



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 10th January, 2024

Time of Issue: 1245 hours IST

Subject: 1) Cold Day to Severe Cold Day conditions likely to reduce over northwest India from tomorrow, the 11th January, 2024.

2) Dense fog is likely to continue to prevail during morning hours in isolated pockets of northwest India during next 4-5 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 5-10°C over Punjab, Haryana-Chandigarh-Delhi, Rajasthan, Uttar Pradesh and 11-13°C over Madhya Pradesh and Bihar. These are normal (-1.0°C to +1.0°C) at many places over Punjab, Haryana, Delhi, West Uttar Pradesh and above normal by 2-4°C over Bihar, Madhya Pradesh, East Uttar Pradesh and below normal by -1.0°C to -3.0°C at many places over Rajasthan. **Today, the lowest minimum temperature of 3.8°C reported at Sikar (East Rajasthan).**
- Yesterday, **Cold day to severe cold day** conditions prevailed at most places over Punjab, at many places over Haryana & Chandigarh, in some parts of Rajasthan and at isolated Pockets over North Madhya Pradesh. **Cold day conditions** prevailed at few places over Delhi and at isolated pockets over Uttar Pradesh and Uttarakhand.
- **Fog conditions observed** (at 0530 & 0830 hours IST of today): **Very Dense fog (visibility < 50 metre) during morning hours** in some parts of Punjab, East Uttar Pradesh, East Rajasthan; in isolated pockets of Haryana-Chandigarh, West Uttar Pradesh, Bihar, Odisha; **Dense fog (visibility 50-200 metre)** in isolated pockets of Jammu Division, Uttarakhand, Jharkhand, north Madhya Pradesh, West Bengal & Sikkim, Meghalaya and Tripura.
- **Ground frost conditions** observed at isolated places over Uttarakhand (Tehri and Mukteshwar).
- **Isolated hailstorm** activity reported over northwest Madhya Pradesh (Bhind & Gwalior)
- **Heavy to very heavy rainfall** recorded at isolated places over south Tamil Nadu and **moderate rainfall** over Kerala, Marathwada, Madhya Maharashtra and Madhya Pradesh.

Weather Systems and Forecast & Warnings during next 5 days:

- A cyclonic circulation lies over East Equatorial Indian Ocean centered at Lat 2.5°N/Long 78.5°E in lower tropospheric levels.
- A cyclonic circulation lies over Kerala coast in lower tropospheric levels. Under the influence of above systems:
 - ✓ Light to moderate rainfall at some places very likely over Tamil Nadu, Kerala, Coastal Karnataka and Lakshadweep during next 2 days and dry weather thereafter.
 - ✓ Isolated **heavy rainfall** likely over south Tamil Nadu today.
 - ✓ Light to moderate rainfall accompanied with thunderstorms and lightning very likely at isolated places over Madhya Pradesh, Gujarat, Konkan & Goa and Madhya Maharashtra on 10th 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 morning in isolated pockets over north Rajasthan on 11th & 12th January, 2024 and reduction thereafter.
- **Dense fog** conditions very likely to prevail for a few hours in morning in isolated pockets over Punjab, Haryana, Chandigarh, Uttar Pradesh, Assam & Meghalaya, Mizoram & Tripura during 11th-15th; over Jammu division, Himachal Pradesh, Uttarakhand, north Madhya Pradesh, Odisha, Bihar, West Bengal & Sikkim on 11th & 12th January.

- **Cold Day to Severe Cold Day** conditions very likely to continue in some parts of Haryana, Chandigarh & Delhi, Punjab and in isolated pockets of Uttar Pradesh on 10th is likely to reduce into **Cold Day** conditions in isolated pockets on 11th and abate thereafter.
- **Cold Day** conditions very likely to continue in isolated pockets of Rajasthan on 10th & 11th January, 2024 and abate thereafter.

Temperatures Forecast and Cold wave warning:

- Fall by 2-3°C in minimum temperatures likely over many parts of Central & East India during next 3-4 days.
- **No Cold wave conditions** are likely over the country during next 5 days.
- **Ground frost conditions** very likely over Uttarakhand on 11th & 12th January, 2024.

Fishermen warning:

10th Jan: Squally Weather with Wind Speed 40-45 Kmph gusting to 55 Kmph likely to prevail over along & off Tamil Nadu coast, adjoining Southwest Bay of Bengal, Gulf of Mannar, Comorin Area and along & off Sri Lanka coast; off south Kerala coast and adjoining Lakshadweep area. Fishermen are advised not to venture into these areas.

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

Impact expected due to Cold Day to Severe Cold day conditions over Rajasthan on 10th & 11th and over Punjab, Haryana, Chandigarh, and Uttar Pradesh on 10th January, 2024.

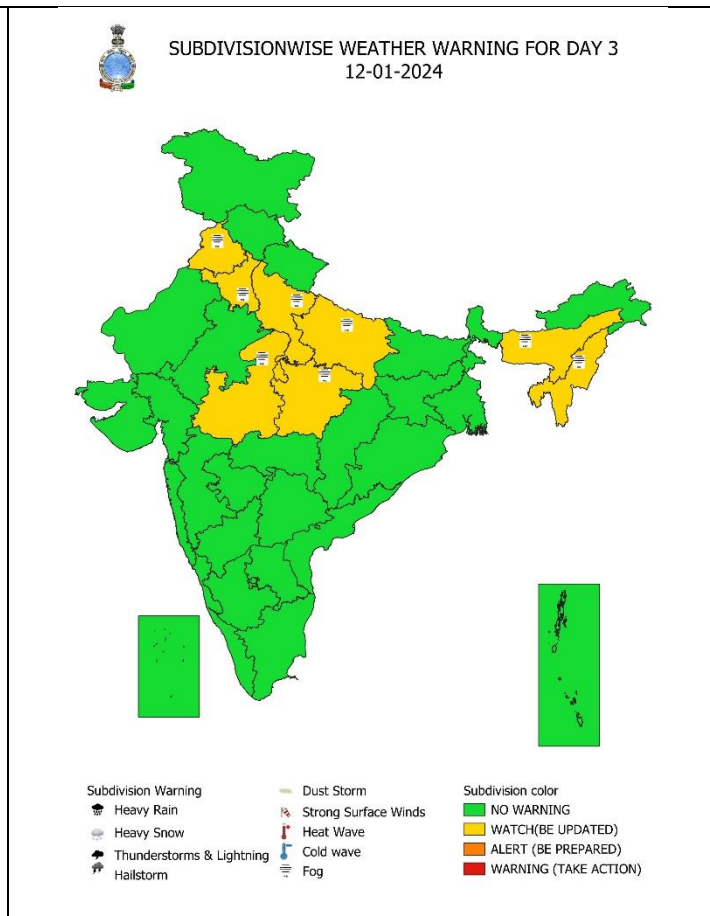
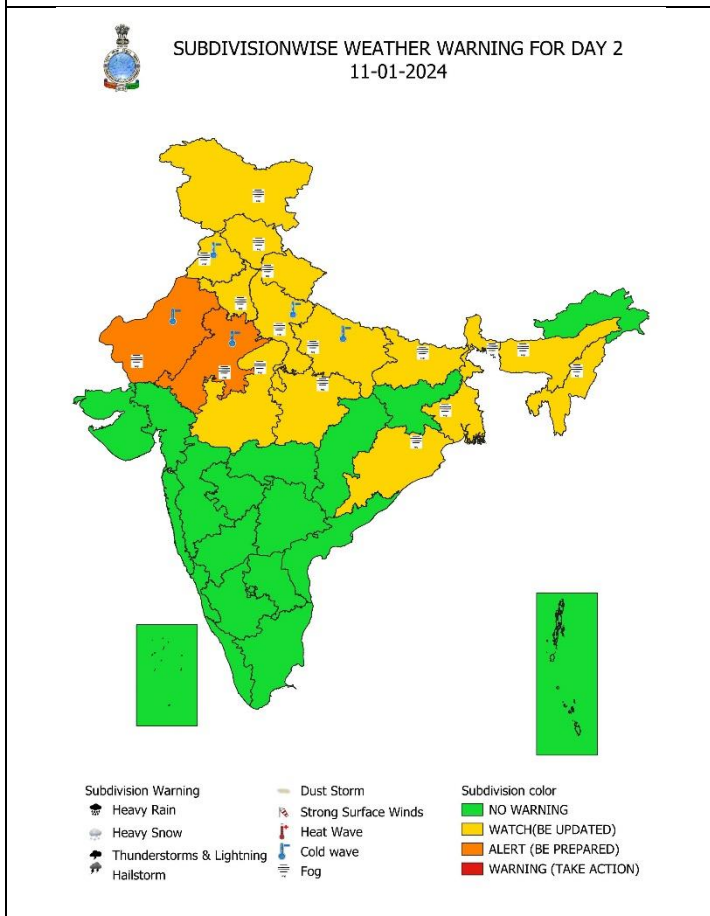
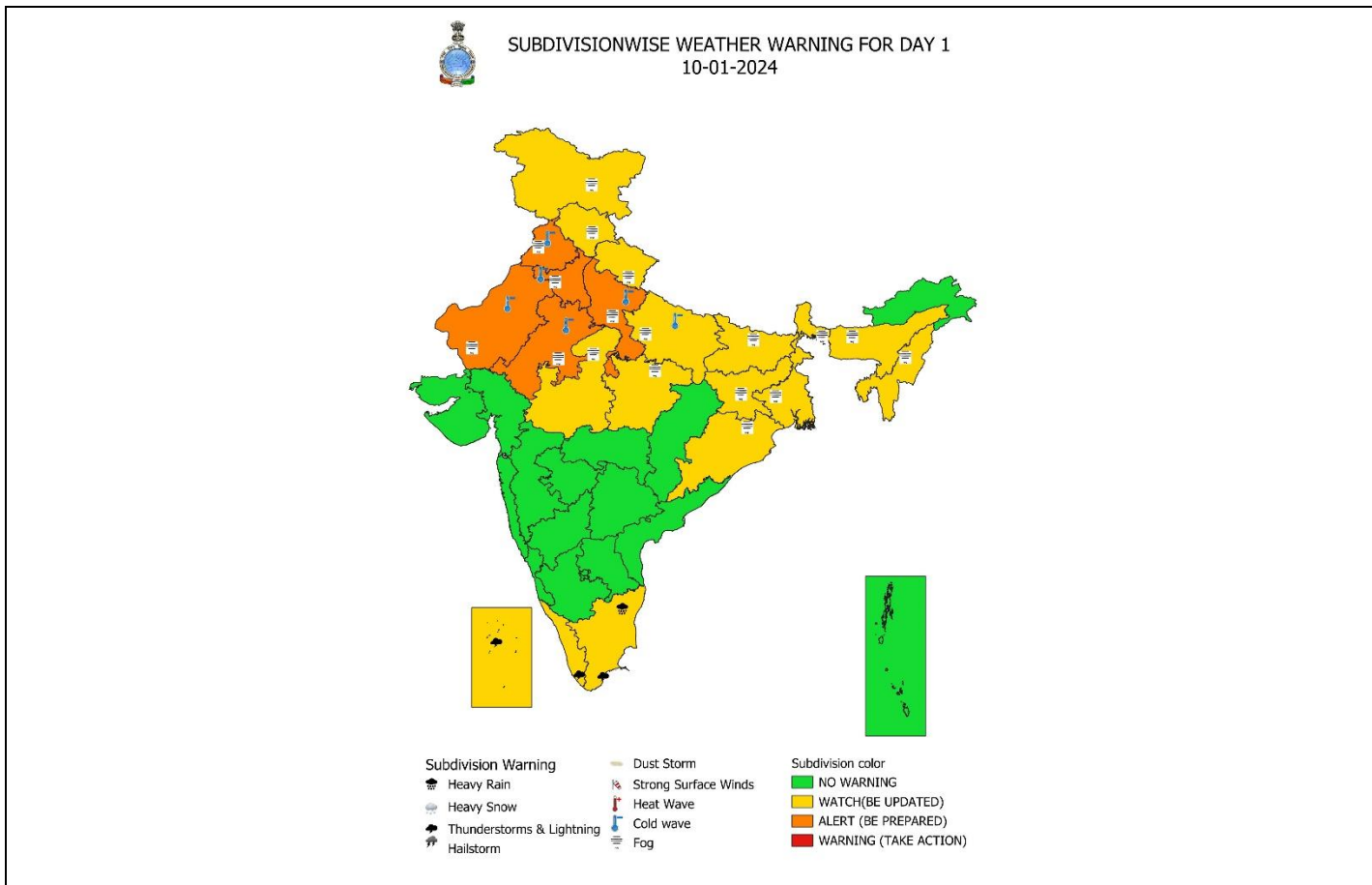
- An increased likelihood of various illnesses like flu, running/ stuffy nose or nosebleed, which usually set in or get aggravated due to prolonged exposure to cold.
- Do not ignore shivering. It is the first sign that the body is losing heat. Get Indoors.
- Frostbite can occur due to prolonged exposure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

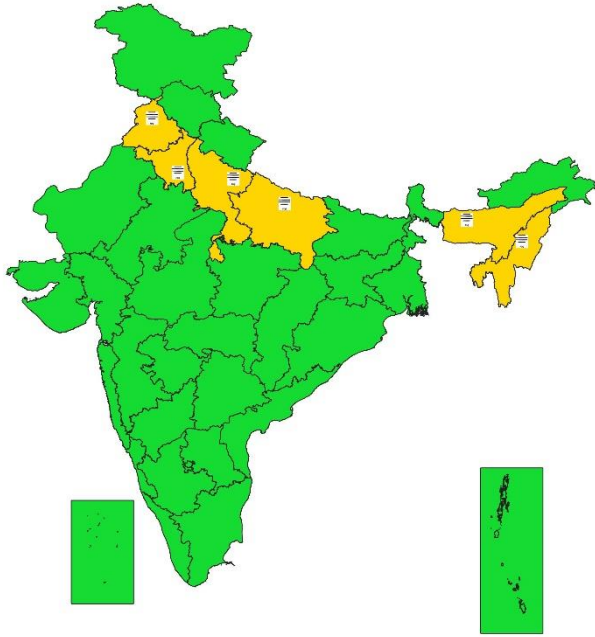
Realized weather during past 24 hours till 0830 hours IST of today

- **Minimum temperatures:** Minimum Temperatures are in the range of 5-10°C over Punjab, Haryana-Chandigarh-Delhi, Rajasthan, Uttar Pradesh and 11-13°C over Madhya Pradesh and Bihar. These are normal (-1.0°C to +1.0°C) at many places over Punjab, Haryana, Delhi, West Uttar Pradesh and above normal by 2-4°C over Bihar, Madhya Pradesh, East Uttar Pradesh and below normal by -1.0°C to -3.0°C at many places over Rajasthan. **Today, the lowest minimum temperature of 3.8°C reported at Sikar (East Rajasthan).**
- **Yesterday, Maximum temperatures** were in the range of 9-14°C over Punjab, northwest Rajasthan and Haryana-Chandigarh, Delhi, West Uttar Pradesh. It were below normal by 5-10°C over most parts of Punjab, Haryana-Chandigarh-Delhi, north Rajasthan and some parts of West Uttar Pradesh.
- Yesterday, **Cold day to severe cold day** conditions prevailed at most places over Punjab, at many places over Haryana & Chandigarh, in some parts of Rajasthan and at isolated Pockets over North Madhya Pradesh. **Cold day conditions** prevailed at few places over Delhi and at isolated pockets over Uttar Pradesh and Uttarakhand.
- **Fog conditions observed** (at 0530 & 0830 hours IST of today): **Very Dense fog (visibility < 50 metre) during morning hours** in some parts of Punjab, East Uttar Pradesh, East Rajasthan; in isolated pockets of Haryana-Chandigarh, West Uttar Pradesh, Bihar, Odisha; **Dense fog (visibility 50-200 metre)** in isolated pockets of Jammu Division, Uttarakhand, Jharkhand, north Madhya Pradesh, West Bengal & Sikkim, Meghalaya and Tripura.
- **Visibility recorded** (at 0530 hours IST of today) (in meters): **Jammu & Kashmir:** Jammu-25; **West Rajasthan:** Bikaner -25; **East Madhya Pradesh:** Sagar-25, Jabalpur -200; **Punjab:** Patiyala-50, Amritsar -200; **Uttar Pradesh:** Jhansi- 50, Lucknow -200; **West Madhya Pradesh:** Bhopal -50; **East Rajasthan:** Jaipur -50; **Bihar:** Purnea -50; Gaya -200; **Tripura:** Agartala-50; **Haryana & Chandigarh:** Chandigarh-200 and **Odisha:** Pradeep -200.
- **Visibility recorded** (at 0830 hours IST of today) (in meters): **West Rajasthan:** Bikaner-25, Ganganagar-200; **East Rajasthan:** Sikar-25, Jaipur & Ajmer-50, Kota-200; **Odisha:** Khorda, Dhenkanal-20 each, Chandbali-40; **Punjab:** Amritsar-50, Ludhiana & Patiala-200; **East Uttar Pradesh:** Bahraich-50, Lucknow-200; **Jammu Division:** Jammu-200; **Haryana:** Ambala-200; **Bihar:** Purnea-200; **Sub-Himalayan West Bengal & Sikkim:** Jalpaiguri & Cooch Behar-200; **Tripura:** Agartala-200.
- **Ground frost condition** observed at isolated places over Uttarakhand (Tehri and Mukteshwar).
- **Isolated hailstorm** activity reported over northwest Madhya Pradesh (Bhind & Gwalior)
- **Heavy to very heavy rainfall** recorded at isolated places over south Tamil Nadu and **moderate rainfall** over Kerala, Marathwada, Madhya Maharashtra and Madhya Pradesh.
- **Tamil Nadu:** Amaravathy Dam (dist Tiruppur) 12, Palani (Dindigul) 11, Thirumoorthy IB (Tiruppur), Thirumoorthi Dam (Tiruppur) 10 each, Dindigul (Dindigul), Thangachimadam (Ramanathapuram), Ramanathapuram (dist Ramanathapuram) 9 each; **Kerala:** Peruvannamuzhi (Kozhikode) 5, Vellarikkundu Aws (Kasargod) 4, Pookot (Wynad) 4, Vyttiri (Wynad) 4; **Coastal Karnataka:** Kota (Udupi) 4, Dharmasthala (Dakshina Kannada) 4, Gersoppa (Uttara Kannada) 3.





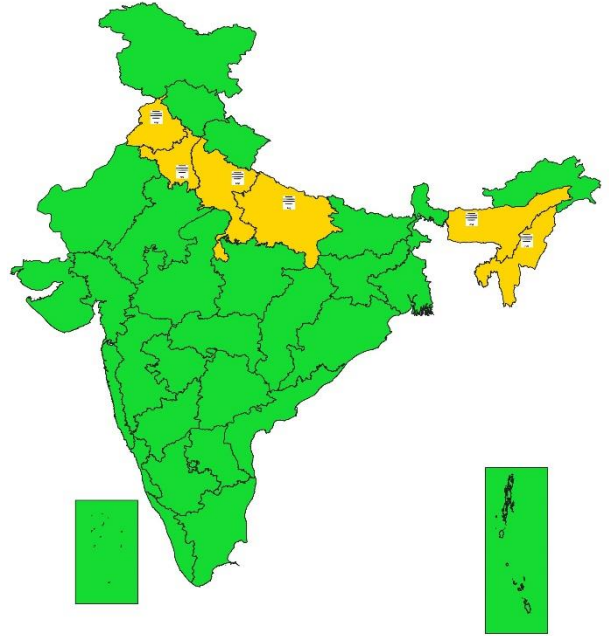
SUBDIVISIONWISE WEATHER WARNING FOR DAY 4
13-01-2024



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



SUBDIVISIONWISE WEATHER WARNING FOR DAY-5
14-01-2024



- | | | |
|----------------------------|----------------------|--------------------------|
| Subdivision Warning | Dust Storm | Subdivision color |
| Heavy Rain | Strong Surface Winds | NO WARNING |
| Heavy Snow | Heat Wave | WATCH (BE UPDATED) |
| Thunderstorms & Lightning | Cold wave | ALERT (BE PREPARED) |
| Hailstorm | Fog | 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 Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)

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

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:

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 $\leq 15^{\circ}\text{C}$

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 $\leq -6.5^{\circ}\text{C}$

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