

Tuesday, April 29, 2025
Time of Issue: 0800 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems, Forecast and Warnings:

- ❖ An upper air cyclonic circulation lies over northeast Assam and another over north Bangladesh in lower tropospheric levels.
- ❖ A cyclonic circulation lies over southwest Rajasthan and a trough from this cyclonic circulation to north Madhya in lower tropospheric levels. A north-south trough from west Vidarbha to north Kerala in lower tropospheric levels.
- ❖ An upper air cyclonic circulation lies over Comorin area and neighbourhood in lower tropospheric levels.
- ❖ Under the influence of these systems:

Northeast India:

- ✓ Fairly widespread to widespread light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds speed reaching 40-50 kmph gusting to 60 kmph** likely over Northeast India during next 5 days and **thundersquall (wind speed reaching 50-70 kmph)** likely over Assam & Meghalaya on 29th April.
- ✓ **Heavy rainfall** likely over Nagaland, Manipur, Mizoram & Tripura Assam & Meghalaya, Tripura on 29th April.

East & Central India:

- ✓ **Scattered to fairly widespread** light/moderate rainfall accompanied with **thunderstorm, lightning & strong winds speed reaching 40-50 kmph gusting to 60 kmph** likely over East India, East Madhya Pradesh, Vidarbha, Chhattisgarh during 29th April-02nd May.
- ✓ **Isolated hailstorm** activity likely over Odisha on 29th April.
- ✓ **Isolated heavy rainfall** over Odisha during 29th April-01st May.

South peninsular India:

- ✓ **Isolated to Scattered** light/moderate rainfall accompanied with **thunderstorm, lightning & strong winds speed reaching 30-40 kmph gusting to 50 kmph** likely over Karnataka, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Kerala & Mahe, Tamil Nadu Puducherry & Karaikal during next 7 days with **thundersquall (wind speed reaching 50-60 kmph)** likely over North Interior Karnataka during 29th April-02nd May.
- ✓ **Isolated hailstorm** activity likely over North Interior Karnataka on 30th April & 01st May.

Northwest India:

- ❖ A fresh and active Western Disturbance likely to impact Northwest India from 02nd May, 2025. Under its influence:
 - ✓ **Isolated to scattered** light rainfall with **thunderstorm, lightning & strong winds speed reaching 30-40 kmph** likely over Western Himalayan region and plains of northwest India during 30th April to 04th May.
 - ✓ **Duststorm** very likely at isolated places over East Uttar Pradesh on 29th & 30th April; Punjab, Haryana Chandigarh & Delhi on 01st May and Rajasthan on 01st & 02nd May.

Temperature Forecast:

- ❖ No significant change in maximum temperatures likely over Northwest India during next 3 days and fall by 2-4°C for subsequent 4 days.
- ❖ Gradual rise in maximum temperatures by 2-4°C likely over Central India during next 3 days and no significant change during subsequent 4 days.
- ❖ No significant change in maximum temperatures likely over Maharashtra during next 5 days and fall by 2-3°C for subsequent 2 days.
- ❖ Gradual rise in maximum temperatures by 2-3°C likely over Gujarat 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.

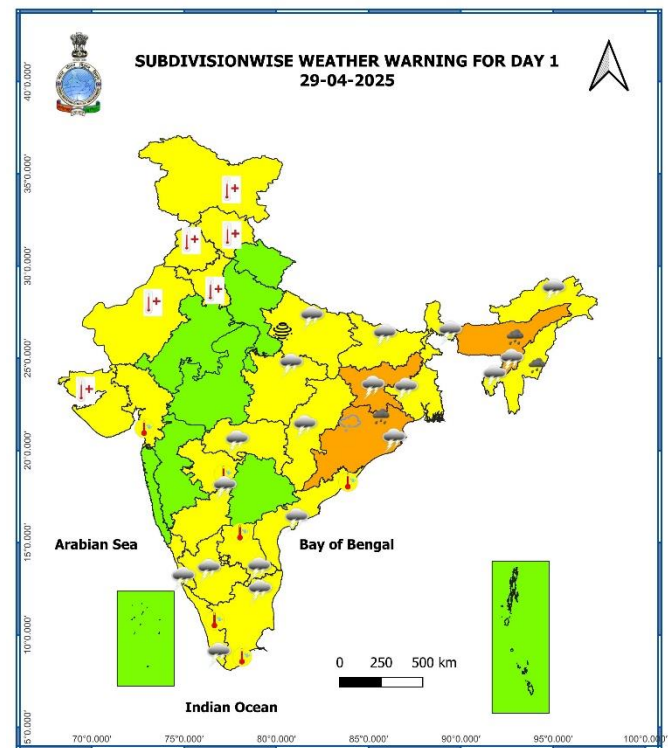
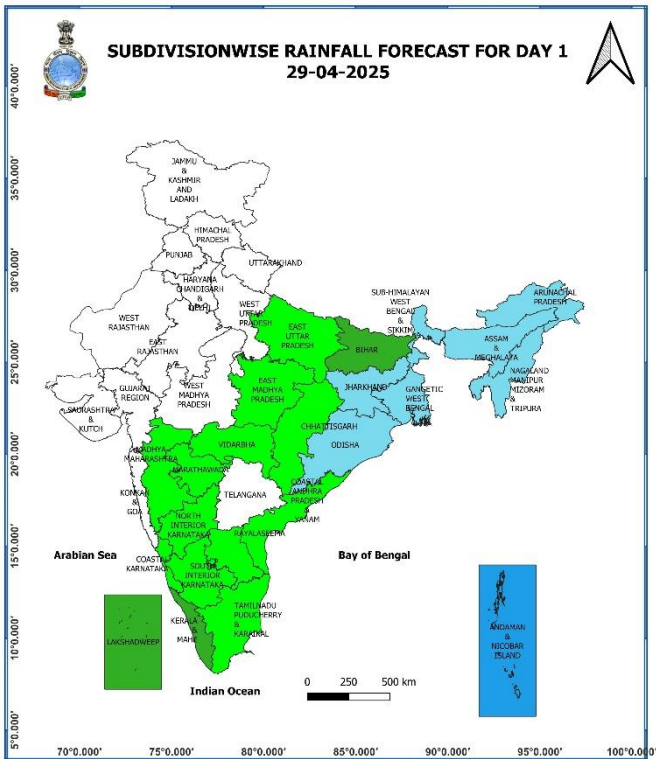
Main Weather Observations:

- ❖ **Rainfall observed** (from 0830 hours IST to 1730 hours IST of yesterday): **at many places** over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya; **at a few places** over Kerala & Mahe, Nagaland, Manipur, Mizoram & Tripura; **at isolated places** over Arunachal Pradesh, Chhattisgarh, Vidarbha, East Madhya Pradesh, Tamil Nadu, Puducherry & Karaikal.
- ❖ **Significant rainfall** (from 0830 hours IST to 1730 hours IST of yesterday): **Assam & Meghalaya**: Shillong 4, Silchar 3, Tezpur & Barapani 2 each; **Mizoram**: Lengpui 3; **Tripura**: Kailashahar 3, Agartala 2; **Kerala**: Kochi & Kottayam 2 each.
- ❖ **Yesterday, Heat wave conditions** prevailed in isolated pockets of West Rajasthan.
- ❖ **Minimum Temperature Departures (as on 28-04-2025)**: Minimum temperatures were **above normal (1.6°C to 3.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Nagaland, Manipur, Mizoram & Tripura, Assam & Meghalaya, West Rajasthan, Saurashtra & Kutch. These were **markedly below normal (-5.1 or below)** at isolated places over Vidarbha, Chhattisgarh; **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over East Madhya Pradesh; **below normal (-1.6°C to -3.0°C)** Haryana-Chandigarh-Delhi, Bihar, East Rajasthan, Odisha, Rayalaseema, North Interior Karnataka and normal over rest parts of the country (**Fig. 4**). Yesterday, the **lowest minimum temperature of 17.5°C** was reported at **Nowgong (East Madhya Pradesh)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 28-04-2025)**: Maximum Temperatures were **markedly above normal (5.1°C or more)** at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; **appreciably above normal (3.1°C to 5.0°C)** at isolated places over West Rajasthan, Saurashtra & Kutch; **above normal (1.6°C to 3.0°C)** at isolated places over Himachal Pradesh, Punjab, East Rajasthan, Gujarat Region, West Madhya Pradesh, Konkan & Goa, Madhya Maharashtra. These were **markedly below normal (-5.1 or below)** at many places over Bihar; at isolated places over East Uttar Pradesh, Jharkhand, Chhattisgarh, Odisha, West Bengal & Sikkim; **appreciably below normal (-3.1°C to -5.0°C)** at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura; **below normal (-1.6°C to -3.0°C)** at a few places over East Madhya Pradesh, West Uttar Pradesh; at isolated places over Telangana, Rayalaseema, Interior Karnataka and normal over rest parts of the country (**Fig. 2**). Yesterday, the highest **maximum temperature of 46.4°C** was reported at **Barmer (West Rajasthan)** over the country.

Meteorological Analysis (Based on 0530 hours IST)

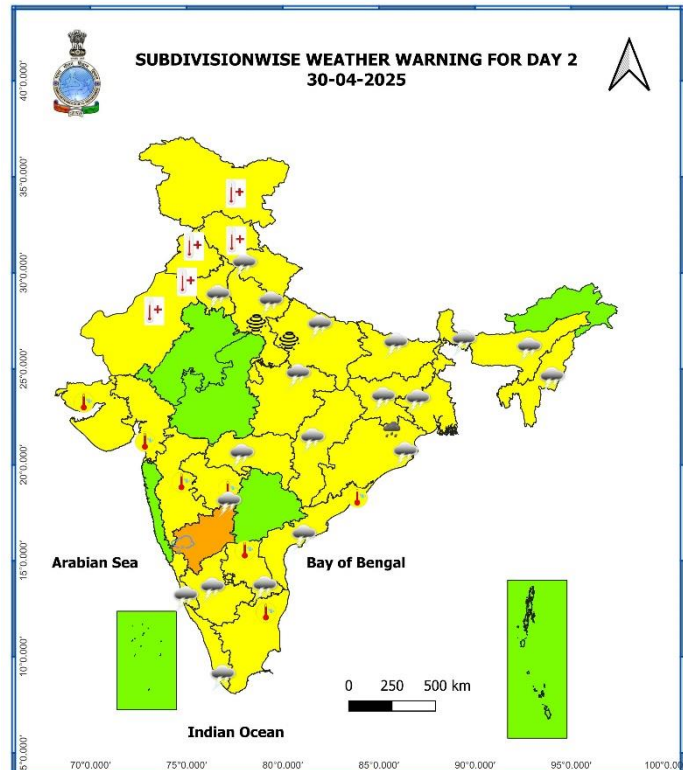
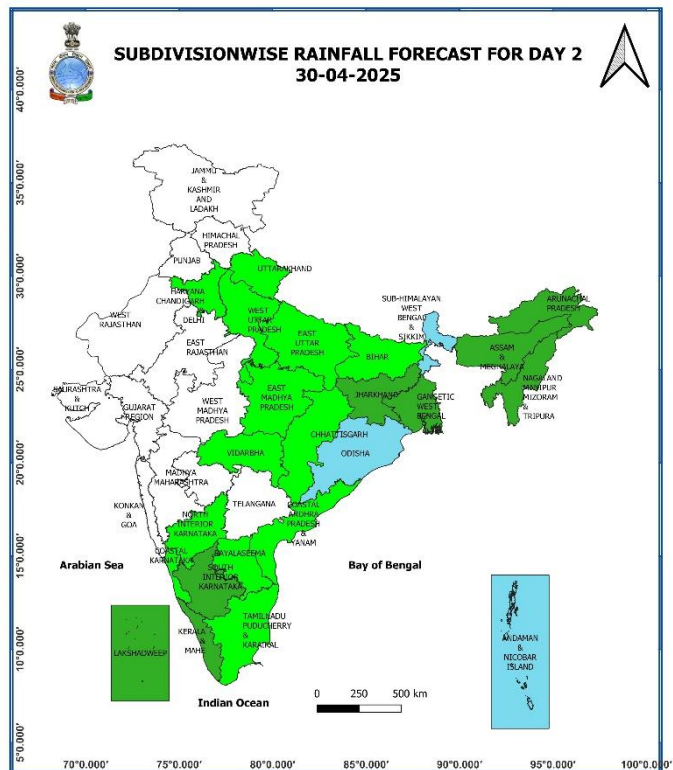
- ❖ The **trough in westerlies** between 3.1 & 9.6 km above mean sea level now runs roughly along Long. 84°E to the north of Lat. 15°N.
- ❖ The **cyclonic circulation** over southwest Rajasthan & neighbourhood now lies over central part of Rajasthan and extends upto 1.5 km above mean sea level.
- ❖ An upper air **cyclonic circulation** lies over northwest Madhya Pradesh & neighbourhood and extends upto 1.5 km above mean sea level.
- ❖ The north-south **trough** now runs from above upper air cyclonic circulation over northwest Madhya Pradesh & neighbourhood to south Tamil Nadu across Vidarbha, Marathwada, Interior Karnataka, interior Tamil Nadu at 0.9 km above mean sea level.
- ❖ The upper air **cyclonic circulation** over Northeast Bangladesh at 0.9 km above mean sea level persists.
- ❖ The upper air **cyclonic circulation** over northeast Assam & neighbourhood at 1.5 km above mean sea level persists.
- ❖ The upper air **cyclonic circulation** over Comorin area & neighbourhood at 1.5 km above mean sea level persists.
- ❖ A fresh **Western Disturbance** is likely to affect Western Himalayan region from 02nd May, 2025.
- ❖ The **trough** from the cyclonic circulation over central part of Rajasthan to north Madhya Maharashtra at 0.9 km above mean sea level has become less marked.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 05th May, 2025)



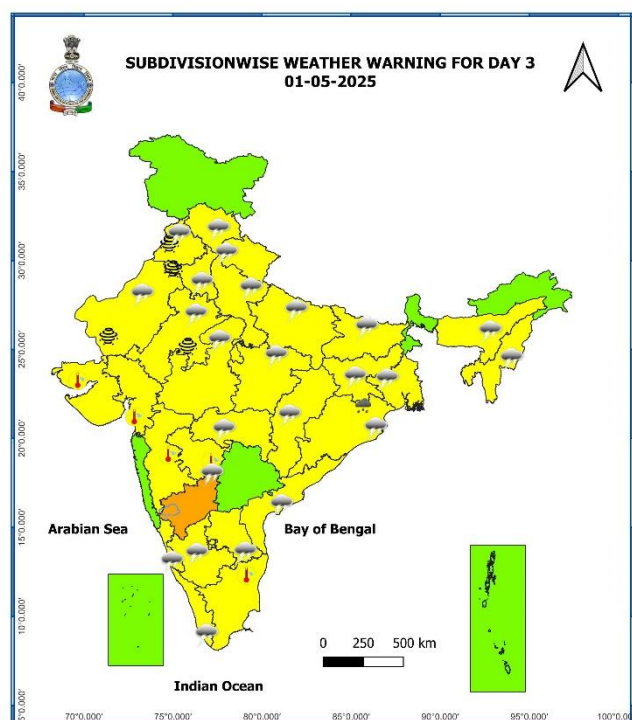
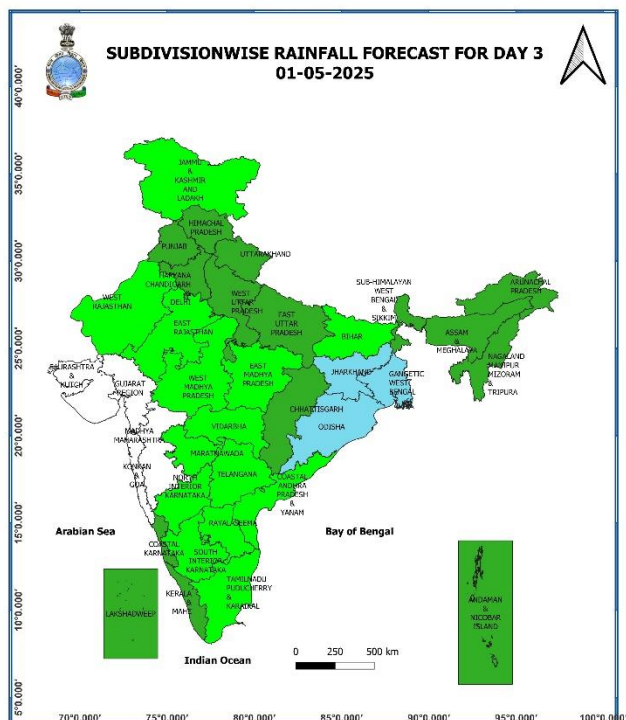
29th April (Day 1)

- ❖ **Thundersquall with wind speed reaching 50-60kmph** very likely at isolated places over Assam & Meghalaya, Odisha, Jharkhand and North Interior Karnataka.
- ❖ **Thunderstorms with gusty winds(40-50kmph)** very likely at isolated places over Gangetic West Bengal, Bihar and East Madhya Pradesh, East Uttar Pradesh, Coastal Andhra Pradesh, Rayalaseema and South Interior Karnataka.
- ❖ **Thunderstorms with gusty winds(30-40kmph)** very likely at isolated places over Nagaland, Manipur, Mizoram & Tripura, South Himalayan West Bengal & Sikkim, Vidarbha, Chhattisgarh and Kerala, Tamil Nadu, Puducherry & Karaikal
- ❖ **Thunderstorm & Lightning** very likely at isolated places over Arunachal Pradesh, Coastal Karnataka.
- ❖ **Hailstorm** very likely at isolated places over Odisha.
- ❖ **Heavy Rain** very likely at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura, Odisha.
- ❖ **Hot and Humid** very likely at isolated places over Gujarat Region, Marathwada, Coastal Andhra Pradesh, Rayalaseema, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ **Heat Wave** very likely at isolated places over Haryana, Chandigarh & Delhi, Punjab, Himachal Pradesh and West Rajasthan, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Saurashtra & Kutch.
- ❖ **Dust Storm** very likely at isolated places over East Uttar Pradesh.
- ❖ **Squally wind with speed reaching 45 kmph to 50 kmph gusting to 55 kmph** likely to prevail along and off north Odisha and West Bengal coasts.



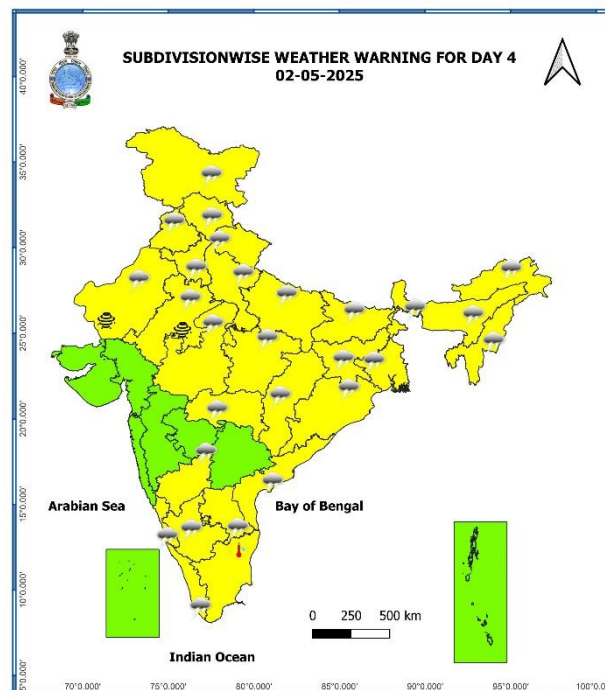
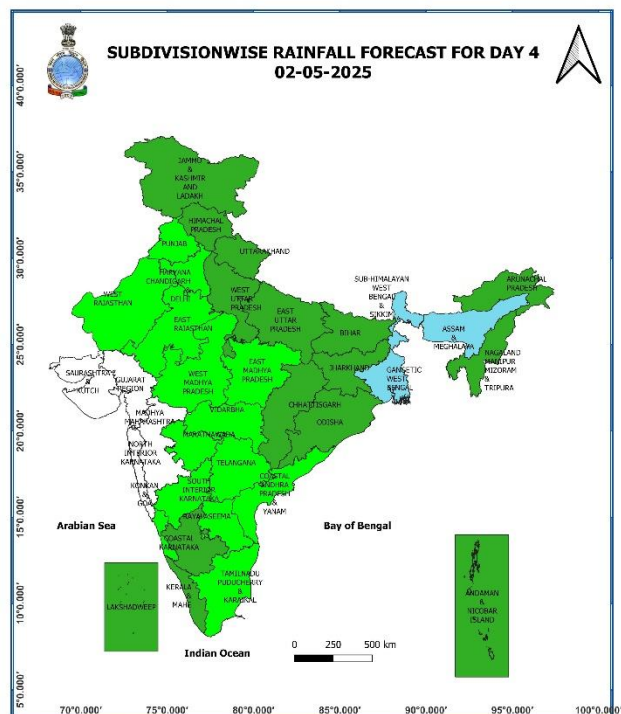
30th April (Day 2)

- ❖ **Thundersquall with wind speed reaching 50-60kmph** likely at isolated places over North Interior Karnataka.
- ❖ **Thunderstorms with gusty winds(40-50kmph)** likely at isolated places over Assam & Meghalaya, Odisha, Jharkhand and East Madhya Pradesh, Uttar Pradesh, Coastal Andhra Pradesh and South Interior Karnataka.
- ❖ **Thunderstorms with gusty winds(30-40kmph)** likely at isolated places over Nagaland, Manipur, Mizoram & Tripura, South Himalayan West Bengal & Sikkim, Gangetic West Bengal, Bihar, Uttarakhand, Vidarbha and Chhattisgarh, Haryana, Chandigarh & Delhi and Rayalaseema.
- ❖ **Thunderstorm & Lightning** likely at isolated places over Coastal Karnataka, Kerala & Mahe.
- ❖ **Hailstorm** very likely at isolated places over North Interior Karnataka.
- ❖ **Heavy Rain** very likely at isolated places over Odisha.
- ❖ **Hot and Humid** very likely at isolated places over Gujarat Region, Saurashtra & Kutch, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh and Rayalaseema, Tamil Nadu, Puducherry & Karaikal.
- ❖ **Heat Wave** very likely at isolated places over Haryana, Chandigarh & Delhi, Punjab, Himachal Pradesh, Jammu and Kashmir and Ladakh and West Rajasthan.
- ❖ **Dust Storm** very likely at isolated places over Uttar Pradesh.



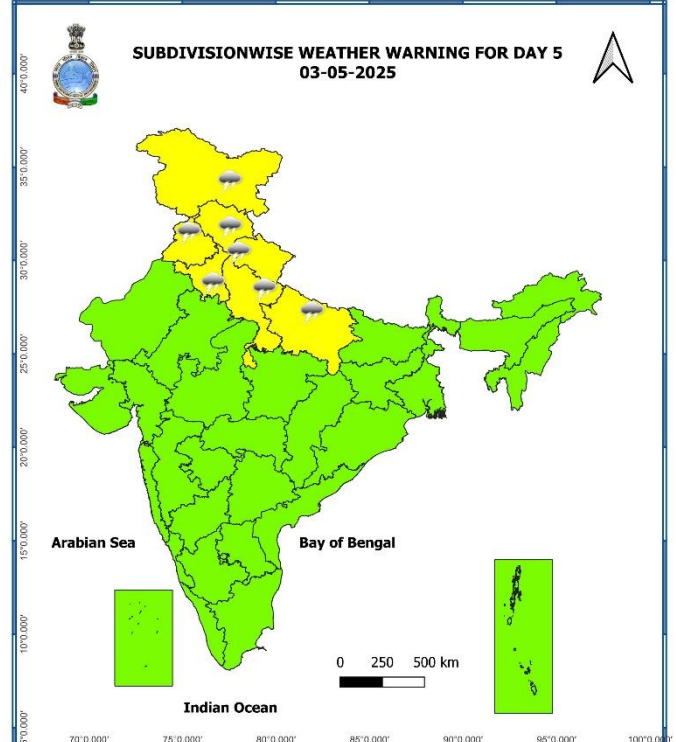
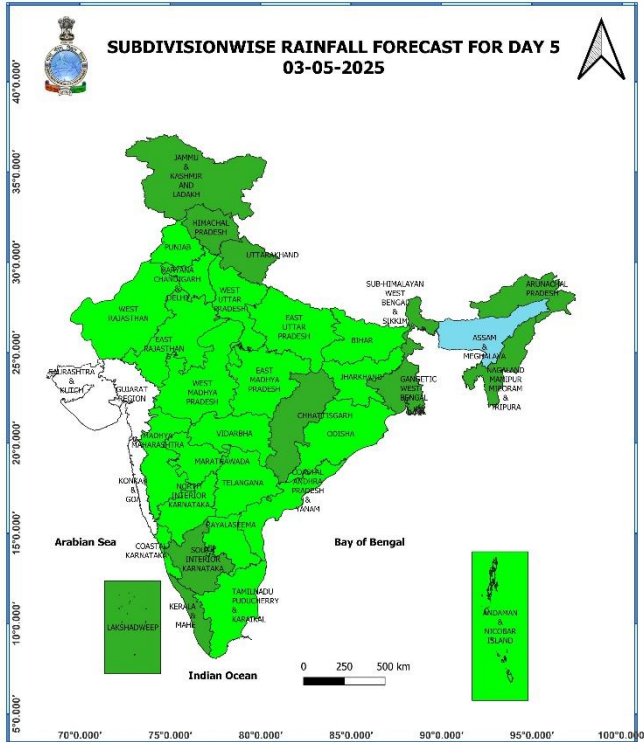
01st May (Day 3)

- ❖ **Thundersquall with wind speed reaching 50-60kmph** likely at isolated places over Haryana, Chandigarh & Delhi and North Interior Karnataka, Punjab, East Madhya Pradesh, Vidarbha and Chhattisgarh.
- ❖ **Thunderstorms with gusty winds(40-50kmph)** likely at isolated places over Assam & Meghalaya, Gangetic West Bengal, Odisha, Jharkhand, Himachal Pradesh, Rajasthan, West Madhya Pradesh, East Uttar Pradesh, West Uttar Pradesh, Coastal Andhra Pradesh and South Interior Karnataka.
- ❖ **Thunderstorms with gusty winds(30-40kmph)** likely at isolated places over Bihar, Uttarakhand and Coastal Karnataka and likely at isolated places over Rayalaseema.
- ❖ **Thunderstorm & Lightning** likely at isolated places over Nagaland, Manipur, Mizoram & Tripura and Kerala & Mahe.
- ❖ **Hot and Humid** likely at isolated places over Gujarat Region, Saurashtra & Kutch, Madhya Maharashtra and Marathwada and likely at isolated places over Tamilnadu & Puducherry.
- ❖ **Dust Storm** likely at isolated places over Haryana, Chandigarh & Delhi, Punjab, West Rajasthan and East Rajasthan.
- ❖ **Hailstorm** likely at isolated places over North Interior Karnataka.
- ❖ **Heavy Rain** likely at isolated places over Odisha.



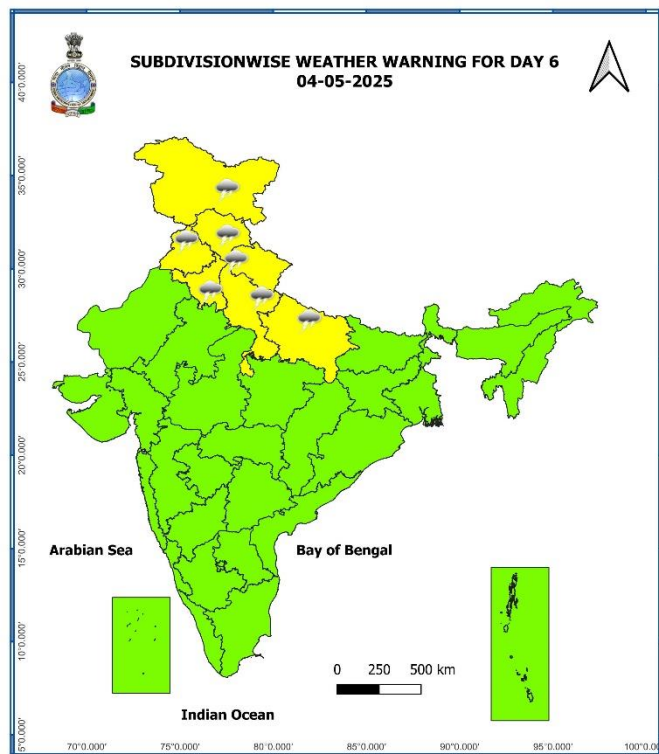
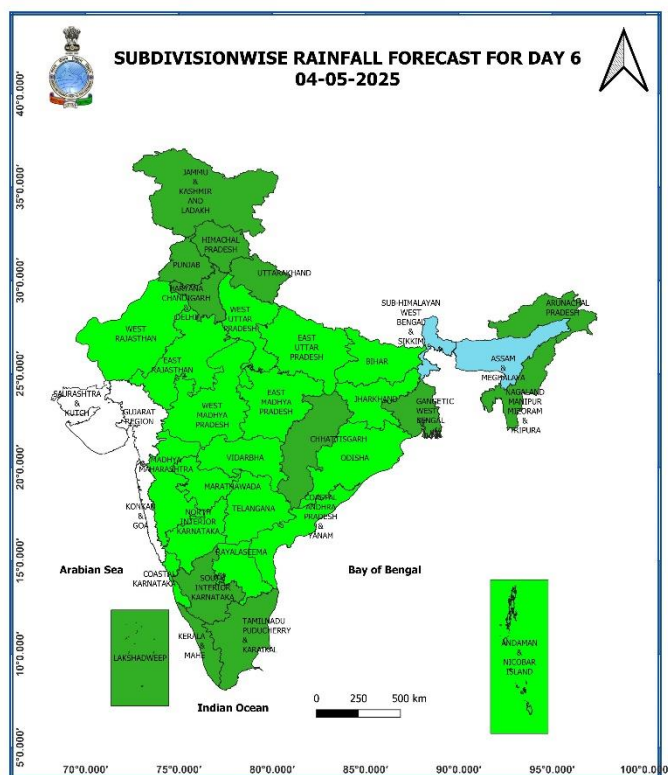
02nd May (Day 4)

- ❖ **Thundersquall with wind speed reaching 50-60kmph** likely at isolated places over East Madhya Pradesh, Vidarbha and Chhattisgarh, North Interior Karnataka.
- ❖ **Thunderstorms with gusty winds(40-50kmph)** likely at isolated places over Assam & Meghalaya, West Bengal & Sikkim, Odisha, Jharkhand, Uttar Pradesh, Himachal Pradesh, Jammu and Kashmir and Ladakh, West Rajasthan, East Rajasthan, West Madhya Pradesh and Coastal Andhra Pradesh, South Interior Karnataka.
- ❖ **Thunderstorms with gusty winds(30-40kmph)** likely at isolated places over Bihar, Uttarakhand, Punjab, Rayalaseema, Haryana, Chandigarh & Delhi.
- ❖ **Thunderstorm & Lightning** likely at isolated places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Coastal Karnataka, Kerala & Mahe.
- ❖ **Hot and Humid** likely at isolated places over Tamilnadu & Puducherry.
- ❖ **Dust Storm** likely at isolated places over West Rajasthan and East Rajasthan.



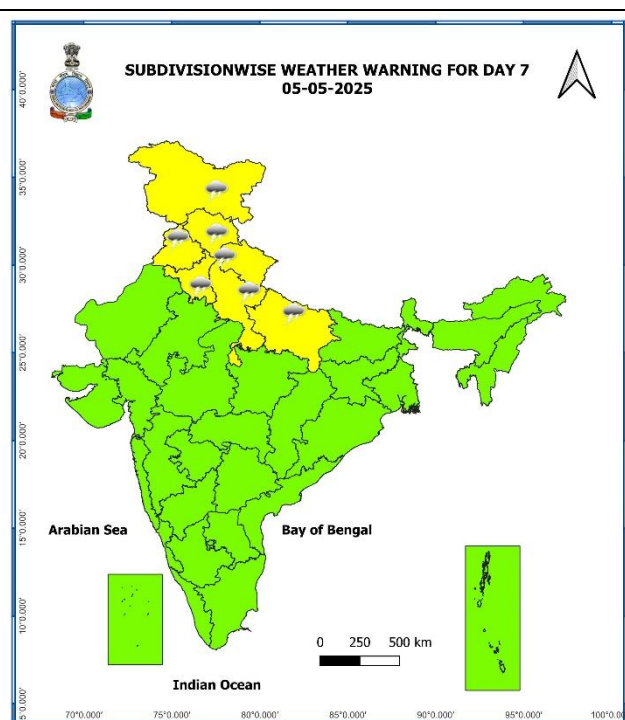
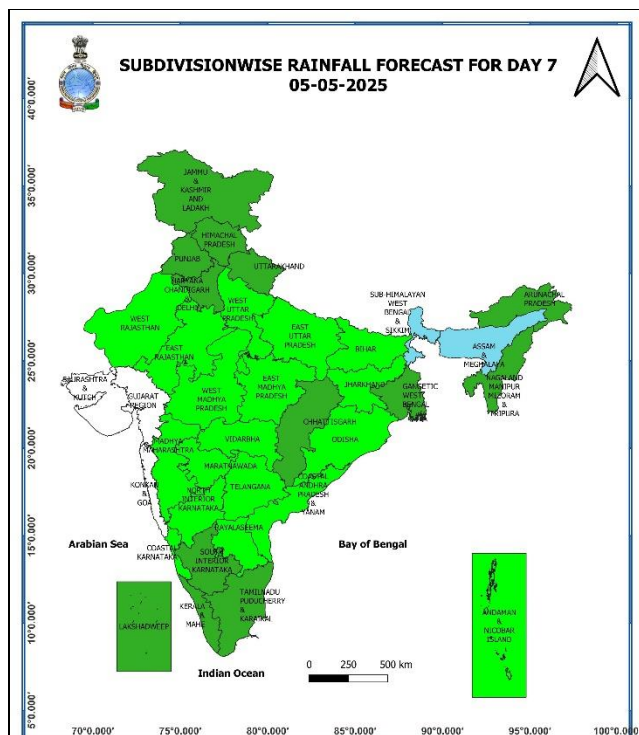
03rd May (Day 5)

- ❖ **Thunderstorms with gusty winds(40-50kmph)** likely at isolated places over Himachal Pradesh and Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad.
- ❖ **Thunderstorms with gusty winds(30-40kmph)** likely at isolated places over Uttar Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi.



04th May (Day 6)

- ❖ **Thunderstorms with gusty winds(40-50kmph)** likely at isolated places over Himachal Pradesh and Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad.
- ❖ **Thunderstorms with gusty winds(30-40kmph)** likely at isolated places over Uttar Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi.



05th May (Day 7)

- ❖ **Thunderstorms with gusty winds(40-50kmph)** likely at isolated places over Himachal Pradesh and Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad.
- ❖ **Thunderstorms with gusty winds(30-40kmph)** likely at isolated places over Uttar Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh & Delhi.

Weather Outlook for subsequent 3 days (During 06th May- 08th May, 2025)

- ❖ **Scattered to fairly widespread** rainfall activity likely over east & northeast India, Kerala.
- ❖ **Isolated to scattered rainfall** likely over Northwest India, adjoining central India, Maharashtra, 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

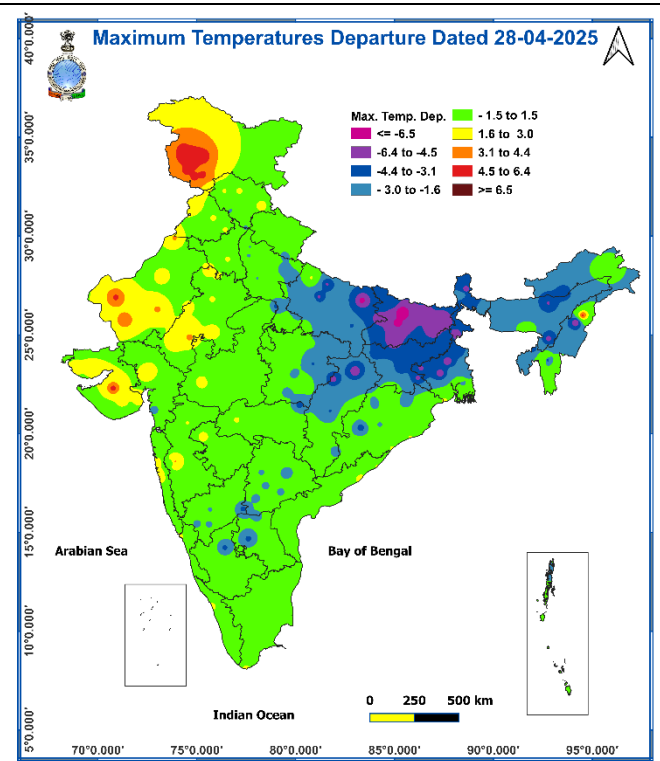
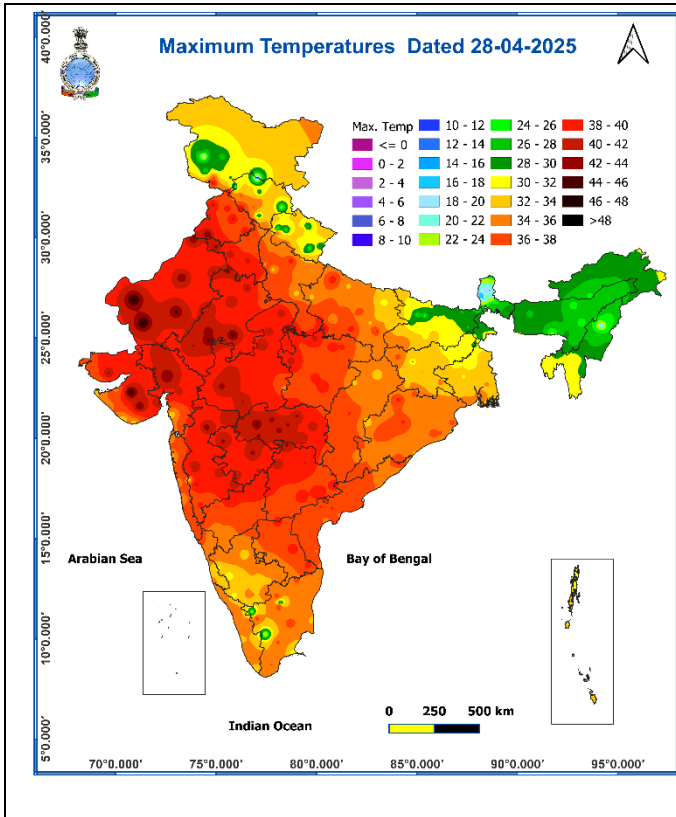


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures

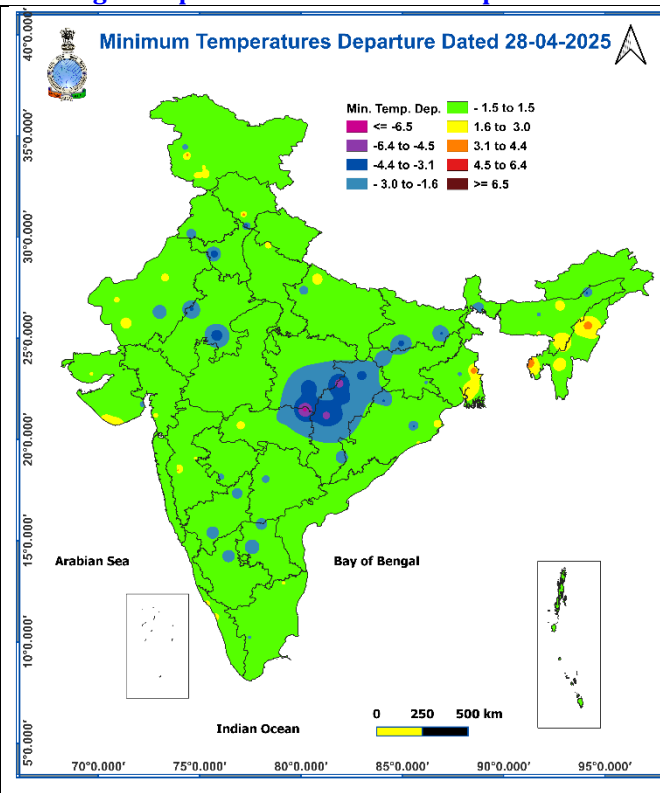
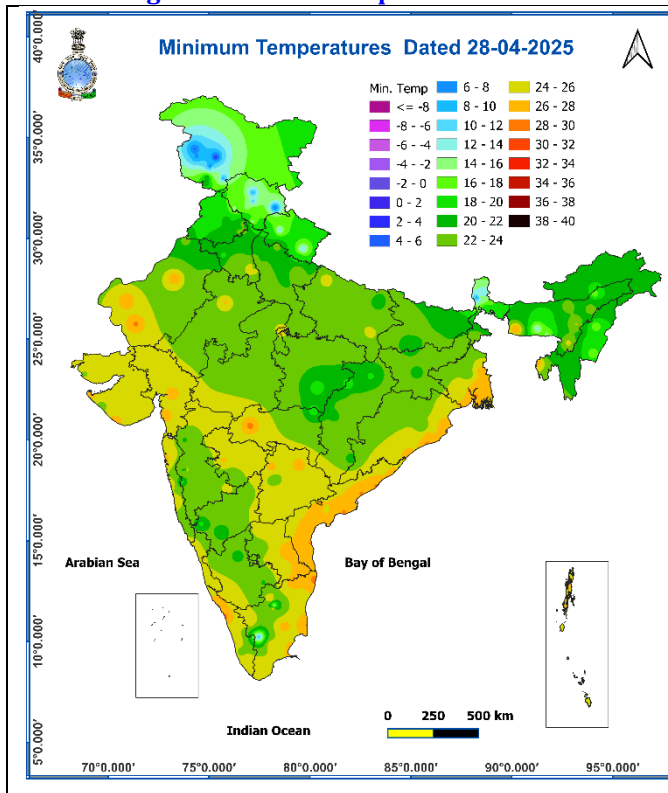
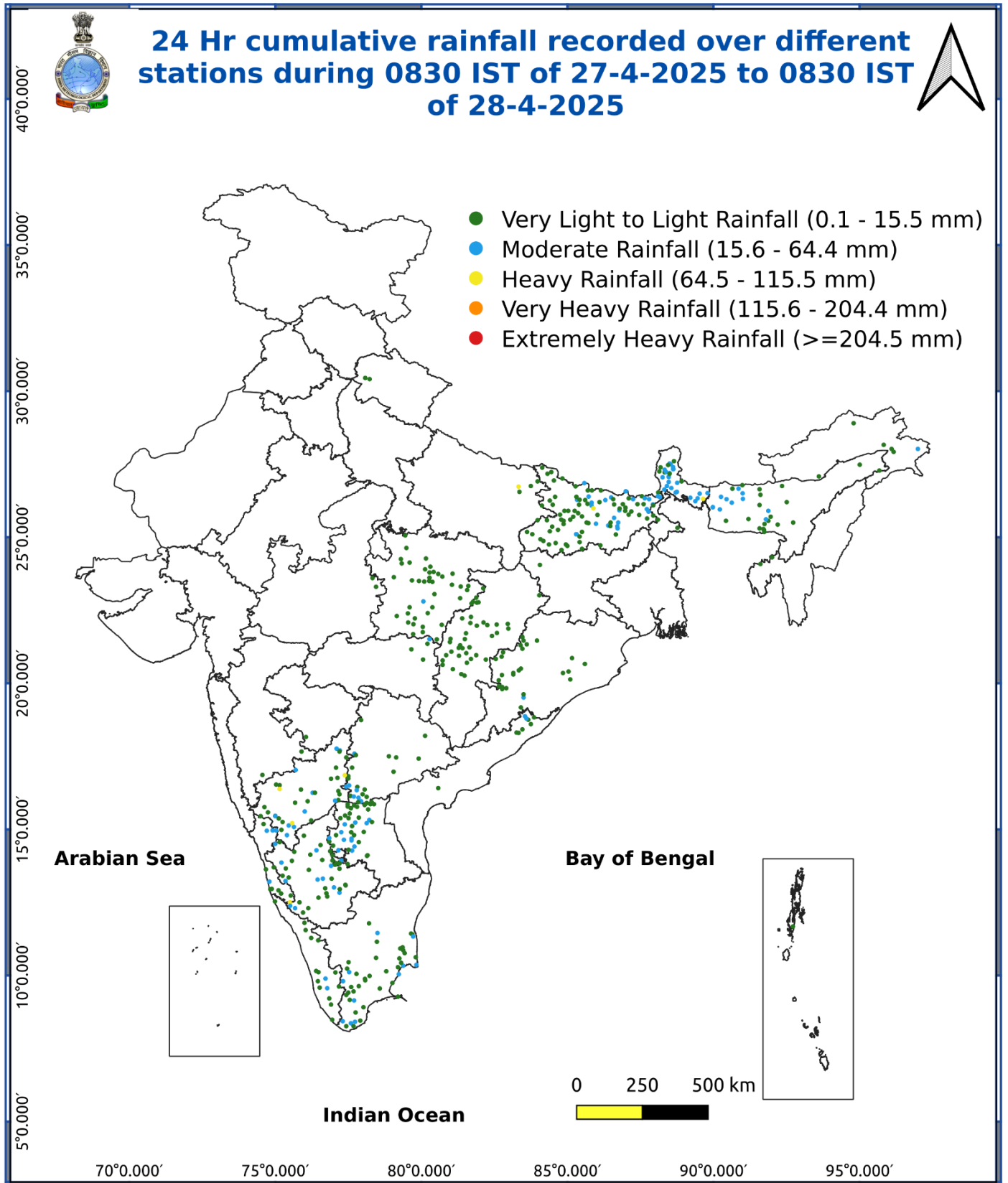


Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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

- ✓ **Isolated hailstorm** activity likely over **Isolated hailstorm** activity likely over Odisha on 29th April and North Interior Karnatak on 30th April & 01st May.
- ✓ **Thundersquall (wind speed reaching 50-60 kmph)** likely over North Interior Karnataka, India during 29th April-02nd May; Jharkhand, Odisha on 29th April; East Madhya Pradesh, Vidarbha, Chhattisgarh on 01st & 02nd May.

Impact expected:

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

Action suggested:

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

Impact expected and action suggested due to Heat wave conditions over Jammu-Kashmir, Himachal Pradesh, West Rajasthan, Haryana, Punjab on 29th & 30th and Saurashtra & Kutch on 29th May.

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

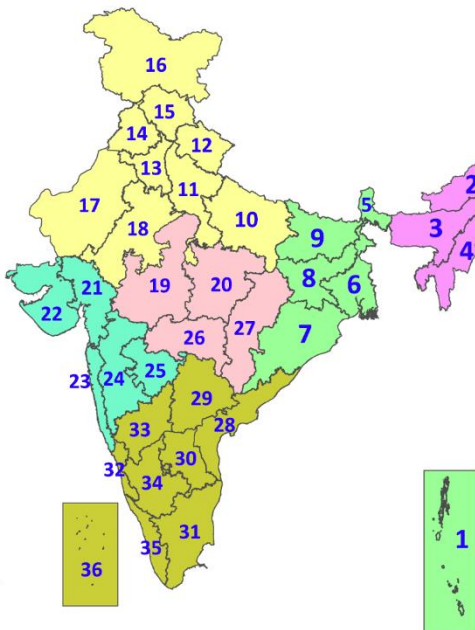
- In **North Eastern States, Odisha, Bihar and Kerala**, make provision to drain out excess water from standing crop and vegetable fields.
- In **Gangetic West Bengal, Odisha, Jharkhand and East Madhya Pradesh**, use hail net and hail caps to prevent mechanical damage in vegetables and orchards due to the possibility of hailstorms.
- To protect standing crops, vegetables and orchards from adverse effects of heat waves and high temperatures, apply light and frequent irrigation in the evening.
- 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 Rain



Very Heavy Rain



Extremely Heavy Rain



Thunder & Lightning



Hailstorm



Dust Raising Winds



Heavy Snow



Dust Storm



Heat Wave



Warm Night



Hot Day



Hot & Humid



Strong Surface Winds



Cold Wave



Cold Day



Ground Frost

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

* 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)

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)