Government of India
Ministry of Earth Sciences
India Meteorological Department

Press Release
Date: 03st January, 2025
Time of Issue: 1315 hours IST

Subject: (i) Wet spell over Western Himalayan Region till 07th and over plains of northwest India on 05th & 06th January, 2025. Isolated heavy rainfall/snowfall also likely over Jammu & Kashmir on 04th & 05th January, 2025
(ii) Dense fog and cold day conditions likely to continue over parts of Northwest & central India during next 2 days and improve thereafter.

i. Realised weather during past 24 hours till 0830 hours IST of today (Annexure I)

- **Cold day conditions** in isolated pockets of Bihar.
- **Very dense fog (visibility < 50 m)** reported in isolated pockets of Delhi, Uttar Pradesh, Madhya Pradesh, Jammu & Kashmir, Punjab, Chandigarh, East Madhya Pradesh; **Dense fog (visibility 50-199):** West Bengal;
- **Visibility reported (< 200 m)** (in meter)**: Delhi:** Palam 00, Safdarjung 00; **Uttar Pradesh:** Agra 00, Kushinagar 00, Gorakhpur 00, Ayodhya 50, Varanasi 50; **Chandigarh**: 00**; Madhya Pradesh:** Gwalior 00, Khajuraho 50; **Jammu & Kashmir:** Srinagar 00, Jammu 50; **Punjab:** Amritsar 00, Pathankot 00; **West Bengal:** Cooch Behar 50;

Weather Systems, Forecast and warning (Annexure II & III):

- A **Western disturbance** as a cyclonic circulation over eastern parts of Iran and neighbourhood in lower to upper tropospheric levels. It is very likely to cause
  - ✓ Isolated to scattered light to moderate rainfall accompanied with thunderstorm, lightning likely over Punjab, Himachal Pradesh & Uttarakhand on 5th- 6th January.
  - ✓ Isolated heavy rainfall/ snowfall very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 4th & 5th January

ii. Temperature, Cold Wave and Fog Forecast:

Temperature Conditions during past 24 hours till 0830 hours IST of today (Annexure IV):

- Minimum temperatures were **below 0°C** over many parts of Jammu, Kashmir & Ladakh; **6-11°C** over many parts of Northwest India; **9-14°C** over many parts of Central & East India and **15-20°C** over many parts of West India. Today, the lowest minimum temperature of **4.4°C** is reported at **Nowgong (East Madhya Pradesh)** over the plains of the country.
- There has been a fall in minimum temperature by 1-3^{0}C over many parts of Telangana, Madhya Maharashtra, North interior Karnataka, Bihar & isolated pockets of Uttar Pradesh; rise by 3-4 °C over isolated pockets of Vidarbha, Gujarat, Sub-Himalayan West Bengal & Sikkim. There has been rise in minimum temperature by 1-3^{0}C over some parts of Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Madhya Pradesh, Uttar Pradesh; rise by 3-4 over some parts of Rajasthan, and Himachal Pradesh.
- Minimum temperatures are **appreciably below normal (-3°C to -5°C)** at isolated places over East Madhya Pradesh and Vidarbha; **below normal (-1°C to -3°C) at many places over North Interior Karnataka;** at a few places over Gangetic West Bengal and Telangana; at isolated places over East Uttar Pradesh, Bihar and Chhattisgarh and near normal over rest part of the country. These are **appreciably above normal (3°C to 5°C)** at a few places over Punjab and Haryana-Chandigarh; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Saurashtra & Kutch; **above normal (1°C to 3°C)** at a few places over West Uttar Pradesh; at isolated places over West Rajasthan, Gujarat Region, Konkan & Goa, East Madhya Pradesh, Odisha, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal.

Forecast of temperature:

- Gradual rise in minimum temperatures by 2-3°C likely over Northwest India during next 4 days and fall thereafter by 2-4°C.
- No significant change in minimum temperatures likely over central Inda during next 5 days.
- No significant change in minimum temperatures likely over east India during next 24 hours, and rise by 2-3 subsequent 2-3 days.
- No significant change in minimum temperatures likely over west India during next 5 days except Gujarat state where no significant change during next 3 days and fall thereafter by 2-3°C.

Cold Wave Warnings:

Cold wave conditions very likely in isolated pockets of Telangana & North Interior Karnataka on 03rd & 4th January.

Cold Day Warnings:

Cold Day conditions very likely in isolated pockets of Punjab, Haryana, Chandigarh and in some parts of West Uttar Pradesh, Bihar on 03st January; in isolated pockets of East Uttar Pradesh on 03rd & 4th January.

Dense Fog Warnings:

Very Dense fog Condition very likely to prevail during late night/early morning hours in isolated pockets of Punjab, Haryana Chandigarh & Delhi and some parts of Uttar Pradesh; **Dense fog conditions** very likely to prevail during late night/early morning hours in isolated pockets of Himachal Pradesh, Sub-Himalayan West Bengal & Sikkim, Odisha, Assam & Meghalaya; in isolated pockets of north Madhya Pradesh, Bihar on 3rd & 4th January; Assam & Meghalaya during 03rd – 5th January; Uttar Pradesh during 7th – 9th January.

Fishermen Warnings (Annexure V):

Fishermen are advised not to venture into Gulf of Mannar, Maldives area, Comorin area & southern parts of south east Arabian along off Sri Lanka coast on 3rd& 4th January; Maldives area & southern parts of south east Arabian sea on 5th January; Southwest and west central Arabian Sea adjoining Yemen coast during 03rd - 06th January.

iii. Weather conditions and forecast over Delhi/NCR during 03rd Jan. to 06th Jan. 2025 (Annexure VI)

For more details, kindly refer National Weather Bulletin:
https://mausam.imd.gov.in/responsive/all_india_forcast_bulletin.php
For District wise warnings refer: https://mausam.imd.gov.in/responsive/districtWiseWarningGIS.php

ANNEXURE I

Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 03.01.2025 (in cm):

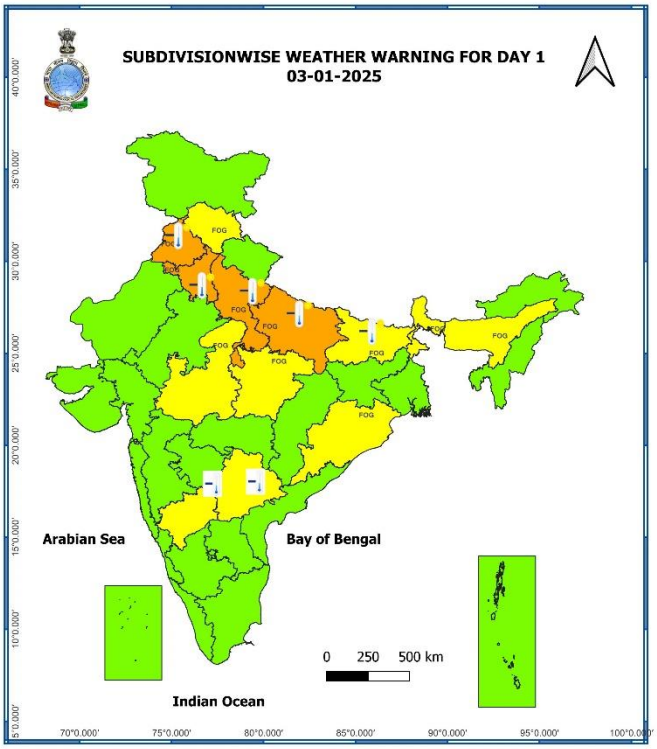
- **Jammu-Kashmir and Ladakh (UT):** Kupwara (dist Kupwara) 1.

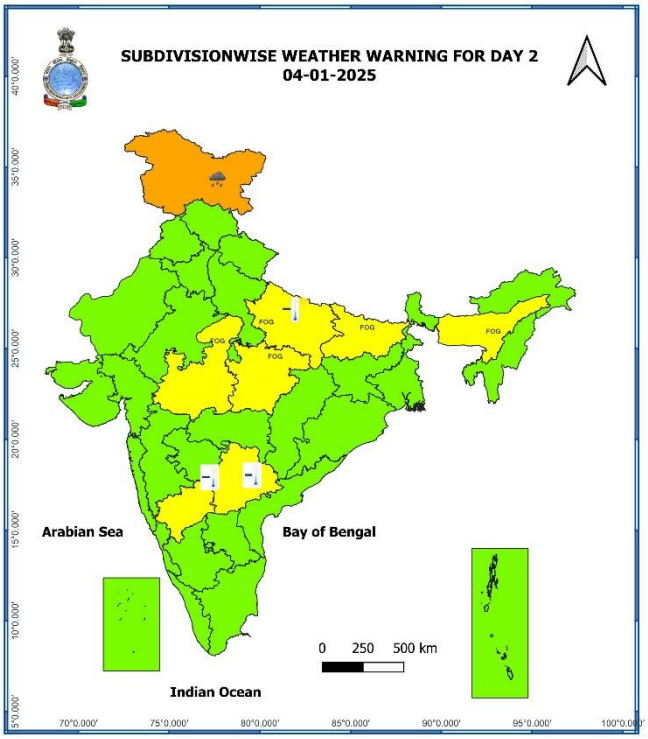
ANNEXURE II

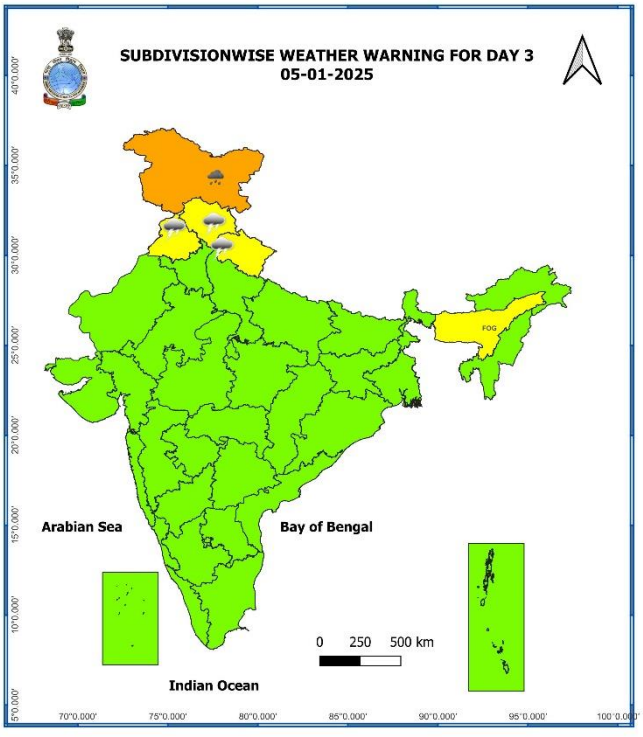
7 Days Rainfall Forecast								
S. No.	Subdivision	03-Jan	04-Jan	05-Jan	06-Jan	07-Jan	08-Jan	09-Jan
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	ISOL	ISOL	ISOL	ISOL	ISOL	SCT	SCT
2	ARUNACHAL PRADESH	DRY	DRY	DRY	ISOL	SCT	FWS	SCT
3	ASSAM & MEGHALAYA	DRY	DRY	DRY	DRY	ISOL	SCT	ISOL
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	DRY	DRY	DRY	DRY	DRY	ISOL	ISOL
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	DRY	DRY	DRY	ISOL	ISOL	ISOL	ISOL
6	GANGETIC WEST BENGAL	DRY	DRY	DRY	DRY	DRY	DRY	DRY
7	ODISHA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
8	JHARKHAND	DRY	DRY	DRY	DRY	DRY	DRY	DRY
9	BIHAR	DRY	DRY	DRY	DRY	DRY	DRY	DRY
10	EAST UTTAR PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
11	WEST UTTAR PRADESH	DRY	DRY	DRY	ISOL	DRY	DRY	DRY
12	UTTARAKHAND	DRY	DRY	ISOL	SCT	ISOL	DRY	DRY
13	HARYANA CHANDIGARH & DELHI	DRY	DRY	SCT	SCT	DRY	DRY	DRY
14	PUNJAB	DRY	ISOL	SCT	SCT	DRY	DRY	DRY
15	HIMACHAL PRADESH	ISOL	ISOL	SCT	WS	ISOL	DRY	DRY
16	JAMMU & KASHMIR AND LADAKH	ISOL	FWS	WS	WS	ISOL	DRY	DRY
17	WEST RAJASTHAN	DRY	DRY	ISOL	DRY	DRY	DRY	DRY
18	EAST RAJASTHAN	DRY	DRY	DRY	DRY	DRY	DRY	DRY
19	WEST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
20	EAST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
21	GUJARAT REGION	DRY	DRY	DRY	DRY	DRY	DRY	DRY
22	SAURASHTRA & KUTCH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
23	KONKAN & GOA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
24	MADHYA MAHARASHTRA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
25	MARATHAWADA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
26	VIDARBHA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
27	CHHATTISGARH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
28	COASTAL ANDHRA PRADESH & YANAM	DRY	DRY	DRY	DRY	DRY	DRY	DRY
29	TELANGANA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
30	RAYALASEEMA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	ISOL	ISOL	ISOL	ISOL	ISOL	SCT
32	COASTAL KARNATAKA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
33	NORTH INTERIOR KARNATAKA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
34	SOUTH INTERIOR KARNATAKA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
35	KERALA & MAHE	DRY	DRY	DRY	DRY	DRY	ISOL	ISOL
36	LAKSHADWEEP	DRY	DRY	SCT	SCT	SCT	SCT	SCT

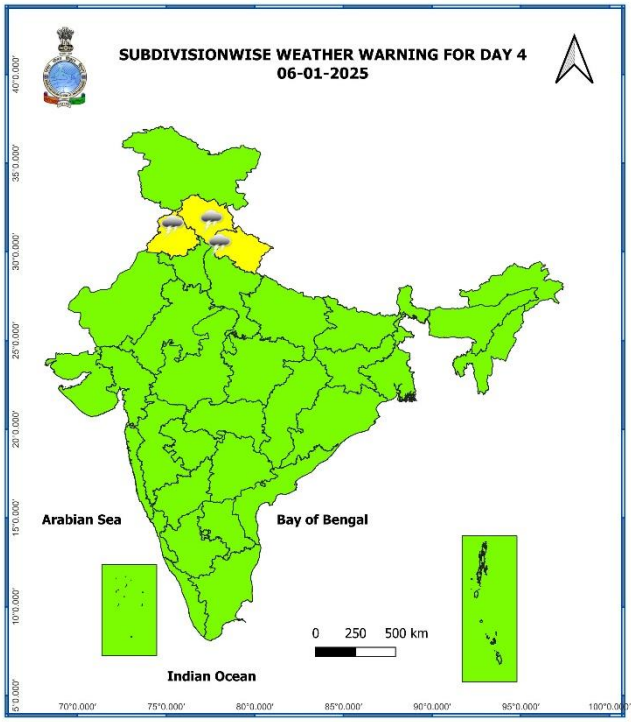
- **As the lead period increases forecast accuracy decreases**

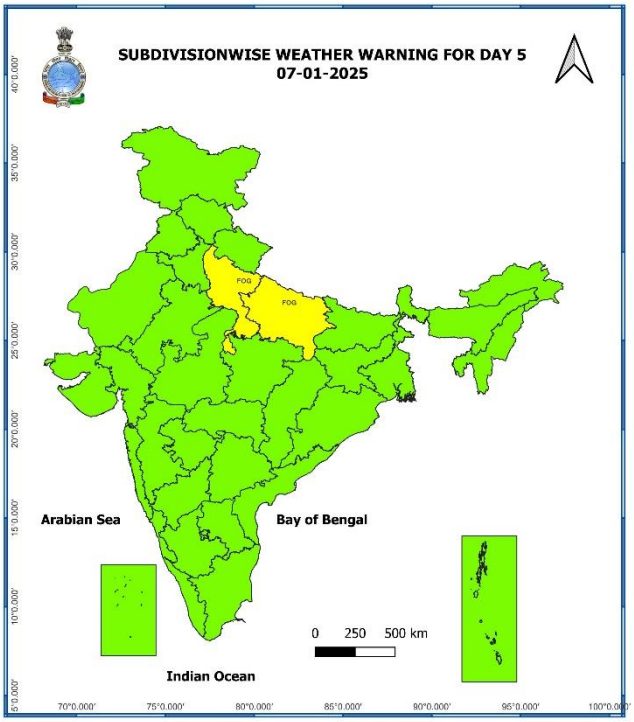
ANNEXURE III

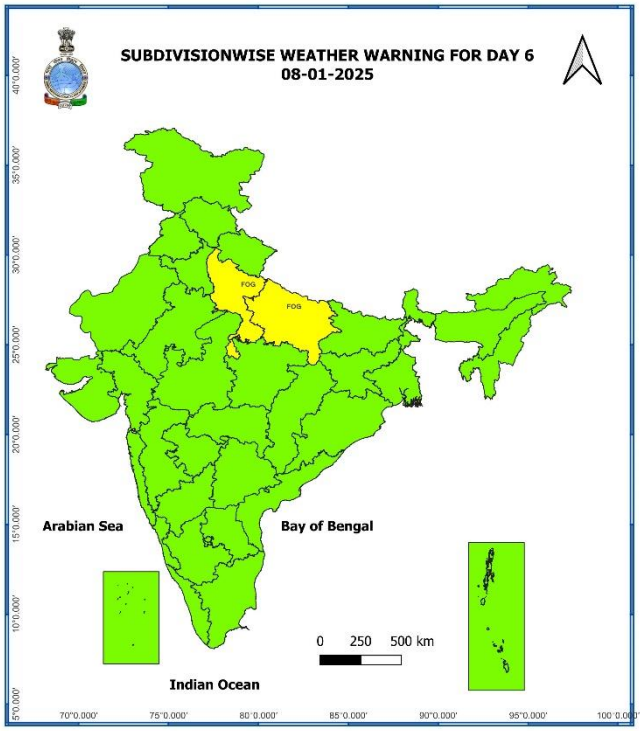


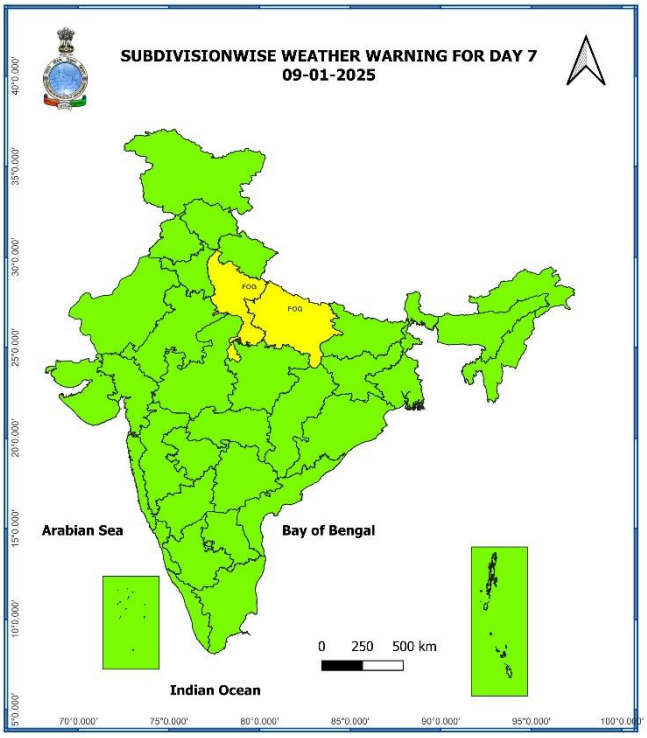












- **Action may be taken based on ORANGE AND RED COLOUR warnings.**
- **Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.**
- **As the lead period increases forecast accuracy decreases.**

Fig. 1: Maximum Temperatures

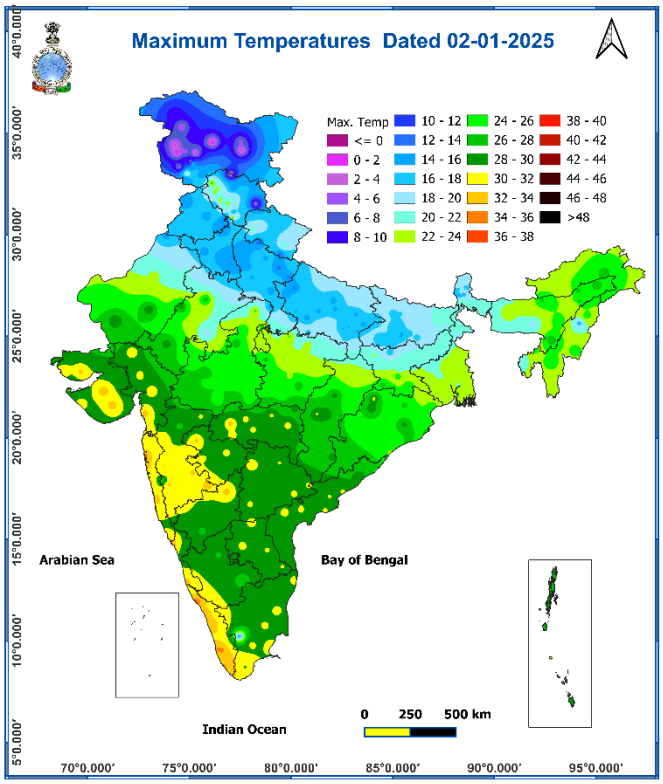


Fig. 2: Departure of Maximum Temperatures

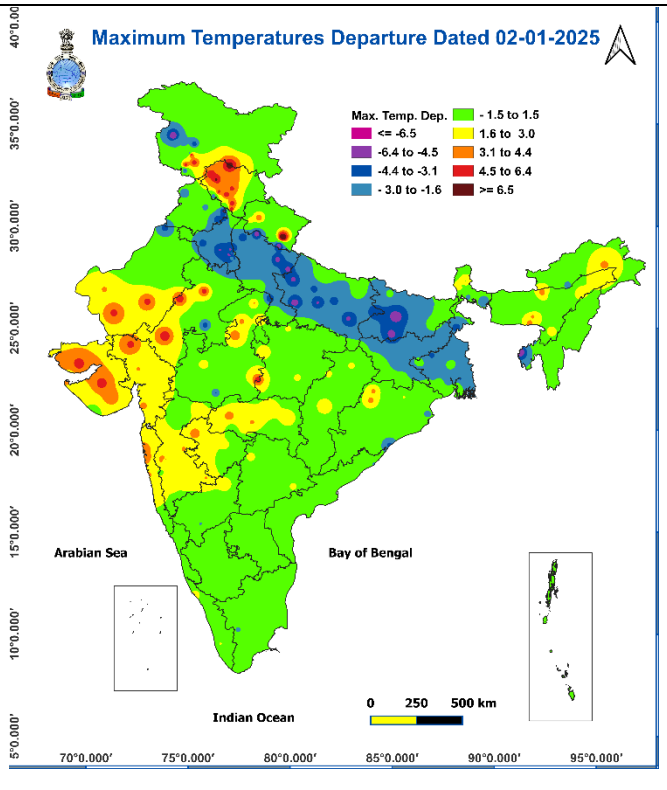


Fig. 3: Minimum Temperatures

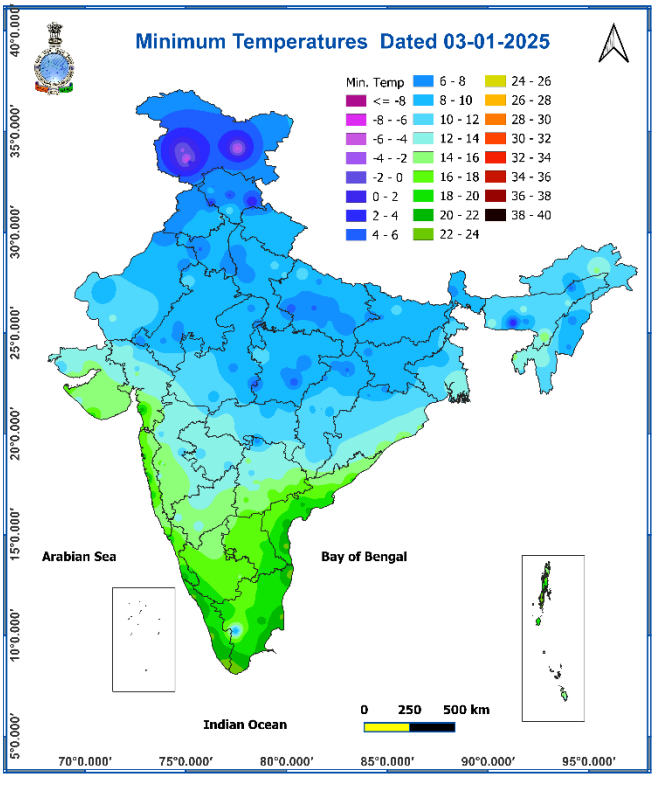
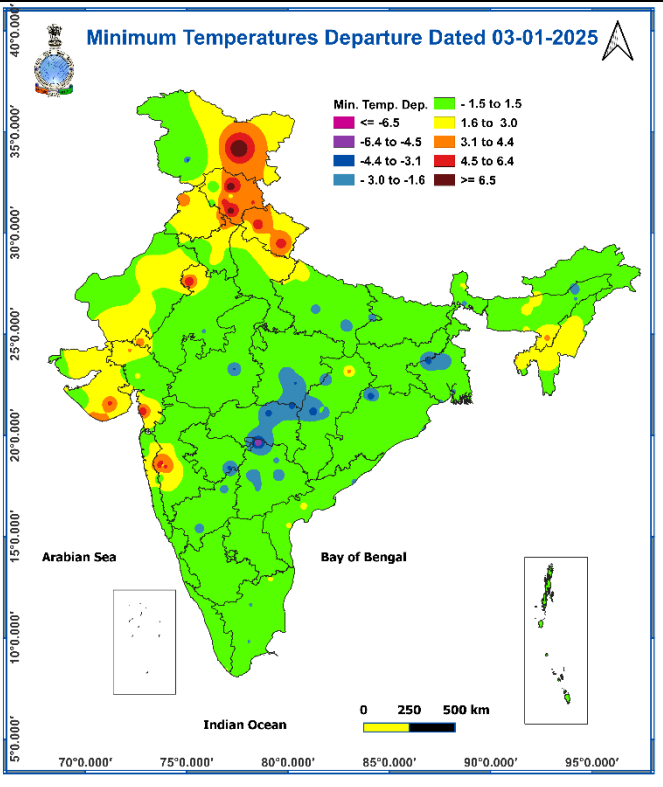
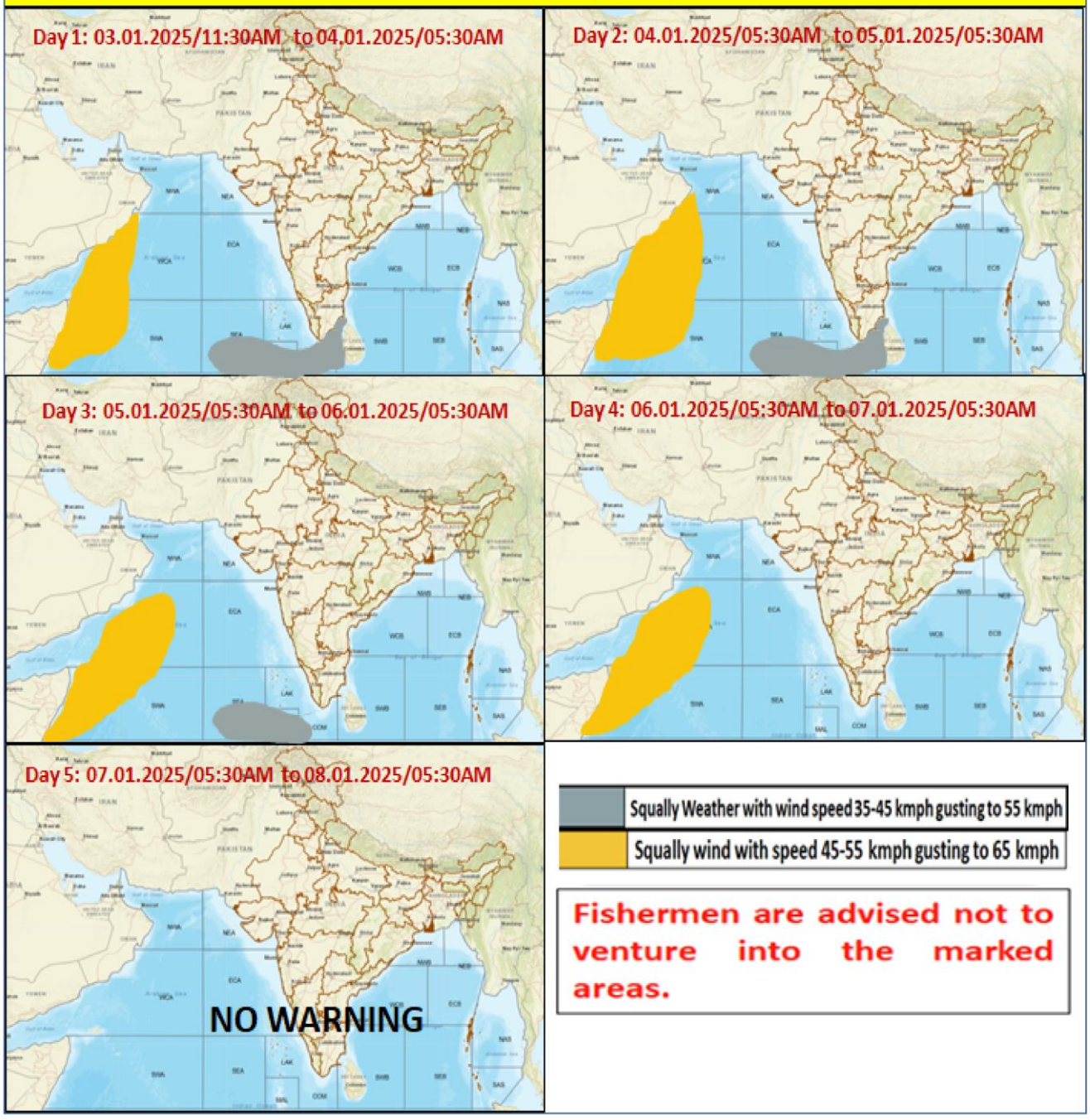


Fig. 4: Departure of Minimum Temperatures



ANNEXURE V

Fishermen Warning Graphics



ANNEXURE VI

Weather forecast over Delhi/NCR during 03rd to 06th Jan. 2025

Past Weather:

There has been a slight fall in minimum temperature and rise in maximum temperature upto 01°C over Delhi/NCR during past 24hr. The Maximum and Minimum temperatures over Delhi are in the range of 13 to 16°C and 6 to 8°C respectively. The minimum temperature was near normal and the maximum temperature was below normal up to 03 to 05°Cover most places. Very dense fog was reported at Palam airports. Palam airport recorded the lowest visibility 00 m from 0800 hours to 0930 hours IST which thereafter improved becoming 50m at 1000 hours IST. Safdarjung airport recorded the lowest visibility 50 m from 0800 hours to 1000 hours IST which thereafter improved becoming 100 m at 1030 hours IST. Mainly clear sky conditions with predominant surface wind from the west direction with wind speed reaching 08 to 10 mph prevailed during past 24 hr. Mainly moderate fog conditions with wind speed less than 04 kmph variable direction prevailed over the region in the forenoon today.

Weather Forecast:

03.01.2024: Partly cloudy sky. The predominant surface wind will likely be in the northwest direction with a wind speed of less than 10 kmph till evening. It would decrease thereafter becoming less than 06 kmph from the northwest direction during the night. Smog/shallow to moderate fog is likely in the evening/night.

04.01.2025: Partly cloudy sky. The predominant surface wind is likely to be from the northwest direction with a speed of less than 04 kmph during morning hours. Smog/ moderate fog in most of the places and dense fog in isolated places is likely in the morning. The wind speed will gradually increase becoming 04-06 kmph from the variable direction during the afternoon. It will decrease thereafter becoming less than 04 kmph from the southwest direction during evening and night. Smog/shallow to moderate fog is likely in the evening/night.

05.01.2025: Partly cloudy sky. The predominant surface wind is likely to be from the southeast direction with a wind speed less than 04 kmph during morning hours. Smog/ shallow fog in most of the places and moderate fog in isolated places is likely in the morning. The wind speed will increase thereafter becoming 08-12 kmph from southeast direction during afternoon. It will gradually decrease becoming less than 04 kmph from southeast direction during evening and night. Smog/shallow fog is likely in the evening/night.

06.01.2025: Generally cloudy sky with possibility of very light to light rain. The predominant surface wind is likely to be from southeast direction with wind speed less than 06 kmph during morning hours. Smog/ shallow fog in most of the places and moderate fog in isolated places is likely in the morning. The wind speed will increase thereafter becoming 10-12 kmph from southeast direction during afternoon. It will gradually decrease becoming less than 08 kmph from north direction during evening and night. Smog/shallow fog is likely in the evening/night.

Impact expected due to dense/very dense fog in the night /morning hour:

❖ Transport and Aviation:
- May affect some airports, highways and railway routes in the areas of met- sub-division.
- Difficult driving conditions with slower journey times.
- Unless taken precautionary measures, it may lead to some road traffic collisions.

❖ Power Sector:
- Chances of Tripping of Power lines in the very dense fog routes.

❖ Human Health:
- Lung related health impacts: Dense fog contains particulate matter and other pollutants and in case exposed it gets lodged in the lungs, clogging them and decreasing their functional capacity which increases episodes of wheezing, coughing and shortness of breath.
- Impact on people having asthma bronchitis: Long time exposure to dense fog may cause respiratory problem for people having asthma bronchitis and other lung related health problems.
- Eye Irritation: Dense fog contains pollutions of various types and these Pollutants in the air if exposed may tend to irritate the membranes of the eye causing various infections leading to redness or swelling of the eye.

Action suggested:

❖ Transport and Aviation:

- Be careful while driving or outing through any transport.
- Use fog lights during driving.
- Be in touch with airlines, railways and state transport for schedule of your journey.

❖ Power Sector:

- To keep ready Maintenance Team.
- Human Health: To avoid outing until unless emergency and to cover the face.

Impact expected due to Cold Day/Severe Cold day conditions

- ❖ An increased likelihood of various illnesses like flu, running/ stuffy nose or nosebleed, which usually set in or get aggravated due to prolonged exposure to cold.
- ❖ Do not ignore shivering. It is the first sign that the body is losing heat. Get Indoors.
- ❖ Frostbite can occur due to prolonged exposure to cold. The skin turns pale, hard and numb and eventually black blisters appear on exposed body parts such as fingers, toes, nose and or earlobes. Severe frostbite needs immediate medical attention and treatment.
- ❖ Impact on agriculture, crop, livestock, water supply, transport and power sector at some places.

Action suggested:

- ❖ Wear several layers of loose fitting, light weight; warm woollen clothing.
- ❖ Cover your head, neck, hands and toes adequately as majority of heat loss occurs through these body parts. Wear several layers of loose fitting, light weight; warm Woolen clothing rather than one layer of heavy cloth.
- ❖ Eat vitamin-C rich fruits & vegetable and drink sufficient fluids preferably warm fluids to maintain adequate immunity.
- ❖ Avoid or limit outdoor activities.
- ❖ Keep dry, if wet, change cloths immediately to prevent loss of body heat. Wear insulated/waterproof shoes.
- ❖ Warm the affected area of the body slowly with lukewarm water; do not rub the skin vigorously.
- ❖ If the affected skin area turns black, immediately consult a doctor.
- ❖ Maintain ventilation while using Heaters to avoid inhaling toxic fumes.
- ❖ Take safety measures while using electrical and gas heating devices.
- ❖ Extreme care needed for vulnerable people.
- ❖ Seek medical attention as soon as possible for someone suffering from frostbite/ Hypothermia.
- ❖ Protect livestock from cold weather.

Agromet advisories for likely impact of Heavy Rainfall / Snowfall / Cold Wave

- ➢ In **Jammu & Kashmir,** make necessary arrangements to drain out excess water from standing crop fields and vegetables. In case of heavy snowfall, shake the fruit bearing trees to remove snow immediately from the branches.
- ➢ In **Telangana**, apply light and frequent irrigation to the standing crops in the evening to protect them from low temperature stress or cold injuries. Use mulching and cover vegetable nurseries and young fruit plants with straw/polythene sheets to maintain optimum soil temperature.

Livestock

- ➢ Keep the animals inside the shed during heavy rainfall period and provide them balanced feed. Store feed and fodder in a safe place to prevent spoilage.
- ➢ To protect from cold, keep cattle inside the sheds during night and provide dry bedding. Also keep the chicks warm by providing artificial light in the poultry sheds.

Legends & abbreviations:

- ❖ **Heavy Rain:**64.5-115.5mm; **Very Heavy Rain:**115.6-204.4mm; **Extremely Heavy Rain:** >204.4mm.

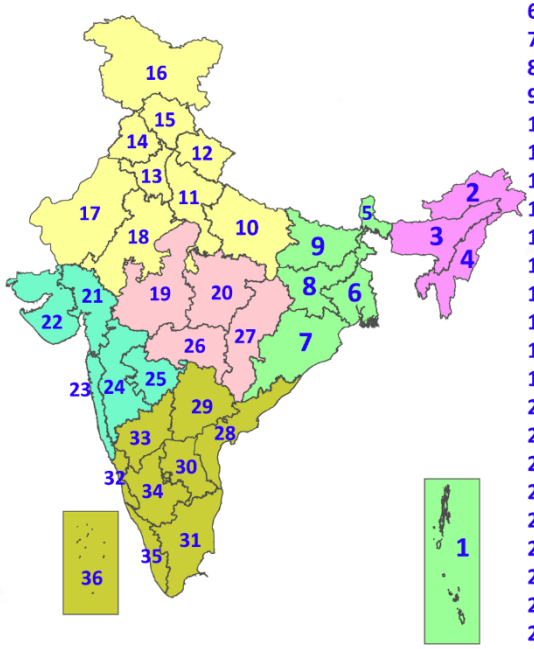
- **Obsy:** Observatory; **AWS:** Automatic Weather Station; **ARG:** Automatic Rain Gauge; **dist:** District: **NH:** National Highway; **KVK**: Krishi Vigyan Kendra; **DVC:** Damodar Valley Corporation; **PTO**: Part Time Office, **Aero:** Aerodrome, **IAF:** Indian Air Force.
- **Region wise classification of meteorological Sub-Divisions:**
  - **Northwest India:** Western Himalayan Region (Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand); Punjab, Haryana-Chandigarh-Delhi; West Uttar Pradesh, East Uttar Pradesh, West Rajasthan and East Rajasthan.
  - **Central India:** West Madhya Pradesh, East Madhya Pradesh, Vidarbha and Chhattisgarh.
  - **East India:** Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim; Gangetic West Bengal, Odisha and Andaman & Nicobar Islands.
  - **Northeast India:** Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
  - **West India:** Gujarat Region, Saurashtra & Kutch, Konkan & Goa, Madhya Maharashtra and Marathawada.
  - **South India:** Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Coastal Karnataka, North Interior Karnataka, South Interior Karnataka, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.

राष्ट्रीय मौसम पूर्वानुमान केन्द्र
भारत मौसम विज्ञान विभाग
पृथ्वी विज्ञान मंत्रालय

National Weather Forecasting Centre
India Meteorological Department
Ministry of Earth Sciences

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 Rain
Very Heavy Rain
Extremely Heavy Rain
Thunder & Lightning
Hailstorm
Dust Raising Winds

Heavy Snow
Dust Storm
Heat Wave
Warm Night
Hot Day
Hot & Humid
Strong Surface Winds

Cold Wave
Cold Day
Ground Frost

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

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(Service to the Nation since 1875)

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 ≥40° C for plains and ≥30° 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 ≥6.5° C **(b). Based on Actual maximum temperature** **Heat Wave:** When actual maximum temperature ≥45°C. **Severe Heat Wave:** When actual maximum temperature ≥47°C **(c). Criteria for heat wave for coastal stations** When maximum temperature departure is >4.5°C from normal. Heat Wave may be described provided maximum temperature ≥37°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 °C.
Cold Wave	**When minimum temperature of a station ≤10°C for plains and ≤0°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 ≤ -6.5 °C **(b) Based on actual Minimum Temperature (for Plains only)** **Cold Wave :** When Minimum Temperature is ≤ 4.0 °C **Severe Cold Wave:** When Minimum Temperature is ≤ 2.0 °C **(c) For Coastal Stations** When Minimum Temperature departure is ≤-4.5 °C & actual Minimum Temperature is ≤ 15 °C
Cold Day	**When minimum temperature of a station ≤10°C for plains and ≤0°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 ≤ -6.5 °C
Fog	**Phenomenon of small droplets suspended in air and the horizontal visibility < 1km** **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 ≤4°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)

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