

Monday, March 17, 2025
Time of Issue: 0830 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems, Forecast and Warnings

- ❖ A **Cyclonic Circulation** lies over northeast Assam and neighbourhood in lower tropospheric levels. Under its influence;
 - ✓ **Scattered to Fairly widespread light/moderate rainfall/snowfall** accompanied with **thunderstorm, lightning & gusty winds (speed 30-40 kmph) likely** over Arunachal Pradesh during next 7 days with Isolated **heavy rainfall/snowfall** on 17th March.
 - ✓ **Scattered to fairly widespread light/moderate rainfall** accompanied with **thunderstorm, lightning & gusty winds (speed 30-50 kmph) likely** over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura on 17th March and isolated to Scattered rainfall thereafter during subsequent 5 days.
- ❖ A **Western Disturbance** lies as a cyclonic circulation over north Haryana & adjoining northwest Uttar Pradesh in lower & middle tropospheric levels. A cyclonic circulation lies over Haryana and a trough runs from to northeast Madhya Pradesh to Vidarbha in lower tropospheric levels.
- ❖ Due to trough and wind confluence over East India in lower tropospheric levels, scattered to fairly widespread rainfall accompanied with Thunderstorm, lightning and gusty winds likely over east central India during 20th-23rd March.

Temperature Forecast:

Maximum temperature:

- ❖ Gradual rise in maximum temperatures by about 2-4°C likely over Northwest India during next 4-5 days
- ❖ No significant change in maximum temperatures likely over Central India during next 24 hours and fall by 2-4°C during subsequent 3-4 days.
- ❖ No significant change in maximum temperatures likely over East India during next 48 hours and fall by 2-3°C during subsequent 3 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 heat wave conditions** likely to continue over interior Odisha on 17th & 18th March.
- ❖ **Heat wave conditions** likely over Jharkhand, Gangetic West Bengal, Vidarbha, north Telangana on 17th; North Interior Karnataka on 19th & 20th March.
- ❖ **Warm night conditions** very likely to prevail in isolated pockets over Odisha on 17th & 18th; Jharkhand and Gangetic West Bengal on 17th.
- ❖ **Hot & humid conditions** very likely to prevail in isolated pockets over coastal areas of Gujarat during next 5 days and over north interior Karnataka on 17th March.

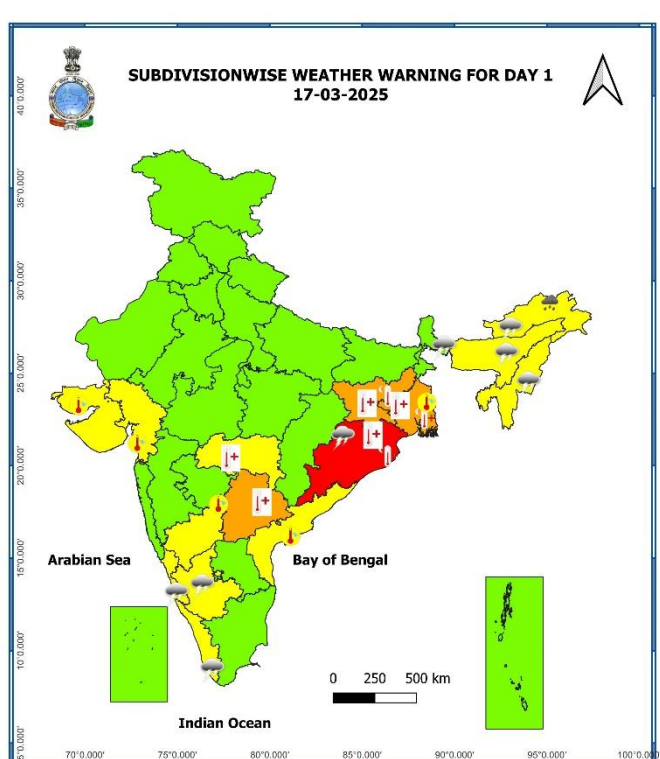
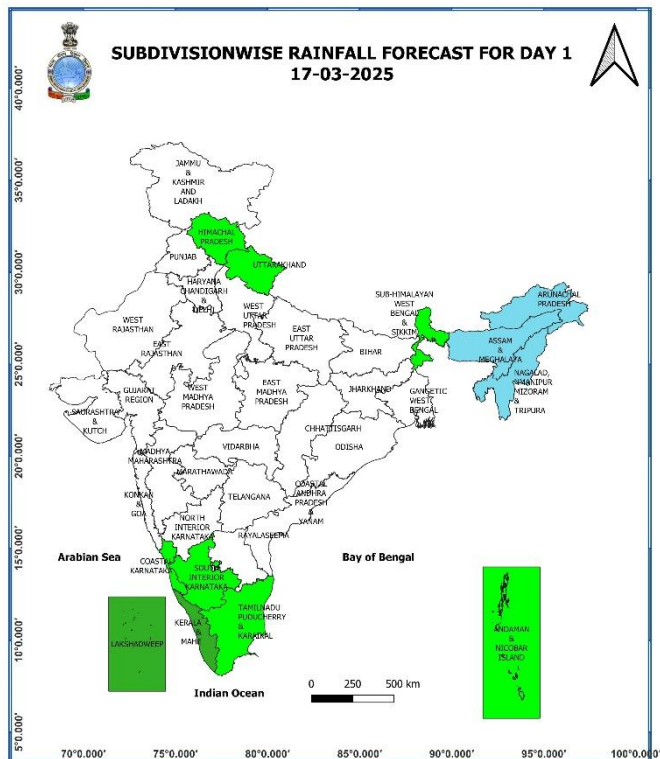
Main Weather Observations:

- ❖ **Rainfall/snowfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **Rainfall/Snowfall at many places** over Himachal Pradesh; **at isolated places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Arunachal Pradesh, Sub-Himalayan West Bengal & Sikkim and **Rainfall** at isolated places over Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday): (in cm): **Himachal Pradesh:** Bhuntar Kullu 1; **Assam & Meghalaya:** North Lakhimpur 1; **Kerala & Mahe:** Kottayam 2.
- ❖ Yesterday, **Heat wave to severe heat wave realised** in Jharkhand & Odisha and **heat wave realised** in Vidarbha.
- ❖ Yesterday, **Thunderstorm accompanied with Hailstorm** reported at isolated location of Odisha.
- ❖ **Minimum Temperature Departures (as on 16-03-2025):** Minimum temperatures were **markedly above normal (5.1°C or more)** at a few places over East Uttar Pradesh; at isolated places over Odisha, Bihar and East Madhya Pradesh; **appreciably above normal (3.1°C to 5.0°C)** at many places over Gangetic West Bengal; at a few places over West Uttar Pradesh, Gujarat state and Assam & Meghalaya; at isolated places over Marathwada, Sub-Himalayan West Bengal & Sikkim, Jharkhand and Madhya Maharashtra; **above normal (1.6°C to 3.0°C)** at most places over Kerala & Mahe; at a few places over Delhi and Andaman & Nicobar Islands; at isolated places over Vidarbha, Coastal Andhra Pradesh & Yanam, Rajasthan and Konkan & Goa. These were **below normal (-3.0°C to -1.6°C)** at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; at isolated places over Punjab and near normal over rest parts of the country (**Fig. 4**). Yesterday, the **lowest minimum temperature of 10.1°C** was reported at **Adampur (Punjab)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 16-03-2025):** Maximum temperatures were **markedly above normal (5.1°C or more)** at isolated places over Gangetic West Bengal, Jharkhand and Chhattisgarh; at a few places over East Uttar Pradesh; **appreciably above normal (3.1°C to 5.0°C)** at most places over Vidarbha; at a few places over Telangana; at isolated places over West Uttar Pradesh, Odisha and Nagaland, Manipur, Mizoram & Tripura; **above normal (1.6°C to 3.0°C)** at many places over Saurashtra & Kutch; at a few places Delhi, Madhya Pradesh, Madhya Maharashtra and Rayalaseema; at isolated places over Punjab, Gujarat Region, Konkan & Goa, Marathwada, Telangana and North Interior Karnataka. These were **markedly below normal (-5.1°C or less)** at most places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; at a few places over Bihar; at isolated places over Assam & Meghalaya and near normal over rest parts of the country. (**Fig. 2**). Yesterday, the highest **maximum temperature of 43.6°C** was reported at **Boudh (Odisha)** over the country.

Meteorological Analysis (Based on 0530 hours IST)

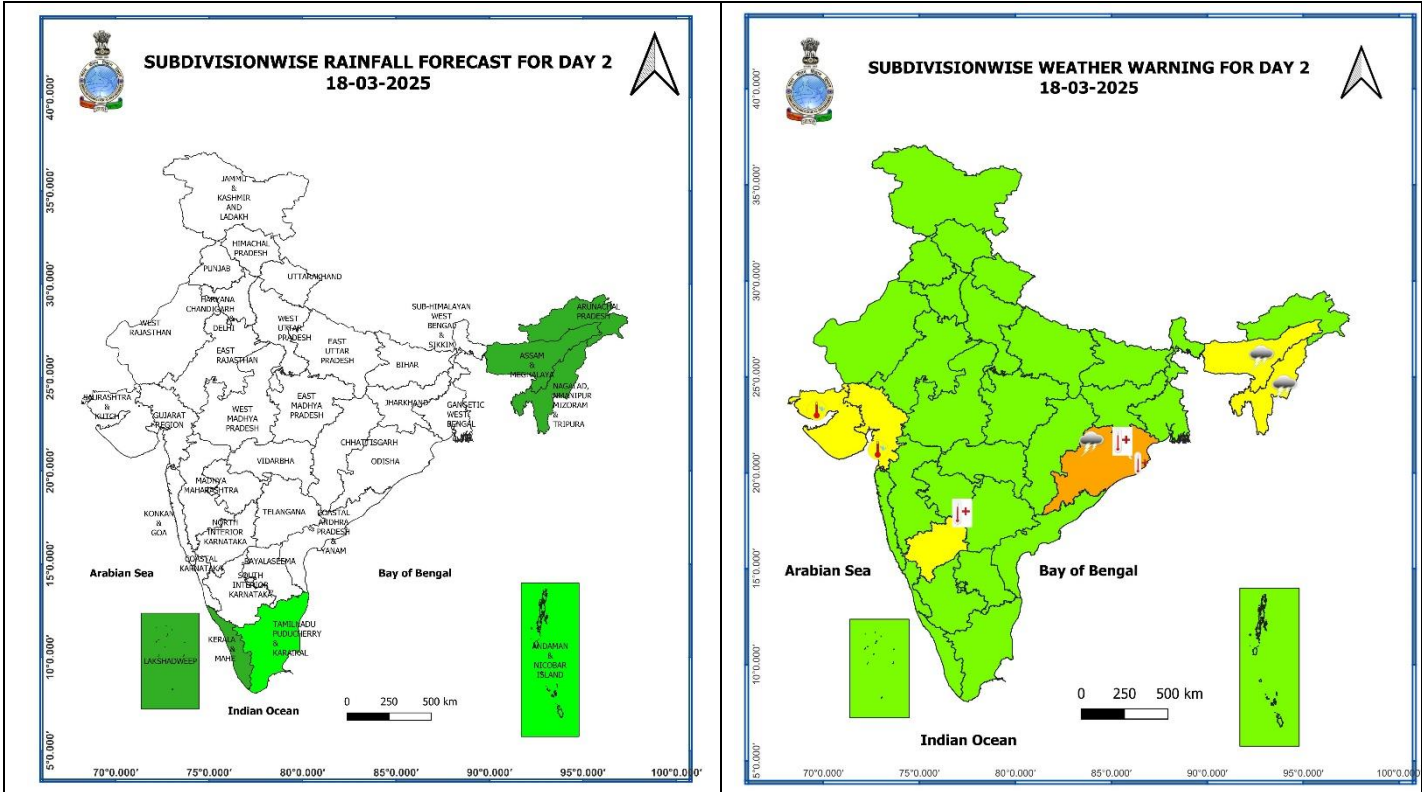
- ❖ The **Western Disturbance** as a cyclonic circulation over north Pakistan & adjoining Jammu region now lies over north Haryana & adjoining northwest Uttar Pradesh between 3.1 & 5.8 km above mean sea level with a trough aloft with its axis at 7.6 km above mean sea level now runs roughly along Long. 75°E to the north of Lat. 27°N.
- ❖ The upper air **Cyclonic Circulation** over Haryana at 1.5 km above mean sea level persists.
- ❖ The **trough** from northwest Madhya Pradesh to Marathwada now runs from northeast Madhya Pradesh to Vidarbha at 0.9 km above mean sea level.
- ❖ The upper air **Cyclonic Circulation** over northeast Assam & neighbourhood persists and extends upto 1.5 km above mean sea level.
- ❖ A fresh feeble **Western Disturbance** likely to affect western Himalayan region from 19th March.
- ❖ The upper air **Cyclonic Circulation** over northwest Madhya Pradesh & neighbourhood at 0.9 km above mean sea level has become less marked.
- ❖ The **trough** in easterlies from Gulf of Mannar to South Interior Karnataka across interior Tamil Nadu at 0.9 km above mean sea level has become less marked.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 24th March, 2025)



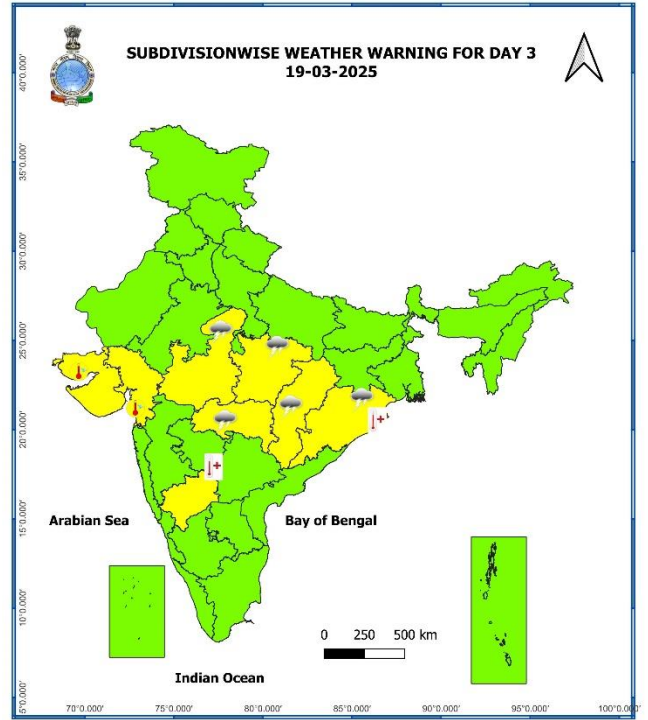
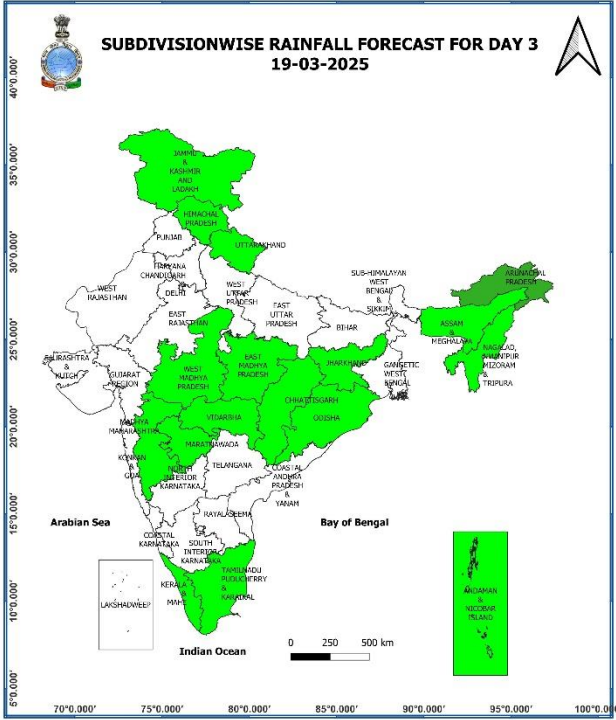
17th March (Day 1):

- ❖ **Heavy rainfall (≥ 7 cm)** at isolated places over Arunachal Pradesh.
- ❖ **Thunderstorm accompanied with gusty winds (speed reaching 40-50 kmph) & lightning** very likely at Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning** at isolated places over Arunachal Pradesh, Sub-Himalayan West Bengal & Sikkim, Odisha, Coastal Karnataka, South Interior Karnataka and Kerala & Mahe.
- ❖ **Heat wave to Severe Heat Wave Conditions** very likely at many places over Odisha; **Heat Wave Conditions** very likely at isolated places over Jharkhand, Gangetic West Bengal, Telangana and Vidarbha.
- ❖ **Warm Night Conditions** likely at isolated places over Jharkhand, Gangetic West Bengal and Odisha.
- ❖ **Hot and Humid Conditions** likely at isolated places over coastal Gujarat, Coastal Andhra Pradesh & Yanam, North Interior Karnataka and Gangetic West Bengal.



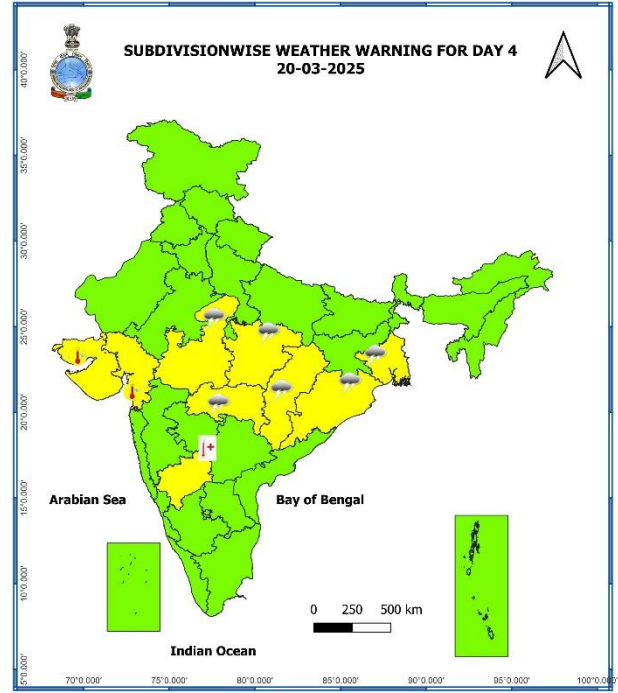
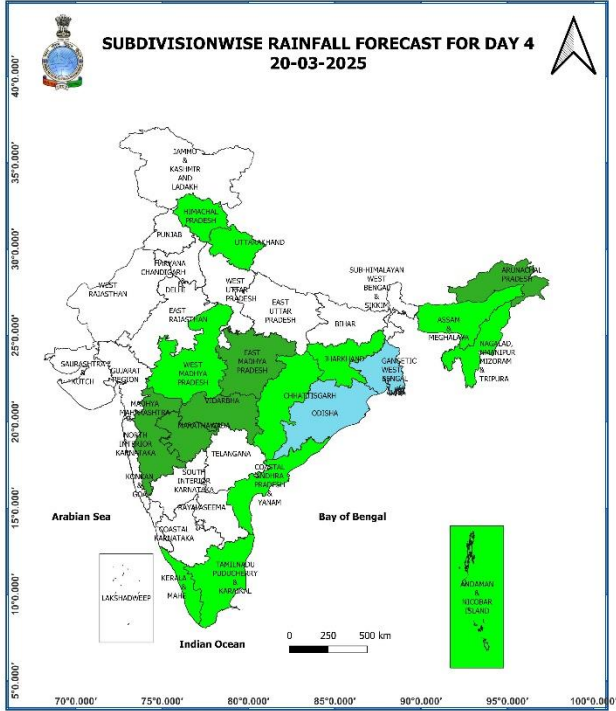
18th March (Day 2):

- ❖ **Thunderstorm accompanied with lightning** at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram, Tripura and Odisha.
- ❖ **Heat Wave Conditions** likely at isolated places over Odisha and North Interior Karnataka.
- ❖ **Hot and Humid Conditions** likely at isolated places over coastal Gujarat.
- ❖ **Warm Night Conditions** likely at isolated places over Odisha.



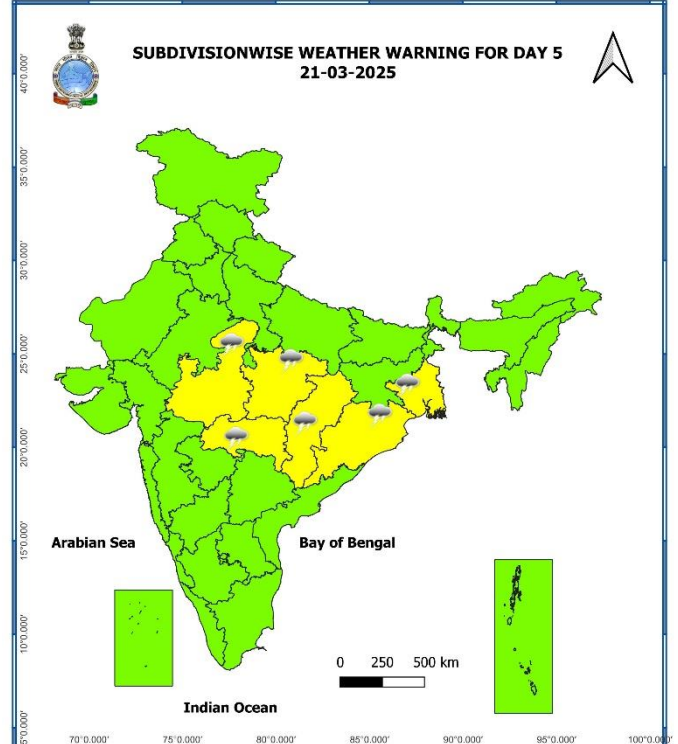
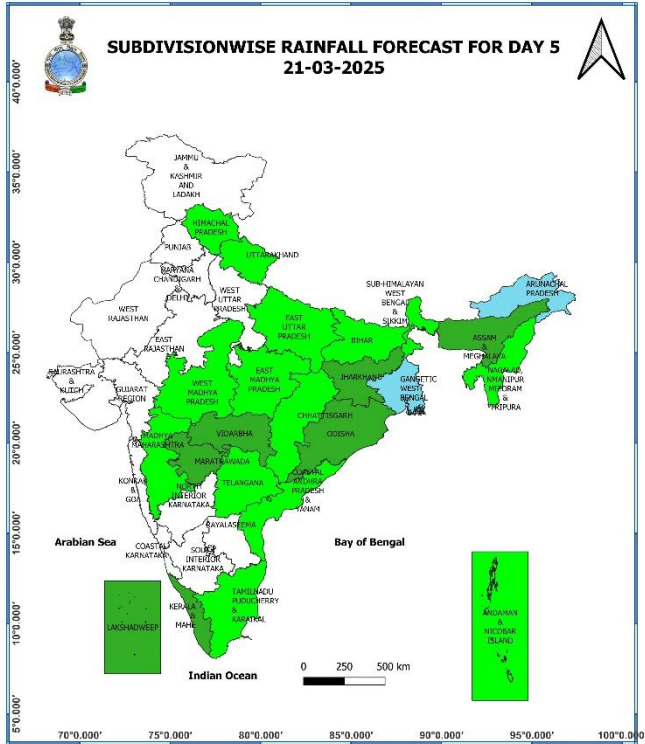
19th March (Day 3):

- ❖ **Thunderstorm accompanied with** at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh, and Odisha.
- ❖ **Heat Wave Conditions** likely at isolated places over Odisha and North Interior Karnataka.
- ❖ **Hot and Humid Conditions** likely at isolated places over coastal Gujarat.



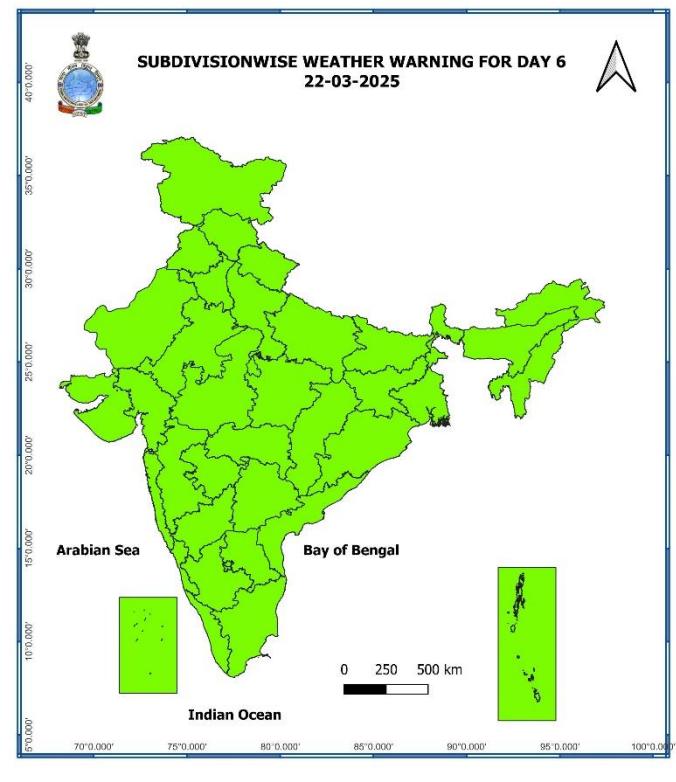
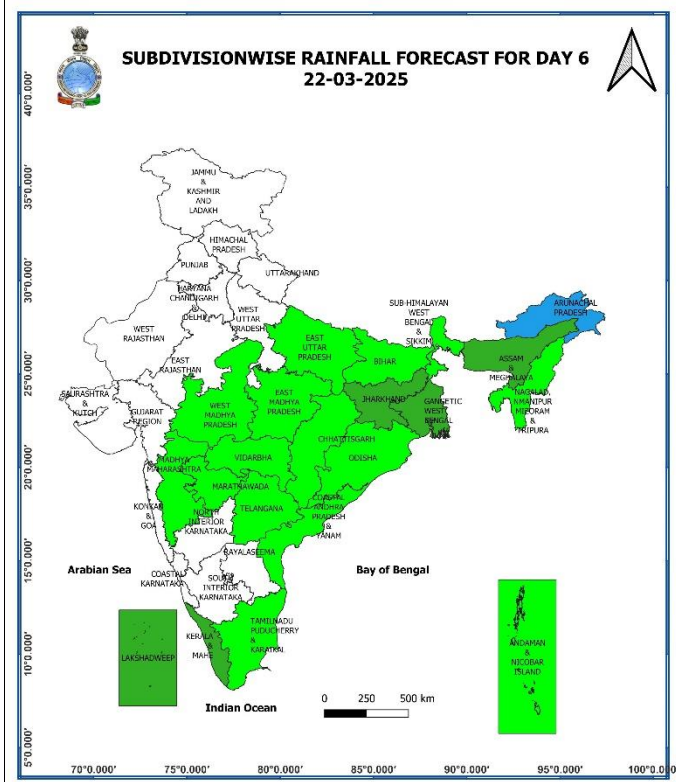
20th March (Day 4):

- ❖ **Thunderstorm accompanied with gusty winds (speed reaching 40-50 kmph) & lightning** likely at isolated places over Gangetic West Bengal; **with lightning** at isolated places over Madhya Pradesh, Vidarbha, Chhattisgarh and Odisha
- ❖ **Heat Wave Conditions** likely at isolated places over North Interior Karnataka.
- ❖ **Hot and Humid Conditions** likely at isolated places over coastal Gujarat.



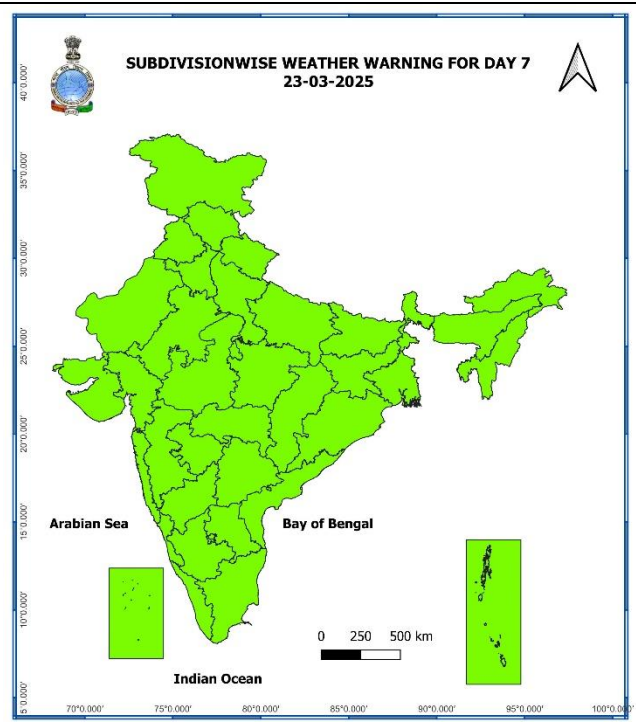
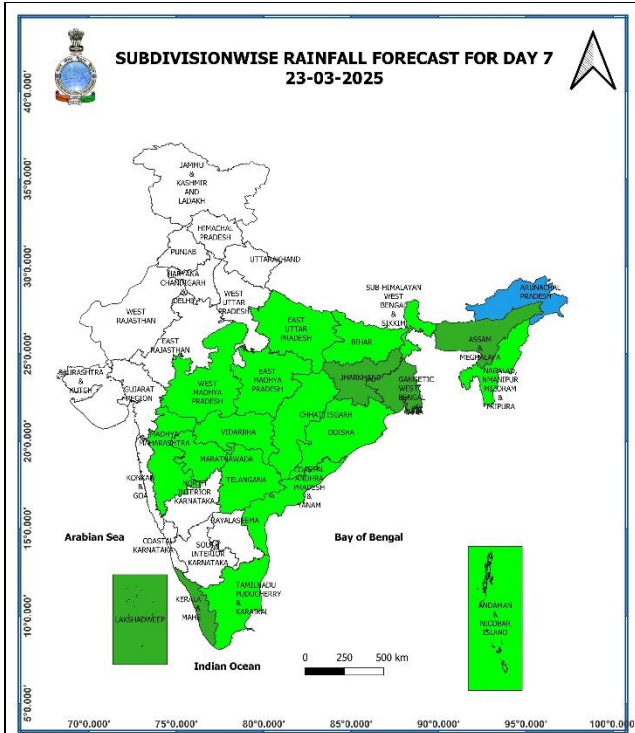
21st March (Day 5):

- ❖ **Thunderstorm accompanied with gusty winds (speed reaching 40-50 kmph) & lightning** likely at isolated places over Gangetic West Bengal, Odisha; **with lightning** at isolated places over Madhya Pradesh, Vidarbha, and Chhattisgarh.



22nd March (Day 6):

❖ **No Weather Warning.**



23rd March (Day 7):

❖ **No Weather Warning.**

Weather Outlook for subsequent 3 days (During 24th March- 25th March, 2025)

❖ **Isolated to scattered rainfall** likely over Jammu & Kashmir, 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

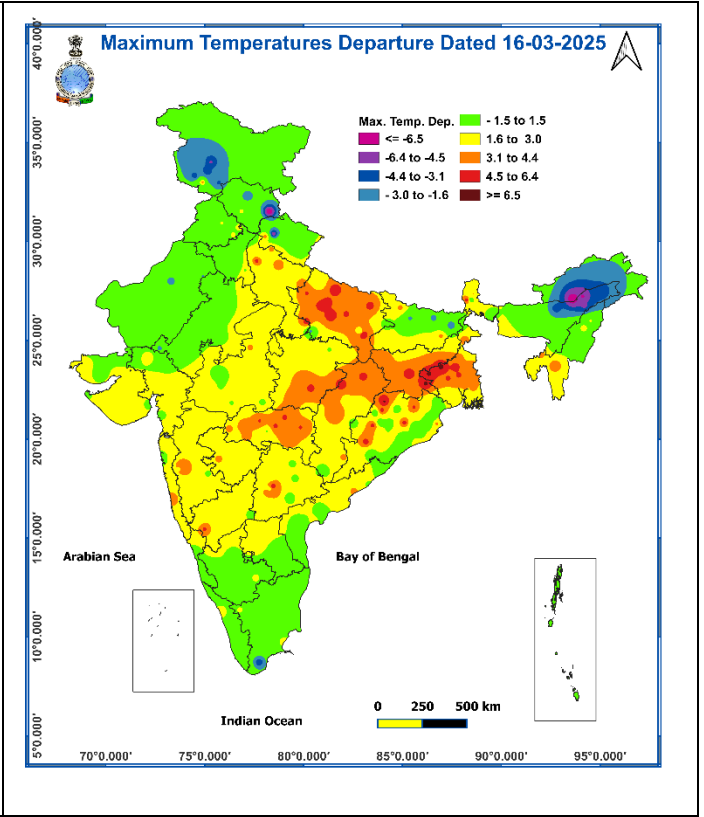
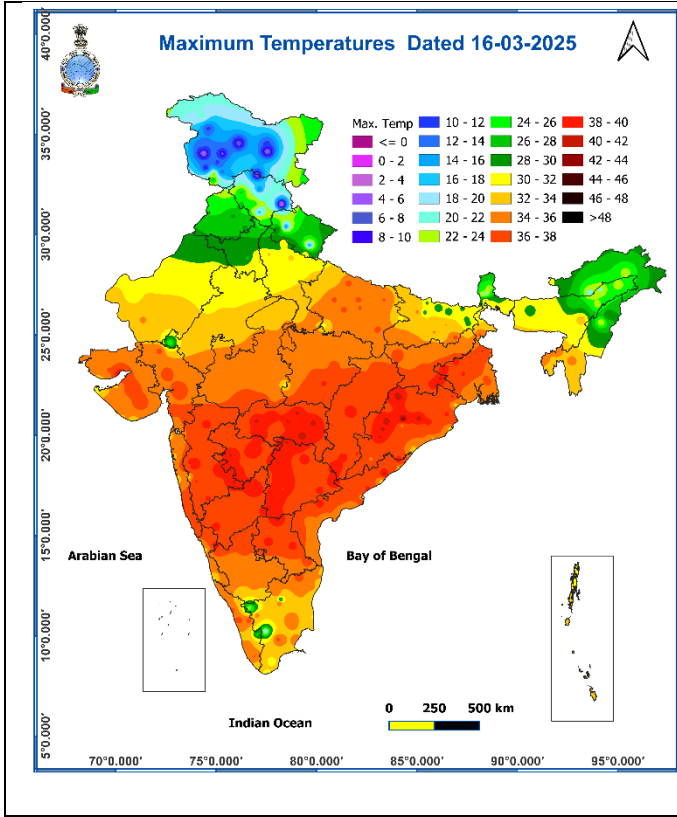
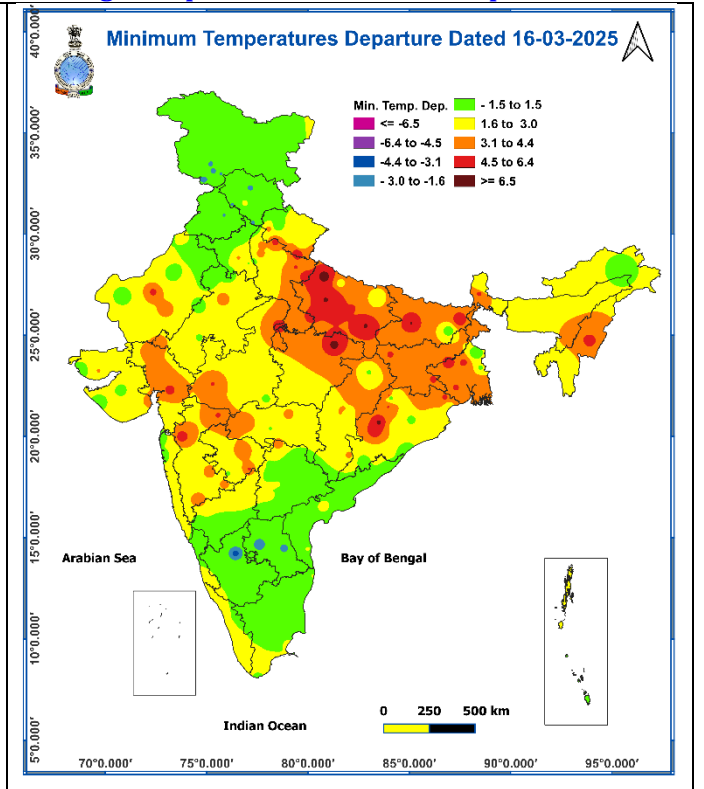
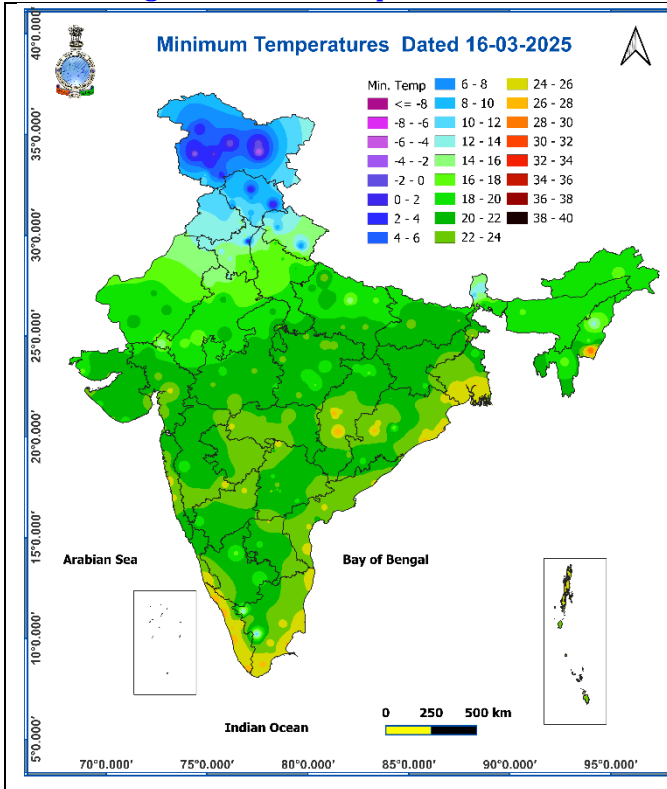


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures



Impact expected and action suggested due to thunderstorm accompanied with lightning/gusty winds over over Northeast India during next 2 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 Arunachal Pradesh on 17th March

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 over interior Odisha during 17th-18th March. Heat wave conditions over Jharkhand, Gangetic West Bengal, Vidarbha, north Telangana on 17th and North Interior Karnataka during 18th -20th March. Red alert Areas (Interior Odisha on 17th march)

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

Orange alert Areas (Vidarbha, North Telangana, Gangetic West Bengal on 17th)

- ✓ 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.

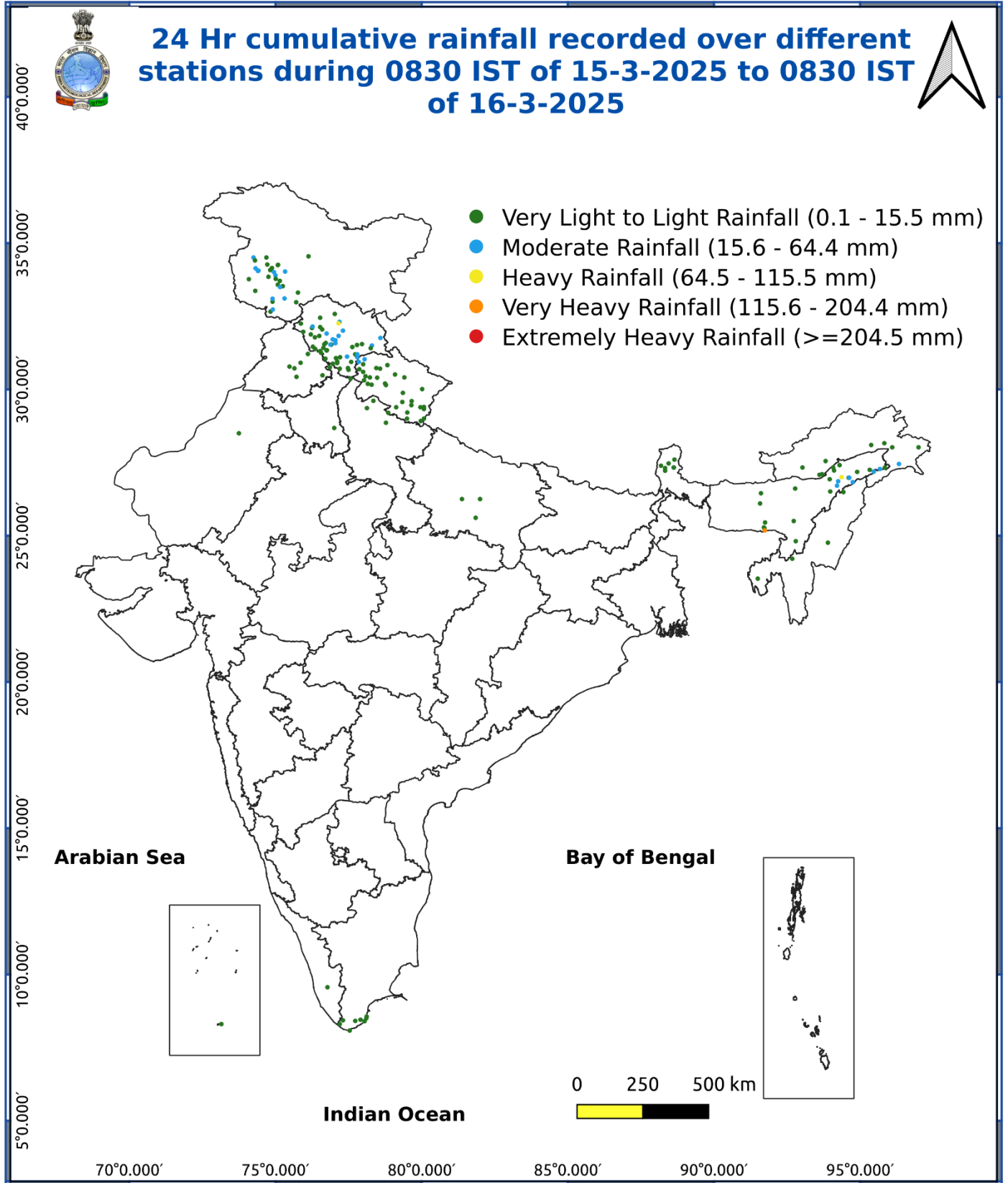
Agromet advisories for likely impact of Heavy Rainfall / Hailstorm / Heat Wave

- In **Sikkim**, use hail net and hail caps to prevent mechanical damage in orchards due to hailstorms.
- In **Arunachal Pradesh**, make provision to drain out excess water from standing crop and vegetable fields. Postpone land preparation and sowing of *Jhum* rice and maize.
- In **Odisha, Jharkhand, Gangetic West Bengal, Vidarbha, Chhattisgarh** and **North 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.

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



* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".
Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.
For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599
(Service to the Nation since 1875)

LEGENDS

1. अंडमान और निकोबार द्वीपसमूह
2. अरुणाचल प्रदेश
3. असम और मेघालय
4. नागालैंड, मणिपुर, मिजोरम और त्रिपुरा
5. उप-हिमालयी पश्चिम बंगाल और सिक्किम
6. गंगीय पश्चिम बंगाल
7. ओडिशा
8. झारखंड
9. बिहार
10. पूर्वी उत्तर प्रदेश
11. पश्चिम उत्तर प्रदेश
12. उत्तराखंड
13. हरियाणा, चंडीगढ़ और दिल्ली
14. पंजाब
15. हिमाचल प्रदेश
16. जम्मू और कश्मीर और लद्दाख
17. पश्चिम राजस्थान
18. पूर्वी राजस्थान
19. पश्चिम मध्य प्रदेश
20. पूर्वी मध्य प्रदेश
21. गुजरात
22. सौराष्ट्र
23. कोंकण और गोवा
24. मध्य महाराष्ट्र
25. मराठवाड़ा
26. विदर्भ
27. छत्तीसगढ़
28. तटीय आंध्र प्रदेश और यनम
29. तेलंगाना
30. रायलसीमा
31. तमिलनाडु, पुडुचेरी और कराईकल
32. तटीय कर्नाटक
33. आंतरिक उत्तरी कर्नाटक
34. आंतरिक दक्षिणी कर्नाटक
35. केरल और माहे
36. लक्षद्वीप



1. Andaman & Nicobar Islands
2. Arunachal Pradesh
3. Assam & Meghalaya
4. Nagaland, Manipur, Mizoram & Tripura
5. Sub-Himalayan West Bengal & Sikkim
6. Gangetic West Bengal
7. Odisha
8. Jharkhand
9. Bihar
10. East Uttar Pradesh
11. West Uttar Pradesh
12. Uttarakhand
13. Haryana, Chandigarh & Delhi
14. Punjab
15. Himachal Pradesh
16. Jammu & Kashmir and Ladakh
17. West Rajasthan
18. East Rajasthan
19. West Madhya Pradesh
20. East Madhya Pradesh
21. Gujarat
22. Saurashtra
23. Konkan & Goa
24. Madhya Maharashtra
25. Marathwada
26. Vidarbha
27. Chhattisgarh
28. Coastal Andhra Pradesh & Yanam
29. Telangana
30. Rayalaseema
31. Tamilnadu, Puducherry & Karaikal
32. Coastal Karnataka
33. North Interior Karnataka
34. South Interior Karnataka
35. Kerala & Mahe
36. Lakshadweep

SPATIAL DISTRIBUTION (% of Stations reporting)

% Stations	Category	% Stations	Category
76-100	Widespread (WS/Most Places)	26-50	Scattered (SCT/A Few Places)
51-75	Fairly Widespread (FWS/Many Places)	1-25	Isolated (ISOL)

- | | | |
|----------------------|----------------------|--------------|
| Fog | Heavy Snow | Cold Wave |
| Heavy Rain | Dust Storm | Cold Day |
| Very Heavy Rain | Heat Wave | Ground Frost |
| Extremely Heavy Rain | Warm Night | |
| Thunder & Lightning | Hot Day | |
| Hailstorm | Hot & Humid | |
| Dust Raising Winds | Strong Surface Winds | |

COLOUR CODED WARNING

No Warning (No Action)
Watch (Be Aware)
Alert (Be Prepared To Take Action)
Warning (Take Action)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

DEFINITION/CRITERIA

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)