



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 27th January, 2024

Time of Issue: 1230 hours IST

Subject: Dense to very dense fog and cold day to severe cold day conditions very likely to continue over Uttar Pradesh & Bihar during next 2 days and improve gradually thereafter.

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 4-6°C over many parts of plains of Uttarakhand and Punjab; in the range of 6-8°C over many parts of Uttar Pradesh, Haryana, Chandigarh, Delhi & north Rajasthan and they are in the range of 8-10 °C over many parts of central Rajasthan and north Madhya Pradesh. These are below normal by 3-5°C over many parts of plains of Uttarakhand, Haryana-Chandigarh, Uttar Pradesh, East Madhya Pradesh, West Bihar and north Chhattisgarh. **Today, the lowest minimum temperature of 3.1°C reported at Hisar (Haryana).**
- ❖ **Fog conditions observed (at 0530 & 0830 hours IST of today): Dense to Very Dense Fog** observed over many parts of Uttar Pradesh & Bihar; some parts of north Madhya Pradesh, Punjab, Sub-Himalayan West Bengal; in isolated places over Northwest Rajasthan; **Dense fog** over isolated pockets of Haryana.
- ❖ Today, **Cold wave conditions** observed in isolated pockets of Punjab, Haryana, and East Uttar Pradesh.
- ❖ Yesterday, **Cold day to severe cold day** conditions prevailed over many parts of Uttar Pradesh and over some parts of Bihar.

Weather Systems and Forecast & Warnings during next 5 days:

- ❖ A fresh Western Disturbance is likely to affect Western Himalayan Region from 28th January and another Western Disturbance is likely to affect Western Himalayan region & adjoining plains of Northwest India from 31st January, 2024.
Under the influence of these systems:
 - Light isolated rainfall/snowfall very likely over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad and Himachal Pradesh during next 2 days (27 & 28 Jan) and moderate scattered to fairly widespread rainfall/snowfall during subsequent 3-4 days (29 Jan to 1 Feb).
 - Isolated **heavy rainfall/snowfall** also likely over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad on 28th & 31st January, 2024.
 - Light/moderate isolated to scattered rainfall/snowfall very likely over Uttarakhand and light rainfall over Punjab, Chandigarh, Haryana, West Uttar Pradesh during 31st Jan. to 02nd Feb. 2024.

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 over many parts of East Uttar Pradesh, over some parts of Punjab, Haryana, Chandigarh, West Uttar Pradesh & Bihar on 27th & 28th and **dense fog** in isolated pockets over the region thereafter for subsequent 3 days.

- ❖ **Dense Fog** conditions in isolated pockets very likely to prevail for a few hours in morning over Uttarakhand, north Madhya Pradesh, Sub-Himalayan West Bengal, Odisha, Assam & Meghalaya, Mizoram & Tripura on 27th & 28th and over northwest Rajasthan on 27th Feb. 2024 January.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in some parts of Bihar on 27th & 28th and cold day conditions thereafter for subsequent 3 days.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in some parts of East Uttar Pradesh on 27th and cold day conditions in isolated pockets on 28th Jan. 2024.
- ❖ **Cold Day** conditions very likely to continue in isolated pockets over north Madhya Pradesh on 27th Jan. 2024.

Minimum Temperature Forecast and Cold wave warning: (graphics in Annexure II)

- ❖ No significant change in minimum temperatures very likely over many parts of Central & East India and West India during next 2 days and rise by 2-3°C thereafter for subsequent 3 days.
- ❖ No significant change in minimum temperatures very likely over many parts of Northwest India in 24-hours and rise by 2-3°C thereafter for subsequent 3-4 days.
- ❖ **Cold wave** conditions very likely in isolated pockets of Punjab, Haryana, East Uttar Pradesh for today night, on 27th January.

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

Annexure I

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

- ❖ Yesterday, **Maximum temperatures** were in the range of 18-20°C over many parts of Uttar Pradesh, Haryana, Chandigarh, Delhi, Punjab. They were below normal by 6-8°C over many parts of Uttar Pradesh and Bihar and below normal by 3-5°C over some parts of Jharkhand, West Bengal.
- ❖ **Visibility recorded** (at 0530 hours IST of today) (in metres): **Punjab:** Bhatinda-0, Amritsar-25 & Patiala-200; **West Uttar Pradesh:** Agra-0, Bareilly-50, Jhansi-200; **East Uttar Pradesh:** Varanasi & Prayagraj-25 each, Bahraich & Gorakhpur-50 each, Lucknow & Sultanpur-200 each; **Bihar:** Patna & Purnea-25 each, Bhagalpur-50, Gaya-200; **Delhi:** Palam-350; **Sub-Himalayan West Bengal:** Malda-200.
- ❖ Visibility recorded (at 0830 hours IST of today) (\leq 500 metres): **Punjab:** Amritsar-25, Patiala- 50, Ludhiana-500; **Uttar Pradesh:** Bareilly, Gorakhpur, Lucknow Bahraich & Jhansi-25 each; Varanasi(Babatpur), Fursatganj -50 each, and Sultanpur- 200; **Bihar:** Purnea-25, Patna-50, Bhagalpur-200, Gaya-500; **Rajasthan:** Ganganagar-25; Jaisalmer- 500; **Madhya Pradesh:** Raisen, Tikamgarh, Nowgong, Khajuraho- 50 each; **Delhi:** Palam-200; Ayanagar and safdarjang-500 each; **Sub-Himalayan West Bengal:** Malda-25, cooch behar-50.

Impact expected due to dense to very dense fog in the night/morning hours over Punjab, Haryana, Uttar Pradesh, and Bihar during night/morning hours of 27th & 28th Jan. 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:**

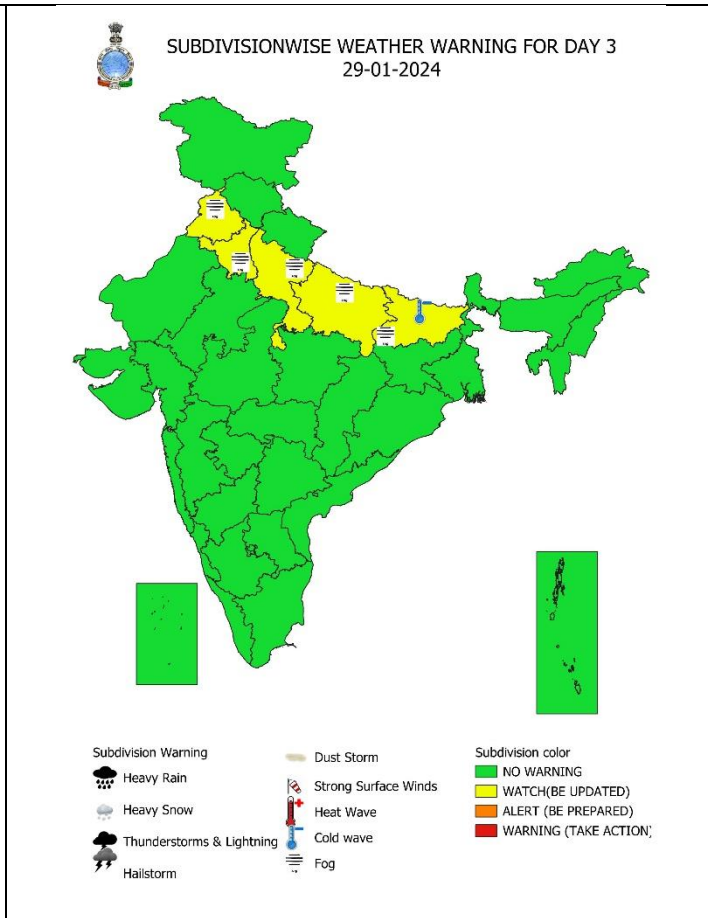
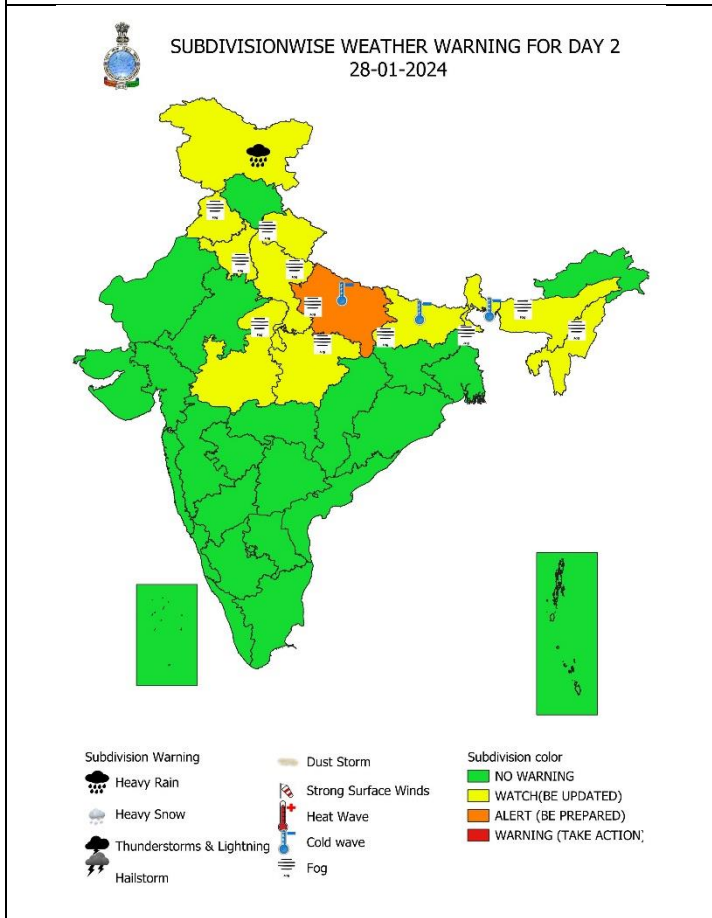
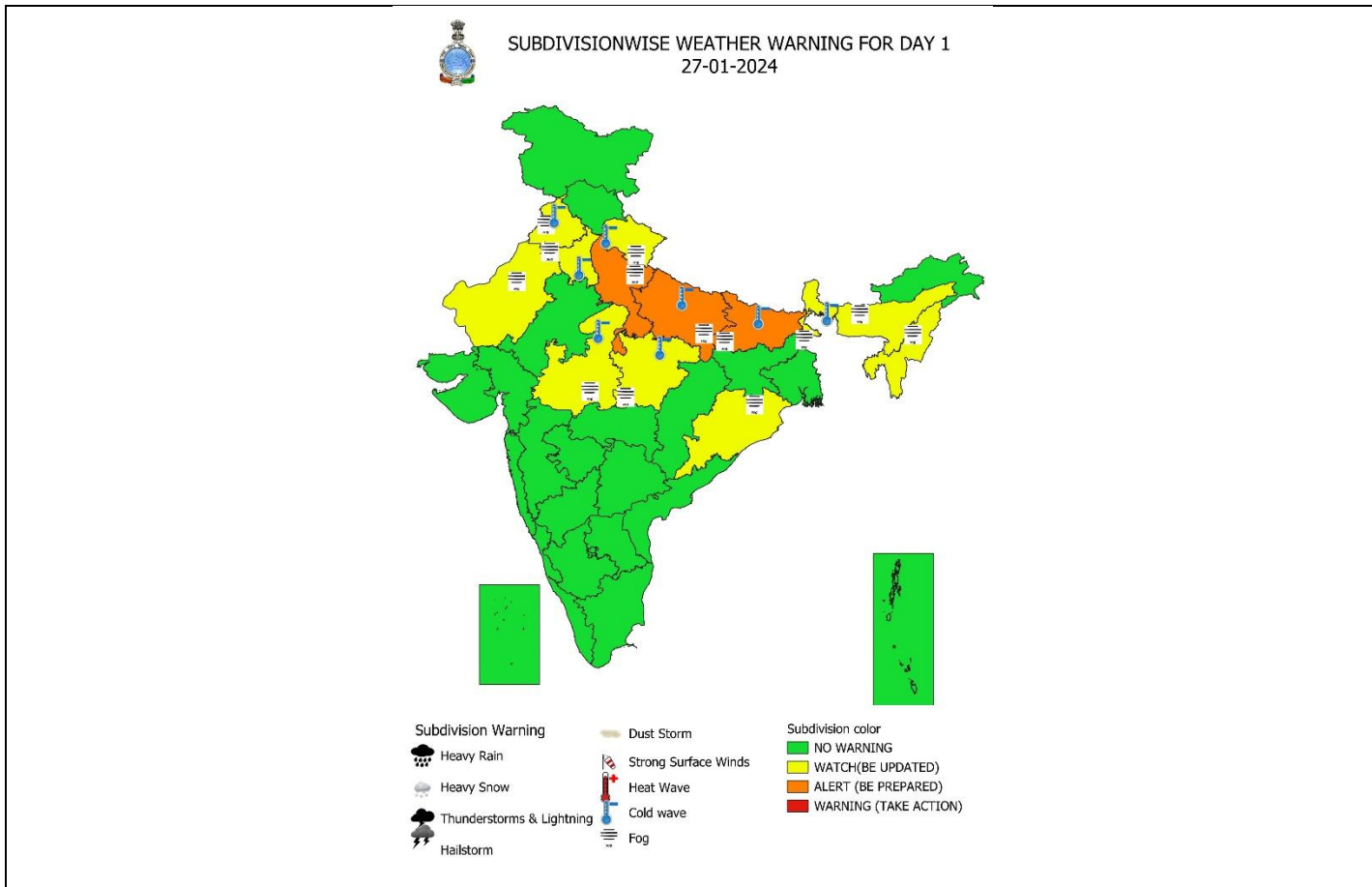
- ❖ To keep ready Maintenance Team
- ❖ Human Health: To avoid outing until unless emergency and to cover the face.

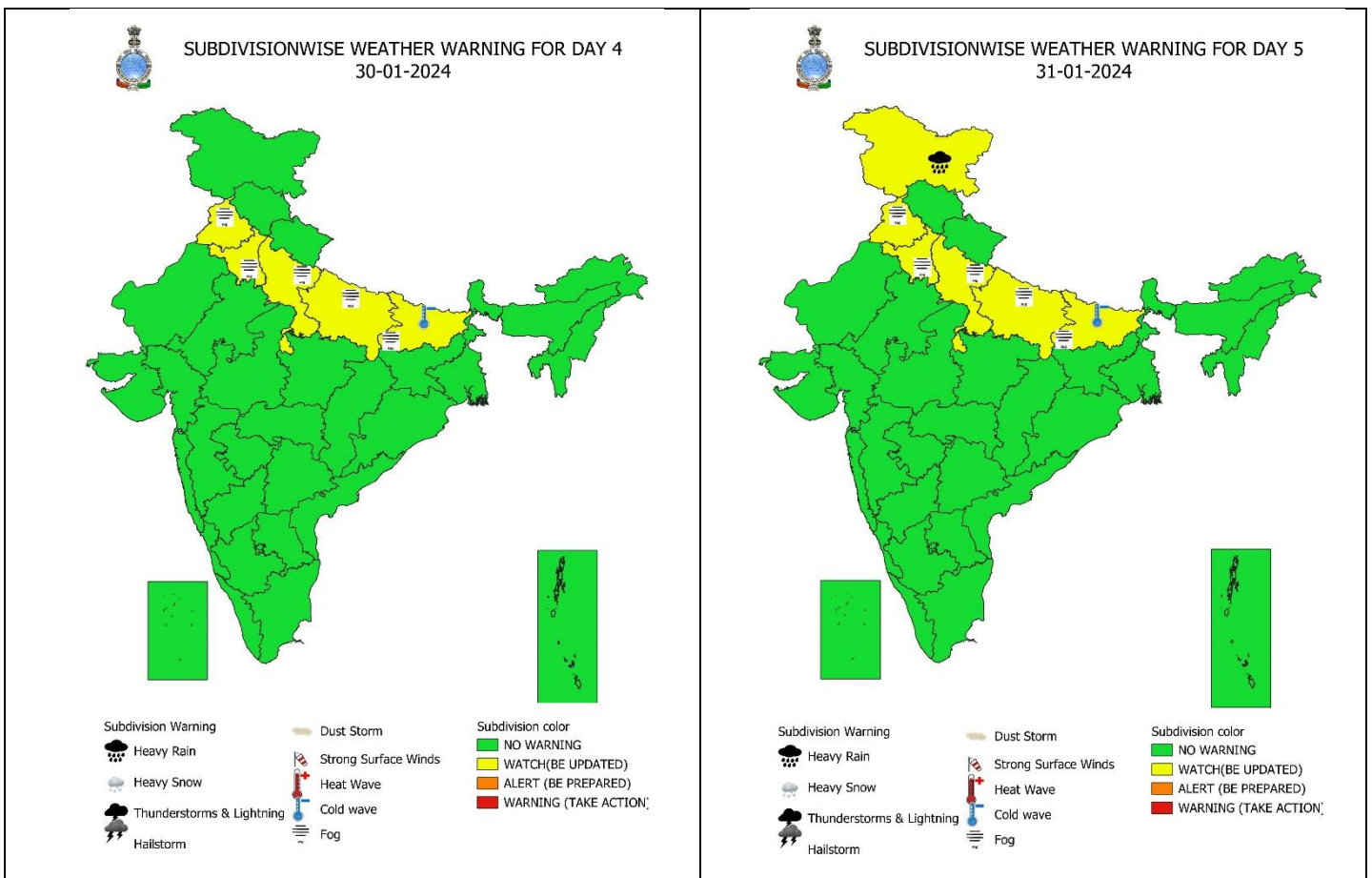
Impact expected due to Cold Day/Severe Cold Day conditions over Uttar Pradesh and Bihar during 27th-28th January, 2024.

- ❖ 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.





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 $< 1\text{km}$

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