

Thursday, April 17, 2025  
Time of Issue: 1345 hours IST  
(MID-DAY)

## ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

### Significant Weather Features:

#### Weather Systems, Forecast and Warnings:

- ❖ An **upper air cyclonic circulation** lies over northwest Rajasthan, 2<sup>nd</sup> over Bihar in lower tropospheric levels and 3<sup>rd</sup> over east Assam in lower & middle tropospheric levels.
- ❖ A **trough** runs from northwest Rajasthan to Gulf of Mannar and 2<sup>nd</sup> trough from East Madhya Pradesh to south Assam in lower tropospheric levels.
- ❖ An **upper air cyclonic circulation** lies over south Rayalaseema in lower tropospheric levels.
- ❖ Under the influence of these systems:
  - ✓ **Scattered to fairly widespread** light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (speed reaching 40-50 kmph gusting to 60 kmph)** likely over Northeast & East India during next 5 days.
  - ✓ Isolated rainfall accompanied with **thunderstorm, lightning & gusty winds (speed reaching 40-50 kmph gusting to 60 kmph)** likely over Vidarbha on 17<sup>th</sup>; Chhattisgarh on 17<sup>th</sup> & 18<sup>th</sup> April.
  - ✓ **Heavy rainfall** likely over Sub-Himalayan West Bengal & Sikkim, Bihar on 17<sup>th</sup>; Gangetic West Bengal on 18<sup>th</sup>; Arunachal Pradesh on 17<sup>th</sup>, 22<sup>nd</sup> & 23<sup>rd</sup>; Assam & Meghalaya during 17<sup>th</sup>, 18<sup>th</sup> & during 20<sup>th</sup>-23<sup>rd</sup>; Nagaland, Manipur, Mizoram & Tripura during 17<sup>th</sup>, 18<sup>th</sup> & during 20<sup>th</sup>-22<sup>nd</sup> April.
  - ✓ **Isolated Hailstorm** likely over Gangetic West Bengal on 17<sup>th</sup> April.
  - ✓ **Thundersquall (wind speed reaching 50-60 kmph gusting to 70 kmph)** very likely at isolated places over West Bengal & Sikkim & north Odisha on 17<sup>th</sup>; Bihar on 17<sup>th</sup> & 18<sup>th</sup> April.
  - ✓ **Scattered to fairly widespread** light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (speed 40-50 kmph gusting to 60 kmph)** likely over Kerala & Mahe and **Isolated to Scattered** light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (wind speed reaching 40-50 kmph gusting to 60 kmph)** likely over remaining parts of south peninsular India during next 7 days. **Thundersquall (wind speed reaching 50-60 kmph gusting to 70 kmph)** very likely at isolated places over North Interior Karnataka on 17<sup>th</sup> & 18<sup>th</sup> April.
- ❖ A **Western Disturbance** seen as a cyclonic circulation over West Iran & neighbourhood in middle & upper tropospheric levels. Under its influence:
  - ✓ **Thunderstorm, lightning & gusty winds (speed 40-50 kmph gusting to 60 kmph) with isolated hailstorm** likely over Western Himalayan Region on 18<sup>th</sup> & 19<sup>th</sup> April; with **gusty winds (speed 30-40 kmph gusting to 50 kmph)** over Himachal Pradesh on 20<sup>th</sup>; Uttarakhand on 20<sup>th</sup> & 21<sup>st</sup> April.
  - ✓ **Isolated heavy rainfall** likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Himachal Pradesh on 18<sup>th</sup> & 19<sup>th</sup> April.
  - ✓ Isolated rainfall along with **thunderstorm, lightning & gusty winds (speed 30-40 kmph gusting to 50 kmph)** is likely over adjoining plains of Northwest India during 18<sup>th</sup> to 20<sup>th</sup> April, 2025.
  - Isolated Duststorm/Thunderstorm **gusty winds (speed 40-50 kmph gusting to 60 kmph)** likely over East Rajasthan on 17<sup>th</sup> April and dust raising strong winds (**speed 30-40 kmph gusting to 50 kmph**) over west Rajasthan on 18<sup>th</sup> & 19<sup>th</sup> April.

#### Temperature Forecast:

- ❖ No significant change in maximum temperatures likely over Northwest India during next 2 days; gradual fall by 2-4°C during subsequent 3 days and rise by 2-3°C during subsequent 2 days.
- ❖ Gradual rise in maximum temperatures by 2-3°C likely over Central India during next 5 days and no significant change during subsequent 2 days.
- ❖ No significant change in maximum temperatures likely over East India during next 3 days and gradual rise by 2-4°C during subsequent 4 days.
- ❖ No significant change in maximum temperatures likely over Maharashtra during next 7 days.
- ❖ No significant change in maximum temperatures likely over Gujarat State during next 24 hours; gradual fall by 2-3°C during subsequent 3 days and gradual rise by 2-4°C during subsequent 3 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** at most places with **severe heat wave conditions** at isolated/some parts likely over West Rajasthan on 17<sup>th</sup> April and heat wave conditions at isolated/some parts thereafter on 18<sup>th</sup> April.
- ❖ **Heat wave conditions** are very likely at isolated/some places over East Rajasthan on 17<sup>th</sup> & 18<sup>th</sup>; Saurashtra & Kutch on 17<sup>th</sup> April.
- ❖ **Hot & humid** weather is likely to prevail over Gujarat State on 17<sup>th</sup>; Marathwada & Madhya Maharashtra during 17<sup>th</sup>-21<sup>st</sup> April.
- ❖ **Warm Night conditions** are likely at isolated places over Rajasthan on 17<sup>th</sup> April.

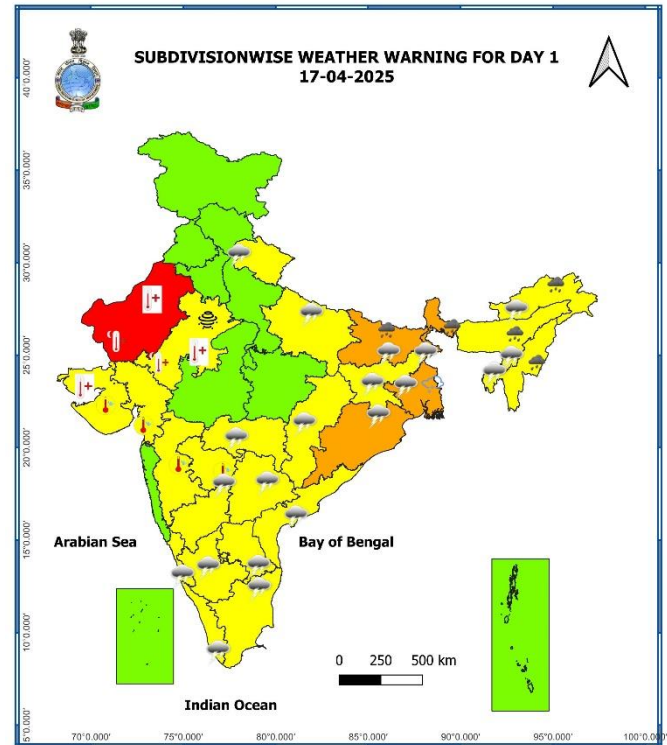
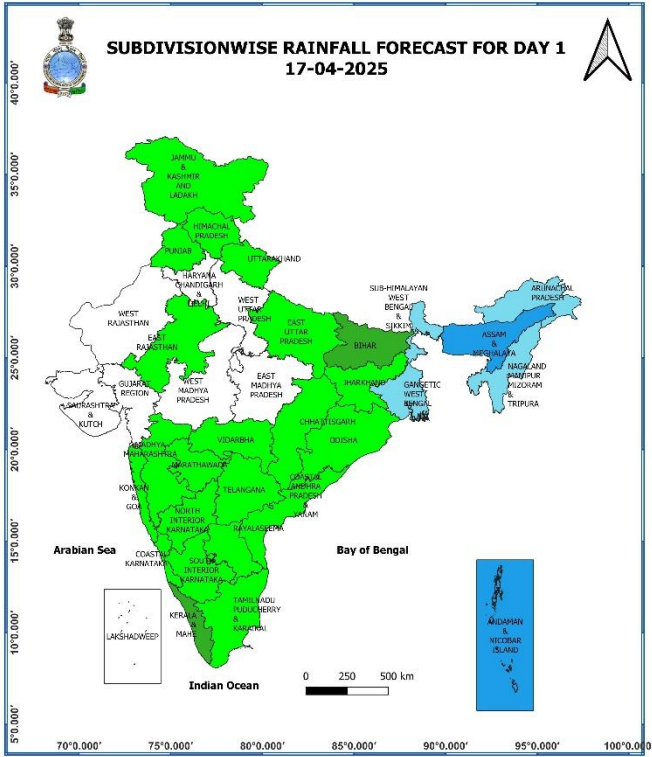
## Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): **at most places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura; at many places over Andaman & Nicobar Islands; **at few places** over South Interior Karnataka; **at isolated places** over Punjab, Haryana-Chandigarh-Delhi, West Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Gangetic West Bengal, Bihar, Jharkhand, Odisha, Coastal Andhra Pradesh & Yanam, Rayalaseema, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Telangana, North Interior Karnataka.
- ❖ **Significant amount of rainfall** (from 0830 hours IST of yesterday to 0830 hours IST of today) (in cm): **Tamil Nadu, Puducherry & Karaikal:** Zone 14 Medavakkam -1 (dist Chennai) 16, Zone 11 Valasaravakkam -1 (dist Chennai), Zone 10 Saliramam (dist Chennai) 11 each, Zone 11 Nerkundram (dist Chennai), Gummidipoondi (dist Tiruvallur) 10 each, Zone 02 Manali-1 (dist Chennai), Ponneri (dist Tiruvallur) 9 each, Zone 05 Parris (dist Chennai), Zone 02 Manali-2 (dist Chennai), Zone 14 Pallikaranai -1 (dist Chennai) 8 each, Zone 13 Raja Annamalaipuram (dist Chennai), Anna University ARG (dist Chennai), Zone 11 Valasaravakkam-2 (dist Chennai), Anna University (dist Chennai), Zone 09 Nungambakkam (dist Chennai), Zone 14 Pallikaranai - 2 (dist Chennai) 7 each; **Sub-Himalayan West Bengal & Sikkim:** Neora (dist Jalpaiguri) 13, Champasari (dist Darjeeling) 9, Domohani (dist Jalpaiguri) 8, Siliguri Pto (dist Darjeeling) 7, Nagarkata (dist Jalpaiguri) 7.
- ❖ **Heavy to very heavy rainfall** has been recorded at isolated places over Tamilnadu, Puducherry & Karaikal and **heavy rainfall** at isolated places over Sub-Himalayan West Bengal & Sikkim.
- ❖ **Hailstorm** occurred at isolated places over Jammu-Kashmir, Himachal Pradesh and East Madhya Pradesh.
- ❖ **Heat wave to severe heat wave conditions** prevailed at most places over West Rajasthan; **Heat wave conditions** at isolated places over adjoining areas of East Rajasthan.
- ❖ **Warm Night** prevailed in isolated places over East Rajasthan.
- ❖ **Minimum Temperature Departures (as on 17-04-2025):** Minimum temperatures are **markedly above normal (5.1°C or more)** at isolated places over West Rajasthan, Haryana-Chandigarh-Delhi; **appreciably above normal (3.1°C to 5.0°C)** at a few places over East Rajasthan; at isolated places over Punjab, Bihar, West Madhya Pradesh, West Uttar Pradesh; **above normal (1.6°C to 3.0°C)** at many place over Saurashtra & Kutch; at few places over East Uttar Pradesh, Himachal Pradesh, East Madhya Pradesh, Vidarbha, Madhya Maharashtra, Marathwada; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya. These are **below normal (-3.0°C to -1.6°C)** at isolated places over Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam and normal over rest parts of the country (**Fig. 4**). Today, the **lowest minimum temperature** of 16.2°C is reported at **Hamirpur (East Uttar Pradesh)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 16-04-2025):** Maximum Temperatures were **markedly above normal (5.1°C or more)** at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and West Rajasthan; **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Himachal Pradesh, Haryana-Chandigarh, Punjab and Saurashtra & Kutch; **above normal (1.6°C to 3.0°C)** at a few places over East Rajasthan, Madhya Maharashtra, Coastal Karnataka, Arunachal Pradesh, Assam & Meghalaya; at isolated places over Delhi, Gujarat Region, West Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Konkan & Goa and Marathwada. These were **appreciably below normal (-3.1 to -5.0°C)** at a few places over Nagaland, Manipur, Mizoram & Tripura, Odisha; **below normal (-3.0°C to -1.6°C)** at many places over Jharkhand; at a few places over Gangetic West Bengal and Bihar; at isolated places over East Madhya Pradesh, East Uttar Pradesh, Chhattisgarh, Telangana, Tamil Nadu, Puducherry & Karaikal and normal over rest parts of the country (**Fig. 2**). Yesterday, the highest **maximum temperature** of 46.0°C was reported at **Jaisalmer (West Rajasthan)** over the country.

## Meteorological Analysis (Based on 0830 hours IST)

- ❖ The **Western Disturbance** as a cyclonic circulation over West Iran & neighbourhood in middle & upper tropospheric level persists.
- ❖ The upper air **cyclonic circulation** over northwest Rajasthan & neighbourhood persists and now extends upto 1.5 km above mean sea level.
- ❖ The **trough** now runs from above cyclonic circulation over northwest Rajasthan to Gulf of Mannar across East Rajasthan, Madhya Maharashtra, interior Karnataka, Tamil Nadu at 0.9 km above mean sea level.
- ❖ The upper air **cyclonic circulation** over east Assam persists and now extends between 1.5 & 5.8 km above mean sea level.
- ❖ The east-west **trough** now runs from East Madhya Pradesh to south Assam across North Chhattisgarh, Jharkhand, Gangetic West Bengal, Bangladesh at 0.9 km above mean sea level.
- ❖ A **cyclonic circulation** lies over Bihar & neighbourhood at 1.5 km above mean sea level.
- ❖ A **cyclonic circulation** lies over south Rayalaseema & neighbourhood at 1.5 km above mean sea level.
- ❖ The **trough** in westerlies from Sikkim to north Odisha across West Bengal and Jharkhand between 3.1 & 5.8 km above mean sea level has become less marked.
- ❖ The upper air **cyclonic circulation** over East Madhya Pradesh & neighbourhood at 1.5 km above mean sea level has become less marked.
- ❖ The **trough** from the above cyclonic circulation over east Madhya Pradesh to South Interior Karnataka across Marathwada & North Interior Karnataka extending upto 1.5 km above mean sea level has become less marked.

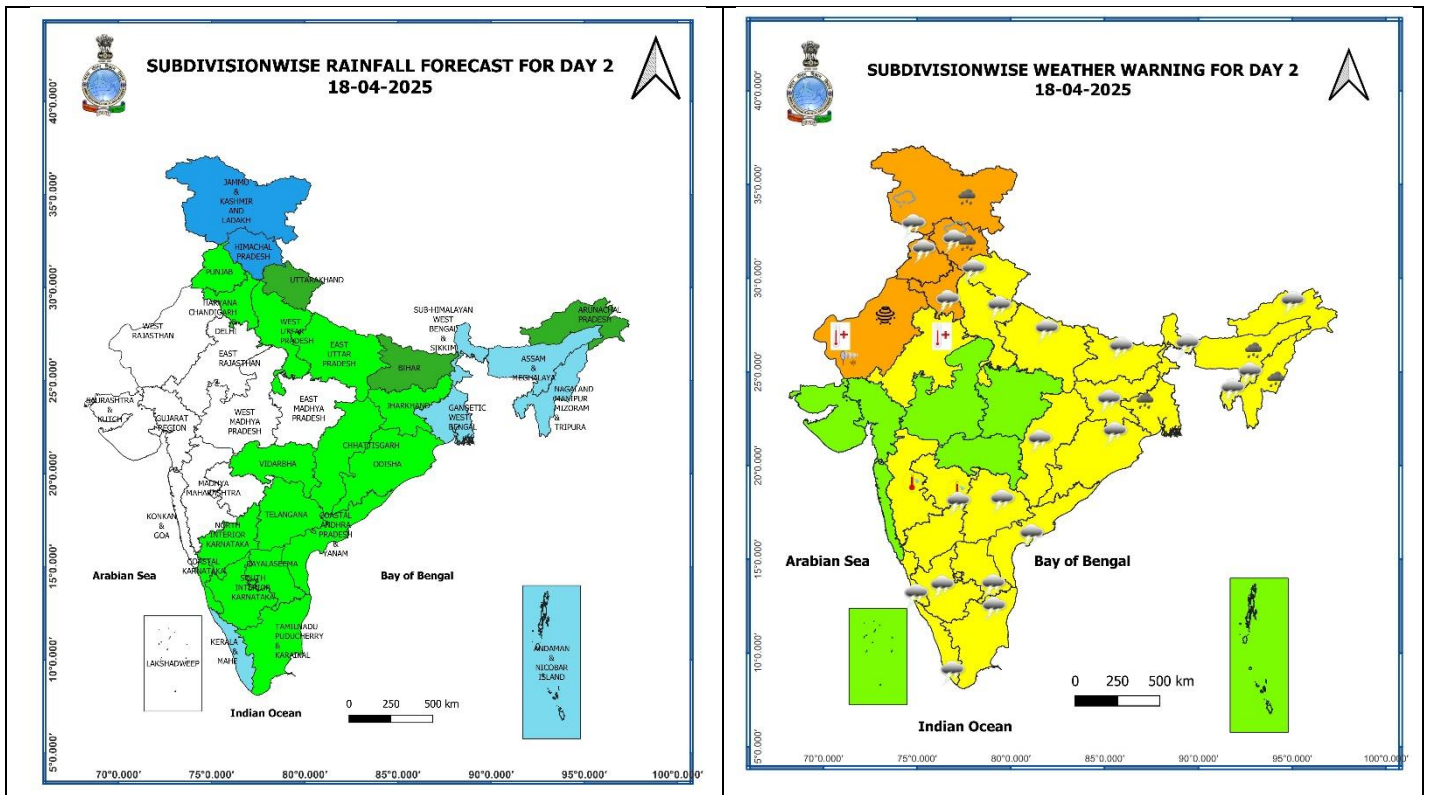
**Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 24<sup>th</sup> April, 2025)**



**17<sup>th</sup> April (Day 1):**

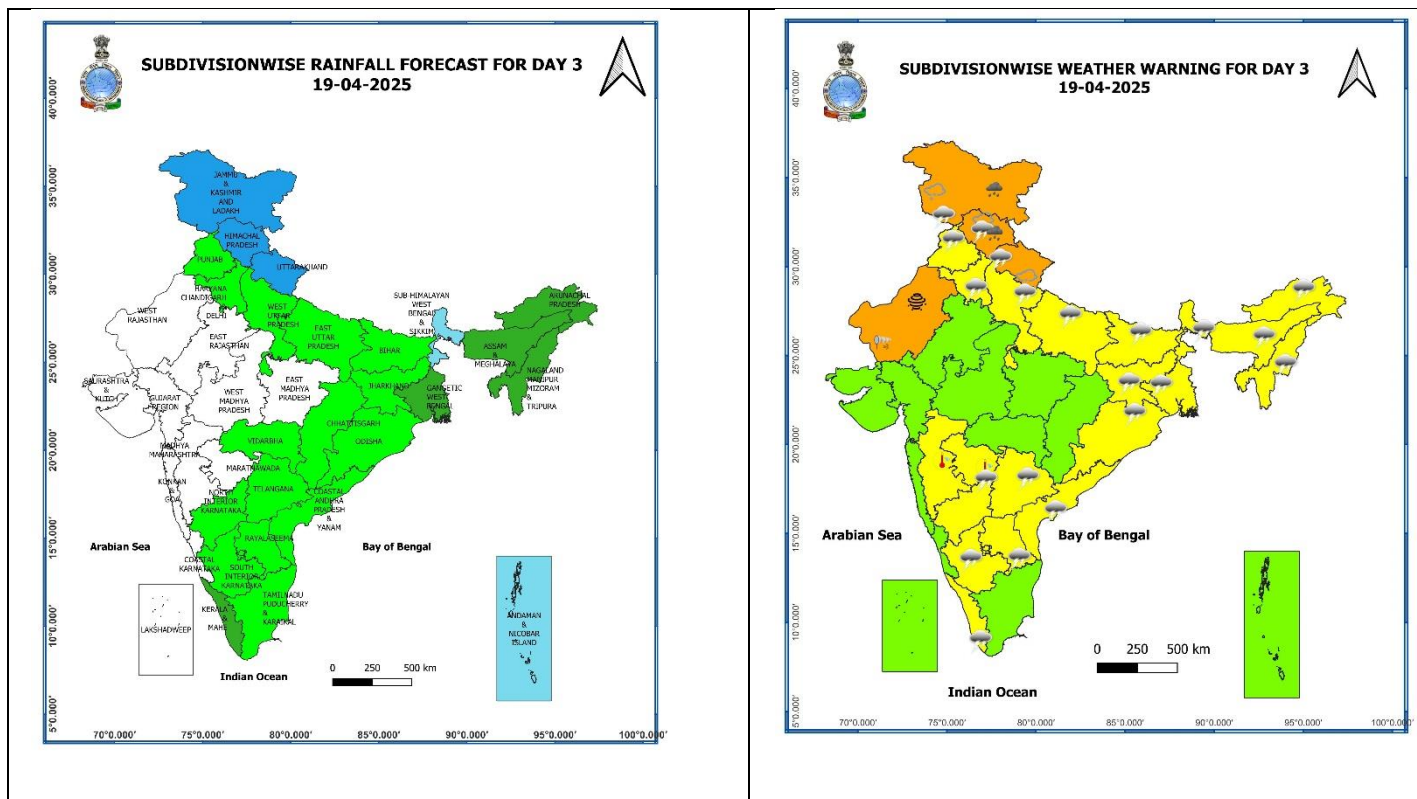
- ❖ **Heavy rainfall ( $\geq 7$  cm)** very likely at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim, Bihar.
- ❖ **Thundersquall accompanied with lightning, gusty winds (speed reaching 50 - 60 kmph gusting to 70 kmph) & Hailstorm** very likely at isolated places over Gangetic West Bengal; **with lightning, gusty winds (speed reaching 50 - 60 kmph gusting to 70 kmph)** at isolated places over Bihar, Odisha, Sub-Himalayan West Bengal & Sikkim, North Interior Karnataka; **Thunderstorm accompanied with lightning & gusty winds (speed reaching 40 - 50 kmph gusting to 60 kmph)** at isolated places over East Rajasthan, Jharkhand, Assam & Meghalaya , Nagaland, Manipur, Mizoram & Tripura, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema, South Interior Karnataka; **with lightning & gusty winds (speed reaching 30 - 40 kmph gusting to 50 kmph)** at isolated places over Uttarakhand, East Uttar Pradesh, Vidarbha, Chhattisgarh, Tamil Nadu, Puducherry & Karaikal; **with lightning** at isolated places Arunachal Pradesh, Coastal Karnataka.
- ❖ **Duststorm/ Thunderstorm** very likely at isolated places over Rajasthan.
- ❖ **Heat wave at many places with severe Heat wave conditions** very likely at a isolated places over West Rajasthan; **Heat wave conditions** at a isolated places over East Rajasthan, Saurashtra & Kutch.
- ❖ **Hot and Humid** very likely at isolated places over Madhya Maharashtra, Marathwada and Gujarat state.
- ❖ **Warm night conditions** very likely at a isolated places over Rajasthan.





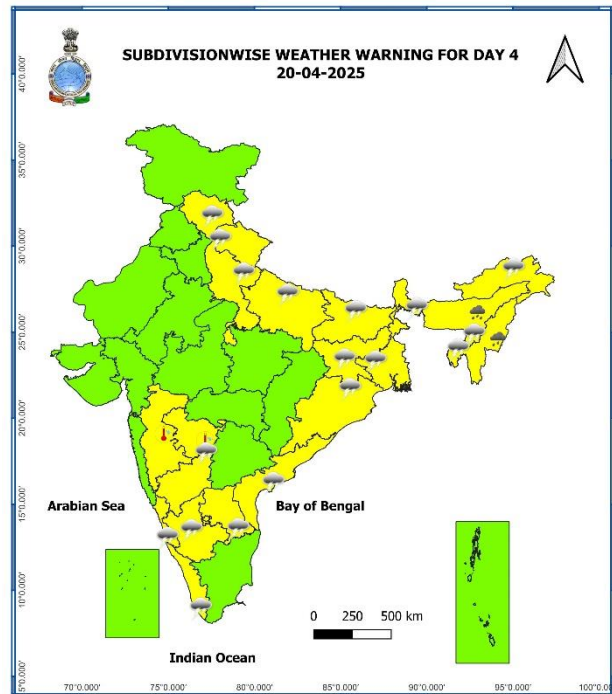
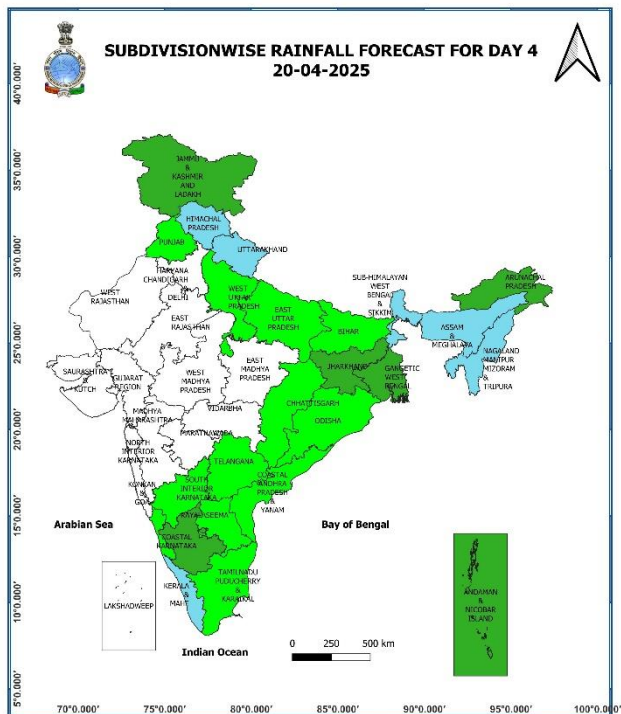
### 18<sup>th</sup> April (Day 2):

- ❖ **Heavy rainfall/snowfall** likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Gangetic West Bengal, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Thundersquall accompanied with lightning, gusty winds (speed reaching 50 - 60 kmph gusting to 70 kmph)** likely at isolated places over Bihar, Haryana-Chandigarh-Delhi, North Interior Karnataka; **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40 - 50 kmph gusting to 60 kmph), Hailstorm** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh; **with lightning, gusty winds (speed reaching 40 - 50 kmph gusting to 60 kmph)** at isolated places over Uttar Pradesh, Jharkhand, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, South Interior Karnataka, Kerala & Mahe; **with lightning, gusty winds (speed reaching 30-40 kmph gusting to 50 kmph)** at isolated places over Uttarakhand, Punjab, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Telangana; **with lightning** at isolated places over Arunachal Pradesh, Tamil Nadu, Puducherry & Karaikal, Coastal Karnataka..
- ❖ **Heat wave conditions** at isolated places over Rajasthan.
- ❖ **Hot and Humid** likely at isolated places over Madhya Maharashtra and Marathwada.



### 19<sup>th</sup> April (Day 3):

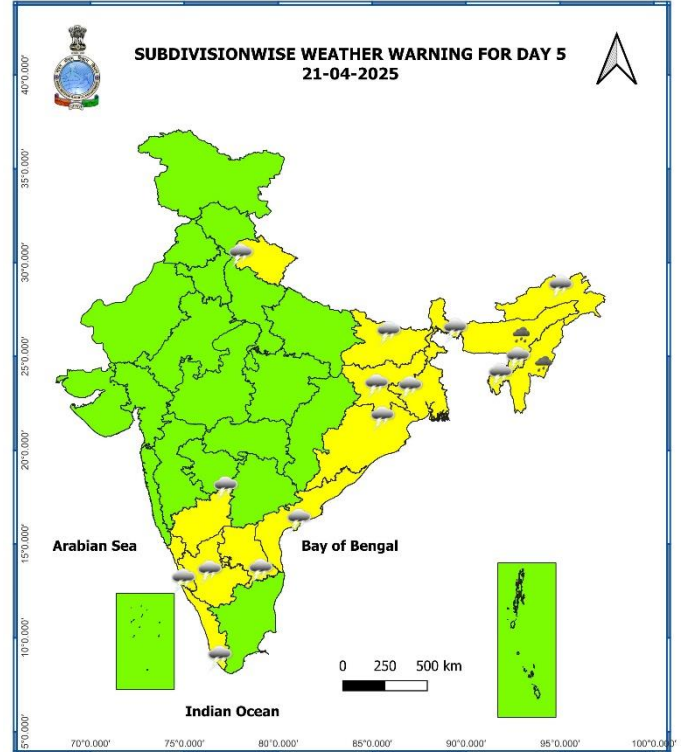
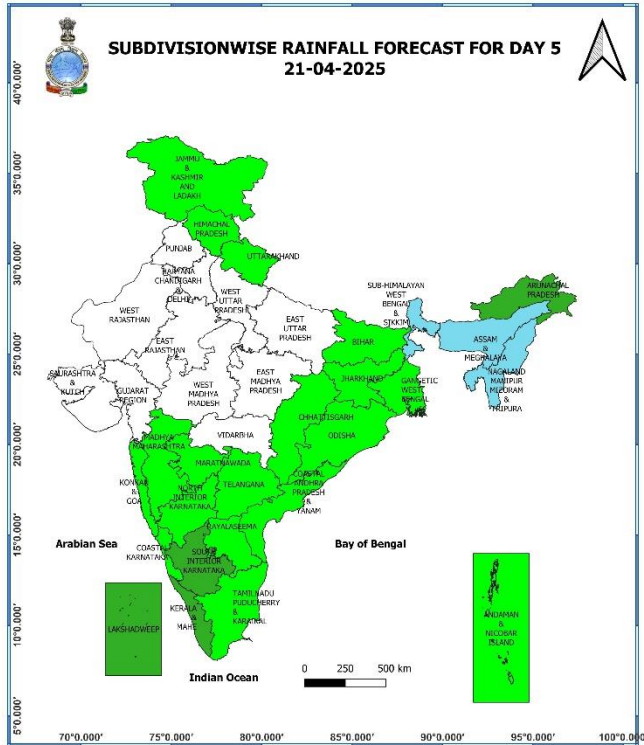
- ❖ **Heavy rainfall/snowfall** likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh.
- ❖ **Thundersquall accompanied with lightning, gusty winds (speed reaching 50 - 60 kmph gusting to 70 kmph) & Hailstorm** very likely at isolated places over Uttarakhand; **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40- 50 kmph gusting to 60 kmph), hailstorm** likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh; **with lightning, gusty winds (speed reaching 40- 50 kmph gusting to 60 kmph)** at isolated places over Haryana-Chandigarh-Delhi, West Uttar Pradesh, West Bengal & Sikkim, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka; **with lightning, gusty winds (speed reaching 30 - 40 kmph gusting to 50 kmph)** at isolated places over Punjab, Bihar, Jharkhand, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Kerala & Mahe, Telangana; **with lightning** at isolated places over Arunachal Pradesh.
- ❖ **Hot and Humid** likely at isolated places over Madhya Maharashtra and Marathwada.



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

- ❖ **Heavy rainfall** likely at isolated places over Assam & Meghalaya.
- ❖ **Thundersquall accompanied with lightning, gusty winds (speed reaching 40 - 50 kmph gusting to 60 kmph)** at isolated places over South Interior Karnataka; **Thunderstorm accompanied with lightning, gusty winds (speed reaching 30 - 40 kmph gusting to 50 kmph)** likely at isolated places over Himachal Pradesh, Uttarakhand, Uttar Pradesh, West Bengal & Sikkim, Bihar, Jharkhand, Odisha, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema, North Interior Karnataka; **with lightning** at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Karnataka.
- ❖ **Hot and Humid** likely at isolated places over Madhya Maharashtra and Marathwada.

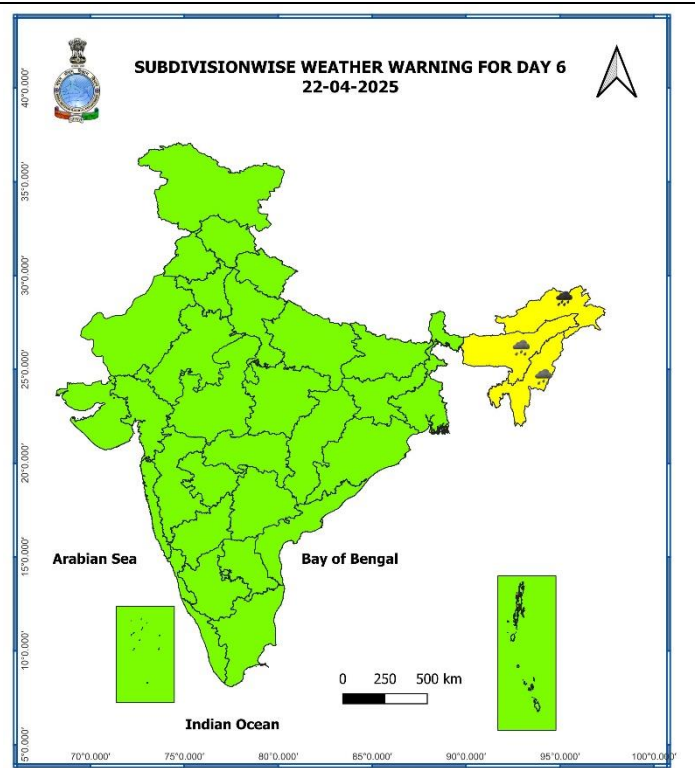
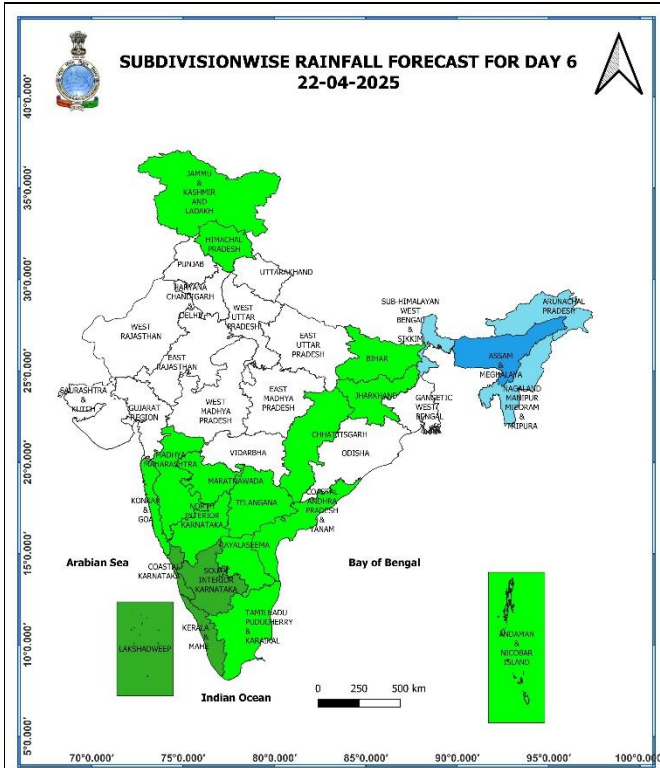




### 21<sup>st</sup> April (Day 5):

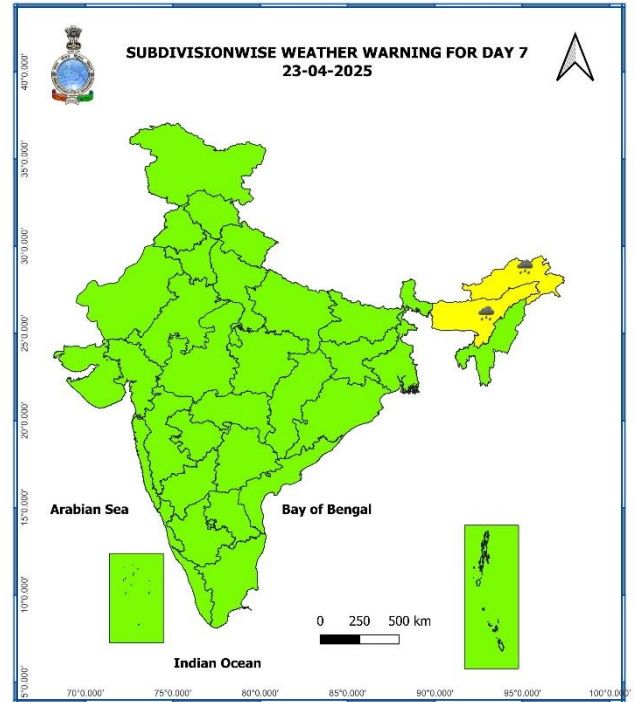
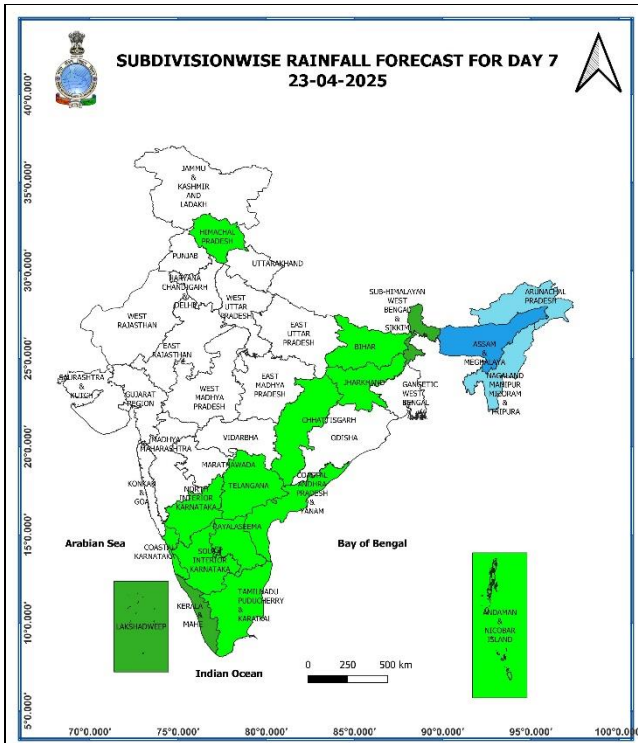
- ❖ **Heavy rainfall** likely at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Thundersquall accompanied with lightning, gusty winds (speed reaching 40 - 50 kmph gusting to 60 kmph)** at isolated places over South Interior Karnataka, Sub-Himalayan West Bengal & Sikkim; **Thunderstorm accompanied with lightning, gusty winds (speed reaching 30 - 40 kmph gusting to 50 kmph)** likely at isolated places Uttarakhand, Bihar, Jharkhand, Odisha, Coastal Andhra Pradesh & Yanam, Rayalaseema, North Interior Karnataka; **with lightning** at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Kerala & Mahe, Coastal Karnataka, Gangetic West Bengal.
- ❖ **Hot and Humid** likely at isolated places over Madhya Maharashtra and Marathwada.





**22<sup>nd</sup> April (Day 6):**

❖ **Heavy Rainfall** at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura.



### 23<sup>rd</sup> April (Day 7):

❖ **Heavy rainfall** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya.

### Weather Outlook for subsequent 3 days (During 24<sup>th</sup> April- 26<sup>th</sup> April, 2025)

**Fairly widespread to widespread** rainfall activity likely over east & northeast India, Kerala.  
**Isolated to scattered rainfall** likely over Western Himalayan region, north Uttar Pradesh remaining parts of 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

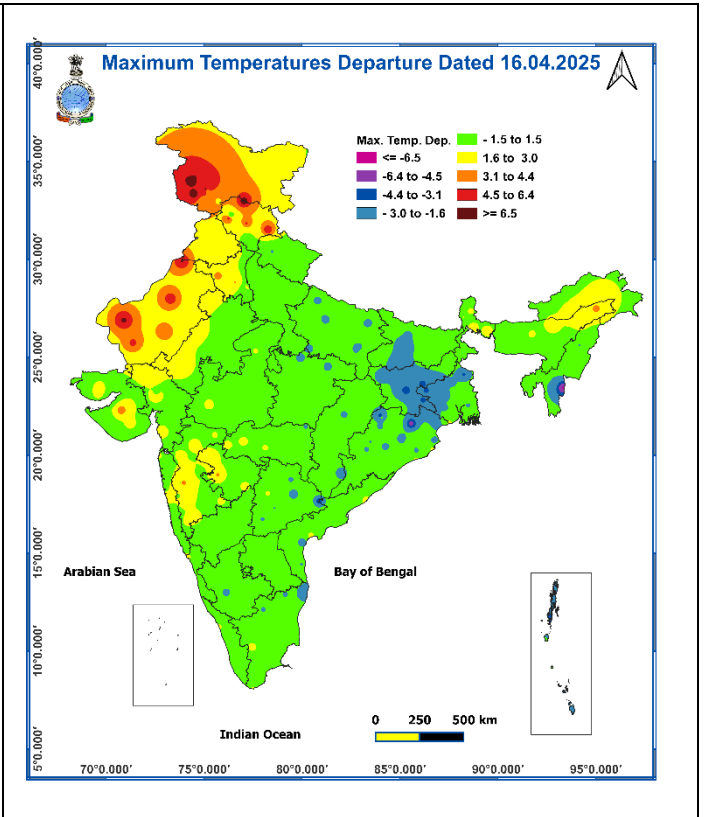
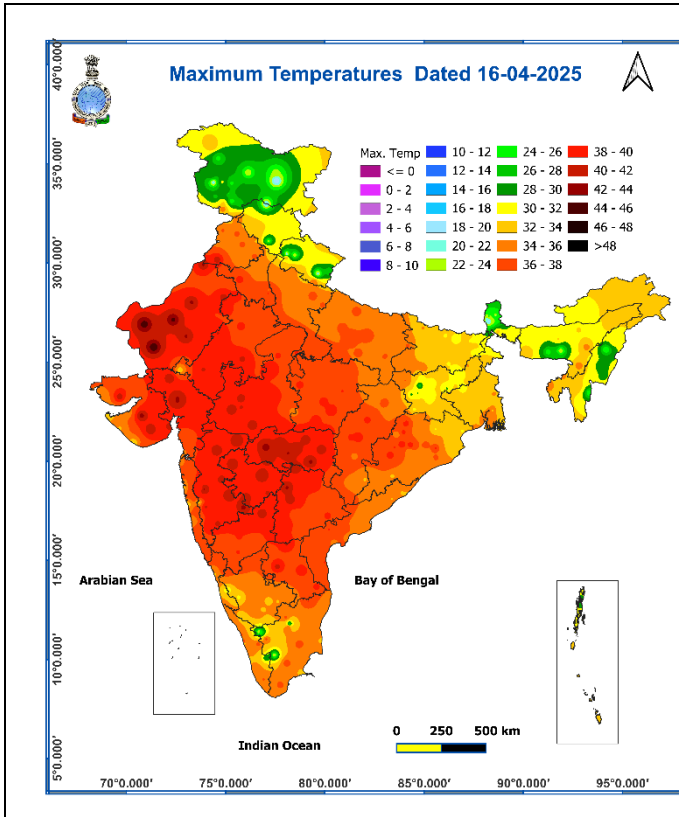
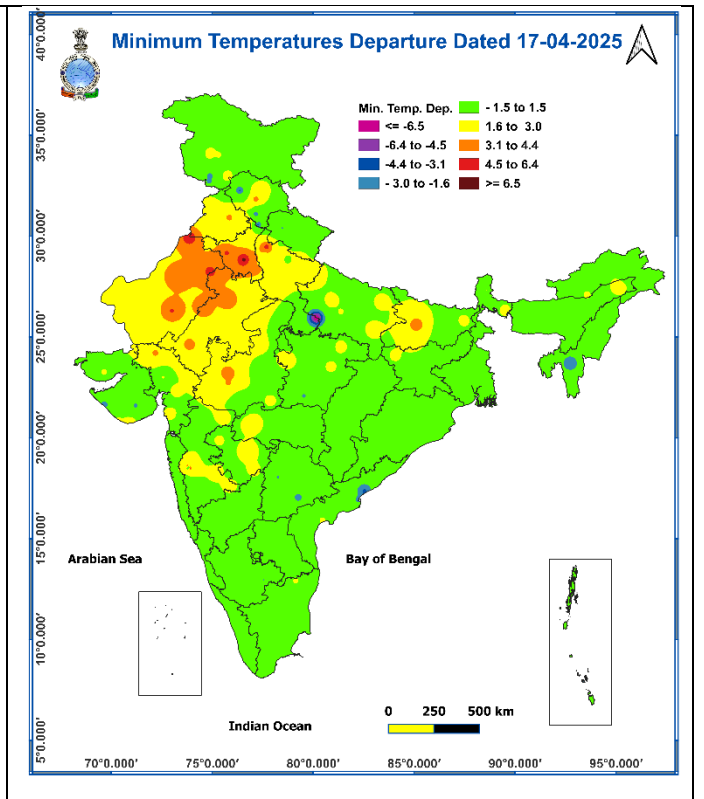
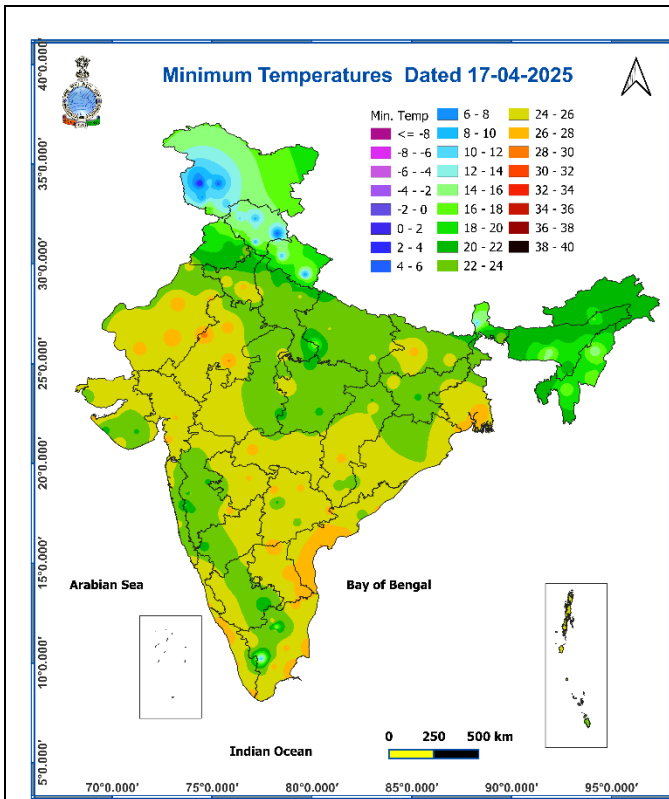


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures



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

- (i) Isolated Hailstorm likely over Gangetic West Bengal on 17th April.
- (ii) Thundersquall (wind speed reaching 50-60 kmph gusting to 70 kmph) very likely at isolated places over West Bengal & Sikkim & north Odisha on 17th; Bihar and North Interior Karnataka on 17<sup>th</sup> & 18<sup>th</sup> April
- (iii) Isolated Hailstorm and squally winds over Western Himalayan Region on 18<sup>th</sup> & 19<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.

## Impact expected and action suggested due to Heat wave to severe heat wave conditions over

- ❖ **Heat wave conditions** at most places with **severe heat wave conditions** at isolated/some parts likely over West Rajasthan on 17<sup>th</sup> April and heat wave conditions at isolated/some parts thereafter on 18<sup>th</sup> April.
- ❖ **Heat wave conditions** are very likely at isolated/some places over East Rajasthan on 17<sup>th</sup> & 18<sup>th</sup>; Saurashtra & Kutch on 17<sup>th</sup> April.

### Red alert Areas:

- Very high likelihood of developing heat illness and heat stroke in all ages.
- Extreme care needed for vulnerable people.

### 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.



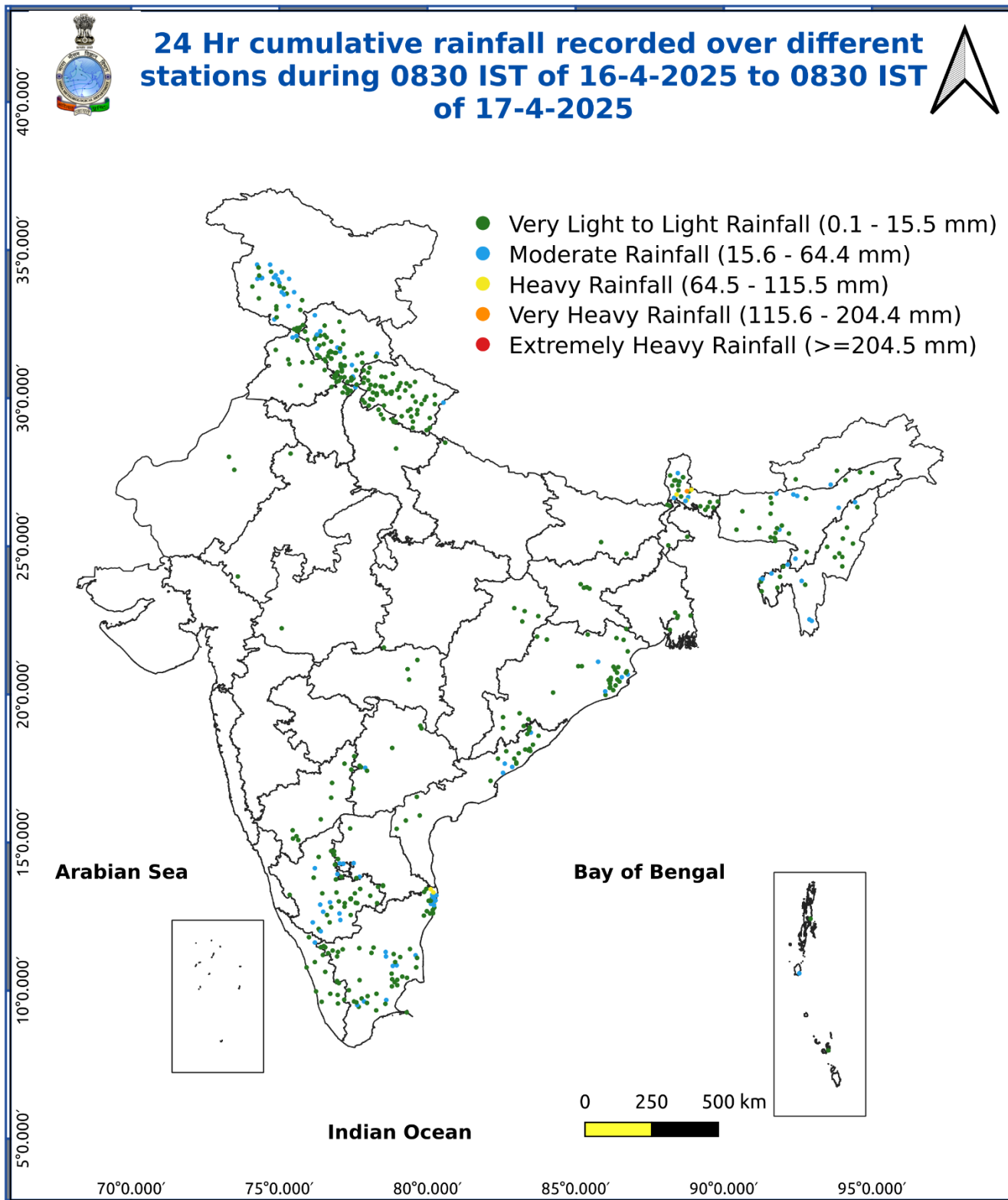
### Agromet advisories for likely impact of Hailstorm / Heavy Rainfall / Gusty Winds / Heatwave

- In **West Bengal, Bihar, Jammu & Kashmir, Himachal Pradesh** and **Kerala**, 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. Also, make provision to drain out excess water from standing crop and vegetable fields.
- In **Gangetic West Bengal, Jammu & Kashmir** and **Himachal Pradesh**, use hail net and hail caps to prevent mechanical damage in vegetables and orchards due to hailstorms.
- In **Rajasthan, Gujarat, Madhya Maharashtra** and **Marathwada**, 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.
- 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.

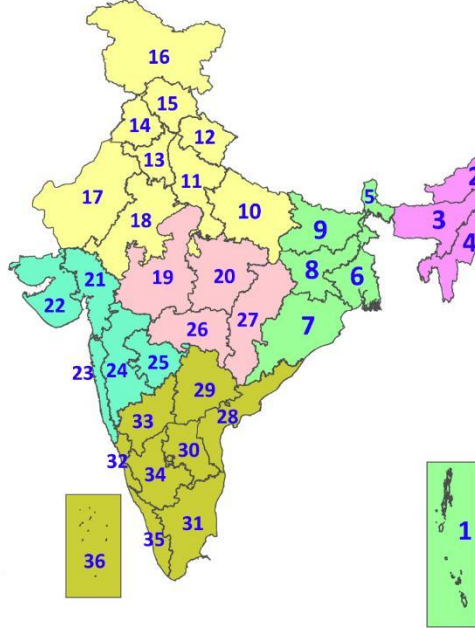
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



\* 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><b>When maximum temperature remains <math>40^{\circ}\text{C}</math></b></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><b>Ice deposits on ground</b></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>

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