



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Press Release

Date: 23<sup>rd</sup> January, 2024

Time of Issue: 1245 hours IST

**Subject:**

- i. **Dense to very dense fog conditions likely to continue to prevail over North India during next 5 days.**
- ii. **Cold day to severe cold day conditions likely to continue to prevail over North India during next 2 days and decrease in intensity thereafter.**
- iii. **Light rainfall/snowfall is likely over Western Himalayan Region from 25<sup>th</sup> to 28<sup>th</sup> 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 3-5°C over some parts of East Uttar Pradesh and northwest Uttar Pradesh, 6-10°C over many parts of Punjab, Haryana-Chandigarh-Delhi, south Uttar Pradesh, Rajasthan, West Madhya Pradesh, northeast Madhya Pradesh, Jharkhand, Sub-Himalayan West Bengal & Sikkim and Bihar. These are below normal by 3-5°C over parts of Bihar, Gangetic West Bengal, Uttar Pradesh, Jharkhand, Uttarakhand, north Haryana, Rajasthan and West Madhya Pradesh and normal over rest parts of north India. **Today, the lowest minimum temperature of 1.5°C reported at Meerut (West Uttar Pradesh).**
- ❖ **Fog conditions observed (at 0530 & 0830 hours IST of today):** **Dense to very Dense Fog** over many parts of Punjab, Uttar Pradesh; in some parts of Haryana-Chandigarh-Delhi, West Rajasthan; in isolated pockets of Uttarakhand, West Madhya Pradesh, East Rajasthan, Bihar; **Dense Fog** in isolated pockets of East Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim, Odisha, Assam & Meghalaya and Tripura.
- ❖ Yesterday, **Cold day to severe cold day conditions** prevailed in most parts of Punjab; in many parts of Haryana-Chandigarh, Uttar Pradesh; in isolated pockets of Uttarakhand, Bihar, north Madhya Pradesh and north Rajasthan. **Cold day conditions** observed in isolated pockets of Gangetic West Bengal.

**Weather Systems and Forecast & Warnings during next 5 days:**

- ❖ Under the influence of two feeble Western Disturbances, light isolated rainfall/snowfall likely over Western Himalayan Region from 25<sup>th</sup> to 28<sup>th</sup> January 2024.
- ❖ Due to anti-cyclonic circulation over Northwest Bay of Bengal and cyclonic circulation over Marathwada & neighbourhood in the lower levels, light rainfall at isolated to scattered places likely over Vidarbha, Chhattisgarh, Telangana, Coastal Andhra Pradesh, Odisha and West Bengal & Sikkim during next 2-3 days.
- ❖ Light to moderate rainfall at many places likely over Andaman & Nicobar Islands during 24<sup>th</sup>-28<sup>th</sup> January with possibility of **heavy rainfall** on 25<sup>th</sup> 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 some/many parts of Punjab, Haryana, Chandigarh and Uttar Pradesh during 23<sup>rd</sup> night to 27<sup>th</sup> morning. **Dense Fog** conditions very likely in isolated places over Delhi during 23<sup>rd</sup> night to 27<sup>th</sup> January morning.
- ❖ **Dense to very dense fog** conditions very likely to prevail for a few hours in night/morning in isolated pockets of Bihar during 23<sup>rd</sup> night to 25<sup>th</sup> January morning and dense fog in isolated pockets for subsequent 3 days.
- ❖ **Dense fog** conditions very likely to prevail in morning hours in isolated pockets of Madhya Pradesh during 23<sup>rd</sup>-26<sup>th</sup> and over Himachal Pradesh, Uttarakhand, West Bengal, Assam & Meghalaya and Mizoram & Tripura during 23<sup>rd</sup> night to 25<sup>th</sup> January morning.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in many parts of Punjab, Haryana, Uttar Pradesh on 23<sup>rd</sup> & 24<sup>th</sup>; in some parts on 25<sup>th</sup> and **cold day** conditions in isolated pockets on 26<sup>th</sup> & 27<sup>th</sup> January, 2024.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in isolated pockets of West Rajasthan on 23<sup>rd</sup> & 24<sup>th</sup> January.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in isolated pockets of Uttarakhand, East Rajasthan on 23<sup>rd</sup> and **cold day** conditions in isolated pockets on 24<sup>th</sup> January.
- ❖ **Cold Day to Severe Cold Day** conditions very likely to continue in isolated pockets of Bihar on 23<sup>rd</sup> January and **cold day** conditions in isolated pockets for subsequent 4 days.
- ❖ **Cold Day** conditions very likely to continue in isolated pockets of over Madhya Pradesh on 23<sup>rd</sup> & 24<sup>th</sup> January.

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

- ❖ **East India:** Rise in minimum temperatures by 2-3°C very likely during next 2 days and fall by 2-3°C for subsequent 3 days.
- ❖ **Northwest India:** No significant change in minimum temperatures very likely over many parts during next 2 days and rise about 2°C thereafter for subsequent 3 days.
- ❖ **Cold wave** conditions very likely in isolated pockets of north Rajasthan during 23<sup>rd</sup>-25<sup>th</sup> and over Himachal Pradesh, Uttarakhand, Punjab, Haryana & Chandigarh, Uttar Pradesh on 23<sup>rd</sup> & 24<sup>th</sup> January.
- ❖ **Ground frost conditions** very likely at isolated places over Himachal Pradesh, Uttarakhand and West Uttar Pradesh on 23<sup>rd</sup> & 24<sup>th</sup> January, 2024.

For more details kindly refer: [https://mausam.imd.gov.in/responsive/all\\_india\\_forecast\\_bulletin.php](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 10-15°C over many parts of Punjab, Haryana-Chandigarh and West Uttar Pradesh; which were below normal by 7-10°C over many parts of Punjab, Uttar Pradesh; below normal by 4-6°C over many parts of Haryana-Chandigarh-Delhi, north Rajasthan, Bihar, Gangetic West Bengal and north Madhya Pradesh.
- ❖ **Visibility recorded** (at 0530 hours IST of today) (**≤200 metres**): **Punjab**: Patilala-25; **Haryana**: Ambala-25; **West Uttar Pradesh**: Agra-0, Bareilly-25, Jhansi-200; **East Uttar Pradesh**: Varanasi and Prayagraj-25 each, Bahraich and Lucknow-50 each, Gorakhpur-200; **Delhi**: Palam-50, Safdarjung-200; **East Rajasthan**: Jaipur-50; **Bihar**: Patna and Gaya-50 each, Purnea-200; **Tripura**: Agartala-50; **West Rajasthan**: Ganganagar, Churu and Jaisalmer-200 each; **East Madhya Pradesh**: Satna-200
- ❖ **Visibility recorded** (at 0830 hours IST of today) (**≤200 metres**): **Punjab**: Ludhiana-50, Patiala-200; **Haryana-Chandigarh**: Ambala, Karnal- 25 each, Chandigarh-50, Hissar, Bhiwani- 200 each; **Delhi**: Ridge, Palam, Ayanagar-50 each, Safdarjung-200; **Rajasthan**: Jaisalmer-25, Churu-50, Jaipur-200; **Uttar Pradesh**: Bareilly, Lucknow, Fursatganj, Varanasi-25 each, Meerut, Baharich, Gorakhpur-50 each; **Madhya Pradesh**: Khajuraho-50; **Bihar**: Muzaffarpur, Patna, Gaya-50 each, Bhagalpur, Purnea-200 each; **Sub-Himalayan West Bengal**: Cooch Behar-50; **Assam**: Tezpur-25, Dhubri-50, **Jharkhand**: Dallonganj-200.

**Impact expected due to dense to very dense fog in the night/morning hours over Punjab, Haryana-Chandigarh and Uttar Pradesh during 23<sup>rd</sup> to 27<sup>th</sup> January and Delhi, north Rajasthan, north Madhya Pradesh & Bihar on 23<sup>rd</sup> & 24<sup>th</sup> 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:**

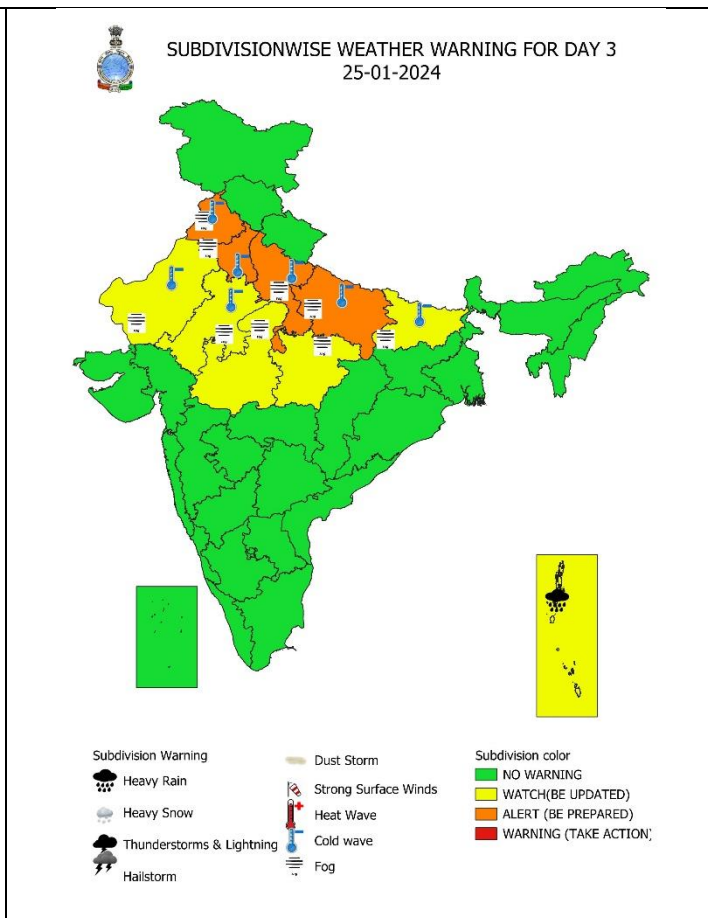
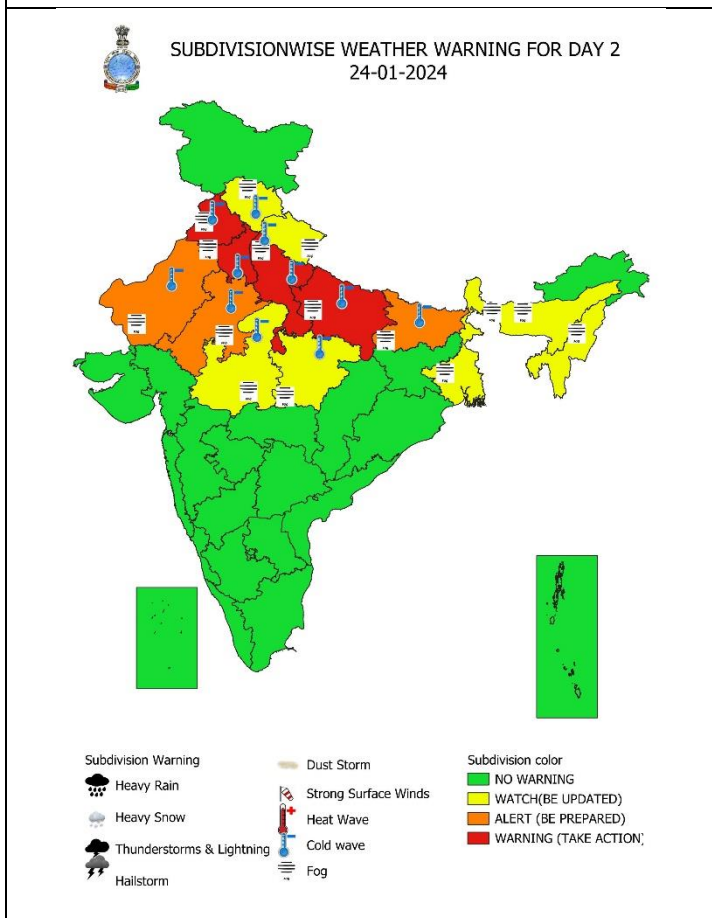
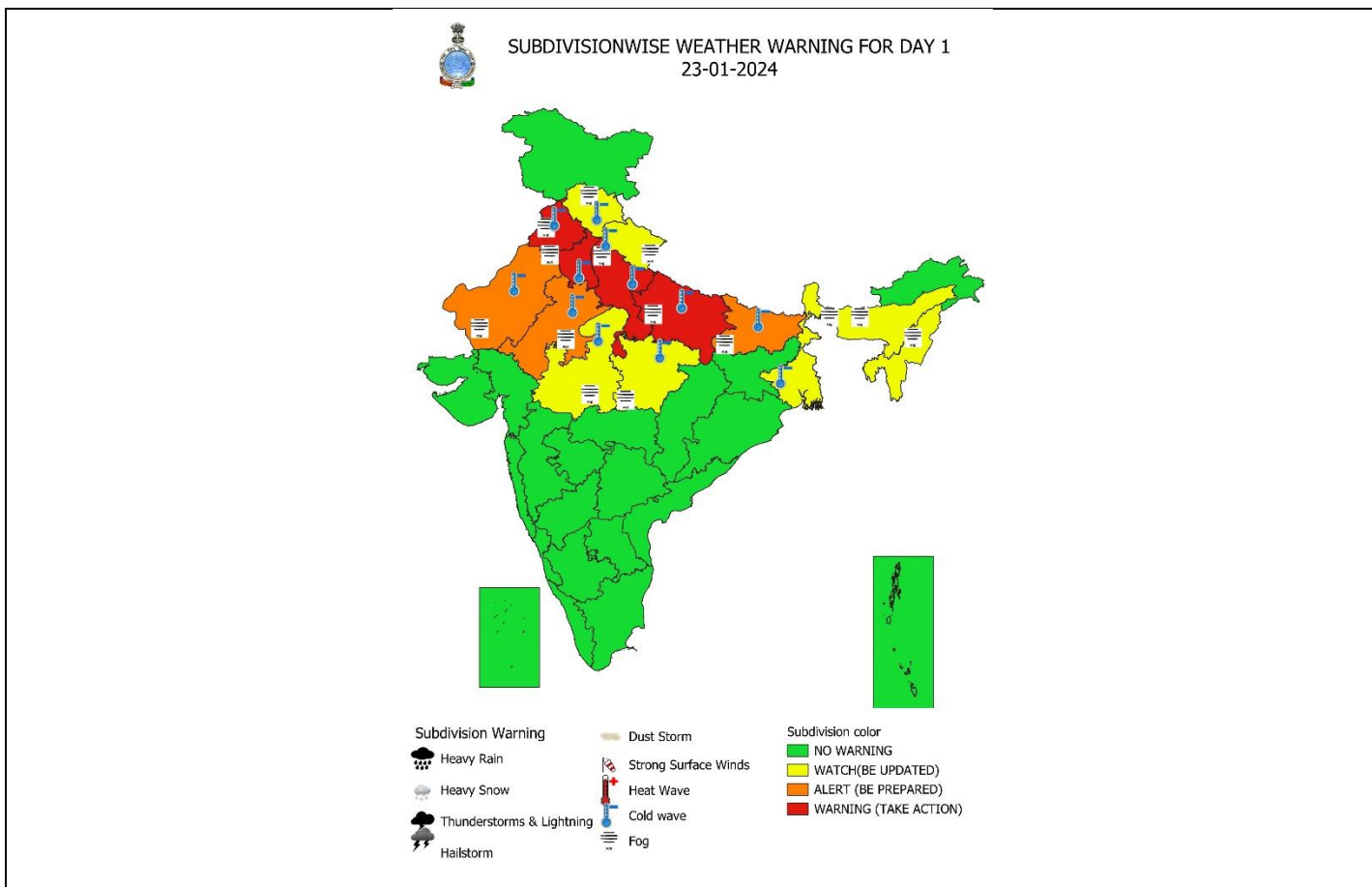
- ❖ To keep ready Maintenance Team
- ❖ Human Health: To avoid outing until unless emergency and to cover the face.

**Impact expected due to Cold Day/Severe Cold Day conditions over Punjab, Haryana-Chandigarh, Uttar Pradesh during 23<sup>rd</sup>-25<sup>th</sup>; north Rajasthan and Bihar on 23<sup>rd</sup> & 24<sup>th</sup> 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:**

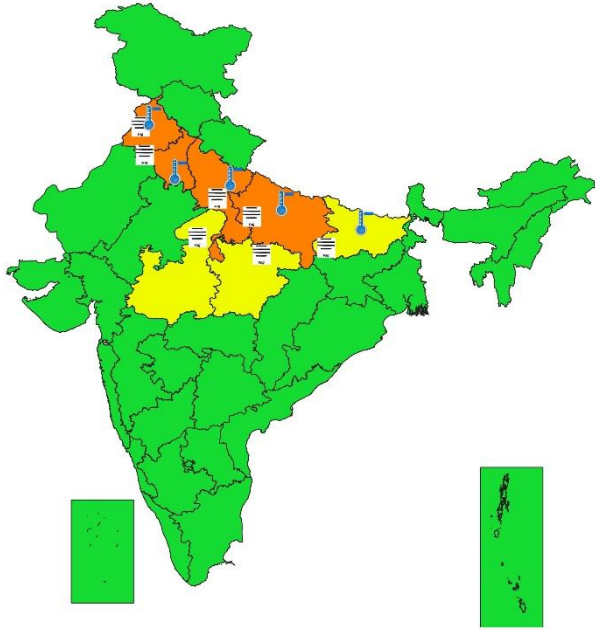
- ❖ Wear several layers of loose fitting, light weight; warm woollen clothing.
- ❖ Cover your head, neck, hands and toes adequately as majority of heat loss occurs through these body parts. Wear several layers of loose fitting, light weight; warm woollen clothing rather than one layer of heavy cloth.
- ❖ 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.







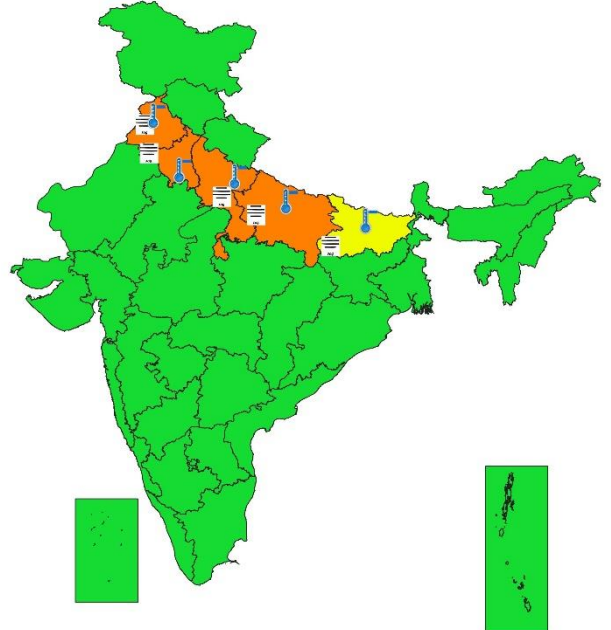
**SUBDIVISIONWISE WEATHER WARNING FOR DAY 4**  
26-01-2024



- |                            |                      |                          |
|----------------------------|----------------------|--------------------------|
| <b>Subdivision Warning</b> | Dust Storm           | <b>Subdivision color</b> |
| 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**  
27-01-2024
















- |                            |                      |                          |
|----------------------------|----------------------|--------------------------|
| <b>Subdivision Warning</b> | Dust Storm           | <b>Subdivision color</b> |
| 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.




<b>SPATIAL DISTRIBUTION</b> (% 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)

<b>Probabilistic Forecast</b>	
Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

<b>Flash Flood Risk</b>	
	High Risk (Take Action)
	Moderate Risk (Be Prepared)
	Low Risk (Be Updated)

## Definition of Cold wave, Cold Day and Fog Conditions:

 <b>Cold Wave</b>	<p>When minimum temperature of a station <math>\leq 10^{\circ}\text{C}</math> for plains and <math>\leq 0^{\circ}\text{C}</math> for hilly regions.</p> <p>(a) Based on departure</p> <p>Cold Wave: Minimum Temperature Departure from normal <math>-4.5^{\circ}\text{C}</math> to <math>-6.4^{\circ}\text{C}</math>.</p> <p>Severe Cold Wave: Minimum Temperature Departure from normal <math>\leq -6.5^{\circ}\text{C}</math></p> <p>(b) Based on actual Minimum Temperature (for Plains only)</p> <p>Cold Wave: When Minimum Temperature is <math>\leq 4.0^{\circ}\text{C}</math></p> <p>Severe Cold Wave: When Minimum Temperature is <math>\leq 2.0^{\circ}\text{C}</math></p> <p>(c) For Coastal Stations</p> <p>When Minimum Temperature departure is <math>\leq -4.5^{\circ}\text{C}</math> &amp; actual Minimum Temperature is <math>\leq 15^{\circ}\text{C}</math></p>
 <b>Cold Day</b>	<p>When minimum temperature of a station <math>\leq 10^{\circ}\text{C}</math> for plains and <math>\leq 0^{\circ}\text{C}</math> for hilly regions</p> <p>Based on departure</p> <p>Cold Day: Maximum Temperature Departure from normal <math>-4.5^{\circ}\text{C}</math> to <math>-6.4^{\circ}\text{C}</math>.</p> <p>Severe Cold Day: Maximum Temperature Departure from normal <math>\leq -6.5^{\circ}\text{C}</math></p>
 <b>Fog</b>	<p>Phenomenon of small droplets suspended in air and the horizontal visibility <math>&lt; 1\text{km}</math></p> <p>Moderate Fog: When the visibility between 500-200 metres</p> <p>Dense Fog: when the visibility between 50- 200 metres</p> <p>Very Dense Fog: when the visibility <math>&lt; 50</math> metres</p>