Government of India
Ministry of Earth Sciences
India Meteorological Department

Press Release
Date: 28th January, 2024
Time of Issue: 1245 hours IST

Subject: (i) Wet spell over Western Himalayan Region from 28th January to 03rd February with possibility of isolated heavy falls on 30th & 31st January, 2024.
(ii) 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 6-9°C over many parts of plains of Haryana, Chandigarh, Delhi, Uttar Pradesh, Bihar, Punjab and Madhya Pradesh; in the range of 8-10°C over many parts of Rajasthan. These are below normal by 3-6°C over many parts of plains of Bihar and East Uttar Pradesh; in the range of 1-3°C over Haryana-Chandigarh, West Uttar Pradesh, East Madhya Pradesh, Gangetic West Bengal and north Chhattisgarh. **Today, the lowest minimum temperature of 5.2 °C reported at Gorakhpur (East Uttar Pradesh).**
- **Fog** conditions observed (at 0530 & 0830 hours IST of today): **Very Dense fog** in isolated pockets of Punjab, Haryana, East Uttar Pradesh and Bihar; **Dense fog** in isolated pockets of West Uttar Pradesh and Sub-Himalayan West Bengal & Sikkim; **Moderate fog** in isolated pockets of plains of Uttarakhand and shallow fog in isolated pockets of Delhi, northwest Rajasthan, Assam, Tripura and Mizoram.
- Today, **Cold wave conditions** observed in isolated pockets of Sub-Himalayan West Bengal.
- Yesterday, **Cold day to severe cold day** conditions prevailed over isolated pockets of Uttarakhand, Uttar Pradesh, Bihar.

Weather Systems and Forecast & Warnings during next 5 days:

- Two Western Disturbances in succession are likely to affect northwest India from 30th January and another from 03rd February, 2024.Under the influence of these systems:

- Light/moderate scattered to fairly widespread rainfall/snowfall very likely over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad and Himachal Pradesh during next 7 days (28 Jan to 03rd Feb)
- Isolated **heavy rainfall/snowfall** also likely over Kashmir on 30th & 31st Jan; over Himachal Pradesh on 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 some/many parts of Uttar Pradesh during 28th Jan to 30th Jan and in isolated pockets of Rajasthan on 29th & 30th Jan,2024.
- **Dense to very dense fog** conditions very likely to prevail for a few hours in night/morning in isolated pockets of Punjab, Haryana, Chandigarh on 28th &29th Jan,2024.

- **Dense to very dense fog** conditions very likely to prevail for a few hours in night/morning over some parts of Bihar on 28th Jan and **dense fog** in isolated pockets over the region thereafter for subsequent 2 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, Nagaland, Manipur, Mizoram & Tripura on 28th Jan & 29th Jan and over Odisha, Assam & Meghalaya on 28th Jan,2024.
- **Cold Day to Severe Cold Day** conditions very likely to continue in isolated pockets over Bihar on 28th and cold day conditions thereafter for subsequent 2 days.
- **Cold Day to Severe Cold Day** conditions very likely to continue in some parts of Uttar Pradesh on 28th and in isolated pockets on 29th Jan. 2024.
- **Cold Day** conditions very likely to continue in isolated pockets over Uttarakhand on 28th Jan & 29th Jan 2024.

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

- Rise by 2-4°C in minimum temperatures very likely over many parts of Northwest India during next 4-5 days.
- No significant change in minimum temperatures very likely over many parts of East India during next 24 hours and rise by 3-5°C thereafter for subsequent 3 days.
- No significant change in minimum temperatures very likely over many parts of West India during next 24 hours and rise by 2-4°C thereafter for subsequent 3 days.
- **Cold wave to Severe Cold wave** conditions very likely to continue in isolated pockets of Sub-Himalayan West Bengal on 28th Jan & 29th Jan,2024.

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

Annexure I

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

- Yesterday, **Maximum temperatures** were in the range of 18-22°C over many parts of Uttar Pradesh, Haryana, Chandigarh, Delhi, Punjab. They were below normal by 6-9°C over many parts of Uttar Pradesh and Bihar and below normal by 2-5°C over some parts of Odisha, West Bengal.
- **Visibility recorded** (at 0530 hours IST of today) (in metres): **Uttar Pradesh**: Varanasi (Babatpur)-25; Bahraich, Lucknow, Sultanpur and Gorakhpur-50 each, Jhansi-200, Bareilly-500, Varanasi-500; **Bihar:** Purnea-25, Patna-200 and Bhagalpur-500; **Tripura:** Kailashahar-50.
- **Visibility recorded** (at 0830 hours IST of today) (≤ 500 metres): **Punjab:** Patiala-25, Ludhiana-200; **northwest Rajasthan:** Ganganagar-500; **Haryana:** Ambala-25, Hissar-500; **West Uttar Pradesh:** Meerut-50, Bareilly-500; **East Uttar Pradesh:** Bahraich, Gorakhpur & Varanasi-25 each, Lucknow, Fursatganj & Sultanpur-50; **Uttarakhand**: Pantnagar-200; **Bihar**: Bhagalpur & Muzaffarpur-25 each, Purnea-50, Patna, Chapra & Darbhanga-500 each; **Sub-Himalayan West Bengal**: Cooch Behar-50; **Assam**: Dhubri-500 **Tripura**: Kailashahar-500; **Mizoram**: Lengpui-500.

Impact expected due to dense to very dense fog in the night/morning hours over Uttar Pradesh, during night/morning hours of 28th Jan & 29th Jan and over Bihar on 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.

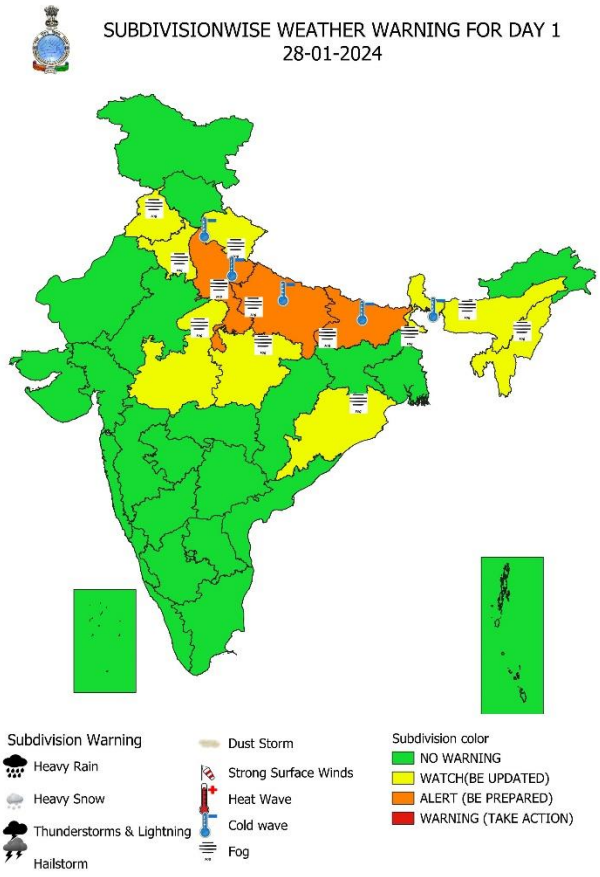
Impact expected due to Cold Day/Severe Cold Day conditions over Uttar Pradesh during 28th- 29th Jan and over Bihar on 28th Jan, 2024.

- 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.

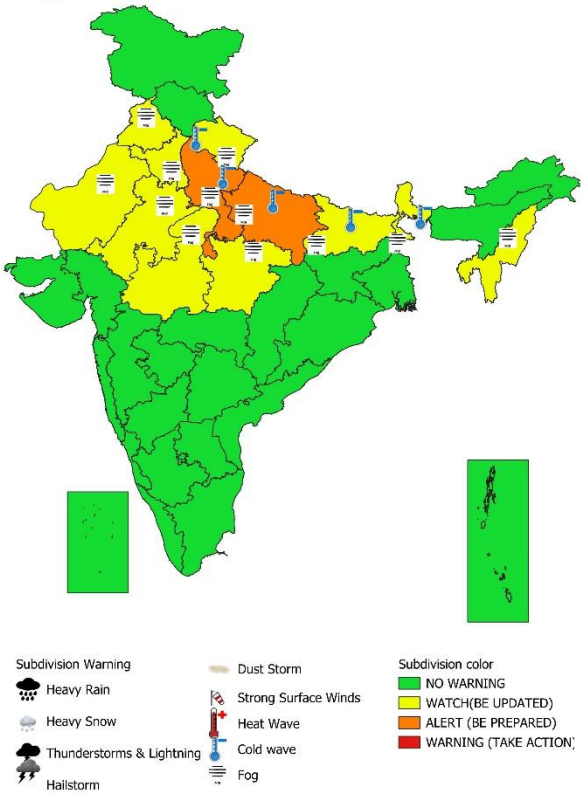
Action suggested:

- 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.

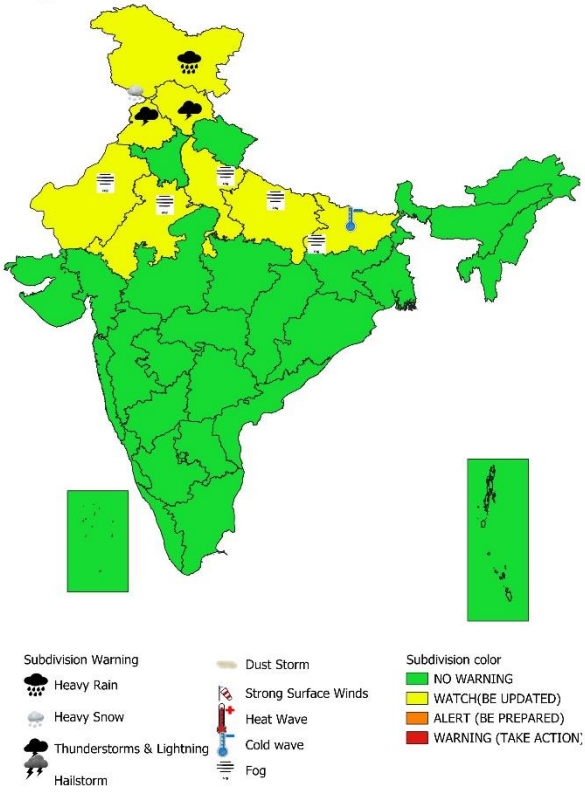
Annexure II


SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
28-01-2024
Subdivision Warning
Heavy Rain
Heavy Snow
Thunderstorms & Lightning
Hailstorm
Dust Storm
Strong Surface Winds
Heat Wave
Cold wave
Fog
Subdivision color
NO WARNING
WATCH(BE UPDATED)
ALERT (BE PREPARED)
WARNING (TAKE ACTION)

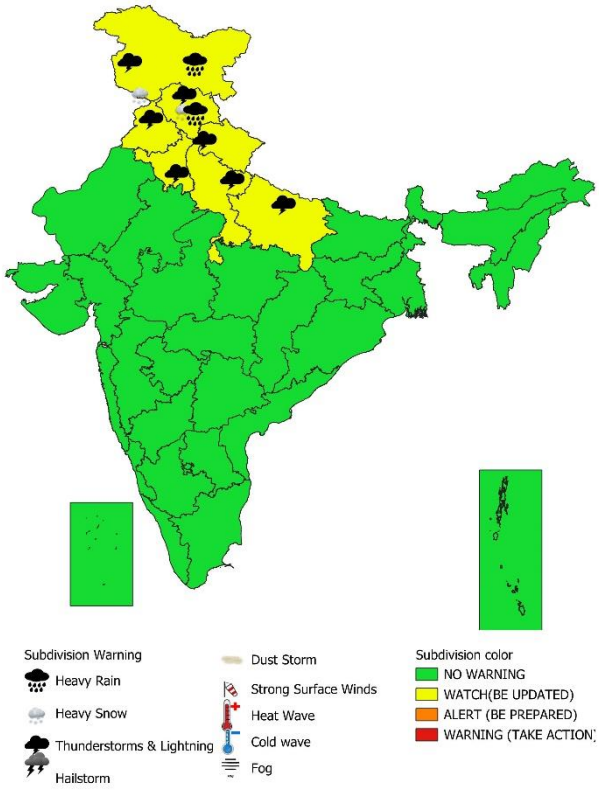
SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
29-01-2024



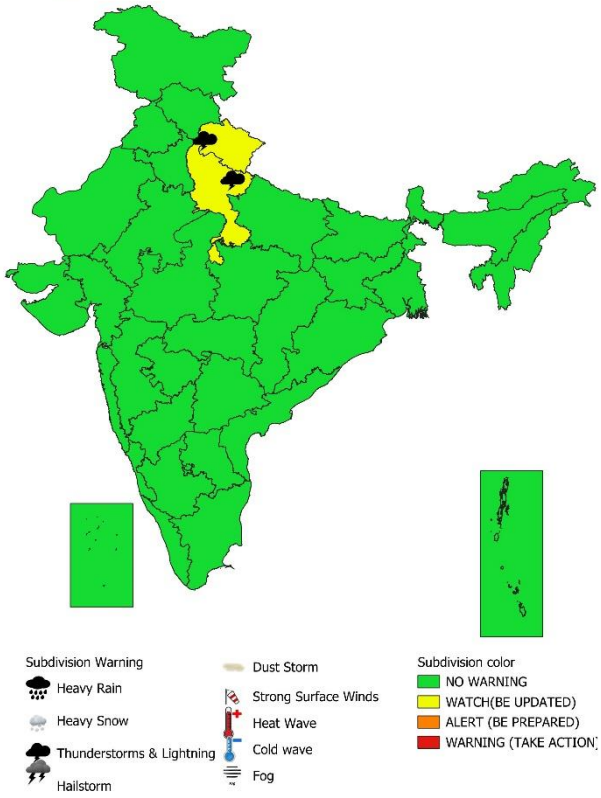
SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
30-01-2024



SUBDIVISIONWISE WEATHER WARNING FOR DAY 4
31-01-2024



SUBDIVISIONWISE WEATHER WARNING FOR DAY 5
01-02-2024



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 Widespred (FWS/ Many Places)	1-25	Isolated (ISOL)

Subdivision Warning		Subdivision color
Heavy Rain	Dust Storm	NO WARNING
Heavy Snow	Strong Surface Winds	WATCH(BE UPDATED)
Thunderstorms & Lightning	Heat Wave	ALERT (BE PREPARED)
Hailstorm	Cold wave	WARNING (TAKE ACTION)
	Fog	

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 ≤10°C for plains and ≤0°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 ≤ -6.5 °C

(b) Based on actual Minimum Temperature (for Plains only)

- **Cold Wave :** When Minimum Temperature is ≤ 4.0 °C
- **Severe Cold Wave:** When Minimum Temperature is ≤ 2.0 °C

(c) For Coastal Stations

When Minimum Temperature departure is ≤-4.5 °C & actual Minimum Temperature is ≤ 15 °C

Cold Day

When minimum temperature of a station ≤10°C for plains and ≤0°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 ≤ -6.5 °C

Fog

Phenomenon of small droplets suspended in air and the horizontal visibility < 1km

- **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