

Tuesday, March 19, 2025
Time of Issue: 1400 hours IST
(MID-DAY)

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems, Forecast and Warnings:

- ❖ A trough runs from central Odisha to Vidarbha and there is wind confluence over east & adjoining central India due to the above trough and anticyclonic circulation over Bay of Bengal at lower tropospheric levels. Under the influence of these systems:
 - ✓ Isolated to Scattered light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds** (speed 30-50 kmph) likely over Bihar on 21st & 22nd; East Madhya Pradesh and Chhattisgarh during 19th-22nd; West Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim on 20th & 21st and Vidarbha on 21st & 22nd March.
 - ✓ Scattered to Fairly widespread light/moderate rainfall accompanied with thunderstorm, lightning & gusty winds (speed 40-60 kmph) likely over Gangetic West Bengal, Jharkhand and Odisha during 19th-22nd March and abate thereafter.
 - ✓ Isolated hailstorms also likely over East Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim on 21st; Chhattisgarh, Gangetic West Bengal, Odisha during 20th-22nd; Bihar, Vidarbha on 21st & 22nd; Jharkhand 20th & 21st March.
- ❖ 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** over Arunachal Pradesh during 21st-23rd March with Isolated **heavy rainfall/snowfall** on 21st & 22nd March.
 - ✓ 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 5 days.
 - ✓ Isolated hailstorms also likely over Assam & Meghalaya on 20th March.
- ❖ The Western Disturbance as a Cyclonic Circulation over Afghanistan in middle tropospheric levels and a upper air cyclonic circulation lies over southwest Rajasthan in lower tropospheric levels, Under the influence of these systems;
 - ✓ Isolated light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds** (speed 30-40 kmph) likely over Punjab on 19th & 20th; Haryana Chandigarh on 20th; Uttar Pradesh during 20th-22nd March, 2025.

Temperature Forecast:

Forecast of temperature:

Maximum temperature:

- ❖ Gradual rise in maximum temperatures by about 2°C likely over Northwest India during next 2 days and no significant change thereafter.
- ❖ No significant change in maximum temperatures likely over Central India during next 48 hours and fall by 2-4°C during subsequent 2 days.
- ❖ No significant change in maximum temperatures likely over East India during next 2 days and fall by 4-6°C during subsequent 3 days.
- ❖ No significant change in maximum temperatures likely over Gujarat State during next 24 hours and rise by 2-3°C thereafter.
- ❖ Gradual fall in maximum temperatures by about 2-3°C likely over Maharashtra region during next 2-3 days and no significant change thereafter.

Heat wave and Hot & Humid weather warning:

- ❖ No heat wave likely over any parts of country during next 4-5 days.
 - ❖ Hot & humid conditions very likely to prevail in isolated pockets over coastal areas of Gujarat State on 19th, 22nd & 23rd; Tamilnadu Puducherry & Karaikal and interior Karnataka on 19th & 20th March.

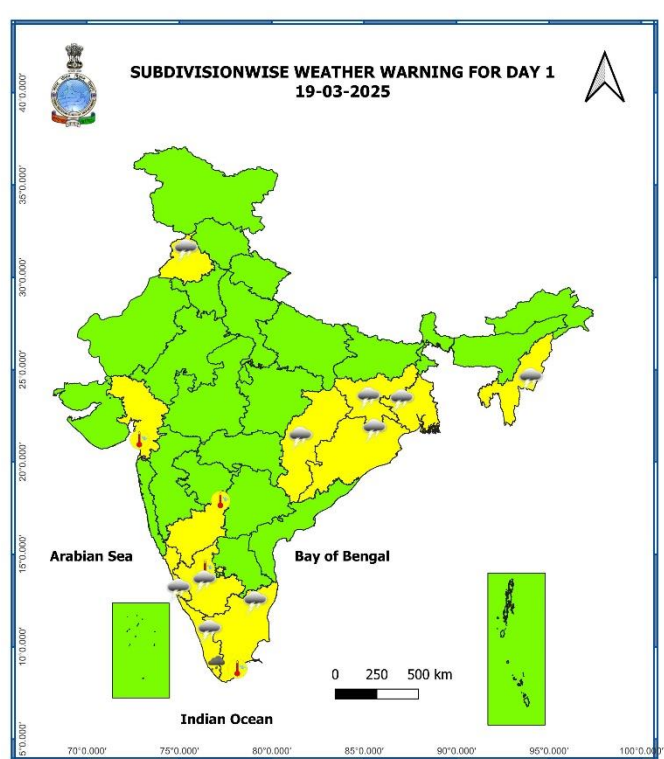
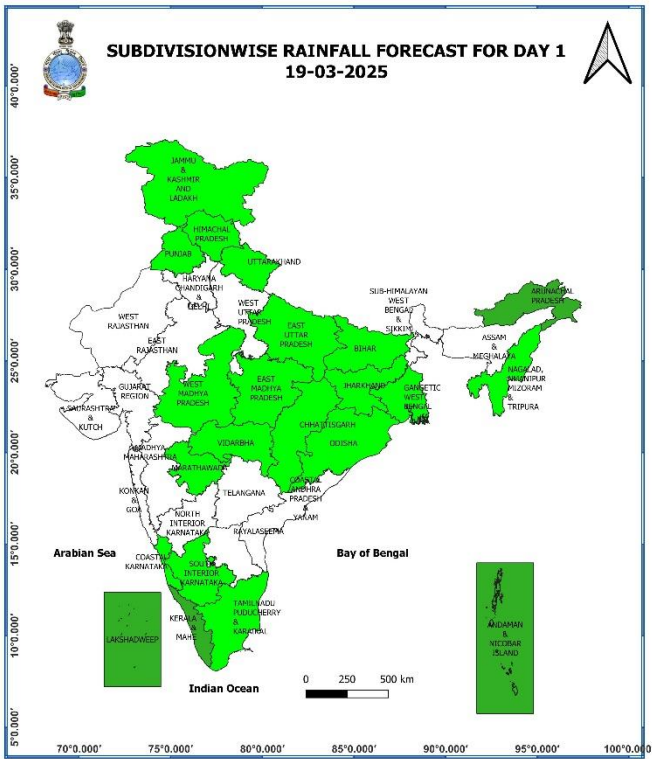
Main Weather Observations:

- ❖ **Rainfall/Snowfall** occurred at many places Uttarakhand, Arunachal Pradesh; at isolated places over Himachal Pradesh. **Light to moderate rainfall** at a few places over Arunachal Pradesh, Kerala & Mahe; at isolated places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Tamilnadu Puducherry & Karaikal, Interior Karnataka.
- ❖ **Significant amount of rainfall** (from 0830 hours IST of yesterday to 1730 hours IST of today) (in cm): **Kerala & Mahe:** Thiruvananthapuram 8, Thiruvananthapuram Airport & Airport Chacka(Thiruvananthapuram district) 7 each, Thodupuzha (Idukki district) 6, Kannur, Enadimangalam (Pathanamthitta district) & Kannur (Kannur district) 4 each; **Tamilnadu Puducherry & Karaikal:** Karuppanadhi Dam (dist Tenkasi), Thenkasi (dist Tenkasi), Valinokam (dist Ramanathapuram) 3 each, **Arunachal Pradesh:** Tenali AWS (dist Upper Siang) 4, Tuting (dist Upper Siang) 2, Tuting_ Aws (dist Upper Siang) 2, Kibithu (dist Anjaw) 1; **Assam & Meghalaya:** Udaipur (dist Tinsukia) 1, Margherita (dist Tinsukia) 1; **Nagaland, Manipur, Mizoram & Tripura:** Aizwal (dist Aizawl) 1.
- ❖ **Heavy rainfall reported** at isolated locations over Kerala & Mahe.
- ❖ **Heat wave recorded Nil.**
- ❖ **Minimum Temperature Departures (as on 19-03-2025):** Minimum temperatures are **markedly above normal (5.1°C or more)** at isolated places over Madhya Maharashtra; **appreciably above normal (3.1°C to 5.0°C)** at a few places over Konkan & Goa; at isolated places over Odisha and Nagaland, Manipur, Mizoram & Tripura; **above normal (1.6°C to 3.0°C)** at many places over Marathwada, Coastal & North Interior Karnataka; at a few places over Rayalaseema, South Interior Karnataka and Tamil Nadu, Puducherry & Karaikal; at isolated places Gangetic West Bengal, Punjab, Himachal Pradesh, Chhattisgarh, Coastal Andhra Pradesh & Yanam, Gujarat state, Kerala & Mahe. These are **below normal (-3.0°C to -1.6°C)** at isolated places over Arunachal Pradesh, Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim, Bihar, East Uttar Pradesh, Haryana-Chandigarh-Delhi and East Rajasthan and near normal over rest parts of the country (**Fig. 4**). Today, the **lowest minimum temperature** of 11.5°C is reported at **Sikar (East Rajasthan)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 18-03-2025):** Maximum temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Sub-Himalayan West Bengal & Sikkim, Odisha and Assam & Meghalaya; **above normal (1.6°C to 3.0°C)** at many places over Arunachal Pradesh; at a few places Vidarbha and Saurashtra & Kutch; at isolated places over Himachal Pradesh, Gangetic West Bengal, Chhattisgarh, Marathwada, Telangana, Madhya Maharashtra and North Interior Karnataka. These were **below normal (-3.0°C to -1.6°C)** at isolated places over Nagaland, Manipur, Mizoram & Tripura and Rajasthan and near normal over rest parts of the country. (**Fig. 2**). Yesterday, the highest **maximum temperature** of 40.8°C was reported at **Kurnool (Rayalaseema)** over the country.

Meteorological Analysis (Based on 0830 hours IST)

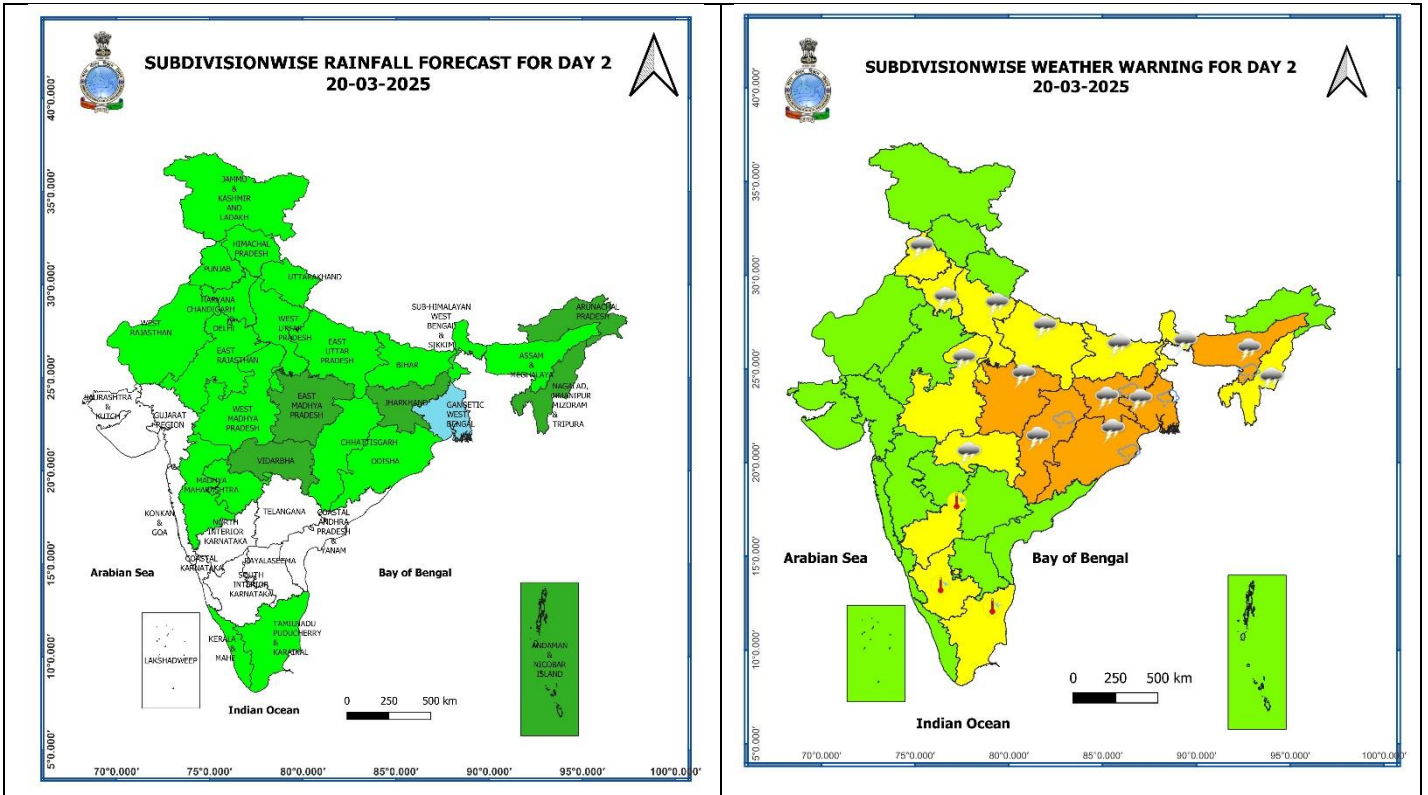
- ❖ The **trough** from central parts of Odisha to south Vidarbha across south Chhattisgarh at 0.9 km above mean sea level persists.
- ❖ The upper air **Cyclonic Circulation** over northeast Assam & neighbourhood persists and now extends upto 1.5 km above mean sea level.
- ❖ The **Western Disturbance** as a Cyclonic Circulation over southeast Iran and neighbourhood now lies over Afghanistan between 5.8 & 7.6 km above means sea level.
- ❖ An upper air cyclonic circulation lies over Southwest Rajasthan & neighbourhood and extends upto 1.5km above mean sea level.
- ❖ The cyclonic circulation lies over south Tamil Nadu & neighbourhood at 0.9 km above mean sea level persists.
- ❖ The **trough/wind discontinuity** from Marathwada to above cyclonic circulation over south Tamil Nadu, across interior Karnataka at 0.9 km above mean sea level persists.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 26th March, 2025)



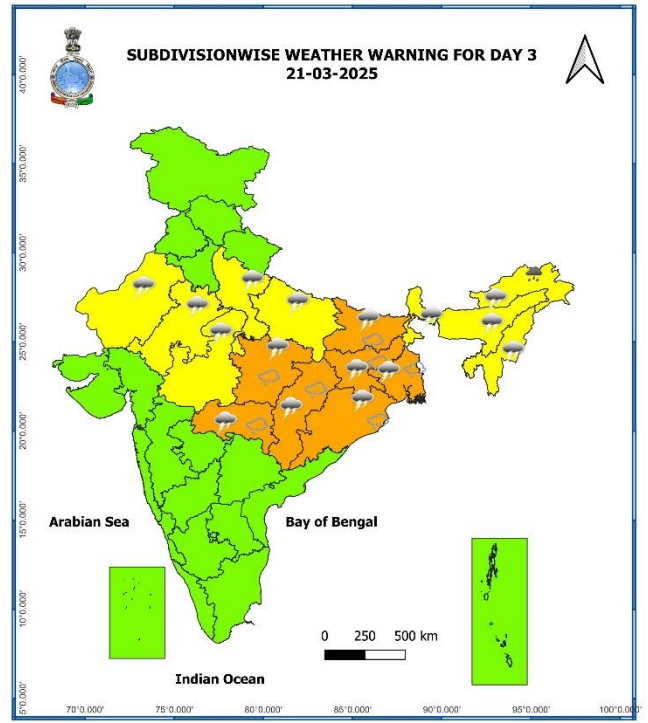
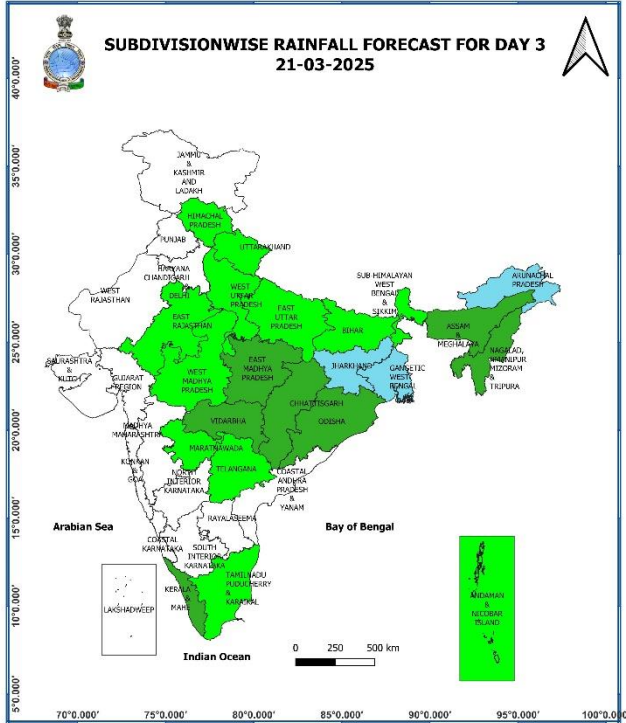
19th March (Day 1):

- ❖ **Heavy rainfall** is very likely at isolated places over Kerala & Mahe.
- ❖ **Thunderstorm accompanied with gusty winds (speed reaching 30-40 kmph) & lightning** very likely at isolated places over Chhattisgarh, Gangetic West Bengal, Odisha, Jharkhand, Kerala & Mahe, Coastal & south Interior Karnataka; **with lightning** at isolated places over Punjab, Tripura, Tamil Nadu, Puducherry & Karaikal, .
- ❖ **Hot and Humid Conditions** likely at isolated places over Gujarat State and Interior Karnataka.



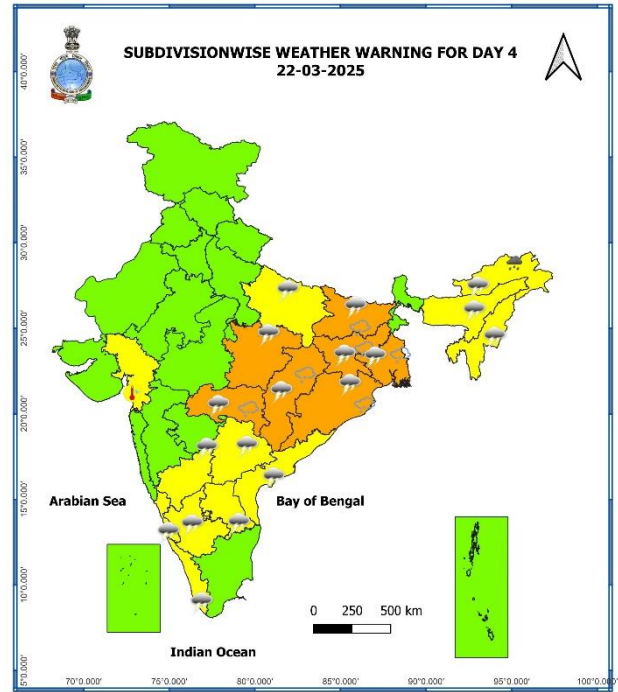
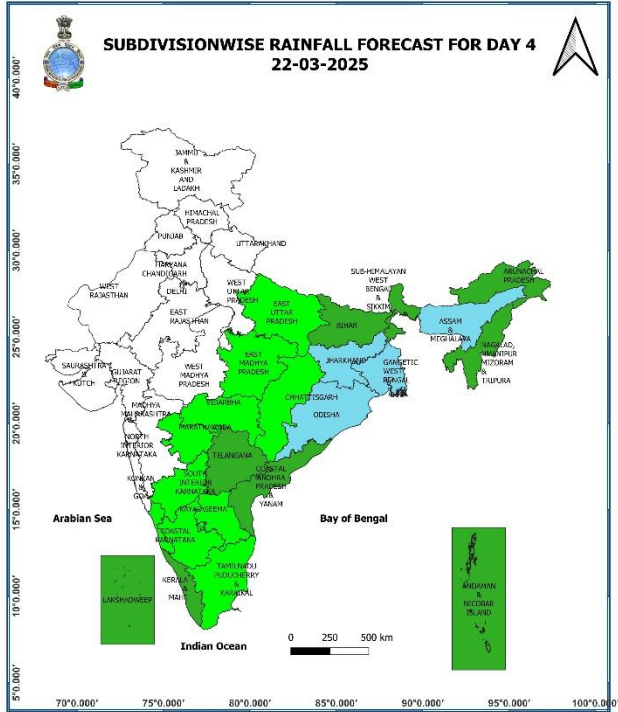
20th March (Day 2):

- ❖ **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 40-50 kmph) Hailstorm & lightning** likely at isolated places over Chhattisgarh, Odisha, Jharkhand, Assam & Meghalaya; **with gusty winds (speed reaching 40 - 50 kmph) lightning** likely at isolated places over Vidarbha; **with gusty winds (speed reaching 30 - 40 kmph) lightning** likely at isolated places over Uttar Pradesh, Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Nagaland, Manipur, Mizoram & Tripura; **with lightning** at isolated places over Punjab, Haryana-Chandigarh- Delhi.
- ❖ **Hot and Humid Conditions** likely at isolated places over Tamil Nadu, Puducherry & Karaikal and Interior Karnataka.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is very likely to prevail along and off west Bengal coast and adjoining north Odisha coast.



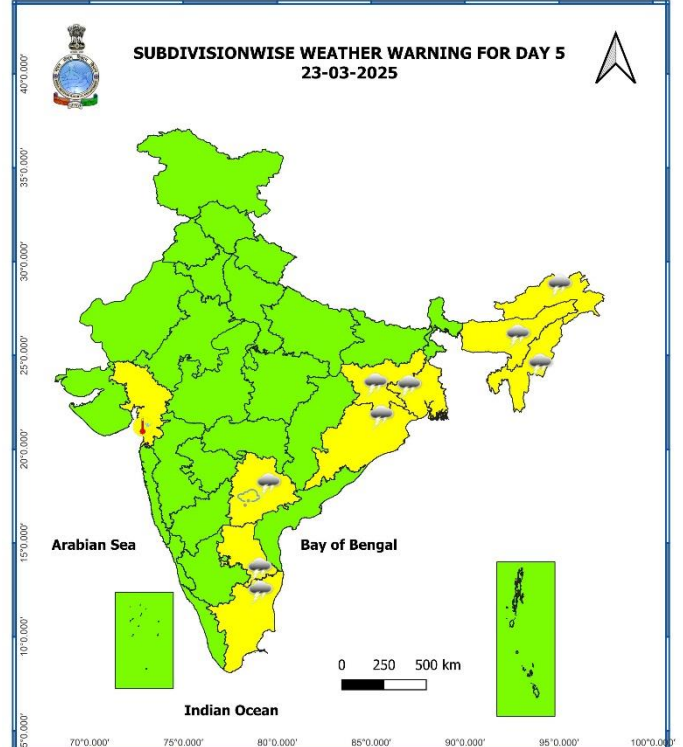
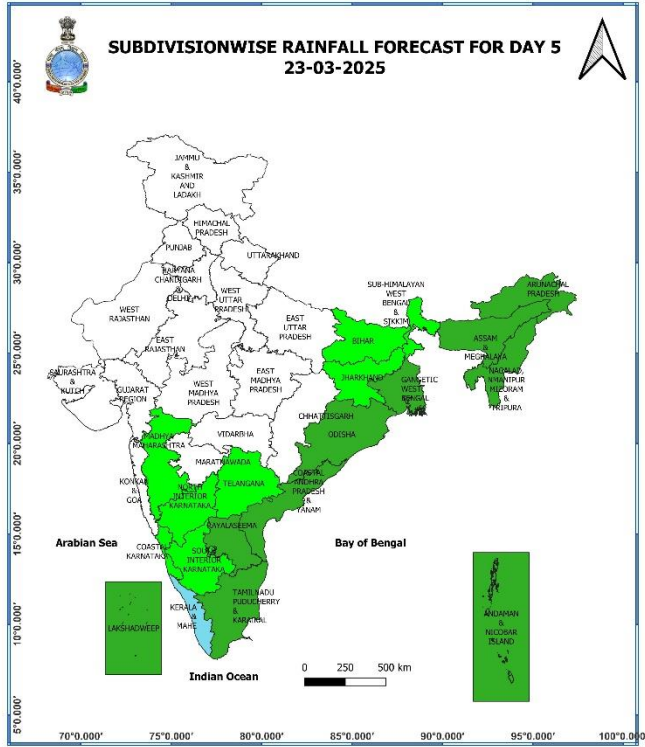
21st March (Day 3):

- ❖ Heavy rainfall is very likely at isolated places over Arunachal Pradesh.
- ❖ Thunderstorm accompanied with squally winds (speed reaching 50-60 kmph) Hailstorm & lightning very likely at isolated places over Gangetic West Bengal, Jharkhand, Odisha; with gusty winds (speed reaching 40 - 50 kmph) Hailstorm & lightning likely at isolated places over East Madhya Pradesh, Vidarbha, Chhattisgarh; with gusty winds (speed reaching 40 - 50 kmph) lightning likely at isolated places over East Uttar Pradesh, West Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim; with gusty winds (speed reaching 30 - 40 kmph) lightning likely at isolated places over Rajasthan, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura; with lightning at isolated places over West Uttar Pradesh, Arunachal Pradesh.
- ❖ Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph is very likely to prevail along and off west Bengal coast and north Odisha coast.



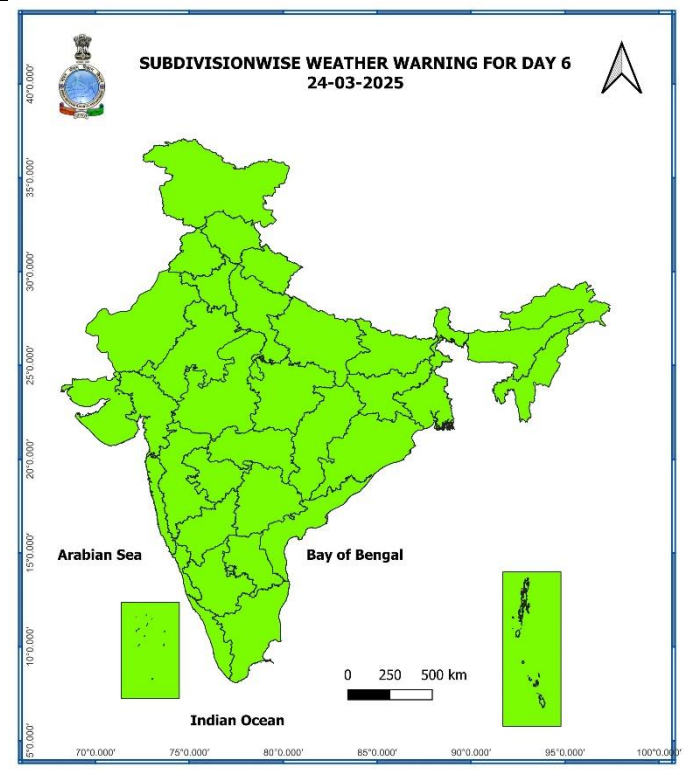
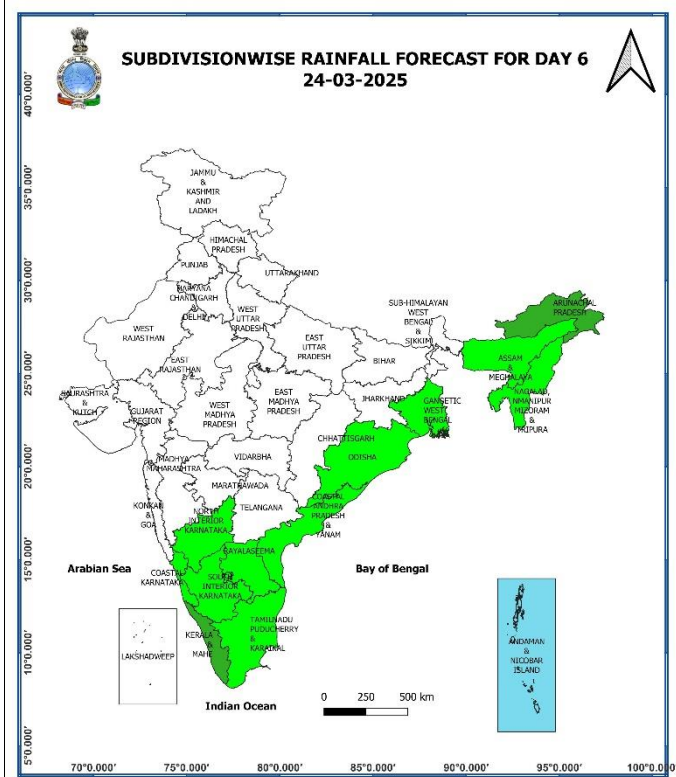
22nd March (Day 4):

- ❖ **Heavy rainfall** is very likely at isolated places over Arunachal Pradesh.
- ❖ **Thunderstorm accompanied with winds (speed reaching 50-60 kmph) Hailstorm & lightning** likely at isolated places over Odisha; **with gusty winds (speed reaching 40 - 50 kmph) Hailstorm & lightning** likely at isolated places over Vidarbha, Chhattisgarh, Gangetic West Bengal; **with gusty winds (speed reaching 30 - 40 kmph) lightning** likely at isolated places over Jharkhand; **with lightning** at isolated places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Rayalaseema, Gangetic West Bengal, Bihar.



23rd March (Day 5):

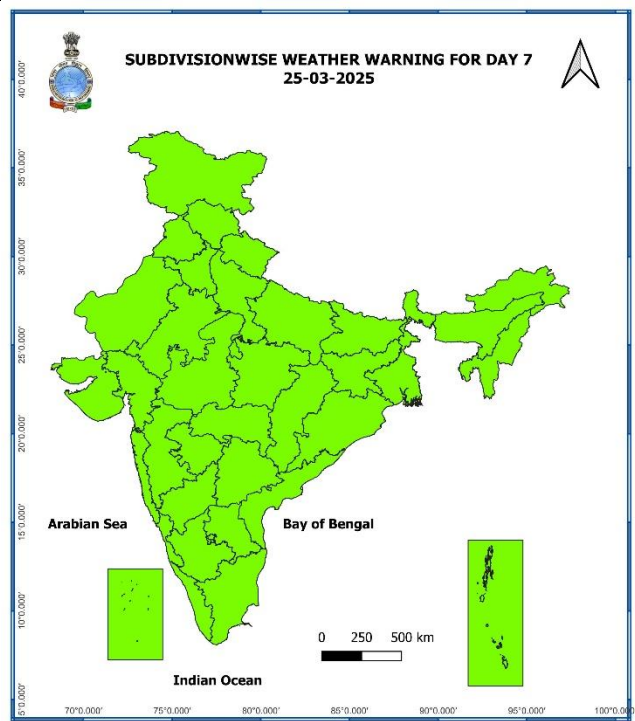
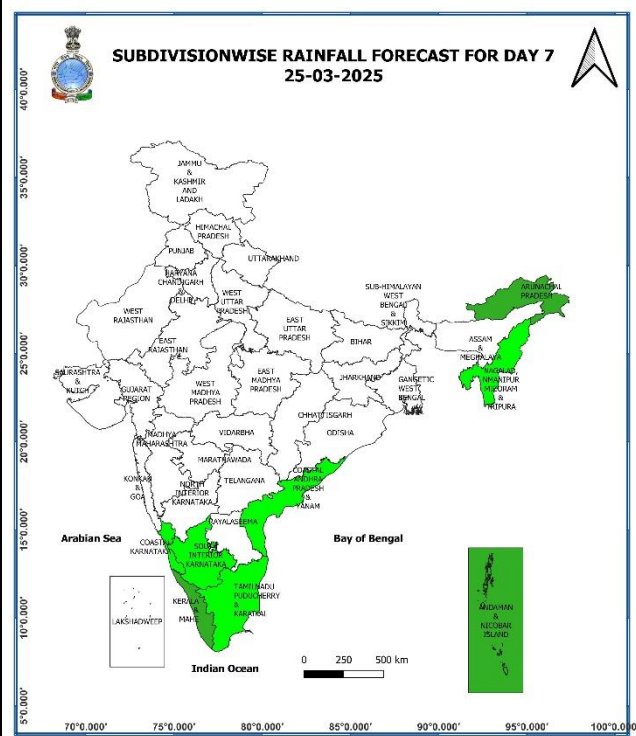




24th March (Day 6):

❖ **No Weather Warning.**

* 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.
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25th March (Day 7):

❖ **No Weather Warning.**

Weather Outlook for subsequent 3 days (During 26th 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

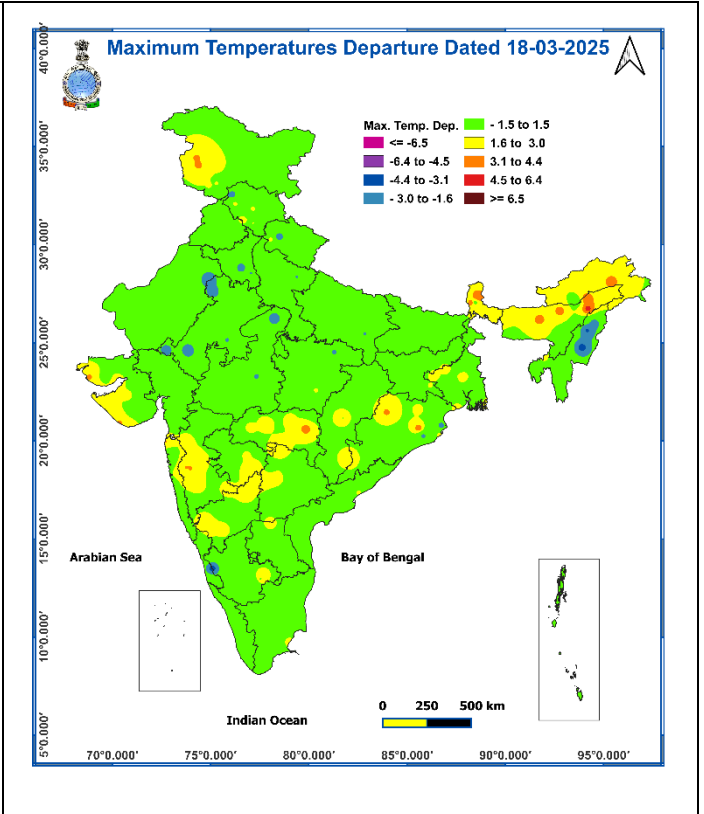
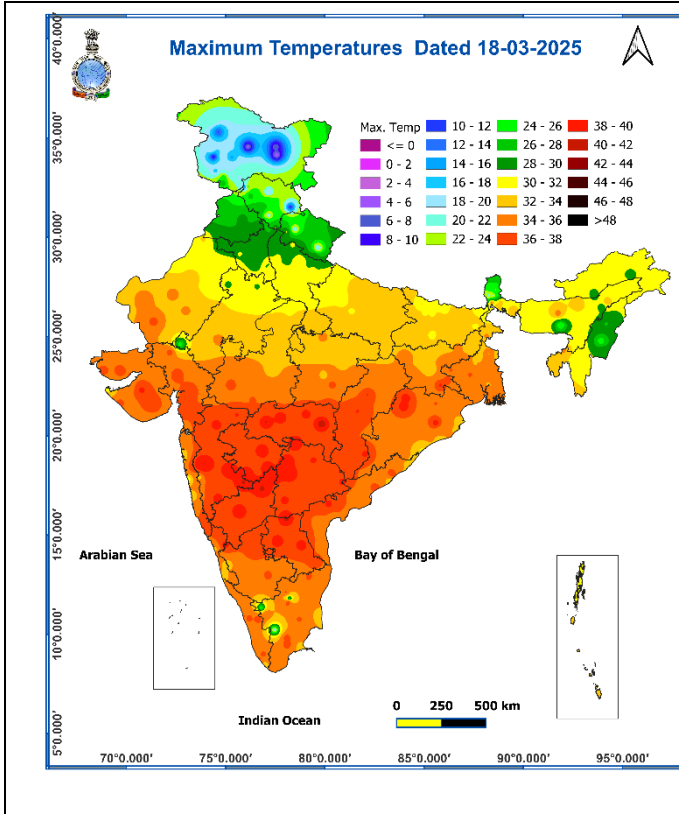
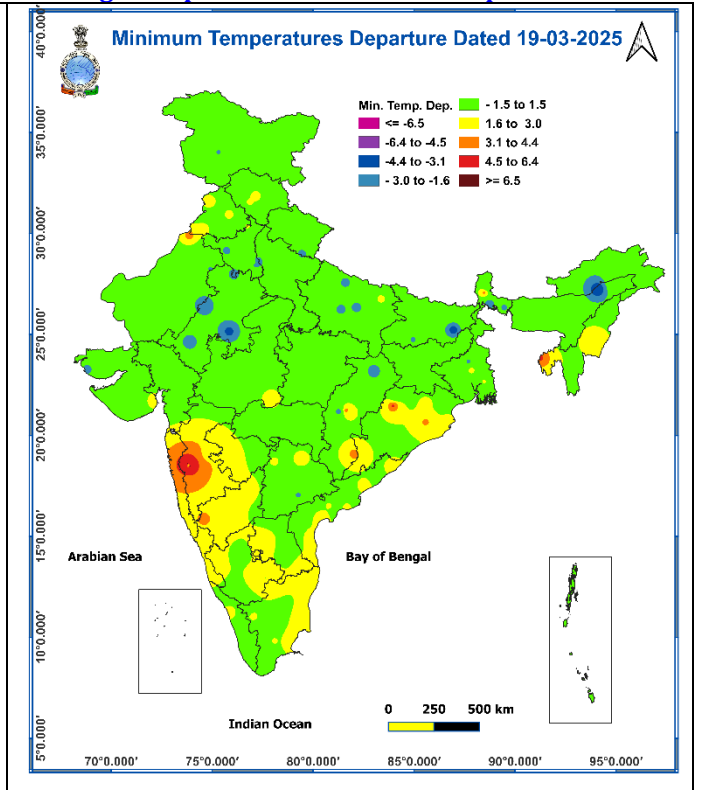
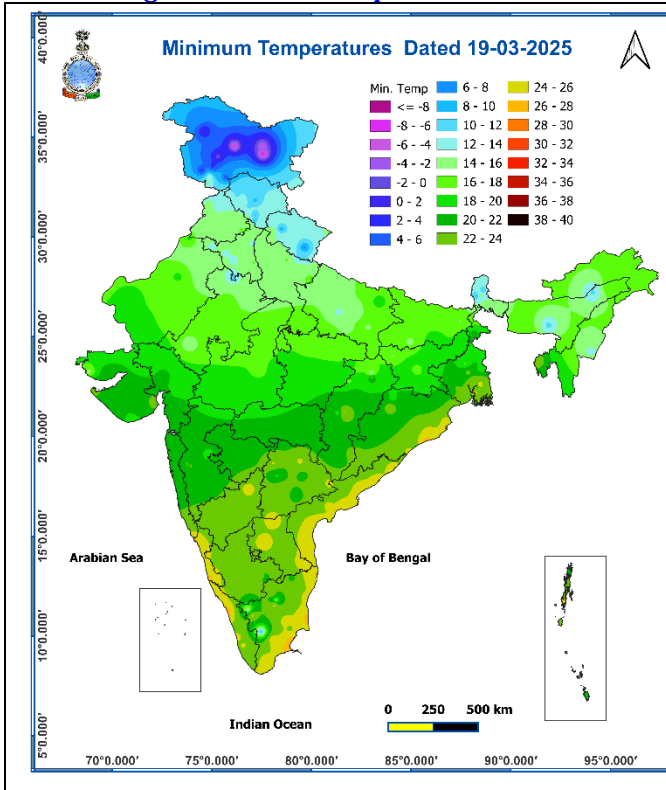


Fig. 3: Minimum Temperatures

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 during 20th-22nd 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.

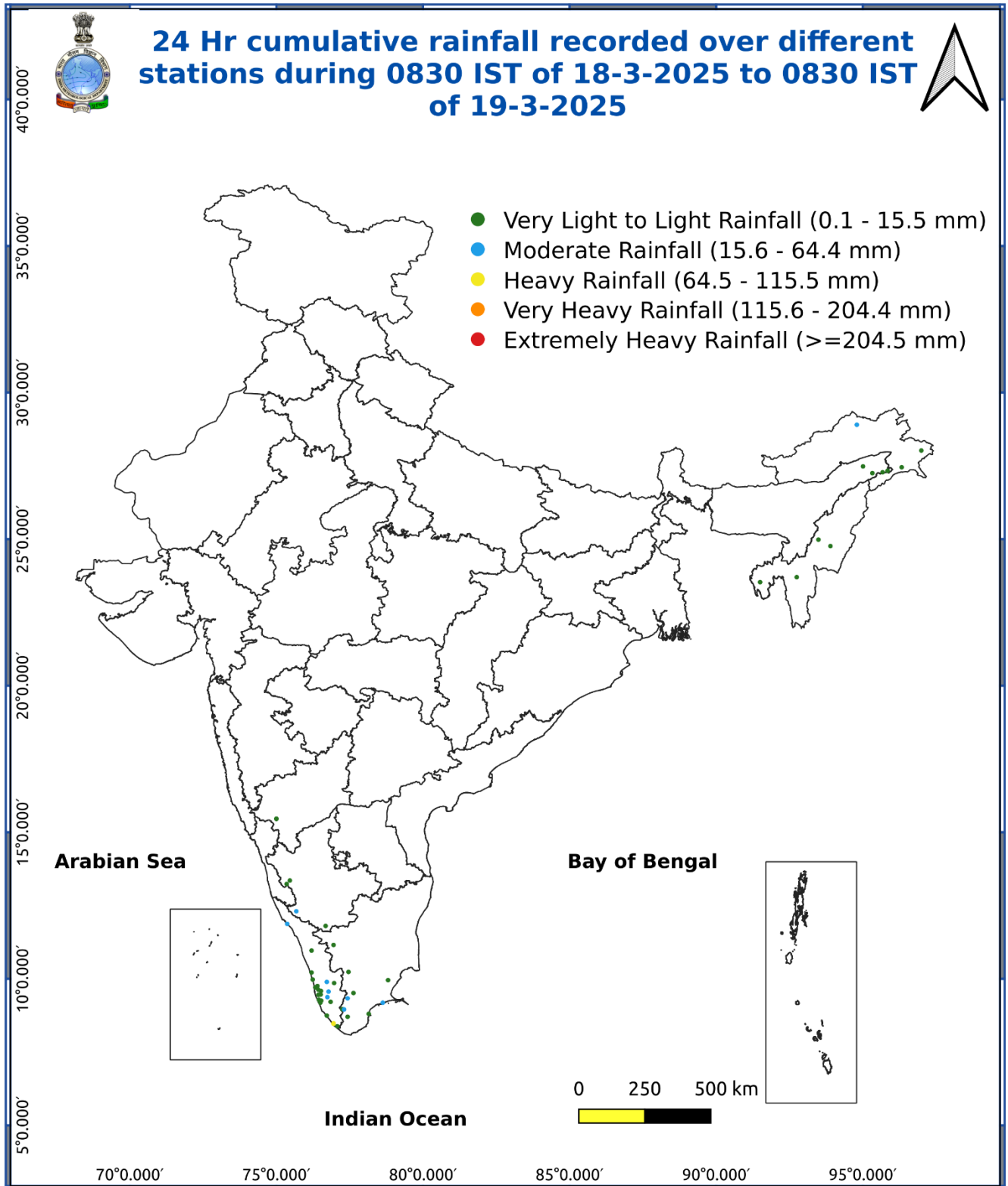
Agromet advisories for likely impact of Heavy Rainfall / Hailstorm

- In **South Assam, West Bengal, Odisha, Jharkhand, Bihar, East Madhya Pradesh, Vidarbha, and Chhattisgarh**, harvest the matured standing crops, vegetables and fruits and shift the harvested produce in safer places or cover the produce with tarpaulin sheets in the fields to avoid the adverse impact of likely hailstorm. Use hail net and hail caps to prevent mechanical damage in orchards due to hailstorms.
- In **Arunachal Pradesh**, make provision to drain out excess water from standing crop and vegetable fields.
- Provide mechanical support to horticultural crops and staking to vegetables to avoid lodging.
- Apply need-based light and frequent irrigation to the standing crops, vegetables and orchards in the evening to protect them from adverse impacts of high temperatures.

Livestock

- ✓ 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.

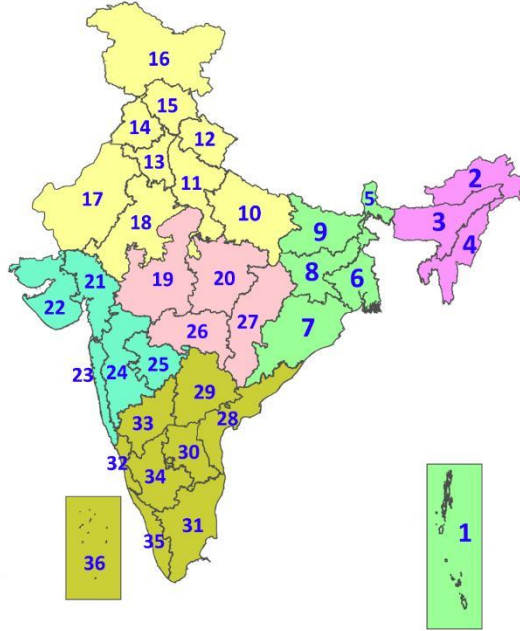
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



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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)