



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Date: 13<sup>th</sup> April, 2024

Time of Issue: 1330 hours IST

Special Message (No.- 5)

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: Moderate to severe thunderstorms accompanied with gusty winds, hail, lightning likely over Northwest India during 13<sup>th</sup>-15<sup>th</sup> with peak intensity on 13<sup>th</sup> & 14<sup>th</sup> April, 2024.**

**Weather Systems and Forecast & Warnings:**

- ❖ An intense **Western Disturbance** as a cyclonic circulation lies over Iran with a trough aloft in middle & upper tropospheric westerlies roughly along long. 56°E to the north of lat. 34°N. High moisture feeding from Arabian Sea is likely into Northwest India during 13th-15th April. A cyclonic circulation lies over south Rajasthan & adjoining north Gujarat and a trough runs from this cyclonic circulation to north Odisha in lower tropospheric levels. A cyclonic circulation lies over Comorin area & neighbourhood in lower tropospheric levels and a trough/wind discontinuity runs from this cyclonic circulation to Konkan and Goa in lower tropospheric levels. Under the influence of the above weather systems:
  - ✓ Fairly widespread to widespread light to moderate rainfall/snowfall with **thunderstorm, lightning & gusty winds (30-40 kmph)** over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand during 13<sup>th</sup>-15<sup>th</sup> April, 2024.
  - ✓ Scattered to fairly widespread rainfall with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Madhya Pradesh on 13<sup>th</sup> & 14<sup>th</sup> April and over West Uttar Pradesh, Punjab, Haryana-Chandigarh-Delhi and Rajasthan during 13<sup>th</sup>-15<sup>th</sup> April, 2024.
  - ✓ **Isolated hailstorm very likely over** Jammu and Kashmir, Rajasthan and East Madhya Pradesh on 13<sup>th</sup>; Himachal Pradesh, Punjab, Haryana and *West Madhya Pradesh* on 13<sup>th</sup> & 14<sup>th</sup> and Uttarakhand & West Uttar Pradesh on 14<sup>th</sup> April.
  - ✓ **Isolated heavy rainfall/snowfall** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad during 13<sup>th</sup>- 15<sup>th</sup> and Himachal Pradesh on 14<sup>th</sup> & 15<sup>th</sup> April, 2024.
  - ✓ **Dust storm/thundersquall (50-60 kmph)** very likely over Rajasthan and Uttar Pradesh today.
  - ✓ **Strong surface winds (30-40 kmph)** very likely to prevail over Haryana-Chandigarh-Delhi and Uttar Pradesh during 16<sup>th</sup>-18<sup>th</sup> April, 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"> <li>Light to moderate rain/snowfall at most places accompanied with isolated thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 40-50 kmph) during 13<sup>th</sup>-16<sup>th</sup> April.</li> <li><b>Heavy rainfall/snowfall at isolated places also likely during 13<sup>th</sup>-15<sup>th</sup> April.</b></li> <li><b>Hailstorm also likely at isolated places on 13<sup>th</sup> April.</b></li> </ul>
2.	Himachal Pradesh	<ul style="list-style-type: none"> <li>Light to moderate rain/snowfall at many places on 13<sup>th</sup>; at most places on 14<sup>th</sup> &amp; 15<sup>th</sup>; at a few places on 16<sup>th</sup> April.</li> <li>Light to moderate rain/snowfall accompanied with isolated thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 40-50 kmph) during 13<sup>th</sup> – 16<sup>th</sup> April.</li> <li><b>Heavy rainfall/snowfall at isolated places also likely on 14<sup>th</sup> &amp; 15<sup>th</sup> April.</b></li> <li><b>Hailstorm also likely at isolated places on 13<sup>th</sup> &amp; 14<sup>th</sup> April.</b></li> </ul>
3.	Uttarakhand	<ul style="list-style-type: none"> <li>Light to moderate rain/snowfall at a few places on 13<sup>th</sup>; at most places on 14<sup>th</sup>; at a few places on 15<sup>th</sup> April.</li> <li>Light to moderate rain/snowfall accompanied with isolated thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 40-50 kmph) during 13<sup>th</sup> – 15<sup>th</sup> April.</li> <li><b>Hailstorm also likely at isolated places on 14<sup>th</sup> April.</b></li> </ul>
4.	Punjab	<ul style="list-style-type: none"> <li>Light to moderate rain at many places with isolated thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 30-50 kmph) on 13<sup>th</sup> &amp; 14<sup>th</sup> April.</li> <li>Light to moderate rain at a few places on 15<sup>th</sup> April.</li> <li><b>Hailstorm also likely at isolated places on 13<sup>th</sup> &amp; 14<sup>th</sup> April.</b></li> </ul>
5.	Haryana, Chandigarh & Delhi	<ul style="list-style-type: none"> <li>Light to moderate rain at isolated places with thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 40-50 kmph) on 14<sup>th</sup> April.</li> <li>Light to moderate rain at isolated places on 15<sup>th</sup> April.</li> <li><b>Hailstorm also likely at isolated places on 13<sup>th</sup> &amp; 14<sup>th</sup> April.</b></li> </ul>
6.	West Uttar Pradesh	<ul style="list-style-type: none"> <li>Light to moderate rain at isolated places with thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 30-50 kmph) on 13<sup>th</sup> &amp; 14<sup>th</sup> April.</li> <li>Dust storm likely at isolated on 13<sup>th</sup> April.</li> <li><b>Hailstorm also likely at isolated places on 14<sup>th</sup> April.</b></li> </ul>
7.	East Uttar Pradesh	<ul style="list-style-type: none"> <li>Light to moderate rain at isolated places with thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 30-40 kmph) on 14<sup>th</sup> April.</li> <li>Dust storm likely at isolated on 13<sup>th</sup> April.</li> </ul>
8.	West Rajasthan	<ul style="list-style-type: none"> <li>Light to moderate rain at a few places with isolated thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 30-60 kmph) during 13<sup>th</sup> -15<sup>th</sup> April.</li> <li>Dust storm likely at isolated on 13<sup>th</sup> April.</li> <li><b>Hailstorm also likely at isolated places on 13<sup>th</sup> April.</b></li> </ul>

9.	East Rajasthan	<ul style="list-style-type: none"> <li>Light to moderate rain at a few places with isolated thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 30-50 kmph) on 13<sup>th</sup> &amp; 14<sup>th</sup> April.</li> <li>Dust storm likely at isolated on 13<sup>th</sup> April.</li> <li><b>Hailstorm also likely at isolated places on 13<sup>th</sup> April.</b></li> </ul>
10.	West Madhya Pradesh	<ul style="list-style-type: none"> <li>Light to moderate rain at isolated places with thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 40-50 kmph) on 13<sup>th</sup> &amp; 14<sup>th</sup> April.</li> <li>Light to moderate rain at isolated places on 15<sup>th</sup> &amp; 16<sup>th</sup> April.</li> <li><b>Hailstorm also likely at isolated places on 13<sup>th</sup> &amp; 14<sup>th</sup> April.</b></li> </ul>
11.	East Madhya Pradesh	<ul style="list-style-type: none"> <li>Light to moderate rain at isolated places with thunderstorm, lightning &amp; gusty winds (speed occasionally reaching 30-50 kmph) on 13<sup>th</sup> &amp; 14<sup>th</sup> April.</li> <li>Light to moderate rain at isolated places on 15<sup>th</sup> &amp; 16<sup>th</sup> April.</li> <li><b>Hailstorm also likely at isolated places on 13<sup>th</sup> April.</b></li> </ul>

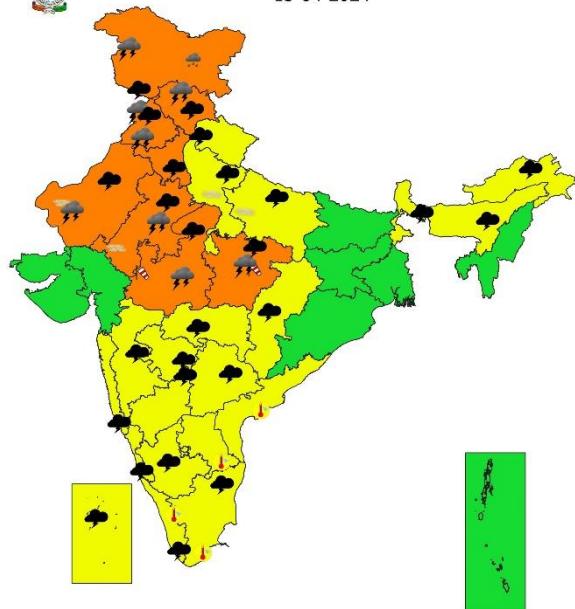
For more details, kindly refer: [https://mausam.imd.gov.in/responsive/all\\_india\\_forcast\\_bulletin.php](https://mausam.imd.gov.in/responsive/all_india_forcast_bulletin.php)

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**ANNEXURE I**



SUBDIVISIONWISE WEATHER WARNING FOR DAY 1  
13-04-2024

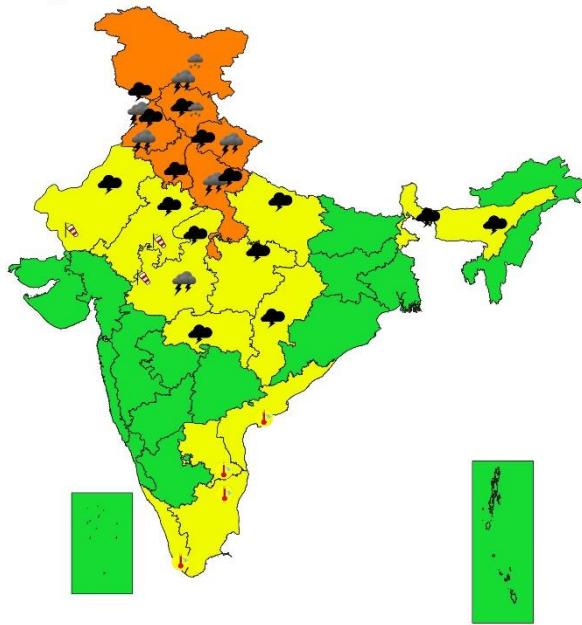


Subdivision Warning

			Subdivision Colour
	Fog		COLD DAY
	Heavy Rain		NO WARNING
	Very Heavy Rain		WATCH(BE UPDATED)
	Extremely Heavy Rain		ALERT (BE PREPARED)
	Heat Wave		WARNING (TAKE ACTION)
	Cold Wave		



SUBDIVISIONWISE WEATHER WARNING FOR DAY 2  
14-04-2024

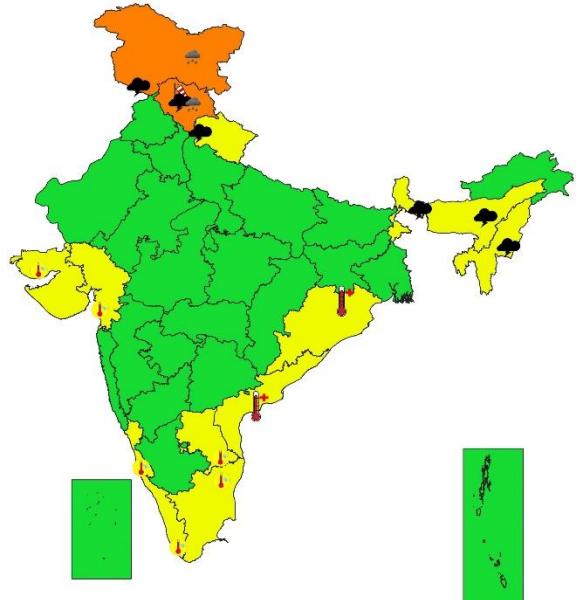


Subdivision Warning

			Subdivision Colour
	Fog		COLD DAY
	Heavy Rain		NO WARNING
	Very Heavy Rain		WATCH(BE UPDATED)
	Extremely Heavy Rain		ALERT (BE PREPARED)
	Heat Wave		WARNING (TAKE ACTION)
	Cold Wave		



SUBDIVISIONWISE WEATHER WARNING FOR DAY 3  
15-04-2024

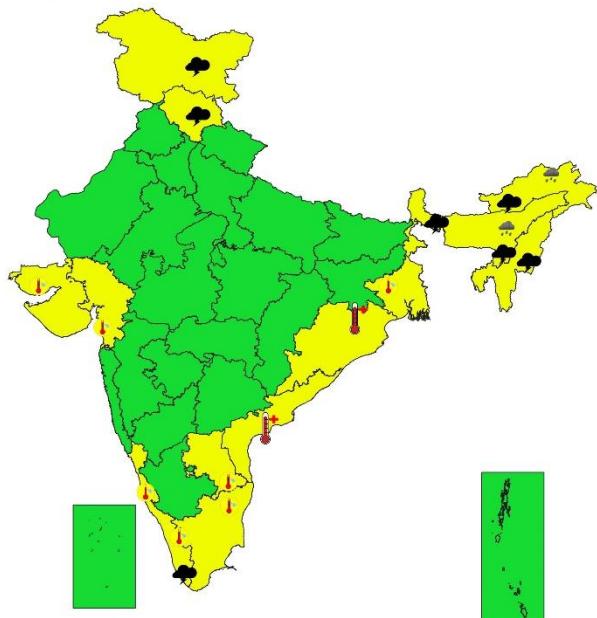


Subdivision Warning

			Subdivision Colour
	Fog		COLD DAY
	Heavy Rain		NO WARNING
	Very Heavy Rain		WATCH(BE UPDATED)
	Extremely Heavy Rain		ALERT (BE PREPARED)
	Heat Wave		WARNING (TAKE ACTION)
	Cold Wave		



SUBDIVISIONWISE WEATHER WARNING FOR DAY 4  
16-04-2024

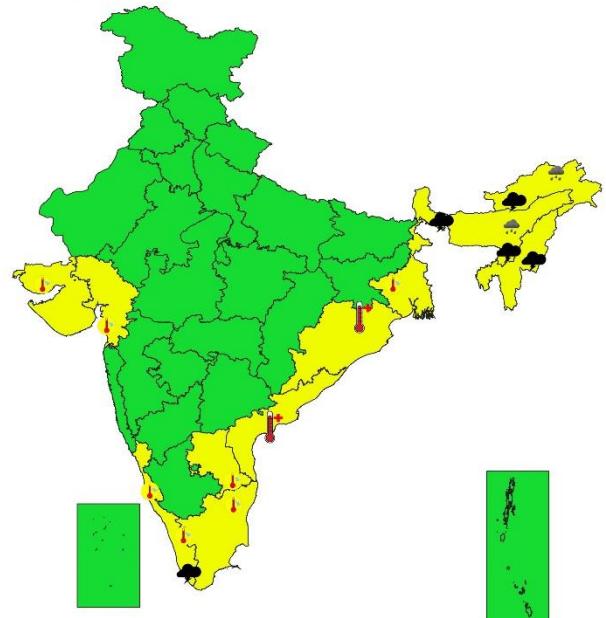


Subdivision Warning

	Fog		Heavy Snow		Cold Day
	Heavy Rain		Hailstorm		Ground Frost
	Very Heavy Rain		Dust Storm		Strong Surface Winds
	Extremely Heavy Rain		Heat Wave		Thunder & Lightning
	Cold Wave				Hot and Humid



SUBDIVISIONWISE WEATHER WARNING FOR DAY 5  
17-04-2024



Subdivision Warning

	Fog		Heavy Snow		Cold Day
	Heavy Rain		Hailstorm		Ground Frost
	Very Heavy Rain		Dust Storm		Strong Surface Winds
	Extremely Heavy Rain		Heat Wave		Thunder & Lightning
	Cold Wave				Hot and Humid

**Impact expected and action suggested due to thunderstorm accompanied with lightning/gusty winds & Hailstorm over East Madhya Pradesh, Jammu, Rajasthan on 13<sup>th</sup>; West Madhya Pradesh, Himachal Pradesh, Punjab, Haryana on 13<sup>th</sup> & 14<sup>th</sup> and Uttarakhand & West Uttar Pradesh on 14<sup>th</sup> April.**

**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 rainfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad during 13<sup>th</sup>- 15<sup>th</sup> and Himachal Pradesh on 14<sup>th</sup> & 15<sup>th</sup> April, 2024.**

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

**Agromet advisories for Heavy Rainfall, Gusty Winds, Hailstorm and Heat Wave likely over various parts of the country**

- Withhold harvesting of mustard and pulses in Jammu & Kashmir; mustard in Himachal Pradesh; wheat and mustard in Punjab and wheat in Haryana. Keep the already harvested crop at safer places.
- Undertake immediate harvesting of matured mustard, wheat and barley in Uttarakhand; wheat and mustard in West Uttar Pradesh and keep the harvested produce at safer places.
- Harvest the matured crops, fruits and vegetables during clear weather and keep the harvested produce at safer places or cover the heaps of harvested produce in the fields with tarpaulin sheets in Rajasthan and Madhya Pradesh.
- Use hail nets or hail caps in fruit orchards to prevent mechanical damage and provide mechanical support to horticultural crops & staking to vegetables in North-West India and Madhya Pradesh.
- Make necessary arrangements for draining out excess water from crop fields to avoid water stagnation in Tamil Nadu, Jammu & Kashmir and Himachal Pradesh.

### 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

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)