



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 15th January, 2024

Time of Issue: 1230 hours IST

Subject:

- (i) Dense to very dense fog conditions likely to continue to prevail over North India during next 3 days and dense fog thereafter.
- (ii) Cold day to severe cold day conditions likely to continue over plains of North India during next 2 days and reduction thereafter.
- (iii) Cold wave to severe cold wave conditions likely to continue over plains of Northwest India during next 3 days and decrease 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 3-7°C over most parts of Punjab, Haryana-Chandigarh-Delhi, West Uttar Pradesh, north Rajasthan; in the range of 8-10°C over many parts of south Rajasthan, north Madhya Pradesh, Bihar, East Uttar Pradesh, Jharkhand. These are below normal by 1°C to 4°C in many parts of Northwest & adjoining east India. **Today, the lowest minimum temperature of 1.0°C reported at Ludhiana (Punjab).**
- ❖ Today, **Cold wave to severe cold wave conditions** prevailed over many parts of Punjab, Haryana; **cold wave conditions** in some parts over Delhi and Rajasthan; in isolated pockets of Punjab, Chandigarh and Uttar Pradesh
- ❖ **Fog conditions observed** (at 0530 & 0830 hours IST of today): **Dense to Very Dense fog** reported in many parts of Punjab, Haryana-Chandigarh-Delhi, in some parts of Uttar Pradesh, Bihar; in isolated pockets of north Madhya Pradesh, West Bengal & Sikkim and **Dense fog** in isolated pockets of Jammu Division and north Rajasthan.

Weather Systems and Forecast & Warnings during next 5 days:

- ❖ A fresh feeble Western Disturbance is likely to affect Western Himalayan Region from 16th January, 2024. It is likely to cause light rainfall/snowfall at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh on 16th & 17th and Uttarakhand on 17th & 18th January.
- ❖ Light to moderate rainfall in isolated to some places very likely over Bihar, Jharkhand, Chhattisgarh, Odisha, West Bengal & Sikkim and Northeast India from 16th to 18th January, 2024.
- ❖ **Isolated Hailstorm** likely over Arunachal Pradesh and Sikkim on 17th January, 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 Punjab and Haryana, Chandigarh & Delhi during 15th night to 17th morning, in some parts on 17th night & 18th morning and Dense fog in some parts for subsequent 2 days.

- ❖ **Dense to very dense fog** conditions very likely to prevail for a few hours in night/morning in some parts of Uttar Pradesh and Bihar during 15th night to 17th morning and Dense fog in isolated pockets for subsequent 3 days.
- ❖ **Dense fog** conditions very likely to prevail for a few hours in night/morning in isolated pockets of Jharkhand during 15th-19th; over Uttarakhand, north Rajasthan, north Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim during 15th-17th; Jammu division, Himachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura on 15th & 16th January, 2024.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in some parts of Punjab, Haryana-Chandigarh on 15th & 16th and **Cold Day** in some parts on 17th January, 2024.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in some parts of Uttar Pradesh on 15th and in isolated pockets on 16th January, 2024.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in isolated pockets of Bihar on 15th & 16th January, 2024.
- ❖ **Cold Day** conditions very likely to continue in isolated pockets of West Bengal & Sikkim on 15th January, 2024.

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

- ❖ Gradual rise by 2-3°C in minimum temperatures very likely over Northwest India during next 4-5 days.
- ❖ No significant change in minimum temperatures very likely over East India during next 24 hours and rise by 3-4°C thereafter.
- ❖ No significant change in minimum temperatures likely over rest parts of the country during next 5 days.
- ❖ **Cold wave to Severe Cold wave** conditions very likely to continue in some parts of Punjab, Haryana-Chandigarh-Delhi during 15th-17th January, 2024.
- ❖ **Cold wave** conditions very likely in isolated pockets of north Rajasthan during 15th-18th and over West Uttar Pradesh, Bihar on 15th & 16th and over East Uttar Pradesh, Gangetic West Bengal, Odisha on 15th January.
- ❖ **Ground frost conditions** very likely over Northwest India on 15th & 16th January, 2024.

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

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

- ❖ Yesterday, **Maximum temperatures** were in the range of 12-17°C over most parts of Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh; in some parts of Bihar which were below normal by 4-8°C at many over these regions.
- ❖ Yesterday, **Cold day to severe cold day conditions** prevailed over some parts of Punjab, Uttar Pradesh & Bihar; at isolated pockets over northwest Rajasthan. **Cold day conditions** prevailed at isolated pockets over Haryana and Chandigarh.
- ❖ **Visibility recorded (at 0530 hours IST of today) (≤200 metres):** **Jammu Division:** Jammu-50; **Punjab:** Bhatinda-0, Amritsar and Patiala- 25 each; **Haryana & Chandigarh:** Hissar and Ambala- 50 each, Chandigarh-50; **Delhi:** Palam-50; **West Uttar Pradesh:** Agra-0, Bareilly-25, Jhansi-50; **East Uttar Pradesh:** Prayagraj-50, Bahraich and Gorakhpur-200 each; **West Rajasthan:** Ganganagar-50; Churu-200; **Bihar:** Purnea-25, Bhagalpur-200; **Jharkhand:** Daltongaj-200; **West Madhya Pradesh:** Gwalior-50; **Assam:** Tezpur-200; **West Bengal & Sikkim:** Siliguri-0, Kolkata-25, Diamond Harbour-50, Malda-200
- ❖ **Visibility recorded (at 0830 hours IST of today) (≤200 metres):** **Punjab:** Patiala-25, Amritsar and Ludhiana- 50 each; **Haryana-Chandigarh:** Ambala-25, Chandigarh, Kernal, Hissar and Bhiwani-50 each; **Delhi:** Ridge, Palam and Ayanagar-50 each; **Rajasthan:** Pilani-25, Ganganagar and Churu-50 each, Alwar-200; **Uttar Pradesh:** Aligarh, Bareilly and Hardoi-25 each, Shahjahanpur, Kanpur and Jhansi- 50 each, Gorakhpur and Meerut-200 each; **Madhya Pradesh:** Datia-25, Gwalior and Khajuraho-50 each; **Bihar:** Purnea-25, Patna and Bhagalpur-200 each; **West Bengal:** Bankura, Midnapore, Kolkata(Dumdum), Haldia and Diamond Harbour-200 each; **Andhra Pradesh:** Vijayawada-50, Ongole and Bapatia-200 each

Impact expected due to dense to very dense fog in the night/morning hours over Punjab, Haryana, Chandigarh, Delhi, Uttar Pradesh and Bihar during 15th-17th 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 and Uttar Pradesh on 15th & 16th January, 2024.

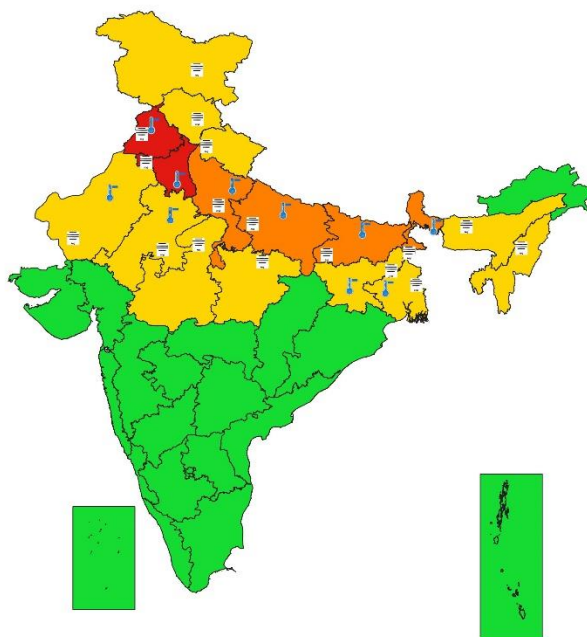
- ❖ An increased likelihood of various illnesses like flu, running/ stuffy nose or nosebleed, which usually set in or get aggravated due to prolonged exposure to cold.
- ❖ Do not ignore shivering. It is the first sign that the body is losing heat. Get Indoors.
- ❖ Frostbite can occur due to prolonged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



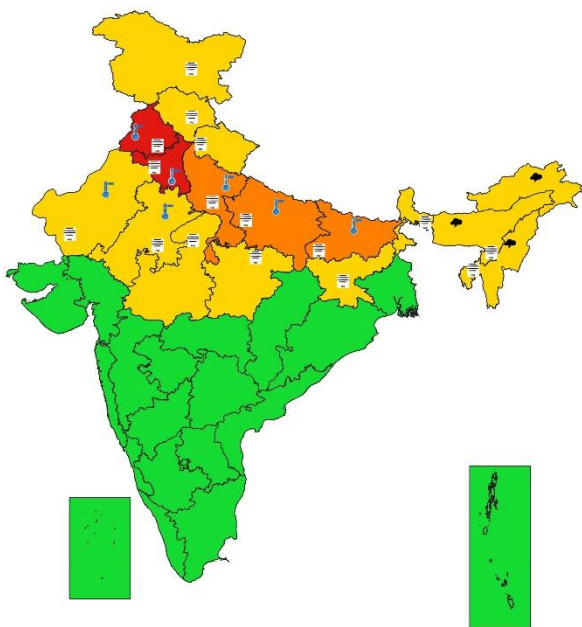
SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
15-01-2024



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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) |
| Hailstorm | Fog | WARNING (TAKE ACTION) |



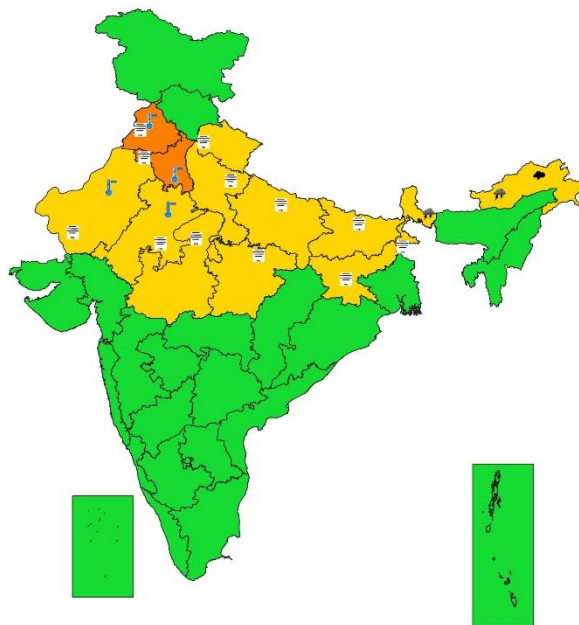
SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
16-01-2024



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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) |
| Hailstorm | Fog | WARNING (TAKE ACTION) |



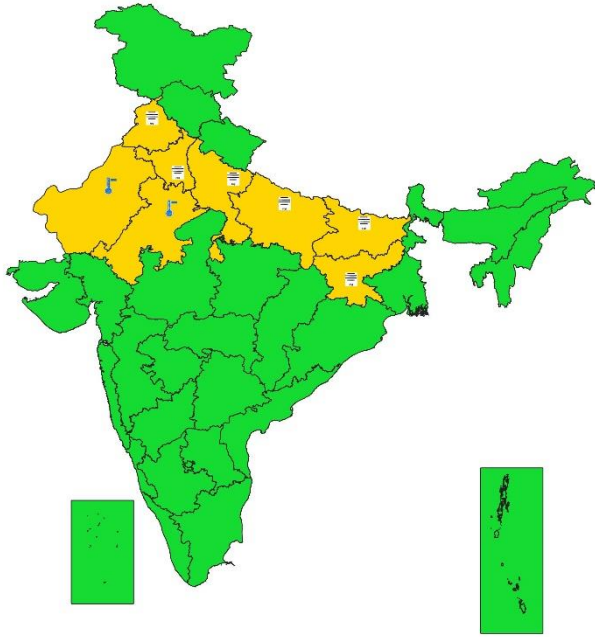
SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
17-01-2024



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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) |
| Hailstorm | Fog | WARNING (TAKE ACTION) |



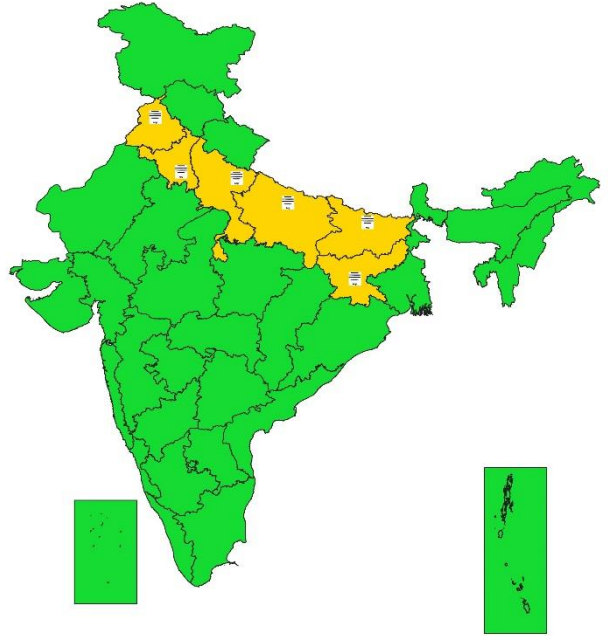
SUBDIVISIONWISE WEATHER WARNING FOR DAY 4
18-01-2024



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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) |
| Hailstorm | Fog | WARNING (TAKE ACTION) |



SUBDIVISIONWISE WEATHER WARNING FOR DAY-5
19-01-2024



- | | | |
|----------------------------|----------------------|--------------------------|
| 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:

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