



Government of India
Ministry of Earth Sciences
India Meteorological Department

Press Release
Date: 24th December, 2023
Time of Issue: 1300 hours IST

Subject: (i) A fresh spell of light to moderate rainfall likely to commence over Coastal Tamil Nadu from 30th December 2023 to 01st January 2024.

(ii) Wet Spell likely over Northwest & adjoining Central India during 30th December 2023 to 02nd January 2024.

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

- **Minimum temperatures** are in the range of 6-9°C over Punjab, Haryana-Chandigarh-Delhi & West Uttar Pradesh and 10-14°C over Rajasthan, East Uttar Pradesh, Bihar, Jharkhand, Madhya Pradesh & north Gujarat and parts of Chhattisgarh, Gangetic West Bengal & Odisha. These are 2-4°C above normal over south Haryana, Rajasthan, Uttar Pradesh, Bihar, Gangetic West Bengal, northeast Madhya Pradesh, Gujarat and parts of Punjab.
- **Fog Observed (at 0830 hours IST of today): Very dense fog** (visibility: <50 meters) in isolated pockets of Odisha; **Dense fog** (visibility: 50-200 meters) in isolated pockets of West Rajasthan, West Madhya Pradesh and Gangetic West Bengal and **Moderate fog** (visibility: 200-500 meters) in isolated pockets of Punjab, Haryana, Delhi, East Rajasthan and East Madhya Pradesh.
- **Visibility Recorded (at 0830 IST of today) (≤200 meters): Odisha:** Rourkela-25; **West Rajasthan:** Churu-50, Ganganagar-200; **Gangetic West Bengal:** Kolakata-50, Diamond Harbour-200; **Punjab:** Ludhiana-200; **Haryana:** Hissar-200; **Delhi:** Palam & Safdarjung-200 each; **East Rajasthan:** Kota-200; **East Madhya Pradesh:** Khajuraho-200.

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

Weather Systems:

- A Cyclonic Circulation lies over west Bangladesh & neighbourhood at in lower tropospheric levels

Forecast & Warnings:

- Under the influence of strong Northeasterly winds, a fresh spell of light to moderate rainfall likely over Coastal Tamil Nadu from 30th December 2023 to 01st January 2024.
- A fresh Western Disturbance is likely to affect Northwest India from 29th December. Under the influence of its interaction with lower level easterly winds, it is likely to cause a Wet Spell over Northwest adjoining Central India during 30th December-02nd January 2024.
- Light to moderate rainfall with thunderstorm & lightning at isolated places very likely over Tamil Nadu, Puducherry & Karaikal on 24th, 27th & 28th December.
- Light to moderate rainfall at isolated places very likely over Northeast India during next 3 days. Isolated **thunderstorm with Hailstorm** also likely over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura on 24th December.

Dense fog warning:

- **Dense to very dense fog** conditions very likely to continue in morning hours in isolated pockets of Punjab, Haryana and East Uttar Pradesh during 25th-27th and over Rajasthan & north Madhya Pradesh on 25th December.

- **Dense Fog** conditions very likely to continue in morning hours in isolated pockets over West Uttar Pradesh during 25th-27th December; Gangetic West Bengal on 25th; Odisha on 25th & 26th; Rajasthan on 26th; Madhya Pradesh on 26th & 27th; Punjab & Haryana on 28th & 29th and over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during 27th-29th December.

Minimum Temperatures Forecast:

- **Northwest & adjoining Central India:** Minimum Temperatures very likely to fall by 2-4°C during next 2 days and no significant change thereafter.
 - **East India:** Minimum Temperatures very likely to fall by about 2°C during next 2 days and no significant change thereafter.
 - No significant change in Minimum Temperatures likely over rest parts of the country during next 4-5 days.
- For more details kindly refer: https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php

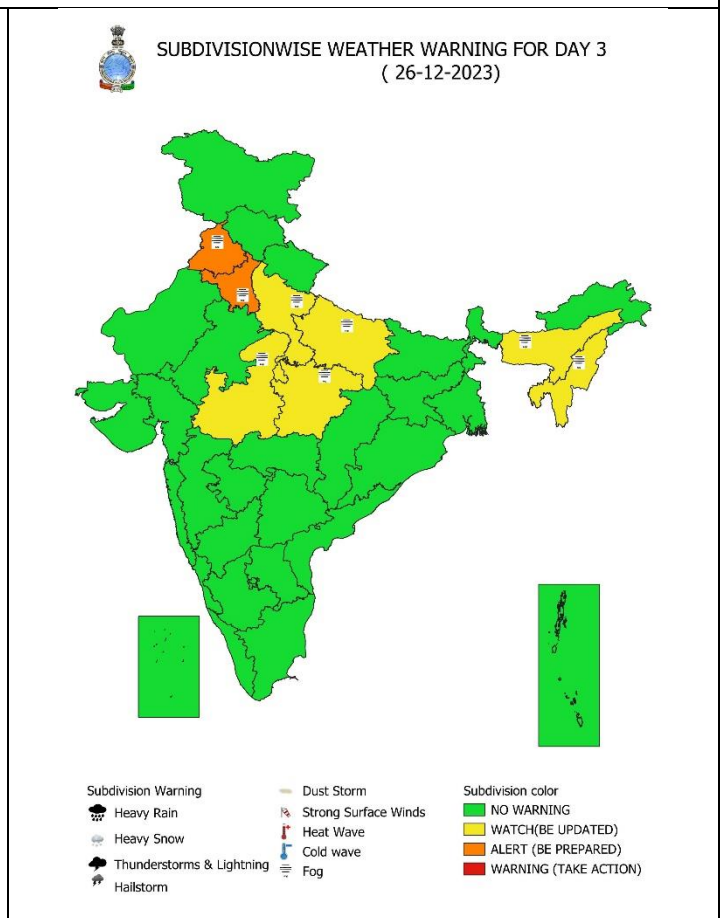
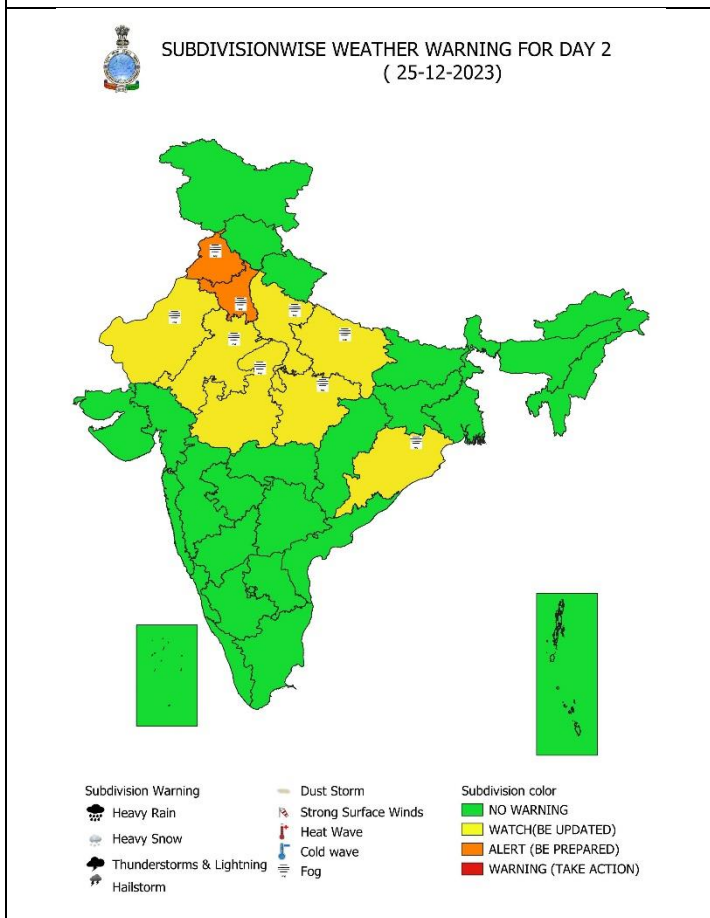
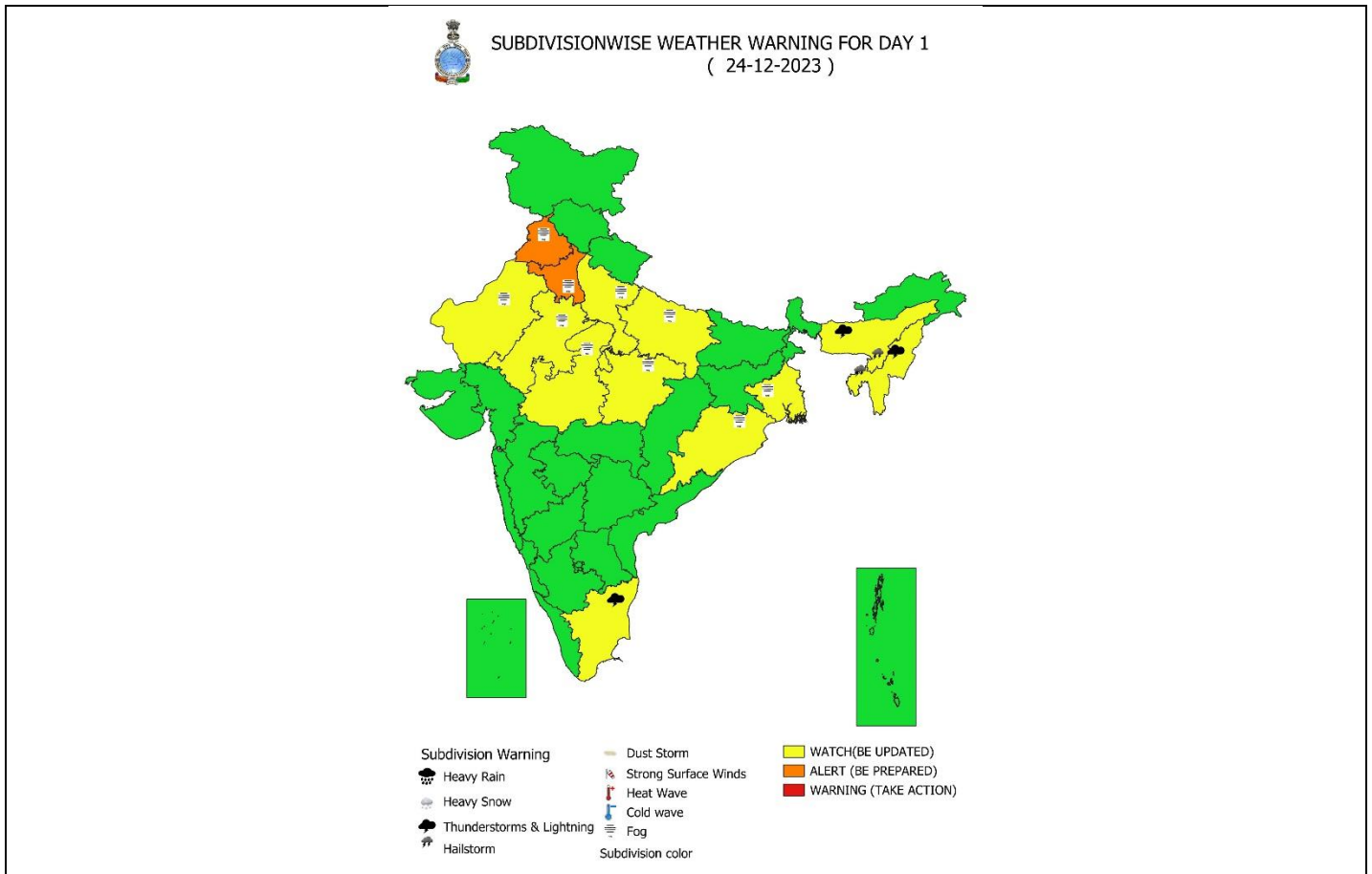
Impact expected and action suggested due to dense to very dense fog in the early morning/morning hours over Punjab, Haryana during 25th-27th December.

Impact expected:

- ❖ **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.

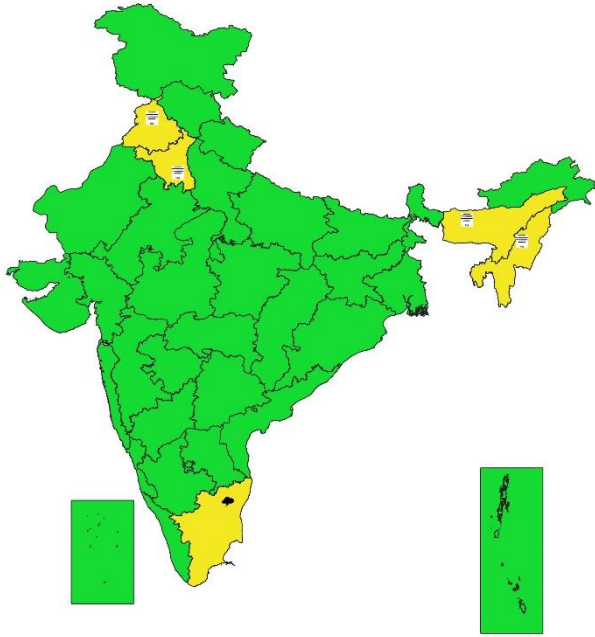
Action suggested:

- ❖ **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.





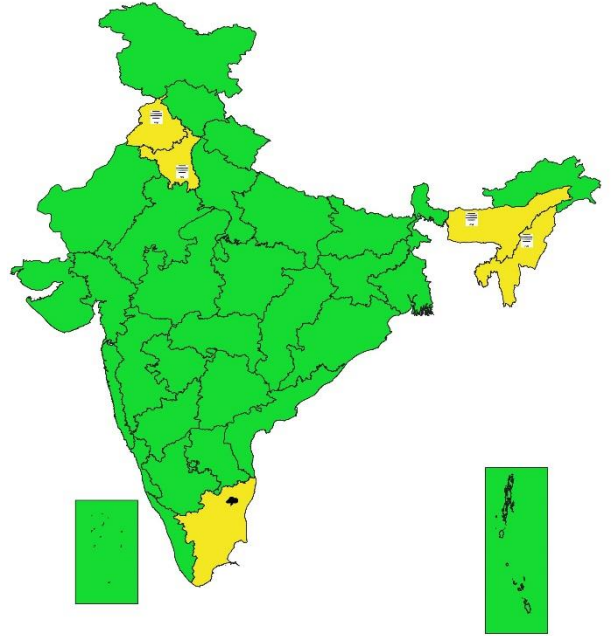
**SUBDIVISIONWISE WEATHER WARNING FOR DAY 4
(27-12-2023)**



- | | | |
|----------------------------|----------------------|--------------------------|
| 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) |



**SUBDIVISIONWISE RAINFALL FORECAST FOR DAY 5
(28-12-2023)**



- | | | |
|----------------------------|----------------------|--------------------------|
| 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) |

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:



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°C to -6.4°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 $\leq 15^{\circ}\text{C}$



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°C to -6.4°C .

Severe Cold Day: Maximum Temperature Departure from normal $\leq -6.5^{\circ}\text{C}$



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