Government of India
Ministry of Earth Sciences
India Meteorological Department

Press Release
Date: 12th January, 2024
Time of Issue: 1215 hours IST

Subject: i) Dense to very dense fog conditions likely to continue to prevail over North India during next 5 days.
ii) Cold day to severe day wave conditions likely over plains of Northwest India during next 3 days and reduction thereafter.
iii) Cold wave to severe cold wave conditions likely over North India during next 2 days.

Realized weather during past 24 hours till 0830 hours IST of today (Details given in Annexure I)

- **Minimum temperatures**: Minimum temperatures are in the range of 3-7°C over most parts of Punjab, Haryana-Chandigarh-Delhi, Rajasthan; in some parts of Uttar Pradesh, south Rajasthan, north Madhya Pradesh and in isolated pockets of Bihar. These are below normal by -1.0°C to -3.0°C at many places of north India. **Today, the lowest minimum temperature of 1.4°C reported at Amritsar (Punjab).**
- **Cold wave to severe cold wave conditions** prevailed in isolated pockets of East Rajasthan, Punjab and **cold wave condition** in isolated pockets of Haryana and West Rajasthan.
- Yesterday, **cold day to severe cold day conditions** prevailed in most parts of Punjab and in isolated pockets over Uttarakhand, East Uttar Pradesh**. Cold day conditions** prevailed in many parts of Haryana and in isolated pockets over Himachal Pradesh, West Uttar Pradesh, northwest Rajasthan, Bihar, Chandigarh and Delhi.
- **Fog conditions observed** (at 0530 & 0830 hours IST of today): Very Dense fog **(visibility < 50 metre) during morning hours** in most parts of Punjab; in many parts of Haryana-Chandigarh-Delhi; in some parts of Uttar Pradesh isolated pockets of Jammu division, north Madhya Pradesh; **Dense fog (visibility 50-200 metre)** in isolated pockets of Uttarakhand, northwest Rajasthan and Bihar.

Weather Systems and Forecast & Warnings during next 5 days:

- Conditions are becoming favourable for cessation of Northeast Monsoon rains over Tamilnadu, Puducherry & Karaikal, Kerala & Mahe and adjoining areas of Coastal Andhra Pradesh & Yanam, Rayalaseema and South Interior Karnataka around 15th January, 2024.
- A Western Disturbance seen as a trough in middle tropospheric westerlies roughly along Long. 55°E to the north of Lat. 32°N. Under its influence; Light rainfall/snowfall at isolated places very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 12th & 13th and over Himachal Pradesh on 12th January.
- A fresh Western Disturbance is likely to affect Western Himalayan Region from 16th January, 2024. Under its influence; Light rainfall/snowfall at isolated places very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh on 16th & 17th and Uttarakhand on 17th & 18th January.

Dense fog and Cold day warning: (graphics in Annexure II)

- **Dense to very dense fog** conditions very likely to prevail for a few hours in night/morning in many parts of Punjab and Haryana, Chandigarh & Delhi on 12th & 13th and in some pockets for subsequent 3 days.
- **Dense to very dense fog** conditions very likely to prevail for a few hours in night/morning in some parts of Uttar Pradesh on 12th & 13th and in isolated pockets for subsequent 3 days.
- **Dense fog** conditions very likely to prevail for a few hours in morning in isolated pockets of Uttarakhand during 12th-16th; Himachal Pradesh, Sub-Himalayan West Bengal & Sikkim, north Madhya Pradesh on 12th & 13th; over Jammu division on 12th; West Rajasthan, Bihar, Odisha during 12th-14th ; East Rajasthan on 13th & 14th and Assam & Meghalaya, Mizoram & Tripura during 12th-15th January.
- **Cold Day to Severe Cold Day** conditions very likely to continue in many parts of Punjab, Haryana-Chandigarh on 12th & 13th and **cold day conditions** in isolated pockets for subsequent 3 days.
- **Cold Day** conditions very likely to continue in isolated pockets of Uttarakhand and Uttar Pradesh on 12th & 13th January, 2024.

Temperatures Forecast and Cold wave warning:

- Gradual fall by 2-3°C in minimum temperatures likely over many parts of Central and East India during next 2-3 days and no significant change thereafter.
- No significant change in minimum temperatures very likely over Northwest India during next 5 days.
- **Cold wave to Severe Cold wave** conditions very likely to continue in isolated pockets of Punjab, Haryana, Chandigarh & Delhi on 12th & 13th and cold wave conditions in isolated pockets on 14th January, 2024.
- **Cold wave** conditions very likely in isolated pockets of Rajasthan on 12th; over Uttar Pradesh on 12th & 13th and over Bihar during 12th-14th January.
- **Ground frost conditions** very likely over Uttarakhand, Punjab, Chandigarh and Haryana on 12th & 13th January, 2024.

For more details kindly refer: https://mausam.imd.gov.in/responsive/all_india_forcast_bulletin.php

Annexure I

Realized weather during past 24 hours till 0830 hours IST of today:

- **Yesterday, Maximum temperatures** were in the range of 12-17°C over Punjab, Haryana-Chandigarh, Delhi and Uttar Pradesh. It were below normal by 4-7°C over most parts of Punjab, Haryana-Chandigarh-Delhi, and in some parts of Uttar Pradesh.

- **Visibility recorded** (at 0530 hours IST of today) (in meters): **Punjab:** Amritsar-25, Patiala-500; **Haryana-Chandigarh-Delhi**: Chandigarh-50, Ambala & Hissar-200 each, Palam (Delhi)-0 & Safdarjung (Delhi)-500; **Rajasthan**: Ganganagar-200; **Uttar Pradesh**: Lucknow & Varanasi-25 each, Bareilly-50, Jhansi & Sultanpur-500 each; **Bihar**- Purea-50; **West Madhya Pradesh**: Gwalior-500; **Gangetic West Bengal**: Malda-500; **Assam**: Tezpur-50 & Guwahati-500

- **Visibility recorded** (at 0830 hours IST of today) (in meters)**: Punjab:** Bhatinda-0, Amritsar & Ludhiana-50 each, Ambala & Patiala-200 each; **Haryana-Chandigarh-Delhi**: Bhiwani, Hissar & Palam (Delhi)-25 each, Ayanagar (Delhi)-50, Safdarjung (Delhi)-200, Ridge (Delhi)-500; **Uttar Pradesh**: Agra-0, Fursatganj-25, Lucknow-50, Jhansi & Varanasi-200 each; **Bihar**- Patna-200; **Madhya Pradesh**: Bhopal & Raisen-200 each; **Assam**: Tezpur-200

Impact expected due to dense to very dense fog in the night/morning hours over Punjab, Haryana, Chandigarh and Uttar Pradesh during 12th-16th January, 2024

❖ **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.

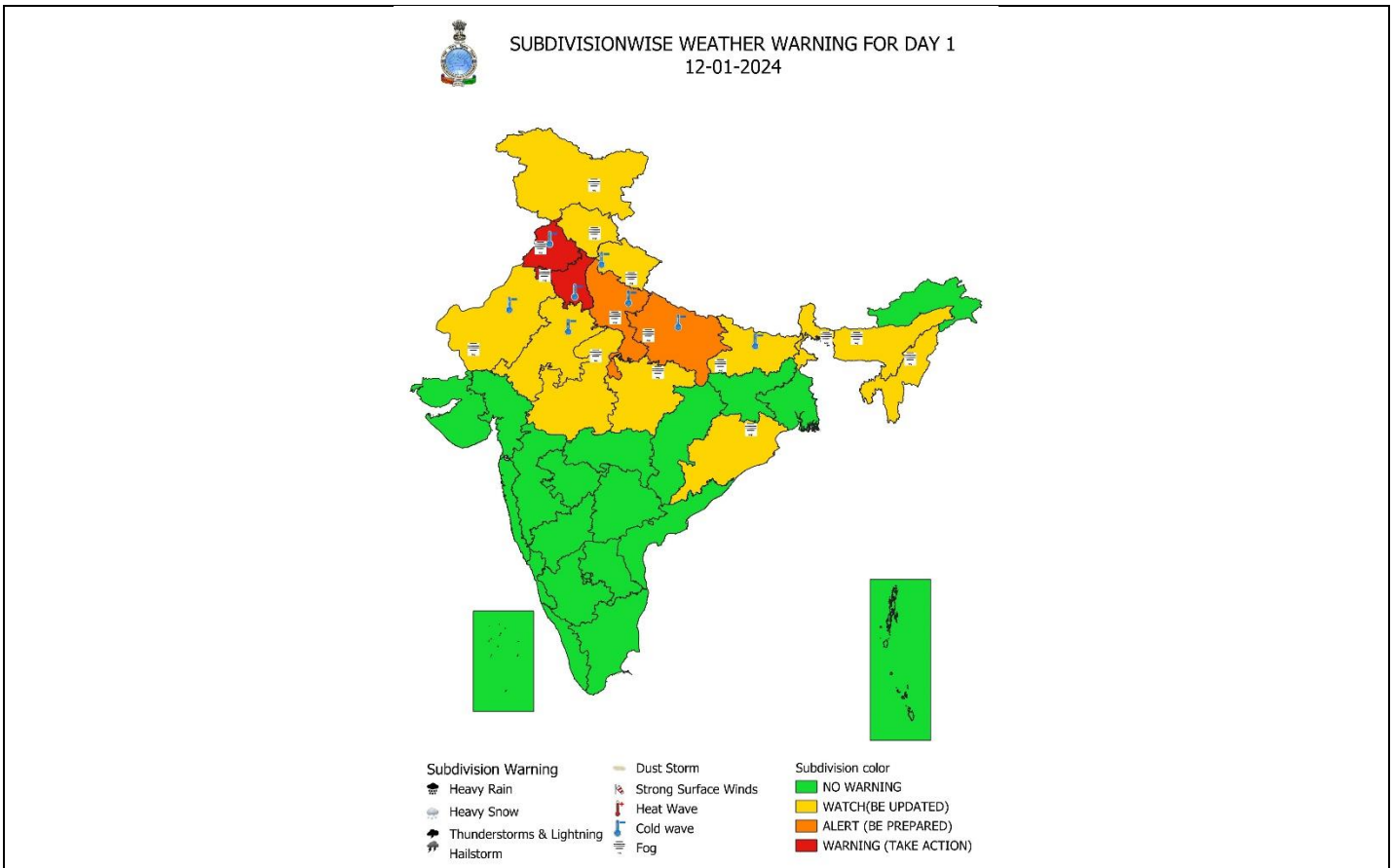
❖ **Power Sector:**
- To keep ready Maintenance Team
- Human Health: To avoid outing until unless emergency and to cover the face.

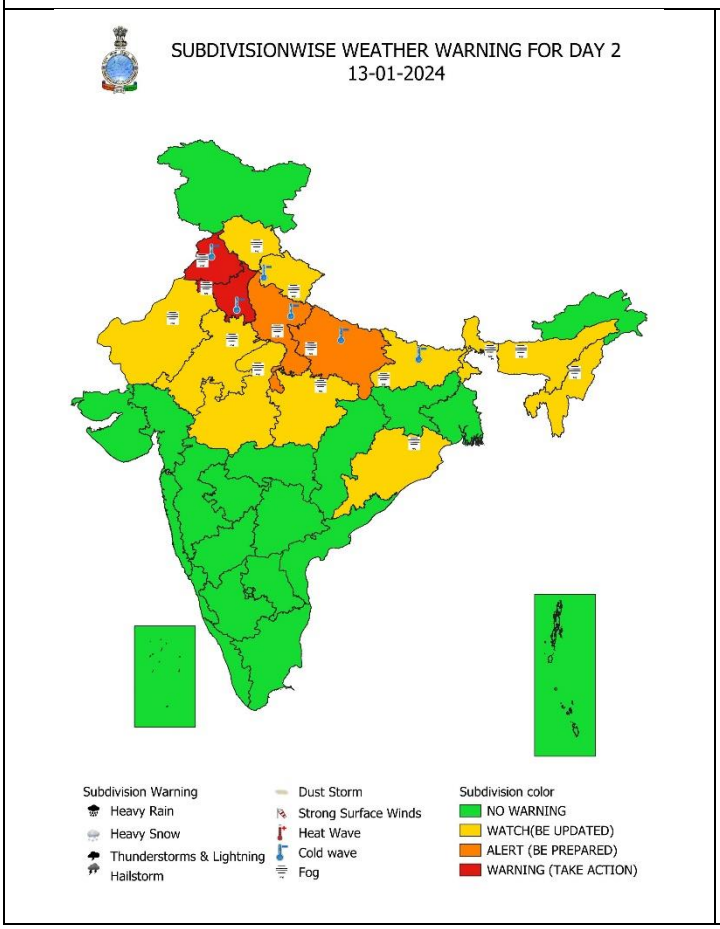
Impact expected due to Cold Day/Severe Cold day conditions and cold wave/severe cold wave conditions over Punjab, Haryana, Chandigarh & Delhi during 12th-14th January, 2024

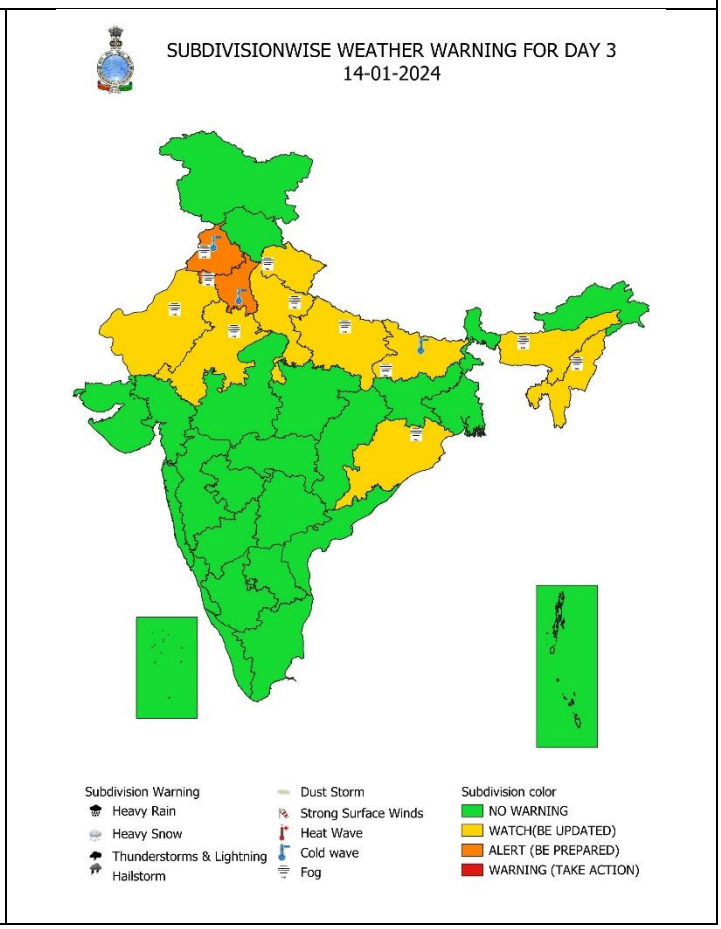
- An increased likelihood of various illnesses like flu, running/ stuffy nose or nosebleed, which usually set in or get aggravated due to prolonged exposure to cold.
- Do not ignore shivering. It is the first sign that the body is losing heat. Get Indoors.
- Frostbite can occur due to prolonged exposure 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.

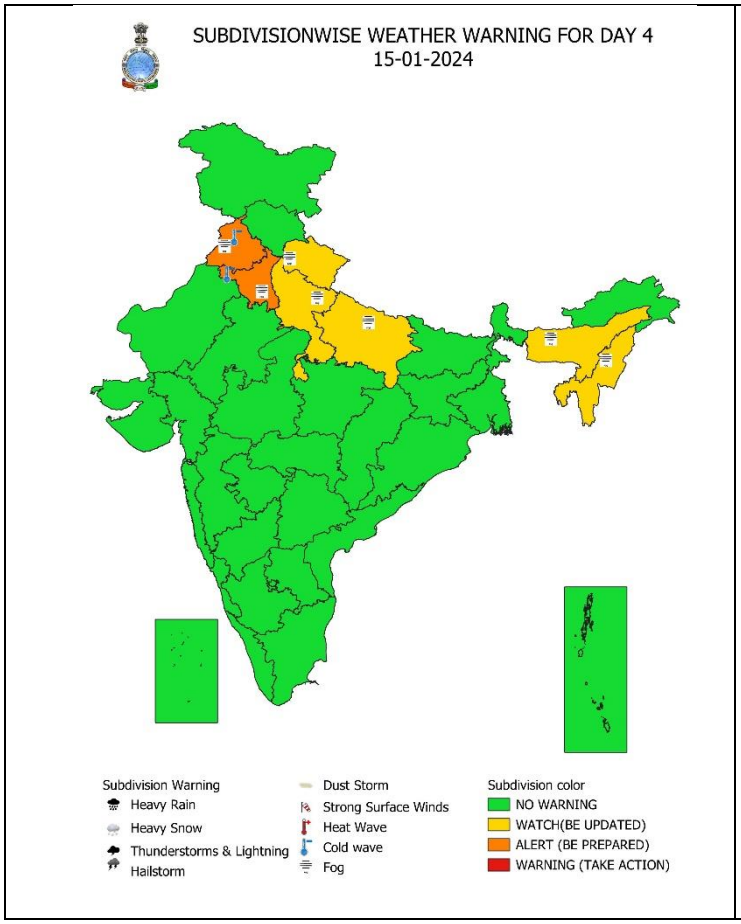
Action suggested:

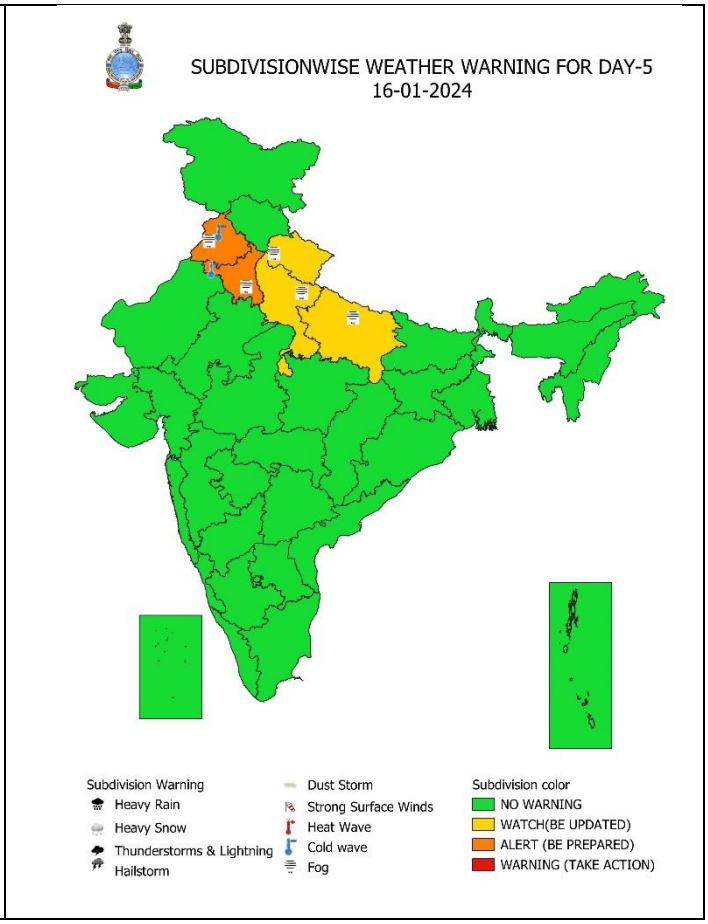
- Wear several layers of loose fitting, light weight; warm woolen clothing.
- Cover your head, neck, hands and toes adequately as majority of heat loss occurs through these body parts. Wear several layers of loose fitting, light weight; warm woolen clothing rather than one layer of heavy cloth.
- Eat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


SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
12-01-2024
Subdivision Warning
Heavy Rain
Heavy Snow
Thunderstorms & Lightning
Hailstorm
Dust Storm
Strong Surface Winds
Heat Wave
Cold wave
Fog
Subdivision color
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTION)


SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
13-01-2024
Subdivision Warning
Heavy Rain
Heavy Snow
Thunderstorms & Lightning
Hailstorm
Dust Storm
Strong Surface Winds
Heat Wave
Cold wave
Fog
Subdivision color
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTION)


SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
14-01-2024
Subdivision Warning
Heavy Rain
Heavy Snow
Thunderstorms & Lightning
Hailstorm
Dust Storm
Strong Surface Winds
Heat Wave
Cold wave
Fog
Subdivision color
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTION)


SUBDIVISIONWISE WEATHER WARNING FOR DAY 4
15-01-2024
Subdivision Warning
Heavy Rain
Heavy Snow
Thunderstorms & Lightning
Hailstorm
Dust Storm
Strong Surface Winds
Heat Wave
Cold wave
Fog
Subdivision color
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTION)


SUBDIVISIONWISE WEATHER WARNING FOR DAY-5
16-01-2024
Subdivision Warning
Heavy Rain
Heavy Snow
Thunderstorms & Lightning
Hailstorm
Dust Storm
Strong Surface Winds
Heat Wave
Cold wave
Fog
Subdivision color
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTION)

Legends:

- **Heavy Rain:** 64.5 to 115.5 mm; **Very Heavy Rain:** 115.6 to 204.4 mm; **Extremely Heavy Rain:** >204.4mm.
- **Obsy:** Observatory; **AWS:** Automatic Weather Station; **dist:** District: **NH:** National Highway; **KVK**: Krishi Vigyan Kendra; **DVC:** Damodar Valley Corporation
- **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 Marathwada.
  - **South India:** Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Coastal Karnataka, North Interior Karnataka, South Interior Karnataka, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal and 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 Widespred (FWS/ Many Places)	1-25	Isolated (ISOL)

Subdivision Warning		Subdivision color
Heavy Rain	Dust Storm	NO WARNING
Heavy Snow	Strong Surface Winds	WATCH(BE UPDATED)
Thunderstorms & Lightning	Heat Wave	ALERT (BE PREPARED)
Hailstorm	Cold wave	WARNING (TAKE ACTION)
	Fog	

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

Flash Flood Risk
High Risk (Take Action)
Moderate Risk (Be Prepared)
Low Risk (Be Updated)

Definition of Cold wave, Cold Day and Fog Conditions:

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