



Government of India
Ministry of Earth Sciences
India Meteorological Department



Date: 11th April, 2024
Time of Issue: 1400 hours IST

Special Message (No.- 3)

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

Subject: Light to moderate rainfall spell accompanied with thunderstorms, gusty winds & hail over Northwest India during 13th-15th with peak intensity on 13th & 14th April, 2024.

Weather Systems and Forecast & Warnings: (Annexure I)

- ❖ An intense **Western Disturbance** as a cyclonic circulation lies over west Iran in middle & upper tropospheric westerlies and another one in middle tropospheric westerlies runs along Long. 72°E to the north of Lat. 32°N. High moisture feeding from Arabian Sea is likely into Northwest India during 13th-15th April. As a result:
 - ✓ Isolated light rainfall/snowfall very likely over Jammu-Kashmir, Himachal Pradesh, Uttarakhand during 11th-12th and fairly widespread to widespread light to moderate rainfall/snowfall with **thunderstorm, lightning & gusty winds (30-40 kmph)** over the region during 13th-15th April, 2024.
 - ✓ Scattered to fairly widespread rainfall with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Northwest Uttar Pradesh, Punjab and Haryana during 13th-15th April and isolated to scattered light to moderate rainfall with **thunderstorm, lightning** very likely over Rajasthan during 11th-15th April, 2024.
 - ✓ **Isolated heavy rainfall/snowfall very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 13th & 14th and Himachal Pradesh on 14th April, 2024.**
 - ✓ **Isolated hailstorm very likely over Jammu, Punjab, Haryana, Rajasthan on 13th; Himachal Pradesh on 13th & 14th and Uttarakhand on 14th and over West Uttar Pradesh on 14th April.**
 - ✓ **Dust storm/thundersquall (50-60 kmph)** very likely over Rajasthan on 13th & 14th April, 2024.

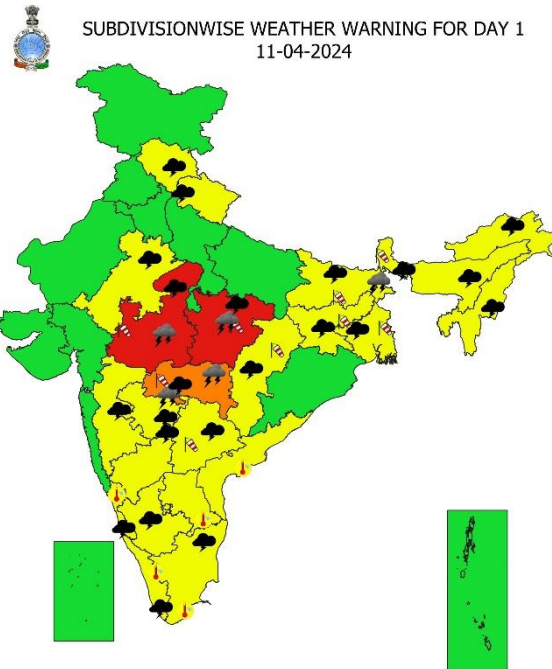
The state-wise forecast is given below: (Warning graphics are given at ANNEXURE-I)

S. No.	State/sub-division	Forecast
1.	Jammu, Kashmir and Ladakh	<ul style="list-style-type: none"> • Light to moderate rain/snowfall accompanied with thunderstorm, lightning at isolated places during 13th -15th April. • Light to moderate rain at some places on 16th; at isolated places on 17th April. • Heavy rainfall/snowfall at isolated places also likely on 13th & 14th April. • Hailstorm also likely at isolated places on 13th April.
2.	Himachal Pradesh	<ul style="list-style-type: none"> • Light to moderate rain/snowfall accompanied with thunderstorm, lightning at isolated places during 13th -15th April. • Light to moderate rain at some places on 16th; at isolated places on 17th April. • Heavy rainfall/snowfall at isolated places also likely on 14th April. • Hailstorm also likely at isolated places on 13th & 14th April.
3.	Uttarakhand	<ul style="list-style-type: none"> • Light to moderate rain/snowfall accompanied with thunderstorm, lightning at isolated places during 13th -15th April. • Light to moderate rain at isolated places on 16th April. • Hailstorm also likely at isolated places on 14th April.
4.	Punjab	<ul style="list-style-type: none"> • Light to moderate rain/snowfall accompanied with thunderstorm, lightning at isolated places on 13th &14th April. • Light to moderate rain at some places on 15th and at isolated places on 16th April. • Hailstorm also likely at isolated places on 13th April.
5.	Haryana, Chandigarh & Delhi	<ul style="list-style-type: none"> • Light to moderate rain/snowfall accompanied with thunderstorm, lightning at isolated places on 13th &14th April. • Light to moderate rain at some places on 15th April. • Hailstorm also likely at isolated places on 13th April.
6.	West Uttar Pradesh	<ul style="list-style-type: none"> • Light rain accompanied with thunderstorm, lightning & gusty winds (speed occasionally reaching 30-40 kmph) at isolated places on 13th & 14th April. • Light to moderate rain at isolated places on 15th April. • Hailstorm also likely at isolated places on 14th April.
7.	East Uttar Pradesh	<ul style="list-style-type: none"> • Light to moderate rain at isolated places during 13th -15th April.
8.	West Rajasthan	<ul style="list-style-type: none"> • Light rain accompanied with thunderstorm/dust storm, lightning & squally winds (speed occasionally reaching 50-60 kmph) at isolated places on 13th; with dust storm, gusty winds (speed occasionally reaching 40-50) at isolated places on 14th April; with lightning at isolated places on 15th April. • Hailstorm also likely at isolated places on 13th April.

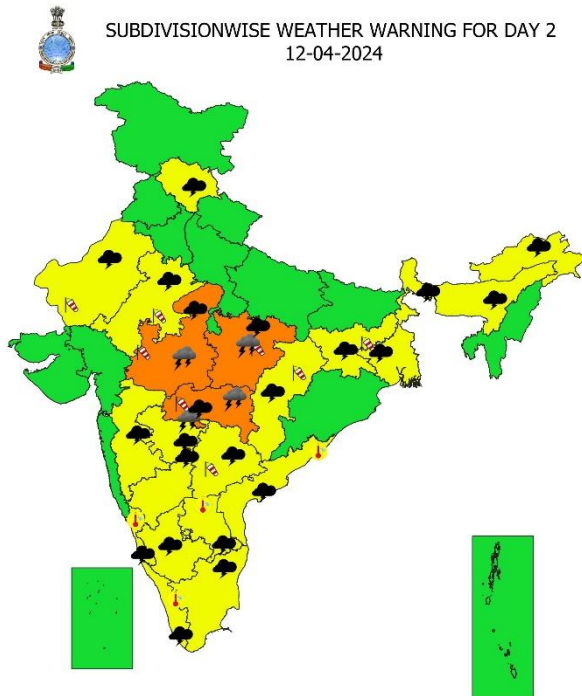
9.	East Rajasthan	<ul style="list-style-type: none">• Light rain accompanied with thunderstorm/dust storm, lightning & squally winds (speed occasionally reaching 50-60 kmph) at isolated places on 13th & 14th; with gusty winds (speed occasionally reaching 30-40 kmph) at isolated places on 15th April.• Hailstorm also likely at isolated places on 14th April.
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For more details, kindly refer: https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php

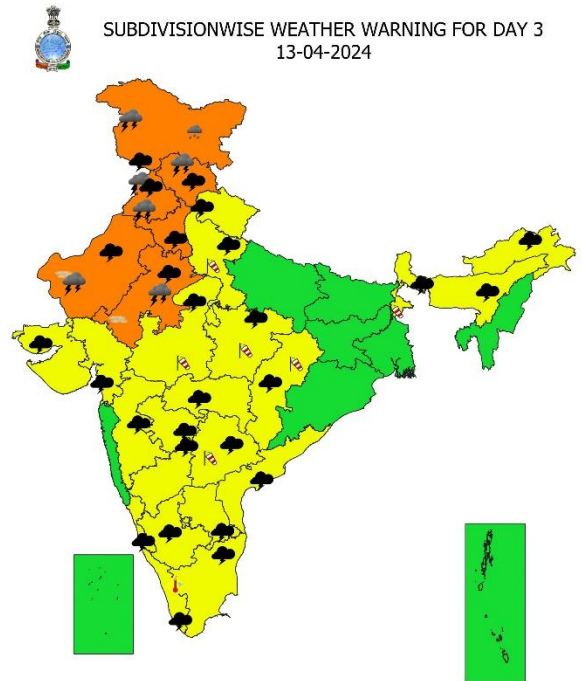
Krishna Mishra
Scientist 'C'
NWFC, IMD New Delhi



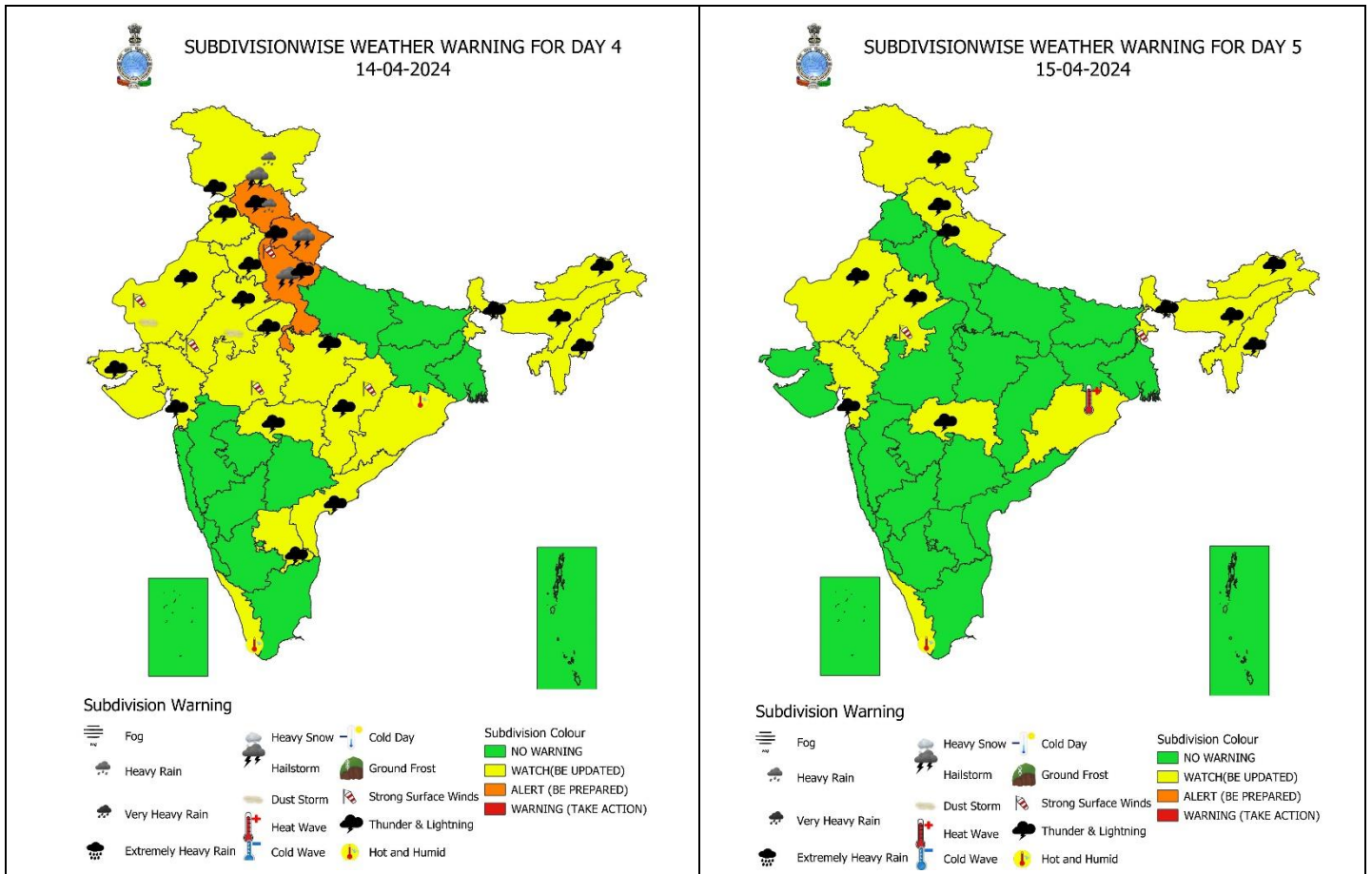
- Subdivision Warning**
- | | | | |
|----------------------|------------|----------------------|---------------------------|
| Fog | Heavy Snow | Cold Day | Subdivision Colour |
| Heavy Rain | Hailstorm | Ground Frost | NO WARNING |
| Very Heavy Rain | Dust Storm | Strong Surface Winds | WATCH (BE UPDATED)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



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- | | | | |
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Impact & Action Suggested due to heavy rainfall/snowfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 13th & 14th and Himachal Pradesh on 14th April, 2024.

Impacts Expected:

- Disruption of Electricity.
- Landslide, rock fall and mudslides, Blocking/washout of roads/highways/bridges Nallahs.
- Disruption of traffic flow.
- Damage to Kuchcha 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 kuchcha houses during heavy rainfall as it may collapse anytime soon
- Drive carefully.

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

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

- Harvest the matured crops, fruits and vegetables at the earliest and keep the harvested produce at safer places or cover the heaps of harvested produce in the fields with tarpaulin sheets in North-West India.
- Make necessary arrangements for draining out excess water from crop fields to avoid water stagnation in Jammu & Kashmir.

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		