

Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Press Release

Date: 03<sup>rd</sup> March, 2024

Time of Issue: 1300 hours IST

**Subject: Intense spell of rainfall/snowfall likely to continue over Himachal Pradesh & Uttarakhand and moderate thunderstorm/hailstorm activity over East Uttar Pradesh, Bihar & Sikkim on today and significant decrease thereafter.**

**Realised weather during past 24 hours till 0830 hours IST of today: (Annexure I)**

- ❖ **Light to moderate rainfall/snowfall** at most places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand; at isolated places over Arunachal Pradesh.
- ❖ **Light to moderate rainfall** at most places over Punjab, Uttar Pradesh; at many places over Haryana-Chandigarh-Delhi, East Madhya Pradesh; at a few places over East Rajasthan, West Madhya Pradesh, Bihar, Gujarat Region; at isolated places over West Rajasthan, Vidarbha, Chhattisgarh, Jharkhand, Konkan & Goa, Madhya Maharashtra, Saurashtra & Kutch, Sub-Himalayan West Bengal & Sikkim, Odisha, Andaman & Nicobar Islands.
- ❖ **Heavy to very Heavy rainfall/snowfall** occurred at isolated places over Jammu & Kashmir, Uttarakhand and **Heavy rainfall/snowfall** at isolated places over Himachal Pradesh.
- ❖ **Heavy rainfall** occurred at isolated place over Haryana.
- ❖ Isolated **hailstorm** observed over Jammu-Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Uttar Pradesh, Rajasthan and Madhya Pradesh.

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

- ❖ **The Western Disturbance as a cyclonic circulation lies over north Pakistan & neighbourhood in middle & upper tropospheric levels and an induced low Pressure Area lies over west Punjab & neighbourhood. Under their influence:**
  - **Fairly widespread to widespread** light/moderate rainfall/snowfall accompanied with **thunderstorms & lightning** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand on 03<sup>rd</sup> March, 2024 and significant reduction in distribution and intensity thereafter.
  - **Scattered to Fairly widespread** light/moderate rainfall accompanied with **thunderstorms, lightning & gusty winds (30-40 kmph)** very likely over Uttar Pradesh and isolated light/moderate rainfall over Madhya Pradesh on 03<sup>rd</sup> March and decrease in distribution and intensity thereafter.
  - Isolated to Scattered light/moderate rainfall likely over Punjab, Haryana-Chandigarh-Delhi, East Rajasthan on 3<sup>rd</sup> March.
  - **Isolated heavy rainfall/snowfall very likely over Uttarakhand on 03<sup>rd</sup> March, 2024.**
  - **Hailstorm activity also very likely at isolated places over East Uttar Pradesh and East Madhya Pradesh on 03<sup>rd</sup> March, 2024.**
- ❖ A fresh Western Disturbance likely to affect Western Himalayan Region from the night of 05<sup>th</sup> March, 2024. Under its influence Isolated to Scattered light/moderate rainfall likely over **Western Himalayan Region during 05<sup>th</sup> – 07<sup>th</sup> March, 2024.**

- ❖ A trough runs from southwest Madhya Pradesh to North Interior Karnataka in lower tropospheric levels. Due to confluence of winds at lower tropospheric levels:
  - Isolated to scattered light/moderate rainfall accompanied with **thunderstorms, lightning** very likely over Vidarbha, Chhattisgarh on 03<sup>rd</sup> and with **gusty winds (30-40 kmph)** over Bihar, Jharkhand, West Bengal & Sikkim on 03<sup>rd</sup> & 04<sup>th</sup> March, 2024.
  - Isolated **hailstorm** also likely over Bihar & Jharkhand on 03<sup>rd</sup> March.
  - Isolated **heavy rainfall** likely over Sikkim on 03<sup>rd</sup> March, 2024.
- ❖ Yesterday's cyclonic circulation over Meghalaya now seen as a trough in westerly roughly along Long. 92°E to the north of Lat. 25°N in lower tropospheric levels. Under its influence and eastward movement of current Western Disturbance:
  - ❖ Isolated to scattered light/moderate rainfall/snowfall very likely over Arunachal Pradesh during next 5 days. Isolated **heavy rainfall/snowfall** likely over Arunachal Pradesh on 04<sup>th</sup> March, 2024.
  - ❖ Isolated light/moderate rainfall accompanied with **thunderstorms & lightning** likely over Assam & Meghalaya during 03<sup>rd</sup> – 05<sup>th</sup> and Nagaland on 04<sup>th</sup> & 05<sup>th</sup> March, 2024.
- ❖ **Hot and humid weather** very likely to prevail over Rayalaseema & Kerala during next 3 days.

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

## ANNEXURE I

### Significant amount of rainfall (in cm):

**Jammu & Kashmir:** Udhampur (Iaf) (Dist Udhampur) 12, Banihal ( Dist Ramban) 9, Qazi Gund ( Dist Kulgam) 8, Batote ( Dist Ramban), Govindpura Aws ( Dist Ramban) 7, Katra ( Dist Reasi) 7, Rajouri Arg (Dist Rajouri) 7, Bhaderwah Arg ( Dist Doda) 7, Jammu ( Dist Jammu) 6, Awantipur Iaf ( Dist Pulwama) 5, Kupwara (Dist Kupwara) 4;

**Himachal Pradesh:** Sangraha (dist Sirmaur) 9, Manali (dist Kullu) 9, Renuka / Dadhau (dist Sirmaur) 9, Nahan (dist Sirmaur) 8, Pachhad (dist Sirmaur) 8, Sarahan (dist Shimla) 7, Kangra Aero (dist Kangra) 7, Rampur Bushar (dist Shimla) 6, Rajgarh (dist Sirmaur) 6, Kheri (dist Chamba) 6, Rohru (dist Shimla) 6, Kotkhai (dist Shimla) 5, Dharmsala (dist Kangra) 5, Dalhousi Alha Aws (dist Chamba) 5, Chaupal (dist Shimla) 5, Guler (dist Kangra) 5, Seo Bagh (dist Kullu) 5, Chamba Aws (dist Chamba) 5, , Paonta (dist Sirmaur) 5, Reckong Peo Aws (dist Kinnaur) 4, Naina Davi (dist Bilaspur) 5, Nagrota Surian (dist Kangra) 5, Jogindarnagar (dist Mandi) 5, Saloni (dist Chamba) 4, Nadaun (dist Hamirpur) 4, Bharmaur (dist Chamba) 4, Kandaghat (dist Solan) 4, Aghar (dist Hamirpur) 4, Hmo Shillaro (dist Shimla) 4, Sujampur Tira (dist Hamirpur) 4, Sundarnagar (dist Mandi) 4;

**Uttarakhand:** Chakrata ( Dist Dehradun) 12, Tiuni ( Dist Dehradun) 9, Mori ( Dist Uttarkashi) 9, Purola ( Dist Uttarkashi) 8, Barkot ( Dist Uttarkashi) 6, Kotdwara ( Dist Garhwal Puri) 5, Mussoorie ( Dist Dehradun) 4, Loharkhet ( Dist Bageshwar) 4;

**Haryana-Chandigarh:** Narwana (dist Jind) 10, Rajaund (dist Kaithal) 8, Thanesar (dist Kurukshetra) 8, Kurukshetra Kvk Aws (dist Kurukshetra) 7, Barara (dist Ambala) 7, Paundri Rev (dist Kaithal) 6, Babain Rev (dist Kurukshetra) 6, Naraingarh (dist Ambala) 6, Dadupur (dist Yamuna Nagar) 5, Ambala (dist Ambala) 5, Uchana (dist Jind) 5, Rohtak (dist Rohtak) 5, Tajewala (dist Yamuna Nagar) 4, Hissar (dist Hissar) 4, Karnal (dist Karnal) 4, Madluda Rev (dist Panipat) 4, Kaul Aws (dist Kaithal) 4, Assandh (dist Karnal) 4, Alewa Rev (dist Jind) 4, Ismailabad (dist Kurukshetra) 4, Rohtak Aws (dist Rohtak) 4, Chhachhrauli (dist Yamuna Nagar) 4, Gharaunda (dist Karnal) 4, Nilokheri (dist Karnal) 4;

**Punjab:** Phangota (dist Pathankot) 6, Adampur Iaf (dist Jalandhar) 5, Jalandhar (dist Jalandhar) 4, Khanna (dist Ludhiana) 4, Gurudaspur (dist Gurdaspur) 4;

**Gujarat Region:** Dhanera (dist Banaskantha) 3, Mahemdavad (dist Kheda) 3, Dantewada\_aws (dist Banaskantha) 2, Morva Hadaf (dist Panchmahal) 2, Bhabhar (dist Banaskantha) 2, Vadali (dist Sabarkantha) 2, Matar (dist Kheda) 2, Deesa (dist Banaskantha) 2, Vadgam (dist Banaskantha) 2, Vijaynagar (dist Sabarkantha) 2, Kheda (dist Kheda) 2;

**East Rajasthan:** Lalsot (dist Dausa) 2.

**Yesterday following district's/stations of Jammu-Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Uttar Pradesh, Rajasthan and Madhya Pradesh reported hailstorm.**

**Jammu-Kashmir:** Batote, Baderwah and Jammu

**Himachal Pradesh:** Palampur

**Uttarakhand:** Dehradun (Chakarta & Mussoorie)

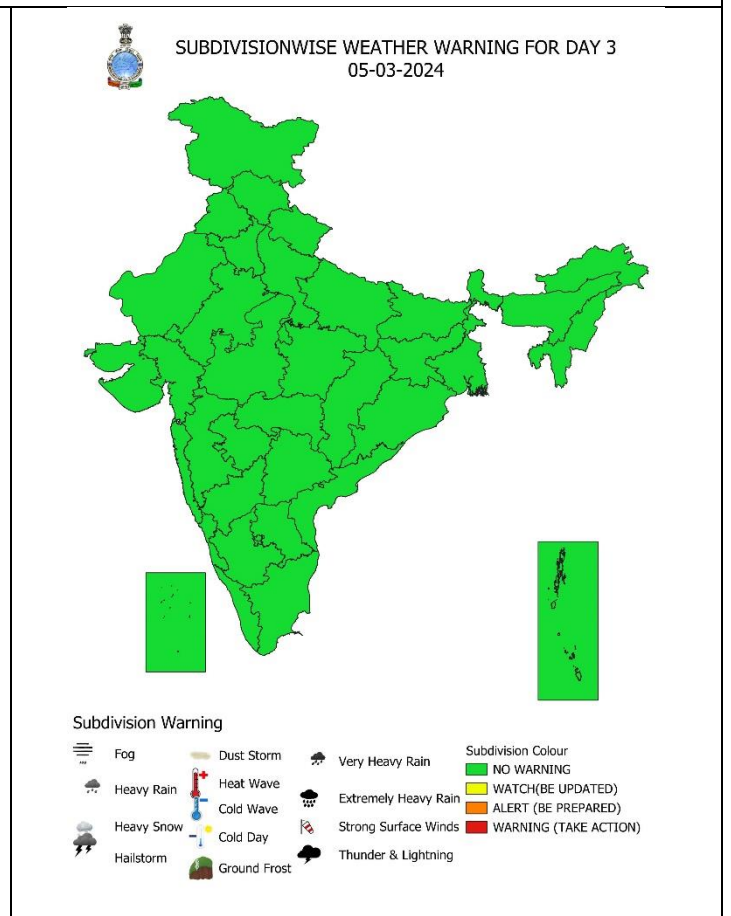
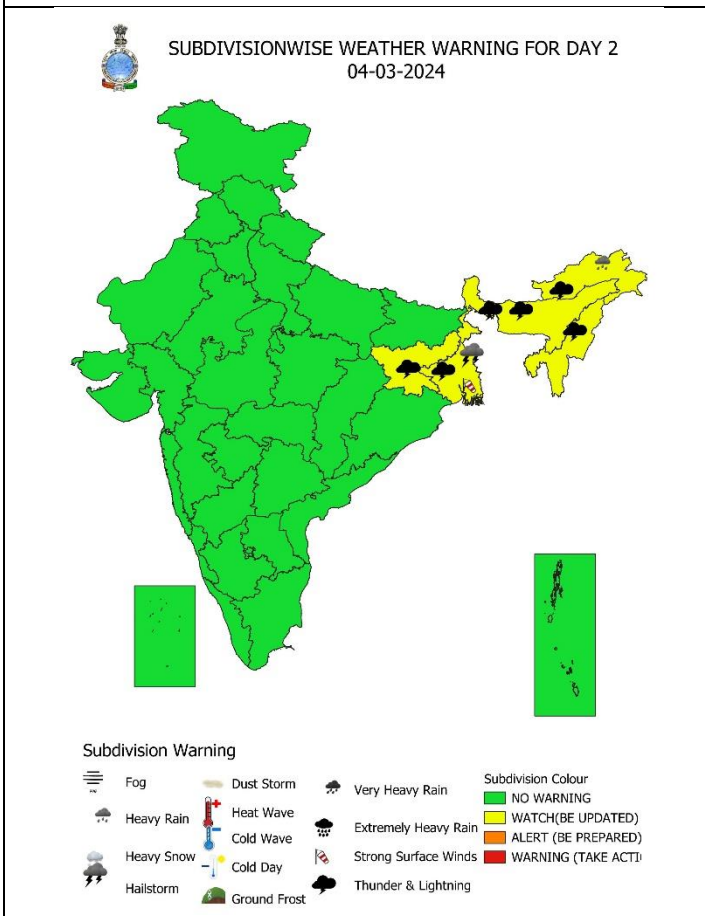
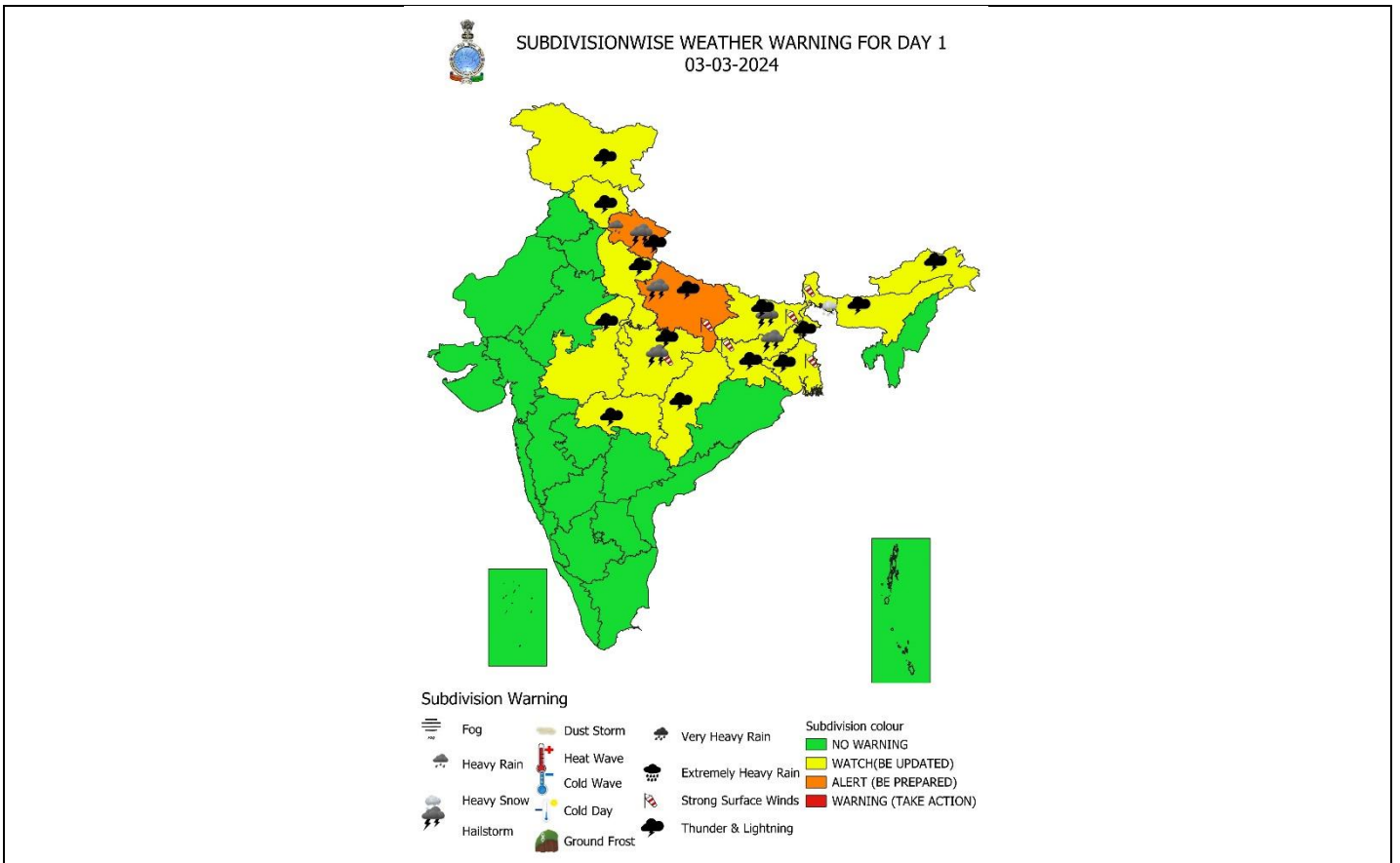
**Punjab:** Tarn Taran, Faridkot & Bathinda

**Haryana:** Hisar, Rohtak, Rarnal, Sonipat, Kaithal and Jind

**Uttar Pradesh:** Muzaffarnagar, Meerut, Saharanpur, Baghpat, Jalaun, Kasganj and Farrukhabad

**Rajasthan:** Hanumangarhand Sikar

**Madhya Pradesh:** Ashoknagar, Guna, Shivpuri, Morena, Datia, Gwalior, Sheopur Kalan, Raisen, Chhatarpur, Tikamgarh, Nivari and Panna.





**Impact expected and action suggested due to thunderstorm with lightning/gusty winds & Hailstorm over East Uttar Pradesh, East Madhya Pradesh, Bihar, Jharkhand on 03rd March,2024.**

**Impact expected:**

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

**Action suggested:**

- v Stay indoors, close windows & doors and avoid travel if possible.
- v Take safe shelters; do not take shelter under trees.
- v Do not lie on concrete floors and do not lean against concrete walls.
- v Unplug electrical/ electronic appliances.
- v Immediately get out of water bodies.
- v Keep away from all the objects that conduct electricity.

**Impact & Action Suggested due to heavy to very heavy rainfall/snowfall over Uttarakhand, Sikkim on 03<sup>rd</sup> March and over Arunachal Pradesh on 04<sup>th</sup> March, 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 Kuchcha 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.

## 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.

<b>SPATIAL DISTRIBUTION</b> (% 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)

<b>Probabilistic Forecast</b>	
Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

<b>Flash Flood Risk</b>	
	High Risk (Take Action)
	Moderate Risk (Be Prepared)
	Low Risk (Be Updated)