

Saturday, April 12, 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 **Western Disturbance** seen as a cyclonic circulation over Kashmir valley & neighbourhood in middle tropospheric levels. **An upper air cyclonic circulation** lies over northeast Madhya Pradesh and a trough runs from this cyclonic circulation to Gangetic West Bengal and another trough from this cyclonic circulation to northeast Telangana in lower tropospheric levels.
- ❖ **An Upper air cyclonic circulations** also lie over northeast Assam & another over north Bangladesh and a trough runs from central Assam to Westcentral Bay of Bengal in lower tropospheric levels.
- ❖ Under the influence of these systems:
 - ✓ **Scattered to fairly widespread** light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (speed 40-50 kmph)** likely over Uttarakhand and Himachal Pradesh and isolated light rainfall over plains of Northwest India on 12th April.
 - ✓ **Scattered to fairly widespread** light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (speed 40-50 kmph)** likely over Northeast and adjoining East India during next 7 days.
 - ✓ Isolated to scattered rainfall accompanied with **thunderstorm, lightning & gusty winds (speed 40-50 kmph)** likely over plains of Central India and Maharashtra during 12th-14th April.
 - ✓ **Heavy rainfall** likely over Tamil Nadu, Kerala, Sub-Himalayan West Bengal & Sikkim on 12th, Arunachal Pradesh on 12th & 14th; Assam & Meghalaya during 12th-14th, Odisha on 14th & 15th April.
 - ✓ **Isolated Hailstorm** likely over Uttarakhand, Madhya Pradesh and Uttar Pradesh on 12th and Jharkhand on 15th April.
 - ✓ **Duststorm** very likely at isolated places over Uttar Pradesh and East Rajasthan on 12th April.
 - ✓ **Thundersquall (wind speed reaching 50-60 kmph)** very likely at isolated places over Madhya Pradesh, East Uttar Pradesh on 12th April.
 - ✓ **Scattered to fairly widespread** light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (speed 30-40 kmph)** likely over Kerala & Mahe during next 5 days. **Isolated to Scattered** light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (speed 40-50 kmph)** likely over Tamilnadu, Puducherry & Karaikal, Telangana, Karnataka, Coastal Andhra Pradesh & Yanam, Rayalaseema during next 3 days.

Temperature Forecast:

- ❖ No significant change in maximum temperatures likely over Northwest India during next 24 hours and gradual rise by 4-6°C thereafter during subsequent 6 days.
- ❖ No significant change in maximum temperatures likely over Central India during next 48 hours and gradual rise by 2-3°C thereafter during subsequent 5 days.
- ❖ Fall in maximum temperatures by 2-3°C likely over Maharashtra during next 3 days and gradual rise by 2-4°C thereafter during subsequent 4 days.
- ❖ Fall in maximum temperatures by 2-3°C likely over Gujarat during next 24 hours and gradual rise by 2-4°C thereafter during subsequent 6 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 at isolated/some places over West Rajasthan on 14th & 15th with severe heat wave conditions at isolated pockets during 16th-18th April.
- ❖ **Heat wave conditions** are very likely at isolated places over Gujarat state during 15th-17th; Punjab, Haryana, East Rajasthan, West Madhya Pradesh during 16th-18th with severe heat wave conditions at isolated pockets over East Rajasthan on 18th April.

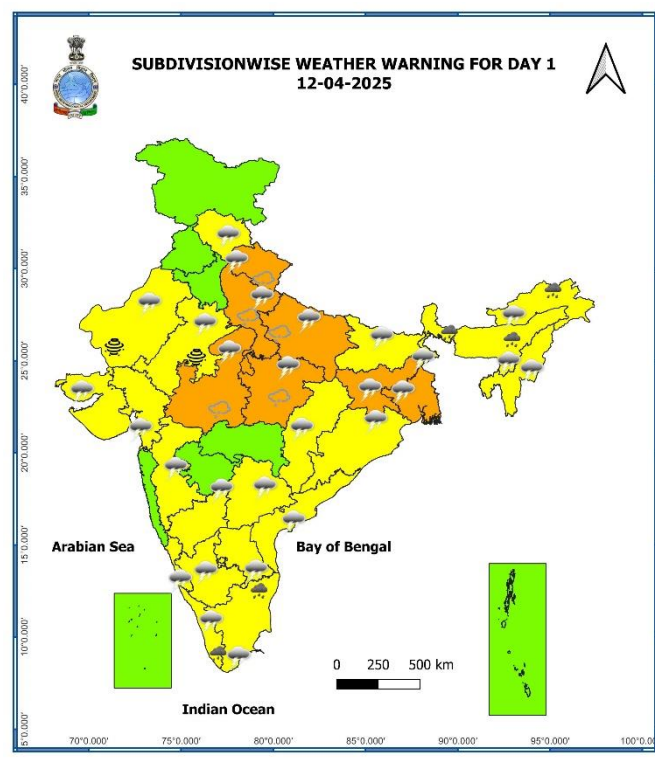
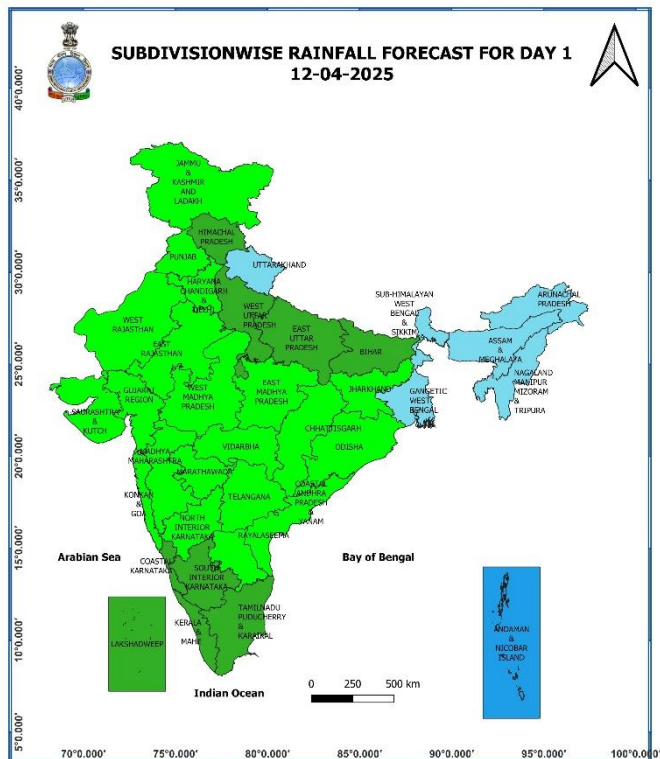
Main Weather Observations:

- ❖ **Rainfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): at most places over Andaman & Nicobar Islands, Uttarakhand, Haryana Chandigarh & Delhi; at many places over Sub-Himalayan West Bengal & Sikkim, Himachal Pradesh, Kerala & Mahe; at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Uttar Pradesh, Punjab, Coastal Karnataka, South Interior Karnataka, Tamilnadu Puducherry & Karaikal; at isolated places over Odisha, Jharkhand, Bihar, Punjab, East Uttar Pradesh, Rajasthan, Madhya Pradesh, Chhattisgarh, Madhya Maharashtra, Marathwada, Rayalaseema, Telangana, North Interior Karnataka.
- ❖ **Heavy rainfall** recorded at isolated places over Tamil Nadu and Kerala.
- ❖ **Significant amount of rainfall** (from 0830 hours IST of yesterday to 0830 hours IST of today) (in cm): **Tamil Nadu:** Aravakurichi (dist Karur) 9, Thiruthuraipoondi (dist Thiruvavarur), Madukkur (dist Thanjavur) 8 each, Neivasal Thenpathi (dist Thanjavur), Karaikudi (dist Sivagangai), Orthanad (dist Thanjavur), Mannargudi (dist Thiruvavarur), Keeranur (dist Pudukkottai), Thandarampettai (dist Tiruvannamalai) 7 each; **Kerala & Mahe:** Mancompu (dist Alapuzha) 7, Trivandrum Aero (dist Thiruvananthapuram) 6, Paripalli Aaws (dist Kollam) 6, **North Interior Karnataka:** Dharwad (hos) (dist Dharwad) 6
- ❖ **Thunderstorm** accompanied with Squally/Gusty winds prevailed at isolated locations over Haryana-Chandigarh-Delhi, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Uttar Pradesh, Jharkhand, Bihar, Gangetic West Bengal, Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh Assam & Meghalaya, Coastal Andhra Pradesh & Yanam, Rayalaseema, Coastal Karnataka, North Interior Karnataka and Kerala & Mahe.
- ❖ **Hailstorm** occurred at isolated places over Uttarakhand, Himachal Pradesh, Haryana, West Madhya Pradesh, Rayalaseema and Jharkhand.
- ❖ **Duststorm** recorded at isolated places over Haryana, Delhi, Uttar Pradesh and Rajasthan.
- ❖ **Minimum Temperature Departures (as on 12-04-2025):** Minimum temperatures are **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Saurashtra & Kutch, East Madhya Pradesh; **above normal (1.6°C to 3.0°C)** at many places over Gujarat Region; at isolated places over West Rajasthan, Punjab, Himachal Pradesh, Coastal Andhra Pradesh & Yanam, Konkan & Goa, Bihar. These are **below normal (-3.0°C to -1.6°C)** at isolated places over Uttarakhand, Haryana-Chandigarh-Delhi, West Uttar Pradesh, Jharkhand and normal over rest parts of the country (**Fig. 4**). Today, the **lowest minimum temperature of 14.5°C** is reported at **Karnal (Haryana)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 11-04-2025):** Maximum Temperatures were **above normal (1.6°C to 3.0°C)** at isolated places over Rajasthan, Madhya Pradesh, Vidarbha, Konkan & Goa, Telangana and Tamil Nadu, Puducherry & Karaikal. These were **markedly below normal (-5.1°C or less)** at few places over Bihar; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Punjab, East Uttar Pradesh, Gangetic West Bengal; **appreciably below normal (-3.1°C to -5.0°C)** at few places over Jharkhand; **below normal (-3.0°C to -1.6°C)** at a few places over West Uttar Pradesh, Uttarakhand, Odisha, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Gujarat Region, Rayalaseema, Haryana-Chandigarh-Delhi and North Interior Karnataka; at isolated places over Odisha, Jharkhand, Kerala & Mahe and normal over rest parts of the country (**Fig. 2**). Yesterday, the highest **maximum temperature of 42.8°C** was reported at **Akola (Vidarbha)** over the country.

Meteorological Analysis (Based on 0830 hours IST)

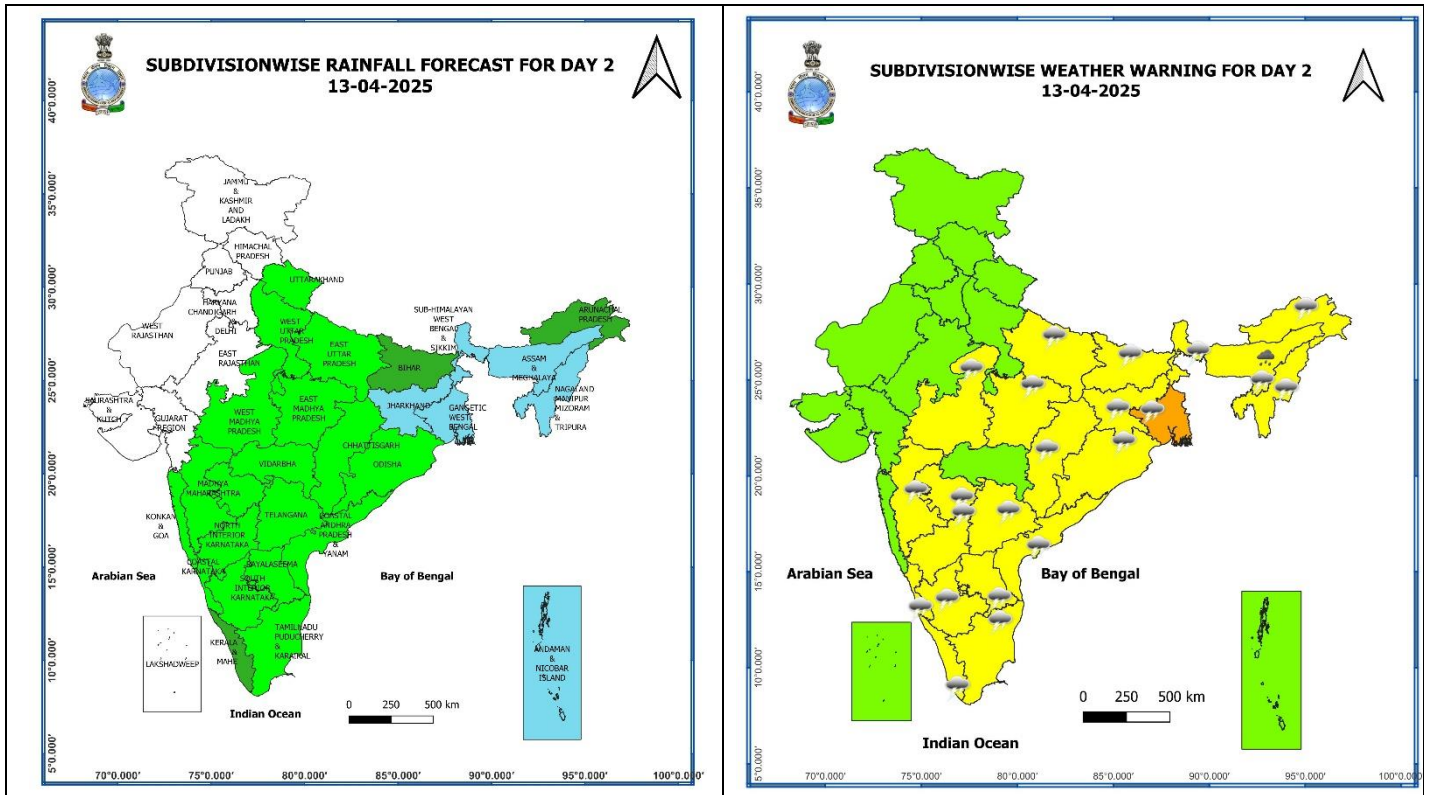
- ❖ The **Western Disturbance** now seen as a cyclonic circulation over Kashmir valley & neighbourhood at 5.8 km above mean sea level.
- ❖ The upper air **cyclonic circulation** over northwest Madhya Pradesh & neighbourhood now lies over northeast Madhya Pradesh at 0.9 km above mean sea level.
- ❖ The **trough** from northeast Madhya Pradesh to Bangladesh now runs from above cyclonic circulation over northeast Madhya Pradesh to Gangetic West Bengal across Jharkhand at 0.9 km above mean sea level.
- ❖ A **trough** runs from above cyclonic circulation over northeast Madhya Pradesh & neighbourhood to northeast Telangana across Chhattisgarh at 0.9 km above mean sea level.
- ❖ The **trough** from Sub-Himalayan West Bengal, Sikkim & neighbourhood to Westcentral Bay of Bengal now runs from central Assam to Westcentral Bay of Bengal at 3.1 km above mean sea level.
- ❖ The upper air **cyclonic circulation** over northeast Assam & neighbourhood extending upto 1.5 km above mean sea level persists.
- ❖ An upper air **cyclonic circulation** lies over north Bangladesh & neighbourhood at 1.5 km above mean sea level.
- ❖ A fresh **Western Disturbance** is likely to affect Western Himalayan region from 16th April, 2025.
- ❖ The cyclonic circulation over westcentral Bay of Bengal extending upto 1.5 km above mean sea level has become less marked.
- ❖ The upper air cyclonic circulation over northwest Rajasthan & neighbourhood at 1.5 km above mean sea level has become less marked.
- ❖ The trough from west Rajasthan to Coastal Andhra Pradesh across East Rajasthan, northwest Madhya Pradesh and Vidarbha at 0.9 km above mean sea level has become less marked.
- ❖ The upper air cyclonic circulation over Sub-Himalayan West Bengal, Sikkim & neighbourhood at 3.1 km above mean sea level has become less marked.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 19th April, 2025)



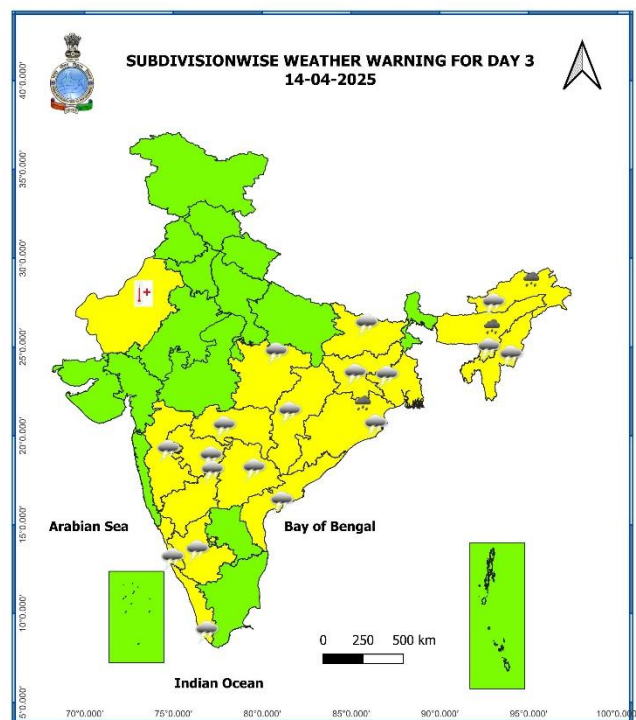
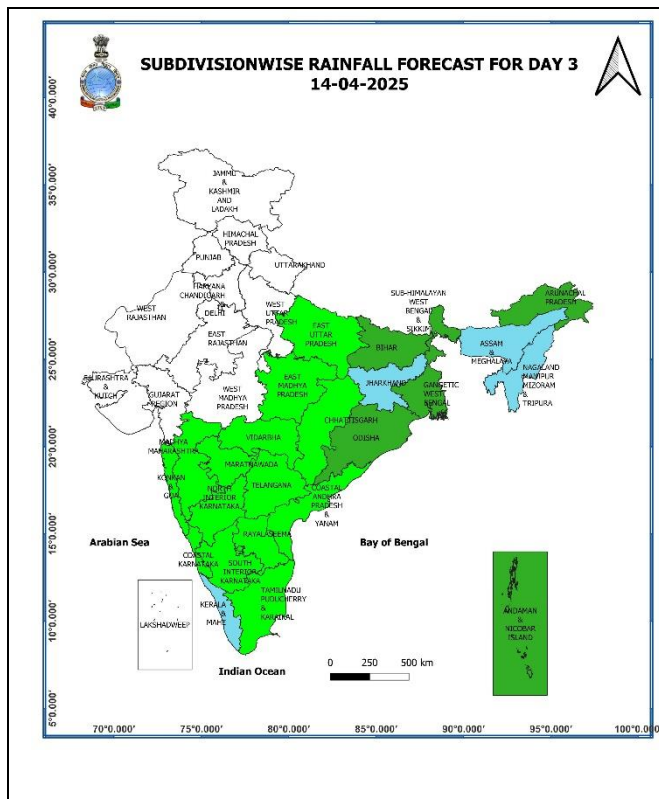
12th April (Day 1):

- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh and Assam & Meghalaya, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ **Thundersquall accompanied with lightning, gusty Winds (speed reaching 50 - 60 kmph) & hailstorm** very likely at isolated places over East Uttar Pradesh and Madhya Pradesh; **Thundersquall accompanied with lightning & gusty Winds (speed reaching 50 - 60 kmph)** at isolated places over Gangetic West Bengal & Jharkhand; **Thunderstorm accompanied with lightning, gusty Winds (speed reaching 40 - 50 kmph) & hailstorm** at isolated places over West Uttar Pradesh; **with lightning & gusty Winds (speed reaching 30 - 40 kmph) & hailstorm** at isolated places over Uttarakhand; **with lightning & gusty Winds (speed reaching 40 - 50 kmph)** at isolated places over East Rajasthan, Bihar, Sub-Himalayan West Bengal & Sikkim, Coastal Andhra Pradesh & Yanam; **with lightning & gusty Winds (speed reaching 30 - 40 kmph)** at isolated places over West Rajasthan, Chhattisgarh, Odisha, Assam & Meghalaya, Madhya Maharashtra, Saurashtra & Kutch, Gujarat Region, Kerala & Mahe, Rayalaseema, Telangana, South Interior Karnataka; **with lightning** at isolated places over Himachal Pradesh, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Coastal Karnataka & North Interior Karnataka.
- ❖ **Duststorm** very likely at isolated places over Uttar Pradesh and East Rajasthan.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over Gulf of Mannar & adjoining Comorin area, along and off Tamil Nadu coast. Fishermen are advised not to venture into these areas.



13th April (Day 2):

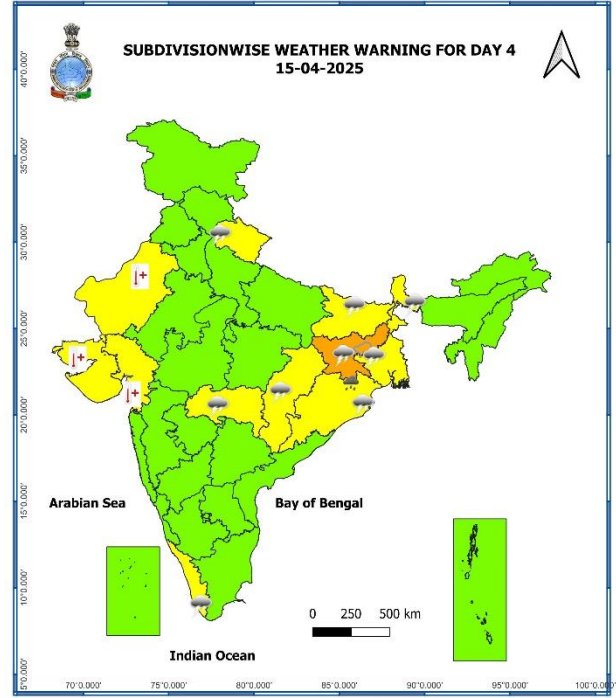
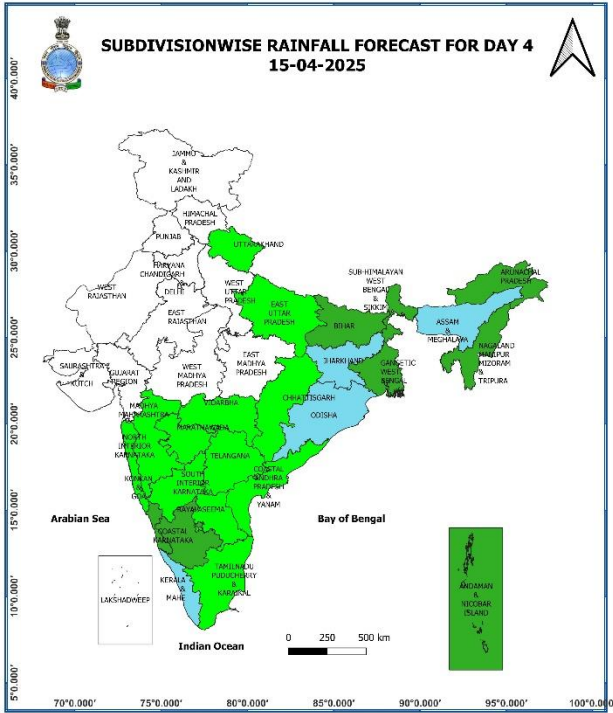
- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Assam & Meghalaya.
- ❖ **Thundersquall accompanied with lightning, gusty winds (speed reaching 50 - 60 kmph)** very likely at isolated places over Gangetic West Bengal; **Thunderstorm accompanied with lightning & gusty winds (speed reaching 40 - 50 kmph)** at isolated places over Jharkhand, Bihar, Madhya Pradesh, Assam & Meghalaya; **with lightning & gusty winds (speed reaching 30 - 40 kmph)** at isolated places over East Uttar Pradesh, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Odisha, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, South Interior Karnataka; **with lightning** at isolated places over Arunachal Pradesh, Tamil Nadu, Puducherry & Karaikal, Coastal & North Interior Karnataka.



14th April (Day 3):

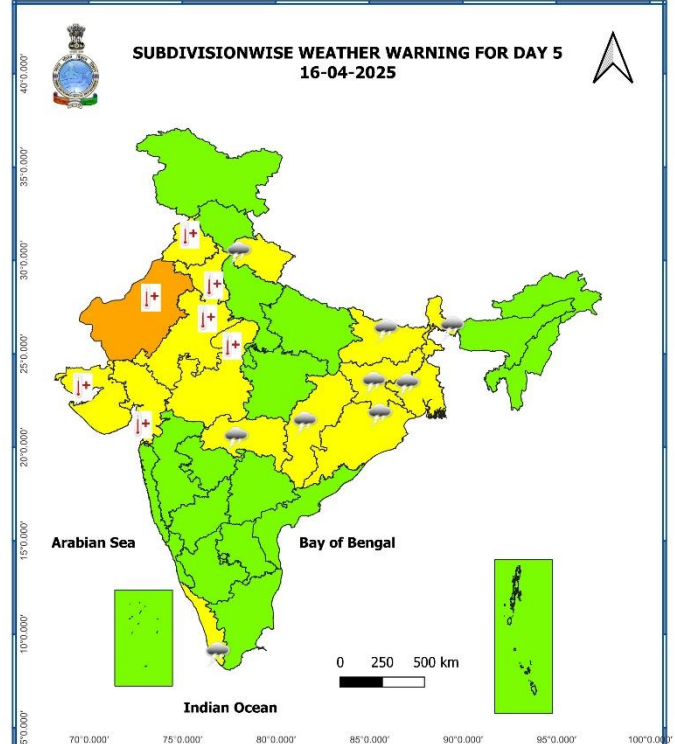
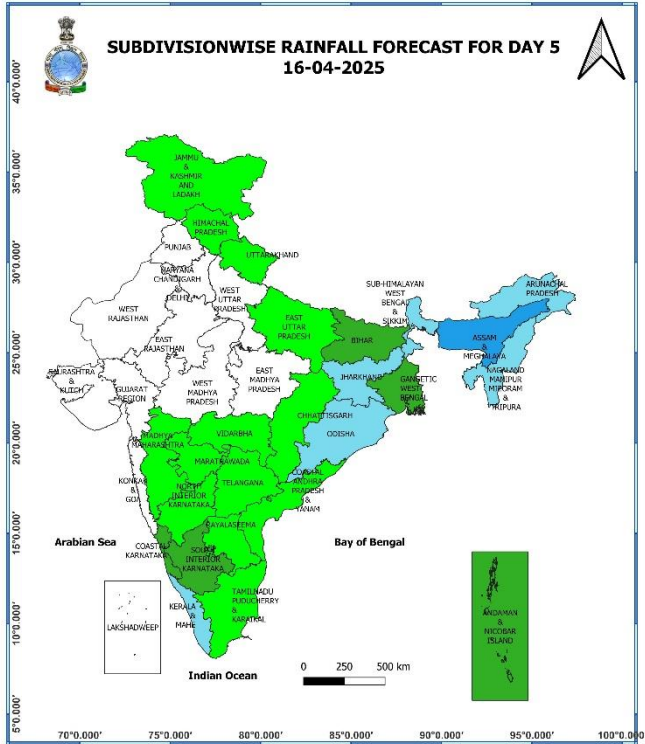
- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Odisha, Arunachal Pradesh, Assam & Meghalaya.
- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40 - 50 kmph)** very likely at isolated places over Gangetic West Bengal, Bihar, Jharkhand; **with lightning & gusty winds (speed reaching 30 - 40 kmph)** at isolated places over Vidarbha, Chhattisgarh, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Telangana and South Interior Karnataka; **with lightning** at isolated places over Arunachal Pradesh, Coastal Karnataka & North Interior Karnataka.
- ❖ **Heat wave conditions** very likely in isolated pockets over West Rajasthan.
- ❖ **Squally weather with wind speed 45 kmph to 50 kmph gusting to 55 kmph** very likely to prevail along and off south Gujarat and north Maharashtra coasts. Fishermen are advised not to venture into these areas.

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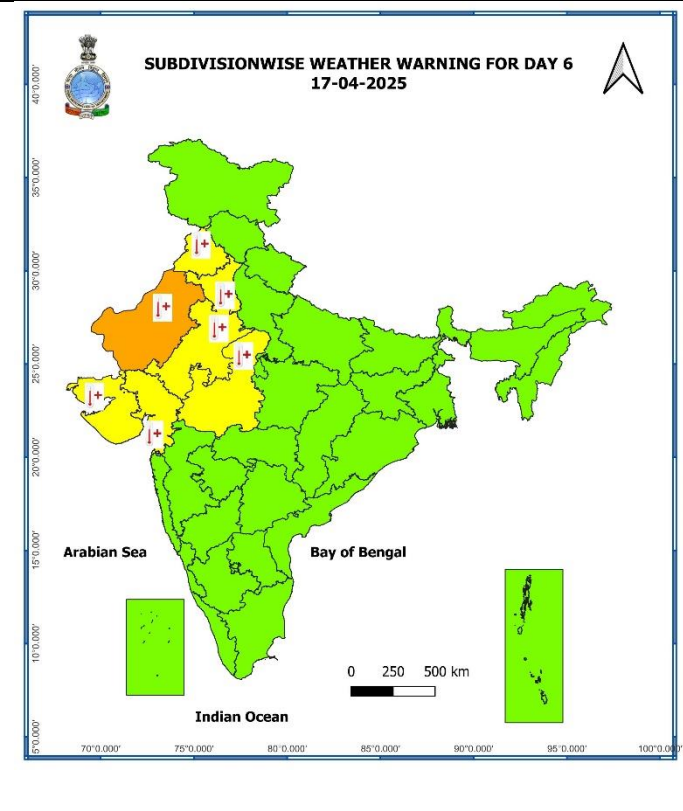
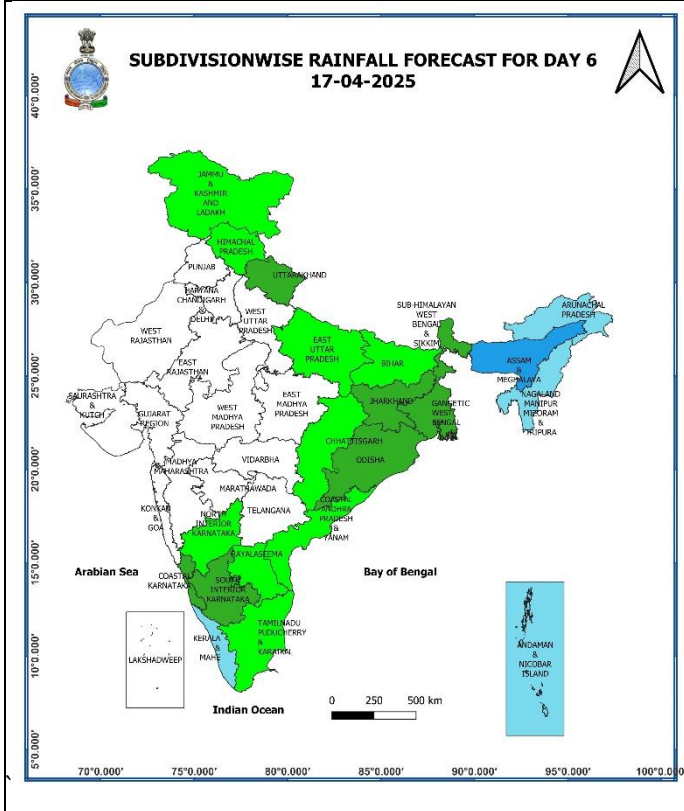
15th April (Day 4):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Odisha.
- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40 - 50 kmph) & hailstorm** likely at isolated places over Jharkhand; **with lightning & gusty winds (speed reaching 40 - 50 kmph)** at isolated places over Chhattisgarh, Odisha; **with lightning & gusty winds (speed reaching 30 - 40 kmph)** at isolated places over Vidarbha, Sub-Himalayan West Bengal & Sikkim, Bihar; **with lightning** at isolated places over Uttarakhand, Gangetic West Bengal and Kerala & Mahe.
- ❖ **Heat wave** likely in isolated pockets over West Rajasthan and Gujarat state.



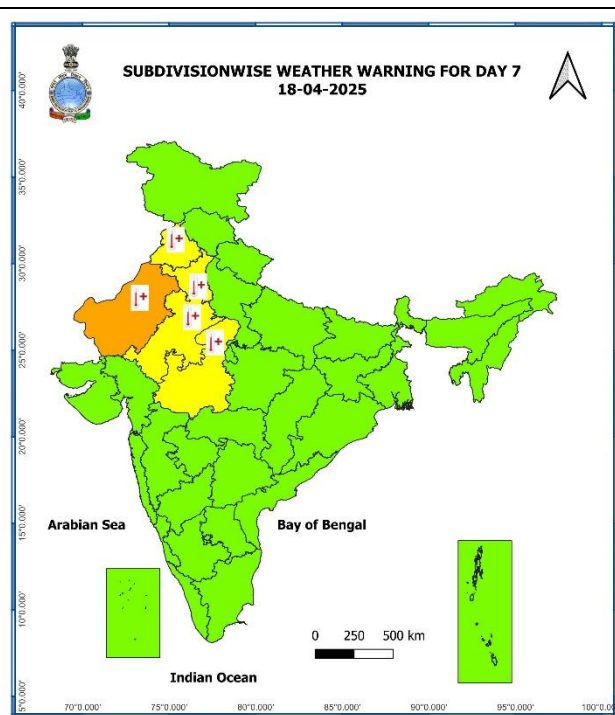
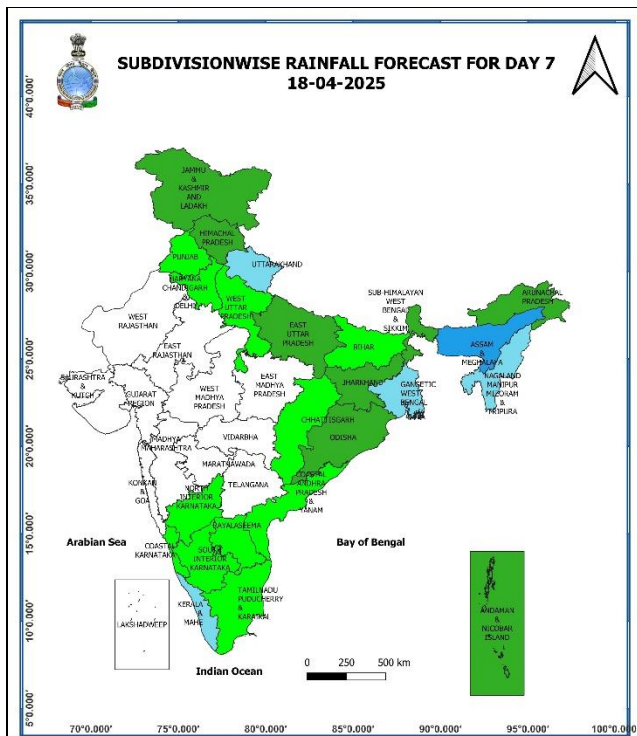
16th April (Day 5):

- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 40 - 50 kmph)** likely at isolated places over Odisha, Jharkhand, Chhattisgarh; **with lightning & gusty winds (speed reaching 30 - 40 kmph)** at isolated places over Bihar, Vidarbha, Sub-Himalayan West Bengal & Sikkim; **with lightning** at isolated places over Uttarakhand, Gangetic West Bengal and Kerala & Mahe.
- ❖ **Heat wave at some places with severe Heat wave conditions** likely in isolated pockets of West Rajasthan; **Heat wave conditions** in isolated pockets over Punjab, Haryana-Chandigarh-Delhi, East Rajasthan, West Madhya Pradesh and Gujarat state.



17th April (Day 6):

- ❖ **Heat wave at some places with severe Heat wave conditions** likely in isolated pockets of West Rajasthan; **Heat wave conditions** in isolated pockets over Punjab, Haryana-Chandigarh-Delhi, East Rajasthan, West Madhya Pradesh and Gujarat state.



18th April (Day 7):

❖ **Heat wave at some places with severe Heat wave conditions** likely in isolated pockets of West Rajasthan; **Heat wave to severe Heat wave conditions** in isolated pockets of East Rajasthan; **Heat wave conditions** in isolated pockets over Punjab, Haryana-Chandigarh-Delhi and West Madhya Pradesh.

Weather Outlook for subsequent 3 days (During 19th April- 21st 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.

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Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

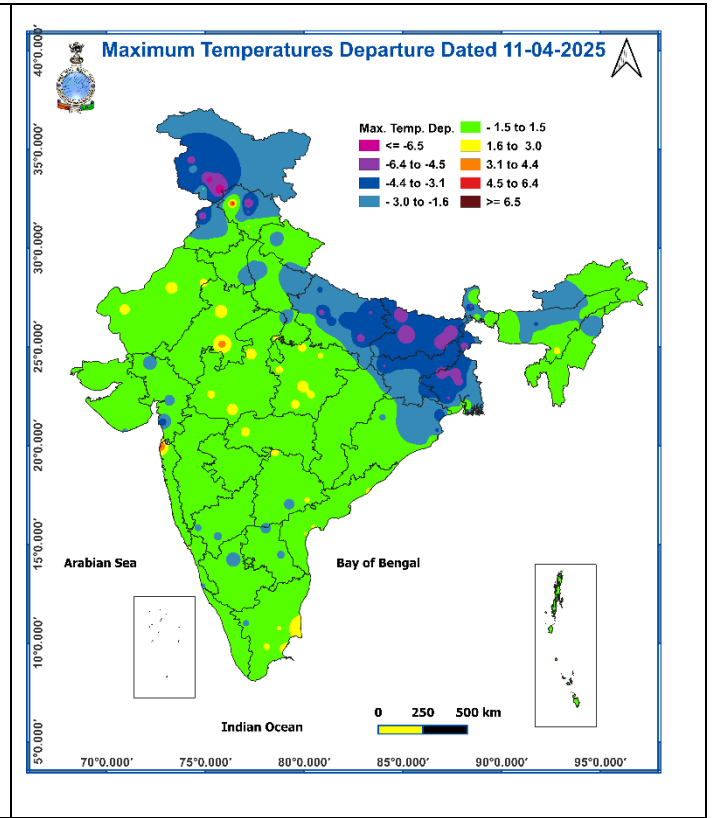
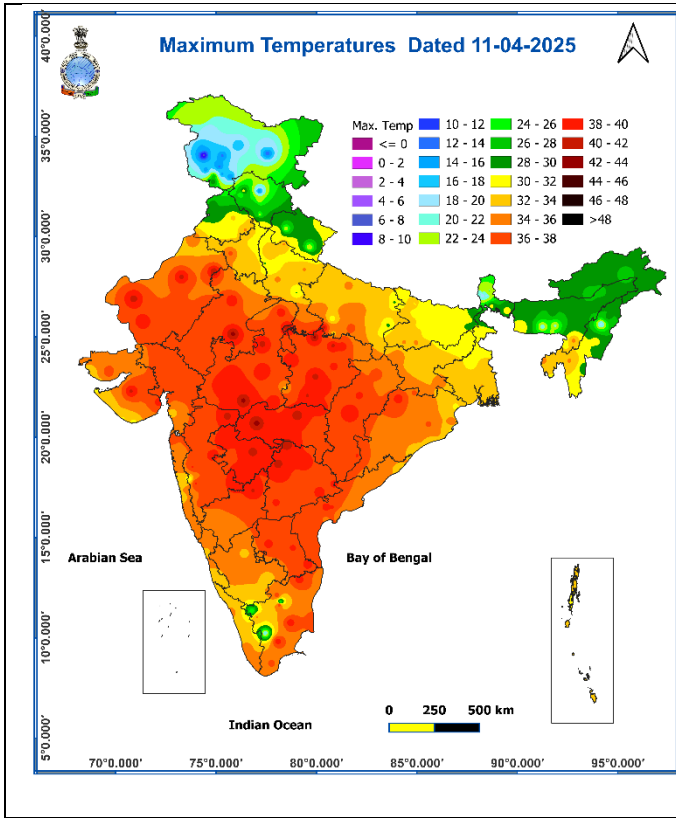
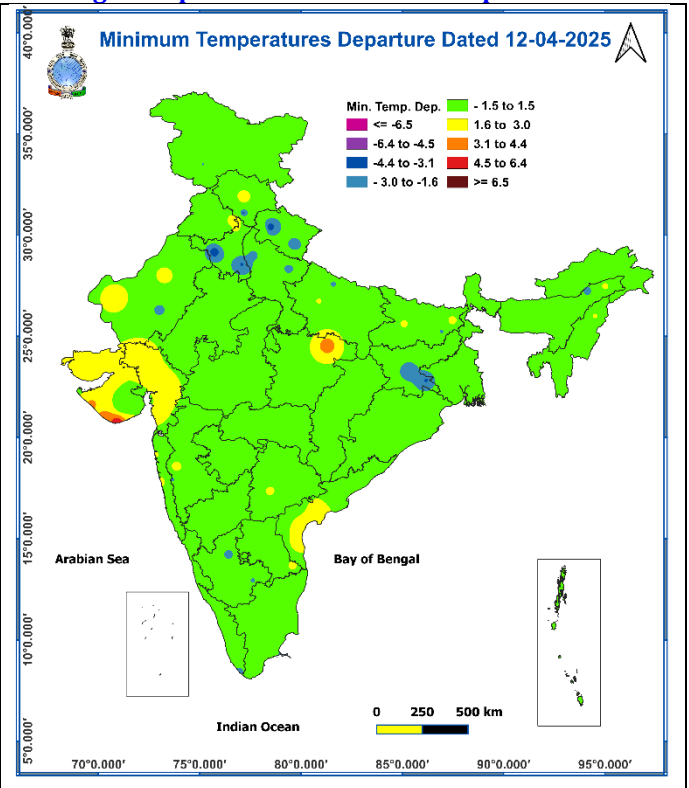
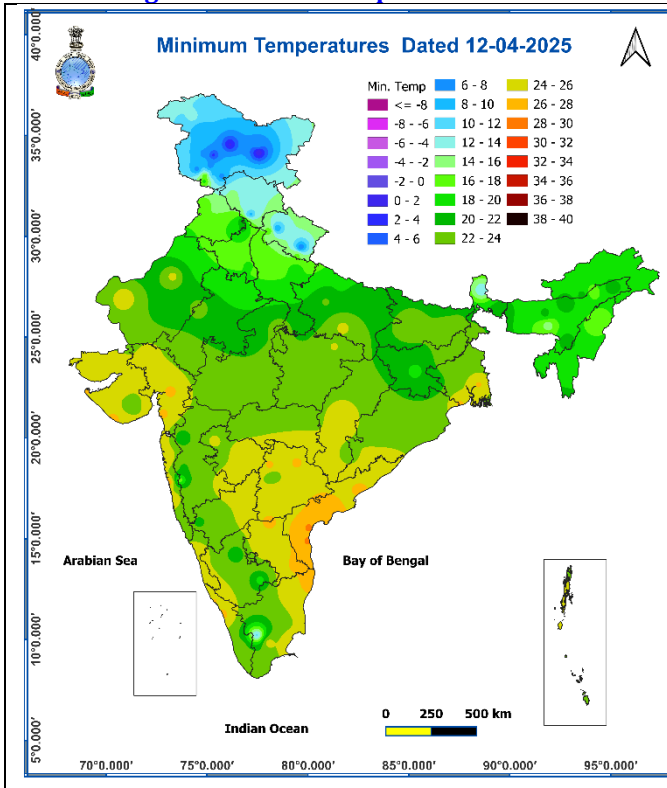


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures



Impact expected and action suggested due to isolated thunderstorm with lightning/gusty winds & Hailstorm over Gangetic West Bengal on 12th & 13th; Uttarakhand, Madhya Pradesh, Rajasthan and Uttar Pradesh on 12th and Jharkhand on 15th 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 likely at many parts of West Rajasthan during 16th-18th 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.

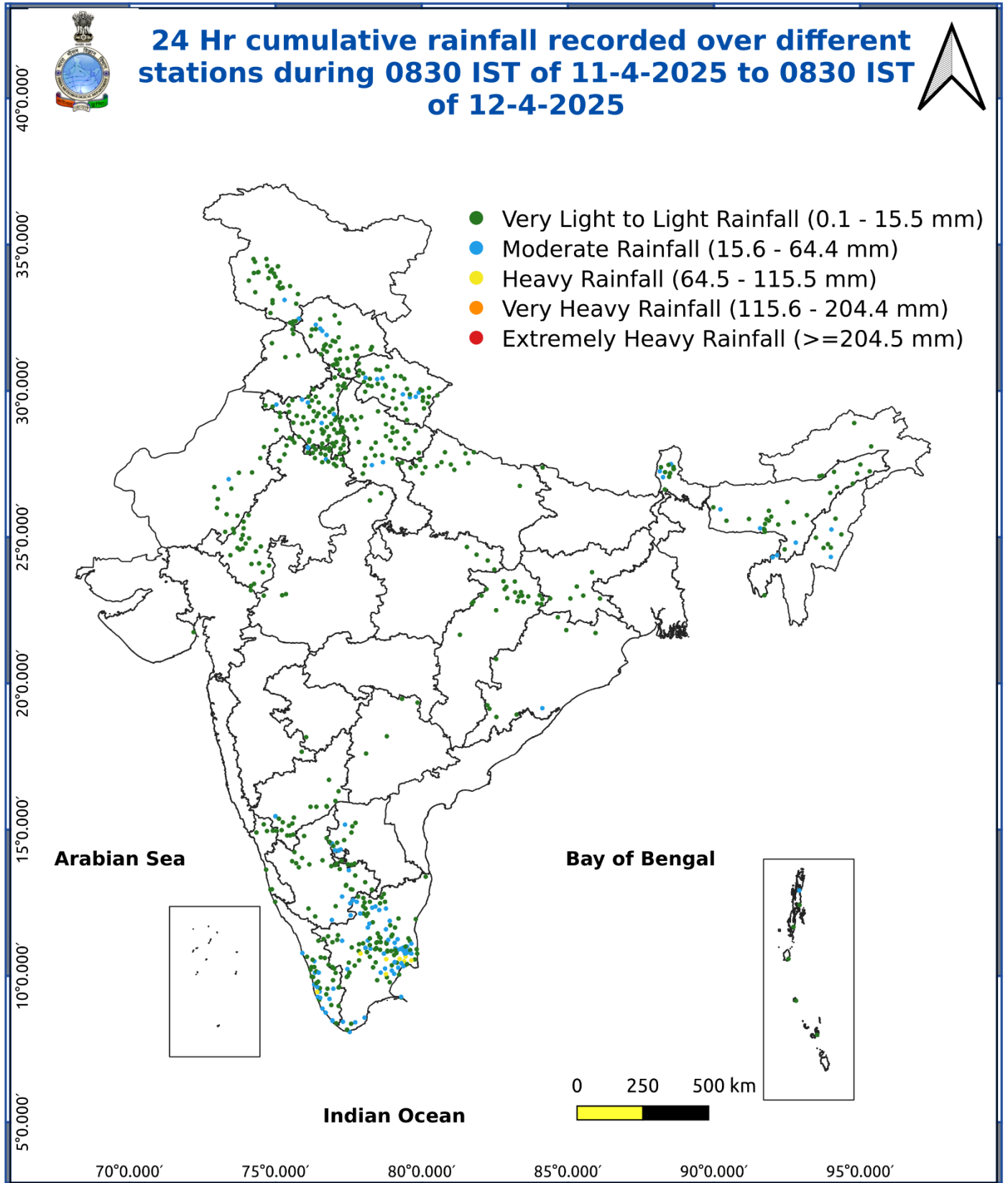
Agromet advisories for likely impact of Hailstorm / Heavy Rainfall / Gusty Winds

- In **Uttarakhand, Uttar Pradesh and Madhya Pradesh**, immediately 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 **Arunachal Pradesh, Meghalaya, Sub Himalayan West Bengal and Sikkim**, immediately harvest the mature 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 **Odisha**, make necessary arrangements to drain out excess water from standing crop and vegetable fields. Harvest the mature crops, fruits and vegetables and shift the harvested produce in safer places.
- In **Tamil Nadu and Kerala**, drain out excess water from standing crop and vegetable fields.
- Provide mechanical support to horticultural crops and staking to vegetables to avoid lodging.

Livestock / 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.
- Construct an outlet with proper netting around the ponds to drain out excess water, thereby preventing fish from escaping in case of overflow.

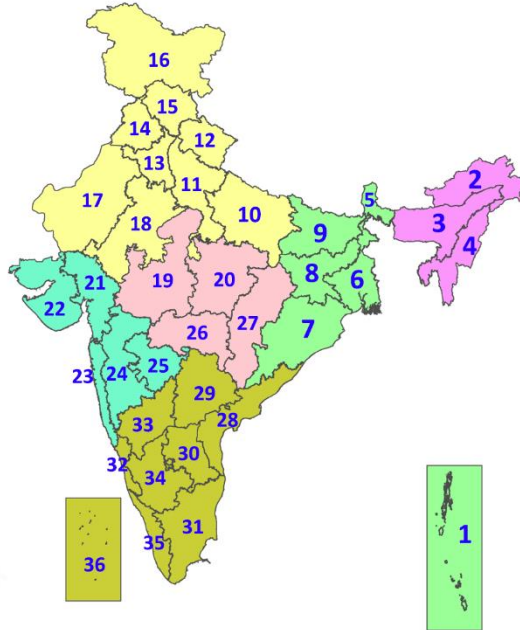
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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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)

Hot and Humid: When maximum temperatures remains 3°C above normal along with the above normal relative humidity.