



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Press Release

Date: 01<sup>st</sup> February, 2024

Time of Issue: 1245 hours IST

**Subject: Wet spell over Northwest India likely to continue during next 24 hours, thereafter another spell is likely to affect northwest India during 03<sup>rd</sup> to 05<sup>th</sup> February, 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 9-12°C over many parts of Punjab, Haryana, Chandigarh, Delhi, East Uttar Pradesh, Bihar and north Rajasthan and Sub-Himalayan West Bengal & Sikkim. These are normal to above normal over northern parts of the country. **Today, the lowest minimum temperature of 1.0 °C reported at Fursatganj (East Uttar Pradesh).**
- ❖ **Fog conditions observed (at 0530 & 0830 hours IST of today): Dense to very Dense fog** in isolated pockets of north Rajasthan; **dense fog** in isolated pockets of Bihar and Odisha.
- ❖ Yesterday, **Cold day to severe cold day** conditions prevailed over many parts of Delhi and in isolated pockets of south Haryana.
- ❖ Light to moderate rainfall occurred **at most places over** Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Haryana-Chandigarh-Delhi; **at many places over** Punjab, Arunachal Pradesh; **at a few places over** Gangetic West Bengal; **at isolated places over** Uttar Pradesh, Rajasthan, Assam & Meghalaya, Tamil Nadu and Kerala & Mahe.
- ❖ Isolated **heavy snowfall** observed over Himachal Pradesh (Shimla).
- ❖ Isolated **hailstorm** observed over Uttarakhand, Punjab, East Rajasthan and Haryana.

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

- ❖ **A Western Disturbance as a trough in middle tropospheric westerlies runs roughly along Long. 72°E to the north of Lat. 30°N with an induced cyclonic circulation over northwest Rajasthan & neighbourhood in lower tropospheric level. Another Western Disturbance is likely to affect Northwest India from 03<sup>rd</sup> February, 2024.** 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 on 01<sup>st</sup> and 3<sup>rd</sup> to 05<sup>th</sup> February, 2024.
  - Isolated **heavy rainfall/snowfall** also likely over Himachal Pradesh and Uttarakhand today.
  - Light/moderate scattered to fairly widespread rainfall very likely over Punjab, Chandigarh, Haryana, Delhi and isolated to scattered rainfall over Uttar Pradesh, East Rajasthan today. Light/moderate isolated to scattered rainfall very likely over the above regions on 03<sup>rd</sup> & 04<sup>th</sup> February, 2024.

- Isolated **hailstorm** also likely over Himachal Pradesh, Uttarakhand, Punjab, Haryana, Chandigarh, West Uttar Pradesh on 01<sup>st</sup>; over West Rajasthan on 03<sup>rd</sup> and over East Rajasthan on 04<sup>th</sup> February, 2024.
- **Strong and chilly surface winds of the order of 30-40 kmph** very likely over Punjab, Haryana-Chandigarh-Delhi and West Uttar Pradesh on 01<sup>st</sup> February.
- Light/moderate scattered to fairly widespread rainfall/snowfall very likely over Arunachal Pradesh during next 5 days (01<sup>st</sup> to 05<sup>th</sup> February) and isolated to scattered rainfall over West Bengal & Sikkim, Odisha, Assam & Meghalaya and Nagaland, Mizoram, Manipur & Tripura during 01<sup>st</sup> to 02<sup>nd</sup> February).
- Isolated **heavy rainfall/snowfall** also likely over Arunachal Pradesh on 01<sup>st</sup> & 02<sup>nd</sup> February.
- Isolated **hailstorm** likely over Assam & Meghalaya on 02<sup>nd</sup> February; over Sub-Himalayan West Bengal & Sikkim on 01<sup>st</sup> & 02<sup>nd</sup> 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 Punjab, Haryana-Chandigarh on 02<sup>nd</sup> February and in isolated pockets on 03<sup>rd</sup> February, 2024.
- ❖ **Dense to very dense fog** conditions very likely to prevail in morning hours over isolated pockets of Uttar Pradesh on 02<sup>nd</sup> February.
- ❖ **Dense Fog** conditions in isolated pockets very likely to prevail for a few hours in morning over Bihar on 02<sup>nd</sup> & 03<sup>rd</sup> February; over north Rajasthan on 02<sup>nd</sup> February, 2024.
- ❖ **Abatement of Cold day conditions** very likely over the country.

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

- ❖ No significant change in minimum temperatures likely over most parts of the country during next 5 days.
- ❖ Fall by 2-3°C in minimum temperatures likely over many parts of Central & East India during 2 days and no significant change thereafter.
- ❖ **No Cold wave conditions** very likely over any part of the country during next 5 days.

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 13-15°C over some parts of south Haryana and Uttarakhand. They were below normal by 4-7°C over some parts of Haryana and Delhi.
- ❖ **Visibility recorded (at 0530 hours IST of today) (≤500 metres):** **East Uttar Pradesh:** Varanasi/Babatpur-50, Sultanpur, Lucknow & Bahraich-500 each; **Bihar:** Purnea-50, Gaya-50, Patna-500; **East Rajasthan:** Jaipur-500; **Delhi:** Safdarjung-500; **West Rajasthan:** Churu-500; **Tripura:** Kailashaher-500; **Coastal Andhra Pradesh & Yanam:** Vishakhapatnam-500.
- ❖ **Visibility recorded (at 0830 hours IST of today) (≤500 metres):** **West Rajasthan:** Ganganagar-25; **Uttarakhand:** Mukteshwar-25 and Tehri-50; **Odisha:** Balasore-50 and Bhubaneswar-500; **East Rajasthan:** Jaipur-200; **Sub-Himalayan West Bengal & Sikkim:** Gangtok-200; **Assam:** Haflong-200; **Himachal Pradesh:** Kalpa-500; **Delhi:** Safdarjung-500; **East Uttar Pradesh:** Fursatganj and Varanasi-500 each; **Bihar:** Bhagalpur and Patna-500 each; **Gangetic West Bengal:** Diamond Harbour-500; **Jharkhand:** Jamshedpur-500.
- ❖ **Significant rainfall amount recorded (in cm):** **Tamil Nadu:** Tuticorin (dist Thoothukudi) 5, Srivilliputhur (dist Virudhunagar) 4, Sivakasi (dist Virudhunagar), Ayikudi (dist Tenkasi), Karuppanadhi Dam (dist Tenkasi) 3 each, **Kerala:** Thenmala ARG (Kollam district)-3; **Jammu & Kashmir:** Banihal-5, Rajouri, Kukernag, Gulmarg-4 each, Batote, Katra, Reasi, Udhampur, Ananatnag, Jammu-3 each, Pahalgam, Bandipora, Badarwah, Baramula, Burmal, Kupwara, Nowgam, Shalimar-2 each; **Himachal Pradesh:** Hamirpur, Kullu-5 each, Shimla-4, Kangra, Chamba, Mandi-3 each, Una, Kinnaur, Lahaul & Spiti, Sirmaur, Solan-2 each, **Haryana:** Rai Rev (dist Sonapat) 3, Pehowa (dist Kurukshetra) 3, Kharkoda (dist Sonapat) 2, Hathin (dist Palwal) 2, Ismailabad (dist Kurukshetra) 2, Gohana (dist Sonapat) 2, Rohtak (dist Rohtak) 2, Jhajjar Aws (dist Jhajjar) 2, Naraingarh (dist Ambala) 2, Ballabgarh (dist Faridabad) 2, Mandkhola Aws (dist Nuh) 2, Rohtak Aws (dist Rohtak) 2, **Punjab:** Tibri (dist Gurdaspur) 3, Nakodar (dist Jalandhar) 3, Gurdaspur Amfu (dist Gurdaspur) 3, Kapurthala (dist Kapurthala) 3, Dhariwal Irr (dist Gurdaspur) 3, Phangota (dist Pathankot) 3, Patti (dist Tarn Taran) 3, Malikpur (dist Pathankot) 2, **Uttarakhand:** Joshimath-3, Tehri, Ukhimath, Jakholi, Bhatwari, Dunda, Mori, Uttarkashi -2 each; **West Uttar Pradesh:** Moradabad, Sambhal-3 each, Rampur, Bulandshahar, Hapur, Bareilly, Etah, Baghpat, Bijor, Meerut, Saharanpur, Badaun-2 each **Gangetic West Bengal:** Norh 24 Parganas-3

## Impact & Action Suggested due to heavy rainfall/snowfall over:

### 1. Himachal Pradesh and Uttarakhand on 01<sup>st</sup> February

#### Impacts Expected for Rain/Snow

- Disruption of Electricity.
- Landslide, rock fall and mudslides, Blocking/washout of roads/highways/bridges Nallahs.
- Disruption of traffic flow.
- Damage to Kuccha and unsecured structures.

#### Suggested Actions

- Avoid roadway underpasses, drainage ditches, low lying areas and areas where water collects – they can unexpectedly flood or overflow.
- Stay away from power lines or electrical wires.
- Don't stay in kuchha houses during heavy rainfall as it may collapse anytime soon
- Drive carefully.

## **Impact expected and action suggested due to thunderstorm with lightning/gusty winds & Hailstorm:**

- ❖ **01<sup>st</sup> February:** Punjab, Haryana, West Uttar Pradesh, Uttarakhand, Sub-Himalayan West Bengal & Sikkim
- ❖ **02<sup>nd</sup> February:** Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya
- ❖ **03<sup>rd</sup> February:** West Rajasthan
- ❖ **04<sup>th</sup> February:** East Rajasthan

### **Impact expected:**

- ❖ Strong wind/hail may damage plantation, horticulture and standing crops.
- ❖ Hail may injure people and cattle at open places.
- ❖ Partial damage to vulnerable structures due to strong winds.
- ❖ Minor damage to kutcha houses/walls and huts.
- ❖ Loose objects may fly.

### **Action suggested:**

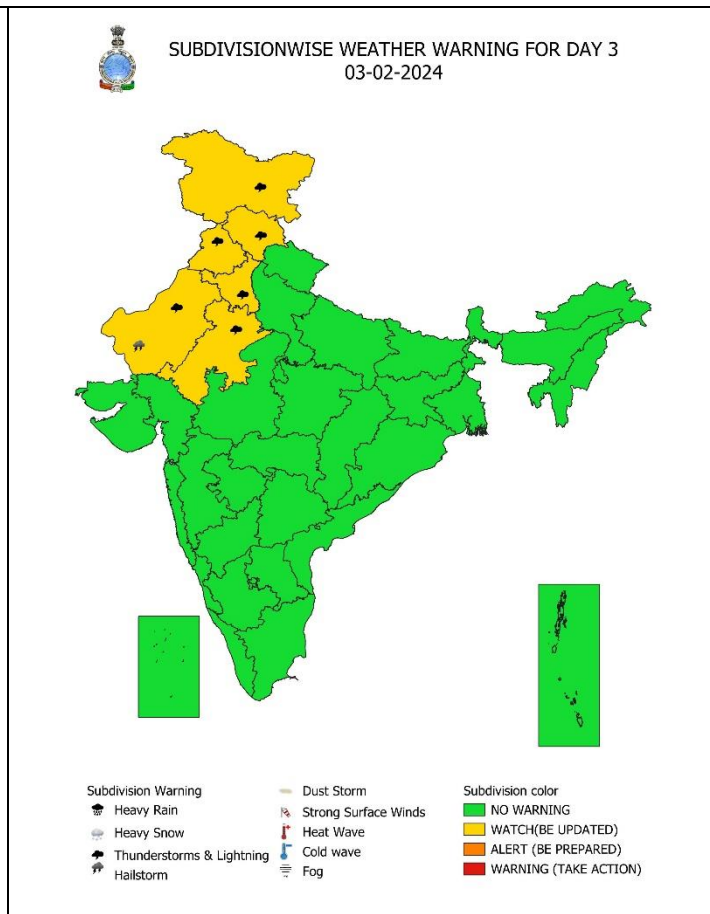
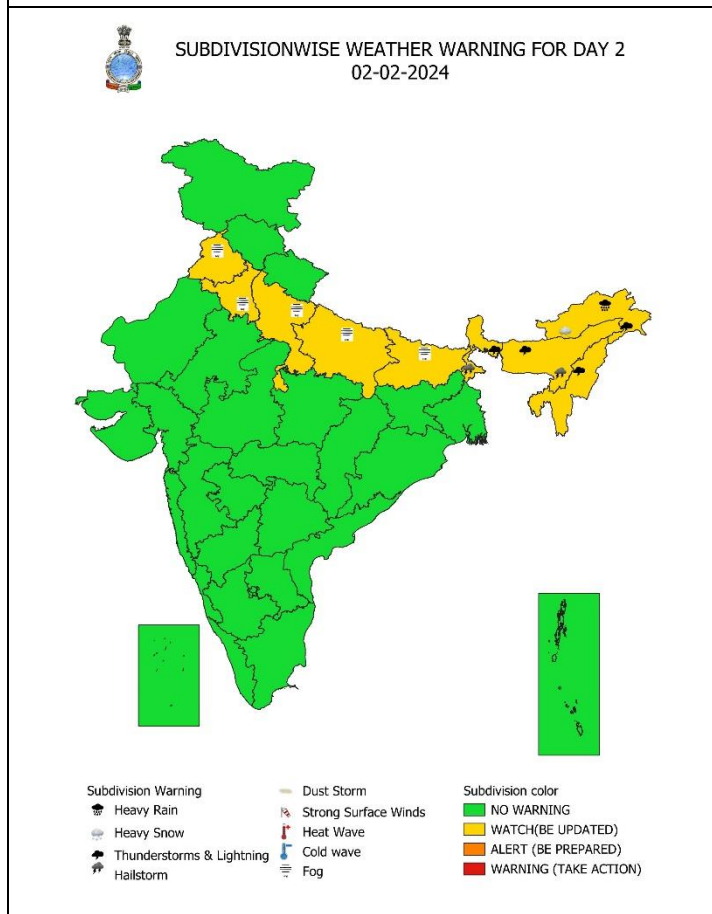
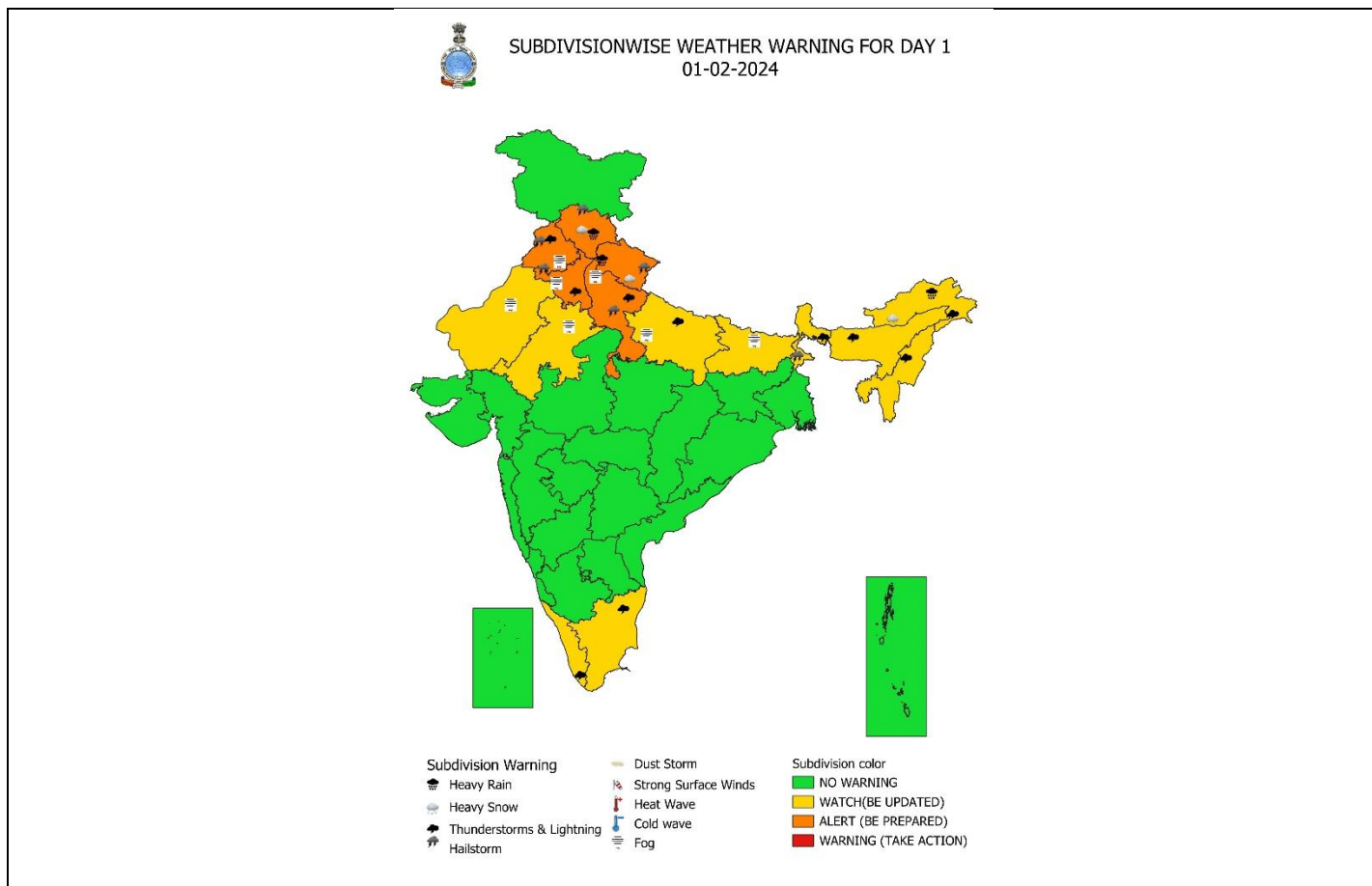
- ❖ Stay indoors, close windows & doors and avoid travel if possible.
- ❖ Take safe shelters; do not take shelter under trees.
- ❖ Do not lie on concrete floors and do not lean against concrete walls.
- ❖ Unplug electrical/ electronic appliances.
- ❖ Immediately get out of water bodies.
- ❖ Keep away from all the objects that conduct electricity.

## **Impact expected due to dense to very dense fog in the morning hours over Punjab, Haryana- Chandigarh on 02<sup>nd</sup> February, 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:**

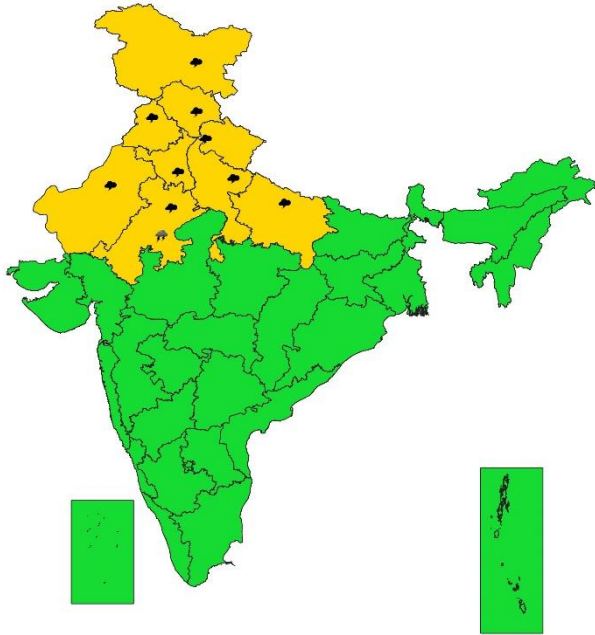
- ❖ **Transport and Aviation:**
  - ❖ Be careful while driving or outing through any transport.
  - ❖ Use fog lights during driving.
  - ❖ Be in touch with airlines, railways and state transport for schedule of your journey.
- ❖ **Power Sector:**
  - ❖ To keep ready Maintenance Team
  - ❖ Human Health: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







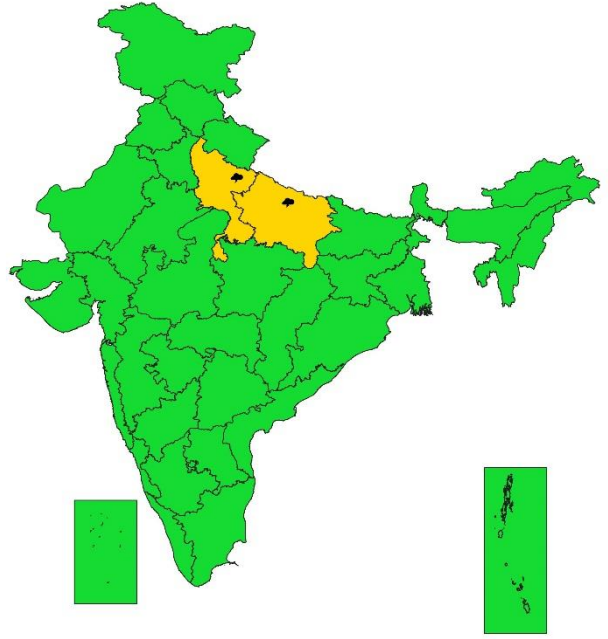
**SUBDIVISIONWISE WEATHER WARNING FOR DAY 4**  
04-02-2024



- |                            |                      |                          |
|----------------------------|----------------------|--------------------------|
| <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**  
05-02-2024



- |                            |                      |                          |
|----------------------------|----------------------|--------------------------|
| <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.

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  $-4.5^{\circ}\text{C}$  to  $-6.4^{\circ}\text{C}$ .

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  $-4.5^{\circ}\text{C}$  to  $-6.4^{\circ}\text{C}$ .

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