



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 12th January, 2025

Time of Issue: 1330 hours IST

**Subject: (i) In association with the Western disturbance, wet spell likely to continue over Northwest & adjoining Central India accompanied with thunderstorm today, the 12th January, 2025.
(ii) Dense to very dense fog conditions likely to continue over Northwest India during next 2- 3 days.**

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

- ❖ **Dense to very dense fog (visibility < 50 m)** reported in isolated pockets of Uttar Pradesh, Rajasthan, West Madhya Pradesh and **dense fog (visibility 50-199 m)** reported in isolated pockets of Odisha and Gangetic West Bengal.
- ❖ **Visibility reported at 0830 hours IST (<200 m)** (in meter): **East Uttar Pradesh:** Kushinagar & Gorakhpur 00 each; **West Rajasthan:** Jaisalmer 00, Bikaner & Jodhpur 200 each; **East Rajasthan:** Ajmer 00, Udaipur, Kota & Jaipur 200 each; **West Madhya Pradesh:** Gwalior 00, Ratlam 200; **West Uttar Pradesh:** Meerut-40; **Odisha:** Phulbani-70; **Gangetic West Bengal:** Durgapur-150; **Uttarakhand:** Mukteshwar 200 and **Assam:** Barapani 200.
- ❖ **Hailstorm** recorded at isolated places over West Rajasthan.

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

- ❖ The **Western Disturbance** as a **Cyclonic Circulation** lies over Punjab & neighbourhood in lower to upper tropospheric levels. An **induced cyclonic circulation** lies over central parts of north Rajasthan & neighbourhood in lower tropospheric levels. Under its influence, Light/moderate isolated to scattered rainfall likely over the plains of Northwest India & adjoining central India and Scattered/Fairly Widespread rainfall/snowfall likely over Western Himalayan region on 12th January.
 - ✓ Thunderstorm activity accompanied with lightening at isolated places likely over Uttarakhand, Uttar Pradesh and Madhya Pradesh on 12th January.
 - ✓ Light to moderate rainfall accompanied with thunderstorm, lightning very likely at isolated places over Arunachal Pradesh on 12th & 13th and Assam & Meghalaya and Nagaland on 13th January.
- ❖ A **cyclonic circulation** lies over east Sri Lanka coast & adjoining southwest Bay of Bengal in lower tropospheric levels. Under its influence,
 - ✓ Light to moderate rainfall accompanied with thunderstorm, lightning very likely at isolated places over Tamil Nadu, Puducherry & Karaikal during 12th-15th and Kerala & Mahe during 12th-16th January with Isolated **heavy rainfall** likely over Tamilnadu, Puducherry & Karaikal on 12th & 15th and Kerala & Mahe on 15th January.
- ❖ A fresh **western disturbance** is likely to affect northwest India from the night of 14th January, 2025. Under its influence, Isolated to scattered rainfall/snowfall activity likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad during 16th-18th; Himachal Pradesh during 15th-18th; Uttarakhand during 15th-17th and Isolated rainfall activity over Punjab, Haryana Chandigarh & Delhi, Uttar Pradesh on 15th & 16th and East Rajasthan on 14th & 15th & West Rajasthan on 15th January.

ii. Temperature, Cold Wave and Fog Forecast:

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

- ❖ Minimum temperatures are **below 0°C** over many parts of Jammu, Kashmir & Ladakh; in isolated places of Himachal Pradesh & Uttarakhand; **1-5°C** over some parts of Himachal Pradesh; **6-12°C** over many parts of Northwest, Central & East India and Assam & Meghalaya; in some parts of West India. Today, the lowest minimum temperature of **5.0°C** is reported at **Dehri (Bihar)** over the plains of the country.
- ❖ During the past 24 hours, there has been **fall in minimum temperatures by 2-6°C** in many parts over Rajasthan and Gujarat State and **rise by 1-5°C** over many parts of East Madhya Pradesh, Uttar Pradesh, Punjab, Himachal Pradesh, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Gangetic West Bengal, Jharkhand, Bihar, Sub-Himalayan West Bengal & Sikkim; in a few places of West Madhya Pradesh, Uttarakhand and Haryana Chandigarh & Delhi.
- ❖ Minimum temperatures are **appreciably above normal (3.1°C to 5.0°C)** at a few places over Punjab, West Uttar Pradesh, Madhya Pradesh, Bihar, Madhya Maharashtra; at isolated places over Marathwada, Telangana; **above normal (1.6°C to 3.0°C)** at many places over Tamil Nadu, Puducherry & Karaikal; at a few places over East Uttar Pradesh; at isolated places over Gujarat Region, Kerala & Mahe, Coastal Karnataka, North Interior Karnataka, Coastal Andhra Pradesh & Yanam. These were **below normal (-1.6°C to -3.0°C)** at isolated places over Odisha and near normal over rest part of the country.

Forecast of temperature:

- ❖ Gradual fall in minimum temperatures by 2-3°C likely over Northwest & Central India during next 48 hours and gradual rise by 2-4°C during subsequent 3 days.
- ❖ Gradual fall in minimum temperatures by 2-3°C likely over West India during next 24 hours and gradual rise by 2-3°C thereafter.
- ❖ Gradual rise in minimum temperatures by 2-3°C likely over East India during next 48 hours and gradual fall by 2-3°C thereafter.
- ❖ No significant change in minimum temperatures likely over West India during next 5 days.

Dense Fog Warnings:

Dense to very Dense fog Condition very likely to continue to prevail during night/early morning hours in many parts of Punjab, Haryana-Chandigarh on 12th & 13th & in some parts on 14th January and in isolated pockets of Uttar Pradesh on 12th & 13th & Rajasthan on 12th January.

Dense fog conditions very likely to continue to prevail during night/early morning hours in isolated pockets of Himachal Pradesh during 12th-15th; Uttarakhand during 12th-14th; Uttar Pradesh during 14th-16th; Rajasthan on 13th; Sub-Himalayan West Bengal & Sikkim, Bihar, Odisha on 12th & 13th; Gangetic West Bengal on 12th; Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during 13th-16th January.

Cold Day Warnings:

Cold day conditions very likely in isolated pockets of Himachal Pradesh on 12th; Haryana, Chandigarh & Delhi and West Rajasthan on 12th & 13th and Punjab on 13th January.

Fishermen Warnings (Annexure V):

Fishermen are advised not to venture into South Sri Lanka coasts and adjoining southwest Bay of Bengal on 12th & 13th and Gulf of Mannar and adjoining Comorin area during 12th-16th January.

iii. Weather conditions and forecast over Delhi/NCR during 11th Jan. to 14th Jan. 2025 (Annexure VI)

For more details, kindly refer National Weather Bulletin:

https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php

For District wise warnings refer: <https://mausam.imd.gov.in/responsive/districtWiseWarningGIS.php>

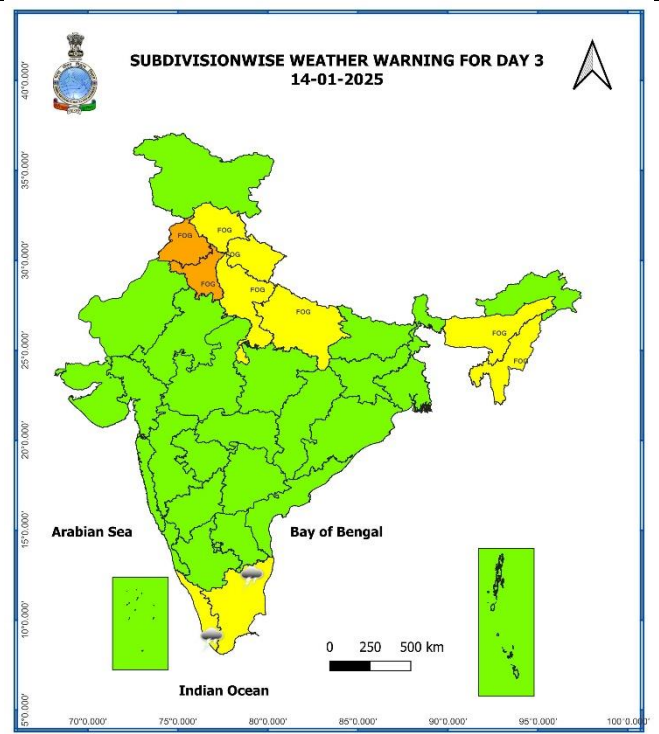
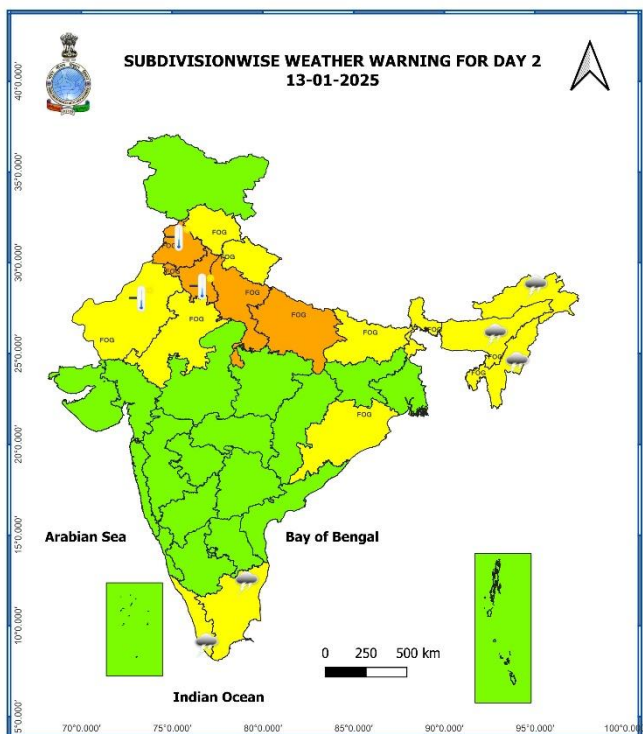
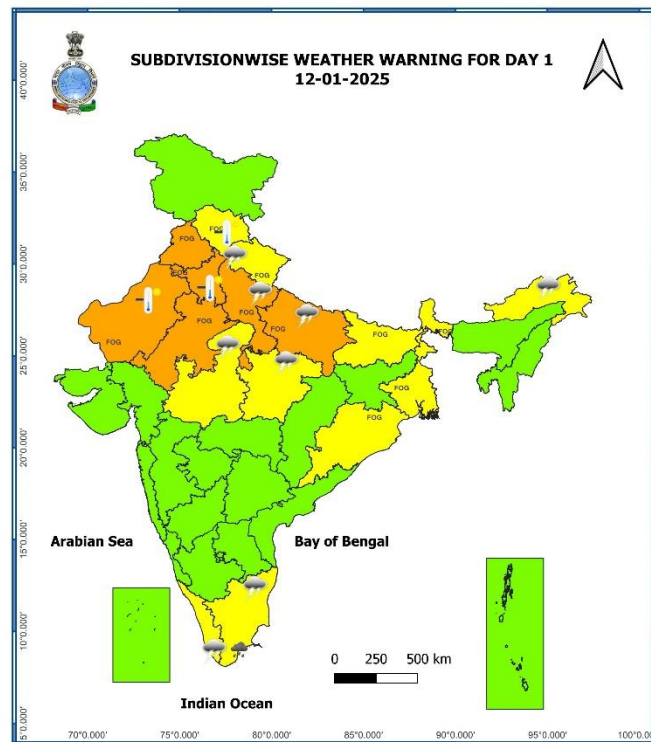
ANNEXURE I

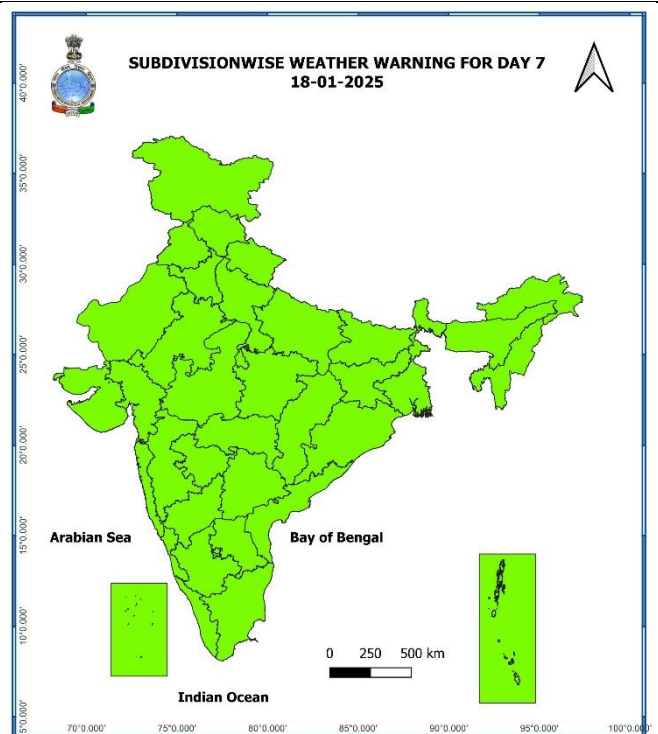
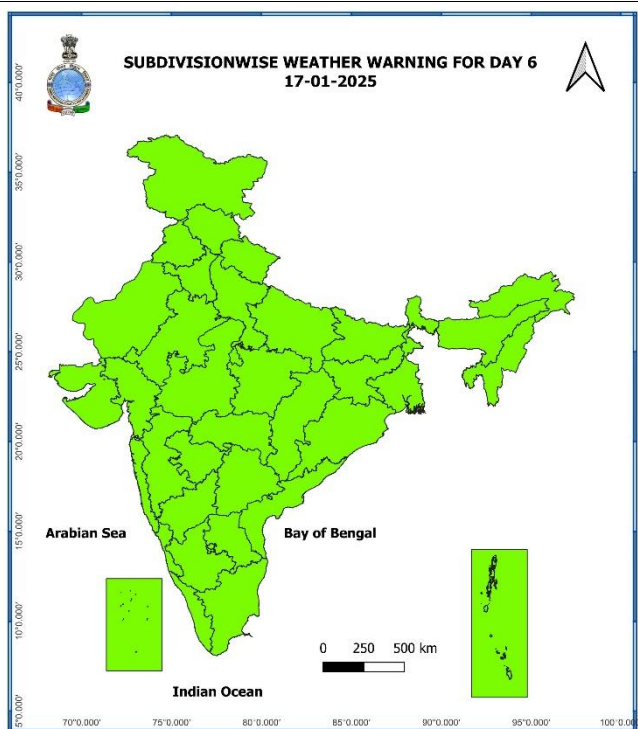
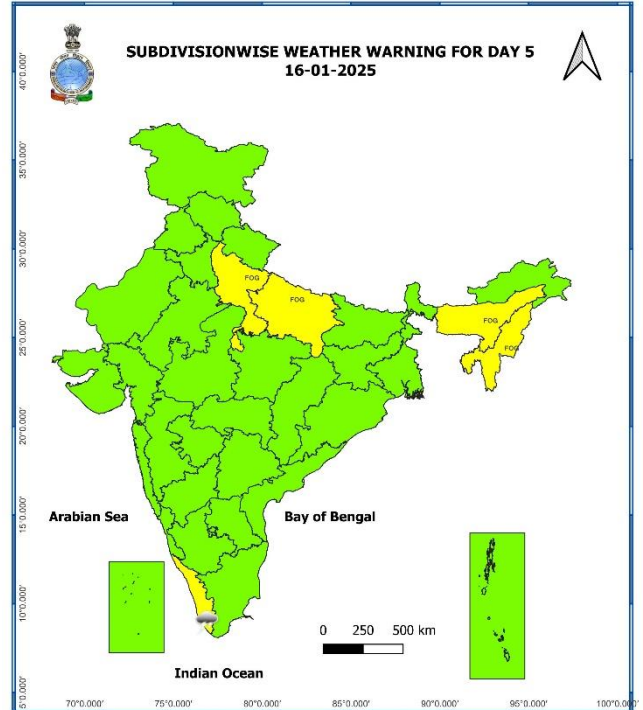
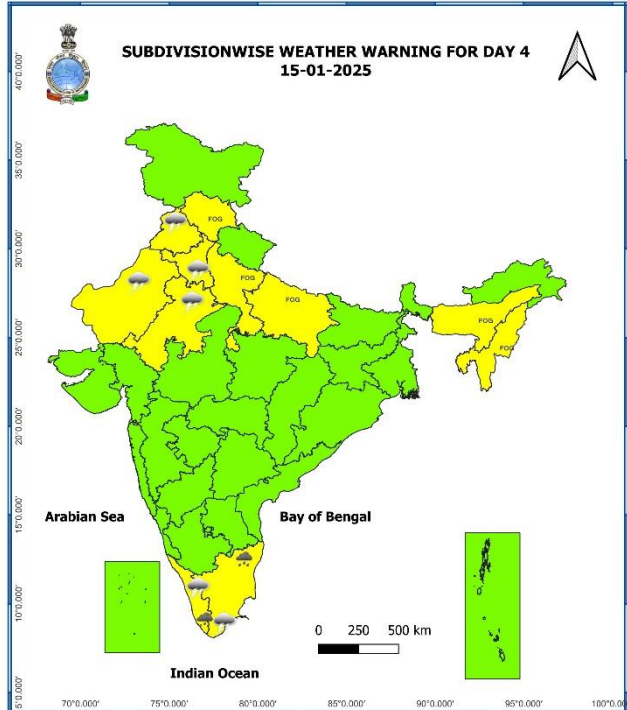
Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 12.01.2025 (in cm):

- ❖ **Kerala & Mahe:** Kunnathanam (dist Pathanamthitta) 5, Ranni (dist Pathanamthitta) 5, Thiruvananthapuram (dist Thiruvananthapuram) 4, Trivandrum (dist Thiruvananthapuram) 4, Airport Chakka (dist Thiruvananthapuram) 4;

7 Days Rainfall Forecast								
S. No.	Subdivision	12-Jan	13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	SCT	SCT	ISOL	SCT	FWS	FWS	SCT
2	ARUNACHAL PRADESH	SCT	FWS	ISOL	DRY	DRY	DRY	DRY
3	ASSAM & MEGHALAYA	ISOL	ISOL	ISOL	DRY	DRY	DRY	DRY
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	DRY	ISOL	DRY	DRY	DRY	DRY	DRY
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	ISOL	ISOL	DRY	DRY	DRY	DRY	DRY
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	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
10	EAST UTTAR PRADESH	SCT	DRY	DRY	DRY	DRY	DRY	DRY
11	WEST UTTAR PRADESH	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
12	UTTARAKHAND	FWS	DRY	DRY	ISOL	ISOL	ISOL	DRY
13	HARYANA CHANDIGARH & DELHI	SCT	DRY	DRY	SCT	ISOL	DRY	DRY
14	PUNJAB	SCT	DRY	DRY	SCT	ISOL	DRY	DRY
15	HIMACHAL PRADESH	SCT	DRY	DRY	DRY	SCT	ISOL	ISOL
16	JAMMU & KASHMIR AND LADAKH	ISOL	DRY	DRY	DRY	ISOL	DRY	DRY
17	WEST RAJASTHAN	DRY	DRY	DRY	ISOL	DRY	DRY	DRY
18	EAST RAJASTHAN	DRY	DRY	ISOL	ISOL	DRY	DRY	DRY
19	WEST MADHYA PRADESH	ISOL	DRY	DRY	ISOL	DRY	DRY	DRY
20	EAST MADHYA PRADESH	ISOL	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	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
27	CHHATTISGARH	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
28	COASTAL ANDHRA PRADESH & YANAM	ISOL	ISOL	DRY	DRY	DRY	DRY	DRY
29	TELANGANA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
30	RAYALASEEMA	ISOL	ISOL	ISOL	DRY	DRY	DRY	DRY
31	TAMILNADU PUDUCHERRY & KARAIKAL	SCT	SCT	SCT	SCT	ISOL	ISOL	ISOL
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	ISOL	ISOL	DRY	DRY	DRY
35	KERALA & MAHE	ISOL	SCT	SCT	SCT	SCT	ISOL	ISOL
36	LAKSHADWEEP	SCT	SCT	SCT	SCT	SCT	DRY	DRY

- As the lead period increases forecast accuracy decreases





- 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

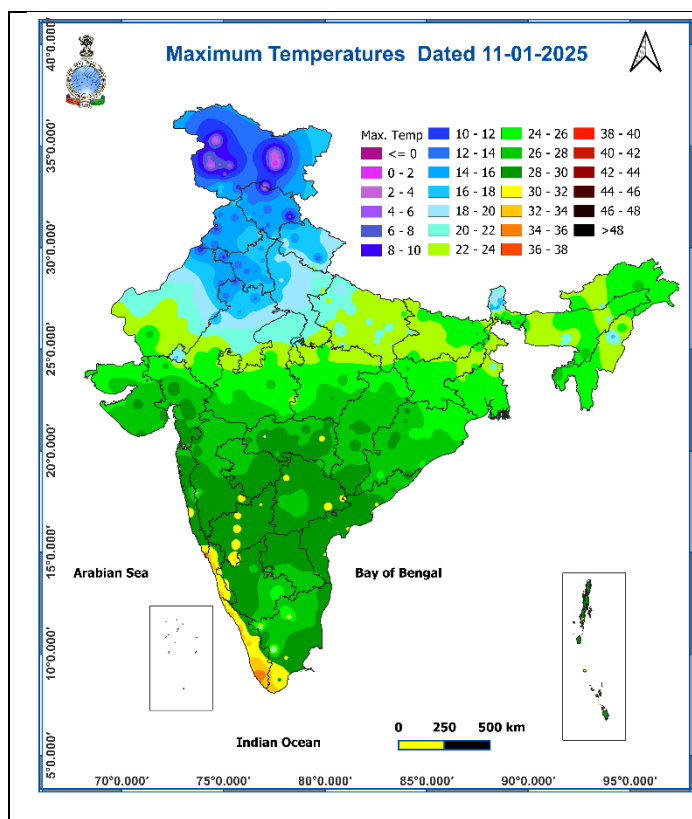


Fig. 2: Departure of Maximum Temperatures

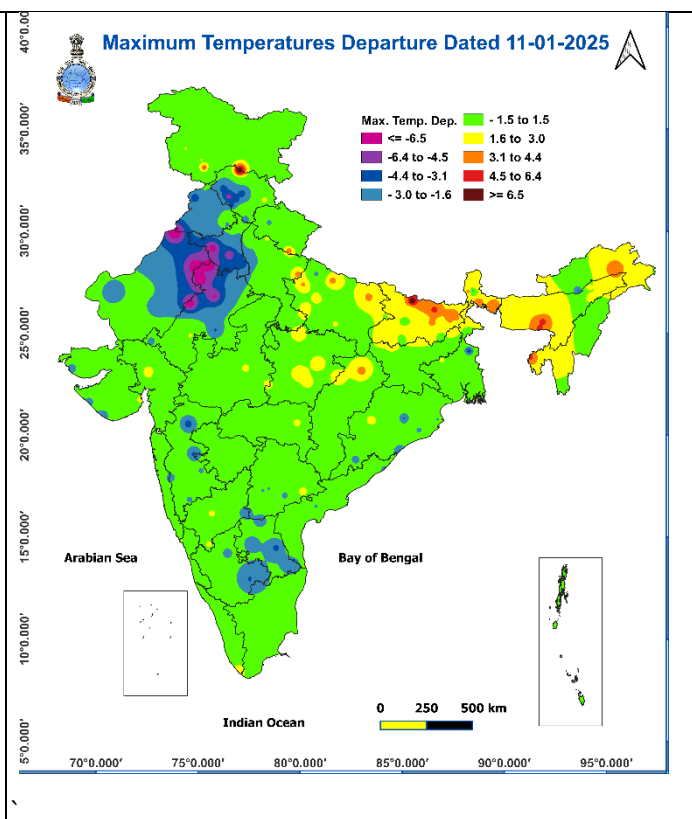


Fig. 3: Minimum Temperatures

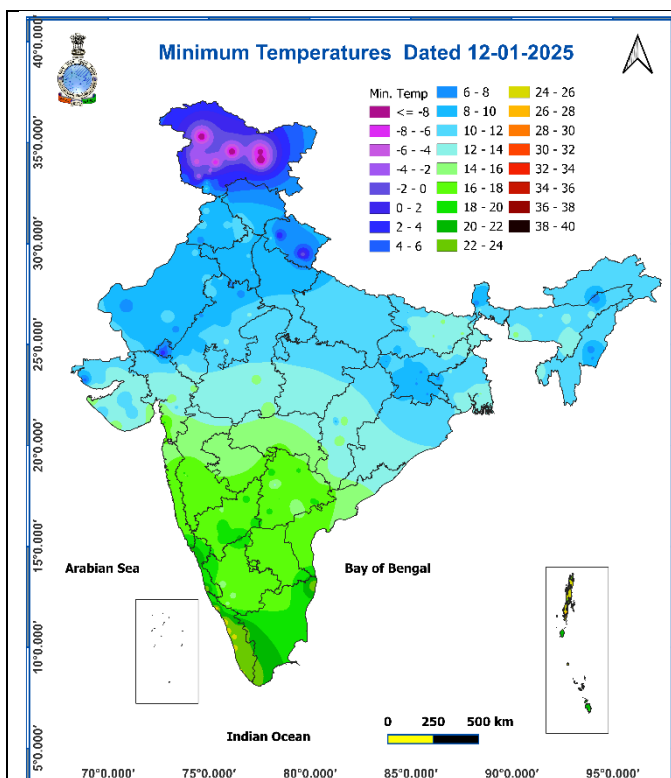
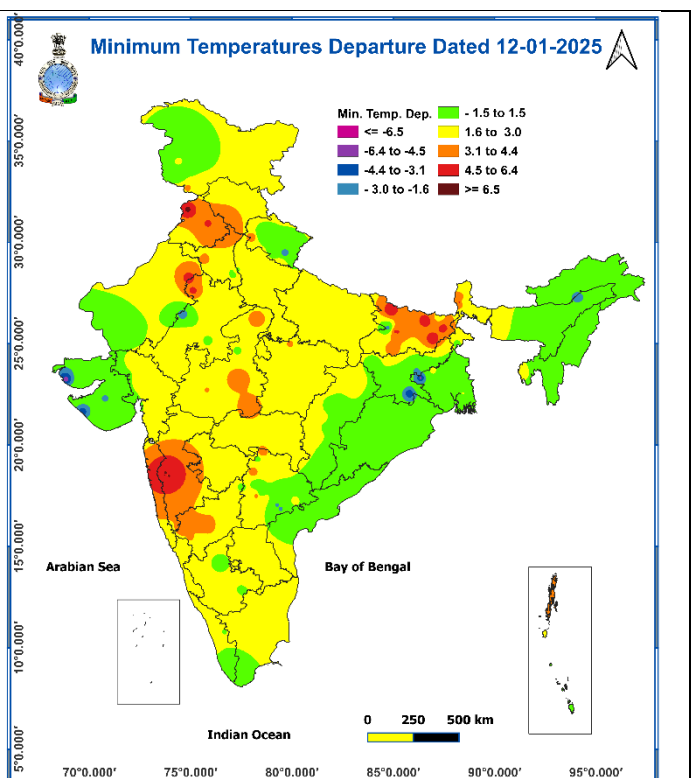


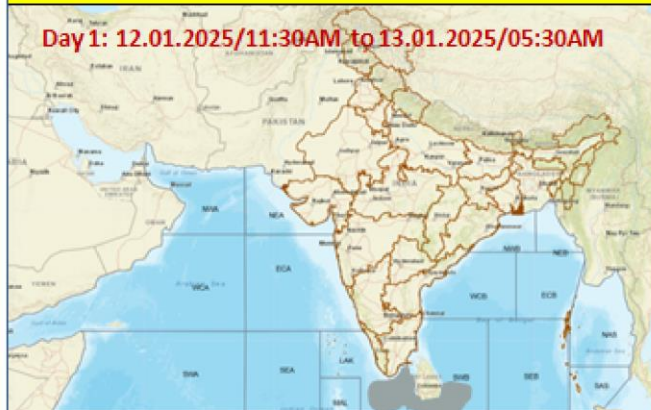
Fig. 4: Departure of Minimum Temperatures



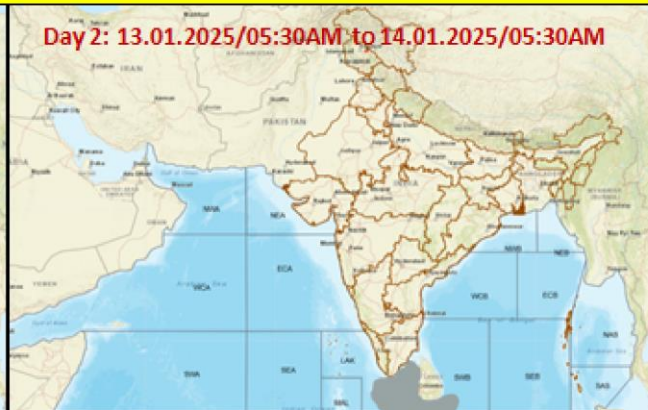


Fishermen Warning Graphics

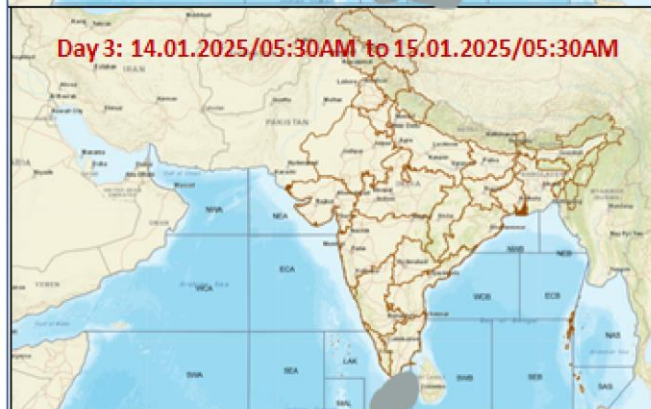
Day 1: 12.01.2025/11:30AM to 13.01.2025/05:30AM



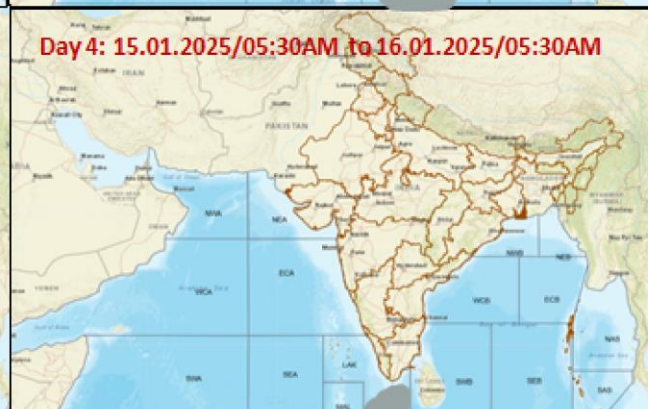
Day 2: 13.01.2025/05:30AM to 14.01.2025/05:30AM



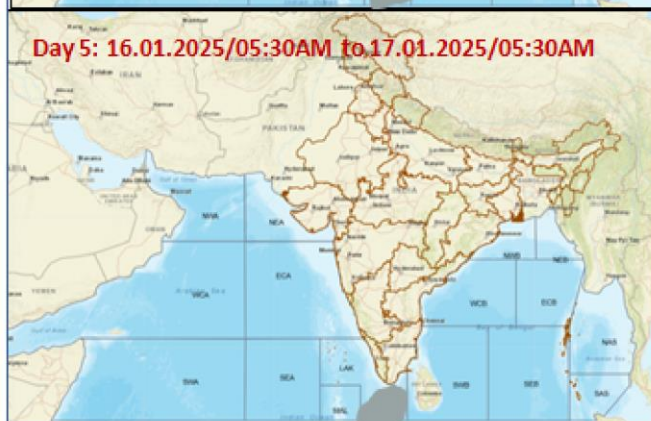
Day 3: 14.01.2025/05:30AM to 15.01.2025/05:30AM



Day 4: 15.01.2025/05:30AM to 16.01.2025/05:30AM



Day 5: 16.01.2025/05:30AM to 17.01.2025/05:30AM



Squally Weather with wind speed 35-45 kmph gusting to 55 kmph

Fishermen are advised not to venture into the marked areas.

Weather forecast over Delhi/NCR during 12th to 15th Jan. 2025**Past Weather:**

There has been a rise in minimum temperature upto 01°C over Delhi/NCR during past 24hr. The Maximum and Minimum temperatures over Delhi are in the range of 15 to 17°C and 8 to 9°C respectively. The minimum temperature was near normal and maximum temperature was below normal upto 05°C over most places. Moderate fog was reported at Safdarjung airport. Safdarjung airport recorded the lowest visibility 300 m from 0630 hours to 0730 hours IST which improved thereafter becoming 400 m at 0800 hours IST. Palam airport recorded the lowest visibility 1100 m from 1030 hours to 1100 hours IST. Mainly smog/mist conditions with predominant surface wind from the southeast direction with wind speed reaching 12 to 14 kmph prevailed during past 24hr. Mainly smog/mist conditions with wind speed less than 06 kmph southwest direction prevailed over the region in the forenoon today.

Weather Forecast:

12.01.2024: Generally cloudy sky. Possibility of a spell of very light rain at isolated places over Delhi during afternoon/evening. The predominant surface wind will likely be in the east direction with a wind speed of less than 06 kmph till evening. It would decrease thereafter becoming less than 04 kmph from the northeast direction during the night. Smog/shallow to moderate fog is likely in the evening/night.

13.01.2025: Mainly clear sky. The predominant surface wind is likely to be from the northeast direction with a speed of less than 04 kmph during morning hours. Smog/moderate fog in most of the places and dense fog in few places is likely in the morning. The wind speed will gradually increase thereafter becoming 06-08 kmph from the northwest direction during the afternoon. It will decrease thereafter becoming less than 04 kmph from the northwest direction during evening and night. Smog/shallow to moderate fog is likely in the evening/night.

14.01.2025: Mainly clear sky. The predominant surface wind is likely to be from the north direction with a wind speed less than 04 kmph during morning hours. Smog/dense fog in most of the places and very dense fog in few places is likely in the morning. The wind speed will gradually increase thereafter becoming 06-08 kmph from variable direction during afternoon. It will decrease becoming less than 04 kmph from variable direction during evening and night. Smog/ shallow to moderate fog is likely in the evening/night.

15.01.2025: Partly cloudy sky. Possibility of one or two spell of very light rain over Delhi during evening/night. The predominant surface wind is likely to be from variable direction with wind speed less than 04 kmph during morning hours. Smog/ dense fog in most of the places and very dense fog in few places is likely in the morning. The wind speed will gradually increase thereafter becoming 06-08 kmph from variable direction during afternoon. It will decrease becoming less than 04 kmph from east direction during evening and night. Smog/ shallow to moderate 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:

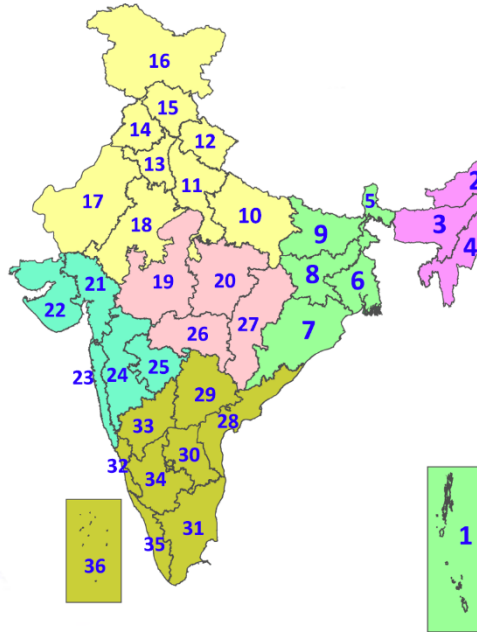
- ❖ Wear several layers of loose fitting, light weight; warm woollen clothing.
- ❖ Cover your head, neck, hands and toes adequately as majority of heat loss occurs through these body parts. Wear several layers of loose fitting, light weight; warm Woollen clothing rather than one layer of heavy cloth.
- ❖ 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.

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.

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

* 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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(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 $\geq 40^{\circ}\text{C}$ 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)

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