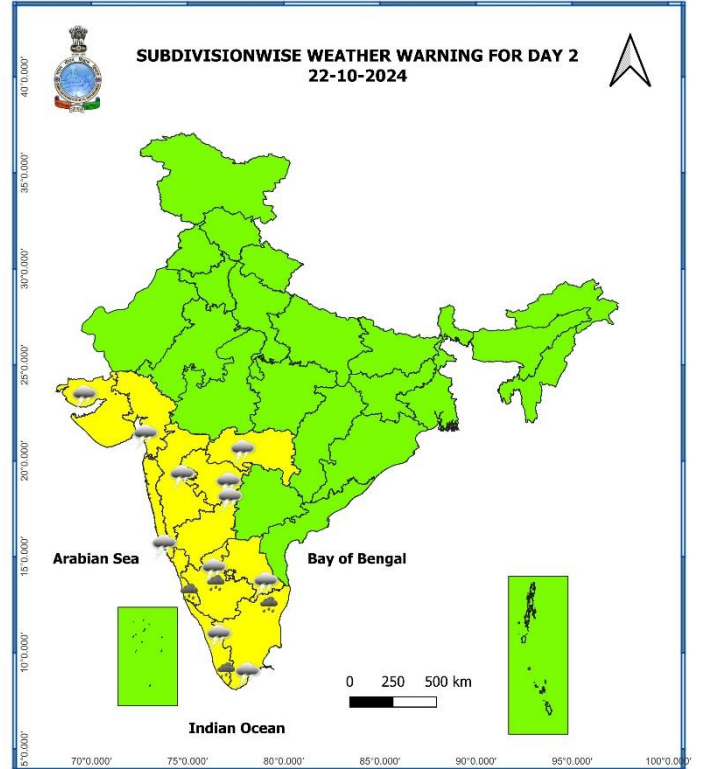
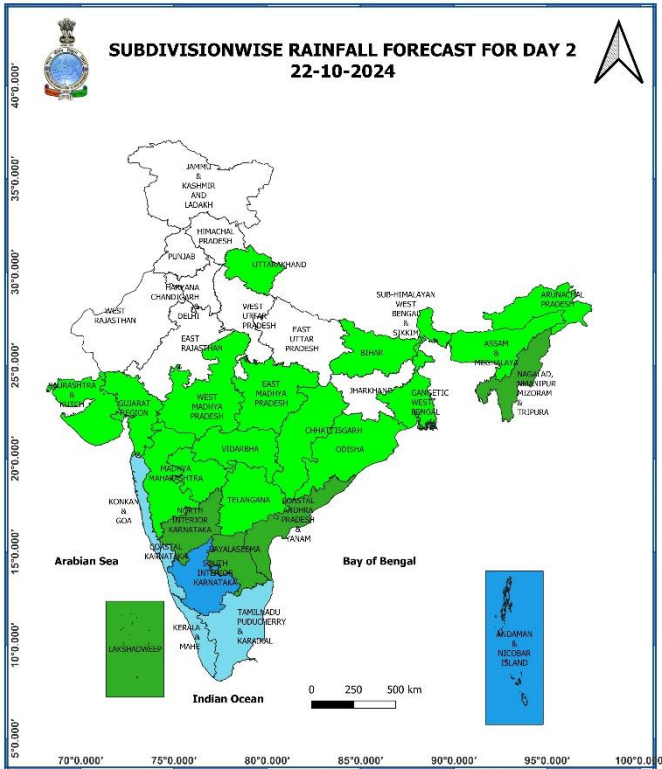
Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 28<sup>th</sup> October, 2024)



21 October (Day 1):

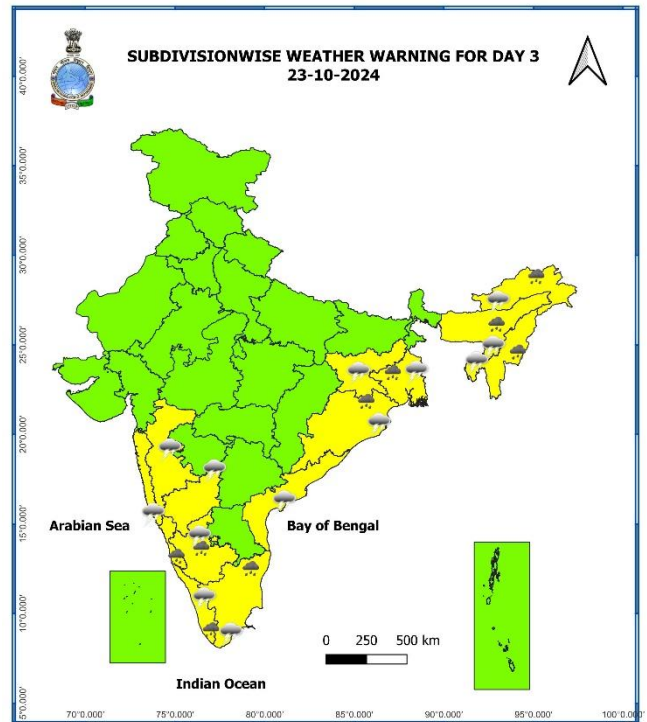
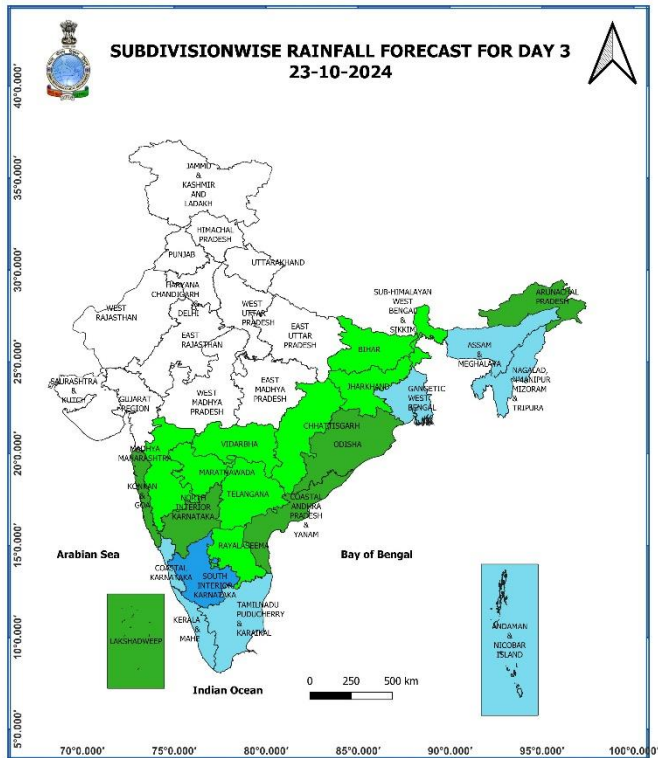
- ❖ **Heavy to very heavy rainfall ( $\geq 12\text{cm}$ )** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal; **Heavy rainfall ( $\geq 7\text{cm}$ )** very likely at isolated places over Andaman & Nicobar Islands, Konkan & Goa, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh & Yanam, Telangana, Gujarat state, Kerala & Mahe and Karnataka.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Kerala & Mahe and Telangana; **with lightning** very likely at isolated places over Rajasthan, West Madhya Pradesh, Vidarbha, Chhattisgarh, Mizoram, Konkan & Goa, Madhya Maharashtra, Marathwada, Gujarat state, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema and Interior Karnataka.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over westcentral Arabian sea, Andaman sea, eastcentral and adjoining southeast Bay of Bengal. Fishermen are advised not to venture into these areas.





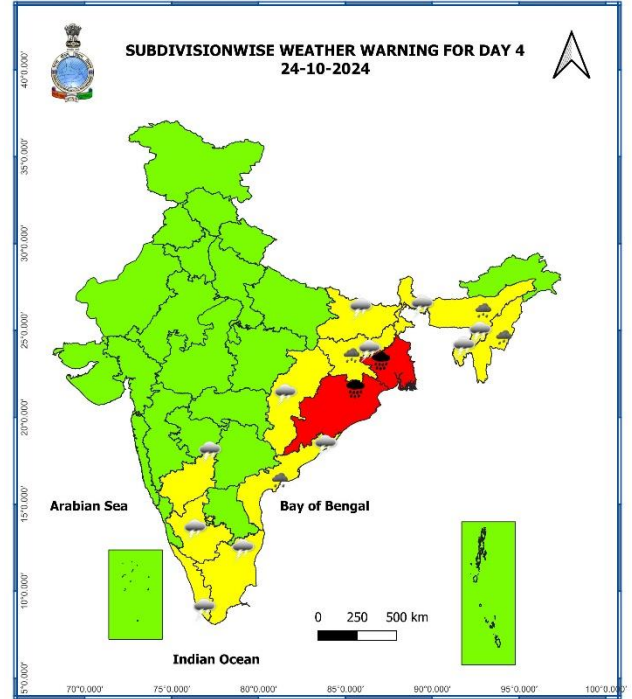
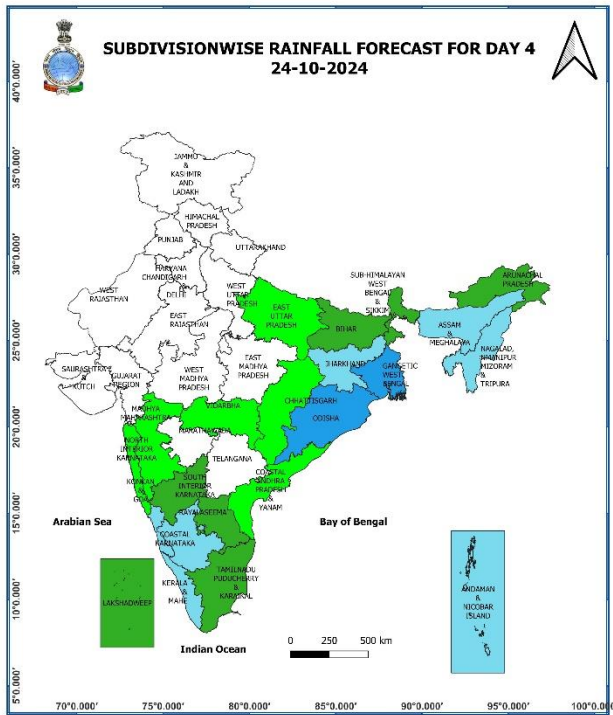
## 22 October (Day 2):

- ❖ **Heavy rainfall ( $\geq 7\text{cm}$ )** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal Karnataka and South Interior Karnataka.
- ❖ **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 Vidarbha, Konkan & Goa, Madhya Maharashtra, Marathwada, Gujarat state, Tamil Nadu, Puducherry & Karaikal, Rayalaseema and Interior Karnataka.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over Andaman sea, eastcentral and adjoining areas of Bay of Bengal. **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** is likely to prevail over many parts of eastcentral & adjoining areas of Bay of Bengal. **strong winds with speed 50 kmph to 60 kmph gusting to 70 kmph** is likely to prevail over many parts of eastcentral & adjoining areas of Bay of Bengal. **Gale winds with speed 60 kmph to 90 kmph gusting to 100 kmph** is likely to prevail over many parts of eastcentral Bay of Bengal. Fishermen are advised not to venture into these areas.



**23 October (Day 3):**

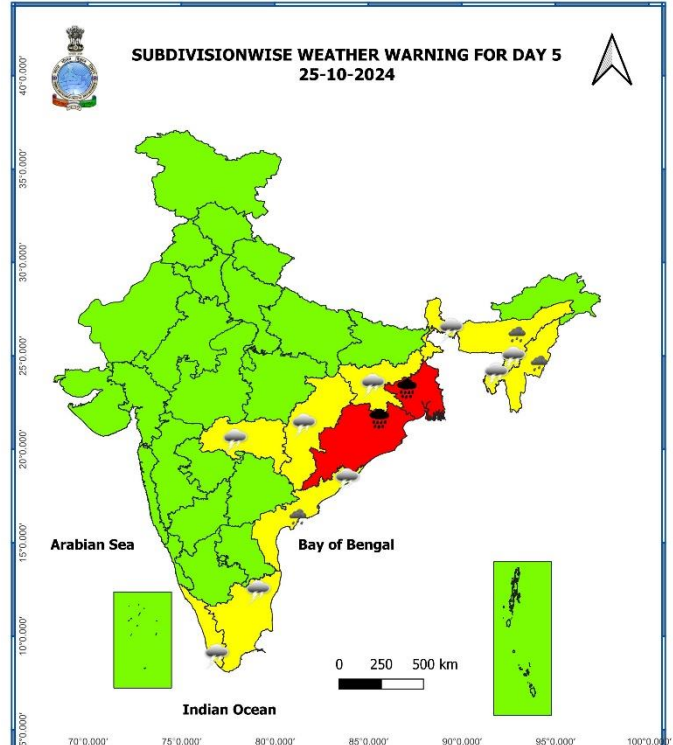
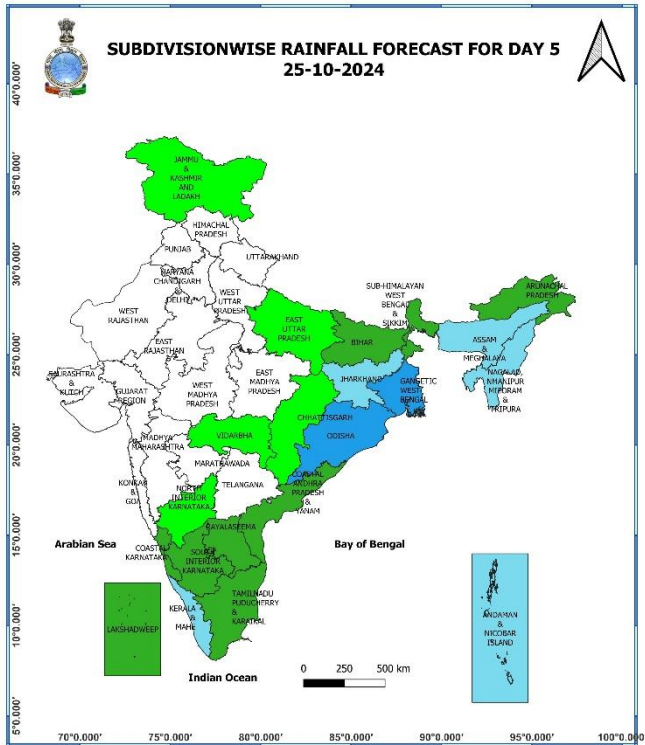
- ❖ **Heavy rainfall ( $\geq 7\text{cm}$ )** very likely at isolated places over Gangetic West Bengal, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe Coastal and South Interior Karnataka.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Kerala & Mahe, Gangetic West Bengal, Jharkhand and Odisha; **with lightning** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Madhya Maharashtra, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam and Interior Karnataka.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over Andaman sea, most parts of central Bay of Bengal, and north Bay of Bengal, along and off north Andhra Pradesh, Odisha & west Bengal coasts. **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** is likely to prevail over parts of eastcentral, westcentral & north Bay of Bengal. **Strong winds with speed 50 kmph to 60 kmph gusting to 70 kmph** is likely to prevail over many parts of eastcentral, westcentral and adjoining north Bay of Bengal. **Gale winds with speed 65 kmph to 75 kmph gusting to 85 kmph** is likely to prevail over many parts of eastcentral & adjoining westcentral Bay of Bengal. Fishermen are advised not to venture into these areas.



### 24 October (Day 4):

- ❖ **Heavy to very heavy rainfall with extremely heavy falls ( $\geq 20$  cm)** likely at isolated places over Odisha, Gangetic West Bengal; **Heavy rainfall ( $\geq 7$ cm)** likely at isolated places over Jharkhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Coastal Andhra Pradesh & Yanam.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 30-40 kmph)** likely at isolated places Sub-Himalayan West Bengal & Sikkim, Bihar and Jharkhand; **with lightning** likely at isolated places over Chhattisgarh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal Andhra Pradesh & Yanam and Interior Karnataka.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over most parts of central and adjoining south Bay of Bengal, along and off north Andhra Pradesh, Odisha, West Bengal and Bangladesh coasts. **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** is likely to prevail over many parts of westcentral & north Bay of Bengal and adjoining parts of eastcentral, along and off Odisha, West Bengal and Bangladesh coasts. **Strong winds with speed 50 kmph to 60 kmph gusting to 70 kmph** is likely to prevail over many parts of westcentral and adjoining eastcentral and north Bay of Bengal. **Gale winds with speed 60 kmph to 90 kmph gusting to 110 kmph** is likely to prevail over many parts of westcentral & northwest Bay of Bengal along and off Odisha, West Bengal coasts. **Gale winds with speed 90 kmph to 110 kmph gusting to 120 kmph** is likely to prevail over many parts of westcentral & northwest Bay of Bengal along and off Odisha, West Bengal coasts. Fishermen are advised not to venture into these areas.

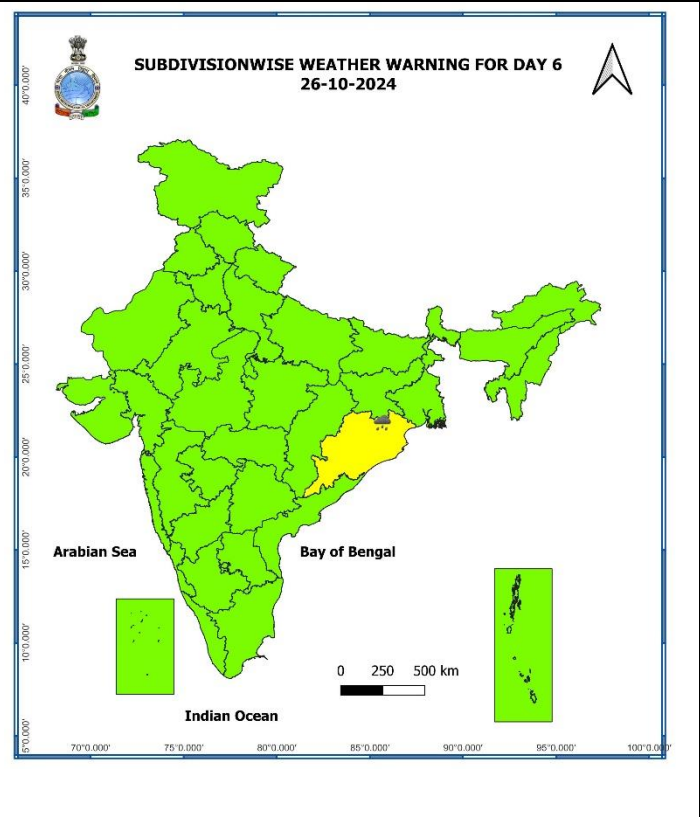
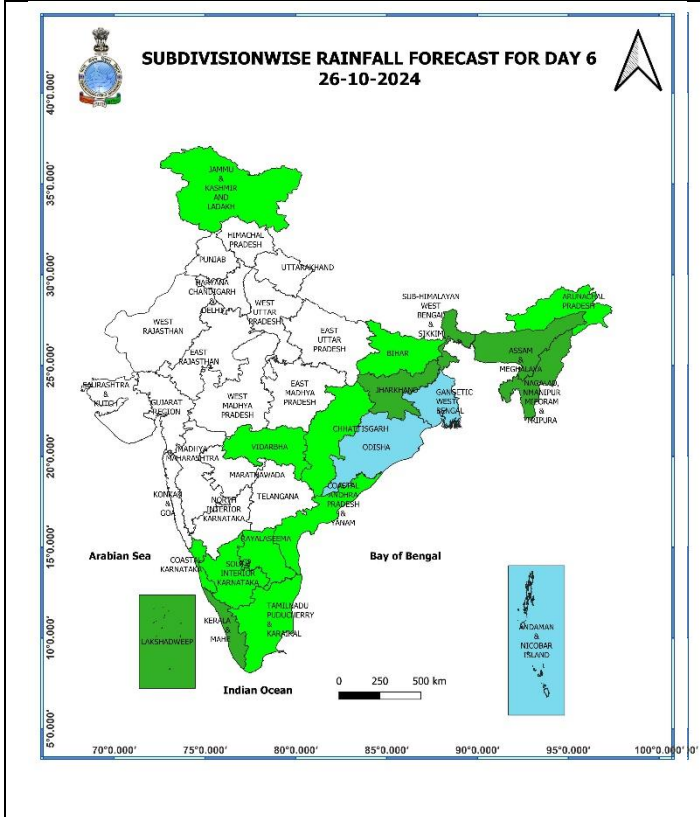




## 25 October (Day 5):

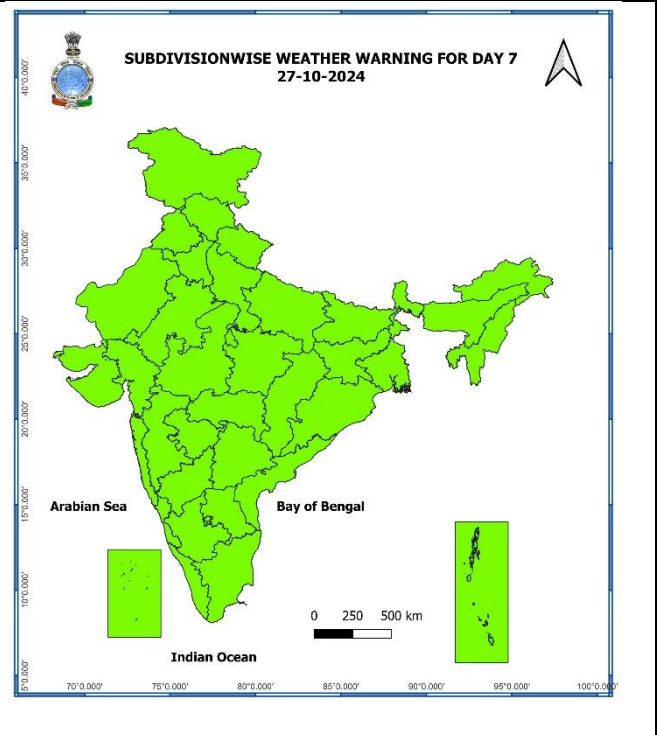
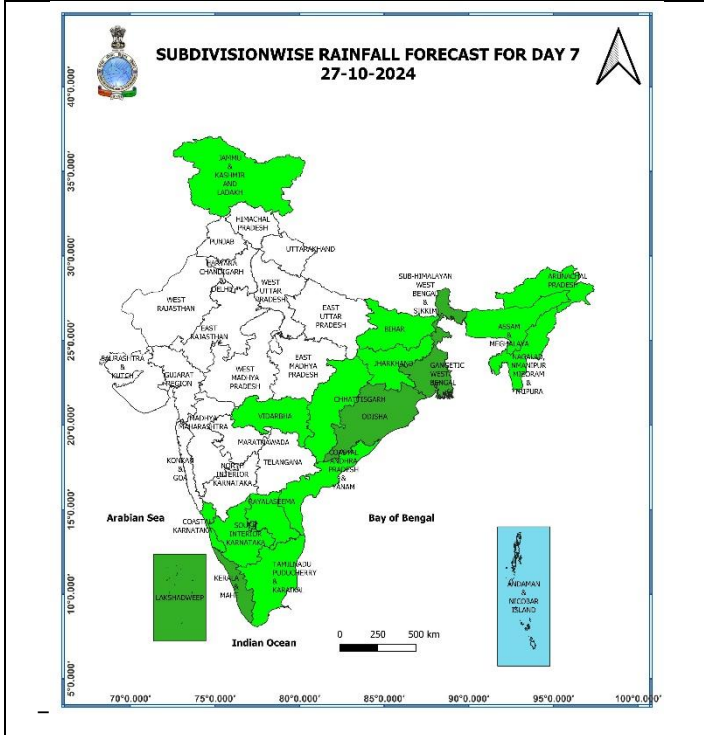
- ❖ **Heavy to very heavy rainfall with extremely heavy falls ( $\geq 20$  cm)** likely at isolated places over Odisha, Gangetic West Bengal; **Heavy rainfall ( $\geq 7$ cm)** likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Coastal Andhra Pradesh & Yanam.
- ❖ **Thunderstorm accompanied gusty winds (speed reaching 30-40 kmph)** likely at isolated places Sub-Himalayan West Bengal & Sikkim; **with lightning** likely at isolated places over Vidarbha, Chhattisgarh, Jharkhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and Coastal Andhra Pradesh & Yanam.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** likely to prevail over most parts of central, north Bay of Bengal, along and off north Andhra Pradesh, Odisha, west Bengal and Bangladesh coasts. **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** is likely to prevail over many parts of central & northwest Bay of Bengal and adjoining parts of eastcentral & northeast Bay of Bengal, along and off Odisha, West Bengal and Bangladesh coasts. **Strong winds with speed 50 kmph to 60 kmph gusting to 70 kmph** is likely to prevail over many parts of westcentral and adjoining eastcentral and north Bay of Bengal. **Gale winds with speed 60 kmph to 90 kmph gusting to 110 kmph** is likely to prevail over many parts of northwest Bay of Bengal and adjoining parts of northeast Bay of Bengal, along and off Odisha, West Bengal coasts. **Gale winds with speed 90 kmph to 110 kmph gusting to 120 kmph** is likely to prevail over northwest along and off Odisha, west Bengal coasts. Fishermen are advised not to venture into these areas.





**26 October (Day 6):**

❖ **Heavy rainfall ( $\geq 12\text{cm}$ )** likely at isolated places over Odisha.



**27 October (Day 7):**

❖ No weather warning.

**Weather Outlook for subsequent 3 days (During 28<sup>th</sup> October – 30<sup>th</sup> October, 2024)**

- ❖ Isolated to Scattered light rainfall likely over some parts of Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe 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.

## Impact due to

- ✓ **Isolated extremely heavy rainfall** very likely over Odisha, Gangetic West Bengal on 24<sup>th</sup> & 25<sup>th</sup> October.
- ✓ **Isolated heavy to very heavy rainfall** very likely over Tamil Nadu, Puducherry & Karaikal on 21<sup>st</sup> October.

## Impact Expected

- ✓ Major damage to thatched houses/ huts. Roof tops may blow off. Unattached metal sheets may fly.
- ✓ Minor damage to power and communication lines.
- ✓ Major damage to Kutcha and some damage to Pucca roads. Flooding of escape routes.
- ✓ Possibilities of damage to vulnerable structure. Breaking of tree branches and uprooting of trees.
- ✓ Moderate damage to banana and papaya trees. Large dead limbs blown from trees.
- ✓ Damage to horticulture and standing crops in some areas due to inundation and wind.
- ✓ Damage to embankments/ salt pans.
- ✓ 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 and poor visibility due to heavy rain leading to increased travel time and incidents
- ✓ Localized Landslides/Mudslides/landslips/mud slips/land sinks/mud sinks.
- ✓ Likely disruption of marine and inland water transportation like small boats and trawlers.
- ✓ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Webpage of Central Water Commission)

## 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

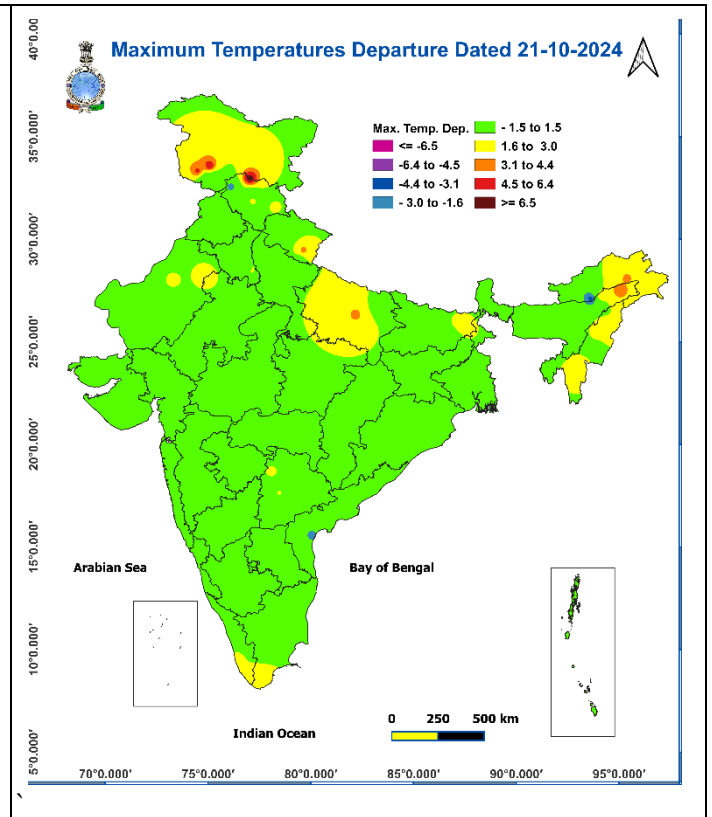
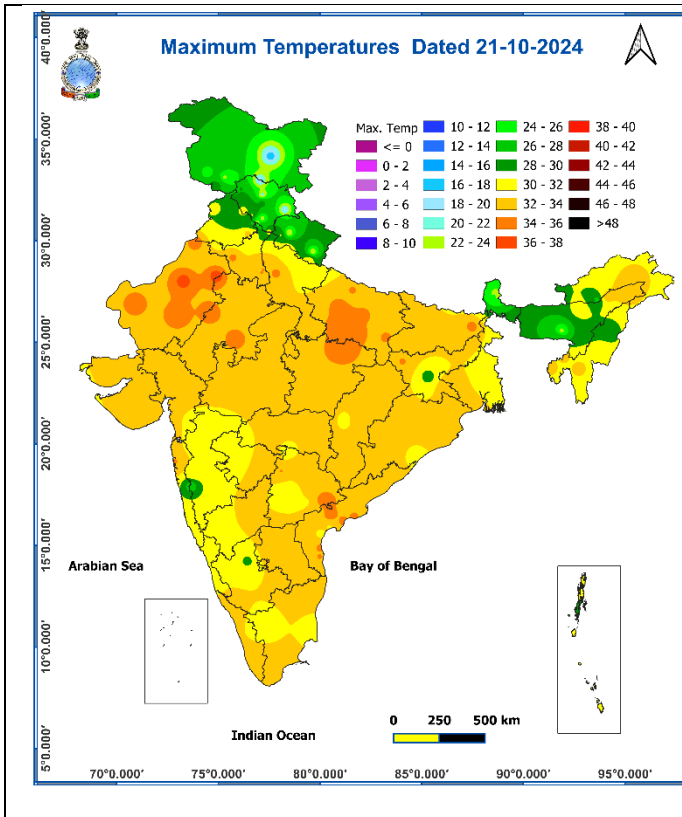
### Agromet advisories for Heavy Rainfall likely over various parts of the country

- ✓ In **Tamil Nadu**, drain out excess water from rice nurseries and fields of rice, maize, pepper and newly planted turmeric. Undertake detrashing and propping of more than five-month-old sugarcane to avoid lodging. Provide support to banana plantations.
- ✓ In **Andaman and Nicobar Islands**, carry out harvesting of matured rice to avoid shattering loss and keep the harvested produce in safe places. To avoid water stagnation, provide adequate drainage in the rice fields (near physiological maturity).
- ✓ In **Odisha**, undertake harvesting of rice crop if 85% of grains are matured in a panicle and store them at safer places. Immediately harvest matured maize, black gram, green gram, groundnut, and vegetables and shift them to safe places.
- ✓ Make necessary arrangements to drain out excess water from standing crop fields and fruit orchards to avoid water stagnation in Gangetic West Bengal, Kerala, Karnataka and Saurashtra & Kutch.
- ✓ Keep the harvested produce at safer places.
- ✓ Provide mechanical support to horticultural crops & staking to vegetables.
- ✓ 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**

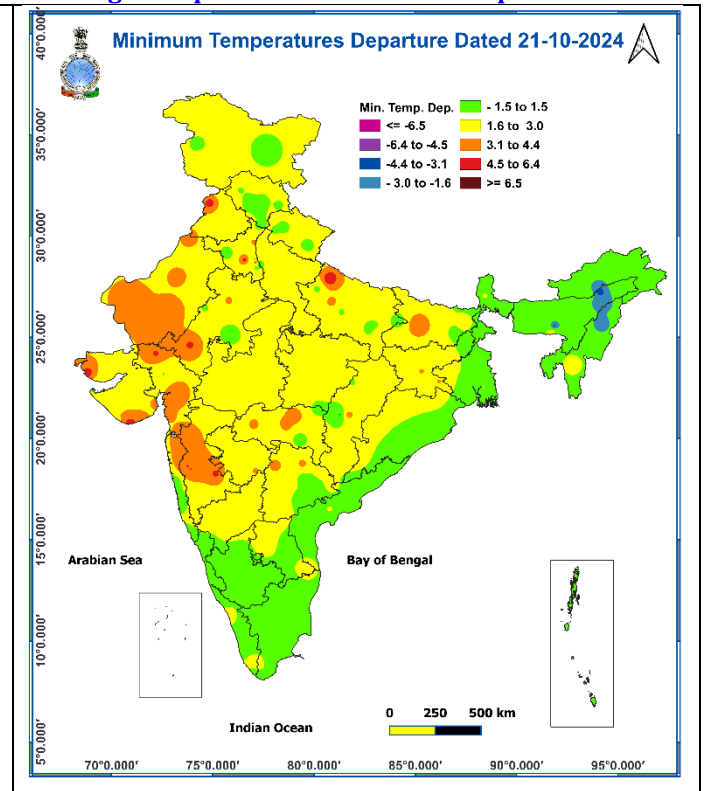
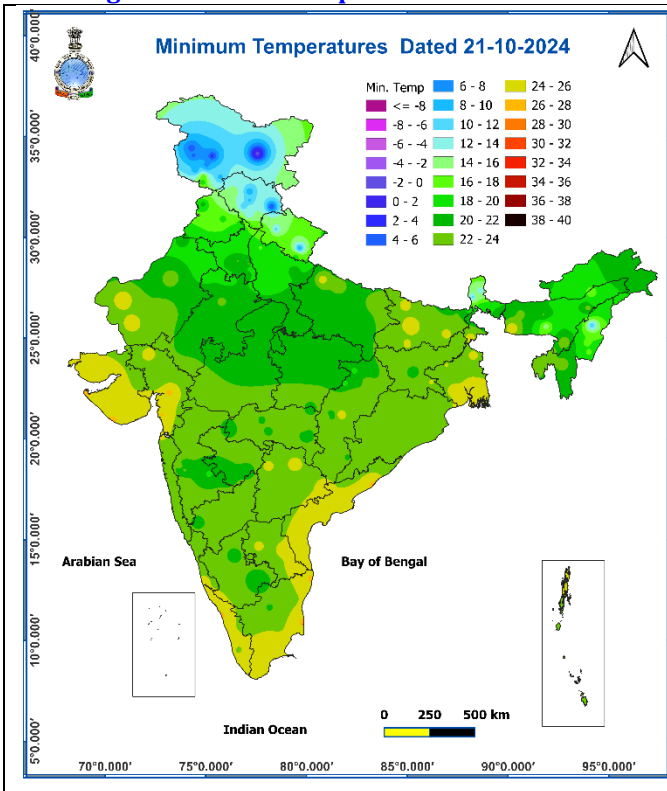
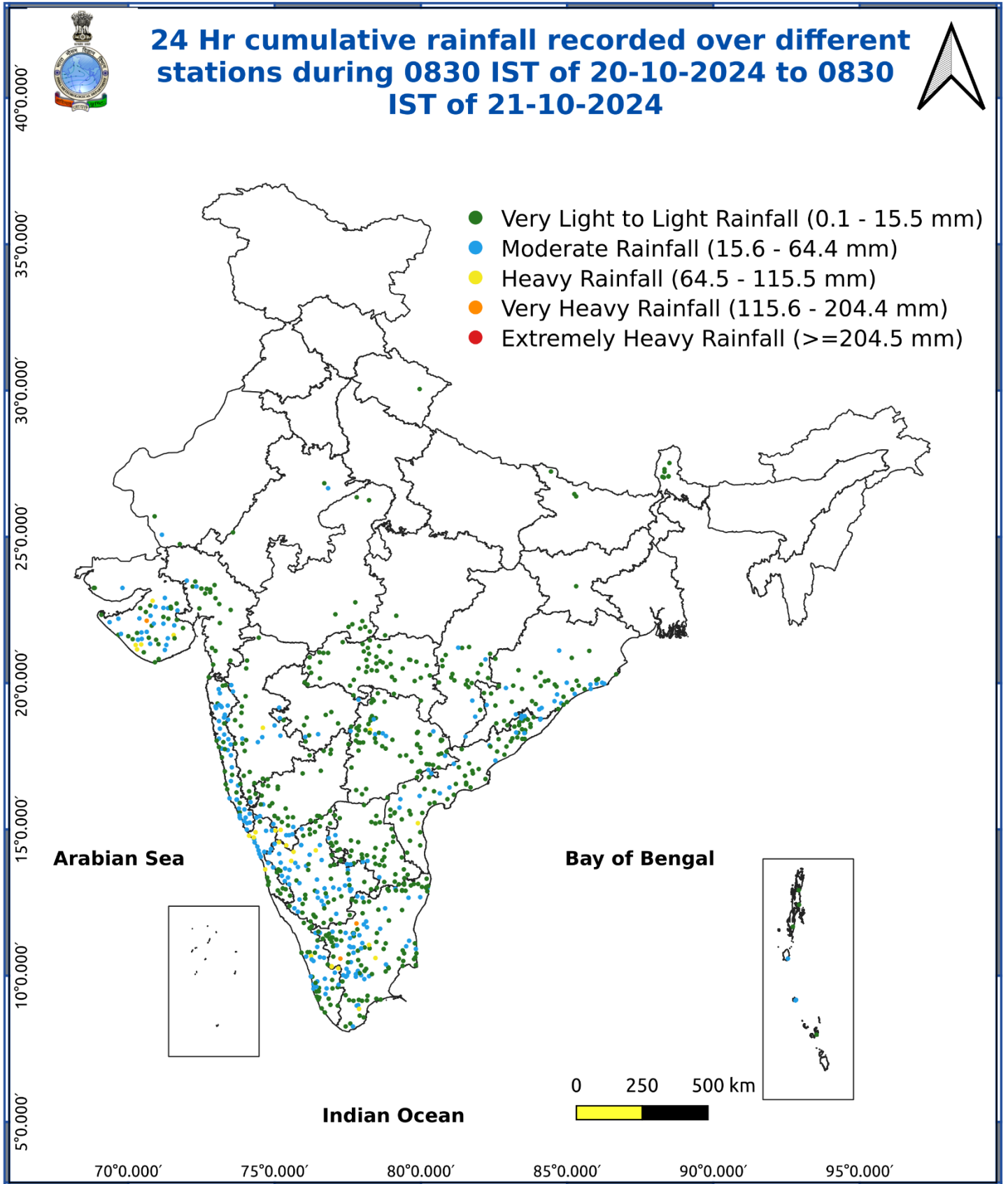


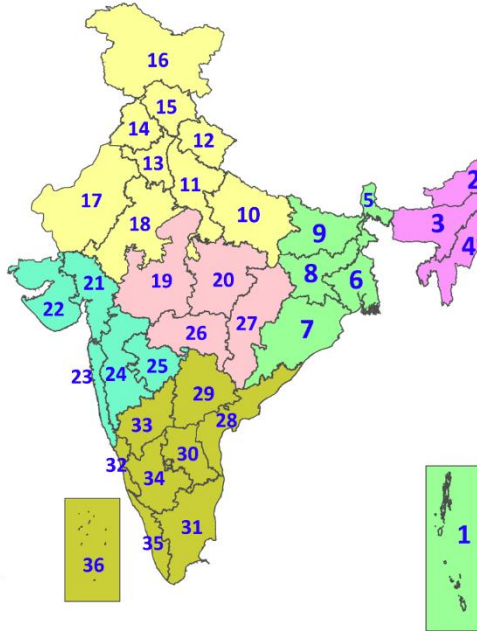
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



\* 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)

## 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

<b>Rain/ Snow *</b>	<p><b>Heavy:</b> 64.5 to 115.5 mm/cm *</p> <p><b>Very Heavy:</b> 115.6 to 204.4 mm/cm*</p> <p><b>Extremely Heavy:</b> &gt; 204.4 mm/cm *</p>
<b>Heat Wave</b>	<p>When maximum temperature of a station reaches <math>\geq 40^\circ\text{C}</math> for plains and <math>\geq 30^\circ\text{C}</math> for hilly regions</p> <p><b>(a) Based on Departure from normal</b></p> <p><b>Heat Wave:</b> Maximum Temperature Departure from normal <math>4.5^\circ\text{C}</math> to <math>6.4^\circ\text{C}</math>.</p> <p><b>Severe Heat Wave:</b> Maximum Temperature Departure from normal <math>\geq 6.5^\circ\text{C}</math></p> <p><b>(b). Based on Actual maximum temperature</b></p> <p><b>Heat Wave:</b> When actual maximum temperature <math>\geq 45^\circ\text{C}</math>.</p> <p><b>Severe Heat Wave:</b> When actual maximum temperature <math>\geq 47^\circ\text{C}</math></p> <p><b>( c). Criteria for heat wave for coastal stations</b></p> <p>When maximum temperature departure is <math>&gt;4.5^\circ\text{C}</math> from normal. Heat Wave may be described provided maximum temperature <math>\geq 37^\circ\text{C}</math></p>
<b>Warm Night</b>	<p>When maximum temperature remains <math>40^\circ\text{C}</math></p> <p><b>Warm Night:</b> When minimum temperature departure <math>4.5^\circ\text{C}</math> to <math>6.4^\circ\text{C}</math>.</p> <p><b>Severe Warm Night:</b> When minimum temperature departure <math>&gt;6.4^\circ\text{C}</math>.</p>
<b>Cold Wave</b>	<p>When minimum temperature of a station <math>\leq 10^\circ\text{C}</math> for plains and <math>\leq 0^\circ\text{C}</math> for hilly regions.</p> <p><b>(a). Based on departure</b></p> <p><b>Cold Wave:</b> Minimum Temperature Departure from normal <math>-4.5^\circ\text{C}</math> to <math>-6.4^\circ\text{C}</math>.</p> <p><b>Severe Cold Wave:</b> Minimum Temperature Departure from normal <math>\leq -6.5^\circ\text{C}</math></p> <p><b>(b) Based on actual Minimum Temperature (for Plains only)</b></p> <p><b>Cold Wave :</b> When Minimum Temperature is <math>\leq 4.0^\circ\text{C}</math></p> <p><b>Severe Cold Wave:</b> When Minimum Temperature is <math>\leq 2.0^\circ\text{C}</math></p> <p><b>( c) For Coastal Stations</b></p> <p>When Minimum Temperature departure is <math>\leq -4.5^\circ\text{C}</math> &amp; actual Minimum Temperature is <math>\leq 15^\circ\text{C}</math></p>
<b>Cold Day</b>	<p>When minimum temperature of a station <math>\leq 10^\circ\text{C}</math> for plains and <math>\leq 0^\circ\text{C}</math> for hilly regions</p> <p><b>Based on departure</b></p> <p><b>Cold Day:</b> Maximum Temperature Departure from normal <math>-4.5^\circ\text{C}</math> to <math>-6.4^\circ\text{C}</math>.</p> <p><b>Severe Cold Day:</b> Maximum Temperature Departure from normal <math>\leq -6.5^\circ\text{C}</math></p>
<b>Fog</b>	<p><b>Phenomenon of small droplets suspended in air and the horizontal visibility <math>&lt; 1\text{km}</math></b></p> <p><b>Moderate Fog:</b> When the visibility between 500-200 metres</p> <p><b>Dense Fog:</b> when the visibility between 50- 200 metres</p> <p><b>Very Dense Fog:</b> when the visibility <math>&lt; 50</math> metres</p>
<b>Thunderstorm</b>	<p>Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)</p>
<b>Dust/Sand Storm</b>	<p>An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.</p>
<b>Frost</b>	<p>Ice deposits on ground</p> <p>Air temperature <math>\leq 4^\circ\text{C}</math> ( over Plains)</p>
<b>Squall</b>	<p><b>A strong wind that rises suddenly, lasts for atleast 1 minute.</b></p> <p><b>Moderate:</b> Wind speed 52-61 kmph</p> <p><b>Severe:</b> Wind speed 62-87 kmph</p> <p><b>Very Severe:</b> Wind speed <math>&gt;87</math> kmph</p>
<b>Sea State</b>	<p><b>Effect of various waves in the sea over specific area</b></p> <p><b>Rough to very rough:</b> Wind speed 41-62 kmph (22-33 knots) &amp; Wave height 2.5-6 metre</p> <p><b>High to very high:</b> Wind speed 63-117 kmph ( 34-63 knots) &amp; Wave height 6-14 metre</p> <p><b>Phenomenal:</b> Wind speed <math>&gt;117</math> kmph (<math>&gt;63</math> knots) &amp; Wave height <math>&gt;14</math> metre</p>
<b>Cyclone</b>	<p><b>Cyclonic Storm:</b> Wind speed 62-87 kmph (34-47 knots)</p> <p><b>Severe Cyclonic Storm:</b> Wind speed 88-117 kmph (48-63 knots)</p> <p><b>Very Severe Cyclonic Storm:</b> Wind speed 118-165 kmph (64 - 89 knots)</p> <p><b>Extremely Severe Cyclonic Storm:</b> Wind speed 166-220 kmph (90 -119 knots)</p> <p><b>Super Cyclone Strom:</b> Wind speed <math>&gt;220</math> kmph (<math>&gt;119</math> knots)</p>