Government of India
Ministry of Earth Sciences
India Meteorological Department

Press Release
Date: 21st December, 2023
Time of Issue: 1300 hours IST

Subject: No significant weather over most parts of the country during the next 5 days.

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

- **Minimum temperatures** are in the range of 4-8°C over most parts of Punjab, Haryana-Chandigarh-Delhi, north Rajasthan and 8-12°C over most parts of Uttar Pradesh, south Rajasthan, Madhya Pradesh, Chhattisgarh, Bihar, Jharkhand and interior Odisha.
- **Today in the morning hours, very dense fog conditions** (visibility <50 m) observed over Punjab (Ludhiana, Patiala and Amritsar) and northwest Uttar Pradesh (Bareilly) and **dense fog conditions** (visibility <200m) observed over Assam (Jorhat-150m), Meghalaya (Barapani-150m) and northwest Uttar Pradesh (Shahjahanpur-100m).
- **Cold wave conditions** observed in isolated pockets over **Punjab (Ludhiana and Adampur).**
- **Heavy Rainfall** recorded at isolated places over Tamil Nadu.
- **Significant rainfall recorded** (in cm): **Tamil Nadu:** Velankanni (dist Nagapattinam) 9, Thirukuvalai (dist Nagapattinam) 7, Thalaignayer (dist Nagapattinam) 5.

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

Weather Systems

- A Western Disturbance as a trough in middle tropospheric westerlies runs roughly along Long. 52°E to the north of Lat. 25°N. It is likely to affect Northwest Indian region during 22-23rd December.

Forecast & Warnings:

- **Isolated light rainfall/snowfall** likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand and **Isolated light rainfall** likely over Punjab, Haryana, Chandigarh, Delhi and northwest Rajasthan on 22nd & 23rd and northwest Uttar Pradesh and northeast Rajasthan on 23rd December.
- Light to moderate rainfall at isolated places very likely over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and Lakshadweep area during next 5 days.

Dense fog warning (Graphix at Annex I):

- **Dense to very dense fog** conditions very likely in morning hours at isolated pockets of Punjab during next 5 days. **Dense Fog** conditions very likely in morning hours at isolated pockets of Haryana during next 4 days; north Uttar Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during next 3 days and Odisha on 23rd & 24th December.

Minimum Temperatures Forecast:

- **Northwest and East India:** Rise by 2-3°C in Minimum Temperatures during next 3 days and no significant change thereafter.
- **Central India**: No significant change in Minimum Temperatures likely over central India during next 24 hours and rise by 2-3°C thereafter.

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

Impact expected and action suggested due to dense to very dense fog in the night/morning hours in isolated pockets over Punjab on 22nd & 23rd December, 2023.

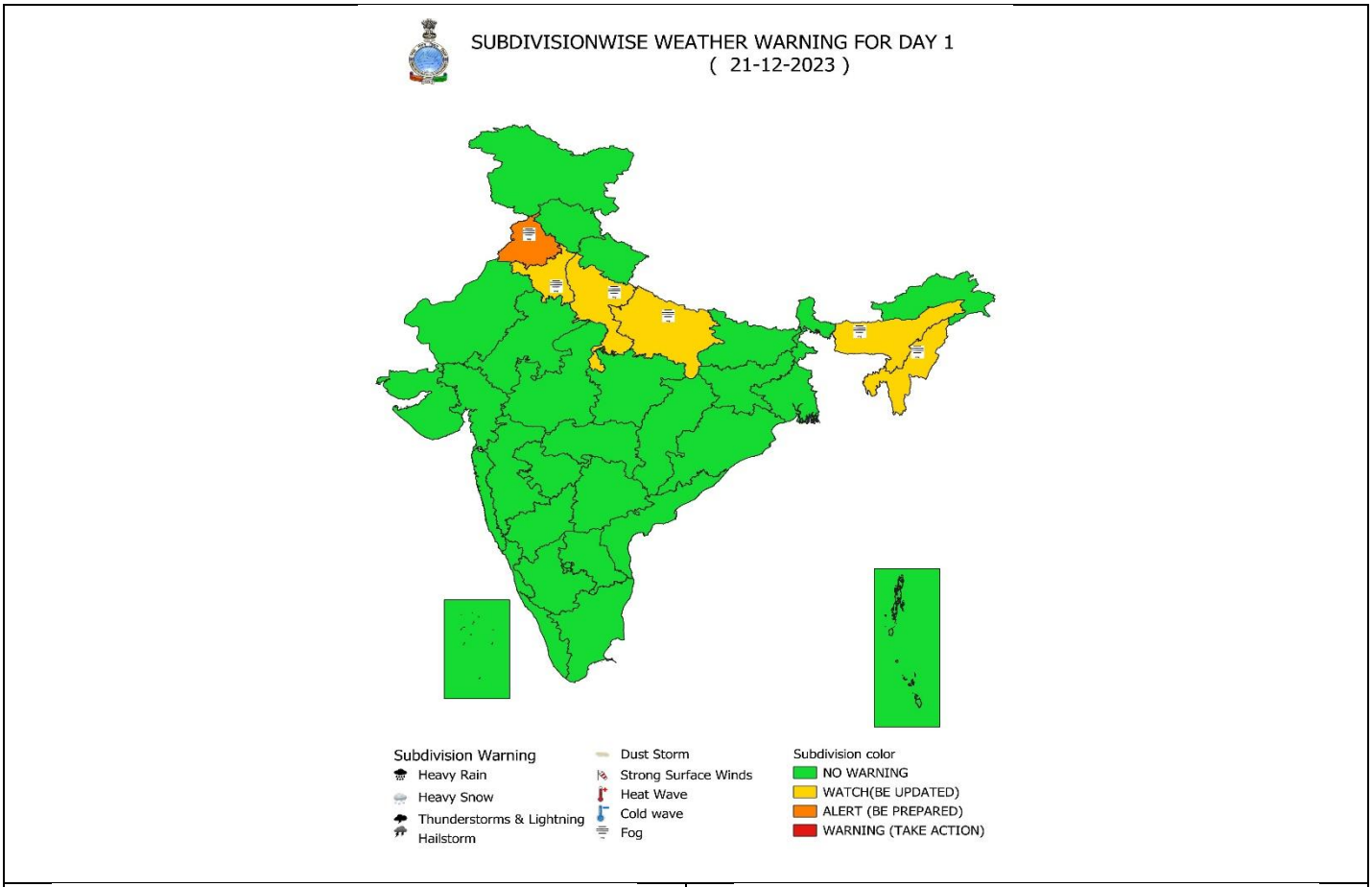
Impact expected:

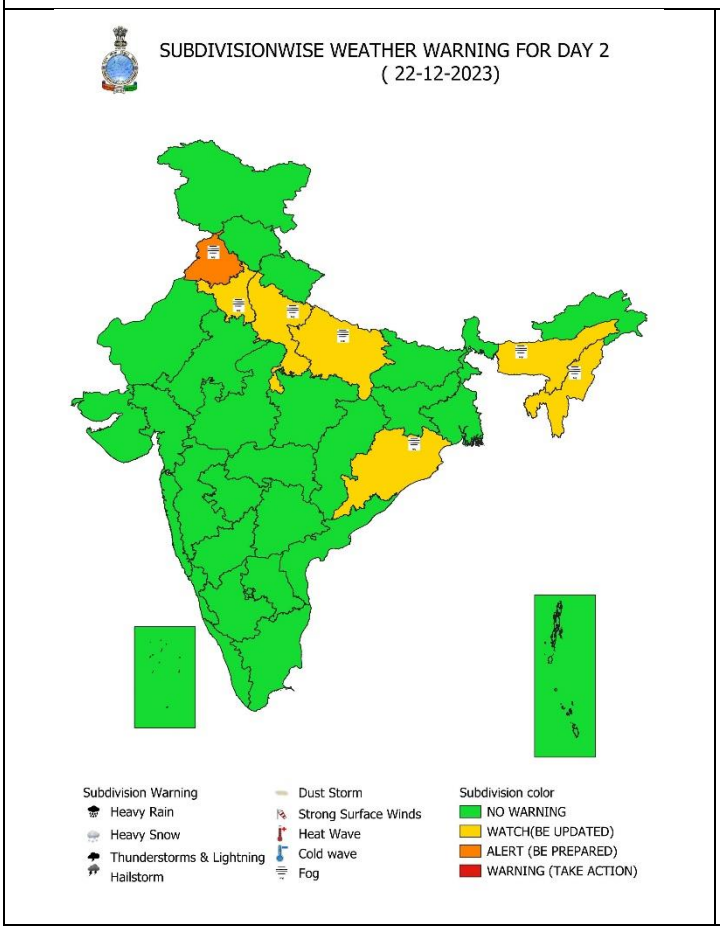
- **Transport and Aviation:**
- May affect some airports, highways and railway routes in the areas of met- sub-division.
- Difficult driving conditions with slower journey times.
- Some road traffic collisions.
- **Power Sector:**
- Chances of Tripping of Power lines in the very dense fog routes.
- **Human 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.
- Causes 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.

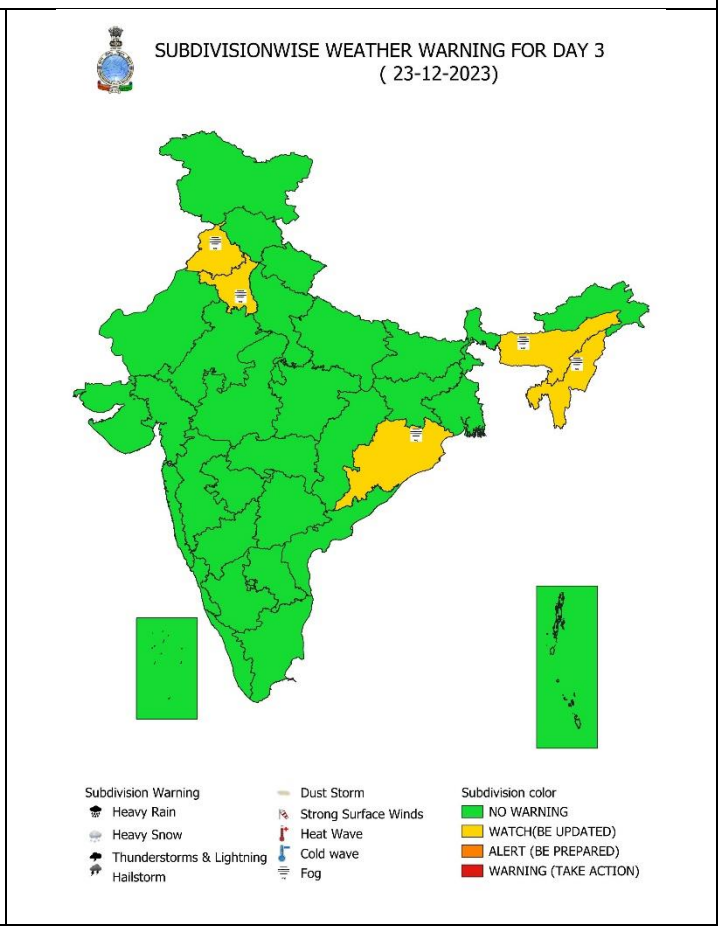
Action suggested:

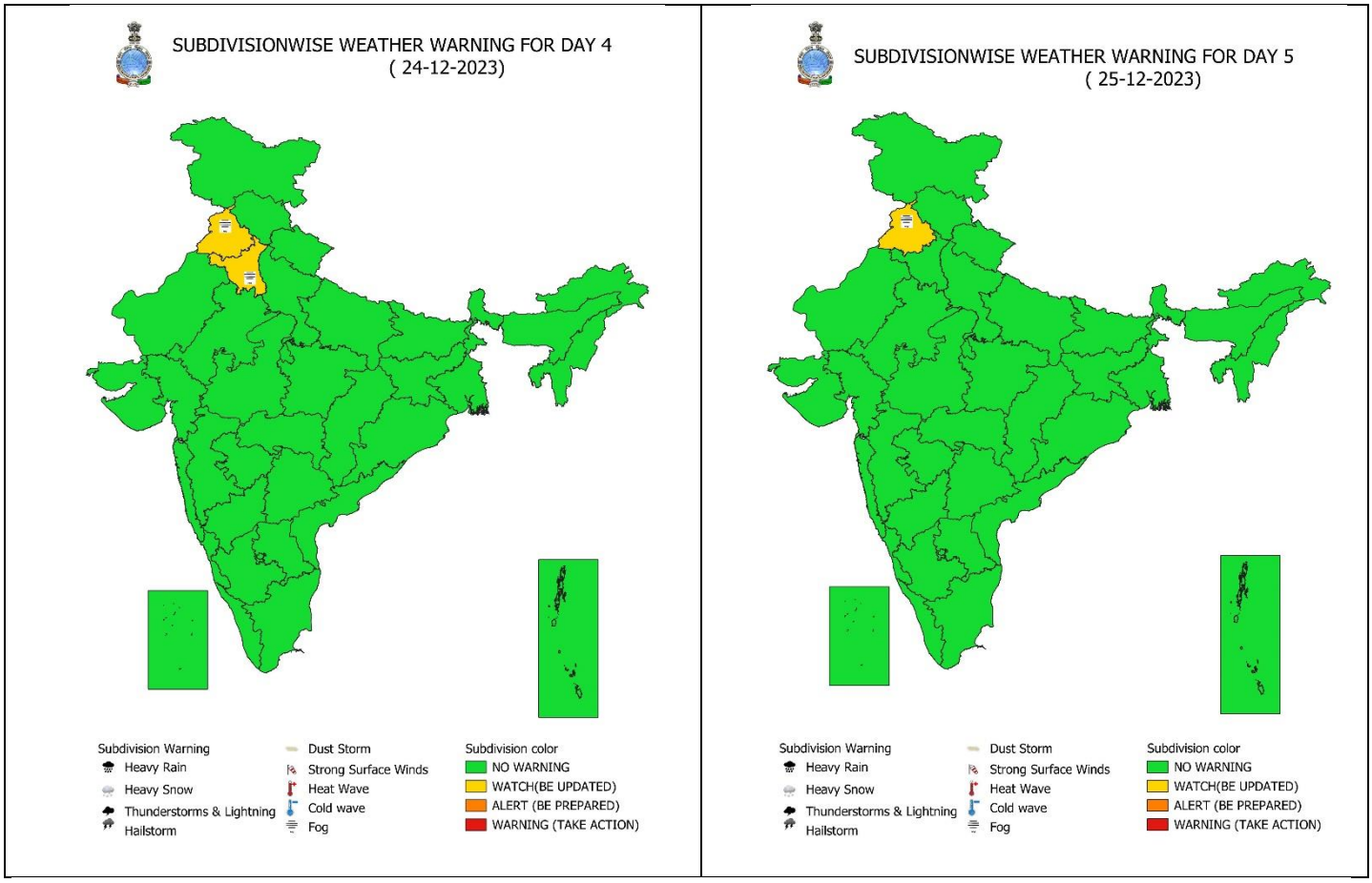
- **Transport and Aviation:**
- Careful while driving or outing through any transport.
- Use fog lights during driving.
- Be in touch with airlines and Railway and State transport for schedule of your journey.
- **Power Sector:**
- To keep ready Maintenance Team

- **Human Health:** To avoid outing until unless emergency and to cover the face.


SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
(21-12-2023)
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
(22-12-2023)
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
(23-12-2023)
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

- 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)

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