

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 from the 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 22<sup>nd</sup> March and reduction in intensity thereafter.
  - ✓ **Isolated hailstorms also likely over** Vidarbha, West Bengal, Sikkim, Bihar and Odisha on 22<sup>nd</sup> 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 22<sup>nd</sup> 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 22<sup>nd</sup>; Kerala & Mahe on 22<sup>nd</sup> & 23<sup>rd</sup> March.
  - ✓ **Isolated hailstorms** also likely over Telangana on 22<sup>nd</sup> 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 Konkan & Goa, coastal areas of Gujarat during 22<sup>nd</sup>-24<sup>th</sup> March.

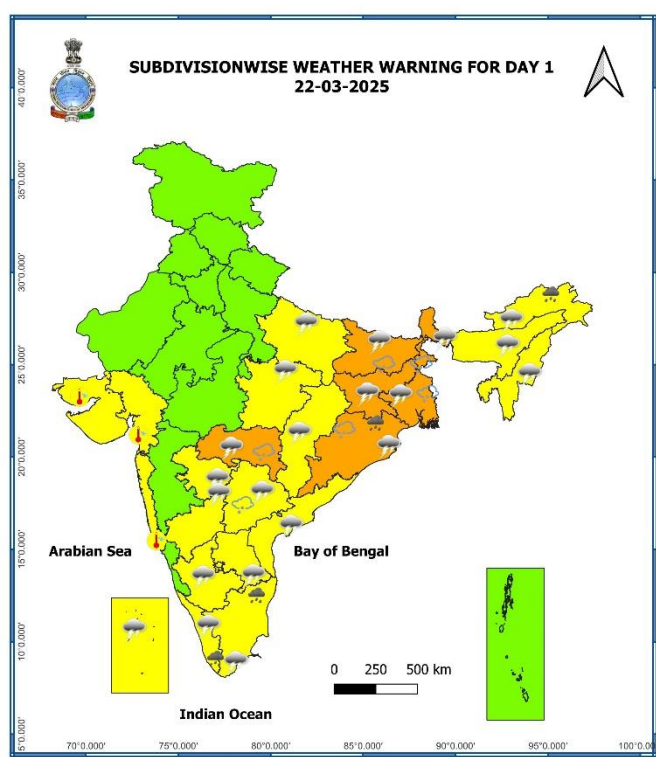
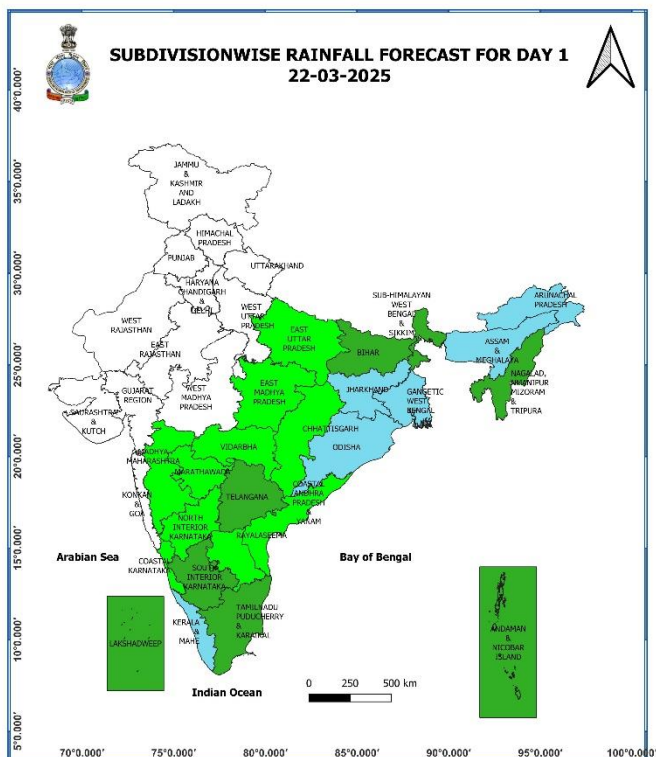
**Main Weather Observations:**

- ❖ **Rainfall distribution** (from 0830 hours IST to 1730 hours IST of yesterday): **at many places over Gangetic West Bengal; at a few places over Jharkhand, Chhattisgarh; at isolated places over East Madhya Pradesh, Odisha, Telangana, Assam & Meghalaya, Tamil Nadu, Puducherry & Karaikal, Lakshadweep.**
- ❖ **Significant amount of rainfall** (from 0830 hours IST to 1730 hours IST of yesterday) (in cm): **Odisha:** Baripada 9; **Jharkhand:** Ranchi 2; **Chhattisgarh:** Mana 2.
- ❖ Yesterday, **Heavy rainfall** reported at isolated places over Odisha.
- ❖ Yesterday, **Hailstorm** reported at isolated places over Jharkhand, Odisha.
- ❖ **Minimum Temperature Departures (as on 21-03-2025):** Minimum temperatures were **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 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 Himachal Pradesh, Delhi and near normal over rest parts of the country (**Fig. 4**). Yesterday, the **lowest minimum temperature of 10.8°C** was reported at **Adampur (Haryana)** over the plains of the country.
- ❖ **Maximum Temperature Departures (as on 21-03-2025):** Maximum Temperatures were **appreciably above normal (3.1°C to 5.0°C)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; **above normal (1.6°C to 3.0°C)** at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, Saurashtra & Kutch, Konkan & Goa, Tamil Nadu, Puducherry & Karaikal. These were **appreciably below normal (-3.1°C to -5.0°C)** at a few places over Jharkhand; at isolated places over Bihar, Chhattisgarh, Assam & Meghalaya, Arunachal Pradesh; below **normal (-3.0°C to -1.6°C)** at a few places over Odisha; at isolated places over Madhya Pradesh, Madhya Maharashtra, Marathwada, Telangana, East Rajasthan, Nagaland, Manipur, Mizoram & Tripura and near normal over rest parts of the country. (**Fig. 2**). Yesterday, the highest **maximum temperature of 40.1°C** was reported at **Anantapur (Rayalaseema)** over the country.

### Meteorological Analysis (Based on 0530 hours IST)

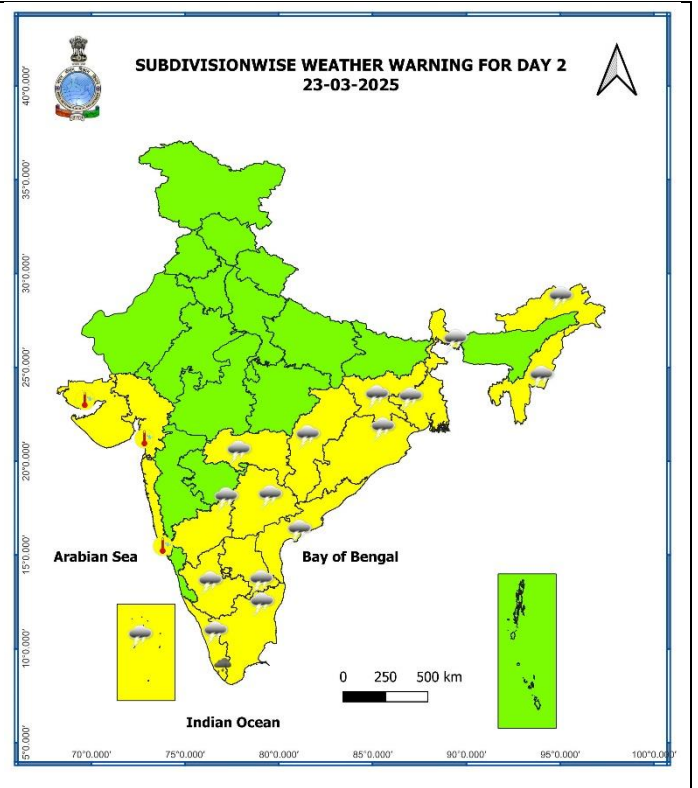
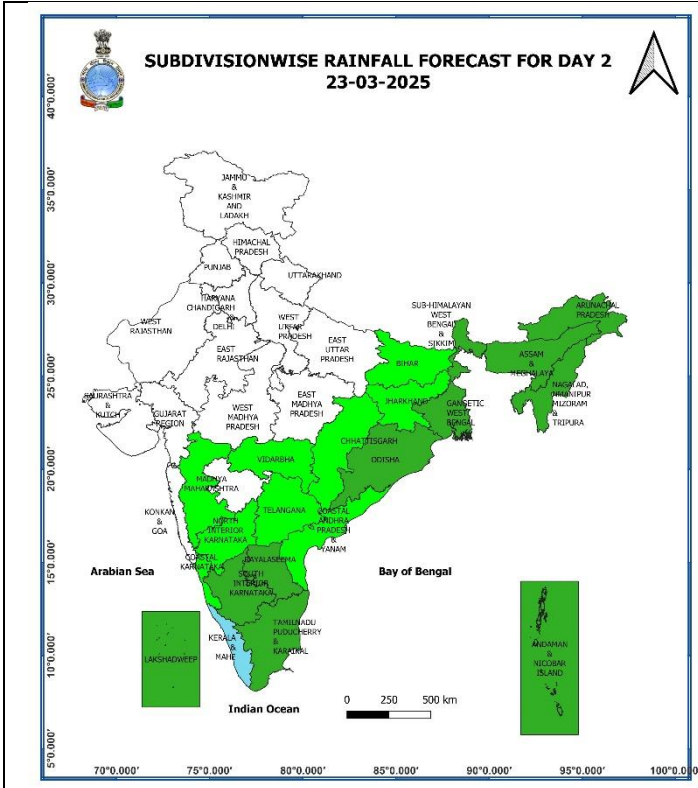
- ❖ The **Western Disturbance** as a trough in middle tropospheric levels with its axis at 5.8 km above mean sea level now runs roughly along Long. 80°E to the north of Lat. 30°N.
- ❖ The upper air **cyclonic circulation** over central parts of Madhya Pradesh extending upto 1.5 km above mean sea level persists.
- ❖ The **trough/wind discontinuity** from south Chhattisgarh to South Interior Karnataka across Telangana and North Interior Karnataka at 1.5 km above mean sea level persists.
- ❖ The upper air **Cyclonic Circulation** over northeast Assam & neighbourhood extending upto 1.5 km above mean sea level persists.
- ❖ The **trough** in easterlies from Comorin area to south Tamil Nadu at 0.9 km above mean sea level persists.
- ❖ A fresh **Western Disturbance** is likely to affect Western Himalayan Region from the night of 24<sup>th</sup> March, 2025.

**Weather Forecast & Warnings for next 7 days (Upto 0830 hours IST of 29<sup>th</sup> March, 2025)**



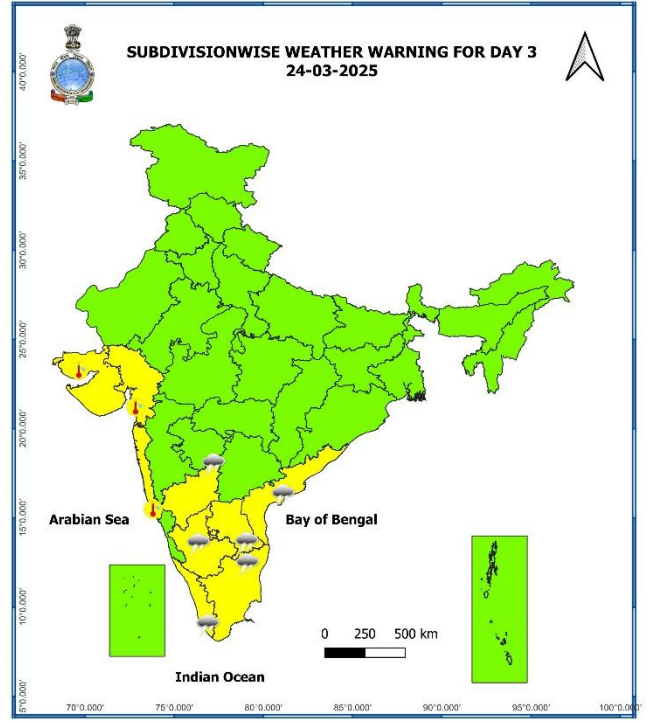
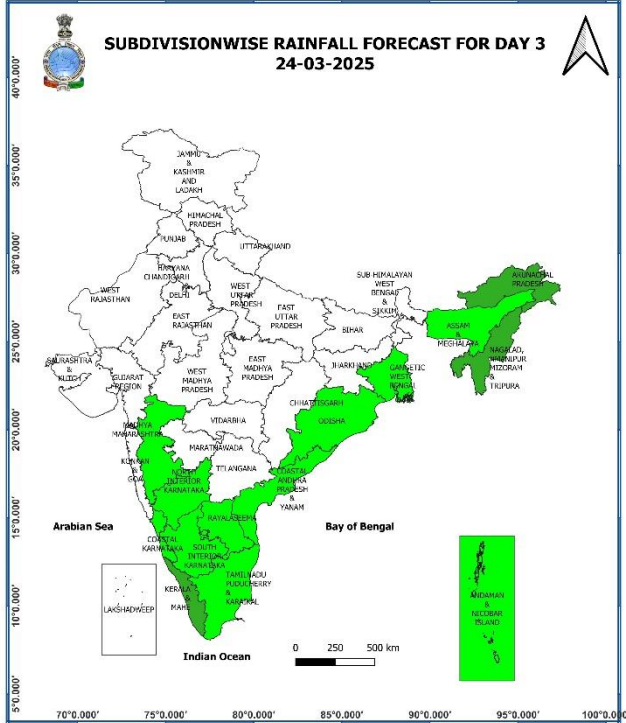
**22<sup>nd</sup> March (Day 1):**

- ❖ **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.



### 23<sup>rd</sup> March (Day 2):

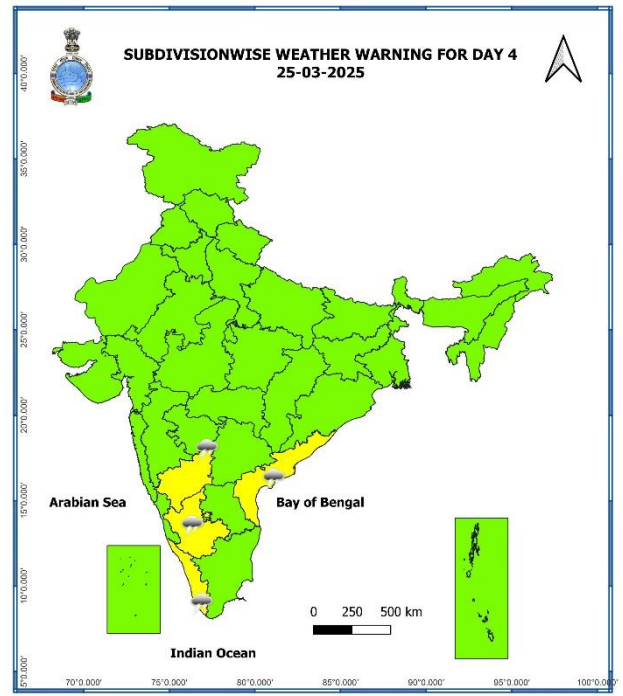
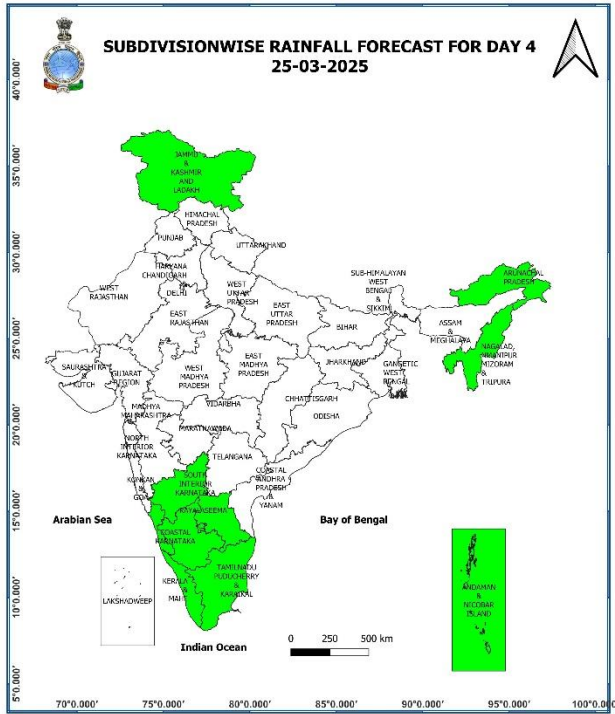
- ❖ **Heavy rainfall** very likely at isolated places over Kerala & Mahe.
- ❖ **Thunderstorm accompanied with gusty winds (speed reaching 40 - 50 kmph) & lightning** likely at isolated places over Kerala & Mahe, Rayalaseema, Coastal Andhra Pradesh & Yanam and Interior Karnataka; **with gusty winds (speed 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.



**24<sup>th</sup> March (Day 3):**

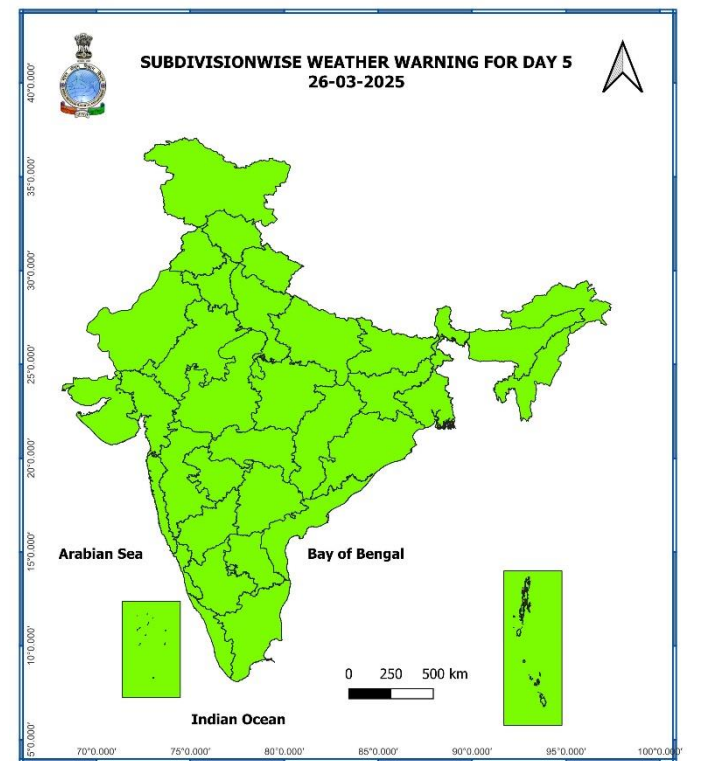
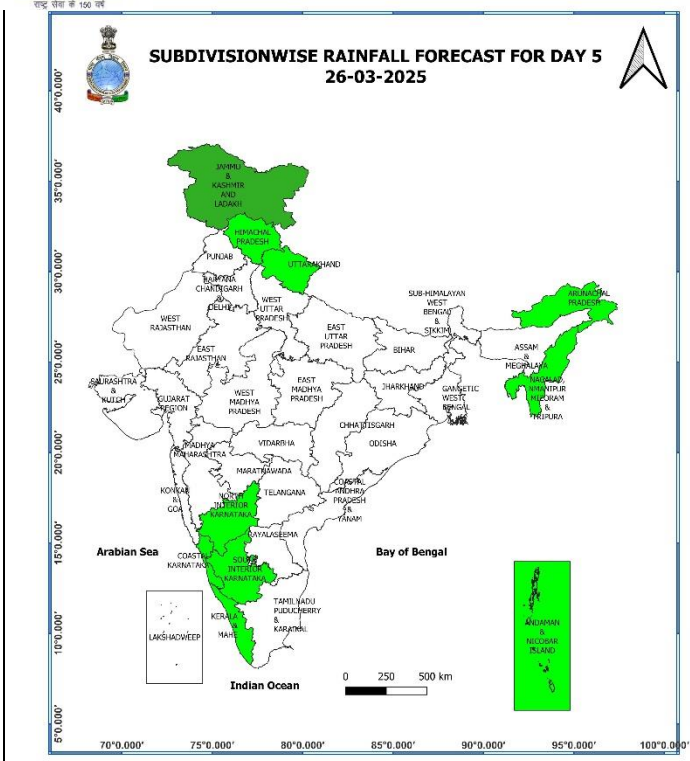
- ❖ **Thunderstorm accompanied with gusty winds (speed reaching 40 - 50 kmph) & lightning** likely at isolated places over Interior Karnataka; **Thunderstorm accompanied with gusty winds (speed reaching 30 - 40 kmph) & lightning** likely at isolated places over Coastal Andhra Pradesh & Yanam; **with 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.

\* 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)



**25<sup>th</sup> March (Day 4):**

- ❖ **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.**



**26<sup>th</sup> March (Day 5):**

❖ **No Weather Warning.**





Fig. 1: Maximum Temperatures

Fig. 2: Departure of Maximum Temperatures

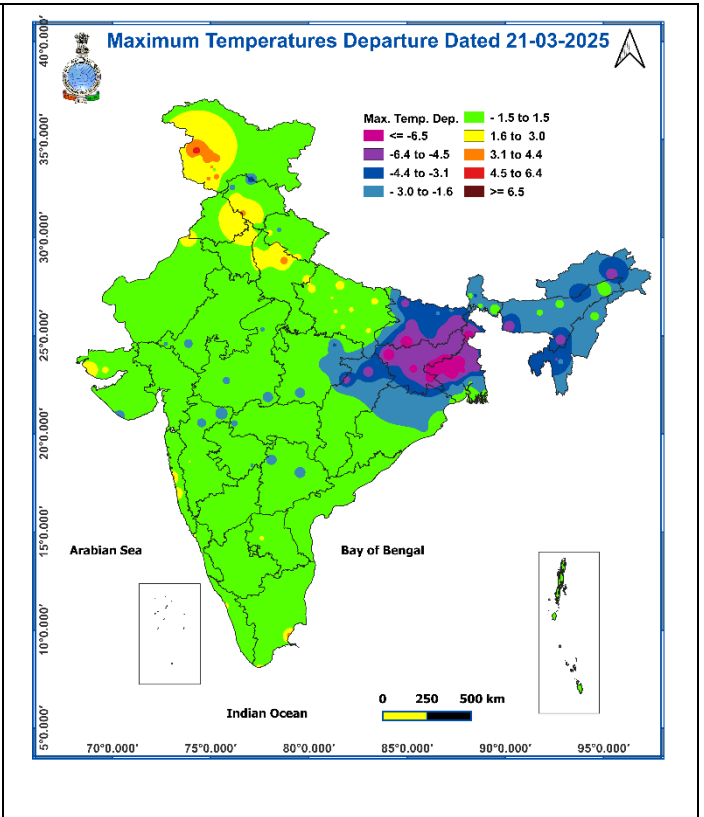
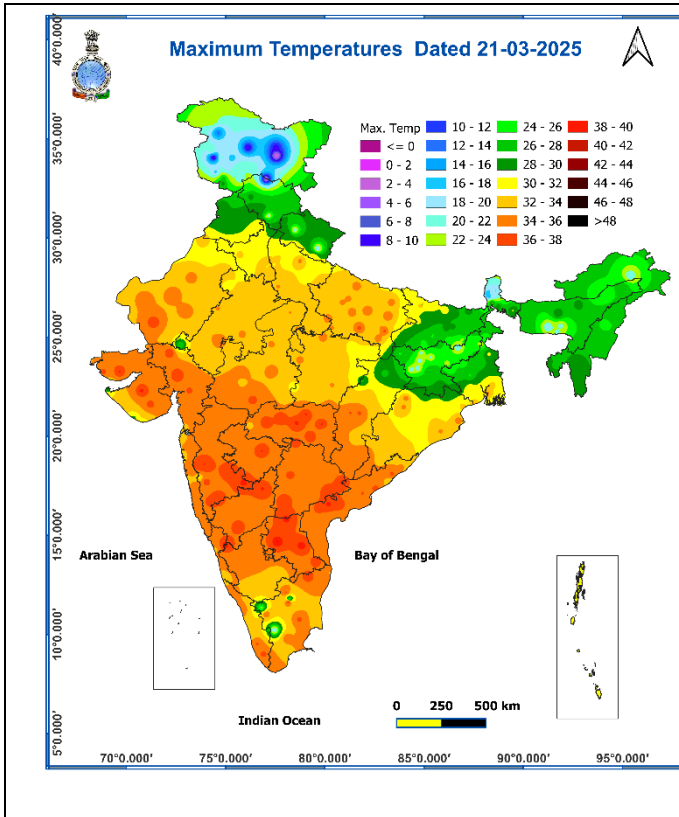
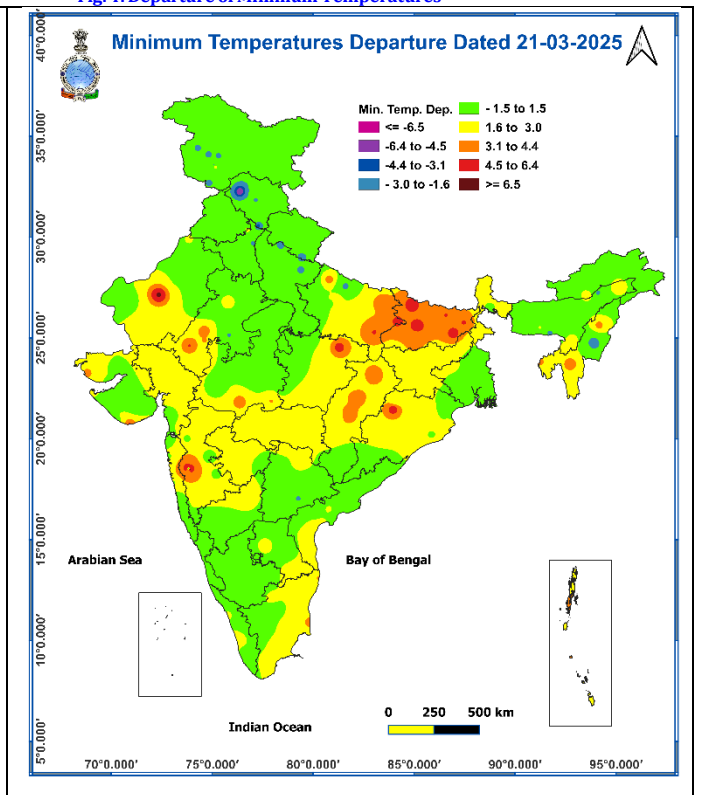
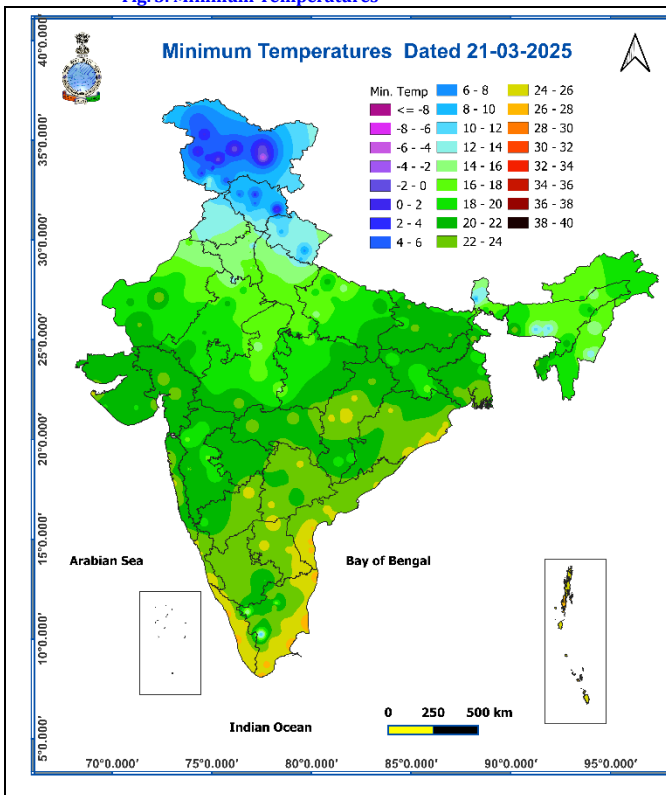


Fig. 3: Minimum Temperatures

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 22<sup>nd</sup> 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.

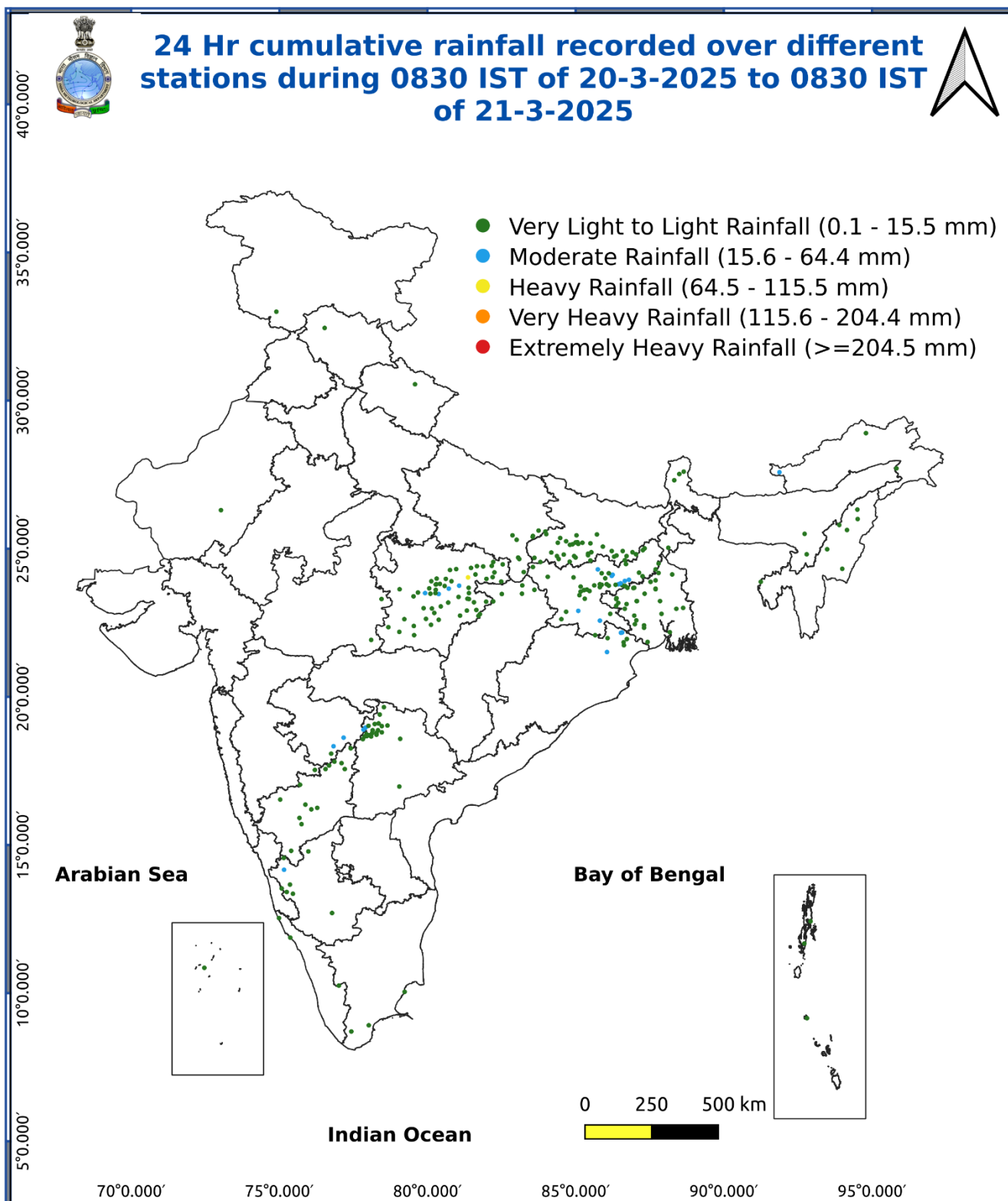
**Agromet advisories for likely impact of Heavy Rainfall / Hailstorm**

- 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**

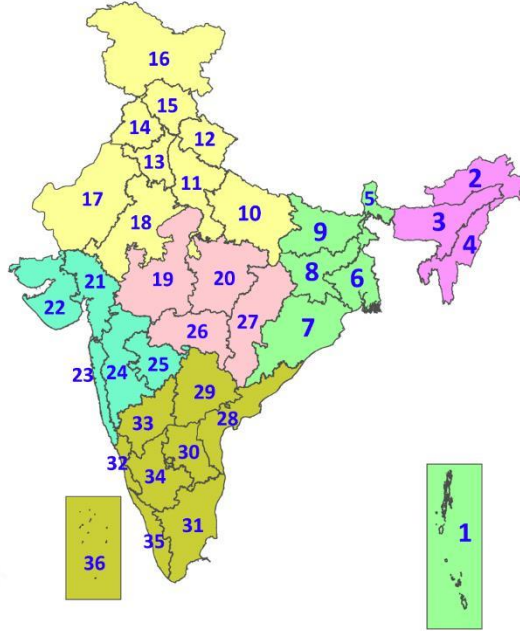
- Keep the animals inside the shed during heavy rainfall/hailstorm and provide them balanced feed.
- Store feed and fodder in a safe place to prevent spoilage.

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



## 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  $4.5^\circ\text{C}$  to  $6.4^\circ\text{C}$ .  
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  $40^\circ\text{C}$

Warm Night: When minimum temperature departure  $4.5^\circ\text{C}$  to  $6.4^\circ\text{C}$ .  
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  $-4.5^\circ\text{C}$  to  $-6.4^\circ\text{C}$ .  
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  $-4.5^\circ\text{C}$  to  $-6.4^\circ\text{C}$ .  
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)