

Saturday, March 15, 2025
Time of Issue: 0800 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems, Forecast and Warnings

- ❖ A **Western Disturbance** seen as a cyclonic circulation over north Pakistan & neighbourhood in lower to upper tropospheric levels. A cyclonic circulation lies over northeast Rajasthan adjoining south Haryana and a trough from this cyclonic circulation to southwest Rajasthan at lower tropospheric levels. Under the influence of these systems;
 - ✓ **Fairly widespread to widespread light/moderate rainfall/snowfall accompanied with thunderstorm & lightning** likely over Western Himalaya region on 15th & 16th March, 2025 and decrease in intensity thereafter.
 - ✓ **Isolated to scattered light/moderate rainfall accompanied with thunderstorm & lightning, Gusty wind & Hail** likely over Haryana, West Uttar Pradesh and Rajasthan on 15th; and thunderstorm with Lightning on 16th, thunderstorm lightning and Gusty winds over Punjab on 15th & 16th, thunderstorm lightning over East Uttar Pradesh during 15th to 17th March,
 - ✓ Isolated **heavy rainfall/snowfall** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 15th; Himachal Pradesh 15th & 16th and over Uttarakhand on 16th March
- ❖ A **Cyclonic Circulation** lies over northeast east Assam in lower tropospheric levels. Under its influence;
 - ✓ **Fairly widespread to widespread light/moderate rainfall/snowfall** accompanied with **thunderstorm & lightning** likely over Arunachal Pradesh and **Scattered to fairly widespread** light/moderate rainfall/snowfall accompanied with **thunderstorm, lightning & gusty winds (speed 40-50 kmph)** likely over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during 15th-17th March.
 - ✓ Isolated **heavy rainfall/snowfall** very likely over Arunachal Pradesh during 15th to 18th.

Temperature Forecast:

Maximum temperature:

- ❖ Fall by 2-3°C in maximum temperatures over plains of Northwest India during subsequent 2-3 days and rise by 3-4°C thereafter.
- ❖ Gradual rise in maximum temperatures by about 2-3°C likely over East India during next 2 days and no significant change thereafter.
- ❖ Fall by 2-3°C in maximum temperatures over Gujarat state & north Marathwada region during subsequent 3-4 days.
- ❖ No significant change in maximum temperatures likely over rest parts of India during next 3-4 days.

Heat wave, Warm Night and Hot & Humid weather warning:

- ❖ **Heat wave to Severe heatwave conditions** likely at isolated places over Kutch on 15th and Odisha during 15th to 17th;
- ❖ **Heat wave conditions** at isolated places over Vidarbha, on 15th to 16th, over Chhattisgarh on 15th; Jharkhand during 15th-17th and Gangetic West Bengal during 15th -17th, over Telangana and Andhra Pradesh on 15th
- ❖ **Warm night conditions** very likely to prevail in isolated pockets over Odisha during 15th to 17th March.
- ❖ **Hot & humid conditions** very likely to prevail in isolated pockets over Coastal Karnatak during 16th to 18th, over Tamil Nadu during 15th to 17th, over Coastal Andhra Pradesh & Yanam on 15th March, 2025.

Main Weather Observations:

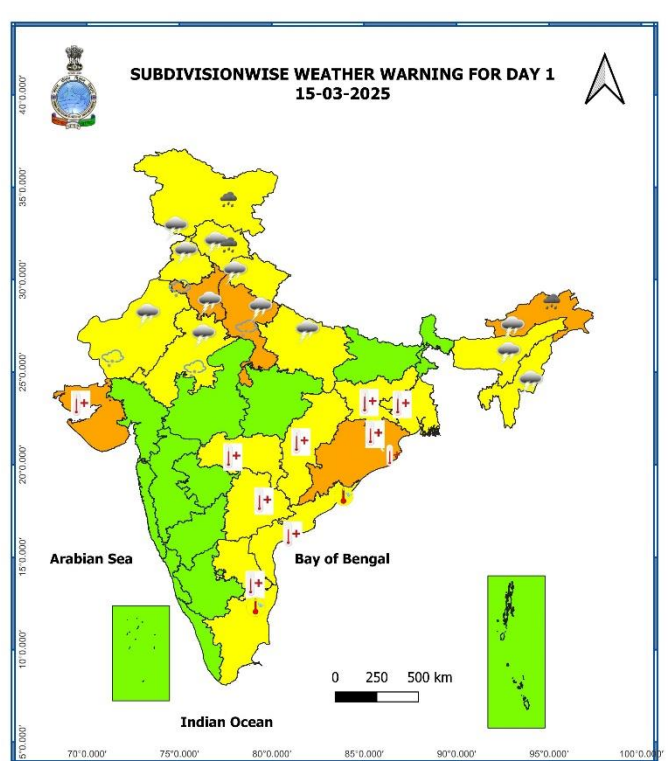
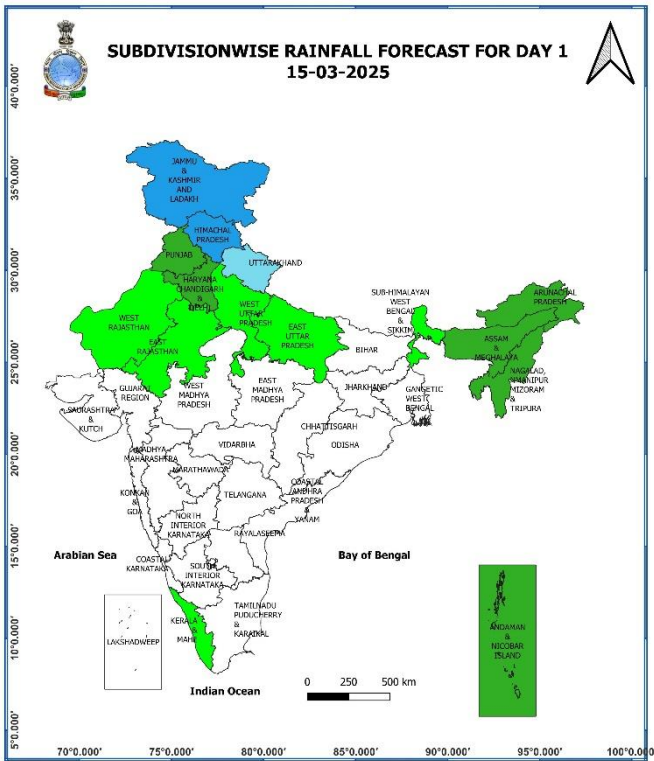
- ❖ **Rainfall/snowfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **Rainfall/Snowfall** occurred at many places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; at isolated places over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Sub-Himalayan West Bengal & Sikkim.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday): (in cm): **Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad**: Quzi-gund, Banihal and Batote -1 each.
- ❖ **Yesterday, heat wave to Severe heat wave conditions** prevailed at a few places over Kutch, Diu; **Heat wave conditions** at a few places over Vidarbha and at isolated places over interior Odisha.
- ❖ **Minimum Temperature Departures (as on 14-03-2025)**: Minimum temperatures were **markedly above normal (5.1°C or more)** at isolated places over West Rajasthan, Madhya Maharashtra; **appreciably above normal (3.1°C to 5.0°C)** at many places over Gujarat Region, Konkan & Goa; at a few places over Saurashtra & Kutch, East Rajasthan; at isolated places over Uttar Pradesh, Marathwada, Gangetic West Bengal; **above normal (1.6°C to 3.0°C)** at many places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Punjab, Himachal Pradesh, Uttarakhand, Bihar, Madhya Pradesh, North Interior Karnataka, Coastal Karnataka, Andaman & Nicobar Islands; at a few places over Jharkhand, Nagaland, Manipur, Mizoram & Tripura, Vidarbha, Chhattisgarh, Odisha; at isolated places over Telangana, Coastal Andhra Pradesh & Yanam, South Interior Karnataka, Kerala & Mahe. These were **below normal (-3.0°C to -1.6°C)** at isolated places over Assam & Meghalaya, Arunachal Pradesh and near normal over rest parts of the country (**Fig. 4**). Yesterday, the **lowest minimum temperature of 13.4°C** was reported at **Amritsar (Punjab)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 14-03-2025)**: Maximum temperatures were **markedly above normal (5.1°C or more)** at isolated places over West Uttar Pradesh, Haryana-Chandigarh-Delhi, Jharkhand, Odisha, Odisha, Chhattisgarh, Vidarbha, Gangetic West Bengal; **appreciably above normal (3.1°C to 5.0°C)** at most places over West Madhya Pradesh, Gujarat Region; at many places East Uttar Pradesh, East Rajasthan, East Madhya Pradesh, Marathwada; at a few places over Madhya Maharashtra; at isolated places Himachal Pradesh, Uttarakhand, Punjab, West Rajasthan, Bihar, Konkan & Goa, Telangana and North Interior Karnataka; **above normal (1.6°C to 3.0°C)** at many places over Coastal & South Interior Karnataka, Rayalaseema and Coastal Andhra Pradesh & Yanam. These were **markedly below normal (5.1°C or less)** at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; at isolated places over Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe; **below normal (-3.0°C to -1.6°C)** at isolated places over Nagaland, Manipur, Mizoram & Tripura and near normal over rest parts of the country. (**Fig. 2**). Yesterday, the highest **maximum temperature of 41.8°C** was reported at **Jharsuguda (Odisha)** over the country.

Meteorological Analysis (Based on 0530 hours IST)

- ❖ The **Western disturbance** as a cyclonic circulation over central parts of Afghanistan & adjacent Pakistan now lies over north Pakistan & neighbourhood between 3.1 & 9.6 km above mean sea level.
- ❖ The **Cyclonic Circulation** over central parts of Rajasthan now lies over northeast Rajasthan adjoining south Haryana extending upto 1.5 km above mean sea level.
- ❖ The **trough** now runs from above cyclonic circulation over northeast Rajasthan adjoining south Haryana to southwest Rajasthan at 1.5 km above mean sea level.
- ❖ The **Cyclonic Circulation** over east Assam now lies over northeast Assam & neighbourhood and extends up to 1.5 km above mean sea level.

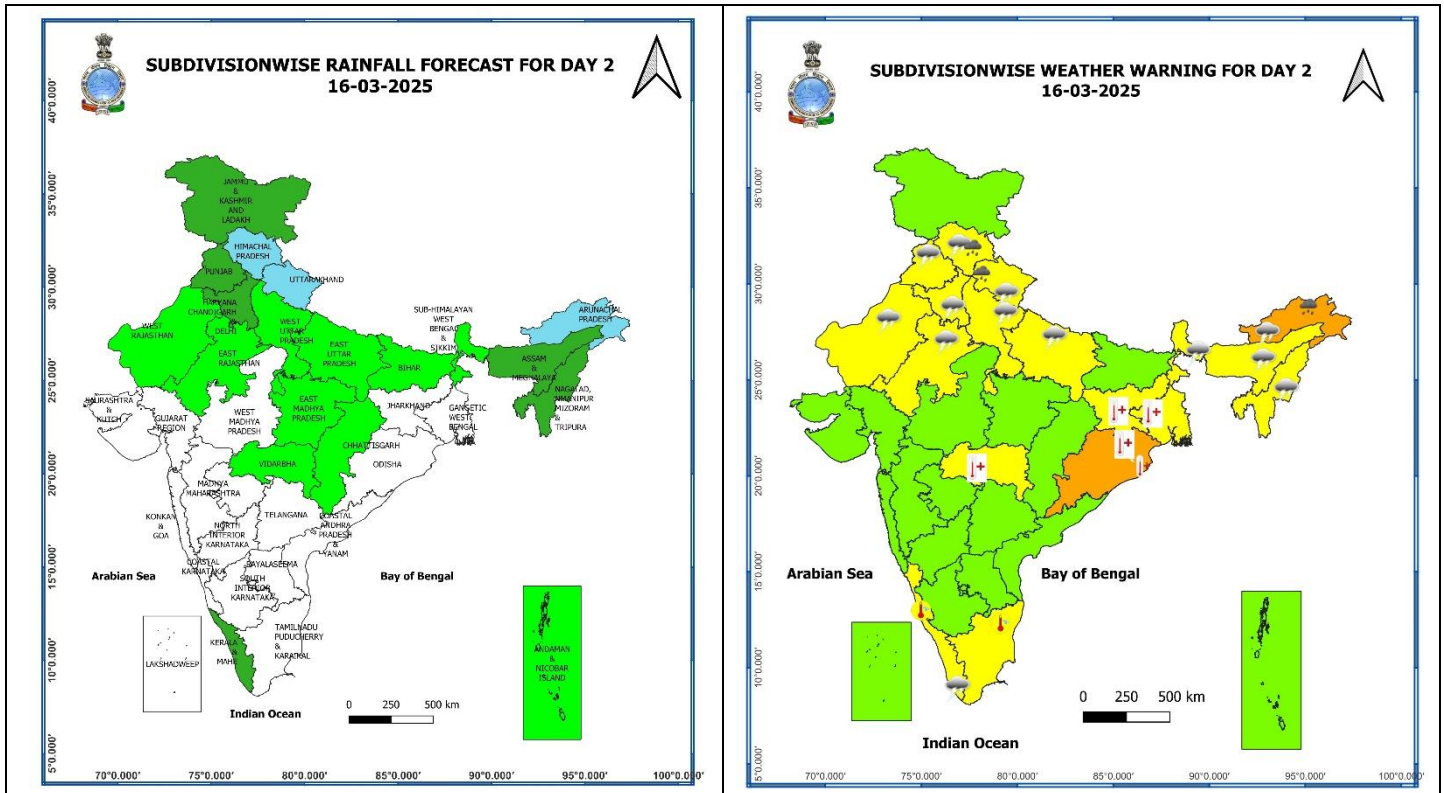
❖

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 22nd March, 2025)



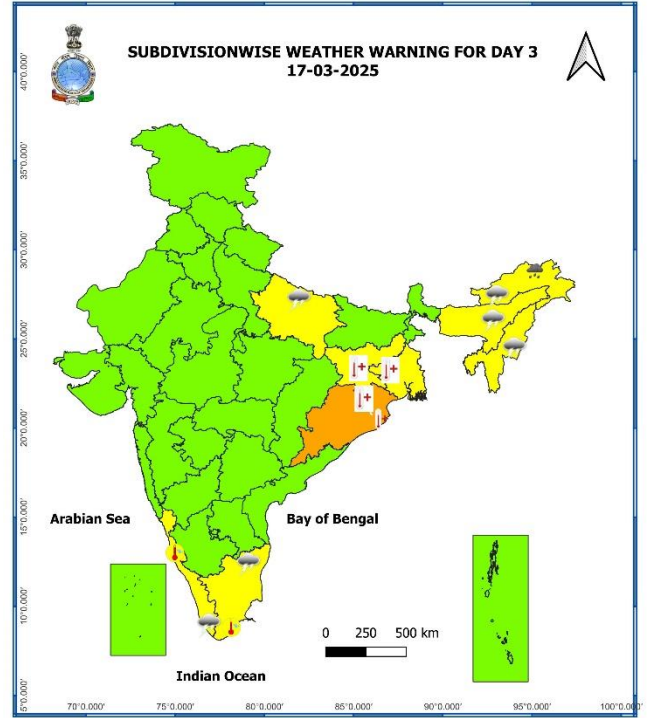
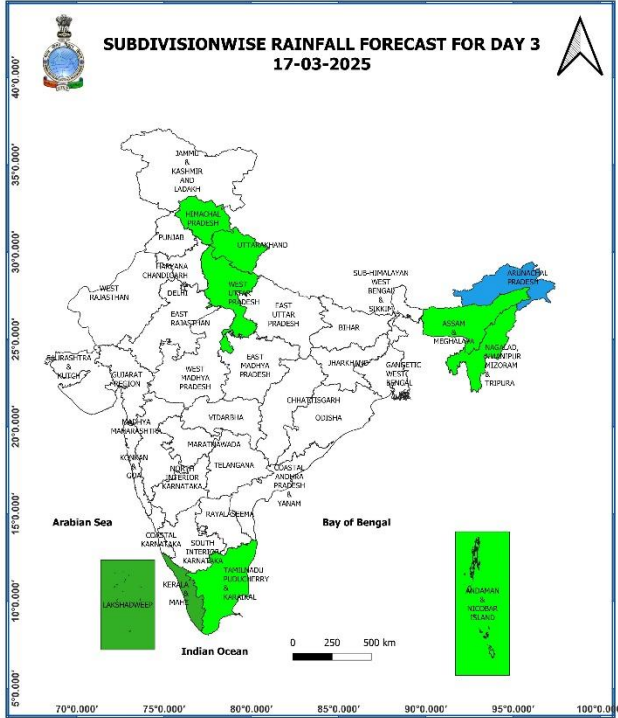
15th March (Day 1):

- ❖ **Heavy rainfall (≥ 7 cm)** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Arunachal Pradesh.
- ❖ **Thunderstorm accompanied with hailstorm, gusty winds (speed reaching 30-40 kmph) & lightning** very likely at isolated places over Rajasthan, West Uttar Pradesh, Haryana; **Thunderstorm accompanied with gusty winds (speed reaching 30-40 kmph) & lightning** very likely at isolated places over Punjab, Delhi, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning** at isolated places over Arunachal Pradesh, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, East Uttar Pradesh.
- ❖ **Heat Wave to severe heat wave Conditions** likely at isolated places over Saurashtra & Kutch, Odisha; **Heat Wave Conditions** likely at isolated places over Gangetic West Bengal, Jharkhand, Chhattisgarh, Vidarbha, Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema.
- ❖ **Warm Night Conditions** likely at isolated places over Odisha.
- ❖ **Hot and Humid Conditions** likely at isolated places Coastal Andhra Pradesh & Yanam and Tamil Nadu.



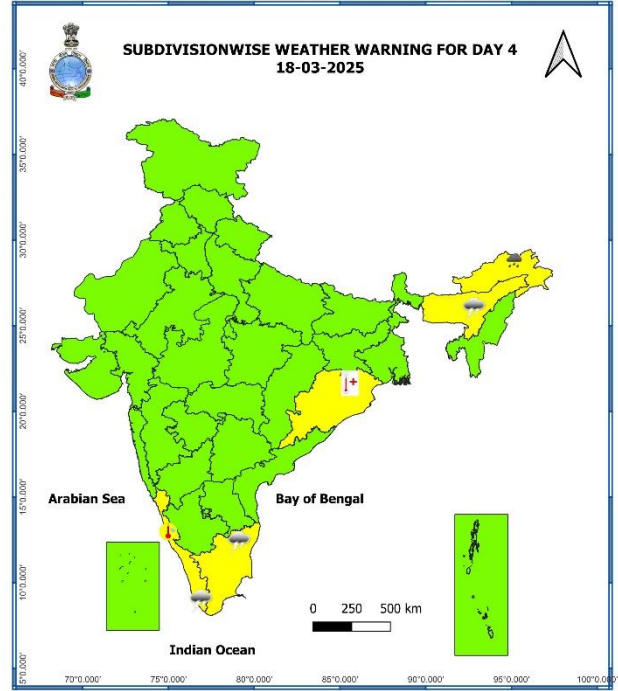
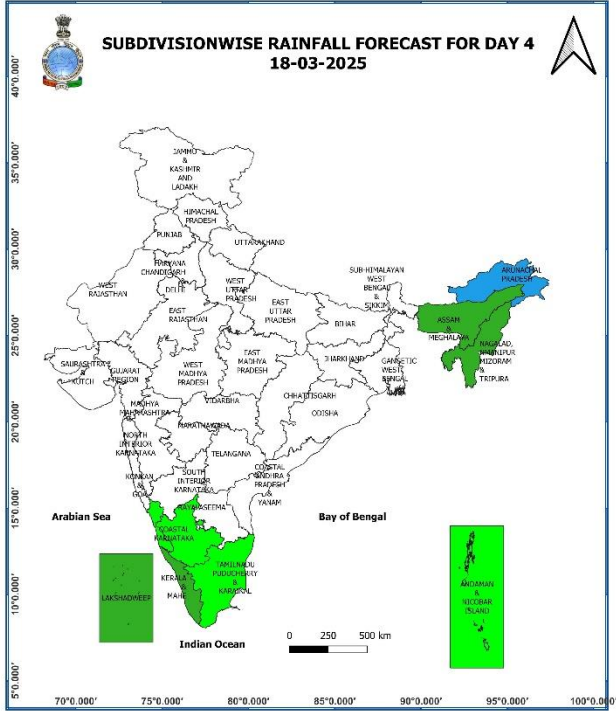
16th March (Day 2):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Himachal Pradesh, Uttarakhand and Arunachal Pradesh.
- ❖ **Thunderstorm accompanied with gusty winds (speed reaching 30-40 kmph) & lightning** very likely at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning** at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Arunachal Pradesh and north Kerala & Mahe.
- ❖ **Heat Wave to severe heat wave Conditions** likely at isolated places over Odisha; **Heat Wave Conditions** likely at isolated places over Gangetic West Bengal, Jharkhand, Vidarbha.
- ❖ **Warm Night Conditions** likely at isolated places over Odisha.
- ❖ **Hot and Humid Conditions** likely at isolated places over Coastal Karnataka and Tamil Nadu.



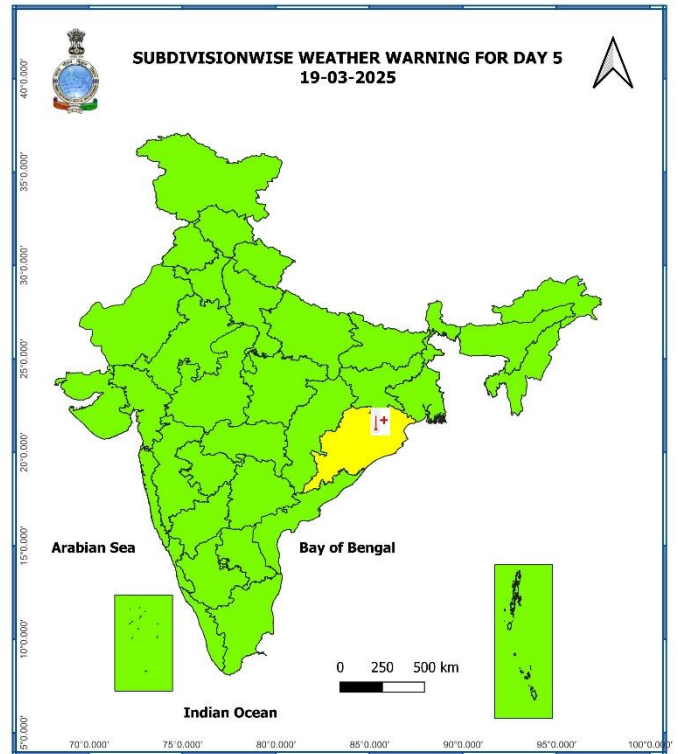
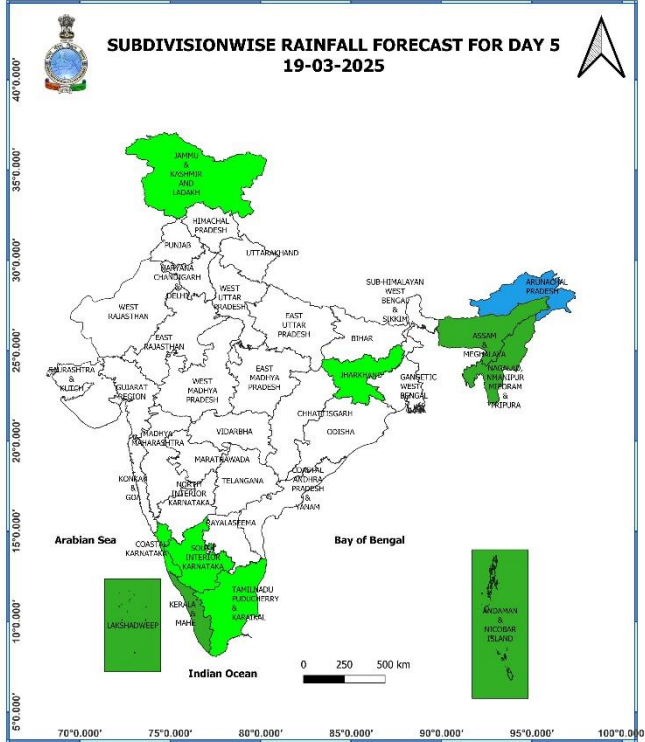
17th March (Day 3):

- ❖ **Heavy rainfall (≥ 7 cm)** at isolated places over Arunachal Pradesh.
- ❖ **Thunderstorm accompanied with gusty winds (speed reaching 30-40 kmph) & lightning** very likely at isolated places over Nagaland, Manipur, Mizoram & Tripura; **with lightning** at isolated places over East Uttar Pradesh, Arunachal Pradesh, Assam & Meghalaya, south Tamil Nadu, Puducherry & Karaikal and north Kerala & Mahe.
- ❖ **Heat Wave to severe heat wave Conditions** likely at isolated places over Odisha; **Heat Wave Conditions** likely at isolated places over Gangetic West Bengal, Jharkhand.
- ❖ **Warm Night Conditions** likely at isolated places over Odisha.
- ❖ **Hot and Humid Conditions** likely at isolated places over Coastal Karnataka and Tamil Nadu.



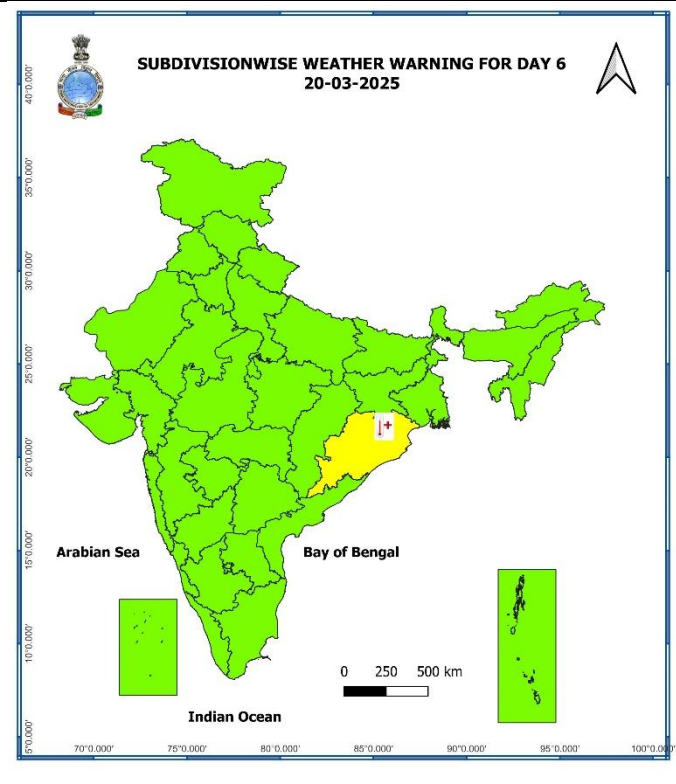
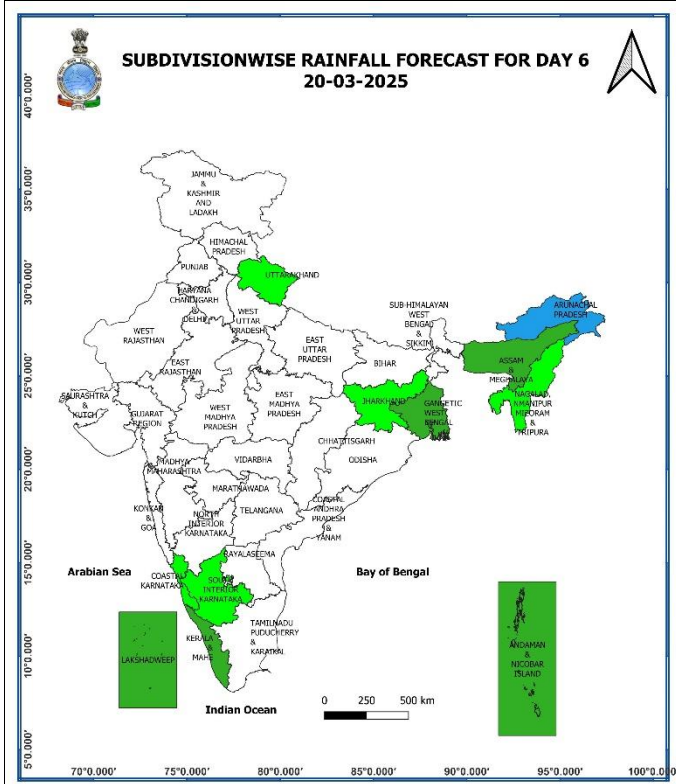
18th March (Day 4):

- ❖ Heavy rainfall (≥ 7 cm) at isolated places over Arunachal Pradesh.
- ❖ Thunderstorm accompanied with lightning at isolated places over Assam & Meghalaya, south Tamil Nadu, Puducherry & Karaikal and north Kerala & Mahe.
- ❖ Heat Wave Conditions likely at isolated places over Odisha.
- ❖ Hot and Humid Conditions likely at isolated places over Coastal Karnataka.



19th March (Day 5):

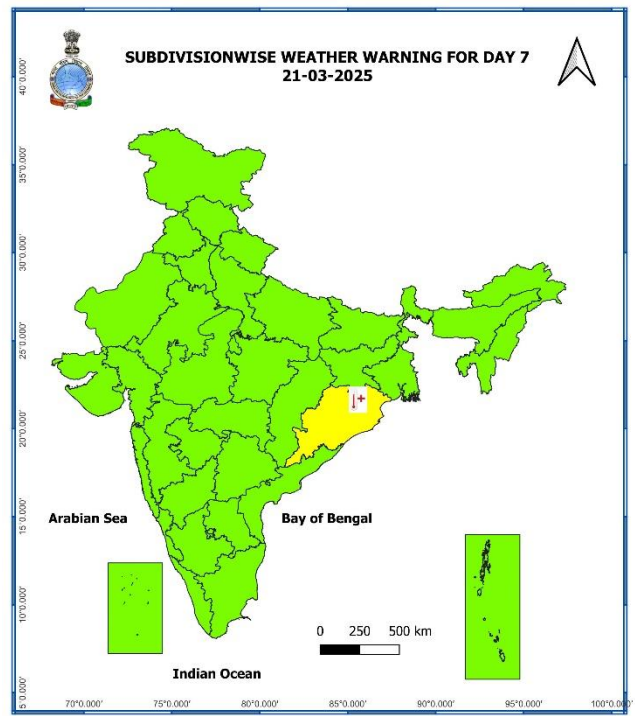
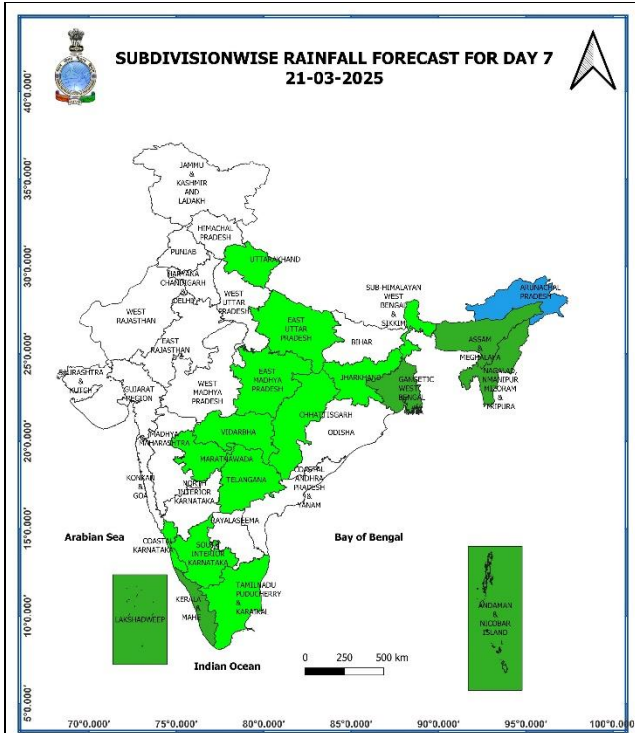
❖ **Heat Wave Conditions** likely at isolated places over Odisha.



20th March (Day 6):

- ❖ **Heat Wave Conditions** likely at isolated places over Odisha

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21th March (Day 7):

- ❖ **Heat Wave Conditions** likely at isolated places over Odisha

Weather Outlook for subsequent 3 days (During 22nd March- 24th March, 2025)

- ❖ **Isolated to scattered rainfall** likely over Western Himalayan region, Northeast, East & adjoining Central India, south Peninsular India.

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

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

Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

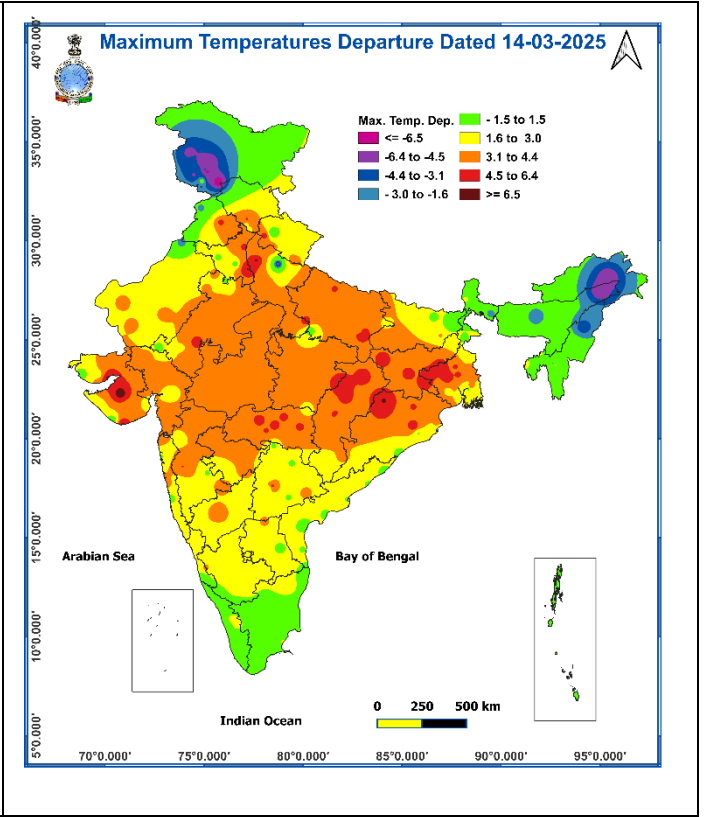
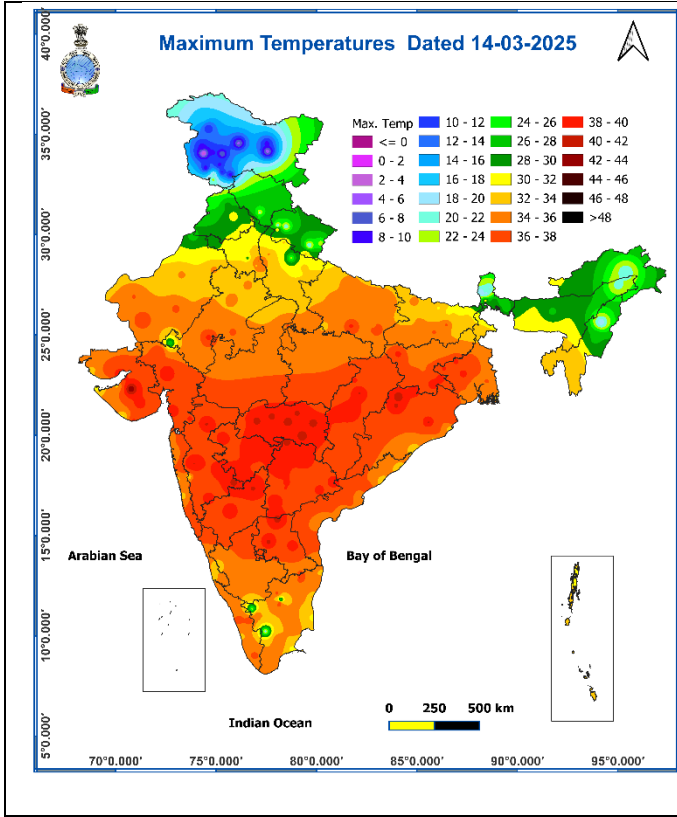
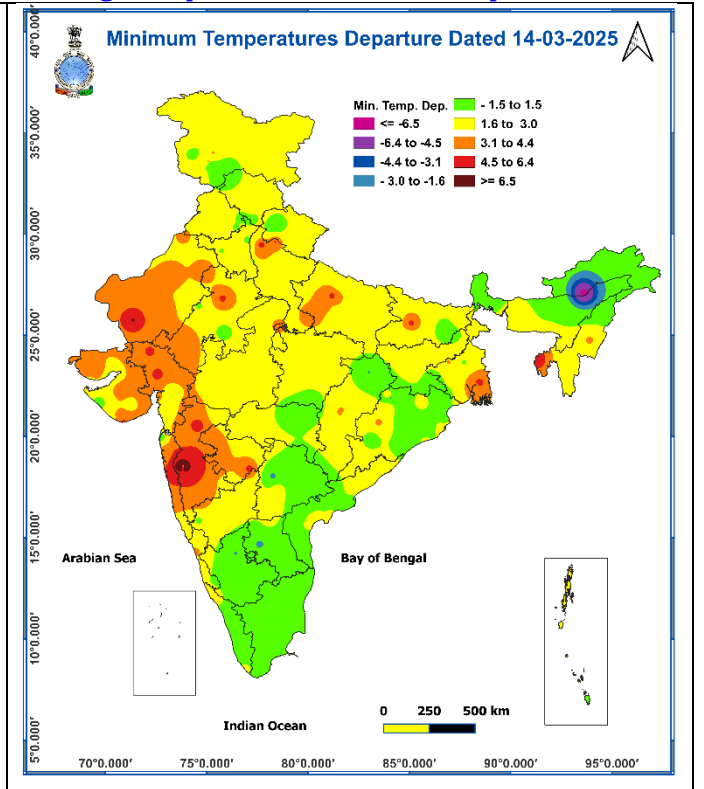
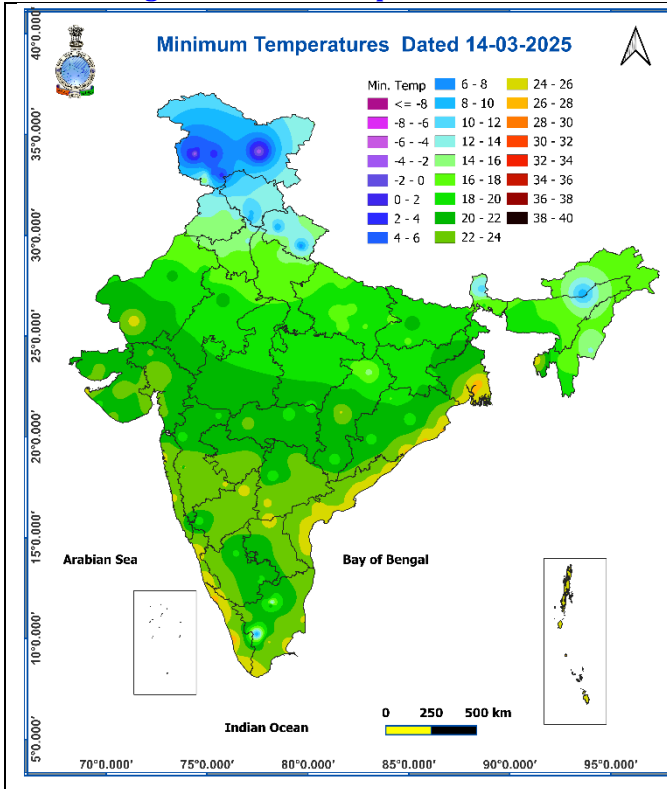


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures



Impact expected and action suggested due to thunderstorm accompanied with lightning/gusty winds over Northeast India and Northwest India during next 5 days

❖ **Impact expected:**

- ❖ Strong wind may damage plantation, horticulture and standing crops.
- ❖ 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 & Action Suggested due to heavy rainfall/ snowfall over;

- (i) **Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 15th; Himachal Pradesh 15th & 16th and Uttarakhand on 16th March**
- (ii) **Arunachal Pradesh during 15th-18th.**

A. Impact Expected

- ❖ Localized Flooding of roads, water logging in low lying areas and closure of underpasses mainly in urban areas of the above region.
- ❖ Occasional reduction in visibility due to heavy rainfall.
- ❖ Disruption of traffic in major cities due to water logging in roads leading to increased travel time.
- ❖ Minor damage to kutcha roads.
- ❖ Possibilities of damage to vulnerable structure.
- ❖ Localized Landslides/Mudslides
- ❖ Damage to horticulture and standing crops in some areas due to inundation.
- ❖ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC).

B. Action Suggested

- ❖ Check for traffic congestion on your route before leaving for your destination.
- ❖ Follow any traffic advisories that are issued in this regard.
- ❖ Avoid going to areas that face the water logging problems often.
- ❖ Avoid staying in vulnerable structure.

Impact expected and action suggested due to Heat wave to severe heat wave conditions likely at isolated places over Odisha during 15th -17th; Heat wave to severe heat wave conditions likely at isolated places over Chhattisgarh on 15th; Jharkhand during 15th-17th; Coastal Andhra Pradesh & Yanam on 15th; Odisha during 18th-20th and Gangetic West Bengal on 15th -17th March, 2025.

Orange alert Areas (Saurashtra & Kutch 15th; Odisha during 15-17th March)

- ❖ 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.

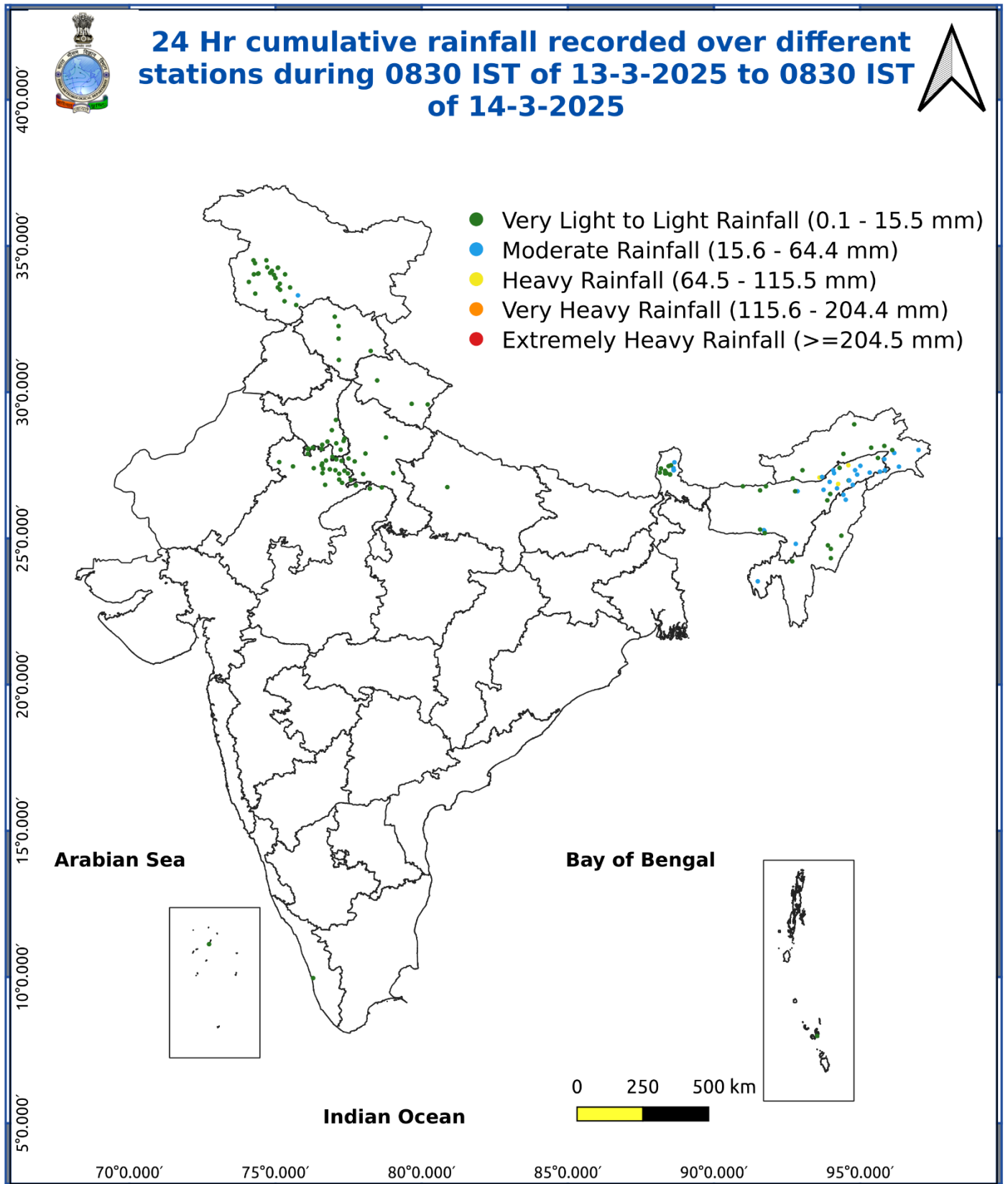
Agromet advisories for likely impact of Heavy Rainfall / Hailstorm / Heat Wave

- In **Assam, Meghalaya, NMMT, Punjab, Haryana, West Uttar Pradesh and East Rajasthan**, use hail net and hail caps to prevent mechanical damage in orchards due to hailstorms.
- In **Arunachal Pradesh, Assam & Meghalaya, Jammu & Kashmir and Himachal Pradesh**, drain out excess water from standing crop and vegetable fields. Postpone land preparation and sowing of *Jhum* rice and maize in **Arunachal Pradesh**; sowing of rice, jute, maize and vegetables in **Assam**.
- In **Odisha, Jharkhand, Gangetic West Bengal, Saurashtra & Kutch, Vidarbha, Andhra Pradesh and Telangana**, apply light and frequent irrigation to the standing crops, vegetables and orchards in the evening to protect them from adverse impacts of heat wave.
- Keep the harvested produce in safer places or cover the produce with tarpaulin sheets in the fields.
- Provide mechanical support to horticultural crops and staking to vegetables to avoid lodging.
- In the regions of heavy snowfall, shake the fruit-bearing trees to remove snow immediately from the branches.

Livestock and 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.
- 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.

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)