

Tuesday, April 1, 2025  
Time of Issue: 1345 hours IST  
(MID-DAY)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features:

#### **Weather Systems, Forecast and Warnings:**

- ❖ The Cyclonic Circulation lies over Madhya Maharashtra & neighbourhood in lower tropospheric levels; The trough runs from south Chhattisgarh to cyclonic circulation over Madhya Maharashtra & neighbourhood and the North-south trough runs from above Cyclonic Circulation over Madhya Maharashtra to Comorin area in the lower tropospheric levels. Under the influence of these systems and confluence of moist winds from Arabian sea and Bay of Bengal in lower tropospheric levels;
- ✓ **Isolated to Scattered** light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (speed 30-60 kmph)** likely over Gujarat State, Telangana on 01<sup>st</sup> & 02<sup>nd</sup>; Central India, Odisha, Madhya Maharashtra, Marathawada, during 01<sup>st</sup>-04<sup>th</sup>; Tamilnadu Puducherry & Karaikal, Kerala & Mahe and Karnataka during 01<sup>st</sup>-05<sup>th</sup>; Coastal Andhra Pradesh & Yanam, Rayalaseema during 02<sup>nd</sup>-05<sup>th</sup> April.
- ✓ **Hailstorm** likely over Madhya Maharashtra, Marathawada on 01<sup>st</sup> & 02<sup>nd</sup>; Madhya Pradesh, Vidarbha, Chhattisgarh, South Interior Karnataka, Telangana on 02<sup>nd</sup> & 03<sup>rd</sup>; North Interior Karnataka during 02<sup>nd</sup>-04<sup>th</sup>; Jharkhand on 03<sup>rd</sup>; Odisha, Coastal Karnataka on 03<sup>rd</sup> & 04<sup>th</sup> April.
- ✓ **Heavy rainfall** very likely at isolated places over Kerala & Mahe, South Interior Karnataka during 02<sup>nd</sup>-06<sup>th</sup>; Tamil Nadu Puducherry & Karaikal during 03<sup>rd</sup> -05<sup>th</sup>; Coastal Karnataka during 03<sup>rd</sup>-06<sup>th</sup>; north Interior Karnataka on 03<sup>rd</sup> & 06<sup>th</sup>; Andaman & Nicobar Islands on 04<sup>th</sup>; Coastal Andhra Pradesh & Yanam on 04<sup>th</sup> April.

#### **Temperature Forecast:**

- ❖ Gradual rise in maximum temperatures by 3-5°C likely over Northwest India during next 7 days.
- ❖ Gradual fall in maximum temperatures by 2-4°C likely over Central India and Maharashtra during next 3 days and rise by 2-4°C during subsequent 4 days.
- ❖ Gradual fall in maximum temperatures by 2-4°C likely over South Peninsular India during next 5 days.
- ❖ No significant change in maximum temperatures likely over rest parts of the country during next 7 days.

#### **Heat wave and Hot & Humid weather warning:**

- ❖ **Heat Wave conditions very likely to prevail at isolated pockets of Saurashtra & Kutch on 01<sup>st</sup> & 02<sup>nd</sup>; West Rajasthan during 05<sup>th</sup>-07<sup>th</sup> April.**
- ❖ **Hot & humid weather conditions very likely to prevail at isolated pockets of Tripura during 01<sup>st</sup> -03<sup>rd</sup>; Assam during 03<sup>rd</sup>-05<sup>th</sup>; Gujarat State during 03<sup>rd</sup>-07<sup>th</sup> April.**
- ❖ **Warm night very likely to prevail at isolated pockets of Vidarbha on 01<sup>st</sup> April.**

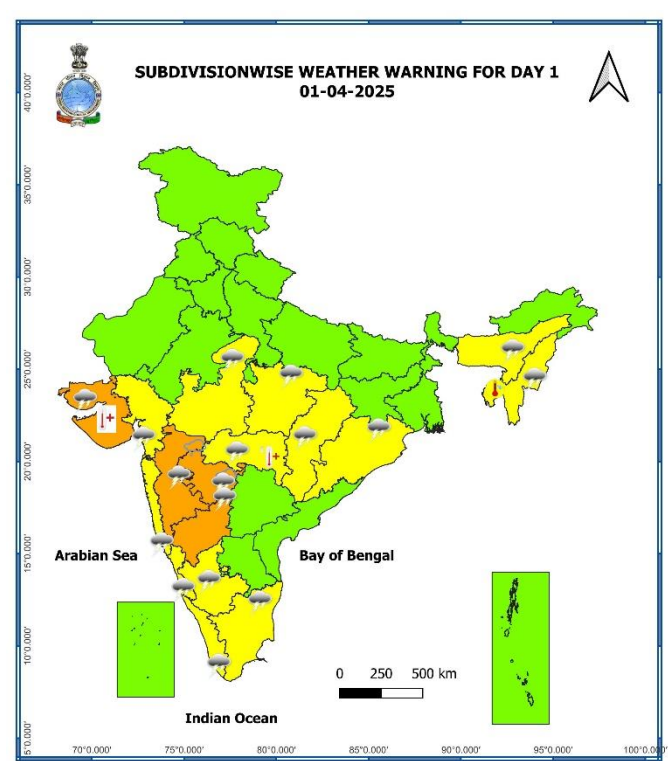
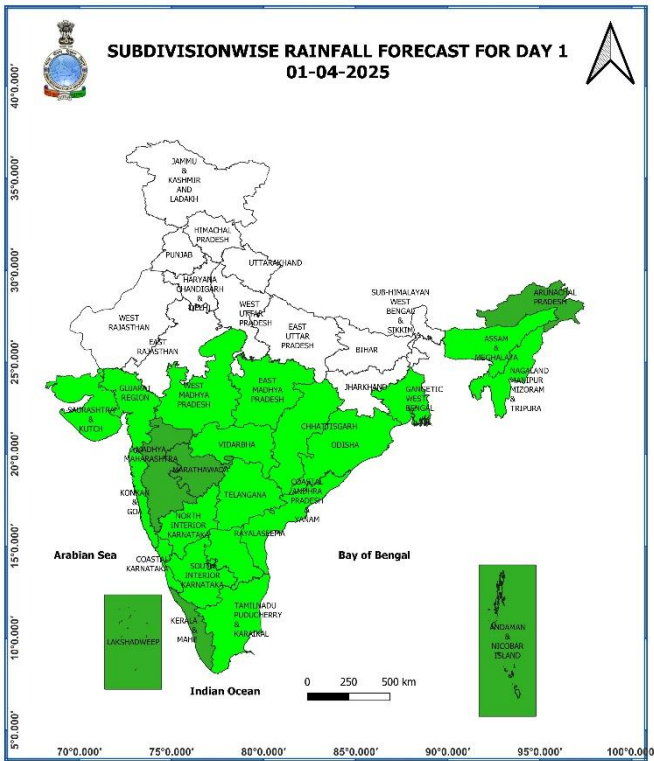
## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): **at isolated places** over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Konkan & Goa, Madhya Maharashtra, Marathwada, Kerala & Mahe, Coastal and North Interior Karnataka, Coastal Andhra Pradesh & Yanam.
- ❖ **Heavy to very heavy rainfall** has been recorded at isolated places over Assam & Meghalaya.
- ❖ **Significant amount of rainfall** (from 0830 hours IST of yesterday to 0830 hours IST of today) (in cm): **Assam & Meghalaya:** Shella (dist East Khasi Hills) 20, Rattacherra (dist East Jaintia Hills) 5, Cherrapunji(rkm) (dist East Khasi Hills) 2, Cherrapunji (dist East Khasi Hills) 2, Mawsynram (dist East Khasi Hills) 1, Bhaghmara (dist South Garo Hills) 1, Bhaghmara\_aws (dist South Garo Hills) 1; **North Interior Karnataka:** Dharwad to (dist Dharwad) 3, Kalghatgi (dist Dharwad) 2, Belagavi Pto (dist Belagavi) 2; **Nagaland, Manipur, Mizoram & Tripura:** Kadamtala Arg (dist North Tripura) 2, Nutanbazar CWC (dist North Tripura) 2, Kadamtala CWC (dist North Tripura) 1; **Kerala & Mahe:** Punalur (dist Kollam) 1
- ❖ **Thunderstorm with lightning** reported at isolated places over Assam & Meghalaya, West Madhya Pradesh, Madhya Maharashtra, Marathwada and North Interior Karnataka.
- ❖ **Minimum Temperature Departures (as on 01-04-2025):** Minimum temperatures are **appreciably above normal (3.1°C to 5.0°C)** at isolated places over West Madhya Pradesh and Madhya Maharashtra; **above normal (1.6°C to 3.0°C)** at many places over Coastal Karnataka and Andaman & Nicobar Islands; at a few places over Saurashtra & Kutch; at isolated places over Himachal Pradesh, Uttarakhand, Konkan & Goa, Jharkhand, Gangetic West Bengal, Odisha, Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura. These are **markedly below normal (-5.1°C or less)** at isolated places over Haryana and East Rajasthan; **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over West Rajasthan, Delhi and East Madhya Pradesh, **below normal (-3.0°C to -1.6°C)** at many places over East Uttar Pradesh, at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, South Interior Karnataka and Telangana; at isolated places over West Uttar Pradesh, Coastal Andhra Pradesh & Yanam, Rayalaseema and Tamil Nadu, Puducherry & Karaikal and near normal over rest parts of the country (**Fig. 4**). Today, the **lowest minimum temperature of 9.8°C** is reported at **Adampur IAF (Punjab)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 31-03-2025):** Maximum Temperatures were **markedly above normal (5.1°C or more)** at isolated places over Assam; **appreciably above normal (3.1°C to 5.0°C)** ) at a few places over Himachal Pradesh; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Saurashtra & Kutch, Bihar, Odisha and Sub-Himalayan West Bengal & Sikkim; **above normal (1.6°C to 3.0°C)** at many places over Punjab; at a few places over Haryana-Chandigarh-Delhi, East Uttar Pradesh, Jharkhand, West Rajasthan and Coastal Karnataka; at isolated places over West Uttar Pradesh, Uttarakhand, West Madhya Pradesh, Gujarat Region, Madhya Maharashtra, Marathwada, Chhattisgarh, Gangetic West Bengal and Telangana. These were **below normal (-3.0°C to -1.6°C)** at isolated places over Coastal Andhra Pradesh & Yanam and Andaman & Nicobar Islands and near normal over rest parts of the country (**Fig. 2**). Yesterday, the highest **maximum temperature of 42.0°C** was reported at **Jharsuguda (Odisha)** over the country.

### Meteorological Analysis (Based on 0830 hours IST)

- ❖ The **Cyclonic Circulation** over Marathwada & neighbourhood now lies over Madhya Maharashtra & neighbourhood at 0.9 km above mean sea level.
- ❖ The **trough** now runs from south Chhattisgarh to above cyclonic circulation over Madhya Maharashtra & neighbourhood across Vidarbha & Marathwada at 0.9 km above mean sea level.
- ❖ The north-south **trough** now runs from the **Cyclonic Circulation** over Madhya Maharashtra & neighbourhood to Comorin area across Karnataka & Tamil Nadu at 0.9 km above mean sea level.
- ❖ The upper air **Cyclonic Circulation** over southwest Bay of Bengal now lies over southwest Bay of Bengal & adjoining north Tamil Nadu between 1.5 & 3.1 km above mean sea level.
- ❖ The **Cyclonic Circulation** over northeast Assam & neighbourhood persists and now extends upto 1.5 km above mean sea level.
- ❖ A fresh **Western Disturbance** is likely to affect Western Himalayan Region from 03<sup>rd</sup> April, 2025.

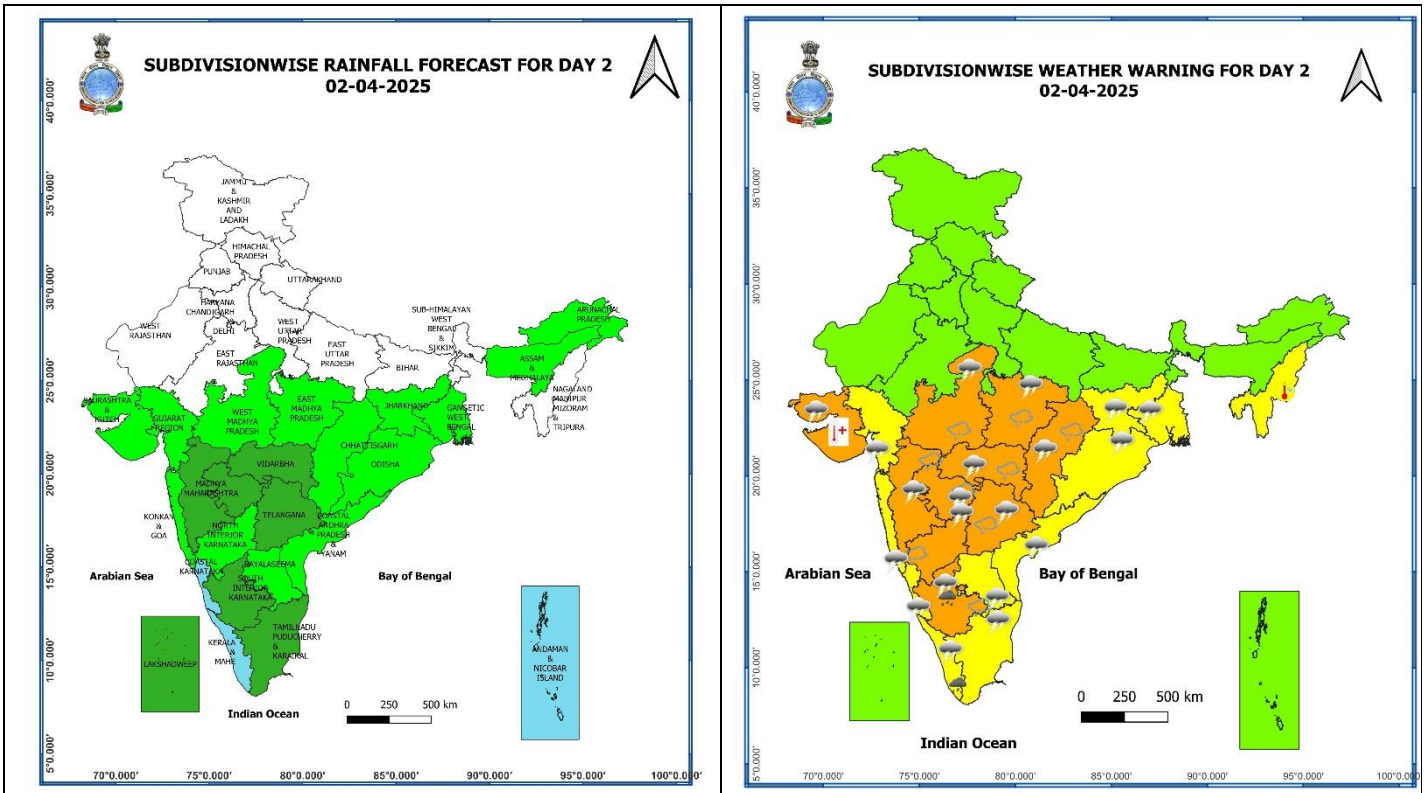
**Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 08<sup>th</sup> April, 2025)**



**01<sup>st</sup> April (Day 1):**

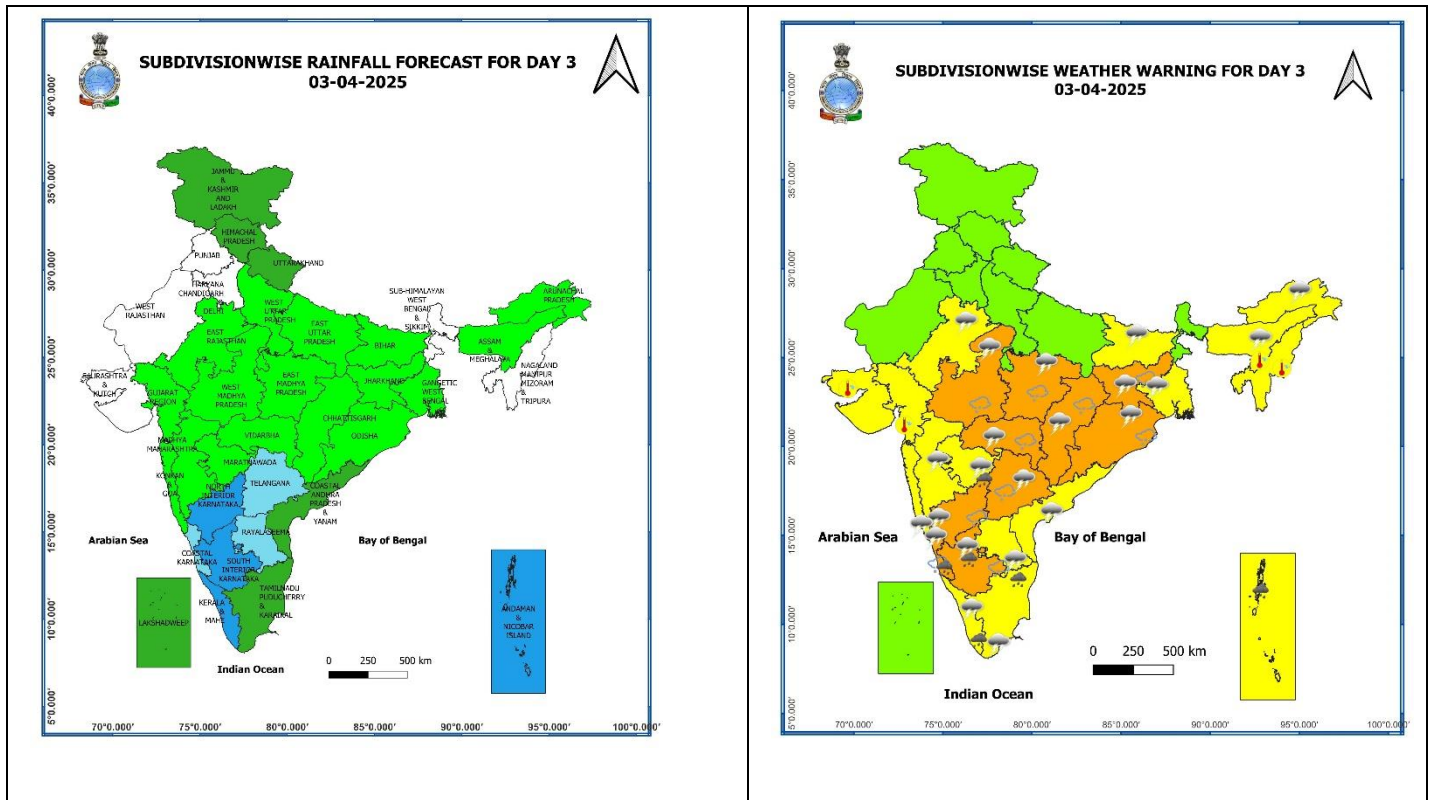
- ❖ **Thunderstorm accompanied with lightning & squall (speed reaching 50-60 kmph) & hail** very likely at isolated places over Madhya Maharashtra & Marathwada; **with lightning & squall (speed reaching 50-60 kmph)** at isolated places over North Interior Karnataka; **with lightning & gusty winds (speed reaching 40-50 kmph)** at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places over Odisha, Konkan & Goa, Gujarat State, Kerala & Mahe; **with lightning** at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Coastal & South Interior Karnataka.
- ❖ **Hot and Humid Weather conditions** very likely at isolated places over Tripura.
- ❖ **Heat wave conditions** very likely at isolated places over Saurashtra & Kutch.
- ❖ **Warm night conditions** very likely to prevail in isolated pockets over Vidarbha.
- ❖ **Squally weather with wind speed reaching 45 to 50 gusting to 55 kmph** very likely to prevail along and off goa, Maharashtra and adjoining south Gujarat coasts. Fishermen are advised not to venture into these areas.





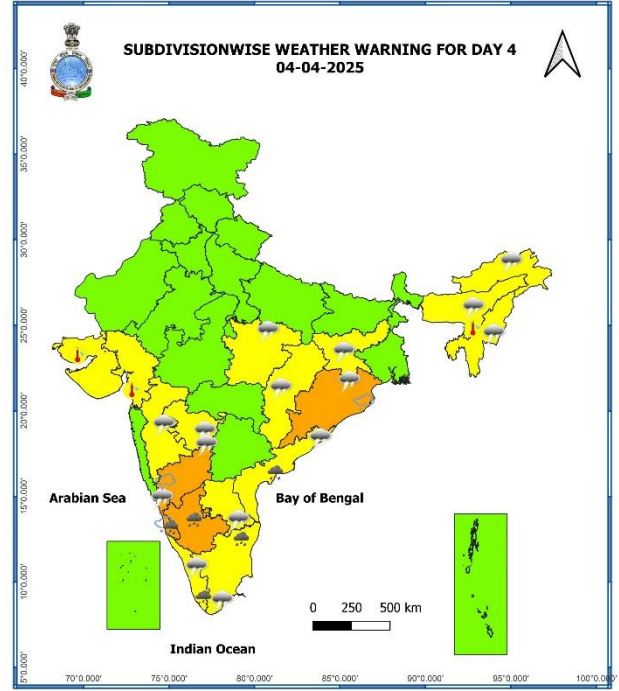
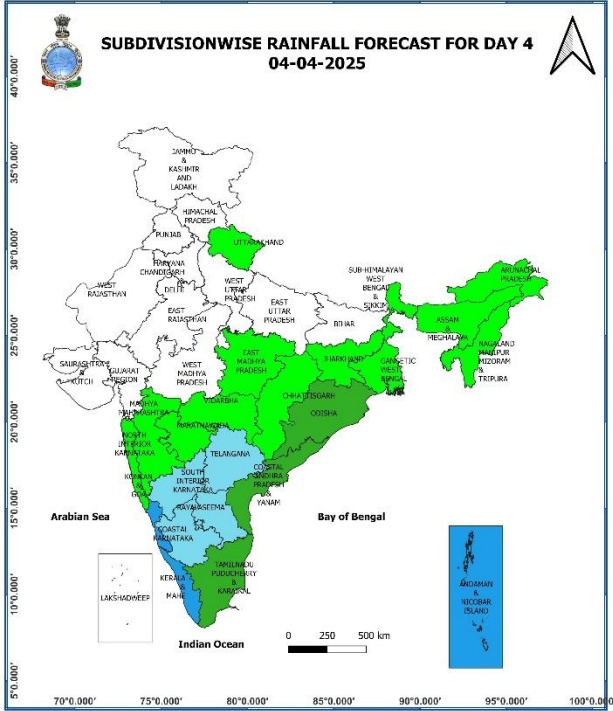
## 02<sup>nd</sup> April (Day 2):

- ❖ **Heavy rainfall** very likely at isolated places over South Interior Karnataka and Kerala & Mahe.
- ❖ **Thunderstorm accompanied with lightning & squall (speed reaching 50-60 kmph) & hail** very likely at isolated places over Madhya Pradesh, Vidarbha, Madhya Maharashtra, Marathwada, North Interior Karnataka; **with lightning & gusty winds (speed reaching 40-50 kmph) & hail** at isolated places over Chhattisgarh, South Interior Karnataka & Telangana; **with lightning & gusty winds (speed reaching 40-50 kmph)** at isolated places over Jharkhand, Odisha, Konkan & Goa, Coastal Karnataka; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places over Gangetic West Bengal, Gujarat State, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema; **with lightning** at isolated places over Tamil Nadu, Puducherry & Karaikal and Coastal Karnataka.
- ❖ **Hot and Humid Weather conditions** very likely at isolated places over Tripura.
- ❖ **Heat wave conditions** very likely at isolated places over Saurashtra & Kutch.



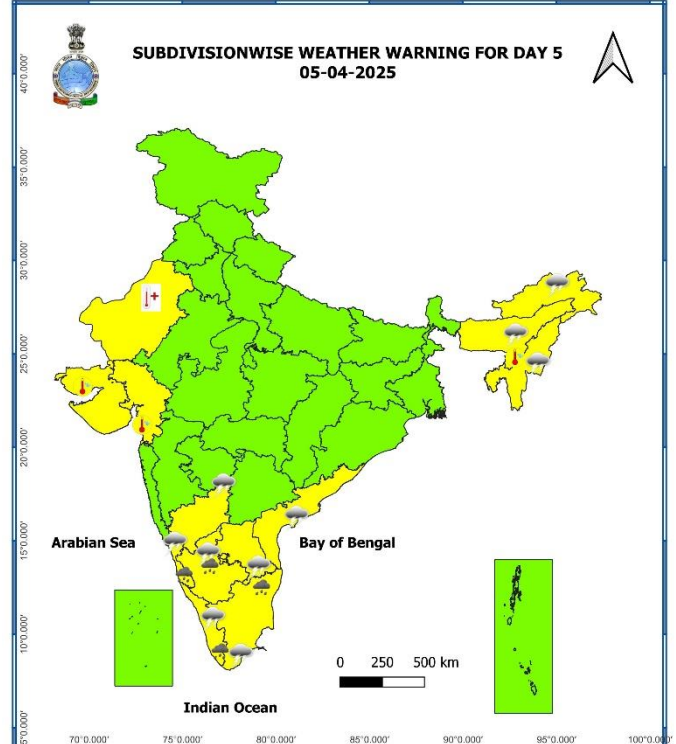
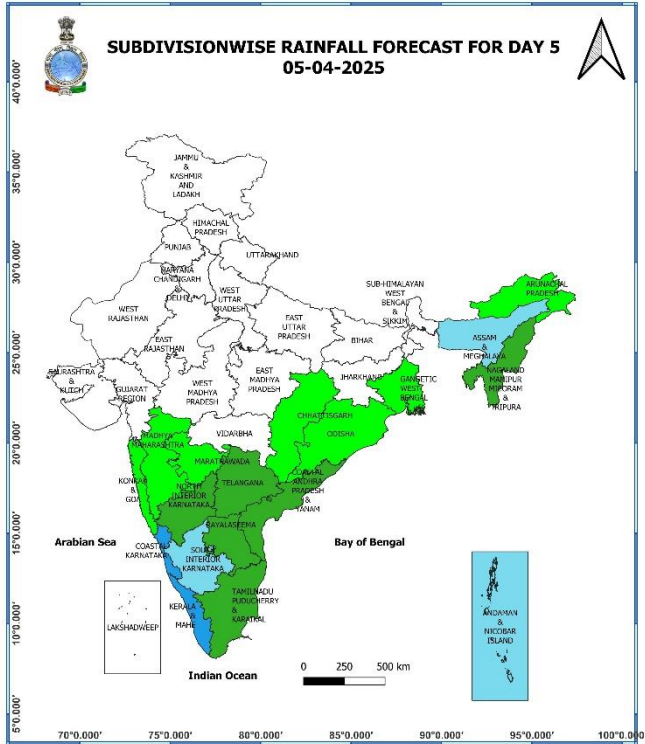
**03<sup>rd</sup> April (Day 3):**

- ❖ **Heavy rainfall** very likely at isolated places over Andaman & Nicobar Islands, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and Karnataka.
- ❖ **Thunderstorm accompanied with lightning & squall (speed reaching 50-60 kmph) & hail** very likely at isolated places over Jharkhand, Odisha and North Interior Karnataka; **with lightning & gusty winds (speed reaching 40-50 kmph) & hail** at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh, Telangana, Coastal & South Interior Karnataka; **with lightning & gusty winds (speed reaching 40-50 kmph)** at isolated places over East Rajasthan, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh & Yanam, Rayalaseema; **with lightning & gusty winds (speed reaching 30 - 40 kmph)** at isolated places over Gangetic West Bengal, Bihar, Konkan & Goa, Assam & Meghalaya; **with lightning** at isolated places over Arunachal Pradesh and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Hot and Humid Weather conditions** very likely at isolated places over Assam & Meghalaya, Tripura and Gujarat state.



### 04<sup>th</sup> April (Day 4):

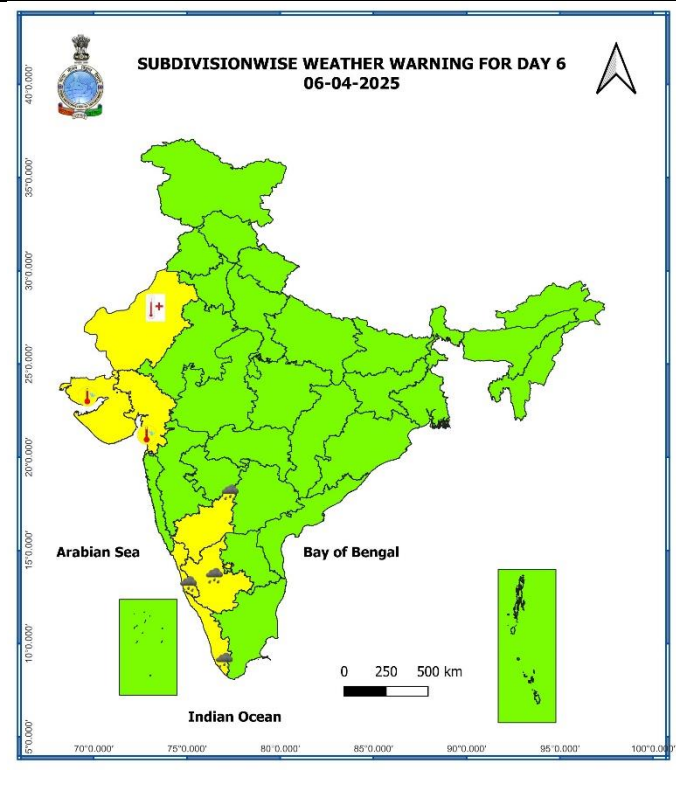
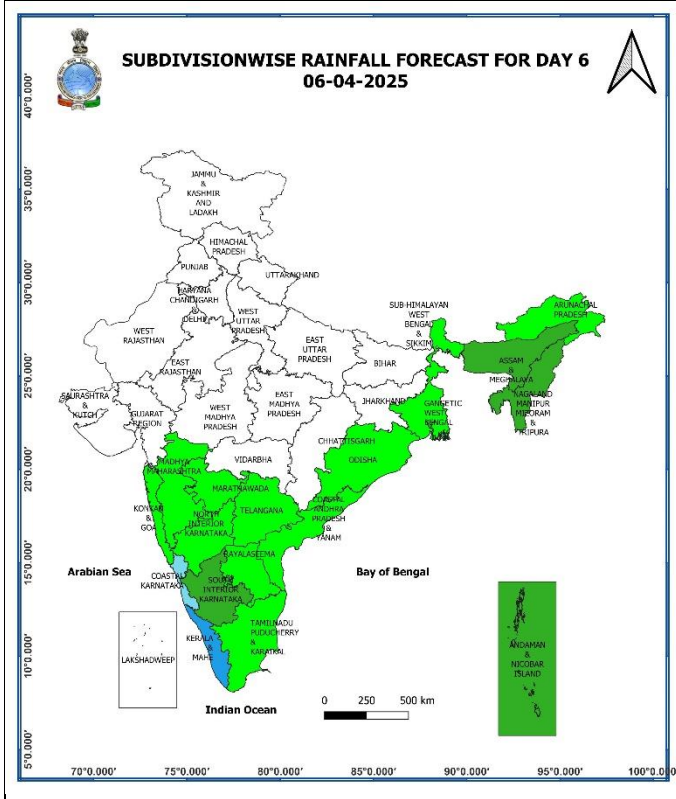
- ❖ **Heavy rainfall** likely at isolated places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Coastal & South Interior Karnataka.
- ❖ **Thunderstorm accompanied with lightning & squall (speed reaching 50-60 kmph) & hail** likely at isolated places over Odisha and North Interior Karnataka; **with lightning & gusty winds (speed reaching 40-50 kmph) & hail** at isolated places over Coastal Karnataka; **with lightning & gusty winds (speed reaching 40 - 50 kmph)** at isolated places over East Madhya Pradesh, Jharkhand, Coastal Andhra Pradesh & Yanam, Rayalaseema and Kerala & Mahe; **with lightning & gusty winds (speed reaching 30 - 40 kmph)** at isolated places over Chhattisgarh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Marathwada, Madhya Maharashtra; **with lightning** at isolated places over Arunachal Pradesh.
- ❖ **Hot and Humid Weather conditions** likely at isolated places over Gujarat state.



### 05<sup>th</sup> April (Day 5):

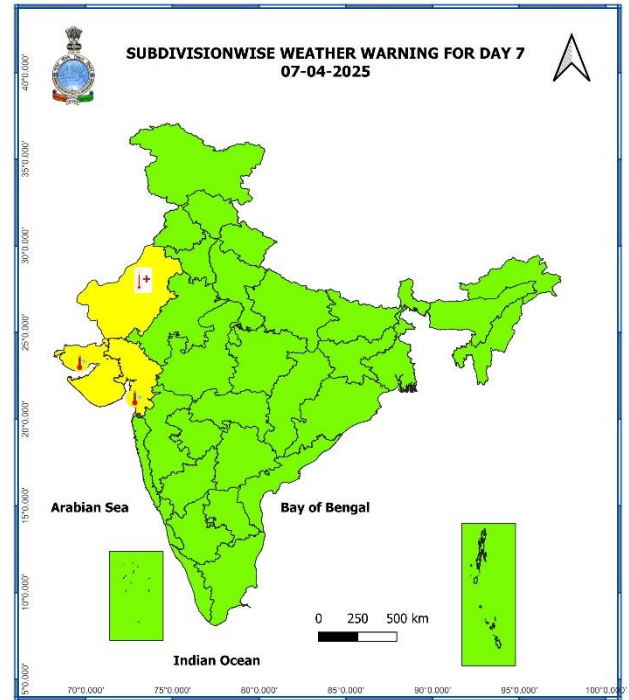
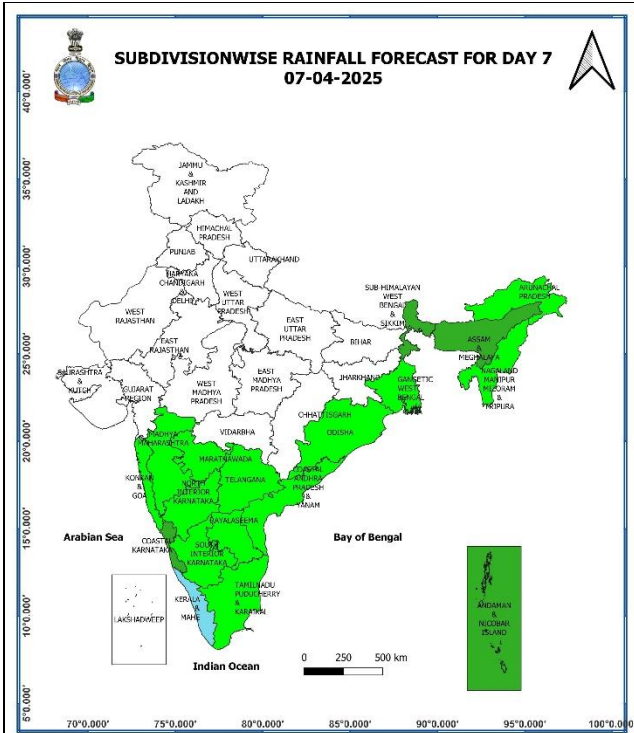
- ❖ **Heavy rainfall** likely at isolated places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Coastal & South Interior Karnataka.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 40 - 50 kmph)** likely at isolated places over Coastal Karnataka, North Interior Karnataka & Kerala & Mahe; **with lightning & gusty winds (speed reaching 30 - 40 kmph)** at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Rayalaseema and South Interior Karnataka; **with lightning** at isolated places over Arunachal Pradesh.
- ❖ **Hot and Humid Weather conditions** likely at isolated places over Gujarat state.
- ❖ **Heat wave conditions** very likely at isolated places over West Rajasthan.





**06<sup>th</sup> April (Day 6):**

- ❖ **Heavy rainfall** likely at isolated places over Kerala & Mahe and Karnataka.
- ❖ **Hot and Humid Weather conditions** likely at isolated places over Gujarat state.
- ❖ **Heat wave conditions** likely at isolated places over West Rajasthan.



### 07<sup>th</sup> April (Day 7):

- ❖ **Hot and Humid Weather conditions** likely at isolated places over Gujarat state.
- ❖ **Heat wave conditions** very likely at isolated places over West Rajasthan.

### Weather Outlook for subsequent 3 days (During 08<sup>th</sup> April- 10<sup>th</sup> April, 2025)

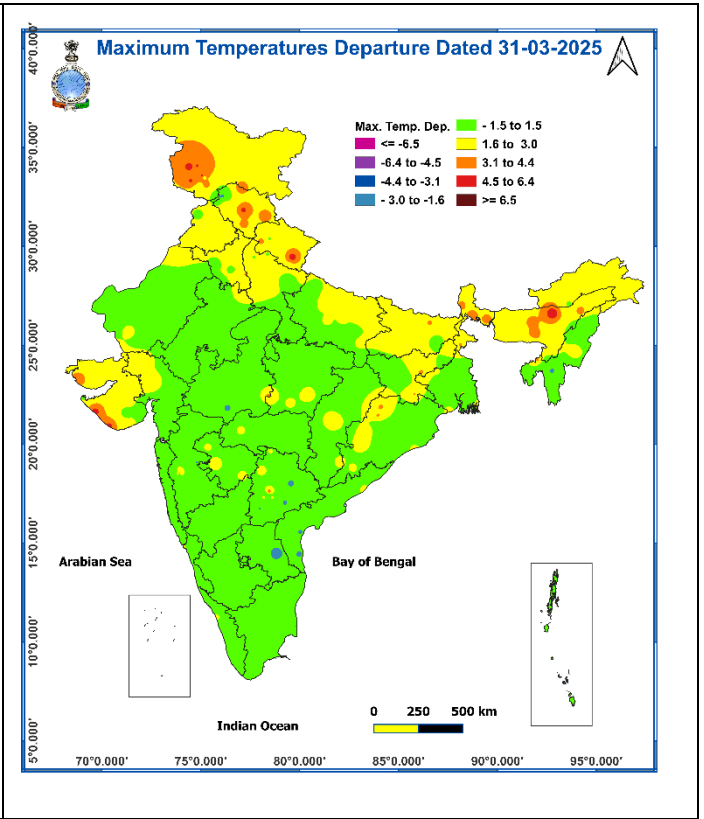
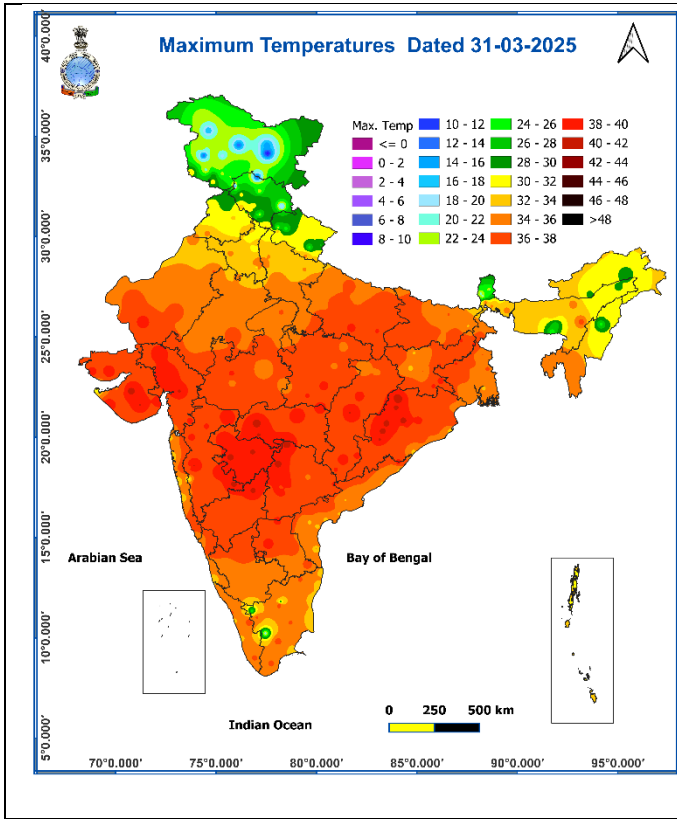
- ❖ **Isolated to scattered rainfall** likely over Western Himalayan Region and Northeast India, Chhattisgarh, Odisha, Vidarbha & Maharashtra and south peninsular India.

Action may be taken based on **ORANGE AND RED** COLOUR warnings.

- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

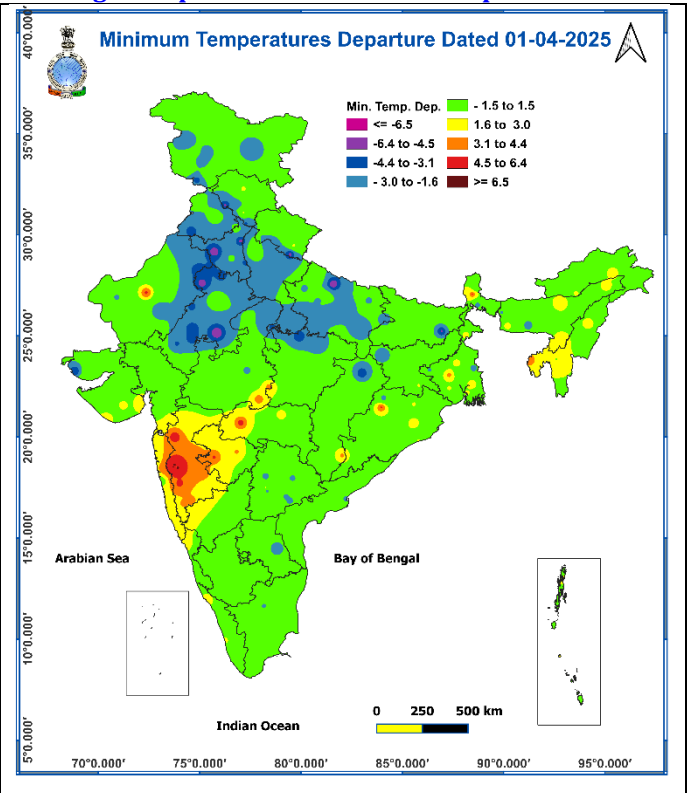
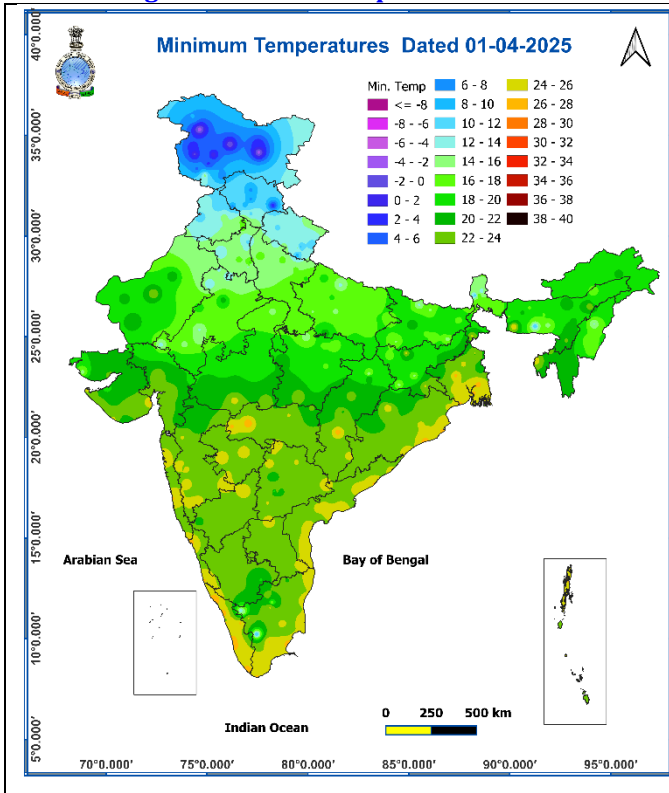
**Fig. 1: Maximum Temperatures**

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



**Fig. 3: Minimum Temperatures**

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



## Impact expected and action suggested due Heat Wave conditions over Saurashtra & Kutch on 01st & 02nd; West Rajasthan during 05<sup>th</sup> -07<sup>th</sup> April.

### Orange alert Areas

- High temperature & increased likelihood of heat illness symptoms in people who are either exposed to sun for a prolonged period or doing heavy work.
- High health concern for vulnerable people e.g. infants, elderly, people with chronic diseases.
- Avoid heat exposure– keep cool. Avoid dehydration.
- Drink sufficient water- even if not thirsty.
- Use ORS, homemade drinks like lassi, torani (rice water), lemon water, buttermilk, etc. to keep yourself hydrated.

### 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.

## Impact expected and action suggested due to isolated thunderstorm with lightning/gusty winds & Hailstorm over central and adjoining East & Peninsular India during 01<sup>st</sup> -04<sup>th</sup> April.

### Impact expected:

- 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:

- 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.



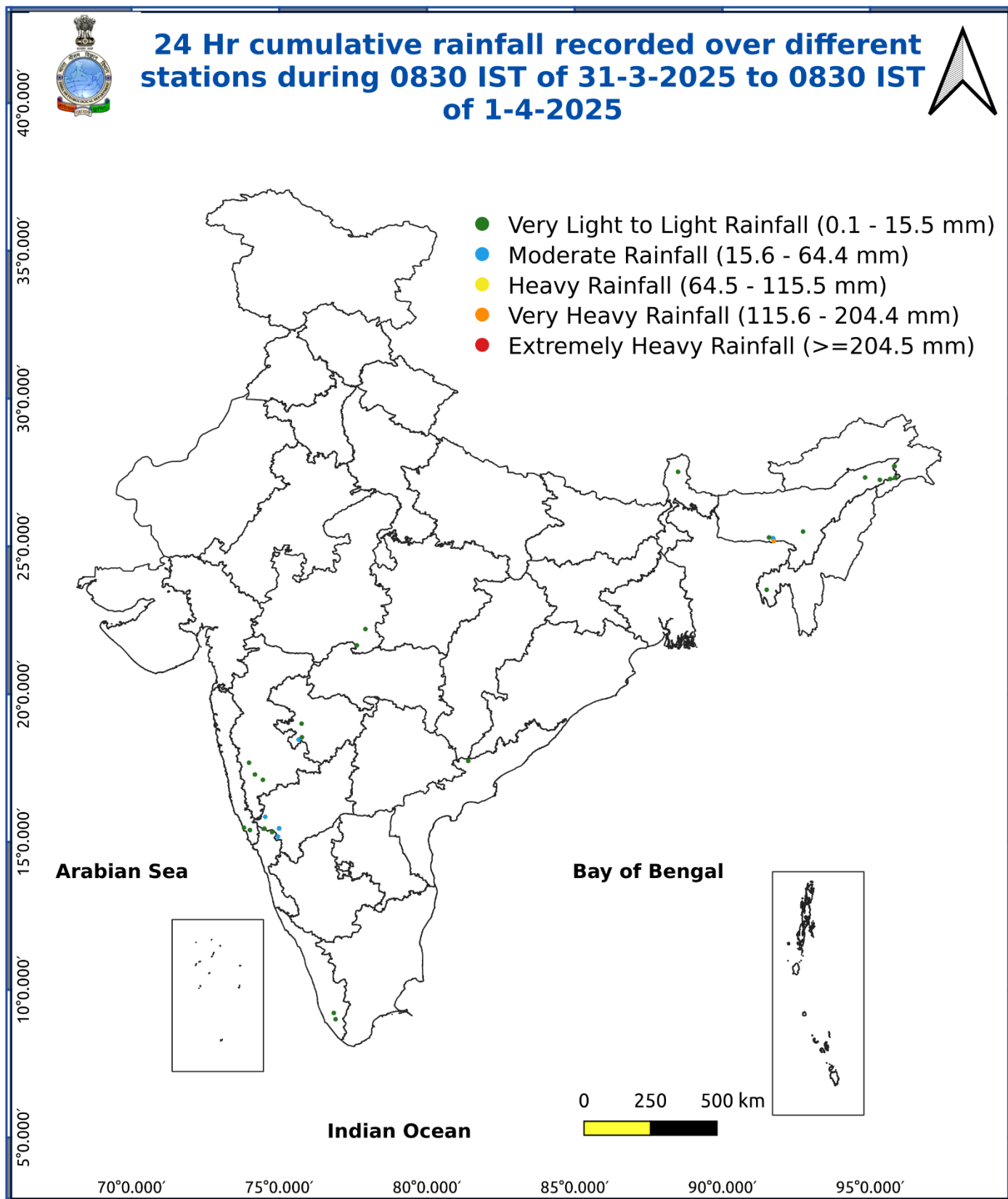
## Agromet advisories for likely impact of Hailstorm, Heavy Rainfall, Strong Surface Winds

- In **Madhya Maharashtra, Marathwada, Vidarbha, Coastal and North Interior Karnataka, Telangana, Madhya Pradesh, Chhattisgarh, Odisha and Jharkhand**, immediately harvest the matured crops, fruits and vegetables and shift the harvested produce in safer places or cover the produce with tarpaulin sheets in the fields to avoid the adverse impact of likely hailstorm. Use hail net and hail caps to prevent mechanical damage in orchards due to hailstorms.
- In **Tamilnadu, Kerala, Coastal and South Interior Karnataka**, make provision to drain out excess water from standing crop and vegetable fields.
- Provide mechanical support to horticultural crops and staking to vegetables to avoid lodging.

### **Livestock/ poultry**

- 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.

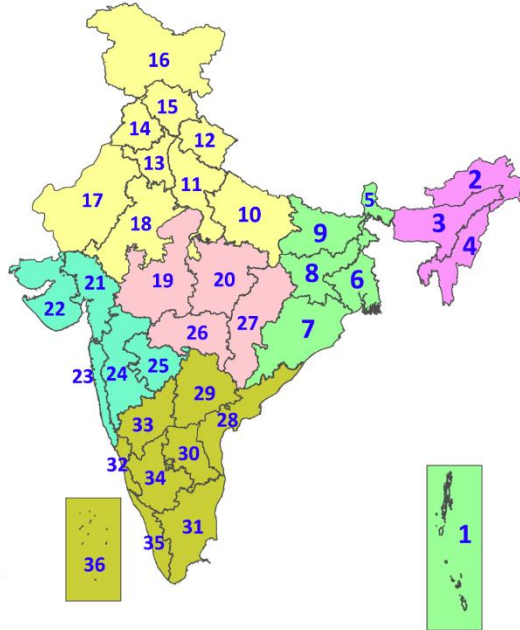
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



\* 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

### 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)

**Hot and Humid:** When maximum temperatures remains  $3^{\circ}\text{C}$  above normal along with the above normal relative humidity.