Government of India
Ministry of Earth Sciences
India Meteorological Department

Press Release
Date: 29th January, 2024
Time of Issue: 1215 hours IST

Subject: (i) Wet spell over Western Himalayan Region from 29th January and over adjoining plains from 30th January to 04th February, 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 24 hours 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 7-10°C over many parts of Punjab, Haryana, Chandigarh, Delhi, Uttar Pradesh, Bihar, Jharkhand, north Rajasthan, northeast Madhya Pradesh and Sub-Himalayan West Bengal & Sikkim. These are below normal by 2-4°C over some parts of Bihar and in isolated pockets of East Uttar Pradesh, Jharkhand, Gangetic West Bengal; in the range of 1-3°C over Delhi and East Madhya Pradesh. **Today, the lowest minimum temperature of 5.0 °C reported at Sabaur (Bihar).**
- **Fog** conditions observed (at 0530 & 0830 hours IST of today): **Dense to very Dense fog** in some parts of Punjab, Uttar Pradesh and Bihar; in isolated pockets of north Rajasthan; **Dense fog** in some parts of Haryana-Chandigarh, isolated pockets of northwest Madhya Pradesh.
- Yesterday, **Cold day to severe cold day** conditions prevailed over some parts of Uttar Pradesh, Bihar and in isolated pockets of Uttarakhand, Punjab and Haryana.

Weather Systems and Forecast & Warnings during next 5 days:

- **Three Western Disturbances in quick succession are likely to affect northwest India during next one week**. Under the influence of these systems:

- Light/moderate fairly widespread to widespread rainfall/snowfall very likely over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh and Uttarakhand during next 7 days (29th Jan to 04th Feb)
- Isolated **heavy rainfall/snowfall** also likely over Kashmir on 30th & 31st January; over Himachal Pradesh on 31st January & 01st February, Uttarakhand on 31st January and Arunachal Pradesh on 02nd February, 2024.
- Light/moderate isolated to scattered rainfall very likely over Punjab, Chandigarh, Haryana, Uttar Pradesh during 31st January & 01st February, 2024.
- Isolated **hailstorm** likely over Sub-Himalayan West Bengal & Sikkim on 31st January & 02nd February, 2024.

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

- **Dense to very dense fog** conditions very likely to prevail in morning hours over some parts of Uttar Pradesh and Bihar of 30th January; in isolated pockets for subsequent 2-3 days.
- **Dense to very dense fog** conditions very likely to prevail in morning hours over some parts of Punjab, Haryana and Chandigarh on 30th January, 2024 and significant reduction thereafter.
- **Dense Fog** conditions in isolated pockets very likely to prevail for a few hours in morning over Uttarakhand & Odisha on 30th and over north Rajasthan on 30th & 31st January, 2024.
- **Cold Day to Severe Cold Day** conditions very likely to continue in some parts over Bihar on 29th & 30th and in isolated pockets for subsequent 2 days.
- **Cold Day to Severe Cold Day** conditions very likely to continue in some parts of Uttar Pradesh on 29th; in isolated pockets on 30th January and cold day in isolated pockets over East Uttar Pradesh on 31st January, 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 & Central India during next 4 days.
- Rise by 2-3°C in minimum temperatures very likely over many parts of East India during next 2 days and no significant change thereafter.
- **No Cold wave conditions** very likely over most parts of the country during next 5 days.

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

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

- Yesterday, **Maximum temperatures** were in the range of 11-13°C over many parts of north Haryana and West Uttar Pradesh. They were below normal by 6-9°C over many parts of Uttar Pradesh and Bihar and below normal by 3-5°C over some parts of Haryana and West Bengal.
- **Visibility recorded (at 0530 hours IST of today) (≤500 metres):** Punjab: Patiala-200, Amritser500; Delhi: Palam-200, Safdarjung-500; Rajasthan: Ganganagar, Jaipur-500 each; Uttar Pradesh: Bareilly, Bahraich, Gorakhpur -25 each, Varanasi, Lucknow, Sultanpur-50 each; Bihar: Purnea-25, Patna- 200, Gaya, Bhagalpur-500 each; Madhya Pradesh: Gwailor-200; Odisha: Jharsuguda, Puri-500 each; Andhra Pradesh: Jijaywada-500.
- **Visibility recorded (at 0830 hours IST of today) (≤500 metres):** Punjab: Amritsar & Ludhiana-25 each, Patiala & Bhatinda- 200 each; East Uttar Pradesh: Bahraich & Gorakhpur- 25 each, Lucknow, Fursatganj, Sultanpur & Varansi-50 each, Prayagraj-200; Bihar: Purnea- 25, Patna-50, Chapra-200, Bhagalpur & Darbhanga-500 each; Haryana: Ambala & Karnal-50, Hissar-200; Rajasthan: Ganganagar & Jaipur-50 each; West Uttar Pradesh: Meerut-50, Agra-400, Bareilly-500; Delhi: Ridge-200 and Palam, Safdarjung & Ayanagar-500 each; West Madhya Pradesh: Gwalior-500.

Impact expected due to dense to very dense fog in the morning hours over Bihar and Uttar Pradesh on 30th & 31st and Punjab, Haryana on 30th 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:

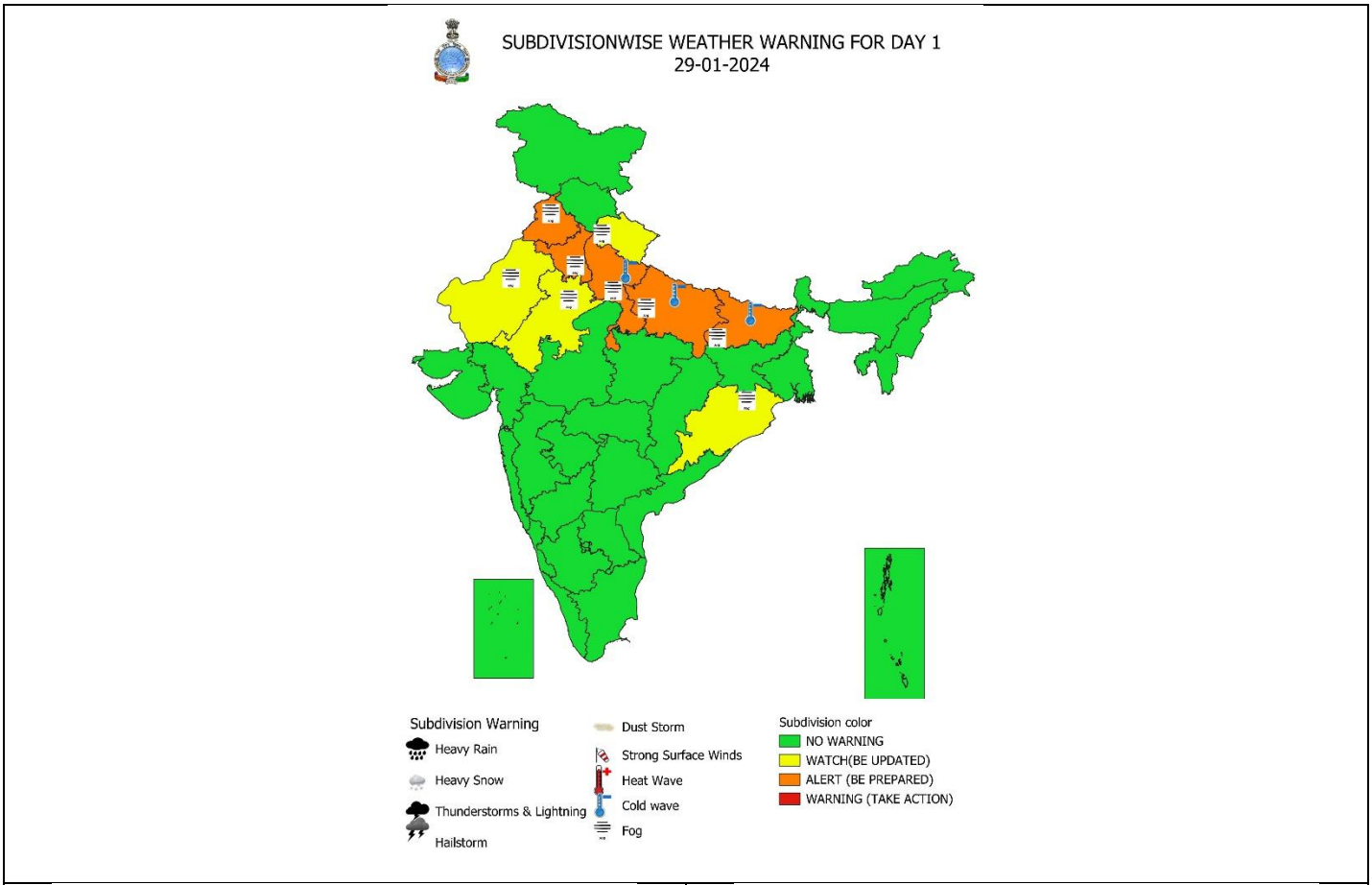
- **Transport and Aviation:**
  - Be careful while driving or outing through any transport.
  - Use fog lights during driving.
  - Be in touch with airlines, railways and state transport for schedule of your journey.
- **Power Sector:**
  - To keep ready Maintenance Team
  - Human Health: To avoid outing until unless emergency and to cover the face.

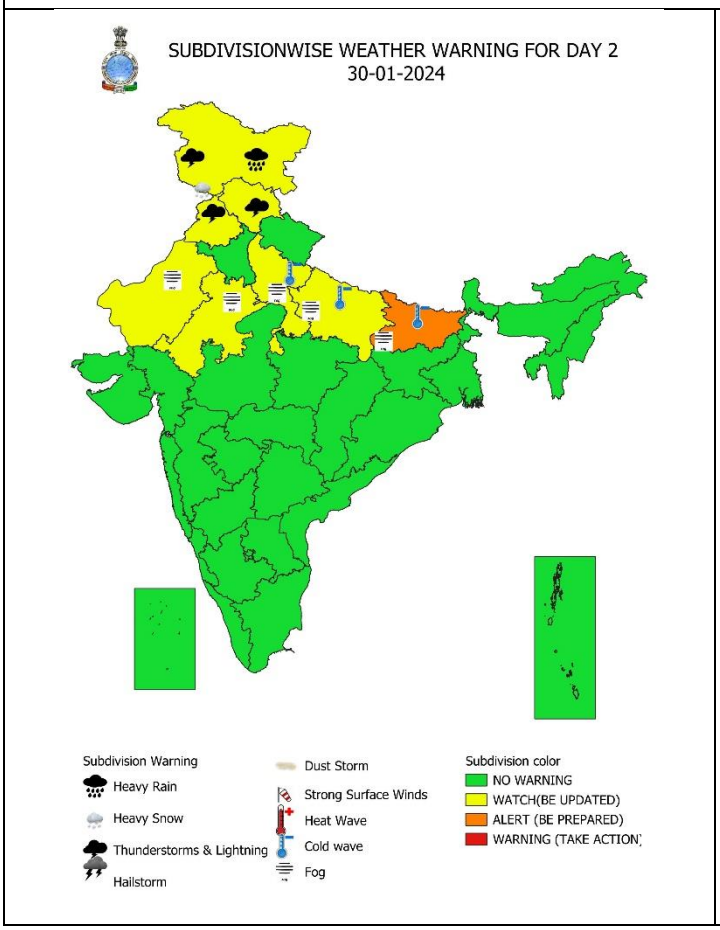
Impact expected due to Cold Day/Severe Cold Day conditions over Uttar Pradesh and Bihar on 29th & 30th January, 2024.

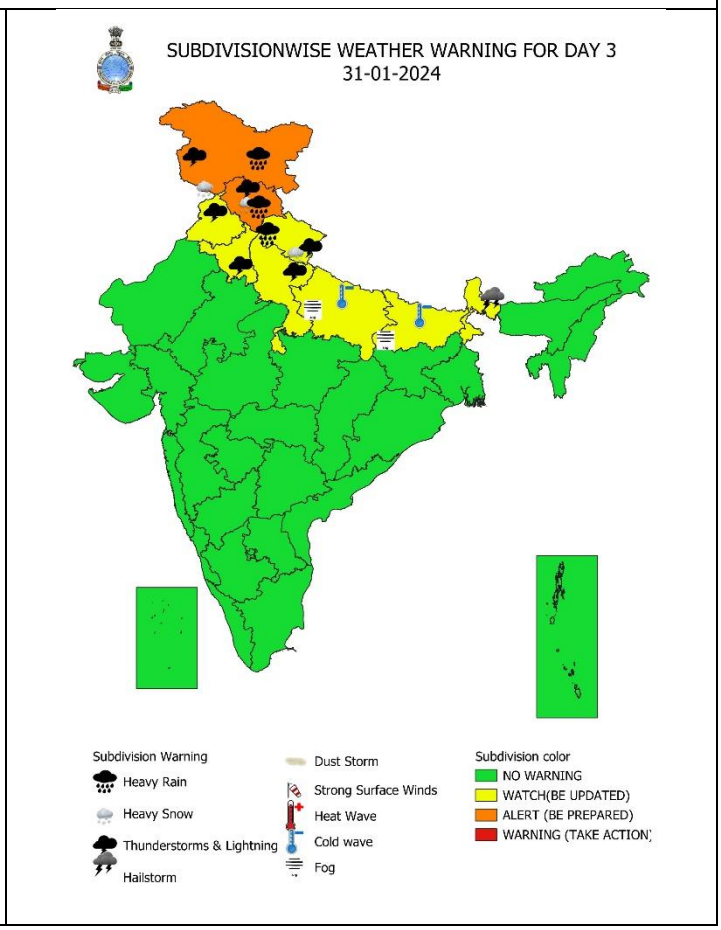
- ❖ An increased likelihood of various illnesses like flu, running/ stuffy nose or nosebleed, which usually set in or get aggravated due to prolonged exposure to cold.
- ❖ Do not ignore shivering. It is the first sign that the body is losing heat. Get Indoors.
- ❖ Frostbite can occur due to prolonged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

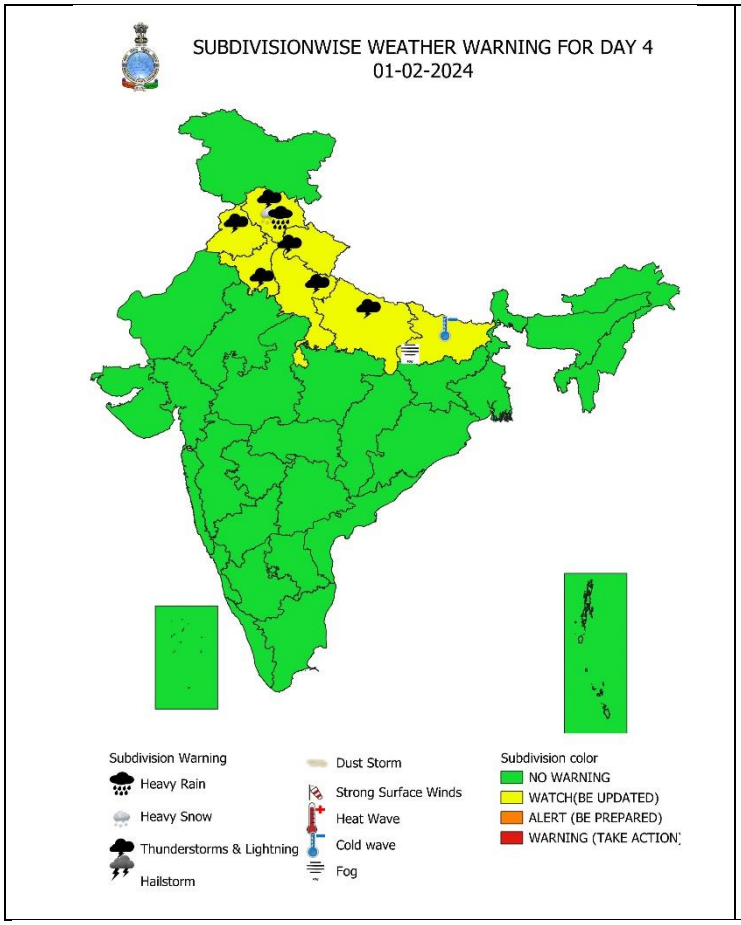
Action suggested:

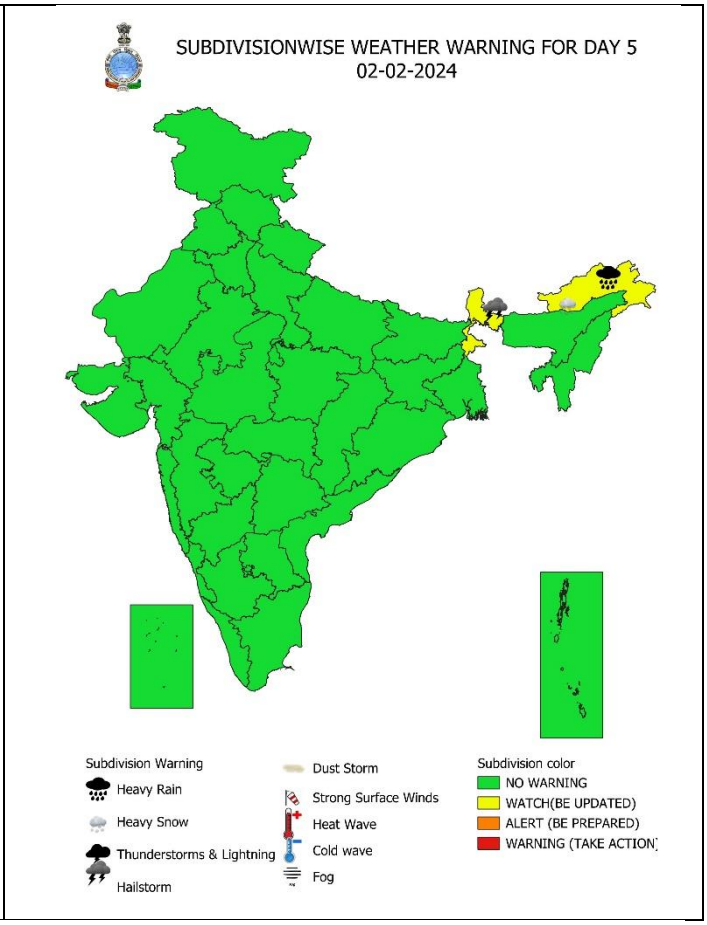
- ❖ Wear several layers of loose fitting, light weight; warm woollen clothing.
- ❖ Cover your head, neck, hands and toes adequately as majority of heat loss occurs through these body parts. Wear several layers of loose fitting, light weight; warm woollen clothing rather than one layer of heavy cloth.
- ❖ 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
29-01-2024
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
30-01-2024
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 3
31-01-2024
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 4
01-02-2024
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 5
02-02-2024
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)

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