



Government of India
Ministry of Earth Sciences
India Meteorological Department



Date: 04th February, 2024
Time of Issue: 1330 hours IST

Special Message

FROM: INDIA METEOROLOGICAL DEPARTMENT
TO: CONTROL ROOM, NDM, MINISTRY OF HOME AFFAIRS
CONTROL ROOM NDMA
SECRETARY, MOES
DIRECTOR GENERAL, DOORDARSHAN
DIRECTOR GENERAL, AIR
PIB MOES
CHIEF SECRETARY, GOVT. OF JAMMU & KASHMIR
CHIEF SECRETARY, GOVT. OF LADAKH
CHIEF SECRETARY, GOVT. OF HIMACHAL PRADESH
CHIEF SECRETARY, GOVT. OF UTTARAKHAND
CHIEF SECRETARY, GOVT. OF PUNJAB
CHIEF SECRETARY, GOVT. OF HARYANA
CHIEF SECRETARY, GOVT. OF CHANDIGARH
CHIEF SECRETARY, GOVT. OF DELHI
CHIEF SECRETARY, GOVT. OF UTTAR PRADESH
CHIEF SECRETARY, GOVT. OF RAJASTHAN
CHIEF SECRETARY, GOVT. OF MADHYA PRADESH

Subject: Wet spell is likely to continue over Northwest & adjoining Central India on 04th & 05th February, 2024.

A Western Disturbance as a trough in middle tropospheric westerlies runs roughly along Long. 69°E to the north Lat. 32°N with an induced cyclonic circulation over northwest Rajasthan & adjoining Pakistan in lower tropospheric levels. Under the influence of these systems:

- Light to moderate widespread rainfall/snowfall accompanied by thunderstorm & lightning at isolated places is very likely over Jammu, Kashmir, Ladakh, Gilgit, Baltistan & Muzaffarabad, Himachal Pradesh and Uttarakhand on 04th; decreasing to isolated to scattered rainfall/snowfall on 05th & 06th February, 2024 and dry weather thereafter.
- Isolated **heavy snowfall** likely over higher reaches of Himachal Pradesh and Uttarakhand on 04th February.
- Isolated **hailstorm** activity also likely over lower reaches of Himachal Pradesh and Uttarakhand on 04th February.
- Light to moderate scattered to fairly widespread rainfall accompanied by thunderstorm, lightning & gusty winds (30-40 kmph) at isolated places very likely over Punjab, Haryana-Chandigarh-Delhi, Rajasthan, Bihar & Uttar Pradesh on 04th, light isolated rainfall on 05th February, 2024 and dry weather thereafter.
- ❖ Light to moderate scattered to fairly widespread rainfall/snowfall very likely over Arunachal Pradesh during 04rd to 07th; isolated to scattered rainfall over West Bengal & Sikkim, Assam & Meghalaya and Nagaland, Mizoram, Manipur & Tripura on 04rd & 07th February, 2024.
- ❖ Isolated **thunderstorm accompanied with hailstorm** also likely over Sikkim on 05th February.

The state-wise forecast is given below:

| S.No. | State/sub-division | Forecast |
|-------|-----------------------------|--|
| 1. | Jammu, Kashmir and Ladakh | <ul style="list-style-type: none"> • Light to moderate rain/snowfall accompanied with thunderstorm & lightning at most places on 4th February and at isolated places on 5th February. |
| 2. | Himachal Pradesh | <ul style="list-style-type: none"> • Light to moderate rain/snowfall accompanied with thunderstorm & lightning at most places on 4th February; at few places on 5th February and at isolated places on 6th February. • Heavy rainfall/snowfall at isolated places likely on 4th Feb. • Light to moderate hailstorm is likely at isolated places on 4th February. |
| 3. | Uttarakhand | <ul style="list-style-type: none"> • Light to moderate rain/snowfall accompanied with thunderstorm & lightning at most places on 4th February; at few places on 5th February and at isolated places on 6th February. • Heavy rainfall/snowfall at isolated places likely on 4th Feb. • Light to moderate hailstorm is likely at isolated places on 4th February. |
| 4. | Punjab | <ul style="list-style-type: none"> • Light to moderate rain accompanied with thunderstorm, lightning with gusty winds (30-40 kmph) at many places on 4th February and at isolated places on 5th February. |
| 5. | Haryana, Chandigarh & Delhi | <ul style="list-style-type: none"> • Light to moderate rain accompanied with thunderstorm, lightning with gusty winds (30-40 kmph) at many places on 4th February and at isolated places on 5th February. |
| 6. | West Uttar Pradesh | <ul style="list-style-type: none"> • Light to moderate rain accompanied with thunderstorm, lightning with gusty winds (30-40 kmph) at many places on 4th February and at isolated places on 5th February. |
| 7. | East Uttar Pradesh | <ul style="list-style-type: none"> • Light to moderate rain accompanied with thunderstorm, lightning with gusty winds (30-40 kmph) at many places on 4th February and at a few places on 5th February. |
| 8. | West Rajasthan | <ul style="list-style-type: none"> • Light to moderate rain accompanied with thunderstorm & lightning at a few places on 4th February. |
| 9. | East Rajasthan | Light to moderate rain accompanied with thunderstorm & lightning at a few places on 4 th February and at isolated places on 5 th February. |
| 10 | North Madhya Pradesh | <ul style="list-style-type: none"> • Light to moderate rain accompanied with thunderstorm & lightning at isolated places on 04th & 05th February. |

Impact expected due to dense to very dense fog in the night/morning hours over Punjab, Haryana-Chandigarh during 04th night to 05th morning

❖ 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 & Action Suggested due to heavy rainfall/snowfall over:

- 1. Himachal Pradesh and Uttarakhand on 04th February**
- 2. Sub-Himalayan West Bengal & Sikkim on 05th 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:

- ❖ **03rd February:** Himachal Pradesh, northwest Rajasthan, northwest Madhya Pradesh
- ❖ **04th February:** Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh, Delhi, Uttar Pradesh, Rajasthan and Madhya Pradesh
- ❖ **05th February:** Sub-Himalayan West Bengal & Sikkim

Impact expected:

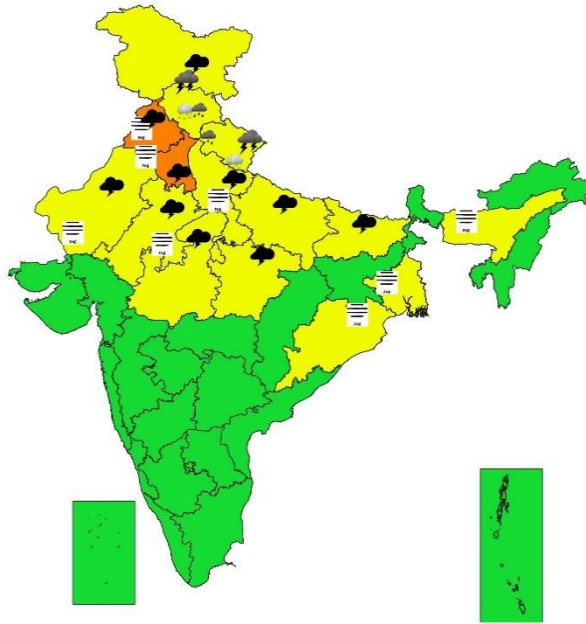
- ❖ Strong wind/hail may damage plantation, horticulture and standing crops.
- ❖ Hail may injure people and cattle at open places.
- ❖ Partial damage to vulnerable structures due to strong winds.
- ❖ Minor damage to kutcha houses/walls and huts.
- ❖ Loose objects may fly.

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.



SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
04-02-2024

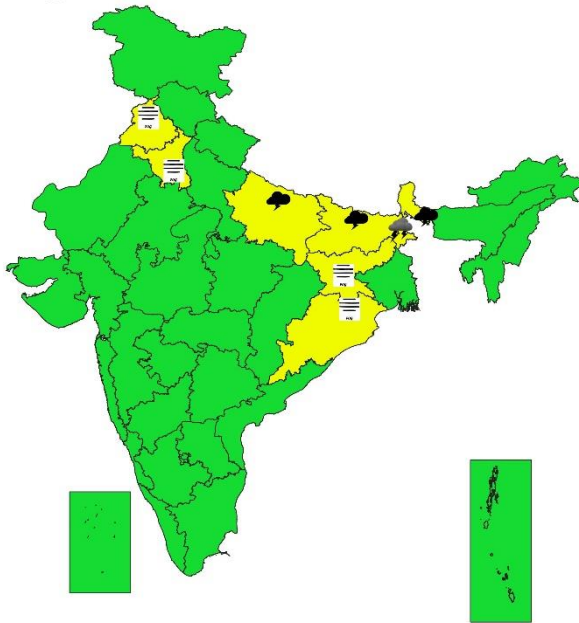


Subdivision Warning

- | | | | |
|------------|--------------|----------------------|---------------------------|
| Fog | Dust Storm | Very Heavy Rain | Subdivision colour |
| Heavy Rain | Heat Wave | Extremely Heavy Rain | NO WARNING |
| Heavy Snow | Cold Wave | Strong Surface Winds | WATCH (BE UPDATED) |
| Hailstorm | Cold Day | Thunder & Lightning | ALERT (BE PREPARED) |
| | Ground Frost | | WARNING (TAKE ACTION) |



SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
05-02-2024

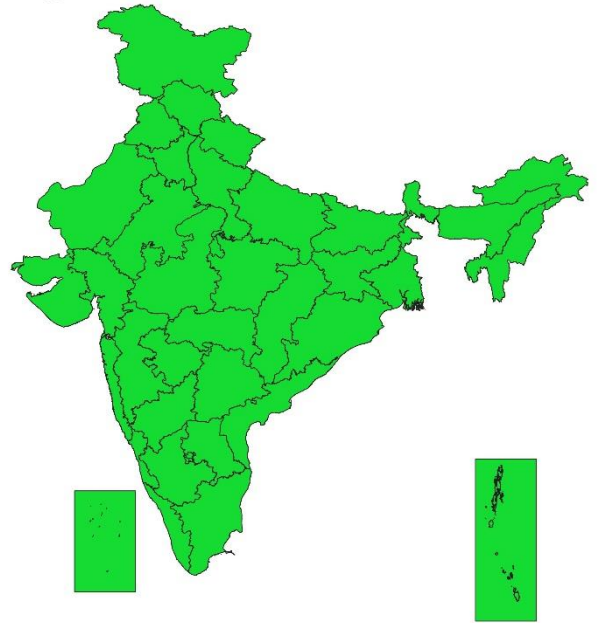


Subdivision Warning

- | | | | |
|------------|--------------|----------------------|---------------------------|
| Fog | Dust Storm | Very Heavy Rain | Subdivision Colour |
| Heavy Rain | Heat Wave | Extremely Heavy Rain | NO WARNING |
| Heavy Snow | Cold Wave | Strong Surface Winds | WATCH (BE UPDATED) |
| Hailstorm | Cold Day | Thunder & Lightning | ALERT (BE PREPARED) |
| | Ground Frost | | WARNING (TAKE ACTION) |

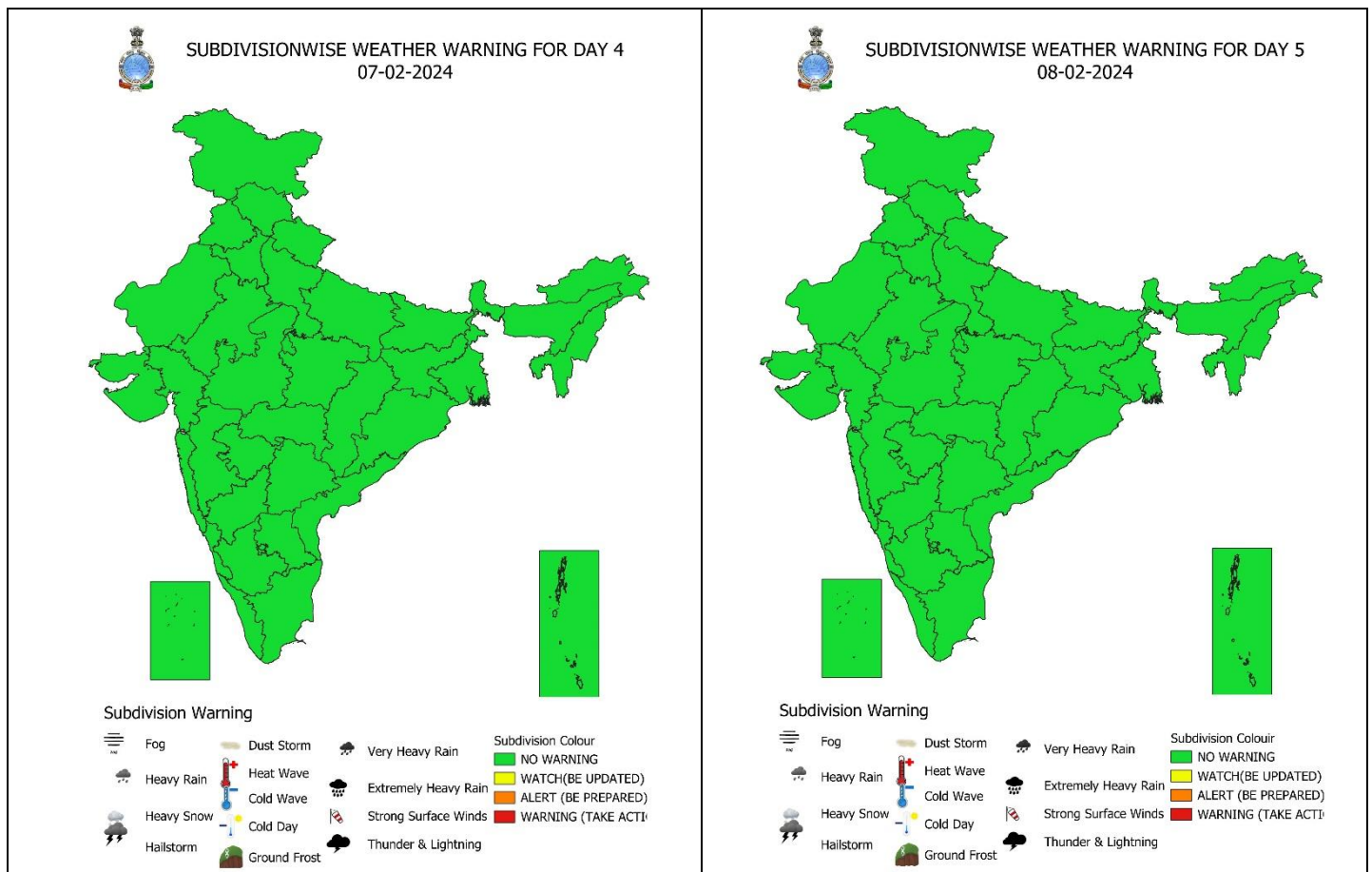


SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
06-02-2024



Subdivision Warning

- | | | | |
|------------|--------------|----------------------|---------------------------|
| Fog | Dust Storm | Very Heavy Rain | Subdivision Colour |
| Heavy Rain | Heat Wave | Extremely Heavy Rain | NO WARNING |
| Heavy Snow | Cold Wave | Strong Surface Winds | WATCH (BE UPDATED) |
| Hailstorm | Cold Day | Thunder & Lightning | ALERT (BE PREPARED) |
| | Ground Frost | | 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 | | Flash Flood Risk | |
|------------------------|-------------------------------|-----------------------------|--|
| Terms | Probability of Occurrence (%) | | |
| Unlikely | < 25 | High Risk (Take Action) | |
| Likely | 25 - 50 | Moderate Risk (Be Prepared) | |
| Very Likely | 50 - 75 | Low Risk (Be Updated) | |
| Most Likely | > 75 | | |

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°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 $\leq 15^{\circ}\text{C}$

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°C to -6.4°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

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