



Government of India
Ministry of Earth Sciences
India Meteorological Department



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Special Message (No. 4)

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: Intense spell of rainfall/snowfall over Western Himalayan Region and rainfall over plains of Northwest India till 03rd March with peak intensity on 01st & 02nd March, 2024.

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

- ❖ A Western Disturbance as a cyclonic circulation lies over northwest Afghanistan & neighbourhood and a trough runs from this cyclonic circulation to Northwest Arabian Sea in lower & middle tropospheric levels. An induced cyclonic circulation lies over southwest Rajasthan & adjoining Pakistan in lower tropospheric levels. High moisture feeding is taking place from Arabian Sea to northwest India and is likely to continue till 03rd March. Under their influence:
 - Fairly widespread to widespread light/moderate rainfall accompanied with thunderstorms & lightning very likely over Western Himalayan Region till 03rd March, 2024.
 - Scattered to fairly widespread light/moderate rainfall accompanied with thunderstorms, lightning & gusty winds (30-40 kmph gusting to 50 kmph) very likely over Punjab, Haryana-Chandigarh-Delhi and isolated to scattered light/moderate rainfall over Uttar Pradesh, Rajasthan and north Madhya Pradesh during 01st-03rd March, 2024.
 - **Isolated heavy to very heavy rainfall/snowfall very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad & Himachal Pradesh and isolated heavy rainfall/snowfall also very likely over Uttarakhand on 01st & 02nd March. Isolated heavy rainfall over Punjab on 02nd March, 2024.**
 - Hailstorm activity also very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, West Rajasthan on 01st; Punjab, Haryana, Chandigarh, West Uttar Pradesh, north

Madhya Pradesh, East Rajasthan on 01st & 02nd March and over East Uttar Pradesh on 02nd March, 2024.

The state-wise forecast is given below: (Warning graphics are given at [ANNEXURE-I](#))

S. No.	State/sub-division	Forecast
1.	Jammu, Kashmir and Ladakh	<ul style="list-style-type: none"> • Light to moderate rain/snowfall at most places accompanied with isolated thunderstorm, lightning & gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) on 01st & 02nd March. • Light to moderate rain/snowfall at some places on 03rd; at isolated places on 04th & 05th and at some places on 06th March. • Heavy to very heavy rainfall/snowfall at isolated places on 01st & 02nd March. • Hailstorm at isolated places on 01st March.
2.	Himachal Pradesh	<ul style="list-style-type: none"> • Light to moderate rain/snowfall at most places accompanied with isolated thunderstorm, lightning & gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) on 01st & 02nd March. • Light to moderate rain/snowfall at many places on 03rd; at isolated places on 04th & 05th and at some places on 06th March. • Heavy to very heavy rainfall/snowfall at isolated places on 01st & 02nd March. • Hailstorm at isolated places on 01st March.
3.	Uttarakhand	<ul style="list-style-type: none"> • Light to moderate rain/snowfall at many/most places accompanied with isolated thunderstorm, lightning & gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) on 01st & 02nd March. • Light to moderate rain/snowfall at many places accompanied with isolated thunderstorm & lightning on 03rd March. Light to moderate rain/snowfall at isolated places on 04th & 05th and at some places on 06th March. • Heavy rainfall/snowfall at isolated places on 01st & 02nd March. • Hailstorm at isolated places on 01st March.
4.	Punjab	<ul style="list-style-type: none"> • Light to moderate rain at many places accompanied with isolated thunderstorm, lightning & gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) on 01st; at most places accompanied with isolated thunderstorm, lightning & with gusty winds (speed reaching 50-60 kmph gusting to 70 kmph) on 02nd March. • Light to moderate rain/snowfall at isolated places on 03rd March. • Heavy rainfall at isolated places on 02nd March. • Hailstorm at isolated places on 01st & 02nd March.
5.	Haryana, Chandigarh & Delhi	<ul style="list-style-type: none"> • Light to moderate rain at some places accompanied with isolated thunderstorm, lightning & gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) on 01st; at many places accompanied with isolated thunderstorm, lightning & with gusty winds (speed reaching 50-60 kmph gusting to 70 kmph) on 02nd March over Haryana & Chandigarh. • Generally cloudy sky & very light rain/ thundershowers towards

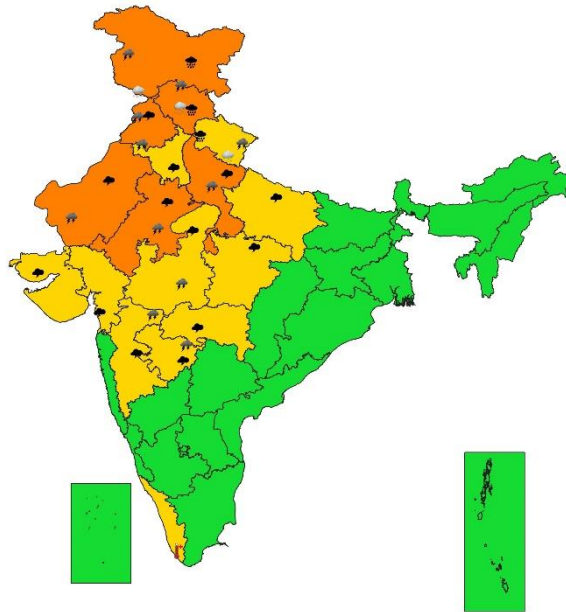
		<p>evening/night accompanied with gusty winds (speed 25-35 kmph) on 1st and generally cloudy sky & light to moderate rain/thundershowers with gusty winds (speed 40-50 kmph) on 2nd March over Delhi.</p> <ul style="list-style-type: none"> • Hailstorm at isolated places over Haryana & Chandigarh on 01st & 02nd March.
6.	West Uttar Pradesh	<ul style="list-style-type: none"> • Light to moderate rain at some places accompanied with isolated thunderstorm, lightning & gusty winds (speed reaching 30-40 kmph gusting to 50 kmph) on 01st & 03rd; at many places accompanied with isolated thunderstorm, lightning & gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) on 02nd March. • Hailstorm at isolated places on 01st & 02nd March.
7.	East Uttar Pradesh	<ul style="list-style-type: none"> • Light to moderate rain at isolated places accompanied with isolated thunderstorm & lightning on 01st; at many places accompanied with isolated thunderstorm, lightning & gusty winds (speed reaching 30-40 kmph gusting to 50 kmph) on 02nd; at some places accompanied with isolated thunderstorm, lightning & gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) on 03rd March. • Hailstorm at isolated places on 02nd March.
8.	West Rajasthan	<ul style="list-style-type: none"> • Light to moderate rain accompanied with thunderstorm & lightning with gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) at isolated places on 01st March; with gusty winds (speed reaching 30-40 kmph gusting to 50 kmph) at isolated places on 02nd March. • Hailstorm is likely at isolated places on 01st March.
9.	East Rajasthan	<ul style="list-style-type: none"> • Light to moderate rain at some places accompanied with isolated thunderstorm, lightning & gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) on 01st & 02nd March. • Hailstorm at isolated places on 01st & 02nd March.
10.	north Madhya Pradesh	<ul style="list-style-type: none"> • Light to moderate rain accompanied with thunderstorm & lightning with gusty winds (speed reaching 30-40 kmph gusting to 50 kmph) at isolated places on 01st and with gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) at isolated places on 02nd March. • Light to moderate rain accompanied with thunderstorm & lightning at isolated places on 03rd March over northeast Madhya Pradesh. • Hailstorm is likely at isolated places on 01st & 02nd March.

For more details, kindly refer: https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php

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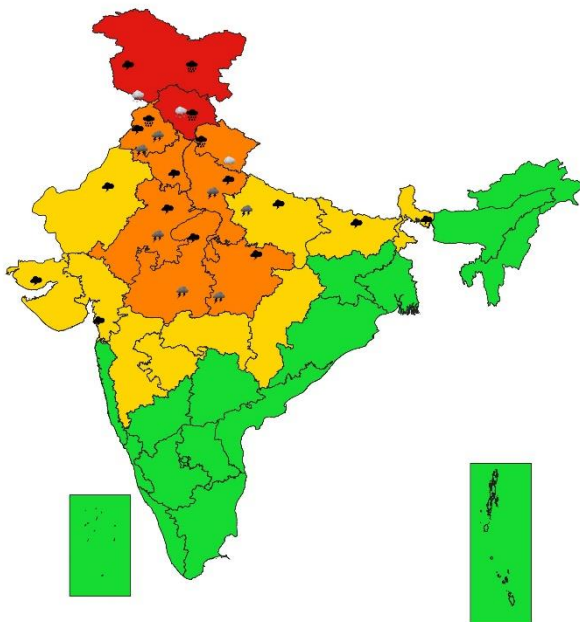
SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
01-03-2024



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



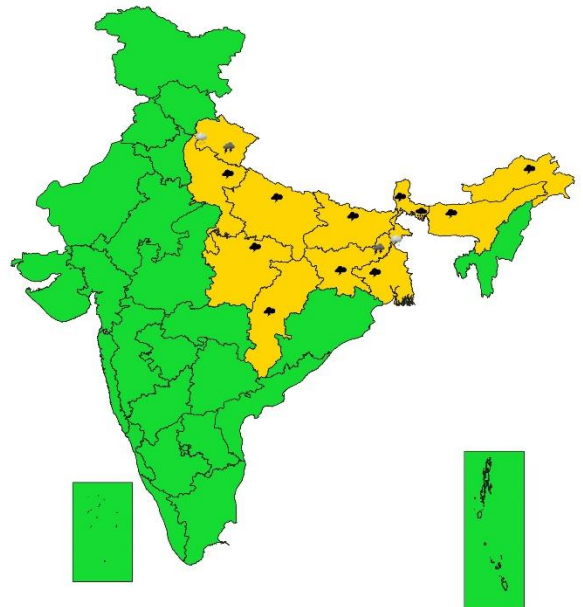
SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
02-03-2024



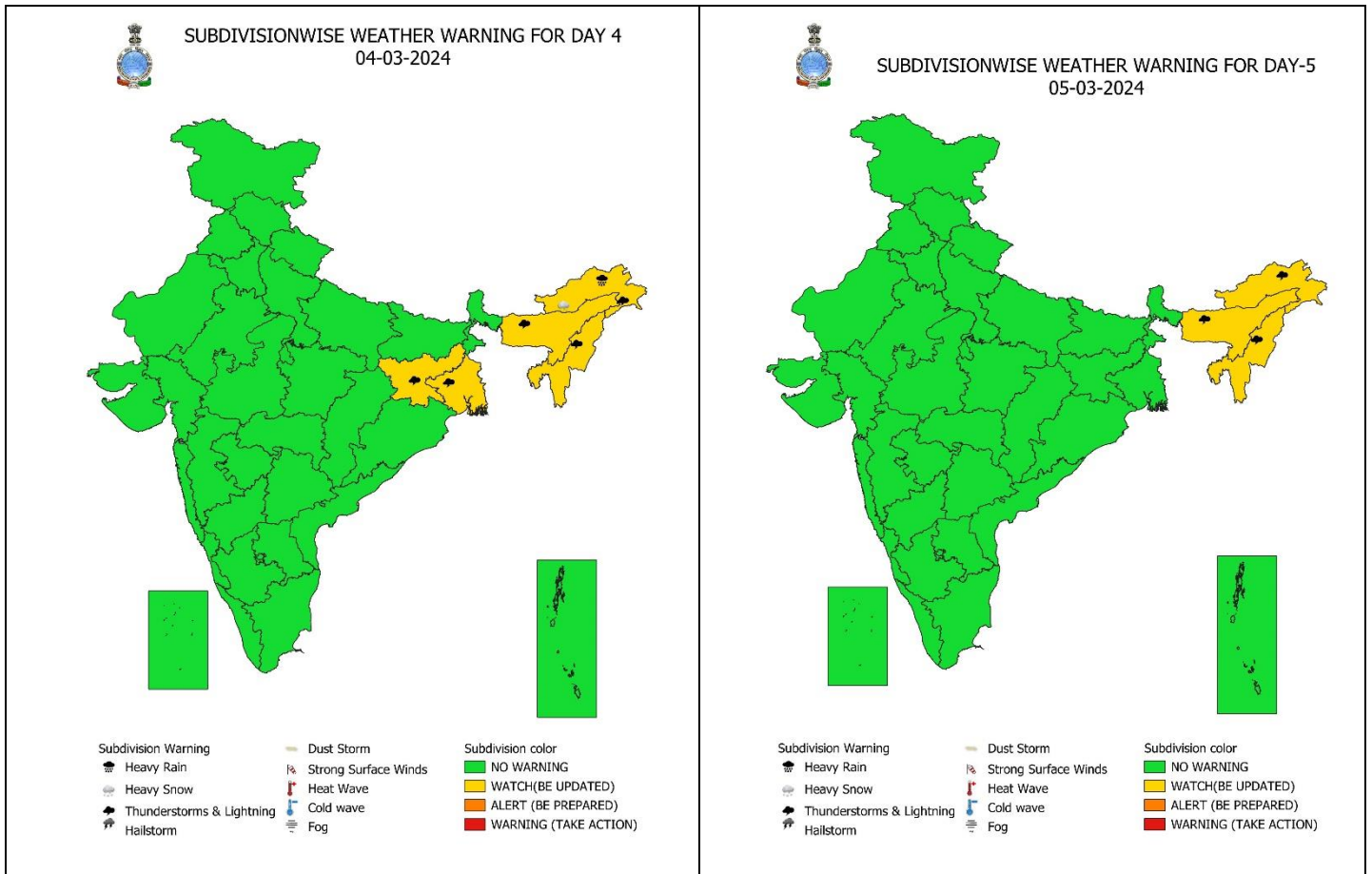
- | | | |
|-----------------------------|------------------------|--------------------------|
| Subdivision Warning | Dust Storm | Subdivision color |
| ☁ Heavy Rain | 🌪 Strong Surface Winds | 🟢 NO WARNING |
| ❄ Heavy Snow | 🔥 Heat Wave | 🟡 WATCH (BE UPDATED) |
| ⚡ Thunderstorms & Lightning | ❄ Cold wave | 🟠 ALERT (BE PREPARED) |
| 🌨 Hailstorm | 🌫 Fog | 🔴 WARNING (TAKE ACTION) |



SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
03-03-2024



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



Impact expected and action suggested due to thunderstorm with lightning/gusty winds & Hailstorm over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, West Rajasthan on 01st; Punjab, Haryana, Chandigarh, West Uttar Pradesh, East Rajasthan, north Madhya Pradesh on 01st & 02nd March and over East Uttar Pradesh on 02nd March, 2024.

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 & Action Suggested due to heavy/very heavy rainfall/snowfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand on 01st & 02nd March, 2024.

Impacts Expected:

- 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.

Action Suggested:

- 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 kuccha houses during heavy rainfall as it may collapse anytime soon
- Drive carefully.














Agromet advisories for Heavy rainfall, Gusty winds and hailstorms likely over various parts of the country:




- Harvest the matured wheat, jowar and gram in Madhya Maharashtra and Marathwada; mustard in north Rajasthan and Madhya Pradesh as early as possible and keep the harvested produce at safer places.
- Use hail nets or hail caps in fruit orchards to protect them from mechanical damage and provide mechanical support to horticultural crops & staking to vegetables in Himachal Pradesh, Uttarakhand, Punjab, Haryana, Uttar Pradesh, north Rajasthan, Madhya Pradesh, Chhattisgarh, Madhya Maharashtra, Marathwada and Vidarbha.
- Make necessary arrangements for draining out excess water from crop fields to avoid water stagnation in Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab and Sikkim.
- Keep harvested produce in safe places.

Legends & abbreviations:

- ❖ **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; **PTO:** Part Time Office.
- ❖ **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		