

Friday, April 25, 2025  
Time of Issue: 0800 hours IST  
(MORNING)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features:

#### Weather Systems, Forecast and Warnings:

- ❖ An upper air cyclonic circulation lies over north Bangladesh and another over northeast Assam in lower tropospheric levels. A north-south trough runs from Marathwada to Gulf of Mannar in lower tropospheric levels.
- ❖ Under the influence of these systems:
  - ✓ **Fairly widespread to widespread** light/moderate rainfall accompanied with **thunderstorm, lightning & strong winds speed reaching 40-50 kmph gusting to 60 kmph** likely over Northeast India during next 7 days.
  - ✓ **Heavy rainfall** likely over Assam & Meghalaya, Arunachal Pradesh during 25<sup>th</sup>-27<sup>th</sup>; over Nagaland, Mizoram & Tripura during 25<sup>th</sup>-26<sup>th</sup> and over Assam & Meghalaya on 26<sup>th</sup> April.
  - ✓ **Isolated to Scattered** light/moderate rainfall accompanied with **thunderstorm, lightning & strong winds speed reaching 30-40 kmph gusting to 50 kmph** likely over Karnataka, Coastal Andhra Pradesh & Yanam, Rayalaseema, Kerala & Mahe, Tamilnadu Puducherry & Karaikal during next 7 days.
  - ✓ **Isolated heavy rainfall** over Kerala on 28<sup>th</sup> & 29<sup>th</sup> April.
  - ✓ **Isolated to Scattered** light/moderate rainfall accompanied with **thunderstorm, lightning & strong winds speed reaching 40-50 kmph gusting to 60 kmph** likely over East India and East Uttar Pradesh during 26<sup>th</sup>-29<sup>th</sup> April.
  - ✓ **Isolated hailstorm** activity likely over Jharkhand on 27<sup>th</sup> & 28<sup>th</sup> and Odisha on 28<sup>th</sup> April.
  - ✓ **Thundersquall winds speed reaching 50-60 kmph** likely over Bihar during 26<sup>th</sup>-28<sup>th</sup> and Gangetic West Bengal, Vidarbha, Chhattisgarh, East Madhya Pradesh on 27<sup>th</sup> & 28<sup>th</sup> and South Interior Karnataka on 27<sup>th</sup> April.
  - ✓ **Isolated heavy rainfall** over Sikkim on 26<sup>th</sup> & 27<sup>th</sup> with **very heavy rainfall** on 26<sup>th</sup> April.
- ❖ A fresh Western Disturbance seen as a trough in middle tropospheric westerlies roughly along Long. 70°E to the north of Lat. 32°N. Under its influence;
  - ✓ **Isolated to scattered** light rainfall with **thunderstorm & lightning** likely over Western Himalayan Region during 25<sup>th</sup>-26<sup>th</sup> April.

#### Temperature Forecast:

- ❖ Gradual rise in maximum temperatures by 2-3°C likely over Punjab, Haryana Chandigarh & Delhi, Rajasthan during next 6 days.
- ❖ Gradual rise in maximum temperatures by 2-3°C likely over Uttar Pradesh during next 3 days and fall by 2-3°C for subsequent 4 days.
- ❖ No significant change in maximum temperatures likely over Gujarat during next 3 Days and rise by 2-3°C for subsequent 3 days.
- ❖ No significant change in maximum temperatures likely over East India & adjoining Central India during next 3 days and fall by 3-5°C for subsequent 4 days.
- ❖ No significant change in maximum temperatures likely over rest parts of the country.

#### Heat wave, warm night and Hot & Humid weather warning:

- ❖ **Heat wave conditions** very likely in isolated pockets over West Madhya Pradesh during 25<sup>th</sup>-30<sup>th</sup>; Rajasthan during 25<sup>th</sup>-30<sup>th</sup>; East Madhya Pradesh during 25<sup>th</sup>-27<sup>th</sup>; Uttar Pradesh, Vidarbha, Bihar, Odisha, Jharkhand, West Bengal during 25<sup>th</sup>-26<sup>th</sup>; Punjab, Haryana during 25<sup>th</sup>-29<sup>th</sup>; Chhattisgarh, Telangana, Madhya Maharashtra and Marathwada 25<sup>th</sup> April.
- ❖ **Warm night conditions** very likely in isolated pockets over Gangetic West Bengal, Odisha on 25<sup>th</sup> April.
- ❖ **Hot & humid weather** is likely to prevail over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema during 25<sup>th</sup>-26<sup>th</sup>; Gujarat State during 27<sup>th</sup>-30<sup>th</sup> April.

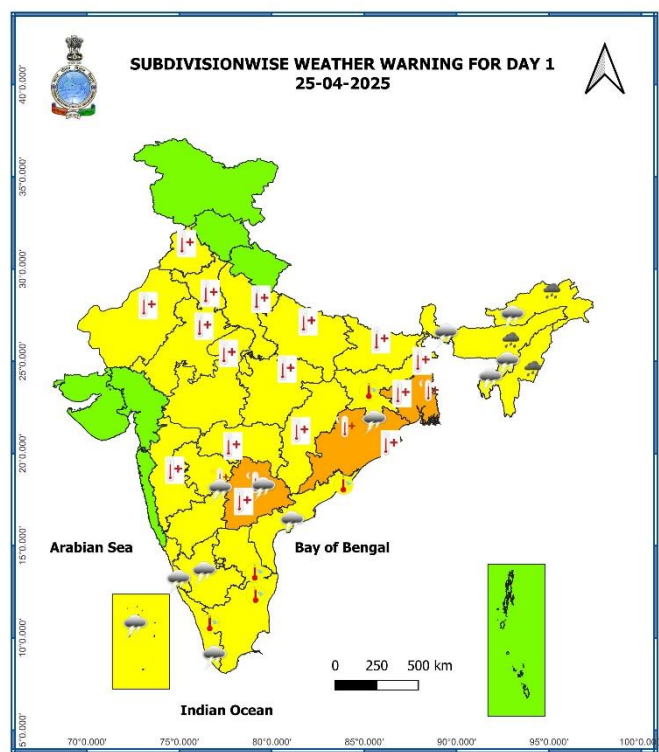
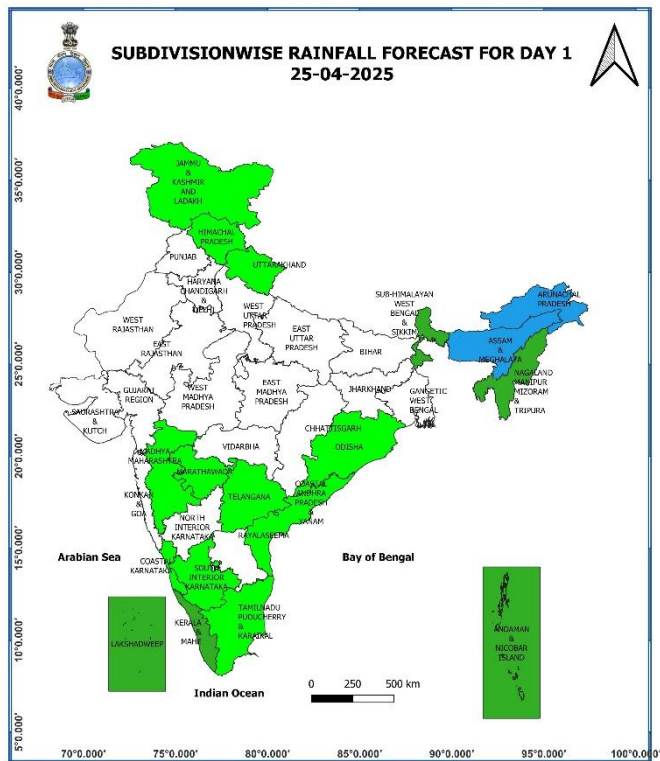
## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at isolated places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Arunachal Pradesh, Assam & Meghalaya, North Interior Karnataka, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal, Andaman & Nicobar Islands.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **Meghalaya:** Cherrapunji 2; **Kerala & Mahe:** Punalur 2; **Tamil Nadu:** Udhagamandalam: 3.
- ❖ **Yesterday, Heat wave** prevailed at isolated places over Vidarbha.
- ❖ **Minimum Temperature Departures (as on 24-04-2025):** Minimum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at a few places over Nagaland, Manipur, Mizoram & Tripura; at isolated places over Sub- Himalayan West Bengal & Sikkim, Odisha, Madhya Maharashtra; **above normal (1.6°C to 3.0°C)** at many places over Gangetic West Bengal; at a few places over Assam & Meghalaya, Chhattisgarh, Coastal Karnataka; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Konkan & Goa, Saurashtra & Kutch, Coastal Andhra Pradesh & Yanam, Telangana, Marathwada, Kerala & Mahe. These were **below normal (-3.0°C to -1.6°C)** at isolated places over Haryana-Chandigarh-Delhi, Rajasthan, Madhya Pradesh, Bihar and normal over rest parts of the country (**Fig. 4**). Yesterday, the **lowest minimum temperature of 16.5°C** was reported at **Adampur (Punjab)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 24-04-2025):** Maximum Temperatures were **appreciably above normal (3.1°C to 5.0°C)** at many places over Punjab, Haryana-Chandigarh-Delhi; at a few places over Uttarakhand, Uttar Pradesh, West Rajasthan; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Bihar, Chhattisgarh Odisha, Jharkhand, Marathwada, Madhya Pradesh, Assam & Meghalaya; **above normal (1.6°C to 3.0°C)** at few places over East Rajasthan, Madhya Maharashtra, Gangetic West Bengal, Coastal Karnataka; at isolated places over Gujarat state, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Tamil Nadu, Puducherry & Karaikal. These were **below normal (-3.0°C to -1.6°C)** at isolated places over North Interior Karnataka, Andaman & Nicobar Islands and normal over rest parts of the country (**Fig. 2**). Yesterday, the highest **maximum temperature of 45.9°C** was reported at **Brahmapuri (Vidarbha)** over the country.

## Meteorological Analysis (Based on 0530 hours IST)

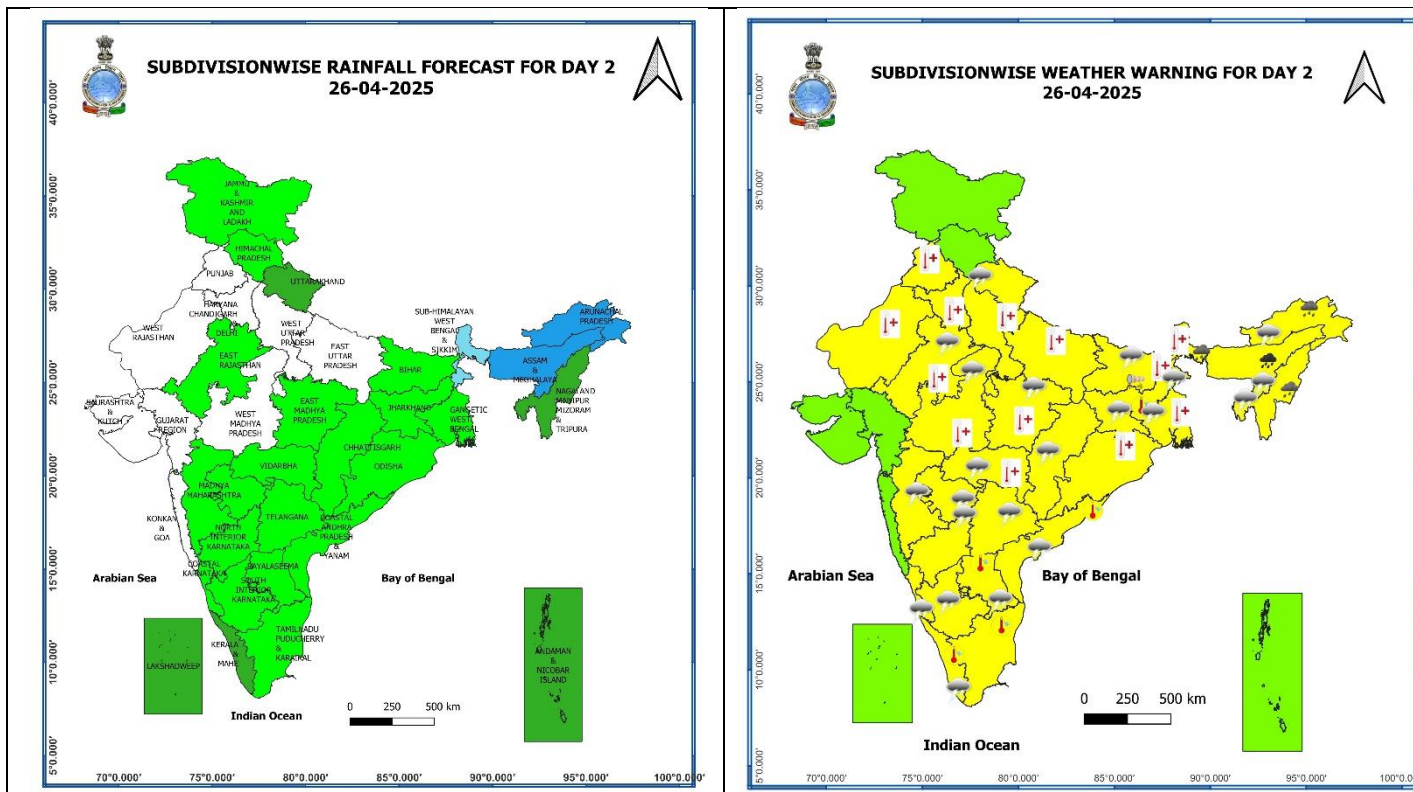
- ❖ The **Western Disturbance** as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level now runs roughly along Long. 70°E to the north of Lat. 32°N.
- ❖ The **cyclonic circulation** over central Pakistan at 1.5 km above mean sea level persists.
- ❖ The upper air **cyclonic circulation** over north Bangladesh & neighbourhood extending upto 1.5 km above mean sea level persists.
- ❖ The **trough** now runs from above cyclonic circulation over north Bangladesh & neighbourhood to north Odisha coasts across Gangetic West Bengal at 1.5 km above mean sea level.
- ❖ The north-south **trough** from central Chhattisgarh to Gulf of Mannar now runs from northern part of Marathwada to Gulf of Mannar across Interior Karnataka and Tamil Nadu at 0.9 km above mean sea level.
- ❖ The upper air **cyclonic circulation** over northeast Assam & neighbourhood at 0.9 km above mean sea level persists.

**Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 01<sup>st</sup> April, 2025)**



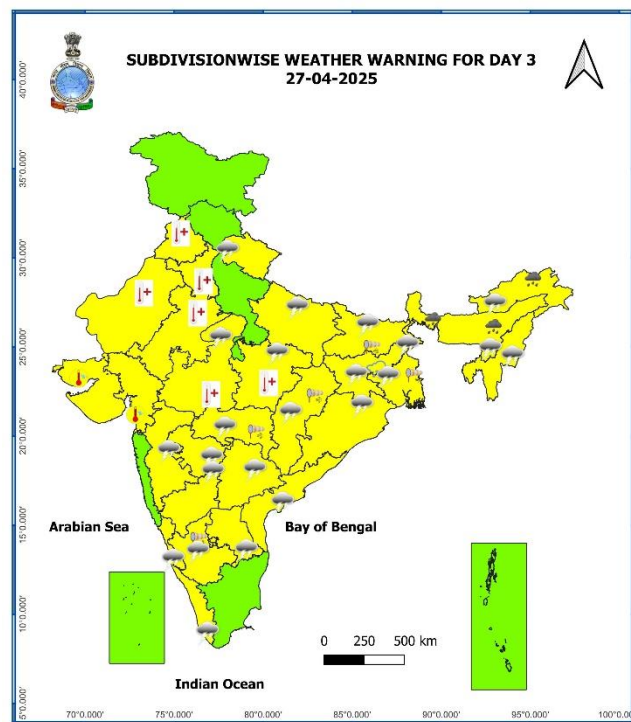
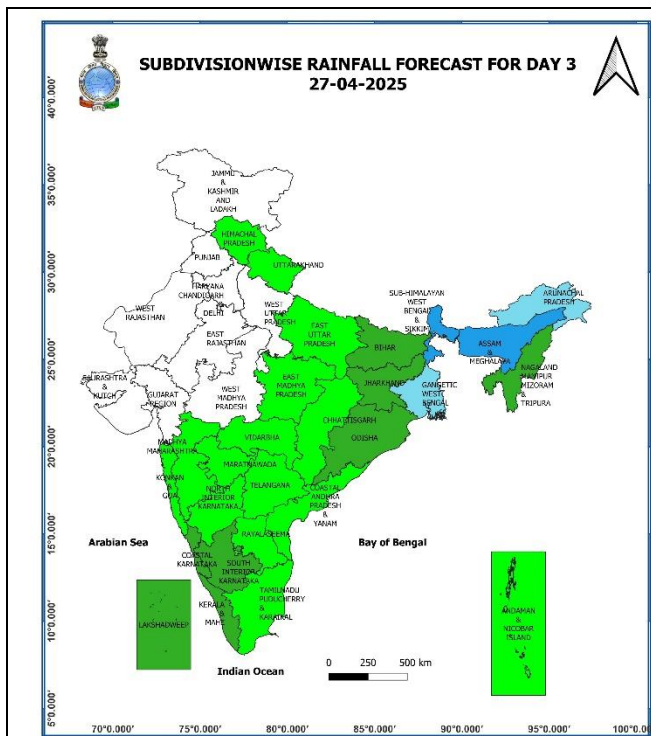
**25<sup>th</sup> April (Day 1)**

- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 30 - 40 kmph gusting to 50 kmph)** very likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Telangana and South Interior Karnataka; **with lightning** at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Lakshadweep, Coastal & North Interior Karnataka.
- ❖ **Heavy rainfall** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Heat wave conditions** very likely in isolated pockets over Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, West Bengal & Sikkim, Bihar, Odisha, Madhya Maharashtra, Marathwada and Telangana.
- ❖ **Hot and Humid** very likely to prevail over Jharkhand, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal Andhra Pradesh & Yanam and Rayalaseema.
- ❖ **Warm Night conditions** very likely in isolated pockets over Gangetic West Bengal and Odisha.



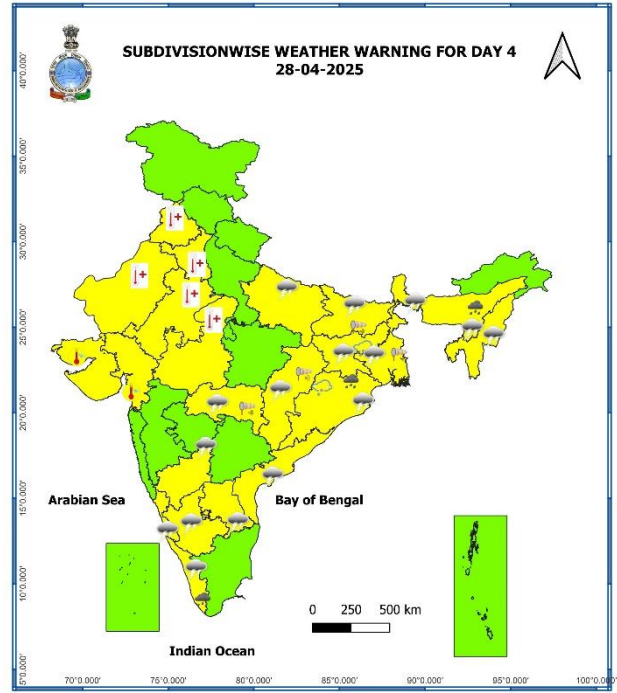
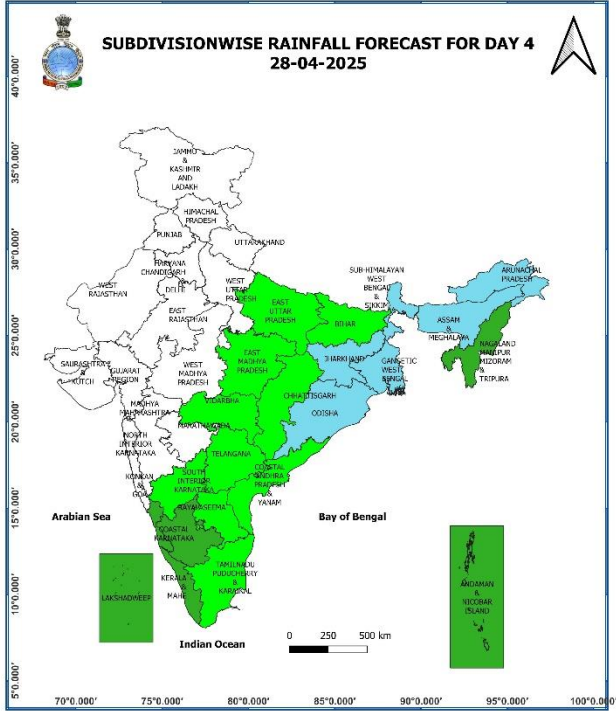
## 26<sup>th</sup> April (Day 2)

- ❖ **Thundersquall accompanied with lightning & gusty winds (speed reaching 50 - 60 kmph gusting to 70 kmph)** very likely at isolated places over Bihar; **Thunderstorm accompanied with lightning & gusty winds (speed reaching 40 - 50 kmph gusting to 60 kmph)** at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh, Gangetic West Bengal and South Interior Karnataka; **with lightning & gusty winds (speed reaching 30 - 40 kmph gusting to 50 kmph)** at isolated places over Sub-Himalayan West Bengal & Sikkim, Jharkhand, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana and North Interior Karnataka; **with lightning** at isolated places over Uttarakhand, Arunachal Pradesh, Madhya Maharashtra, Marathwada, Kerala & Mahe and Coastal Karnataka.
- ❖ **Heavy to very heavy rainfall** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya and **heavy Rainfall** at isolated places over Arunachal Pradesh and Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Heat wave conditions** very likely in isolated pockets over Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, West Bengal & Sikkim, Bihar and Odisha.
- ❖ **Hot and Humid** very likely to prevail over Jharkhand, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal Andhra Pradesh & Yanam and Rayalaseema.



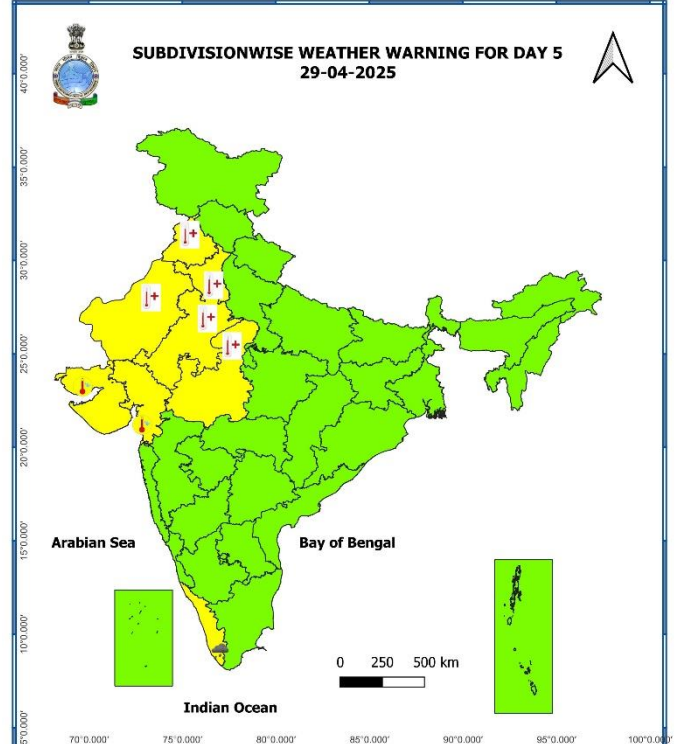
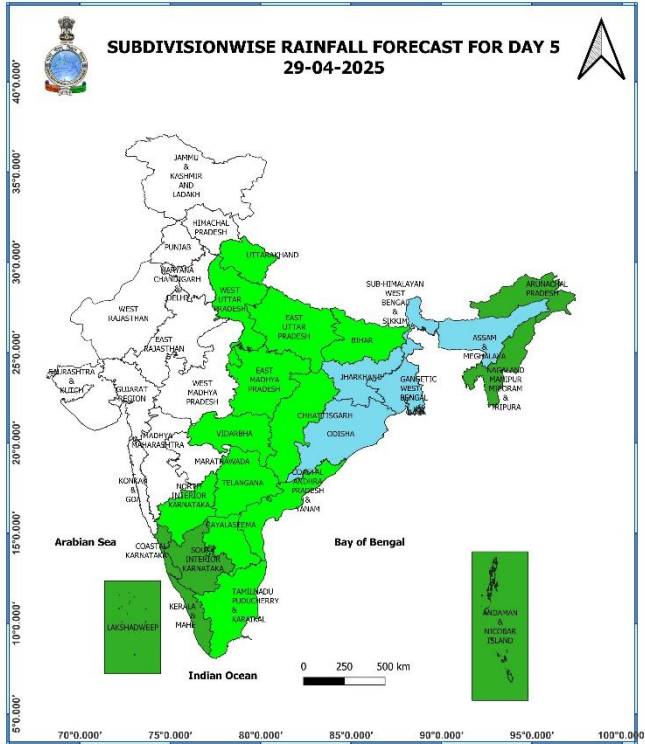
## 27<sup>th</sup> April (Day 3)

- ❖ **Thundersquall accompanied with lightning & gusty winds (speed reaching 50 - 60 kmph gusting to 70 kmph)** likely at isolated places over East Madhya Pradesh, Vidarbha, Chhattisgarh, Gangetic West Bengal, Bihar, South Interior Karnataka; **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40 - 50 kmph gusting to 60 kmph) & hailstorm** at isolated places over Jharkhand; **with lightning & gusty winds (speed reaching 40 - 50 kmph gusting to 60 kmph)** at isolated places over East Uttar Pradesh, West Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Odisha; **with lightning & gusty winds (speed reaching 30 - 40 kmph gusting to 50 kmph)** at isolated places over Assam & Meghalaya, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana; **with lightning** at isolated places over Uttarakhand, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Kerala & Mahe, Coastal Karnataka and North Interior Karnataka.
- ❖ **Heavy Rainfall** likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya.
- ❖ **Heat wave conditions** likely in isolated pockets over Punjab, Haryana-Chandigarh-Delhi, Rajasthan and Madhya Pradesh.
- ❖ **Hot and Humid** likely to prevail over Gujarat state.



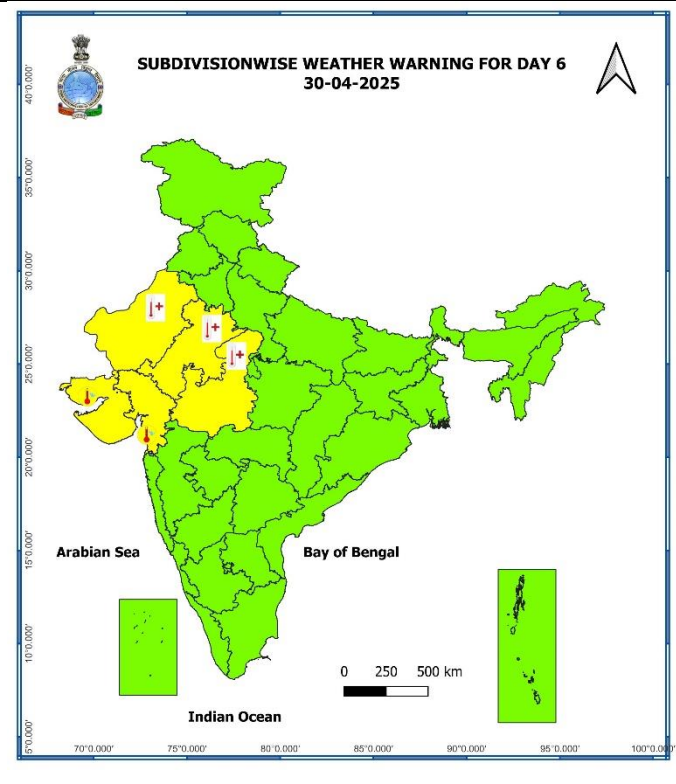
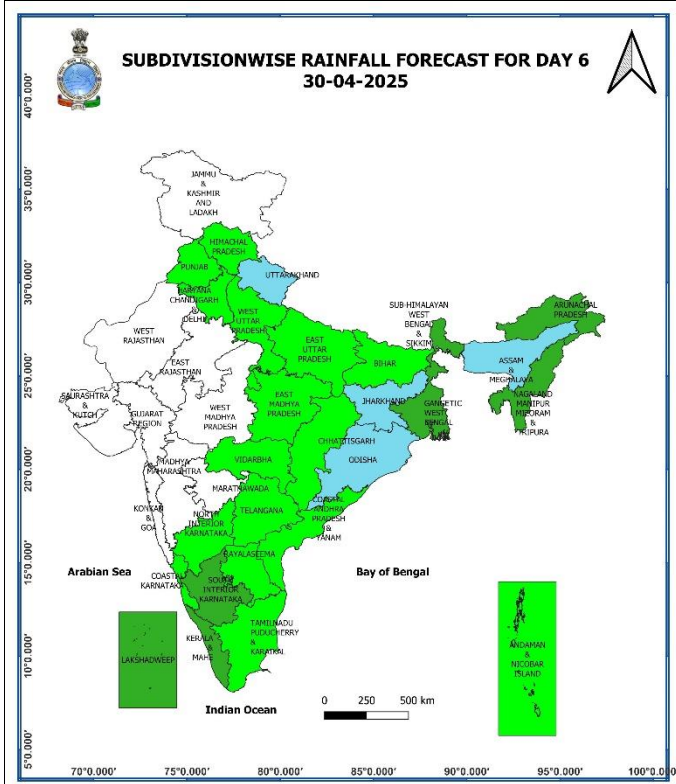
### 28<sup>th</sup> April (Day 4)

- ❖ **Thundersquall accompanied with lightning & gusty winds (speed reaching 50 - 60 kmph gusting to 70 kmph)** likely at isolated places over East Madhya Pradesh, Vidarbha, Chhattisgarh, Gangetic West Bengal, Bihar; **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40 - 50 kmph gusting to 60 kmph) & hailstorm** at isolated places over Jharkhand and Odisha; **with lightning & gusty winds (speed reaching 40 - 50 kmph gusting to 60 kmph)** at isolated places over East Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim and South Interior Karnataka; **with lightning & gusty winds (speed reaching 30 - 40 kmph gusting to 50 kmph)** at isolated places over Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Rayalaseema; **with lightning** at isolated places over Nagaland, Manipur, Mizoram & Tripura, Kerala & Mahe and Coastal & North Interior Karnataka.
- ❖ **Heavy Rainfall** likely at isolated places over Odisha and Kerala & Mahe.
- ❖ **Heat wave conditions** likely in isolated pockets over Punjab, Haryana-Chandigarh-Delhi, Rajasthan and West Madhya Pradesh.
- ❖ **Hot and Humid** likely to prevail over Gujarat state.



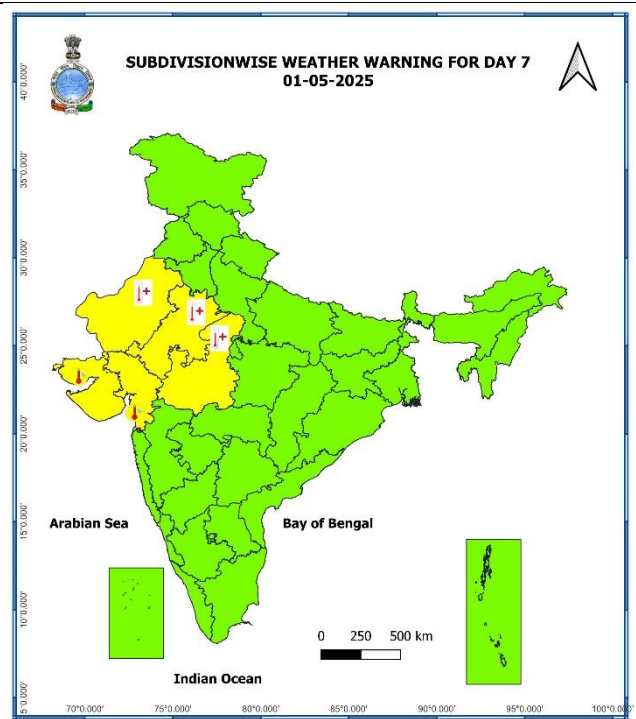
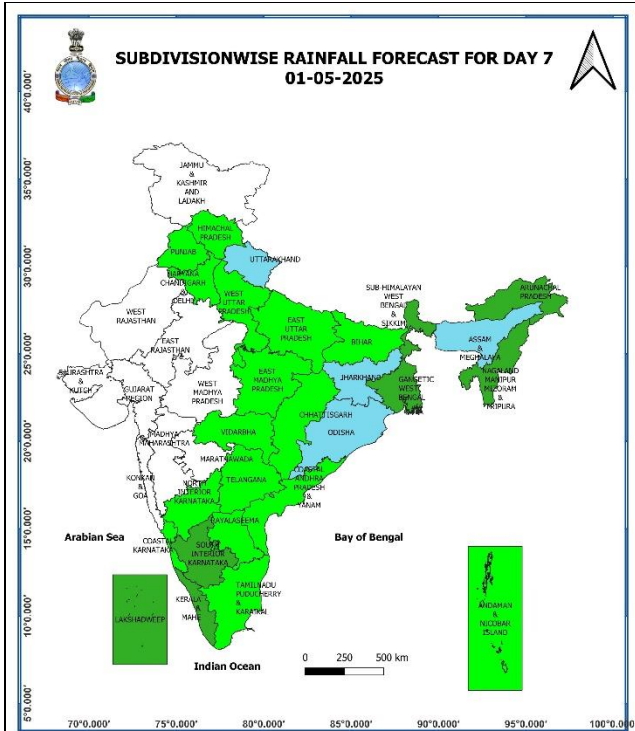
### 29<sup>th</sup> April (Day 5)

- ❖ **Heavy Rainfall** likely at isolated places over Kerala & Mahe.
- ❖ **Heat wave conditions** likely in isolated pockets over Punjab, Haryana-Chandigarh-Delhi, Rajasthan and West Madhya Pradesh.
- ❖ **Hot and Humid** likely to prevail over Gujarat state.



### 30<sup>th</sup> April (Day 6)

- ❖ **Heat wave conditions** likely in isolated pockets over Rajasthan and West Madhya Pradesh.
- ❖ **Hot and Humid** likely to prevail over Gujarat state.



### 01<sup>st</sup> May (Day 7)

- ❖ **Heat wave conditions** likely in isolated pockets over Rajasthan and West Madhya Pradesh.
- ❖ **Hot and Humid** likely to prevail over Gujarat state.

### Weather Outlook for subsequent 3 days (During 2<sup>nd</sup> May- 04<sup>th</sup> May, 2025)

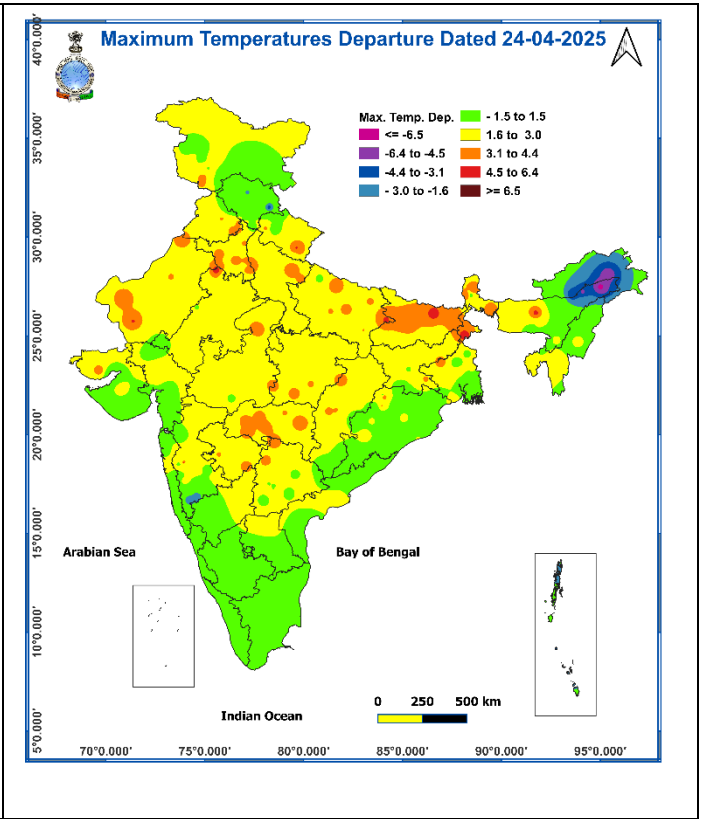
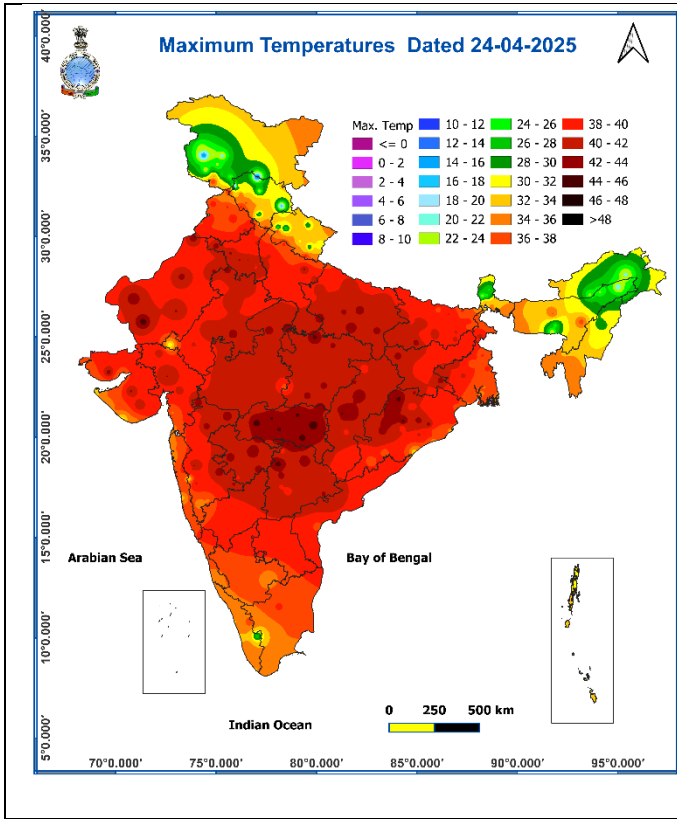
- ❖ **Scattered to fairly widespread** rainfall activity likely over east & northeast India, Kerala.
- ❖ **Isolated to scattered** rainfall likely over Northwest India, adjoining central India, south peninsular India and Andaman & Nicobar Islands.

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.

**Fig. 1: Maximum Temperatures**

**Fig. 2: Departure of Maximum Temperatures**



**Fig. 3: Minimum Temperatures**

**Fig. 4: Departure of Minimum Temperatures**

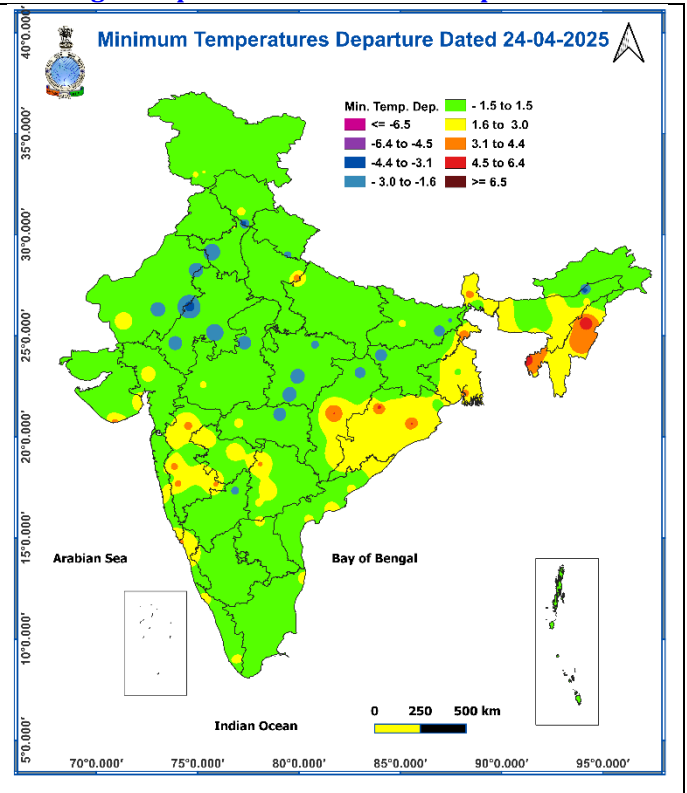
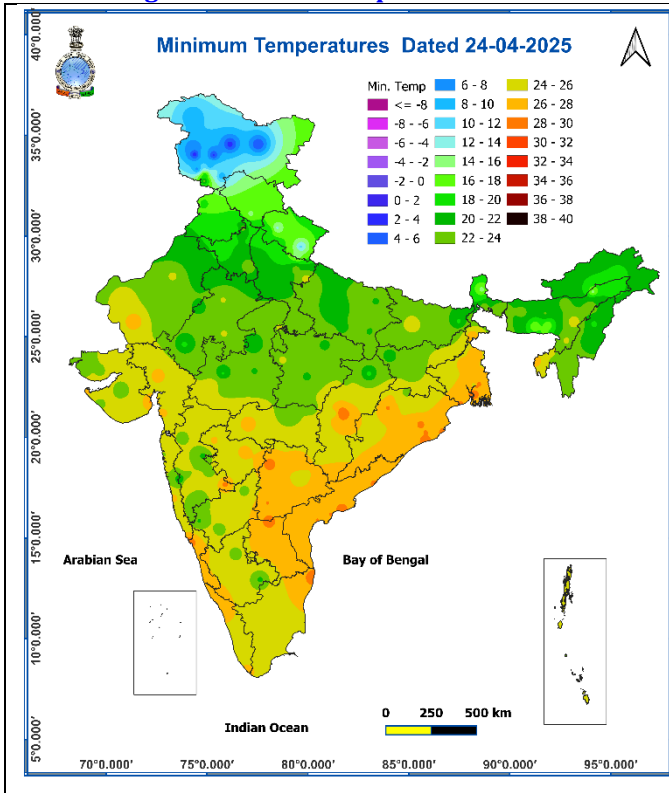
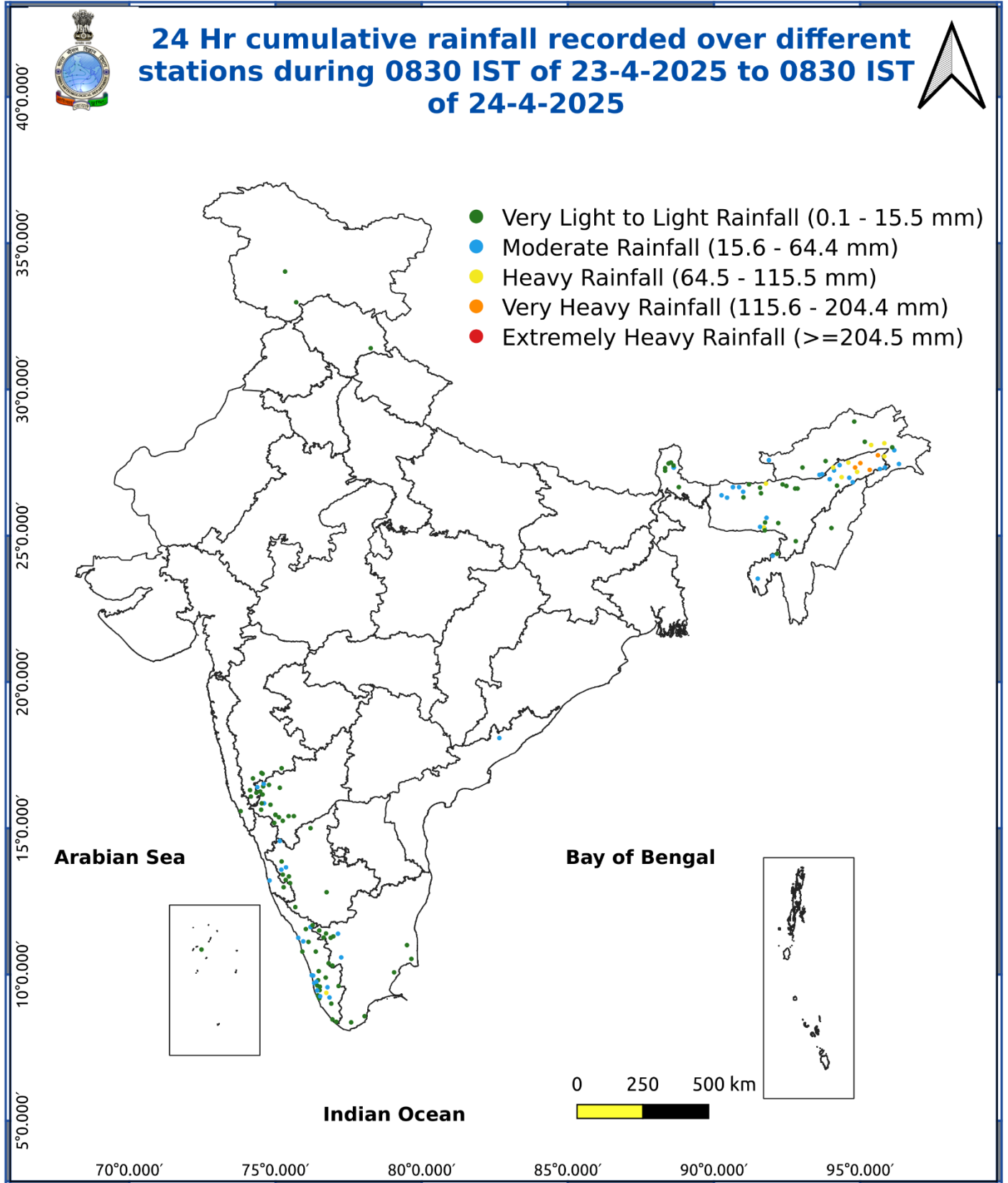


Fig. 5: Accumulated Rainfall (mm) during past 24 hours



\* 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)

## Impact expected and action suggested due to isolated thunderstorm with lightning/gusty & Squally winds & Hailstorm over

- ✓ **Hailstorm over Jharkhand on 27<sup>th</sup> & 28<sup>th</sup> and Odisha on 28<sup>th</sup> April.**
- ✓ **Thundersquall** likely over Bihar during 26<sup>th</sup>-28<sup>th</sup> and Gangetic West Bengal, Vidarbha, Chhattisgarh, East Madhya Pradesh on 27<sup>th</sup> & 28<sup>th</sup> and South Interior Karnataka on 27<sup>th</sup> April.

### Impact expected:

- Breaking of tree branches, uprooting of large avenue trees. Large dead limbs blown from trees. Damage to Standing crops.
- Minor to Major damage to banana and papaya trees.
- Minor to major damage to power and communication lines due to breaking of branches.
- Strong wind/hail may damage plantation, horticulture and standing crops.
- Hail may injure people and cattle at open places.
- Partial damage to vulnerable structures due to strong winds.
- Minor damage to kutcha houses/walls and huts.
- Loose objects may fly.

### Action suggested:

- People are advised to keep a watch on the weather for worsening conditions and be ready to move to safer places accordingly.
- Stay indoors, close windows & doors and avoid travel if possible.
- Take safe shelters; do not take shelter under trees.
- Do not lie on concrete floors and do not lean against concrete walls.
- Unplug electrical/ electronic appliances.
- Immediately get out of water bodies.
- Keep away from all the objects that conduct electricity.

## Impact expected and action suggested due to Heat wave conditions over plains of Northwest India till 29<sup>th</sup> and East & Central India till 26<sup>th</sup> April.

### Yellow alert Areas

- Moderate temperature & heat is tolerable for general public but moderate health concern likely for vulnerable people e.g. infants, elderly, people with chronic diseases.
- Avoid heat exposure.
- Wear lightweight, light colour, loose, cotton clothes.
- Cover your head, use a cloth, hat or umbrella.

## Agromet advisories for likely impact of Heavy Rainfall / Gusty Winds / Heat wave

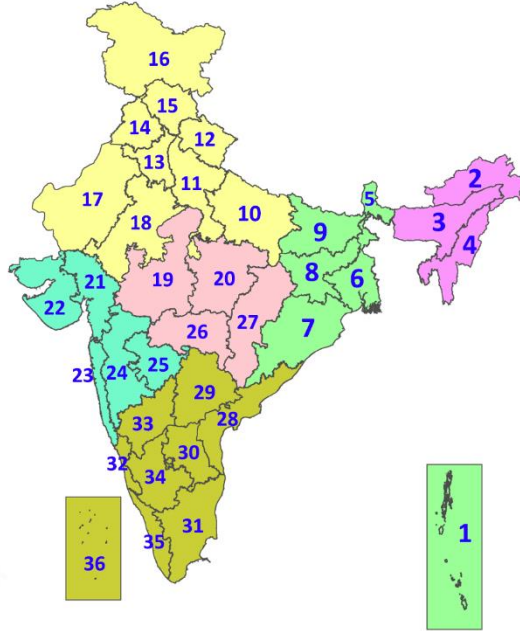
- In **Arunachal Pradesh, Assam, Meghalaya, Nagaland and Kerala**, drain out excess water from standing crop and vegetable fields.
- In **Madhya Pradesh, Chhattisgarh, Vidarbha, Madhya Maharashtra, Marathwada, Uttar Pradesh, Rajasthan, Haryana, Punjab, Odisha, Bihar, Gangetic West Bengal, Telangana and Gujarat**, apply light and frequent irrigation to standing crops, vegetables and orchards in the evening to protect them from adverse effects of heat waves and high temperatures.
- Shift the harvested produce in safer places or cover the produce with tarpaulin sheets in the fields. Tie the harvested crops properly and cover them to minimise the risk of displacement due to strong surface winds.
- Provide mechanical support to horticultural crops and staking to vegetables to avoid lodging.

### Livestock / Poultry / Fishery

- Keep the animals inside the shed during heavy rainfall / hailstorm and provide them balanced feed.
- Store feed and fodder in a safe place to prevent spoilage.
- To reduce the effect of heat wave/high temperature, cover the roof of poultry sheds with grass. Also, provide clean, hygienic and plenty of drinking water to animals.
- Construct an outlet with proper netting around the ponds to drain out excess water, thereby preventing fish from escaping in case of overflow.

## 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)