

Tuesday, March 18, 2025
Time of Issue: 0745 hours IST
(MORNING)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

i. 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.
 - ✓ **Isolated to Scattered** light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (speed 30-50 kmph)** likely over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during next 7 days.
- ❖ A trough runs from north Chhattisgarh 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 19th -23rd with peak activity on 20th & 21st March. **Isolated hailstorms also likely over Gangetic West Bengal, Jharkhand and Odisha on 20th & 21st March.**

Temperature Forecast:

Forecast of temperature:

Maximum temperature:

- ❖ Gradual rise in maximum temperatures by about 3-5°C likely over Northwest India during next 4-5 days
- ❖ No significant change in maximum temperatures likely over East India during next 3 days and fall by 2-4°C during subsequent 2 days.
- ❖ No significant change in maximum temperatures likely over rest parts of India during next 3-4 days.

Heat wave and Hot & Humid weather warning:

- ❖ **Heat wave conditions** likely to continue at isolated pockets over interior Odisha during next 2 days.
- ❖ **Hot & humid conditions** very likely to prevail in isolated pockets over coastal areas of Gujarat during next 5 days; over Konkan & Goa on 18th March and over north interior Karnataka on 18th & 19th March.

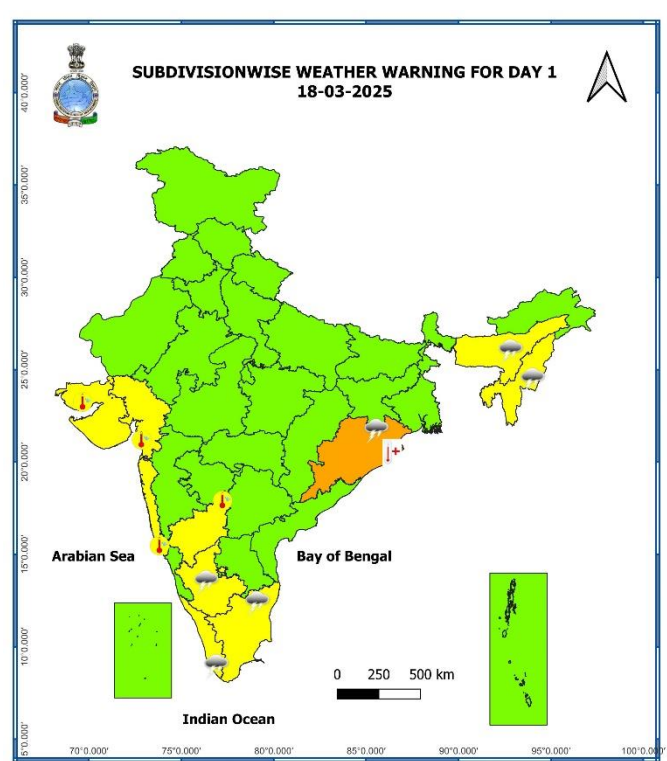
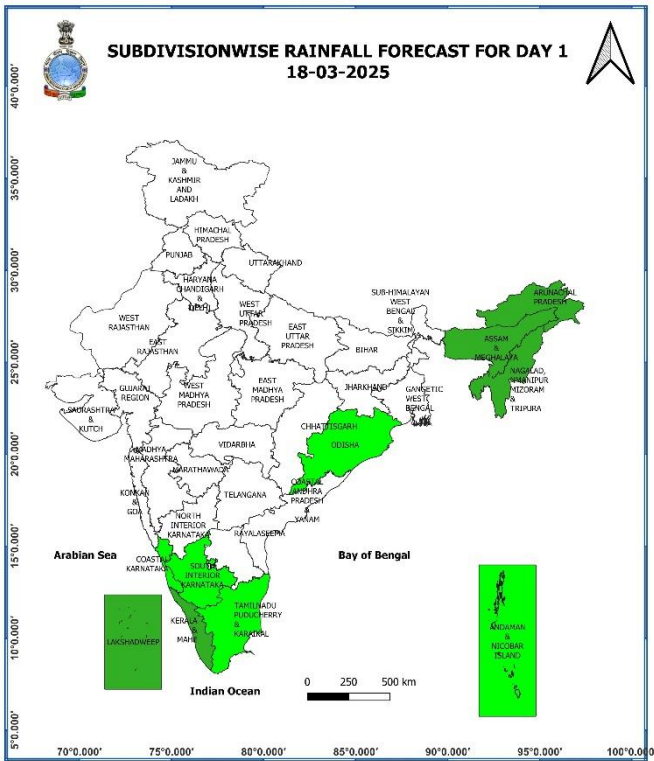
Main Weather Observations:

- ❖ **Rainfall/snowfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at a few places over Kerala & Mahe, Lakshadweep and at isolated places over Uttarakhand, East Uttar Pradesh, Jharkhand, Gangetic West Bengal, Tamil Nadu.**
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **Kerala:** Punalur 2, **Tamil Nadu:** Coimbatore 1; **Lakshadweep:** Agathi 1.
- ❖ **Yesterday, Heat wave to severe heat wave realised in north interior Odisha.**
- ❖ **Minimum Temperature Departures (as on 17-03-2025):** Minimum temperatures were **markedly above normal (5.1°C or more)** at isolated places over Bihar; **appreciably above normal (3.1°C to 5.0°C)** at a few places over Nagaland, Manipur, Mizoram & Tripura and Jharkhand; at isolated places over Chhattisgarh, Odisha, Madhya Maharashtra, Gangetic West Bengal and Assam & Meghalaya; **above normal (1.6°C to 3.0°C)** at many places over Tamil Nadu, Puducherry & Karaikal and Andaman & Nicobar Islands; at a few places over East Madhya Pradesh, Gujarat state and Kerala & Mahe; at isolated places over Arunachal Pradesh, Rayalaseema, South Interior Karnataka, Marathwada and Vidarbha. These were **appreciably below normal (-5.0°C to -3.1°C)** at isolated places over west Rajasthan and Himachal Pradesh; **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, Haryana, Uttarakhand, east Rajasthan, Telangana and near normal over rest parts of the country (**Fig. 4**). Yesterday, the **lowest minimum temperature of 9.8°C** was reported at **Adampur (Punjab)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 17-03-2025):** Maximum temperatures were **markedly above normal (5.1°C or more)** at isolated places over Sub-Himalayan West Bengal & Sikkim; **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Bihar, Odisha; **above normal (1.6°C to 3.0°C)** at a few places Assam & Meghalaya, Chhattisgarh, Telangana, Vidarbha, Konkan & Goa, North Interior Karnataka, Rayalaseema; at isolated places over Saurashtra & Kutch, East Uttar Pradesh, Jharkhand, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra. These were **markedly below normal (-5.1°C or less)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand; **below normal (-3.0°C to -1.6°C)** at many places over Rajasthan; at isolated places over Himachal Pradesh, Haryana-Chandigarh-Delhi, West Uttar Pradesh, Madhya Pradesh and near normal over rest parts of the country. (**Fig. 2**). Yesterday, the highest **maximum temperature of 43.5°C** was reported at **Boudh (Odisha)** over the country.

Meteorological Analysis (Based on 0530 hours IST)

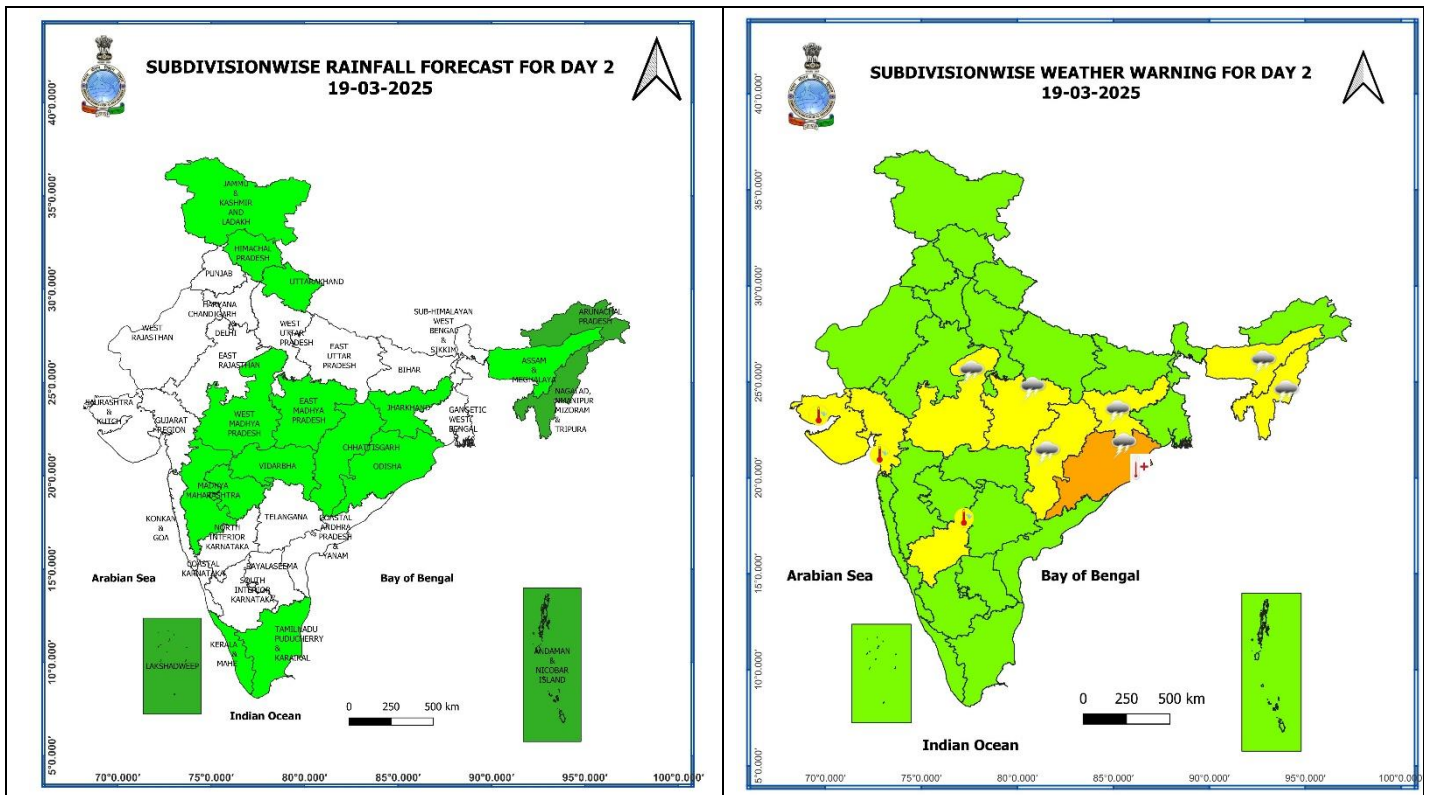
- ❖ The **trough** from north Chhattisgarh to Vidarbha at 0.9 km above mean sea level persists.
- ❖ The upper air **Cyclonic Circulation** over northeast Assam & neighbourhood at 0.9 km above mean sea level persists.
- ❖ The **trough** in westerlies from North Interior Karnataka to Gulf of Mannar across Tamil Nadu at 0.9 km above mean sea level persists.
- ❖ A fresh feeble **Western Disturbance** is likely to affect western Himalayan region from 19th March.
- ❖ The **Western Disturbance** as a cyclonic circulation 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 roughly along Long. 77°E to the north of Lat. 30°N has moved away north-eastwards.
- ❖ The upper air **Cyclonic Circulation** over Haryana at 1.5 km above mean sea level has become less marked.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 25th March, 2025)



18th March (Day 1):

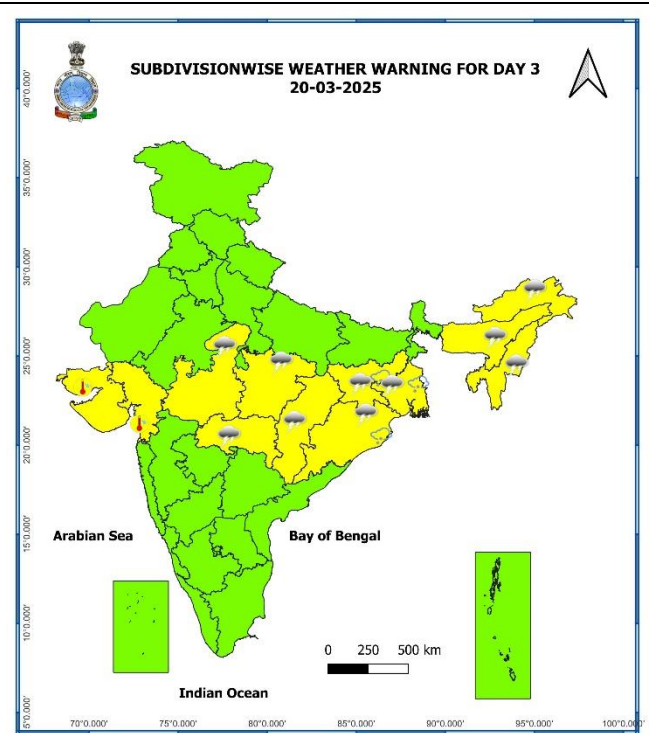
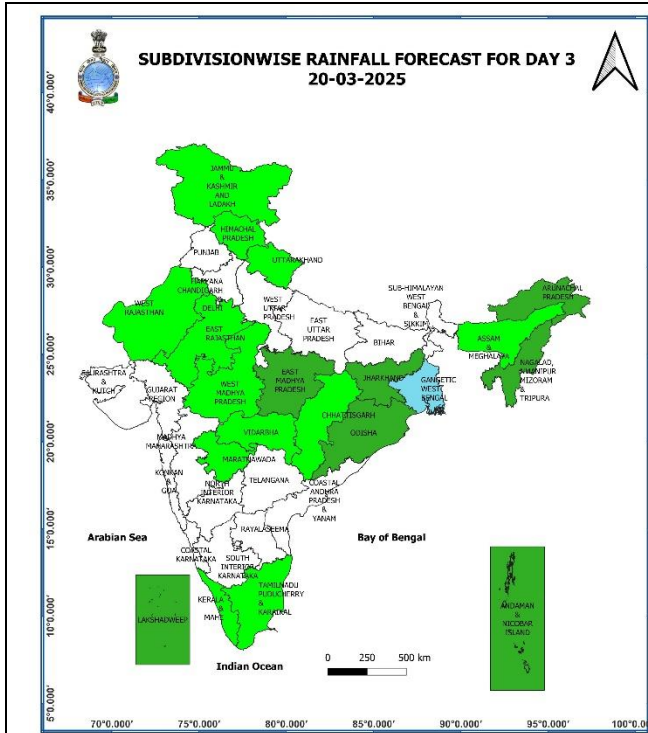
- ❖ **Thunderstorm accompanied with gusty winds (speed reaching 30-40 kmph) & lightning** at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning** at isolated places over Odisha, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and South Interior Karnataka
- ❖ **Heat Wave Conditions** likely at isolated places over north interior Odisha.
- ❖ **Hot and Humid Conditions** likely at isolated places over coastal Gujarat, Konkan & Goa and North Interior Karnataka.



19th March (Day 2):

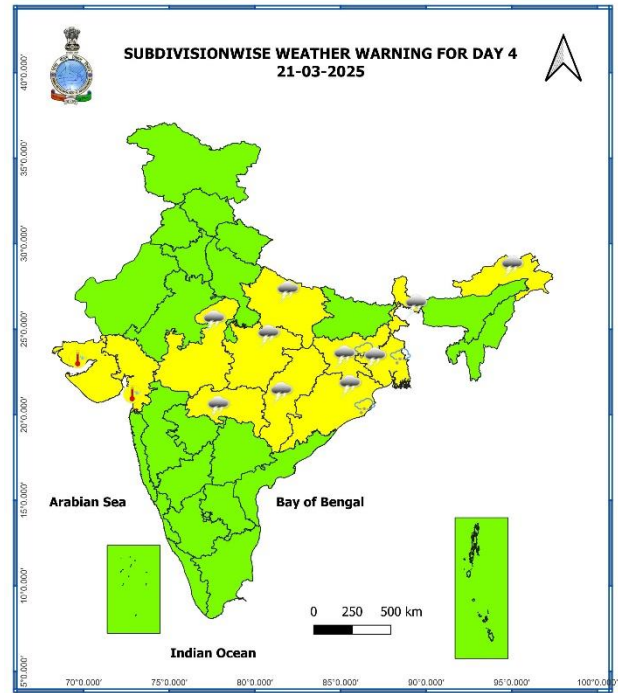
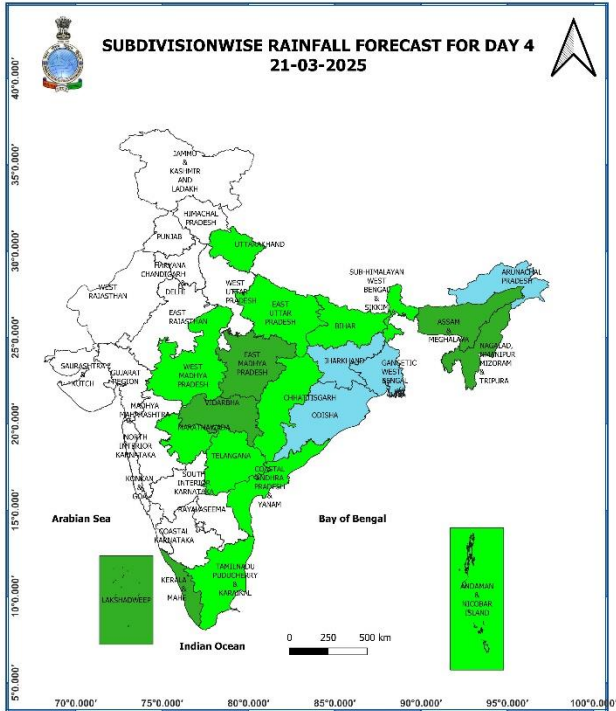
- ❖ **Thunderstorm accompanied with gusty winds (speed reaching 40-50 kmph) & lightning very likely at East Madhya Pradesh; Thunderstorm accompanied with gusty winds (speed reaching 30-40 kmph) & lightning very likely at West Madhya Pradesh; with lightning at isolated places over Jharkhand, Odisha, Chhattisgarh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.**
- ❖ **Heat Wave Conditions** likely at isolated places over north interior Odisha.
- ❖ **Hot and Humid Conditions** likely at isolated places over coastal Gujarat and North Interior Karnataka.

* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".
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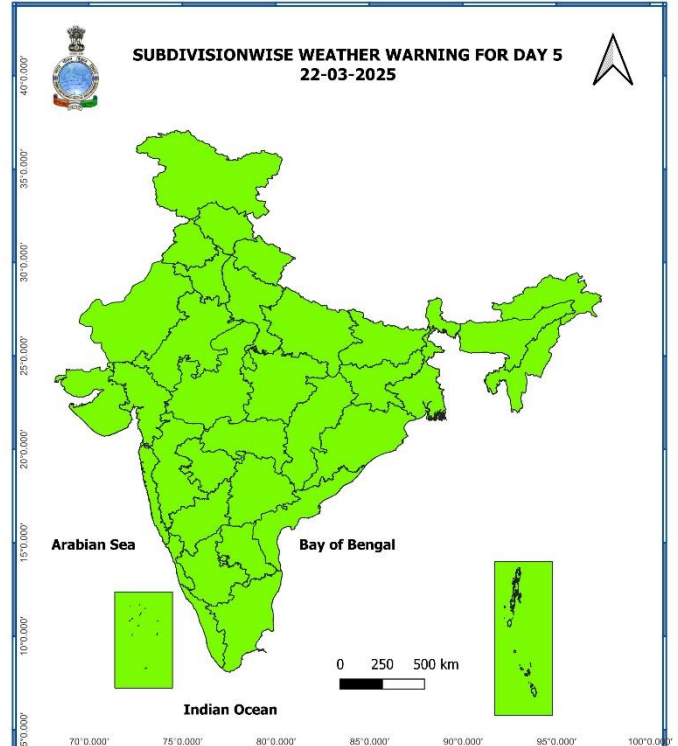
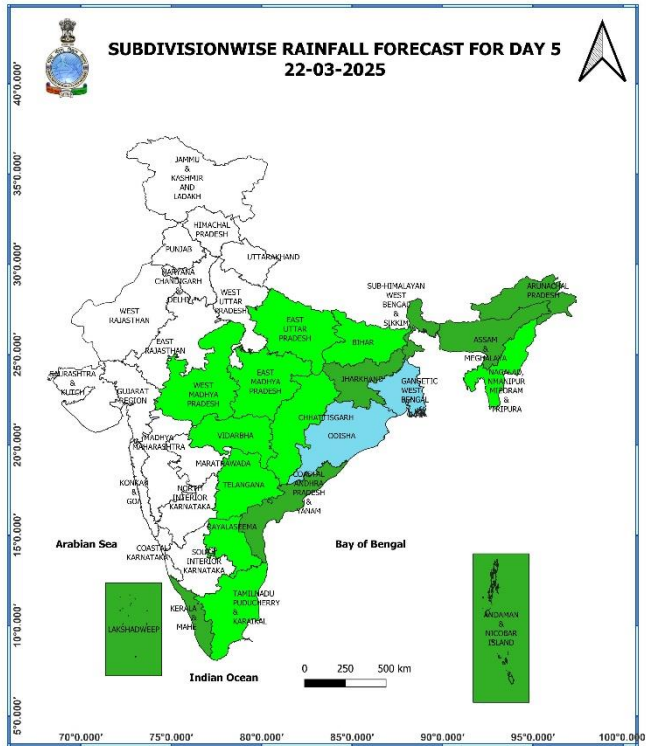
20th March (Day 3):

- ❖ **Thunderstorm accompanied with squally winds (speed reaching 50-60 kmph) Hailstorm & lightning** likely at isolated places over Gangetic West Bengal; **with gusty winds (speed reaching 30 - 40 kmph) Hailstorm & lightning** likely at isolated places over Odisha, Jharkhand and Chhattisgarh; **with gusty winds (speed reaching 40 - 50 kmph) lightning** likely at isolated places over East Madhya Pradesh; **with gusty winds (speed reaching 30 - 40 kmph) lightning** likely at isolated places over West Madhya Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning** at isolated places over Vidarbha, Chhattisgarh and Himachal Pradesh
- ❖ **Hot and Humid Conditions** likely at isolated places over coastal Gujarat.



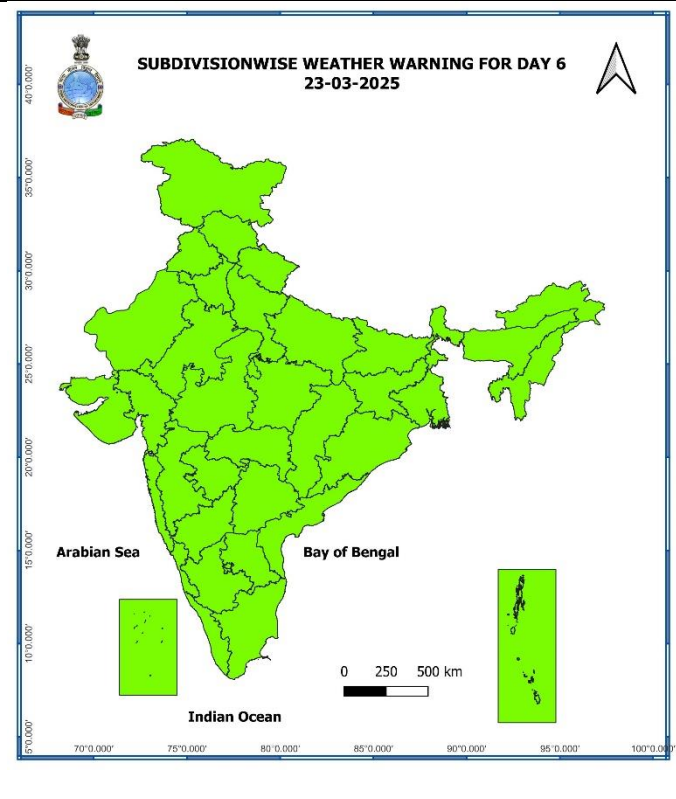
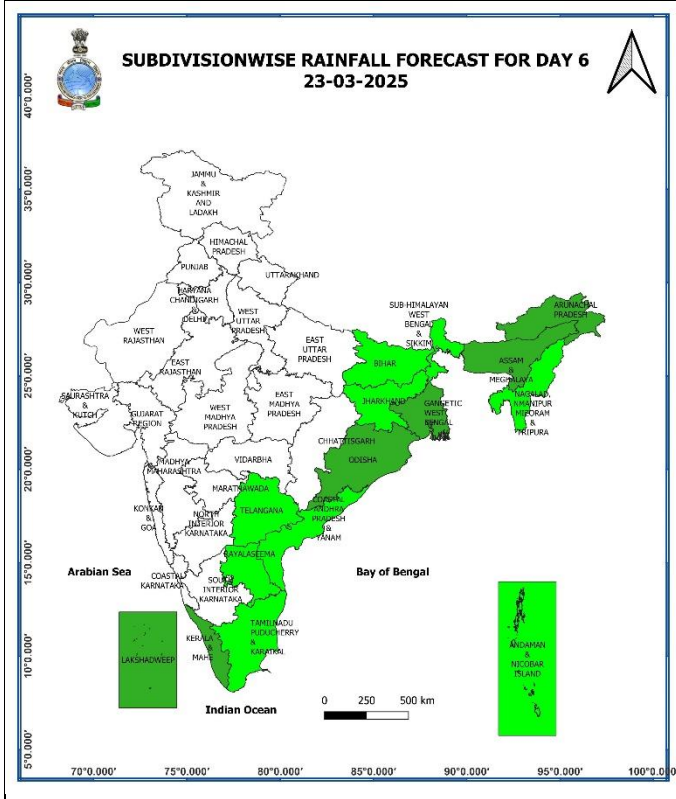
21th March (Day 4):

- ❖ **Thunderstorm accompanied with squally winds (speed reaching 50-60 kmph) Hailstorm & lightning** likely at isolated places over Odisha; **Thunderstorm accompanied with squally winds (speed reaching 40-50 kmph) Hailstorm & lightning** likely at isolated places over Gangetic West Bengal; **with gusty winds (speed reaching 30 - 40 kmph) Hailstorm & lightning** likely at isolated places over Jharkhand; **with gusty winds (speed reaching 40 - 50 kmph) lightning** likely at isolated places over East Madhya Pradesh; **with gusty winds (speed reaching 30 - 40 kmph) lightning** likely at isolated places over West Madhya Pradesh; **with lightning** at isolated places over East Uttar Pradesh Vidarbha, Chhattisgarh and Sub-Himalayan West Bengal & Sikkim.
- ❖ **Hot and Humid Conditions** likely at isolated places over coastal Gujarat.



22nd March (Day 5):

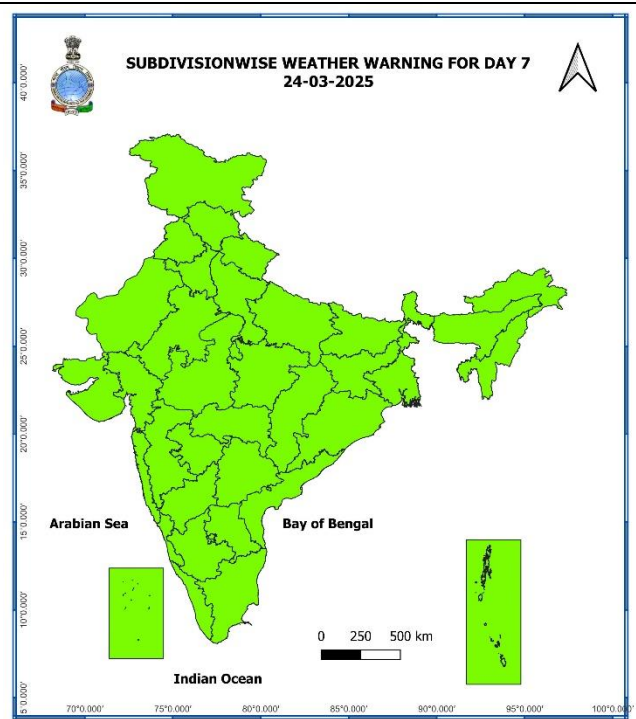
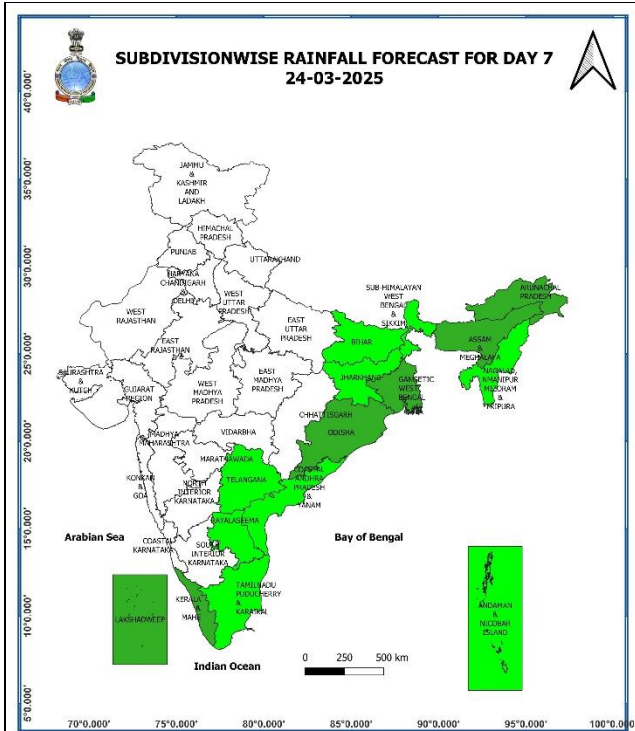
❖ **No Weather Warning.**



23rd March (Day 6):

❖ **No Weather Warning.**

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24th March (Day 7):

❖ **No Weather Warning.**

Weather Outlook for subsequent 3 days (During 25th March- 27th 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

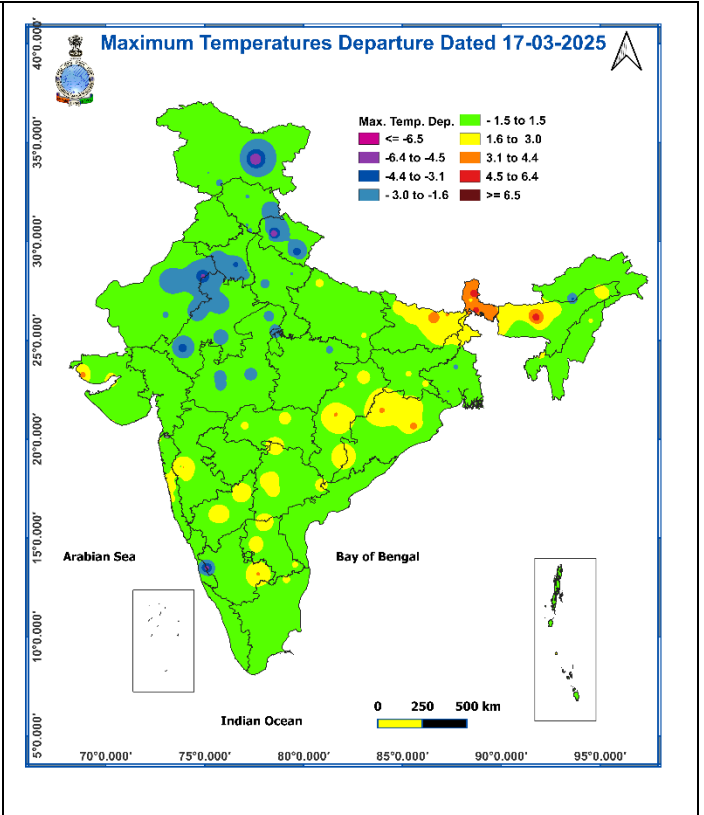
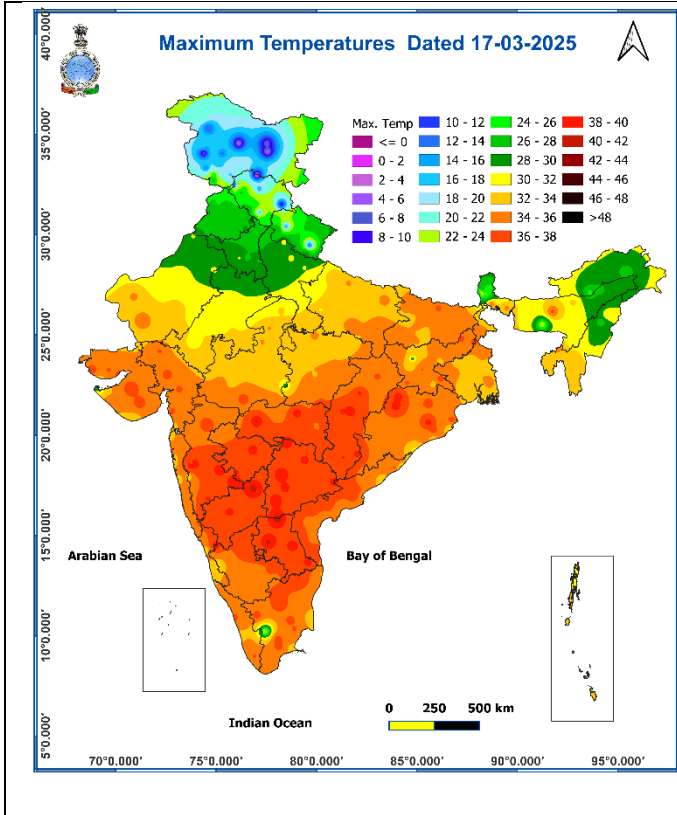
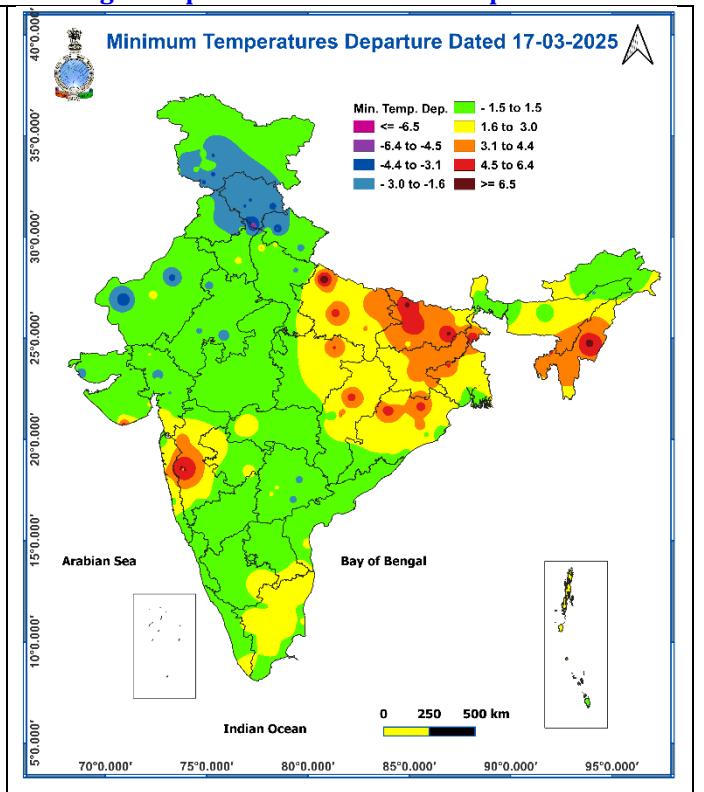
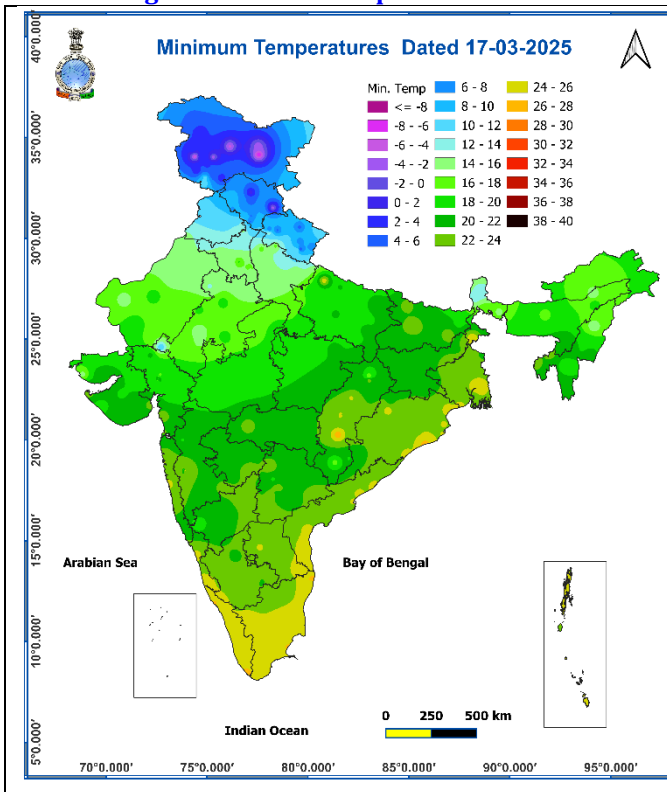


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures



Impact expected and action suggested due to thunderstorm accompanied with lightning/gusty winds over Northeast India during next 5 days and over east & central India on 20th & 21st March 2025

❖ **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 expected and action suggested due to

(i) Heat wave conditions in isolated pockets over interior Odisha during next 2 days.

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.

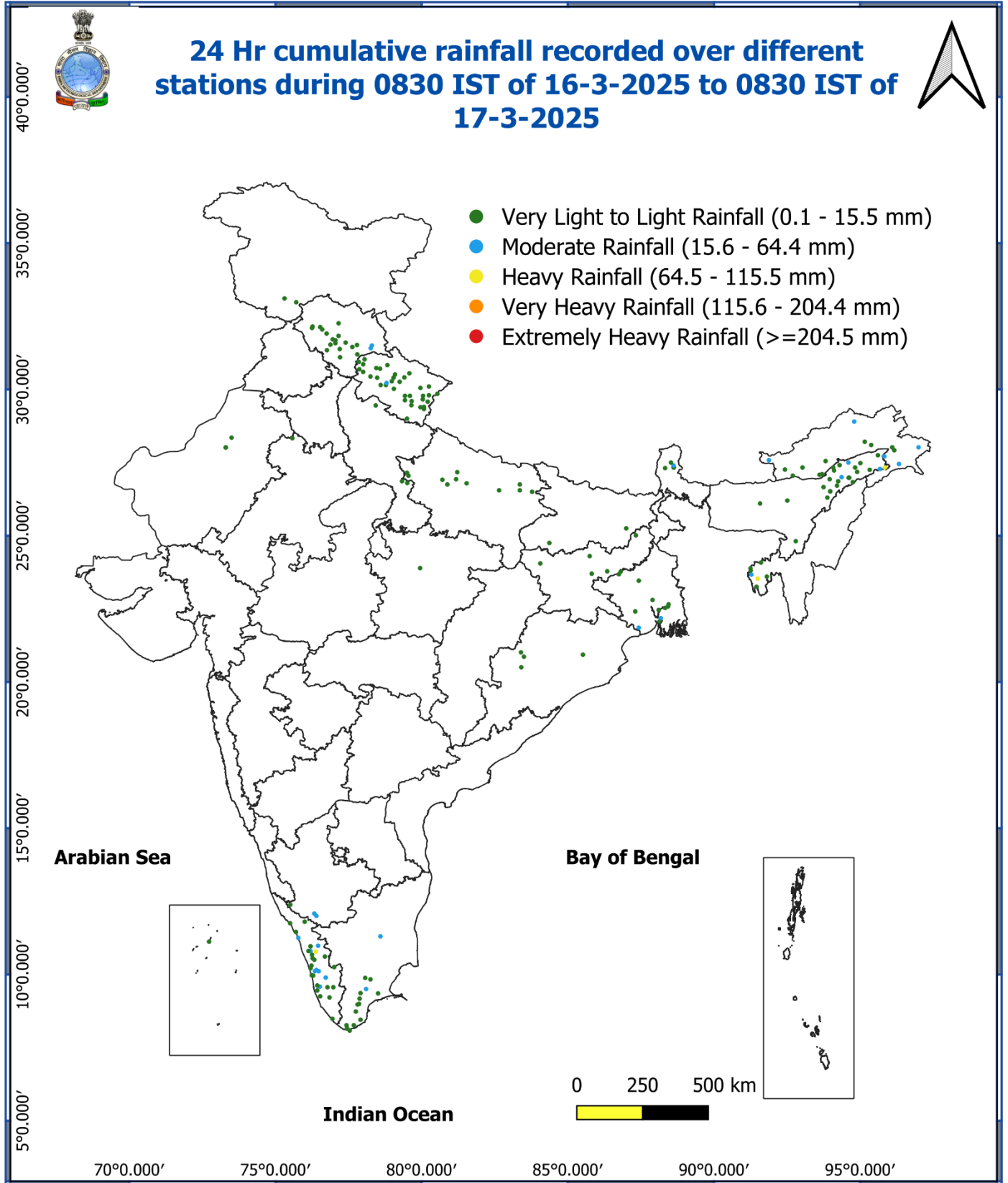
Agromet advisories for likely impact of Heavy Rainfall / Hailstorm / Heat Wave

- ✓ In **Gangetic West Bengal**, 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, Vidarbha, 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



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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)