



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 05th January, 2024

Time of Issue: 1315 hours IST

- Subject: 1) Cold Day to Severe Cold Day conditions likely to continue over some parts of 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) Isolated light rainfall spell likely over Northwest and Central India during 08th-10th January.
4) Light/moderate rainfall spell likely over south Peninsular India with isolated heavy rainfall over Tamil Nadu & Kerala during next 3-4 days.

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

- **Minimum temperatures:** The Minimum temperatures are in the range of 6-10°C over most parts of Punjab and Haryana-Chandigarh-Delhi, West Rajasthan and some parts of East Rajasthan, West Uttar Pradesh. These are **above normal by 3-5°C** over many parts of Madhya Pradesh, Uttar Pradesh, Bihar, Jharkhand, Maharashtra and some parts of Haryana, Delhi, Chhattisgarh, Odisha. These are **below normal by 2-4°C** in some parts of West Rajasthan. **Today, the lowest minimum temperature of 2.8°C reported at Bikaner (West Rajasthan).**
- **Fog: Very dense fog occurred (visibility < 50 m)** for a few hours in many parts of Punjab; in some parts over West Uttar Pradesh, East Rajasthan and in isolated pockets over Haryana-Chandigarh-Delhi in night/morning hours. **Dense fog (visibility 50-200 m)** for a few hours in isolated places occurred over Himachal Pradesh, Uttarakhand, West Rajasthan, northwest Madhya Pradesh, Bihar and Tripura Odisha in the morning hours.
- **Visibility recorded (at 0530 hours IST of today)** (in metres): **Haryana:** Ambala- 25; **West Uttar Pradesh:** Bareilly-25; **East Madhya Pradesh:** Sagar-25; **Punjab:** Amritsar-50, Patiala-200; **Delhi:** Palam-50; **West Rajasthan:** Churu-50, Bikaner-200; **East Rajasthan:** Jaipur, Ajmer, Kota, Udaipur-50 each; **West Madhya Pradesh:** Bagraich, Gorakhpur- 50 each; **Bihar:** Gaya, Purnea-50 each.
- **Visibility Recorded (at 0830 hours IST of today)** (metre): **Jammu & Kashmir:** Jammu- 25; **Punjab:** Patiala-25; Amritsar-50; **Haryana-Chandigarh:** Chandigarh & Ambala - 25 each; Karnal-50; **Delhi:** Ayanagar-50; **Uttarakhand:** Pant Nagar and Nainital - 50 each; **Uttar Pradesh:** Gorakhpur- 0; Jhansi and Bagraich-25 each; Bareilly, Lucknow and Varanasi-50 each; **Rajasthan:** Bikaner-25; Kota, Jaipur and Ajmer-50 each; **Bihar:** Purnea-25; **Madhya Pradesh:** Sagar-50; **Jharkhand:** Dalton Ganj - 200; **Tripura:** Agartala-50.
- **Visibility recorded (at 0830 hours IST of today)** (metre): **Jammu Division:** Jammu-25; **East Uttar Pradesh:** Gorakhpur-25, Bagraich-50; **East Rajasthan:** Ajmer-25, Jaipur & Udaipur-50 each; **Uttarakhand:** Pantnagar-50; **Punjab:** Ludhiana-50; **Haryana-Chandigarh-Delhi:** Ambala, Karnal & Ayanagar-50 each; **West Uttar Pradesh:** Bareilly & Jhansi-50 each; **West Rajasthan:** Churu-50; **Madhya Pradesh:** Bhopal & Rewa-50 each; **Bihar:** Gaya-50; **Chhattisgarh:** Jagdalpur-50.
- Yesterday, **Cold Day to Severe Cold Day conditions** observed in many places over East Rajasthan; in some parts over Punjab, Haryana & Delhi, West Rajasthan and West Madhya Pradesh and in isolated pockets over East Madhya Pradesh.
- **Heavy to very heavy rainfall** observed at isolated places over Kerala and **heavy rainfall** at isolated places over Tamil Nadu and Lakshadweep.

Weather Systems and Forecast & Warnings during next 5 days:

Weather Systems:

- Yesterday's cyclonic circulation over Southeast Arabian Sea now lies over Lakshadweep area and a trough runs from this cyclonic circulation to north Konkan in lower tropospheric levels.
- Yesterday's Western Disturbance as a cyclonic circulation over north Haryana persists with the induced cyclonic circulation over northeast Rajasthan & neighbourhood in lower tropospheric levels.
- The trough from north Konkan now runs from south Gujarat to cyclonic circulation over northeast Rajasthan & neighbourhood in lower tropospheric levels.
- A trough runs from south Sri Lanka to Southwest & adjoining Westcentral Bay of Bengal in lower tropospheric levels.
- Another fresh Western Disturbance is likely to affect Northwest India from 08th January, 2024.

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

- **Dense to very dense fog** conditions very likely to prevail in night/morning in some parts/isolated pockets over Punjab, Haryana-Chandigarh, East Rajasthan during 05th-07th January and **Dense fog** in isolated pockets for subsequent 24 hours.
- **Dense to very dense fog** conditions very likely to prevail for a few hours in morning in isolated pockets over West Uttar Pradesh and West Rajasthan on 06th January and **Dense fog** in isolated pockets on 07th & 08th January.
- **Dense fog** conditions very likely to prevail for a few hours in morning in isolated pockets over East Uttar Pradesh during 06th-09th January; over West Madhya Pradesh, Bihar, Jharkhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 06th-08th January; over Himachal Pradesh, Uttarakhand and Odisha on 06th & 07th January.
- **Cold Day to Severe Cold Day** conditions very likely to continue in some parts over Punjab, Haryana-Chandigarh-Delhi on 05th & 06th and **Cold Day** conditions on 07th January. **Cold Day to Severe Cold Day** conditions very likely to continue in many parts over East Rajasthan on 05th and in isolated pockets on 06th and in some parts of West Rajasthan on 05th & in isolated pockets on 06th January.

Temperatures Forecast and cold Wave warning:

- No significant change in minimum temperatures likely over north India during next 5 days.
- **Cold wave** conditions very likely in isolated pockets over Rajasthan on 06th January.

Rainfall Forecast:

- Light to moderate rainfall at some/many places very likely over Tamil Nadu, Kerala and Lakshadweep during next 4-5 days.
- Isolated **heavy rainfall** with thunderstorm & lightning very likely over Tamil Nadu during 05th-08th; Kerala during 05th-07th; over Lakshadweep on 05th and over south Coastal Andhra Pradesh on 07th January. Isolated **very heavy rainfall** also very likely over Kerala on 05th and over Tamil Nadu on 07th January.
- Light to moderate rainfall very likely at some places over Madhya Pradesh during next 5 days; light rainfall at isolated places over Vidarbha, Chhattisgarh, Odisha, Bihar, Jharkhand, West Bengal & Sikkim on 05th & 06th January.
- Light rainfall/snowfall at isolated places over Western Himalayan Region and light isolated rainfall over plains of Northwest India on 08th & 09th January.

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

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/Severe Cold day conditions over Punjab, Haryana & Chandigarh, Rajasthan during next 2 days.

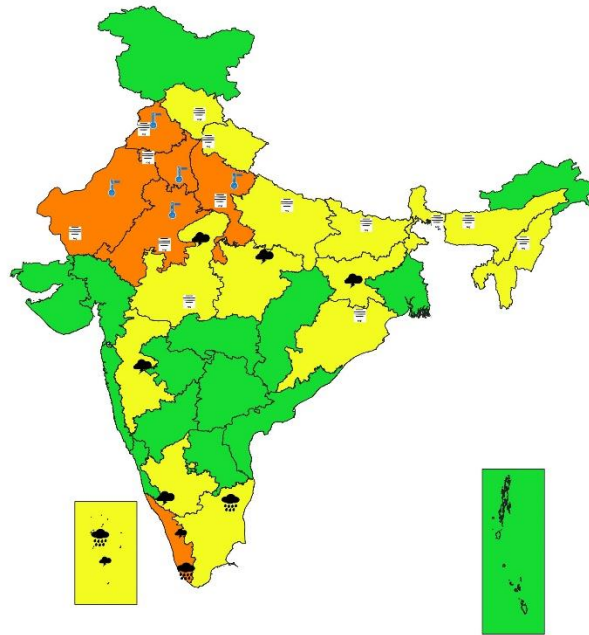
- An increased likelihood of various illnesses like flu, running/ stuffy nose or nosebleed, which usually set in or get aggravated due to prolonged exposure to cold.
- Do not ignore shivering. It is the first sign that the body is losing heat. Get Indoors.
- Frostbite can occur due to prolonged exposure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



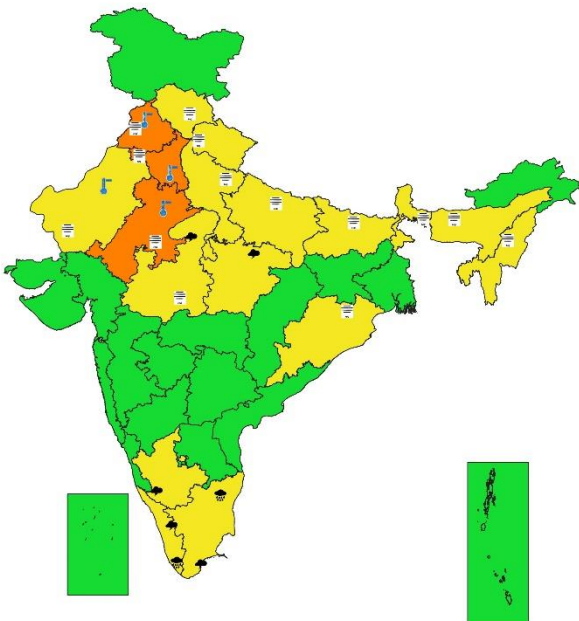
SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
05-01-2024



- | | | |
|---------------------------|----------------------|-----------------------|
| 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 | |
| Hailstorm | Fog | |
| | Subdivision color | |



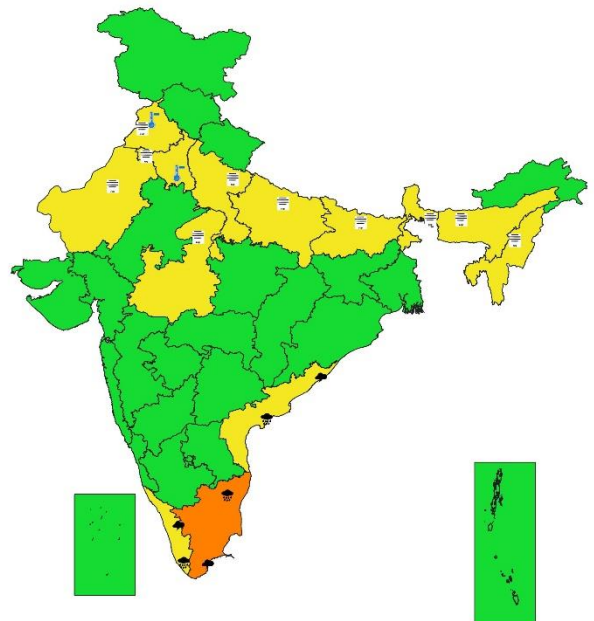
SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
06-01-2024



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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) |



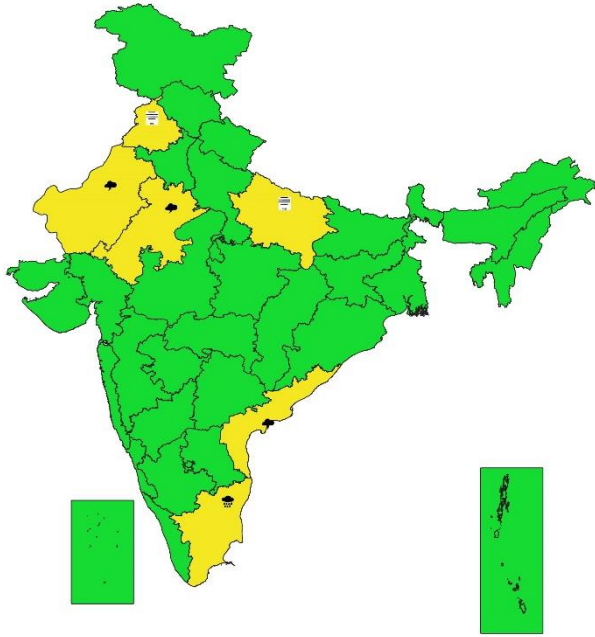
SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
07-01-2024



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



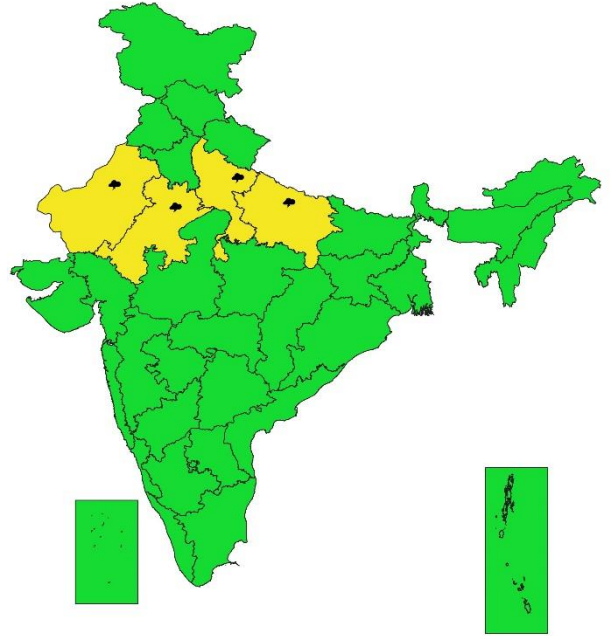
SUBDIVISIONWISE WEATHER WARNING FOR DAY 4
08-01-2024



- | | | |
|----------------------------|----------------------|--------------------------|
| 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
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) |

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