



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 22nd January, 2024

Time of Issue: 1400 hours IST

Subject:

- i. Dense to very dense fog conditions likely to continue to prevail over North India during next 4-5 days.
- ii. Cold day to severe cold day conditions likely to continue to prevail over North India during next 3 days and decrease in intensity thereafter.
- iii. Light rainfall/snowfall is likely over Western Himalayan Region from 25th January, 2024.

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 many parts of Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, North Rajasthan, North Madhya Pradesh and Bihar. These are below normal by 2- 4°C in some parts of Delhi, Uttar Pradesh, North Rajasthan, North Madhya Pradesh and Bihar and normal over Punjab and Haryana. **Today, the lowest minimum temperature of 2.8°C reported at Datia (West Madhya Pradesh).**
- ❖ Today, **Cold wave conditions** prevailed in isolated pockets of Himachal Pradesh, Rajasthan, Sub-Himalayan West Bengal & Sikkim, Punjab and Haryana.
- ❖ **Fog conditions observed** (at 0530 & 0830 hours IST of today): **Dense to very Dense Fog** over at a few parts of West Uttar Pradesh: in isolated pockets of East Uttar Pradesh, Rajasthan; North Madhya Pradesh; **Dense Fog** in isolated pockets of Uttarakhand and Punjab.
- ❖ Yesterday, **Cold day to severe cold day conditions** prevailed in many parts of Punjab, Haryana-Chandigarh, Uttar Pradesh, Bihar; in isolated pockets of Uttarakhand and Rajasthan. **Cold day conditions** also observed in isolated pockets of Delhi, East Madhya Pradesh, Himachal Pradesh and Sub-Himalayan West Bengal & Sikkim.

Weather Systems and Forecast & Warnings during next 5 days:

- ❖ Jet Stream Winds of the order of 130-150 knots at 12.6 km above mean sea level are prevailing over the plains of North India. It is leading to subsidence of cold air and enhancing cold wave/cold day conditions over North India. Similar intensity of Jet Stream is likely to continue during next 3-4 days.
- ❖ Under the influence of fresh Western Disturbance, light isolated rainfall/snowfall likely over Western Himalayan Region from 25th to 28th January 2024.

- ❖ Due to trough in easterlies from South Interior Karnataka to south Chhattisgarh and anti-cyclonic circulation over Northwest Bay of Bengal in the lower levels, light rainfall at isolated places likely over Vidarbha, Telangana, Coastal Andhra Pradesh Odisha and West Bengal during next 4-5 days and over.

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 some parts of Punjab, Haryana, Chandigarh and Uttar Pradesh during 22nd night to 27th morning. **Dense Fog** conditions very likely in isolated places over Delhi during 22nd night & 27th January morning.
- ❖ **Dense to very dense fog** conditions very likely to prevail for a few hours in night/morning in isolated pockets of Rajasthan during 22nd night to 26th January morning and in isolated pockets of north Madhya Pradesh during 22nd night to 24th morning.
- ❖ **Dense fog** conditions very likely to prevail in morning hours in isolated pockets of Himachal Pradesh, Uttarakhand, Sub-Himalayan West Bengal, Odisha, Assam & Meghalaya and Mizoram & Tripura during 22nd night to 24th January morning; Bihar during 22nd night to 27th January morning and Gangetic West Bengal during 22nd night to 23rd morning.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in some parts of Punjab, Haryana during 22nd-23rd and **cold day** conditions in isolated pockets on 24th January, 2024.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in many parts of Uttar Pradesh during 22nd-26th January.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in isolated pockets of north Rajasthan during 22nd to 24th and **cold day** conditions in isolated pockets of north Madhya Pradesh on 22nd January.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in isolated pockets of Bihar on 22nd & 23rd January.
- ❖ **Cold Day** conditions very likely in isolated pockets of over West Bengal & Sikkim on 22nd January.

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

- ❖ Rise in minimum temperatures by 2-3°C during next 5 days over northwest India. No significant change in minimum temperatures very likely over rest parts of the country during next 5 days.
- ❖ **Cold wave** conditions very likely in isolated pockets of Punjab, Haryana & Chandigarh and north Rajasthan during 22nd-23rd January.
- ❖ **Ground frost conditions** very likely at isolated places over Uttarakhand on 22nd & 23rd 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 12-18°C over most parts of Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh & Bihar; which were below normal by 7-10°C over many parts over these regions; below normal by 4-6°C over many parts of north Rajasthan, north Odisha, Gangetic West Bengal and north Madhya Pradesh.
- ❖ **Visibility recorded** (at 0530 hours IST of today) (**≤200 metres**): **East Uttar Pradesh:** Varanasi-25, Prayagraj-50; **Bihar:** Gaya-25, Patna-200; **Punjab:** Patiala-50; **Tripura:** Kailashahar-50; **Haryana:** Ambala-200; **West Rajasthan:** Churu-200; **West Bengal:** Bankura-200;
- ❖ **Visibility recorded** (at 0830 hours IST of today) (**≤200 metres**): **Rajasthan:** Pilani-25, Bikaner, Churu and Alwar-50 each, Ganganagar-200; **Uttar Pradesh:** Varanasi-25, Jhansi-50; **Assam:** Tezpur-25, Dhubri-200; **Madhya Pradesh:** Tikamgarh & Khajuraho-50 each, Datia-200; **Bihar:** Gaya-50; **Punjab:** Ludhiana & Patiala-200; **Haryana:** Ambala-200; Chandigarh-200; **Uttarakhand:** Dehradun-200.

Impact expected due to dense to very dense fog in the night/morning hours over Punjab, Haryana-Chandigarh and Uttar Pradesh during 22nd to 26th 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 over Punjab, Haryana-Chandigarh, West Rajasthan and Bihar during 22nd-23th; over Uttar Pradesh on 22nd to 24th January, 2024.

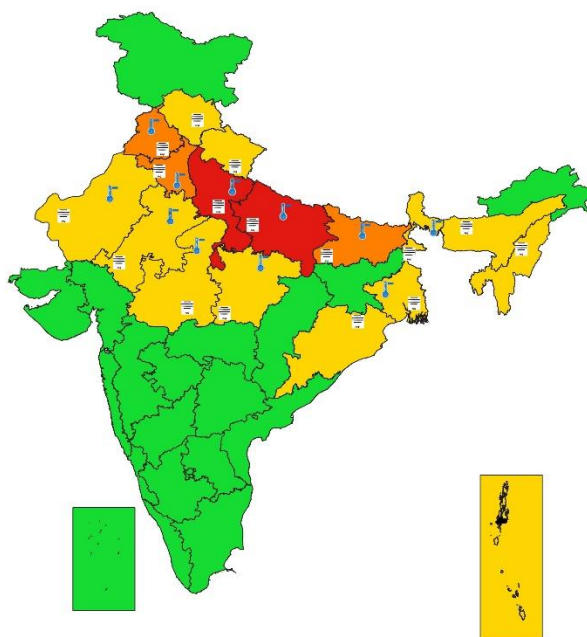
- ❖ An increased likelihood of various illnesses like flu, running/ stuffy nose or nosebleed, which usually set in or get aggravated due to prolonged exposure to cold.
- ❖ Do not ignore shivering. It is the first sign that the body is losing heat. Get Indoors.
- ❖ Frostbite can occur due to prolonged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



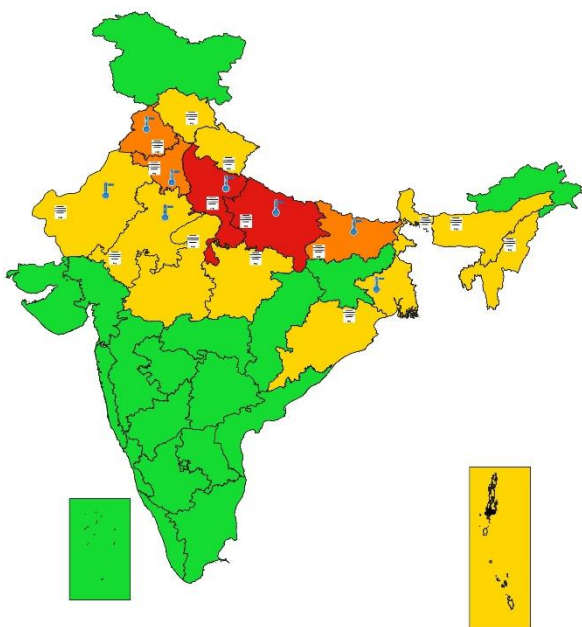
SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
22-01-2024



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



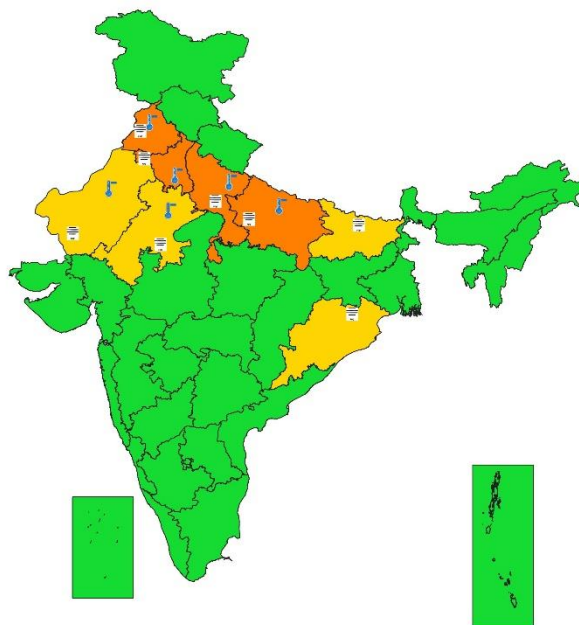
SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
23-01-2024



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



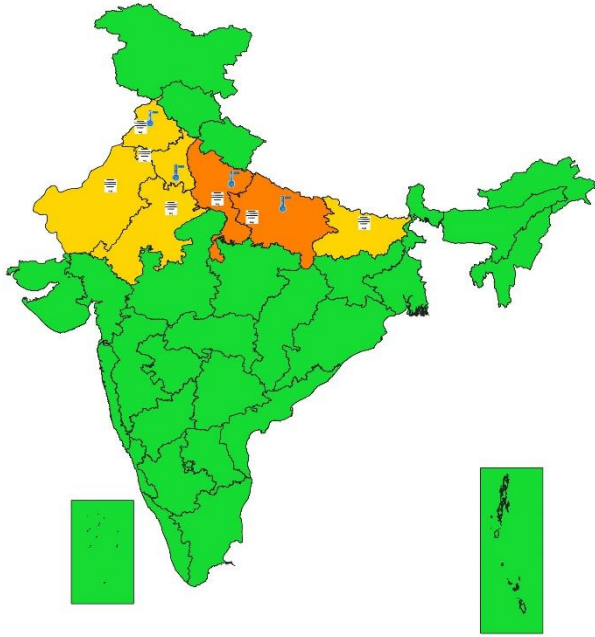
SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
24-01-2024



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



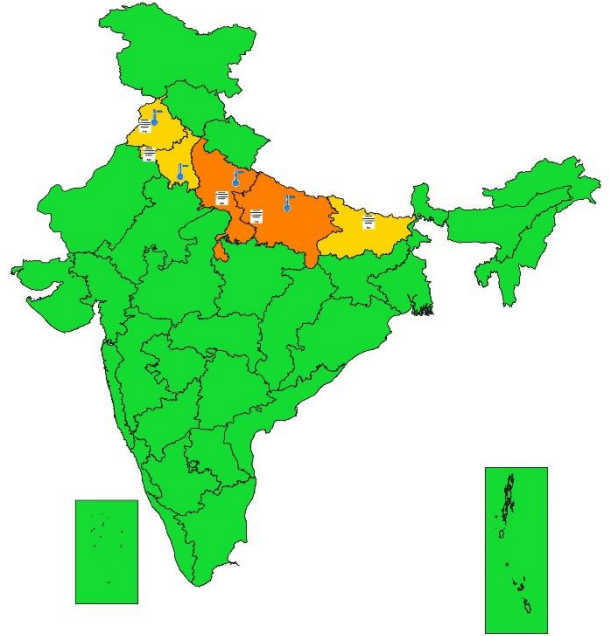
SUBDIVISIONWISE WEATHER WARNING FOR DAY 4
25-01-2024



- | | | |
|----------------------------|----------------------|--------------------------|
| 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
26-01-2024



- | | | |
|----------------------------|----------------------|--------------------------|
| 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		Flash Flood Risk	
Terms	Probability of Occurrence (%)		
Unlikely	< 25		High Risk (Take Action)
Likely	25 - 50		Moderate Risk (Be Prepared)
Very Likely	50 - 75		Low Risk (Be Updated)
Most Likely	> 75		

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