

ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems, Forecast and Warnings:

- ❖ An upper air **cyclonic circulation** lies over central parts of Madhya Pradesh and there is wind confluence over east & adjoining central India in association with the winds as a anticyclonic circulation over northwest Bay of Bengal at lower tropospheric levels. Under the influence of these systems:
 - ✓ **Scattered to Fairly widespread** light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (speed 40-50 kmph)** likely over East Madhya Pradesh, Chhattisgarh, Madhya Maharashtra, Marathwada, Vidarbha, West Bengal, Sikkim, Bihar, Jharkhand and Odisha on 21st & 22nd March and reduction in intensity thereafter.
 - ✓ **Heavy rainfall** likely at isolated places over Jharkhand & adjoining Gangetic West Bengal-north Odisha on 21st March.
Isolated hailstorms also likely over East Madhya Pradesh, Chhattisgarh, Jharkhand on 21st; Vidarbha, West Bengal, Sikkim, Bihar and Odisha on 21st & 22nd March.
- ❖ An upper air **Cyclonic Circulation** lies over northeast Assam in lower tropospheric levels. Under its influence;
 - ✓ **Scattered to Fairly widespread light/moderate rainfall/snowfall** accompanied with **thunderstorm, lightning** over Arunachal Pradesh during next 5 days with Isolated **heavy rainfall** on 21st & 22nd March.
 - ✓ **Scattered to Fairly widespread** light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (speed 40-50 kmph)** likely over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during next 5 days.
- ❖ The trough/wind discontinuity runs from south Chhattisgarh to South Interior Karnataka and a trough in easterly from Comorin area to south Tamil Nadu in lower tropospheric levels. Under its influence;
 - ✓ **Isolated to Scattered** light/moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (speed 30-40 kmph)** likely over Tamilnadu Puducherry & Karaikal, Kerala & Mahe, Lakshadweep, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana and Interior Karnataka during next 5 days.
 - ✓ **Heavy rainfall** also likely at isolated places over extreme south Tamil Nadu on 21st & 22nd; Kerala & Mahe during 21st-23rd March.
 - ✓ **Isolated hailstorms** also likely over Telangana on 21st & 22nd March.

Temperature Forecast:

Maximum temperature:

- ❖ No significant change in maximum temperatures likely over many places over Northwest & Central India during next 2 days and rise by 2-3°C during subsequent 3 days.
- ❖ No significant change in maximum temperatures likely over West India during next 24 hours and gradual rise by about 2-3°C for subsequent 3-4 days.
- ❖ Gradual fall in maximum temperatures by 3-4°C likely over East India during next 3 days and gradual rise by 2-4°C thereafter.

Heat wave and Hot & Humid weather warning:

- ❖ **No heat wave likely over any parts of country during next 4-5 days.**
- ❖ **Hot & humid weather conditions** very likely to prevail in isolated pockets over Tamil Nadu Puducherry & Karaikal on 21st; Konkan & Goa, coastal areas of Gujarat during 22nd-24th March.

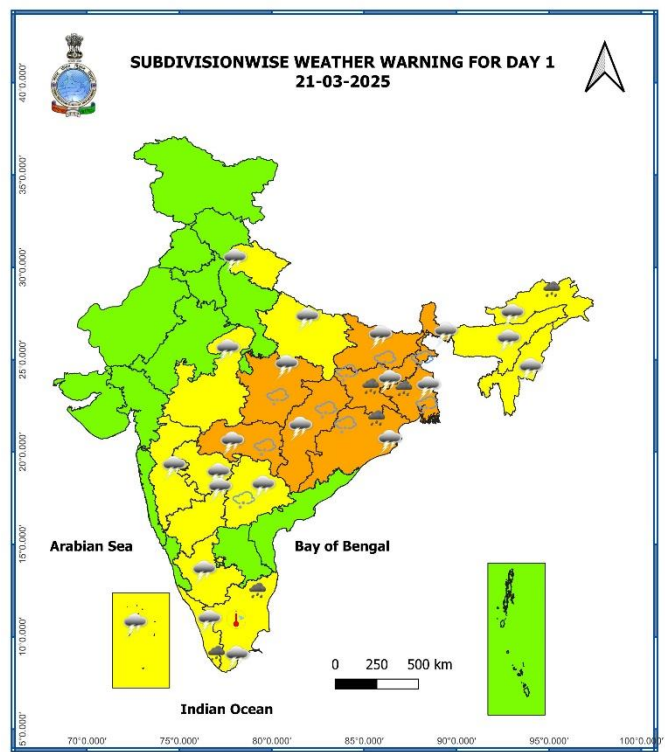
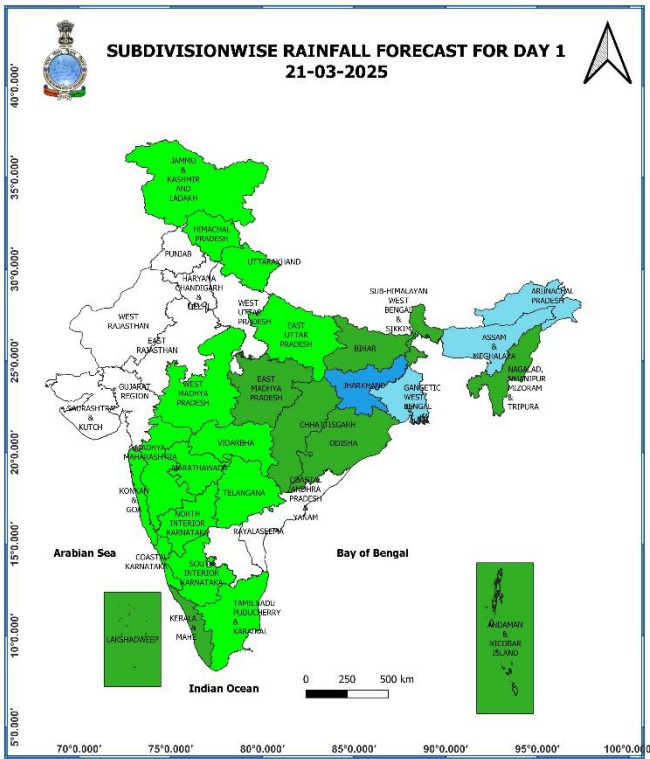
Main Weather Observations:

- ❖ **Rainfall/Snowfall distribution** (from 0830 hours IST of yesterday to 0830 hours IST of today): **Rainfall/Snowfall at isolated places** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; **Rainfall at a few places over** East Madhya Pradesh, Andaman & Nicobar Islands, Jharkhand, Andaman & Nicobar Islands and Lakshadweep; **at many places** over Gangetic West Bengal; **at isolated places** over Himachal Pradesh, Uttarakhand, East Uttar Pradesh, Rajasthan, West Madhya Pradesh, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Bihar, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Saurashtra & Kutch, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Telangana and Interior Karnataka.
- ❖ **Significant amount of rainfall** (from 0830 hours IST of yesterday to 0830 hours IST of today) (in cm): **East Madhya Pradesh:** Beohari (dist Shahdol) 9, Dheemarkheda (dist Katni) 3; **Arunachal Pradesh:** Mukto_arg (dist Tawang) 2, Anini_aws (dist Dibang Valley) 2, Tawang (dist Tawang) 2, Tawang_Aws (dist Tawang) 2, **Assam & Meghalaya:** Rattachera (dist East Jaintia Hills) 2, Silchar (dist Cachar) 1; **Chhattisgarh:** Samari (dist Balrampur) 4, Ramchandrapur (dist Balrampur) 1, Doura Kochali (dist Balrampur) 1, Balrampur (dist Balrampur) 1.
- ❖ **Hailstorm** reported at isolated places over south assam, East Madhya Pradesh and north interior Odisha.
- ❖ **Minimum Temperature Departures (as on 21-03-2025):** Minimum temperatures are **markedly above normal (5.1°C or more)** at isolated places over Odisha; **appreciably above normal (3.1°C to 5.0°C)** at a few places over Bihar; at isolated places over East Uttar Pradesh, East Rajasthan, Chhattisgarh, Madhya Pradesh, Saurashtra & Kutch, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Andaman & Nicobar Islands; **above normal (1.6°C to 3.0°C)** at many places over Coastal Andhra Pradesh & Yanam, Tamil Nadu, Puducherry & Karaikal and Tamil Nadu, Puducherry & Karaikal; at a few places over Gujarat Region and Rayalaseema; at isolated places over West Rajasthan, Konkan & Goa, Madhya Maharashtra, Vidarbha, Jharkhand, Sub-Himalayan West Bengal & Sikkim, Telangana and Lakshadweep; These are **below normal (-3.0°C to -1.6°C)** at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; at isolated places over Himachal Pradesh, Delhi and near normal over rest parts of the country (**Fig. 4**). Today, the **lowest minimum temperature of 10.8°C** is reported at **Adampur (Haryana)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 20-03-2025):** Maximum Temperatures were **below normal by 2-5°C** over some places over south Bihar, North Jharkhand, Gangetic West Bengal, southeast Uttar Pradesh and northeast Madhya Pradesh and **above normal by 2-4°C** over Jammu division, east Punjab, West & central Uttar Pradesh, Vidarbha and near normal over rest parts of the country. (**Fig. 2**). Yesterday, the highest **maximum temperature of 41.1°C** was reported at **Anantapur (Rayalaseema)** over the country.

Meteorological Analysis (Based on 0830 hours IST)

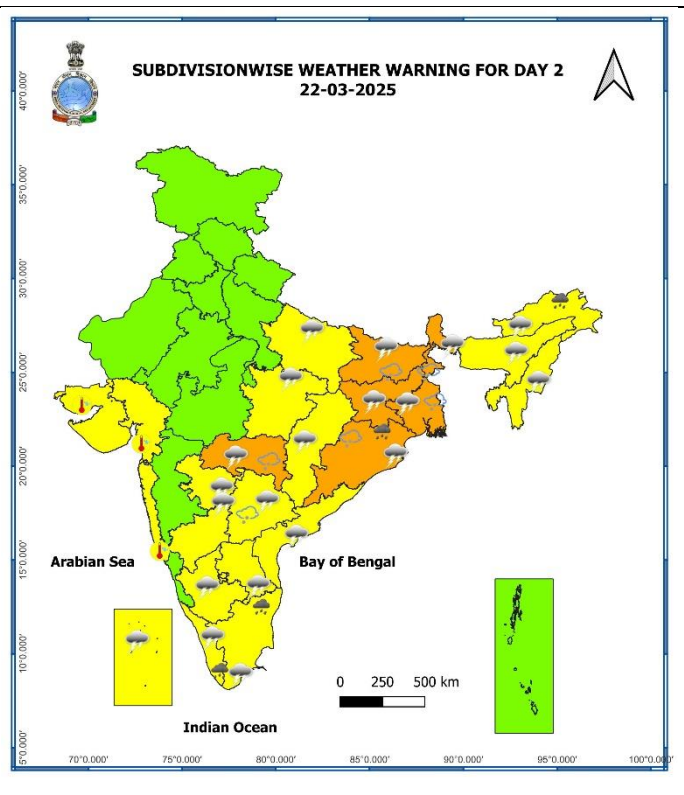
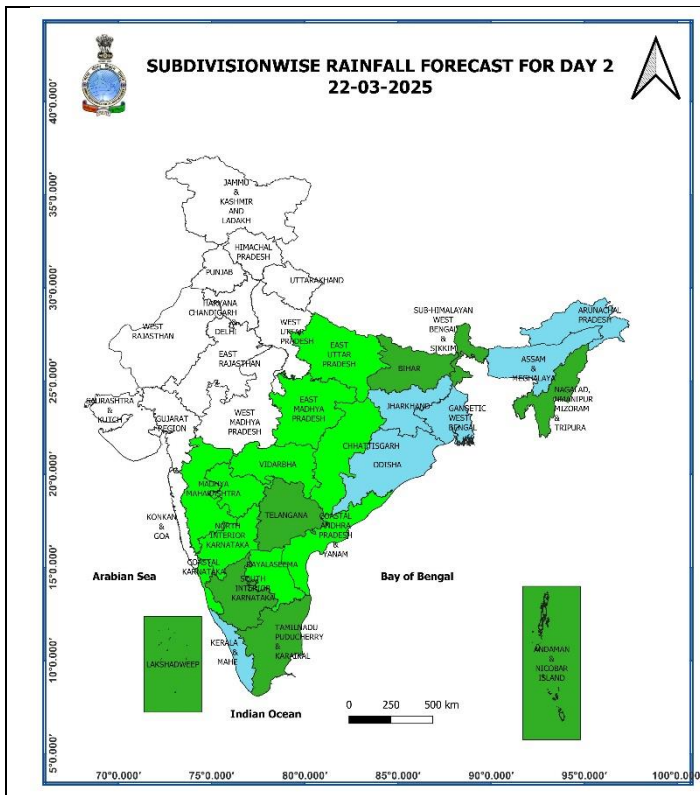
- ❖ The **Western Disturbance** as a trough in middle tropospheric levels with its axis at 5.8 km above mean sea level roughly along Long. 74°E to the north of Lat. 32°N persists.
- ❖ The upper air **cyclonic circulation** over central parts of Madhya Pradesh extending upto 1.5 km above mean sea level persists.
- ❖ The **trough/wind discontinuity** now runs from south Chhattisgarh to South Interior Karnataka across Telangana and North Interior Karnataka at 1.5 km above mean sea level.
- ❖ The upper air **Cyclonic Circulation** over northeast Assam & neighbourhood extending upto 1.5 km above mean sea level persists.
- ❖ A **trough** in easterlies runs from Comorin area to south Tamil Nadu at 0.9 km above mean sea level
- ❖ A fresh **Western Disturbance** is likely to affect Western Himalayan Region from the night of 24th March, 2025.

Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 28th March, 2025)



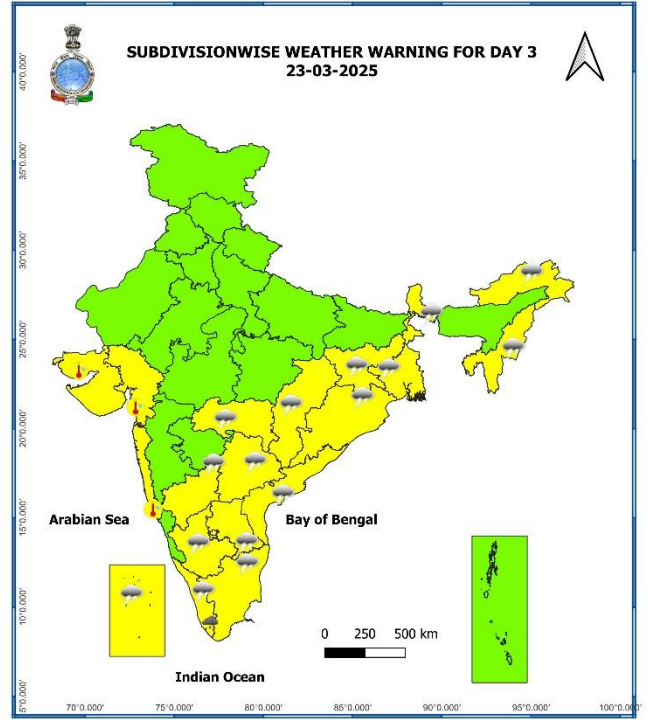
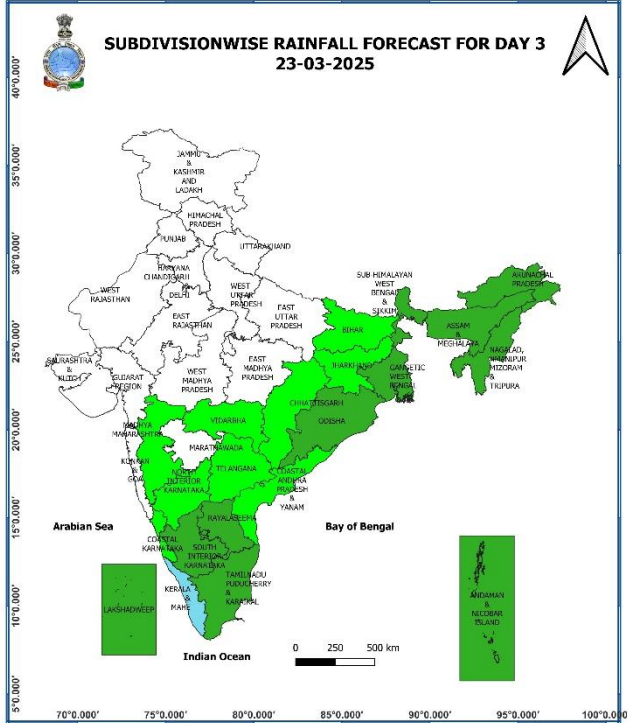
21st March (Day 1):

- ❖ **Heavy rainfall** very likely at isolated places over Gangetic West Bengal adjoining Jharkhand - north Odisha, south Tamil Nadu, south Kerala and Arunachal Pradesh.
- ❖ **Thunderstorm accompanied with squally winds (speed reaching 50-60 kmph), Hailstorm & lightning** likely at isolated places over Gangetic West Bengal, Jharkhand and north Odisha; **with squally winds (speed reaching 40-50 kmph), Hailstorm & lightning** at isolated places over East Madhya Pradesh, Vidarbha, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Bihar and Telangana; **with gusty winds (speed reaching 40 - 50 kmph) lightning** at isolated places over East Uttar Pradesh and Marathwada; **with gusty winds (speed reaching 30 - 40 kmph) lightning** at isolated places over West Madhya Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra and Interior Karnataka; **with lightning** at isolated places over Uttarakhand Arunachal Pradesh and Lakshadweep,.
- ❖ **Squally weather with wind speed 35 kmph to 45 kmph gusting to 55 kmph** is likely to prevail along and off west Bengal coast and north Odisha coast. Fishermen are advised not to venture into these areas.



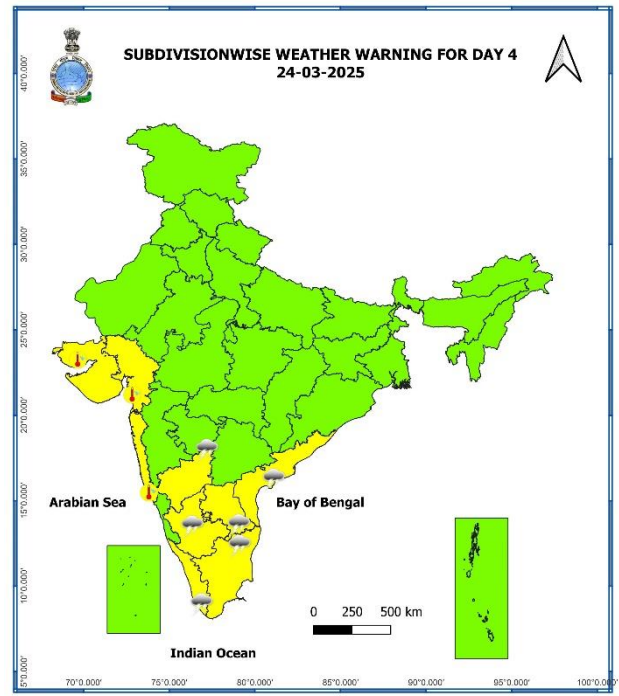
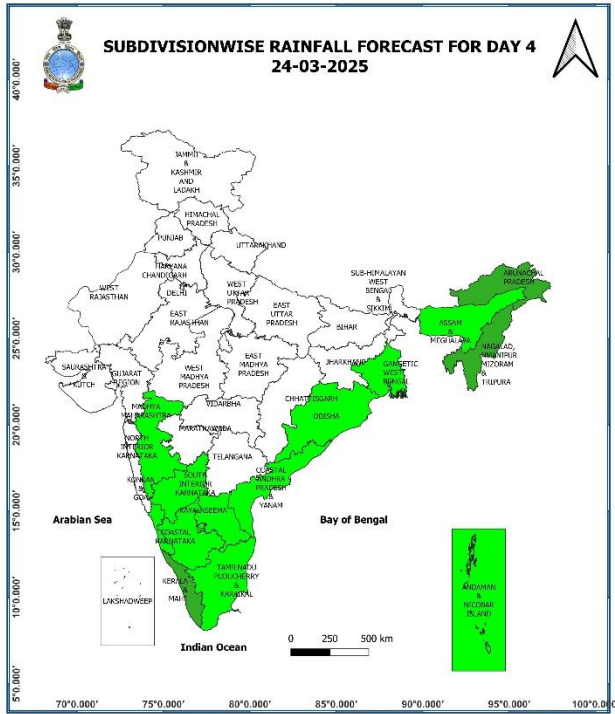
22nd March (Day 2):

- ❖ **Heavy rainfall** very likely at isolated places over Odisha, Arunachal Pradesh, south Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ **Thunderstorm accompanied with squally 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, West Bengal & Sikkim, Bihar and Telangana; **with gusty winds (speed reaching 40 - 50 kmph) lightning** likely at isolated places over East Madhya Pradesh, Chhattisgarh, Jharkhand, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, Rayalaseema and Interior Karnataka; **with gusty winds (speed reaching 30 - 40 kmph) & lightning** likely at isolated places over East Uttar Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Marathwada; **with lightning** at isolated places over Arunachal Pradesh, south Tamil Nadu, Puducherry & Karaikal and Lakshadweep.
- ❖ **Hot and Humid Conditions** very likely at isolated places over Konkan & Goa and Gujarat state.



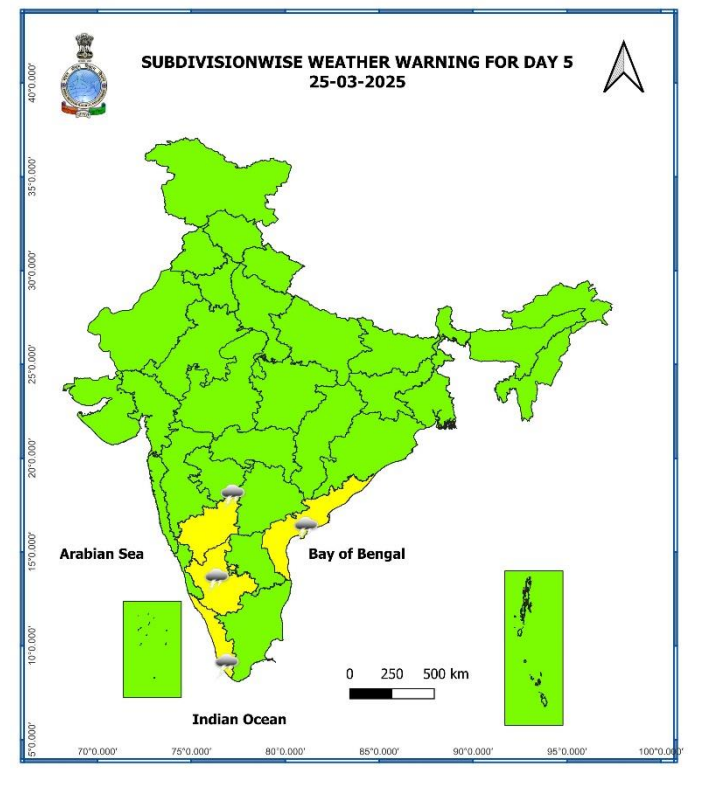
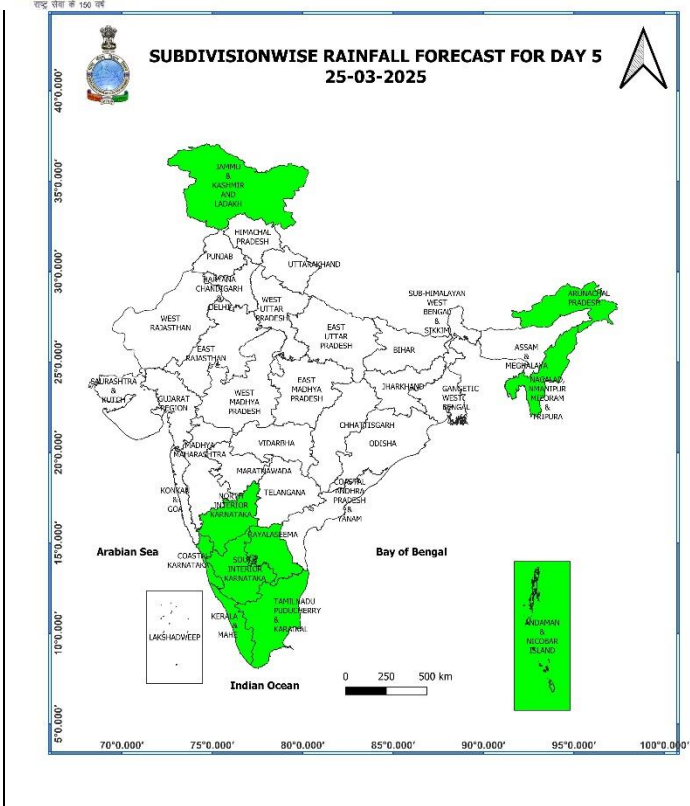
23rd March (Day 3):

- ❖ **Heavy rainfall** very likely at isolated places over Kerala & Mahe.
- ❖ **Thunderstorm accompanied with gusty winds (speed reaching 40 - 50 kmph) & lightning** likely at isolated places over Kerala & Mahe, Rayalaseema, Coastal Andhra Pradesh & Yanam and Interior Karnataka; **with gusty winds (speed reaching 30 - 40 kmph) & lightning** likely at isolated places over Telangana and Jharkhand; **with lightning** at isolated places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Tamil Nadu, Puducherry & Karaikal, Lakshadweep, Vidarbha, Chhattisgarh, West Bengal & Sikkim.
- ❖ **Hot and Humid Conditions** likely at isolated places over Konkan & Goa and Gujarat state.



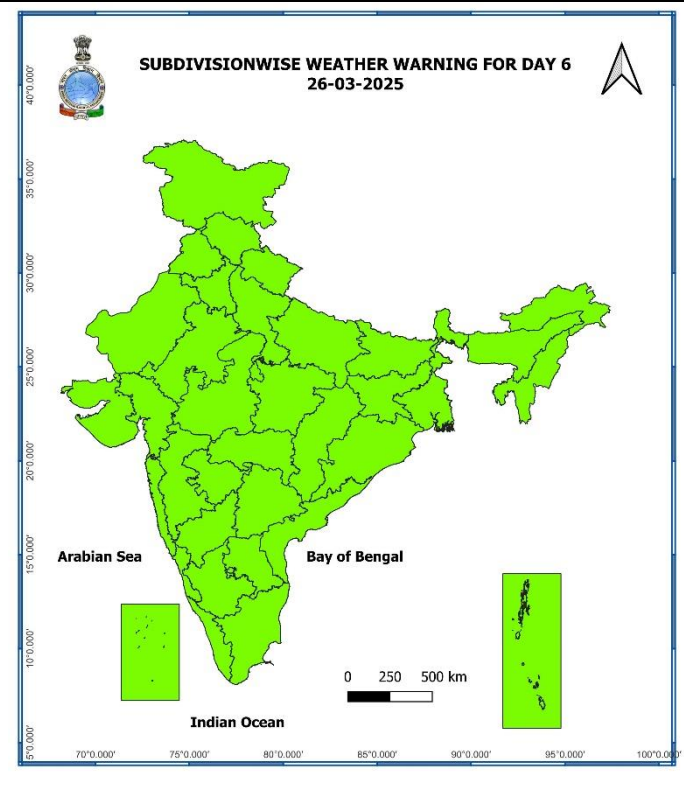
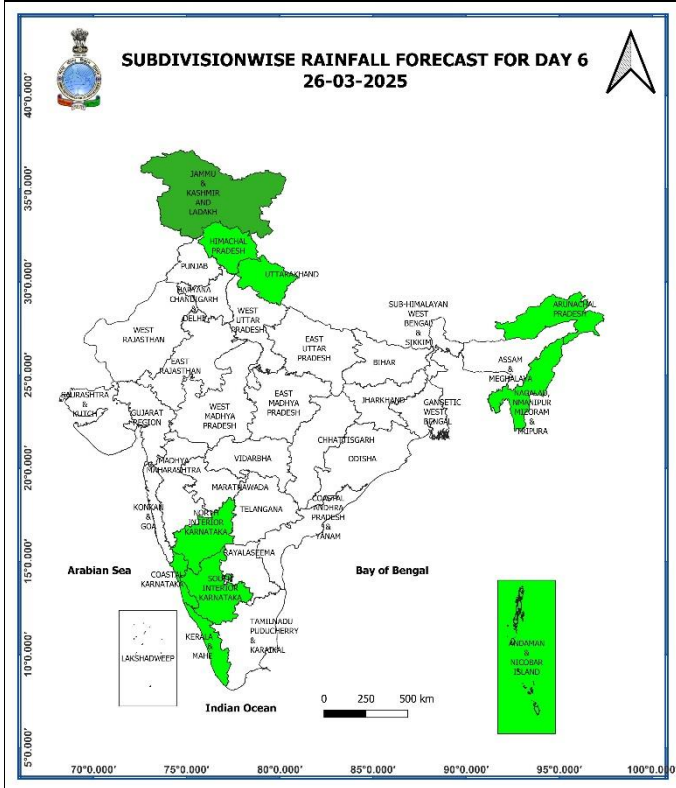
24th March (Day 4):

- ❖ **Thunderstorm accompanied with gusty winds (speed reaching 40 - 50 kmph) & lightning** likely at isolated places over Interior Karnataka; **Thunderstorm accompanied with gusty winds (speed reaching 30 - 40 kmph) & lightning** likely at isolated places over Coastal Andhra Pradesh & Yanam; **with lightning** at isolated places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and Rayalaseema.
- ❖ **Hot and Humid Conditions** likely at isolated places over Konkan & Goa and Gujarat state.



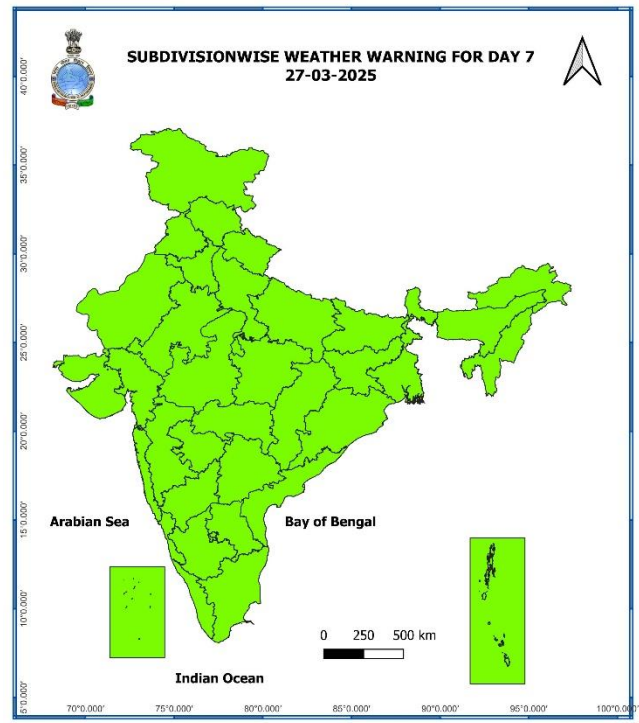
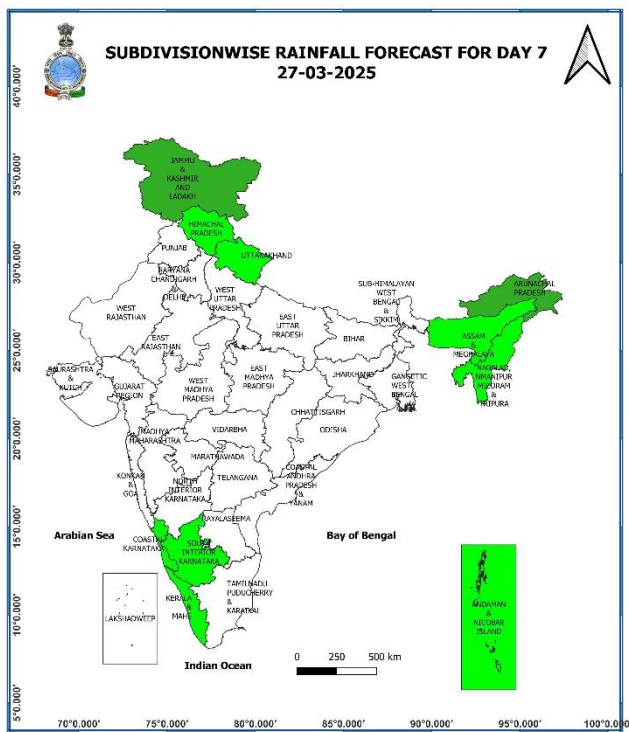
25th March (Day 5):

- ❖ **Thunderstorm accompanied with gusty winds (speed reaching 30 - 40 kmph) & lightning likely at isolated places over Interior Karnataka; with lightning at isolated places over Coastal Andhra Pradesh & Yanam and Kerala & Mahe.**



26th March (Day 6):

❖ **No Weather Warning.**



27th March (Day 7):

❖ **No Weather Warning.**

Weather Outlook for subsequent 3 days (During 28th March-30th 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

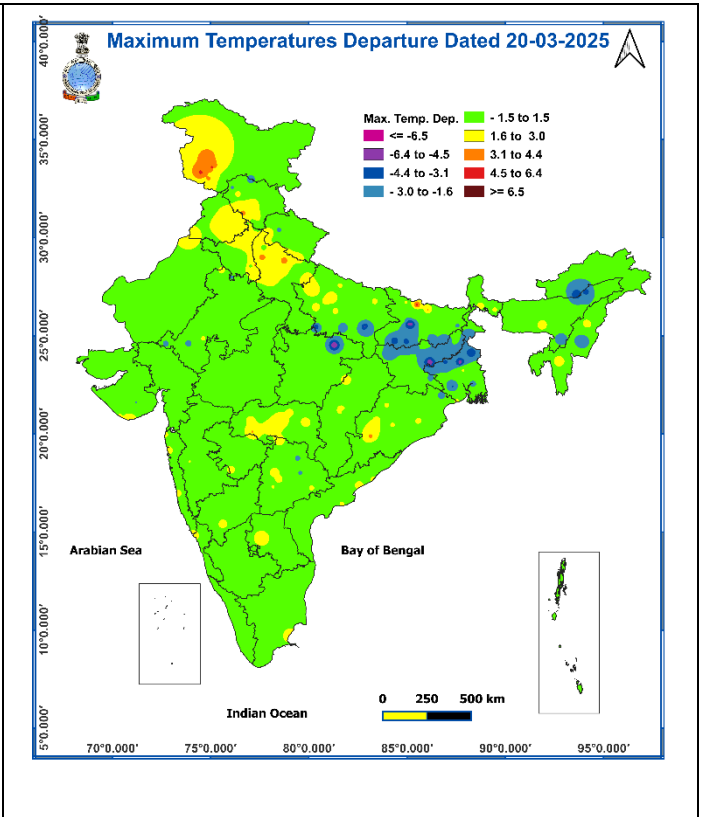
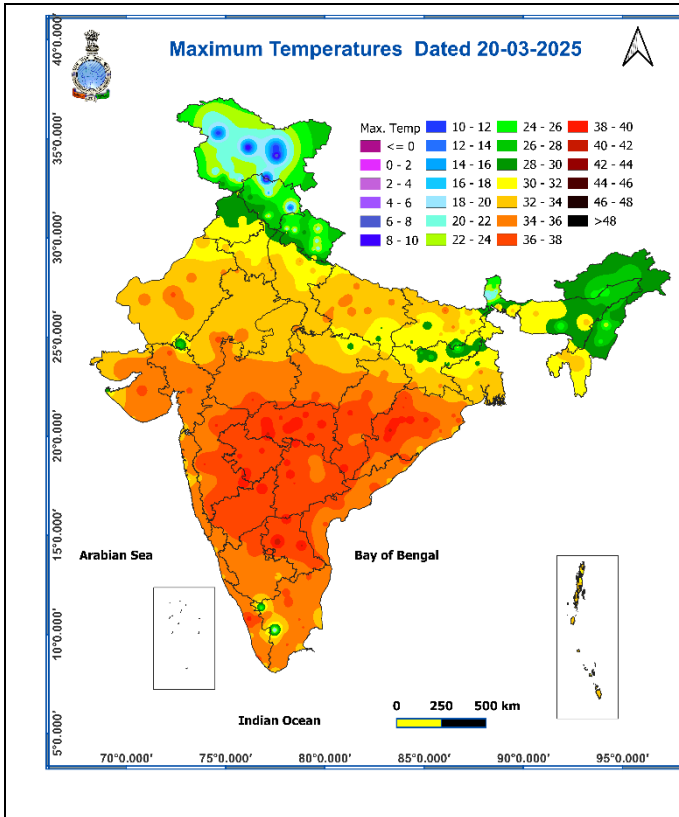
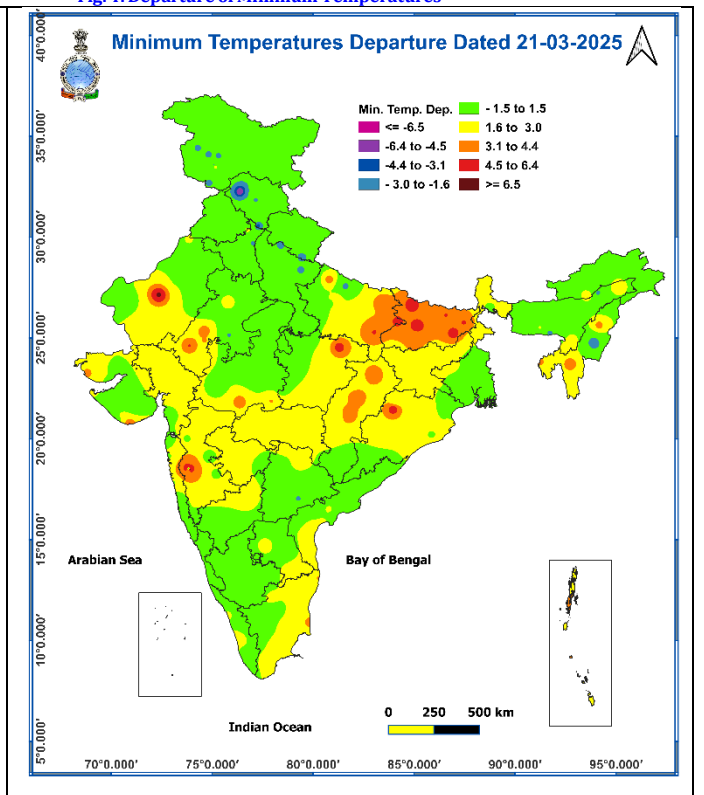
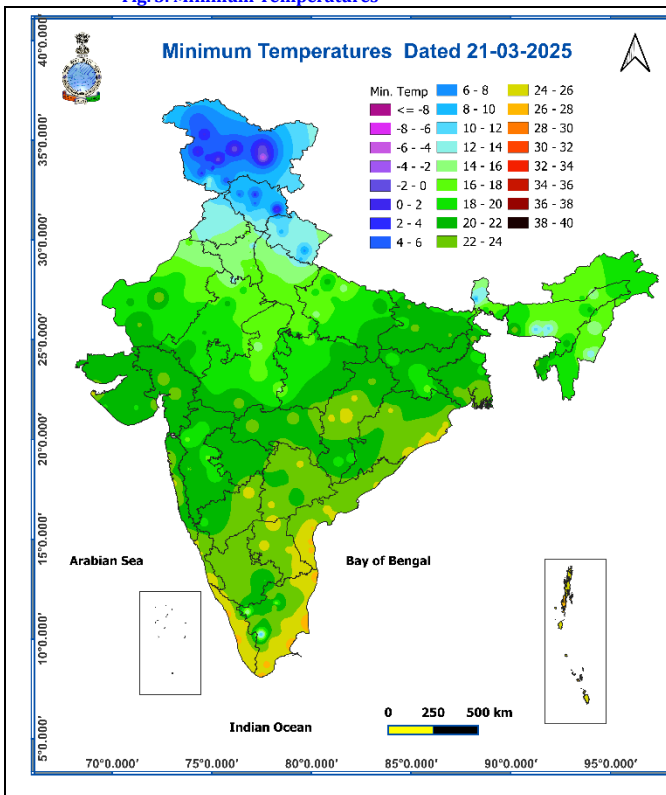


Fig. 3: Minimum Temperatures

Fig. 4: Departure of Minimum Temperatures



Impact expected and action suggested due to thunderstorm accompanied with lightning/gusty winds & hailstorm over Northeast India, south Peninsular India during next 5 days and over east, & central India on 21st & 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.

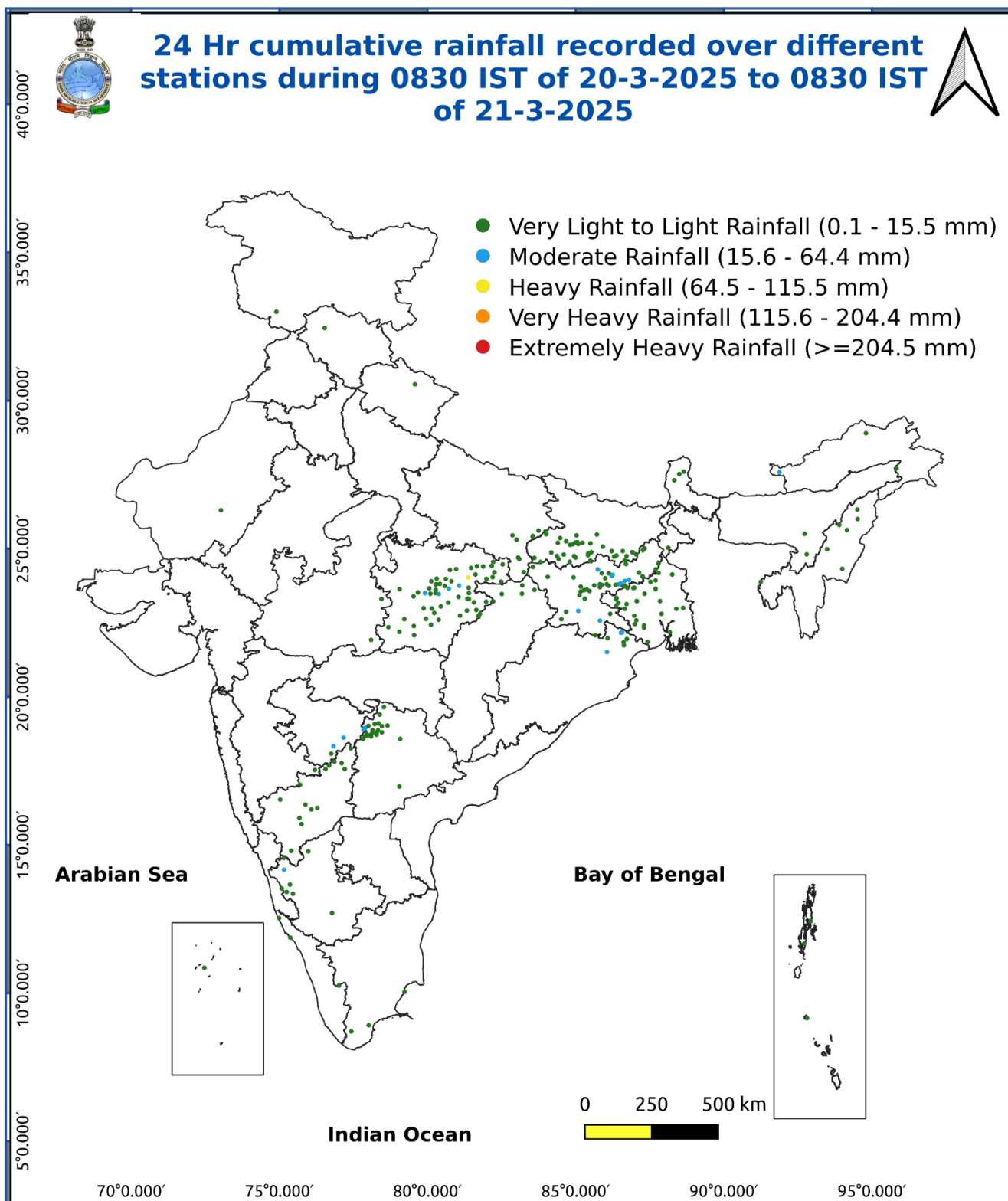
Agromet advisories for likely impact of Heavy Rainfall / Hailstorm

- In **West Bengal, Odisha, Jharkhand, Bihar, East Madhya Pradesh, Vidarbha, Chhattisgarh** and **Telangana**, 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, Gangetic West Bengal, Odisha, Jharkhand, Tamil Nadu** and **Kerala**, 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.

Livestock

- 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.

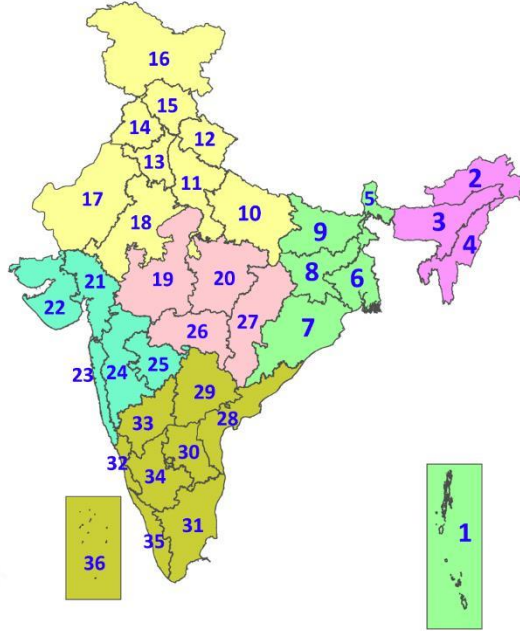
Fig. 5: Accumulated Rainfall (mm) during past 24 hours



* 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

COLOUR CODED WARNING

No Warning (No Action)

Watch (Be Aware)

Alert (Be Prepared To Take Action)

Warning (Take Action)



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

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 at least 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 Storm: Wind speed > 220 kmph (> 119 knots)