



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 06th January, 2024

Time of Issue: 1400 hours IST

Subject: 1) Cold Day to Severe Cold Day conditions likely to continue over Punjab, Haryana, Chandigarh, Delhi and Rajasthan during next 2 days and significant decrease thereafter.

2) Dense to very dense fog likely to continue over Northwest India during next 2 days and gradually decrease thereafter.

3) A fresh rainfall spell with thunderstorm/hailstorm (Rajasthan & West Madhya Pradesh) activity likely over Northwest and Central India during 08th-10th January.

4) Light to moderate rainfall spell likely over south Peninsular India with isolated heavy rainfall over Tamil Nadu during next 5 days and over Kerala during next 2 days.

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

- **Minimum temperatures:** Minimum Temperatures are in the range of 6-9°C over Rajasthan, Punjab, Haryana-Chandigarh-Delhi; 10-12 °C over parts of West Uttar Pradesh and northwest Madhya Pradesh; 13-15°C over remaining parts of Uttar Pradesh, Bihar, Chhattisgarh, interior Odisha and West Bengal. It is above normal by 1-3°C over Punjab, Haryana-Chandigarh-Delhi, north Rajasthan, West Uttar Pradesh and 4-7°C above normal over most parts of Madhya Pradesh, interior Maharashtra, north Chhattisgarh, Bihar and Jharkhand. **Today, the lowest minimum temperature of 2.0°C reported at Sikar (East Rajasthan).**
- **Maximum temperatures** are in the range of 9-12°C over many parts of Punjab and Haryana; in the range of 13-16 °C over north Rajasthan, Delhi, northwest Madhya Pradesh and some parts of Uttar Pradesh. It is below normal by 4-9°C over these areas.
- Yesterday, **Cold Day to Severe Cold Day conditions** observed at many parts of Haryana; in some parts of Rajasthan, Punjab; **Cold Day conditions** in some pockets of Delhi; in isolated pockets of West Madhya Pradesh.
- **Fog: Very dense fog occurred (visibility < 50 metre)** for a few hours many parts of Punjab; in isolated pockets of Jammu & Kashmir, Haryana & Chandigarh, Uttar Pradesh. **Dense fog (visibility 50-200 metre)** for a few hours in isolated pockets of Madhya Pradesh, Rajasthan, Odisha, Tripura and Bihar in the morning hours.
- **Visibility recorded (at 0530 hours IST of today)** (in metre): **Jammu & Kashmir:** Jammu-25; **Punjab:** Patiala-25; Amritsar-50; **Haryana:** Chandigarh-25; **East Uttar Pradesh:** Bahreich-25; Sultanpur, Varanasi and Lucknow-200; **West Madhya Pradesh:** Guna and Bhopal -200 each; **East Madhya Pradesh:** Sagar-50; **East Rajasthan:** Kota and Ajmer -200 each; **Bihar:** Gaya and Purnea-200 each; **Odisha:** Paradip-50; **Tripura:** Agartala-50.
- **Visibility Recorded (at 0830 hours IST of today)** (in metre): **Jammu Division:** Jammu-25; **West Rajasthan:** Bikaner-25, Churu-50; **Haryana-Chandigarh:** Ambala-25, Chandigarh-50, Karnal-50; **East Uttar Pradesh:** Bahraich-25; Sultanpur-50, Lucknow & Gorakhpur-200; **Punjab:** Amritsar, Ludhiana, Patiala-50 each; **East Rajasthan:** Ajmer-50, Kota-200; **East Madhya Pradesh:** Rewa-50, Jabalpur-200; **Uttarakhand:** Pantnagar-200; **Tripura:** Agartala-200
- **Heavy rainfall** observed at isolated places over Kerala and Tamil Nadu. **(Refer Annexure I)**
- **Light to moderate rainfall** occurred at most places over East Madhya Pradesh; at some places over East Uttar Pradesh, Bihar, Kerala & Mahe, Lakshadweep and at isolated places over West Uttar Pradesh, Jharkhand, West Madhya Pradesh, Vidarbha, Chhattisgarh and Tamil Nadu.

Weather Systems and Forecast & Warnings during next 5 days:

Weather Systems:

- A cyclonic circulation lies over Lakshadweep area and a trough runs from this cyclonic circulation to Vidarbha in lower tropospheric levels.
- A cyclonic circulation lies over West Uttar Pradesh in lower tropospheric levels.
- A trough runs from south Gujarat to cyclonic circulation over West Uttar Pradesh & neighbourhood in lower tropospheric levels.
- A trough runs from south Sri Lanka to Southwest Bay of Bengal off south Andhra Pradesh coast in lower tropospheric levels.

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

- **Dense to very dense fog** conditions very likely to prevail in night/morning hours in some parts of Punjab and in isolated pockets of Haryana-Chandigarh during 06th-08th January and **Dense fog** in isolated pockets for subsequent 3 days.
- **Dense to very dense fog** conditions very likely to prevail for a few hours in morning in isolated pockets over West Uttar Pradesh and Rajasthan on 07th January and **Dense fog** in isolated pockets on 08th & 09th January.
- **Dense fog** conditions very likely to prevail for a few hours in morning in isolated pockets over East Uttar Pradesh during 06th-10th January; over Himachal Pradesh, Uttarakhand, West Madhya Pradesh, Bihar, Jharkhand, Odisha, Assam & Meghalaya, Mizoram & Tripura on 07th & 08th January.
- **Cold Day to Severe Cold Day** conditions very likely to continue in some parts over Punjab, Haryana-Chandigarh-Delhi on 06th & 07th and **Cold Day** conditions on 08th January. **Cold Day to Severe Cold Day** conditions very likely to continue in some parts over East Rajasthan and in isolated pockets of West Rajasthan on 06th and cold day conditions in isolated pockets of Rajasthan on 07th January.

Temperatures Forecast and Cold wave warning:

- No significant change in minimum temperatures likely over Northwest India during next 2 days and rise by 2-3°C thereafter.
- No significant cold wave conditions are likely during next 5 days.

Rainfall Forecast and heavy rainfall warning:

- Light to moderate rainfall at some places very likely over Tamil Nadu, Kerala and Lakshadweep during next 4-5 days. Isolated **heavy rainfall** with thunderstorm & lightning very likely over coastal Tamil Nadu during 06th-10th; Kerala on 06th & 07th; over south Coastal Andhra Pradesh and Rayalaseema on 07th January. Isolated **very heavy rainfall** also very likely over north coastal Tamil Nadu on 07th January.
- Light rainfall at isolated places over Vidarbha, Chhattisgarh, Bihar, Jharkhand, West Bengal & Sikkim on 06th January
- **A fresh Western Disturbance is likely to affect Northwest India from 8th January. Under its the influence and its interaction with lower level easterly winds:**
 - ✓ **Light isolated rainfall likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi and Uttar Pradesh on 8 and 9th January.**
 - ✓ **Light to moderate rainfall accompanied with thunderstorms and lightning very likely at some places over Gujarat, Madhya Pradesh, Rajasthan and northern parts of Maharashtra on 08th & 09th January.**
 - ✓ **Isolated hailstorm also likely over Rajasthan on 08th & 09th January and over West Madhya Pradesh on 09th January, 2024.**

Fishermen warning:

06th & 07th 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, adjoining Comorin Area and Lakshadweep Area.

08th-10th Jan: Squally Weather with Wind Speed 40-45 Kmph gusting to 55 Kmph likely to prevail along & off south Tamil Nadu coast, Southwest Bay of Bengal, along & off Sri Lanka coast, Gulf of Mannar, adjoining Comorin Area.

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

Realized Rainfall (in cm) during past 24 hours ending at 0830 hours IST of today:

Tamil Nadu: Kakkachi (dist Tirunelveli), Nalumukku (dist Tirunelveli) 10 each, Manjolai (dist Tirunelveli) 9, Ottapadiram (dist Thoothukudi) 5.

Kerala: Perumbavur & Aluva (both in Ernakulam district) 7 each, Kodungallur (Thrissur district) & Poonjar (Kottayam district) 6 each, Kochi (Ernakulam district) 5.

East Madhya Pradesh: Parasia (dist Chindwara) 5, Umreth (dist Chindwara) 5, Mada (dist Singrauli) 3.

West Madhya Pradesh: Godadongri (dist Betul) 4, Shahpur (dist Betul) 3.

Impact expected due to dense to very dense fog in the night/morning hours over Punjab, Haryana, Chandigarh, West Uttar Pradesh and Rajasthan during next 2 days.

❖ **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 to Severe Cold day conditions over Punjab, Haryana, Chandigarh, Delhi and Rajasthan during next 2 days.

- 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.

Impact expected and action suggested due to isolated thunderstorm with lightning/gusty winds & Hailstorm over Rajasthan on 08th & 09th; Madhya Pradesh on 09th January, 2024.

Impact expected:

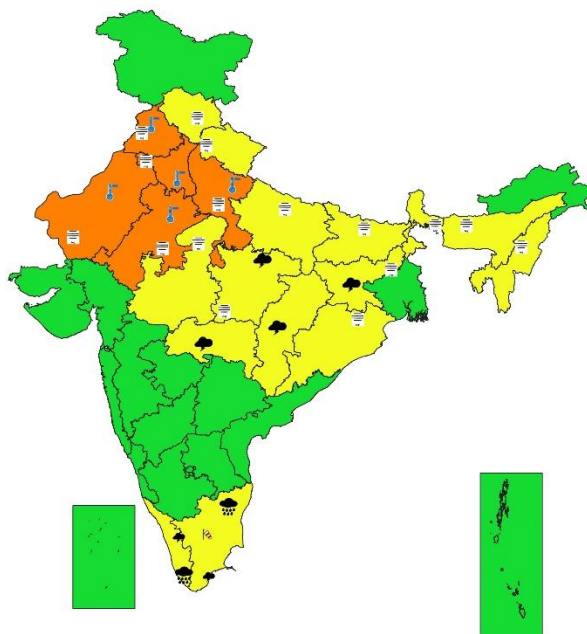
- Strong wind/hail may damage plantation, horticulture and standing crops.
- Hail may injure people and cattle at open places.
- Partial damage to vulnerable structures due to strong winds.
- Minor damage to kutcha houses/walls and huts.
- Loose objects may fly.

Action suggested:

- Stay indoors, close windows & doors and avoid travel if possible.
- Take safe shelters; do not take shelter under trees.
- Do not lie on concrete floors and do not lean against concrete walls.
- Unplug electrical/ electronic appliances.
- Immediately get out of water bodies.
- Keep away from all the objects that conduct electricity.



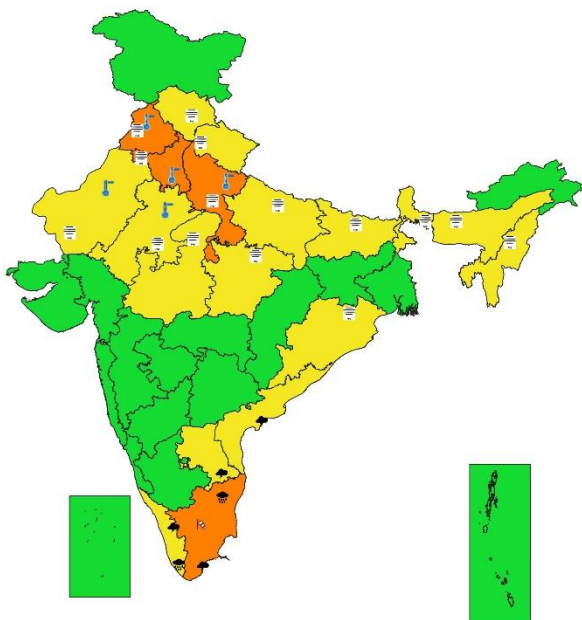
SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
06-01-2024



- | | | |
|---------------------------|----------------------|-----------------------|
| Subdivision Warning | Dust Storm | WATCH (BE UPDATED) |
| Heavy Rain | Strong Surface Winds | ALERT (BE PREPARED) |
| Heavy Snow | Heat Wave | WARNING (TAKE ACTION) |
| Thunderstorms & Lightning | Cold wave | |
| Hallstorm | Fog | |
| | Subdivision color | |



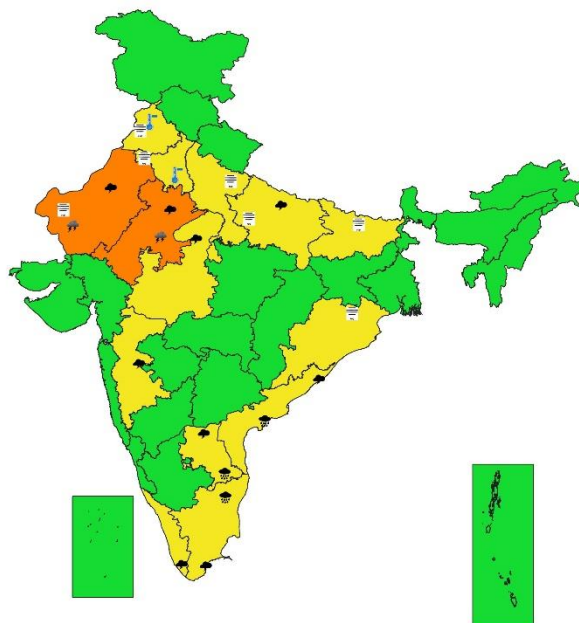
SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
07-01-2024



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|---------------------------|----------------------|-----------------------|
| 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) |
| Hallstorm | Fog | WARNING (TAKE ACTION) |



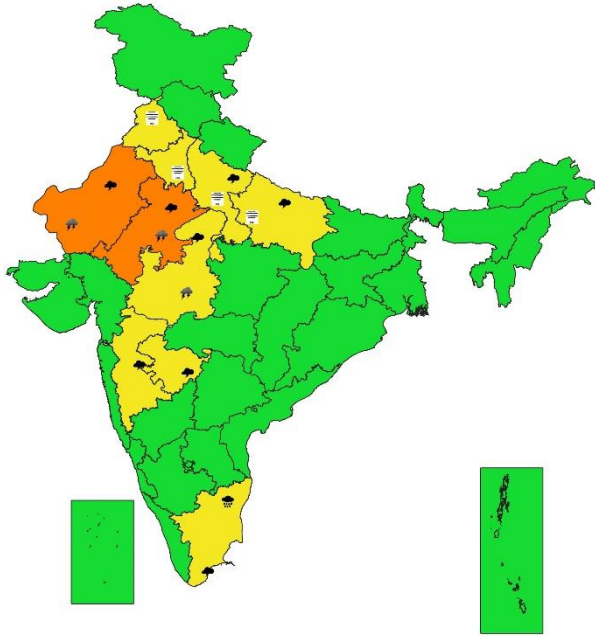
SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
08-01-2024



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|---------------------------|----------------------|-----------------------|
| 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) |
| Hallstorm | Fog | WARNING (TAKE ACTION) |



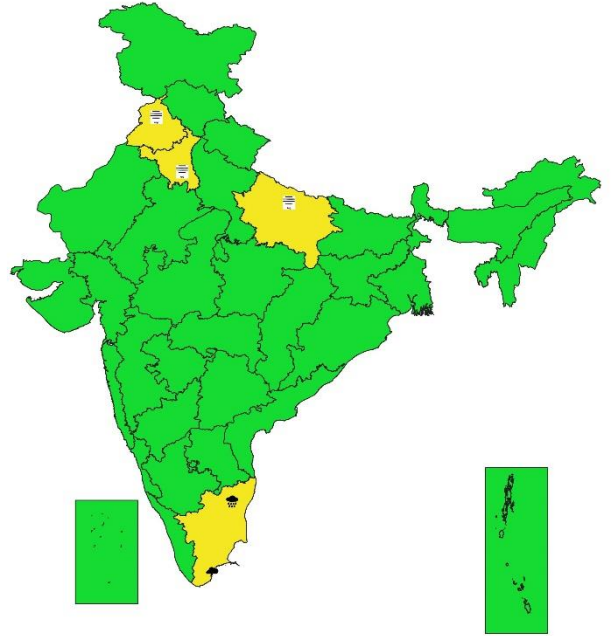
SUBDIVISIONWISE WEATHER WARNING FOR DAY 4
09-01-2024



- | | | |
|----------------------------|----------------------|--------------------------|
| 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
10-01-2024



- | | | |
|----------------------------|----------------------|--------------------------|
| 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	% Stations	Category
76-100	Widespread (WS/ Most Places)	26-50	Scattered (SCT/ A Few Places)	51-75	Fairly Widespread (FWS/ Many Places)
51-75	Fairly Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)	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:

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