

Monday, April 21, 2025
Time of Issue: 0745 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems, Forecast and Warnings:

- ❖ Under the influence of Western **Disturbance** as a trough in middle tropospheric westerlies and an upper air cyclonic circulation over central Pakistan & adjoining northwest Rajasthan in lower tropospheric levels;
 - ✓ **Scattered to fairly widespread** light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (speed 40-50 kmph gusting to 60 kmph)** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad (Orange colour warning) on 21st and reduce thereafter.
- ❖ A north south trough from central Assam to Tripura and 2nd from central Pakistan & adjoining northwest Rajasthan to central parts of Bangladesh; 3rd trough from northeast Madhya Pradesh 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 & gusty winds (speed reaching 30-40 kmph gusting to 50 kmph)** likely over Northeast India during next 5 days.
 - ✓ **Isolated to scattered** light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (speed reaching 30-40 kmph gusting to 50 kmph)** likely over East India during next 3 days and over Chhattisgarh during 21st -24th April.
 - ✓ **Heavy rainfall** likely over Arunachal Pradesh & Assam & Meghalaya during 22nd-24th with **very heavy rainfall** at isolated places over Assam & Meghalaya on 22nd April.
 - ✓ **Isolated to Scattered** light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (speed reaching 30-40 kmph gusting to 50 kmph)** likely over Interior Karnataka, Coastal Andhra Pradesh & Yanam, Rayalaseema, Kerala & Mahe during next 5 days and Telangana during next 5 days; **with lightning** over Tamilnadu Puducherry & Karaikal, Telangana, Coastal Karnataka during next 5 days.

Temperature Forecast:

- ❖ Gradual rise in maximum temperatures by 2-3°C likely over Northwest India during next 5 Days and no significant change during subsequent 2 days.
- ❖ No significant change in maximum temperatures likely over Central India and Gujarat State during next 24 hours and gradual rise by 2-3°C during subsequent 6 days.
- ❖ Gradual rise in maximum temperatures by 4-6°C likely over East India during next 4 Days and no significant change 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** very likely in isolated pockets over south Uttar Pradesh, Madhya Pradesh during 22nd -24th; Rajasthan, Haryana on 23rd & 24th; Vidarbha during 21st -23rd April.
- ❖ **Hot & humid weather** is likely to prevail over Tamilnadu Puducherry & Karaikal during 21st -22nd and over Gujarat State during 22nd -24th April.

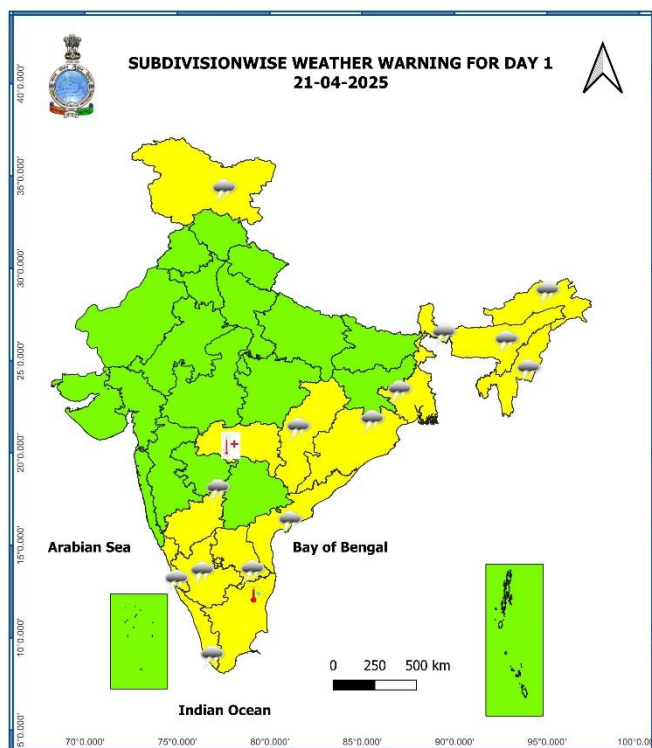
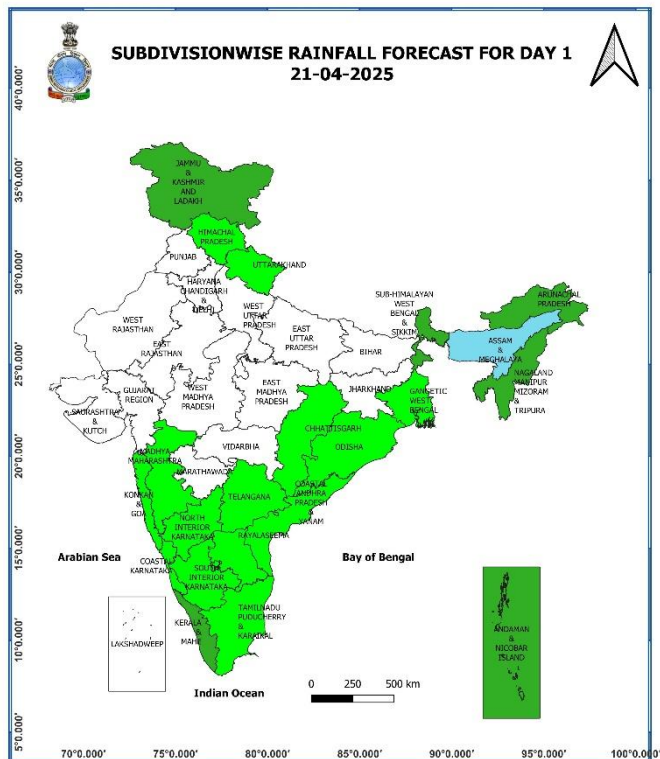
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at most places** over South Interior Karnataka; **at a few places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Assam & Meghalaya, Andaman & Nicobar Islands; **at isolated places** over Rayalaseema, Tamil Nadu, Puducherry & Karaikal, Arunachal Pradesh, Mizoram & Tripura.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **Andaman & Nicobar Islands:** Car Nicobar 6, Hut Bay 4; **Himachal Pradesh:** Kalpa 2, **South Interior Karnataka:** Bengaluru 2.
- ❖ **Minimum Temperature Departures (as on 20-04-2025):** Minimum temperatures were **markedly above normal (5.1°C or more)** at isolated places over Punjab, Haryana-Chandigarh-Delhi, West Rajasthan, West Uttar Pradesh; **appreciably above normal (3.1°C to 5.0°C)** at many places over Uttarakhand; at a few places over Himachal Pradesh, East Rajasthan; at isolated places over Bihar, East Madhya Pradesh; **above normal (1.6°C to 3.0°C)** at most places over Chhattisgarh, Coastal Andhra Pradesh & Yanam; at many places over East Uttar Pradesh, West Madhya Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Odisha, Marathwada, Vidarbha, Madhya Maharashtra, Sub-Himalayan West Bengal & Sikkim; at a few places over Arunachal Pradesh, Jharkhand, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Rayalaseema, Gujarat state, North Interior Karnataka; at isolated places over Gangetic West Bengal, Andaman & Nicobar Islands, Konkan & Goa, Telangana, Tamil Nadu, Puducherry & Karaikal. These were **below normal (-1.6°C to -3.0°C)** at isolated places over Kerala & Mahe and normal over rest parts of the country (**Fig. 4**). Yesterday, the **lowest minimum temperature** of 19.9°C was reported at **Mahuva (Saurashtra & Kutch)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 20-04-2025):** Maximum Temperatures were **appreciably above normal (3.1°C to 5.0°C)** at few places over Punjab, Haryana-Chandigarh-Delhi, East Rajasthan, Vidarbha, East Madhya Pradesh; isolated places over Assam, Chhattisgarh; **above normal (1.6°C to 3.0°C)** at a few places over Uttarakhand, West Madhya Pradesh, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Coastal Karnataka; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Rajasthan, Uttar Pradesh, Saurashtra & Kutch, Madhya Maharashtra, Marathwada, Telangana. These were **markedly below normal (-5.1°C or less)** at few places over Andaman & Nicobar Islands; **below normal (-3.0°C to -1.6°C)** at isolated places over Bihar, Odisha, Gangetic West Bengal, Meghalaya and normal over rest parts of the country (**Fig. 2**). Yesterday, the highest **maximum temperature** of 44.6°C was reported at **Chandrapur (Vidarbha)** over the country.

Meteorological Analysis (Based on 0530 hours IST)

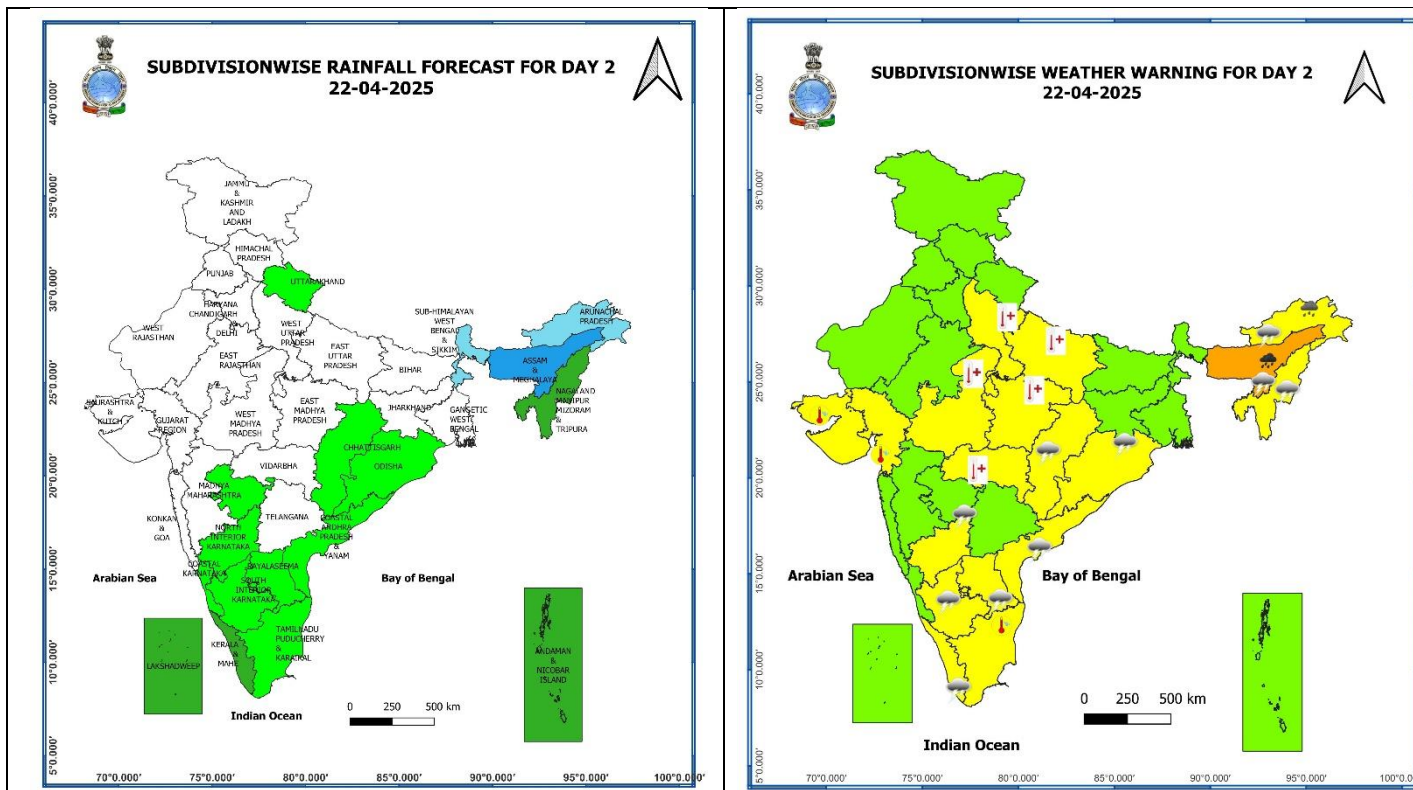
- ❖ The **Western Disturbance** as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level roughly along long. 70°E to the north of lat. 32°N persists.
- ❖ The upper air **cyclonic circulation** over central Pakistan & adjoining northwest Rajasthan extending upto 1.5 km above mean sea level persists.
- ❖ The east-west **trough** from cyclonic circulation over central Pakistan & adjoining northwest Rajasthan to central Bangladesh across south Uttar Pradesh, Jharkhand and north Gangetic West Bengal at 0.9 km above mean sea level persists.
- ❖ The north-south **trough** from northeast Madhya Pradesh to Gulf of Mannar across Vidarbha, Telangana, Interior Karnataka & Tamil Nadu at 0.9 km above mean sea level persists.
- ❖ The upper air **cyclonic circulation** over central Assam extending upto 1.5 km above mean sea level persists.
- ❖ The upper air **cyclonic circulation** over north Bangladesh & neighbourhood at 1.5 km above mean sea level persists.
- ❖ The north-south trough from west Assam to Tripura across East Bangladesh at 3.1 km above mean sea level persists.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 27th April, 2025)



21st April (Day 1):

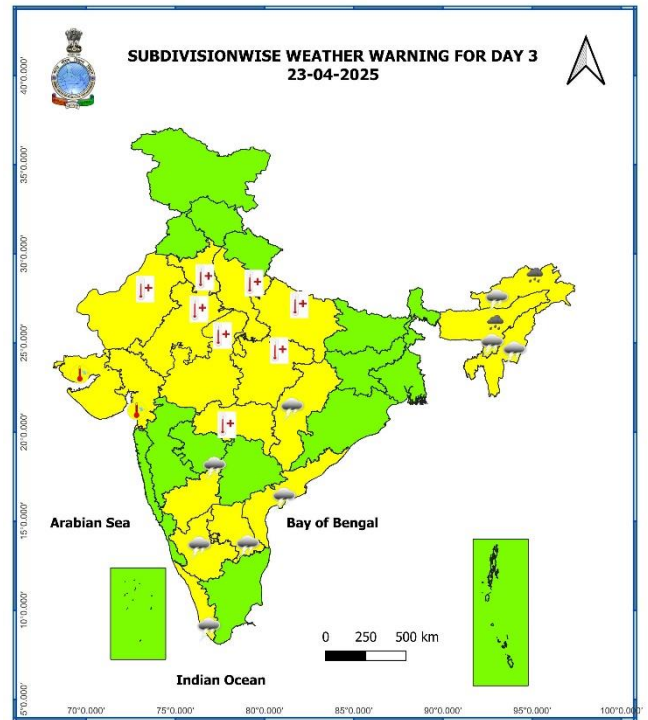
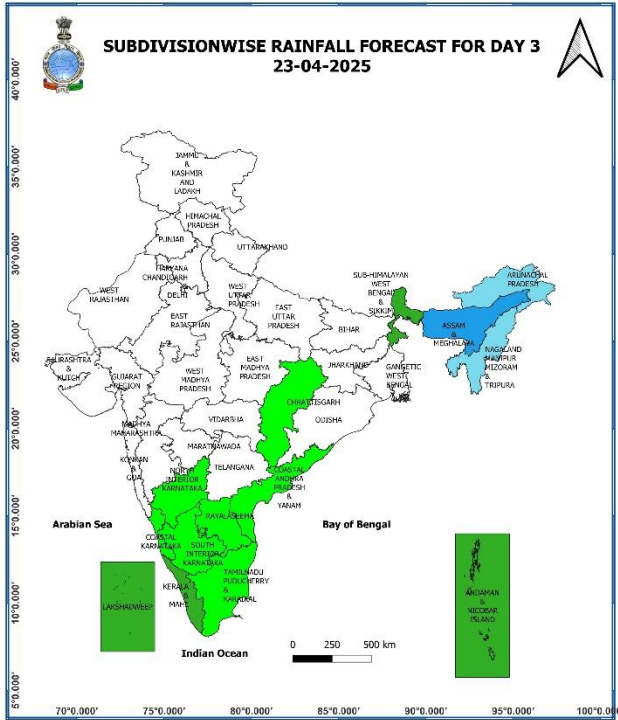
- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40 - 50 kmph gusting to 60 kmph) very likely** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; **Thunderstorm accompanied with lightning, gusty winds (speed reaching 30 - 40 kmph gusting to 50 kmph) at isolated places** Chhattisgarh, Odisha, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka; **with lightning** at isolated places over Arunachal Pradesh, Kerala & Mahe, Coastal Karnataka.
- ❖ **Heat wave conditions** very likely at isolated places over Vidarbha.
- ❖ **Hot and Humid** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal.
- ❖ **Squally wind with speed 45-50 kmph gusting to 55 kmph** likely to prevail along and off Odisha & adjoining West Bengal coasts, and adjoining northwest Bay of Bengal. Fishermen are advised not to venture into these areas.



22nd April (Day 2):

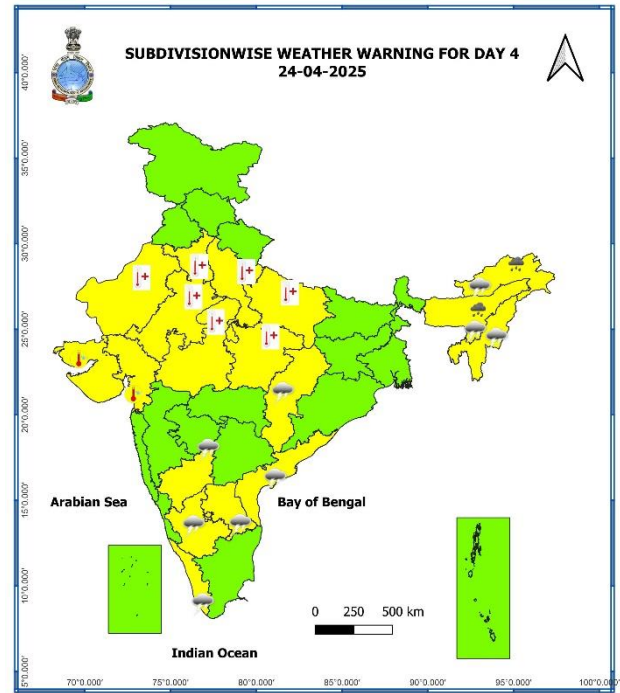
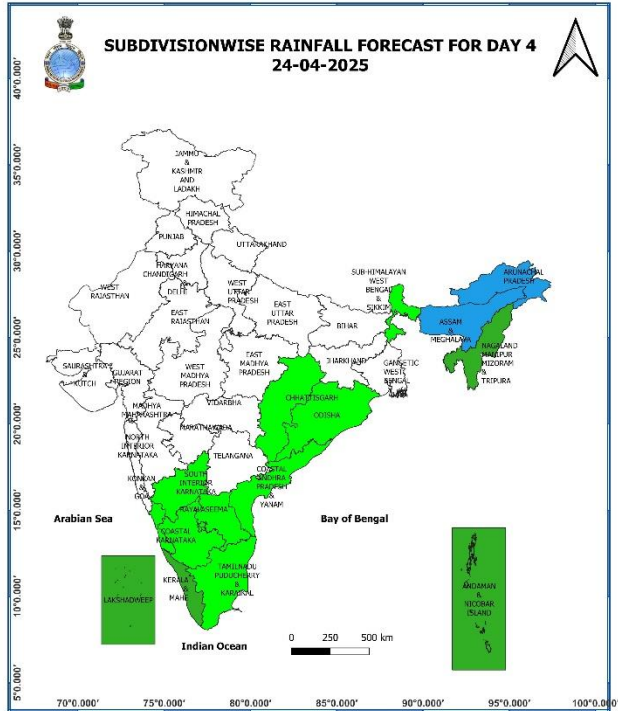
- ❖ **Heavy to very heavy rainfall** likely at isolated places over Assam & Meghalaya and **heavy rainfall** at isolated places over Arunachal Pradesh
- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40 - 50 kmph gusting to 60 kmph)** likely at isolated places over Assam & Meghalaya; **Thunderstorm accompanied with lightning, gusty winds (speed reaching 30 - 40 kmph gusting to 50 kmph)** isolated places over Odisha, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka; **with lightning** at isolated places over Chhattisgarh, Arunachal Pradesh, Kerala & Mahe.
- ❖ **Heat wave conditions** likely at isolated places over Uttar Pradesh, Madhya Pradesh, Vidarbha.
- ❖ **Hot and Humid** likely at isolated places over Gujarat state and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Squally wind with speed 45-50 kmph gusting to 55 kmph** likely to prevail along and off Odisha & adjoining West Bengal coasts, and adjoining northwest Bay of Bengal. Fishermen are advised not to venture into these areas.

* 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.
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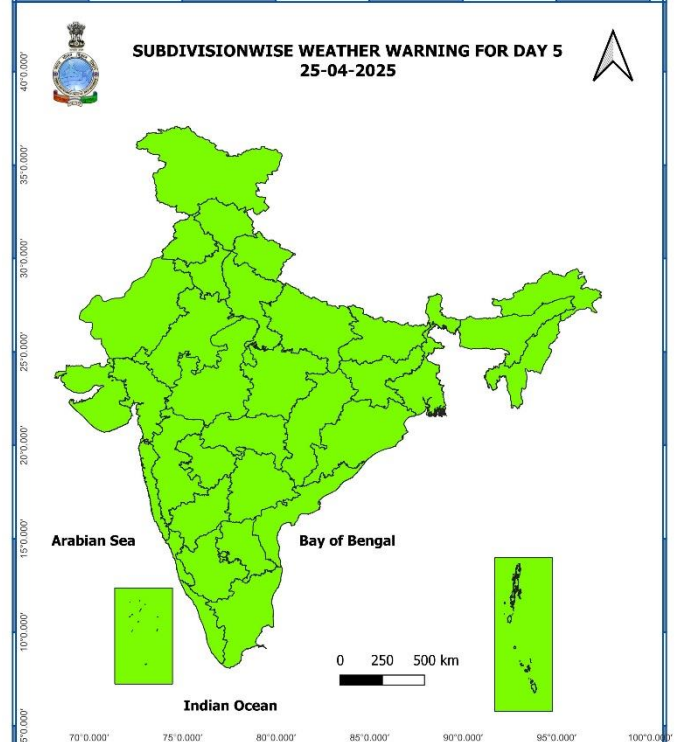
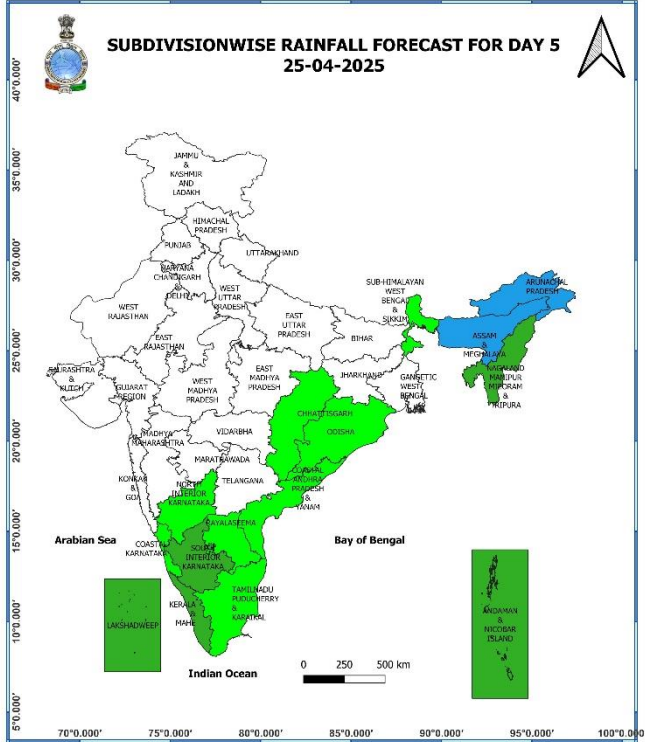
23rd April (Day 3)

- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40 - 50 kmph gusting to 60 kmph)** likely at isolated places over Assam & Meghalaya; **Thunderstorm accompanied with lightning, gusty winds (speed reaching 30 - 40 kmph gusting to 50 kmph)** isolated places over Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka; **with lightning** at isolated places over Chhattisgarh, Arunachal Pradesh, Kerala & Mahe.
- ❖ **Heavy rainfall** likely at isolated places over Assam & Meghalaya and Arunachal Pradesh.
- ❖ **Heat wave conditions** likely at isolated places over Haryana-Chandigarh-Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh, Vidarbha.
- ❖ **Hot and Humid** likely at isolated places over Gujarat state.
- ❖ **Squally wind with speed 45-50 kmph gusting to 55 kmph** likely to prevail along and off Odisha & adjoining West Bengal coasts, and adjoining northwest Bay of Bengal. Fishermen are advised not to venture into these areas.



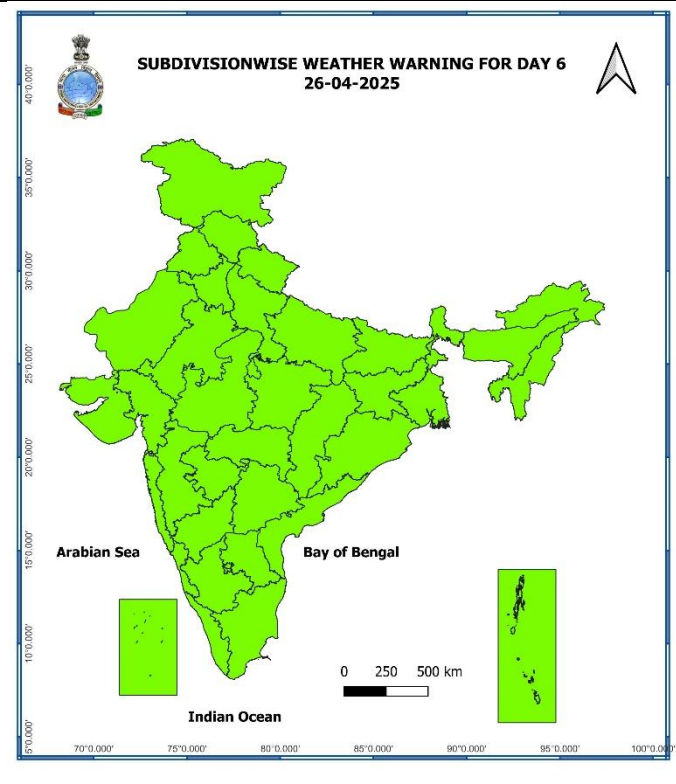
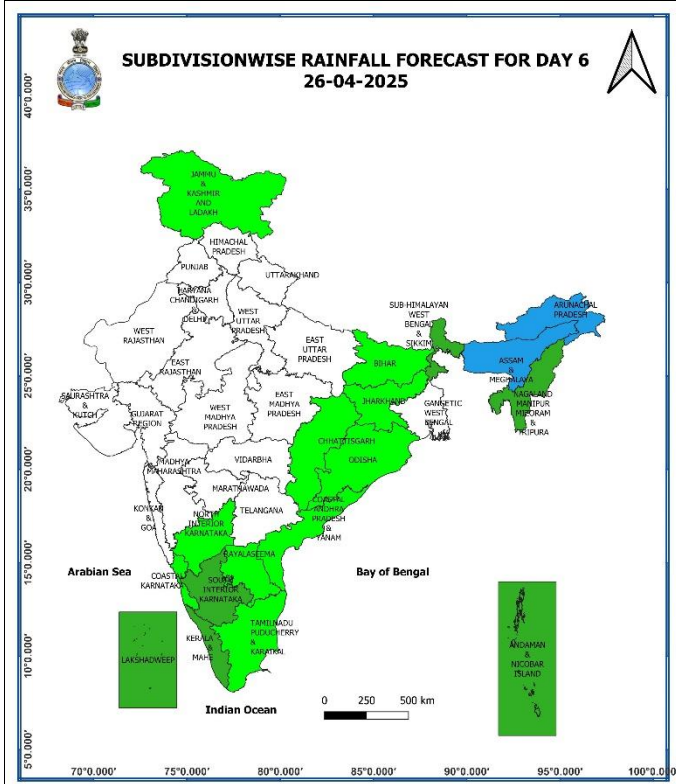
24th April (Day 4)

- ❖ **Heavy rainfall** likely at isolated places over Assam & Meghalaya and Arunachal Pradesh.
- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40 - 50 kmph gusting to 60 kmph)** likely at isolated places over Assam & Meghalaya; **Thunderstorm accompanied with lightning, gusty winds (speed reaching 30 - 40 kmph gusting to 50 kmph)** isolated places over Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka; **with lightning** at isolated places over Chhattisgarh, Arunachal Pradesh, Kerala & Mahe.
- ❖ **Heavy rainfall** likely at isolated places over Assam & Meghalaya and Arunachal Pradesh.
- ❖ **Heat wave conditions** likely at isolated places over Haryana-Chandigarh-Delhi, Uttar Pradesh, Rajasthan, Madhya Pradesh.
- ❖ **Hot and Humid** likely at isolated places over Gujarat state.
- ❖ **Squally wind with speed 45-50 kmph gusting to 55 kmph** likely to prevail along and off Odisha & adjoining West Bengal coasts, and adjoining northwest Bay of Bengal. Fishermen are advised not to venture into these areas.



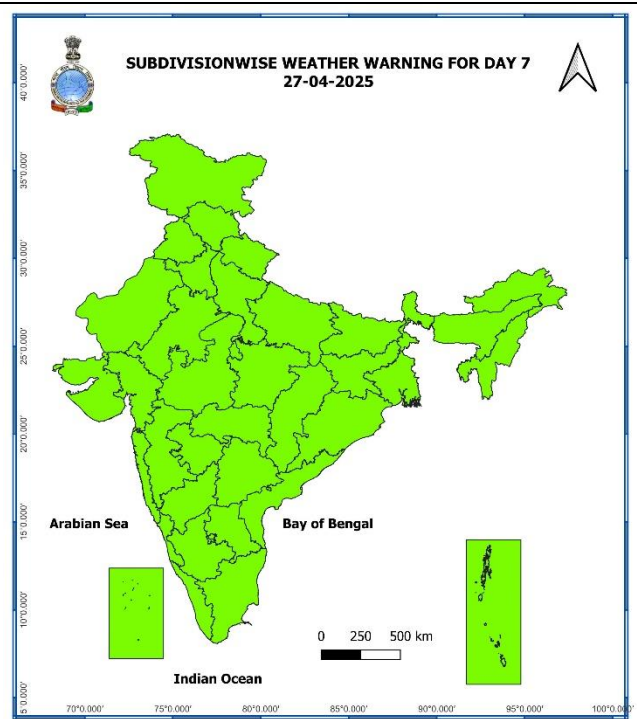
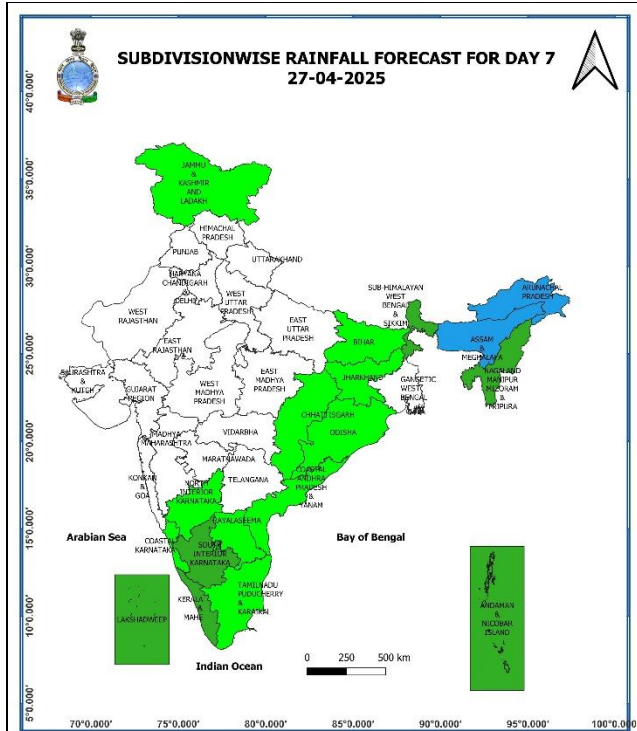
25th April (Day 5)

❖ No Weather Warning.



26th April (Day 6)

❖ **No Weather Warning.**



27th April (Day 7)

❖ No Weather Warning.

Weather Outlook for subsequent 3 days (During 28th April- 30th 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

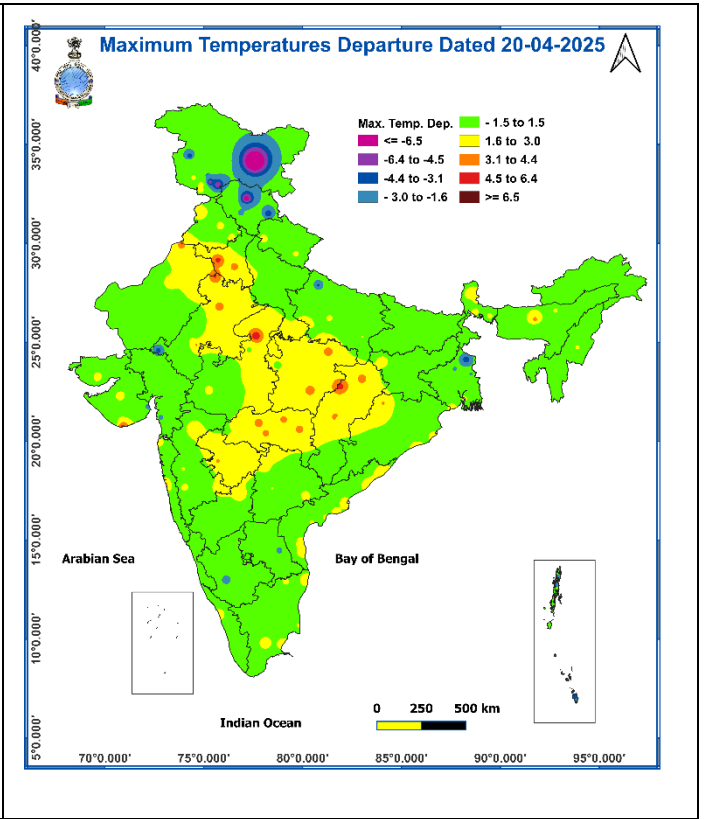
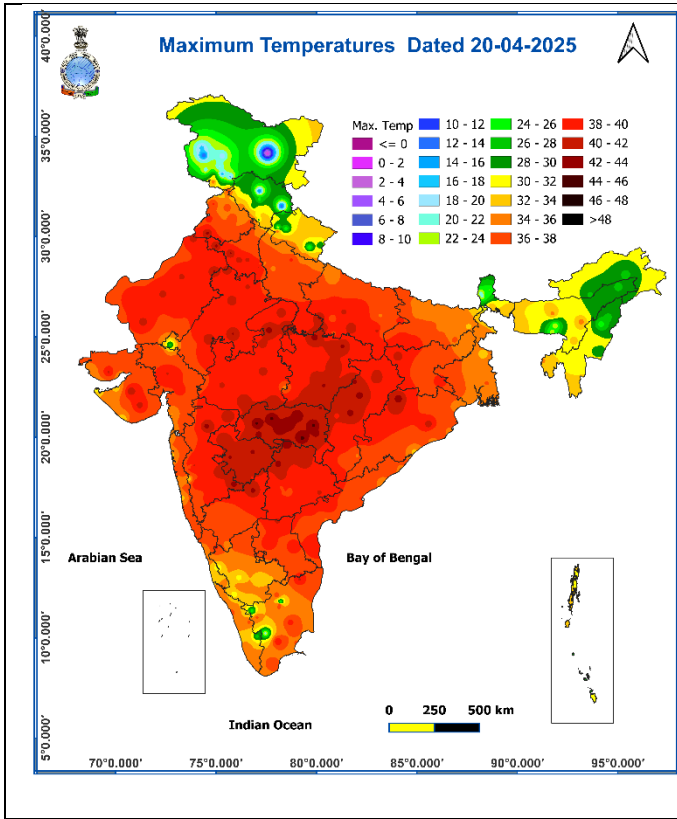


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

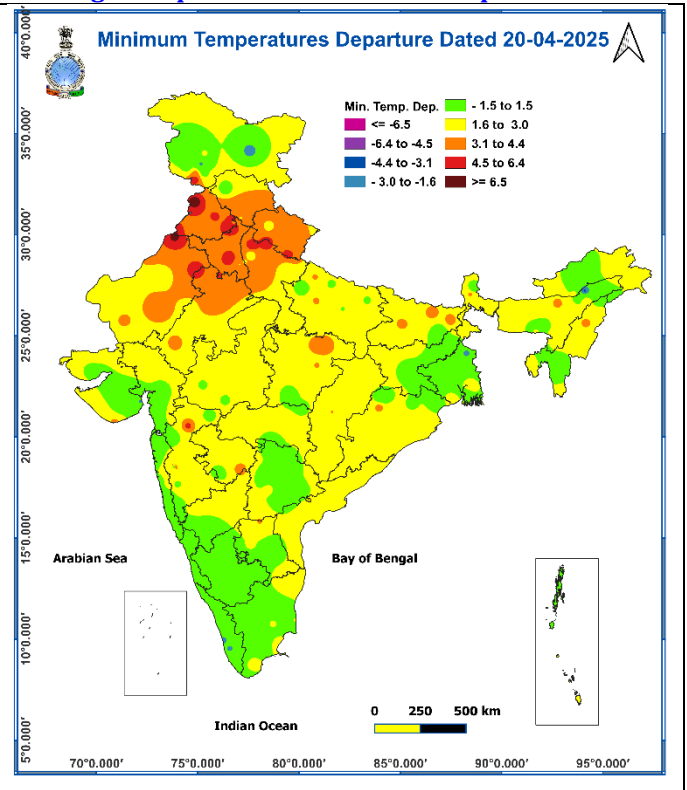
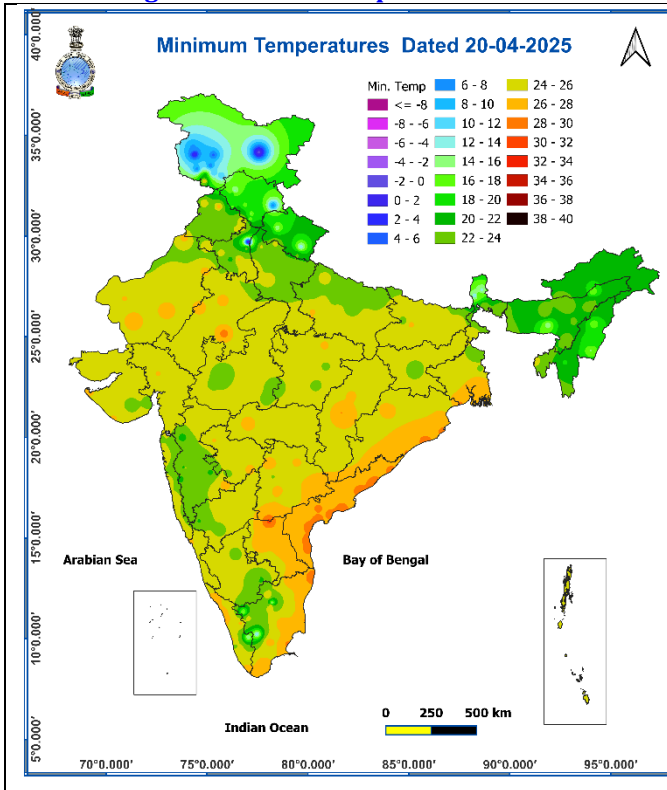
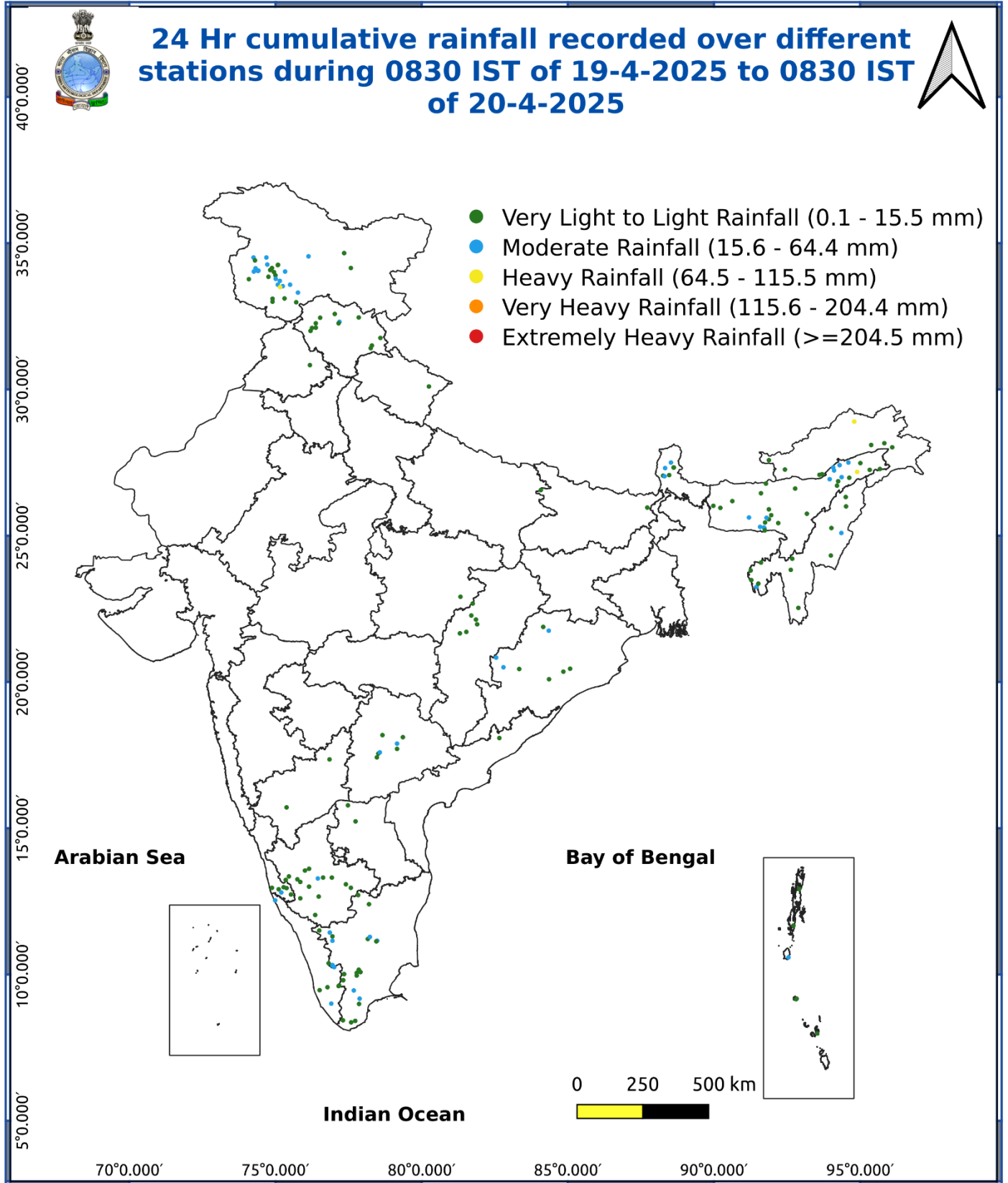


Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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Impact expected and action suggested due to Heat wave conditions over south Uttar Pradesh, Madhya Pradesh during 22nd -24th; Rajasthan, Haryana on 23rd & 24th; Vidarbha during 21st -23rd 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 Hailstorm / Heavy Rainfall / Gusty Winds / Heat wave

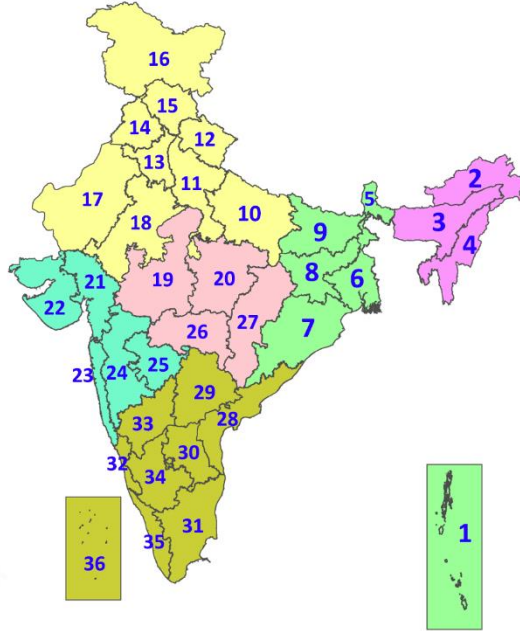
- In **Kerala, Coastal Andhra Pradesh, Arunachal Pradesh** and **Assam and Meghalaya**, make provision to drain out excess water from standing crop and vegetable fields.
- In **Jammu & Kashmir**, use hail net and hail caps to prevent mechanical damage in vegetables and orchards due to possibility of hailstorms. Drain out excess water from standing crops and vegetable fields.
- In **Vidarbha, Rajasthan, Madhya Pradesh, Uttar Pradesh** and **Haryana**, 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°C to 6.4°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°C

Warm Night: When minimum temperature departure 4.5°C to 6.4°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°C to -6.4°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°C to -6.4°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)