



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



**Press Release**

**Date: 11<sup>th</sup> February, 2024**

**Time of Issue: 1300 hours IST**

**Subject: Light to moderate rainfall with thunderstorm activity likely over Central India during 11<sup>th</sup>-13<sup>th</sup> February, 2024.**

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

- ❖ **Minimum temperatures:** Minimum temperatures are in the range of 7-11°C over many parts of northern plains. These are below normal by 2-4°C over some parts of the region. **Today, the lowest minimum temperature of 4.6°C reported at Amritsar (Punjab).**
- ❖ **Cold wave conditions** observed in isolated pockets over Himachal Pradesh and Punjab.
- ❖ **Dense to very dense fog** prevailed in morning hours at isolated pockets over Punjab (Faridkot < 50m and Bhatinda:50-200m) and **dense fog** over Delhi (50m).
- ❖ **Ground frost conditions** recorded at isolated places over Uttarakhand (Mukteshwar).
- ❖ **Hailstorms** recorded at isolated places over Vidarbha.

**Weather Systems and Forecast & Warnings during next 5 days: (graphics in Annexure I)**

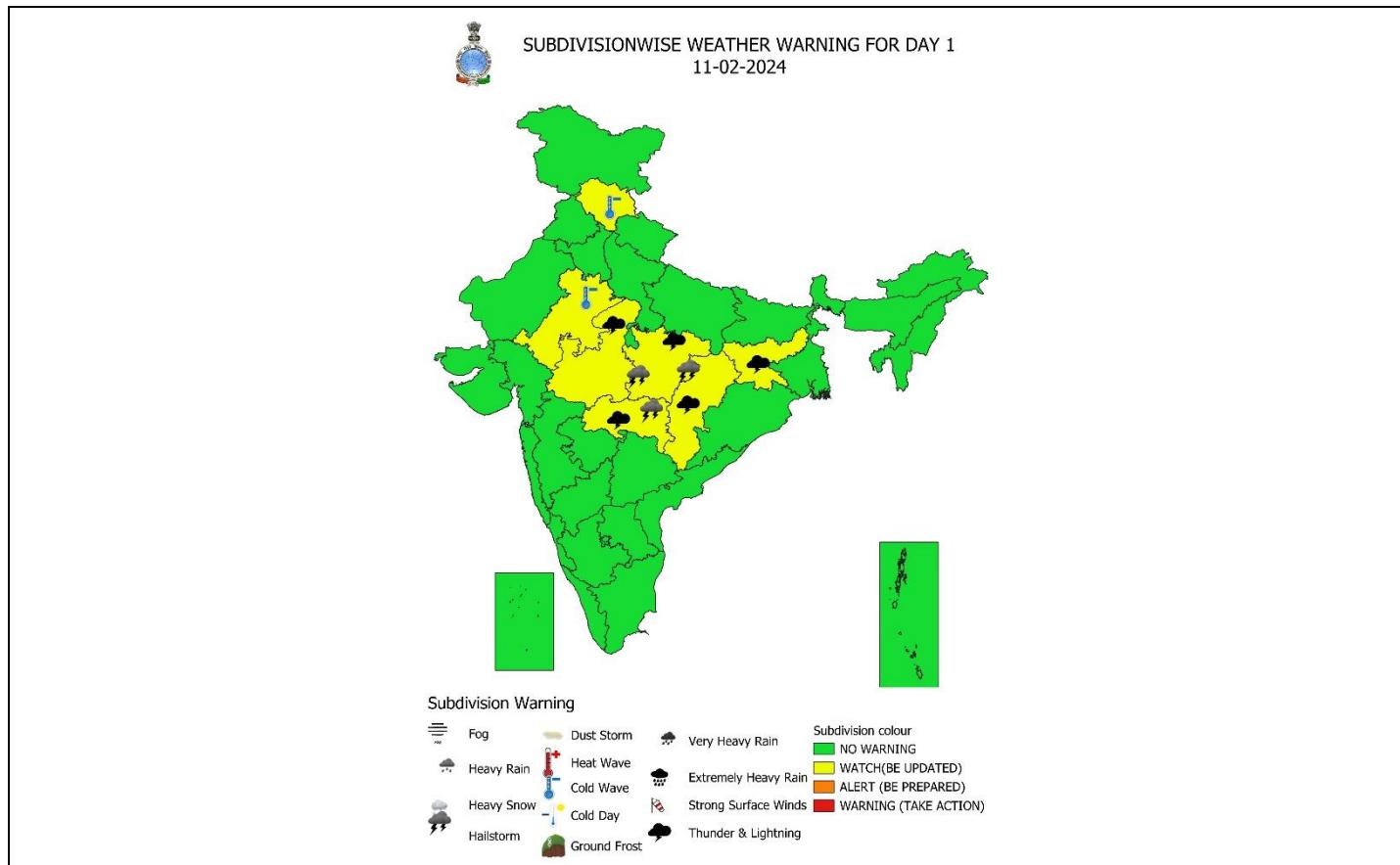
- ❖ Under the influence of trough from south interior Karnataka to west Vidarbha in lower tropospheric levels; isolated to scattered light to moderate rainfall accompanied with isolated thunderstorms, lightning & gusty winds (speed reaching 30-40 kmph) activity very likely over West Madhya Pradesh on 11<sup>th</sup>; East Madhya Pradesh and Jharkhand during 11<sup>th</sup>-13<sup>th</sup>, Vidarbha and Chhattisgarh on 11<sup>th</sup> & 12<sup>th</sup>; Bihar on 13<sup>th</sup> & 14<sup>th</sup> and Gangetic West Bengal on 14<sup>th</sup> February, 2024.
- ❖ **Isolated Hailstorms also likely over East Madhya Pradesh and adjoining North Chhattisgarh on 11<sup>th</sup> & 12<sup>th</sup>; over Vidarbha on 11<sup>th</sup> February, 2024.**
- ❖ Light isolated rainfall also likely over Odisha on 11<sup>th</sup> & 12<sup>th</sup>, 15<sup>th</sup> & 16<sup>th</sup>; over Telangana on 11<sup>th</sup> and over southeast Uttar Pradesh during 12<sup>th</sup> -14<sup>th</sup> February, 2024.

**Minimum Temperature Forecast and Cold Wave warning: (graphics in Annexure I)**

- ❖ Gradual Rise in minimum temperatures by 2-4°C very likely over Northwest India during next 5 days. Gradual Rise in minimum temperatures by 2-4°C also very likely over many parts of East India during next 3 days and no significant change thereafter. No significant change in minimum temperatures likely over Central India during next 5 days.
- ❖ **Cold wave conditions** very likely in isolated pockets over Himachal Pradesh and East Rajasthan on 12<sup>th</sup> February, 2024.

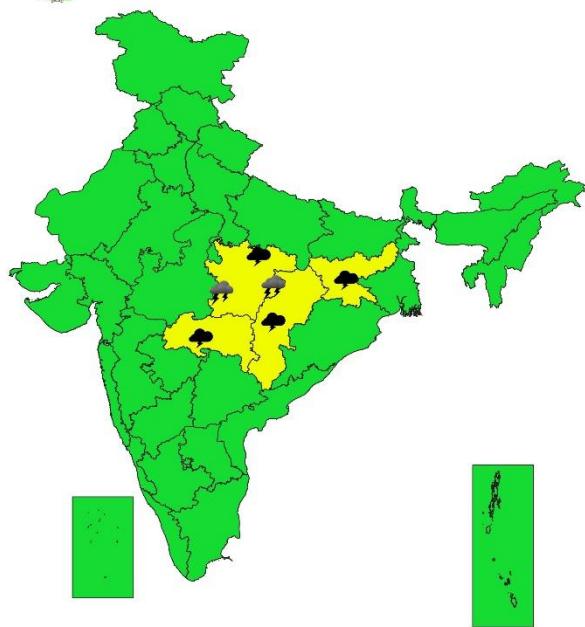
For more details kindly refer: [https://mausam.imd.gov.in/responsive/all\\_india\\_forcast\\_bulletin.php](https://mausam.imd.gov.in/responsive/all_india_forcast_bulletin.php)

## Annexure I





SUBDIVISIONWISE WEATHER WARNING FOR DAY 2  
12-02-2024

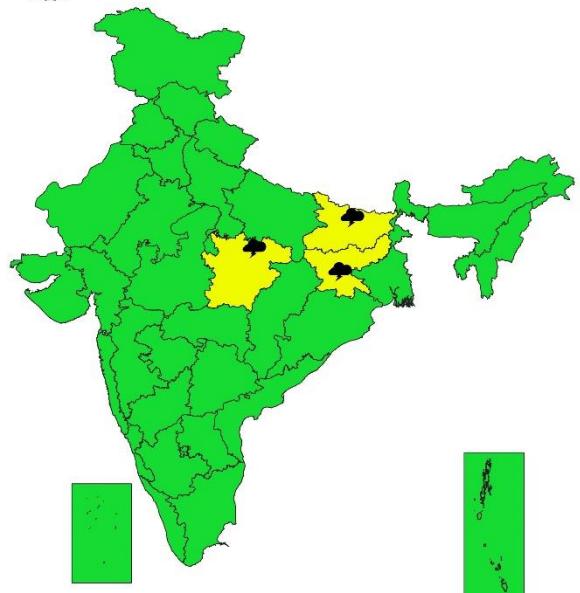


Subdivision Warning

|  |            |  |              |  |                      |
|--|------------|--|--------------|--|----------------------|
|  | Fog        |  | Dust Storm   |  | Very Heavy Rain      |
|  | Heavy Rain |  | Heat Wave    |  | Extremely Heavy Rain |
|  | Cold Wave  |  | Cold Day     |  | Strong Surface Winds |
|  | Hailstorm  |  | Ground Frost |  | Thunder & Lightning  |



SUBDIVISIONWISE WEATHER WARNING FOR DAY 3  
13-02-2024

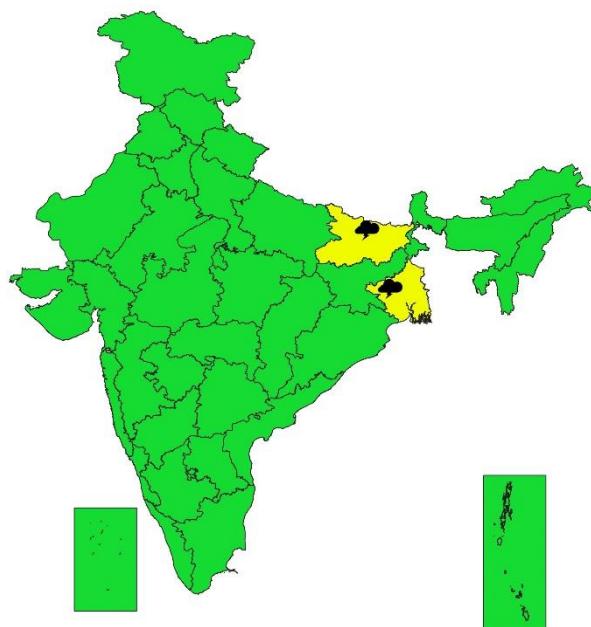


Subdivision Warning

|  |            |  |              |  |                      |
|--|------------|--|--------------|--|----------------------|
|  | Fog        |  | Dust Storm   |  | Very Heavy Rain      |
|  | Heavy Rain |  | Heat Wave    |  | Extremely Heavy Rain |
|  | Cold Wave  |  | Cold Day     |  | Strong Surface Winds |
|  | Hailstorm  |  | Ground Frost |  | Thunder & Lightning  |



SUBDIVISIONWISE WEATHER WARNING FOR DAY 4  
14-02-2024

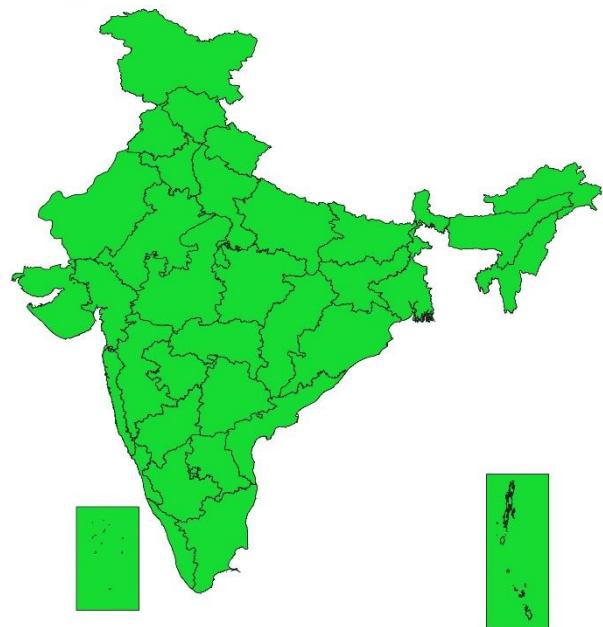


Subdivision Warning

|  |            |  |              |  |                      |
|--|------------|--|--------------|--|----------------------|
|  | Fog        |  | Dust Storm   |  | Very Heavy Rain      |
|  | Heavy Rain |  | Heat Wave    |  | Extremely Heavy Rain |
|  | Cold Wave  |  | Cold Day     |  | Strong Surface Winds |
|  | Hailstorm  |  | Ground Frost |  | Thunder & Lightning  |



SUBDIVISIONWISE WEATHER WARNING FOR DAY 5  
15-02-2024



Subdivision Warning

|  |            |  |              |  |                      |
|--|------------|--|--------------|--|----------------------|
|  | Fog        |  | Dust Storm   |  | Very Heavy Rain      |
|  | Heavy Rain |  | Heat Wave    |  | Extremely Heavy Rain |
|  | Cold Wave  |  | Cold Day     |  | Strong Surface Winds |
|  | Hailstorm  |  | Ground Frost |  | Thunder & Lightning  |

## 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                            |                                     | 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 |                               | Flash Flood Risk            |
|------------------------|-------------------------------|-----------------------------|
| Terms                  | Probability of Occurrence (%) |                             |
| Unlikely               | < 25                          | High Risk (Take Action)     |
| Likely                 | 25 - 50                       | Moderate Risk (Be Prepared) |
| Very Likely            | 50 - 75                       |                             |
| Most Likely            | > 75                          | Low Risk (Be Updated)       |

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

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