



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Date: 20<sup>th</sup> February, 2024

Time of Issue: 1315 hours IST

**Special Message-05**

**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 activity over Western Himalayan Region and light to moderate rainfall activity likely over plains of Northwest India on 20<sup>th</sup> & 21<sup>st</sup> February, 2024.**

**Realised weather during past 24 hours till 0830 hours IST of today:**

- ❖ **Hailstorm** recorded at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana and north Rajasthan.
- ❖ **Light to moderate rainfall/snowfall** (refer Annexure I) occurred at most places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand; **Light to moderate rainfall at a few places** over Haryana-Chandigarh-Delhi and at isolated places over Punjab and Rajasthan.

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

- ❖ **A Western Disturbances lies** as a cyclonic circulation over central Pakistan & adjoining Punjab in lower levels with trough aloft in middle tropospheric westerlies runs along Long. 70°E to the north of Lat. 30°N and an induced cyclonic circulation lies over Punjab & adjoining Pakistan in lower tropospheric levels. In addition, there is high moisture feeding from Arabian Sea over northwest India. Under the influence of these systems:
  - Widespread light to moderate rainfall/snowfall accompanied with **thunderstorms & lightning** very likely over Western Himalayan Region on 20<sup>th</sup> & 21<sup>st</sup> and isolated/scattered light to moderate rainfall/snowfall on 22<sup>nd</sup> & 23<sup>rd</sup> February, 2024
  - **Heavy rainfall/snowfall very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Himachal Pradesh on 20<sup>th</sup> February, 2024.**
  - **Hailstorm activity** very likely at isolated places over Himachal Pradesh on 20<sup>th</sup> and over Uttarakhand on 20<sup>th</sup> & 21<sup>st</sup> February, 2024.
  - Isolated to scattered light/moderate rainfall very likely accompanied with **thunderstorms & lightning** over Punjab, Haryana-Chandigarh and Uttar Pradesh during 20<sup>th</sup> -22<sup>nd</sup>; isolated light/moderate rainfall over northwest Madhya Pradesh

during 20<sup>th</sup>-22<sup>nd</sup>; over northeast Rajasthan on 20<sup>th</sup> & 21<sup>st</sup>; over northwest Rajasthan on 20<sup>th</sup> and East Madhya Pradesh on 21<sup>st</sup> & 22<sup>nd</sup> February, 2024.

- **Hailstorm activity** very likely at isolated places over north Rajasthan on 20<sup>th</sup> and over Uttar Pradesh on 21<sup>st</sup> February, 2024.
- Generally cloudy sky over Delhi on 20<sup>th</sup> and partly cloudy sky with one or two spell of very light rain/ thundershowers on 21<sup>st</sup> February, 2024.
- ❖ A fresh Western Disturbance is likely to affect Western Himalayan Region from 24th February night and under its influence isolated to scattered light to moderate rainfall/snowfall very likely over Western Himalayan Region during 24<sup>th</sup> -26<sup>th</sup> February, 2024.

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

S.No.	State/sub-division	Forecast
1.	Jammu, Kashmir and Ladakh	<ul style="list-style-type: none"> <li>• Light to moderate rain/snowfall accompanied with thunderstorm &amp; lightning at most places on 20<sup>th</sup> February; at a few places on 21<sup>st</sup> February and at isolated places on 22<sup>nd</sup> &amp; 24<sup>th</sup> February.</li> <li>• <b>Heavy rainfall/snowfall likely at isolated places on 20<sup>th</sup> February.</b></li> </ul>
2.	Himachal Pradesh	<ul style="list-style-type: none"> <li>• Light to moderate rain/snowfall accompanied with gusty winds (speed reaching 30-40 kmph gusting to 50 kmph) at most places on 20<sup>th</sup> &amp; 21<sup>st</sup> February; at a few places on 22<sup>nd</sup> February and at isolated places on 23<sup>rd</sup> &amp; 24<sup>th</sup> February.</li> <li>• <b>Heavy rainfall/snowfall likely at isolated places on 20<sup>th</sup> February.</b></li> <li>• <b>Hailstorm likely at isolated places on 20<sup>th</sup> February.</b></li> </ul>
3.	Uttarakhand	<ul style="list-style-type: none"> <li>• Light to moderate rain/snowfall accompanied with gusty winds (speed reaching 30-40 kmph gusting to 50 kmph) at most places on 20<sup>th</sup> &amp; 21<sup>st</sup> February; at a few places on 22<sup>nd</sup> February and at isolated places on 23<sup>rd</sup> &amp; 24<sup>th</sup> February.</li> <li>• <b>Hailstorm likely at isolated places on 20<sup>th</sup> &amp; 21<sup>st</sup> February.</b></li> </ul>
4.	Punjab	<ul style="list-style-type: none"> <li>• Light to moderate rain accompanied with thunderstorm, lightning and gusty winds (speed reaching 30-40 kmph gusting to 50 kmph) at isolated places during 20<sup>th</sup> - 22<sup>nd</sup> February.</li> </ul>
5.	Haryana, Chandigarh & Delhi	<ul style="list-style-type: none"> <li>• Light to moderate rain accompanied with thunderstorm, lightning and gusty winds (speed reaching 30-40 kmph gusting to 50 kmph) at isolated places over Haryana &amp; Chandigarh during 20th - 22nd February.</li> <li>• Generally cloudy sky over Delhi on 20<sup>th</sup> and partly cloudy sky with one or two spell of very light rain/ thundershowers on 21<sup>st</sup> February, 2024.</li> </ul>
6.	West Uttar Pradesh	<ul style="list-style-type: none"> <li>• Light to moderate rain accompanied with thunderstorm &amp; lightning at isolated places on 20<sup>th</sup> February and at a few places on 21<sup>st</sup> &amp; 22<sup>nd</sup> February.</li> <li>• <b>Hailstorm likely at isolated places on 21<sup>st</sup> February.</b></li> </ul>
7.	East Uttar Pradesh	<ul style="list-style-type: none"> <li>• Light to moderate rain accompanied with thunderstorm &amp; lightning at isolated places on 20<sup>th</sup> February; at many places on 21<sup>st</sup> and at a few places on 22<sup>nd</sup> February.</li> </ul>

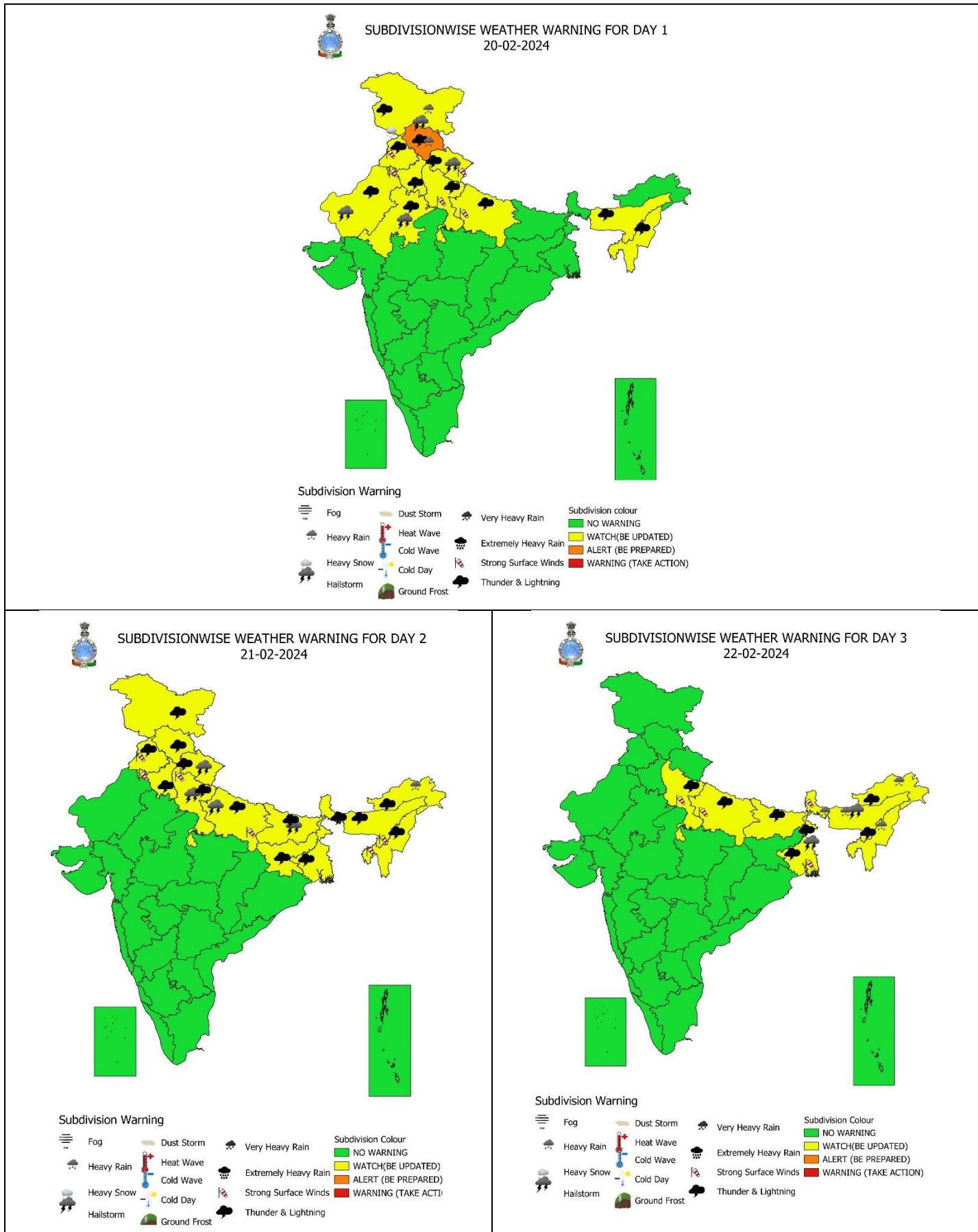
		<ul style="list-style-type: none"> <li>• <b>Hailstorm likely at isolated places on 21<sup>st</sup> February.</b></li> </ul>
8.	West Rajasthan	<ul style="list-style-type: none"> <li>• Light to moderate rain accompanied with thunderstorm &amp; lightning at isolated places on 20<sup>th</sup> February.</li> <li>• <b>Hailstorm likely at isolated places on 20<sup>th</sup> February.</b></li> </ul>
9.	East Rajasthan	<ul style="list-style-type: none"> <li>• Light to moderate rain accompanied with thunderstorm &amp; lightning at isolated places on 20<sup>th</sup> &amp; 21<sup>st</sup> February.</li> <li>• <b>Hailstorm likely at isolated places on 20<sup>th</sup> February.</b></li> </ul>
10	North Madhya Pradesh	<ul style="list-style-type: none"> <li>• Light to moderate rain accompanied with thunderstorm &amp; lightning at isolated places during 20<sup>th</sup> - 22<sup>nd</sup> February.</li> </ul>

Shobhit Katiyar  
 Scientist 'D'  
 NWFC, IMD New Delhi

## ANNEXURE I

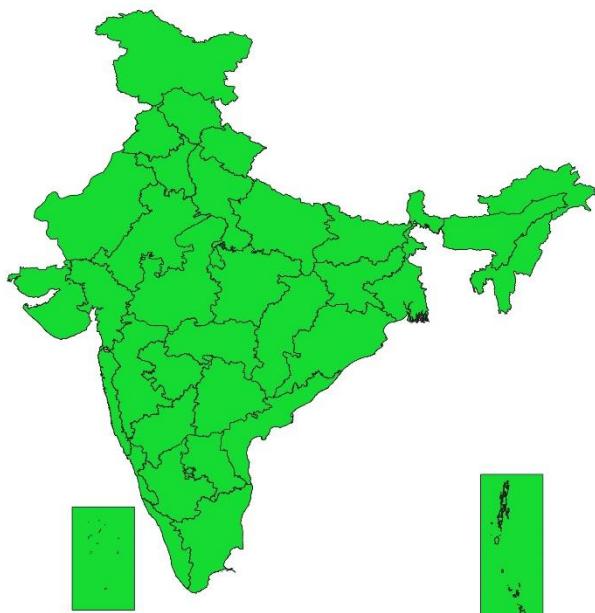
**Significant rainfall (from 0830 hours IST of yesterday to 0830 hours IST of today) (in cm):** **Himachal Pradesh:** Tissa (dist. Chamba) 8, Saloni (dist. Chamba) 8, Manali (dist. Kullu) 7, Chamba AWS (dist. Chamba) 7, Kufri AWS (dist. Shimla) 6, Chuari (dist. Chamba) 5, Dalhousi Alha AWS (dist. Chamba) 5, Kukumsheri AWS (dist Lahaul & Spiti) 4, Chhatarari (dist. Chamba) 4, PTO Gondla (dist Lahaul & Spiti) 4; **Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad:** : Kargil (dist. Kargil) 18, Badarwah ARG ( dist. Doda) 10, Gulmarg R.S (dist. Baramula) 6, Pahalgam AWS (dist. Anantnag) 5, Verinag ( dist. Anantnag) 5, Bandipore ARG ( dist. Bandipore) 4, Bandipore AWS (dist. Bandipore) 5, Baramula AWS(dist. Baramula) 4, Badarwah (dist. Doda) 6, Qazi Gund( dist. Kulgam) 8, Kupwara( dist. Kupwara) 4, Banihal (dist. Ramban) 8, Batote (dist. Ramban) 5, Govindpura AWS( dist. Ramban) 8, Shalimar agro (dist. Srinagar) 4; **Uttarkhand:** Joshimath (dist. Chamoli) 4, Banbas( dist. Champawat) 4; **Punjab:** Ranjit Sagar Dam Site (dist Pathankot) 5, Phangota (dist Pathankot) 4.

## ANNEXURE II





SUBDIVISIONWISE WEATHER WARNING FOR DAY 4  
23-02-2024

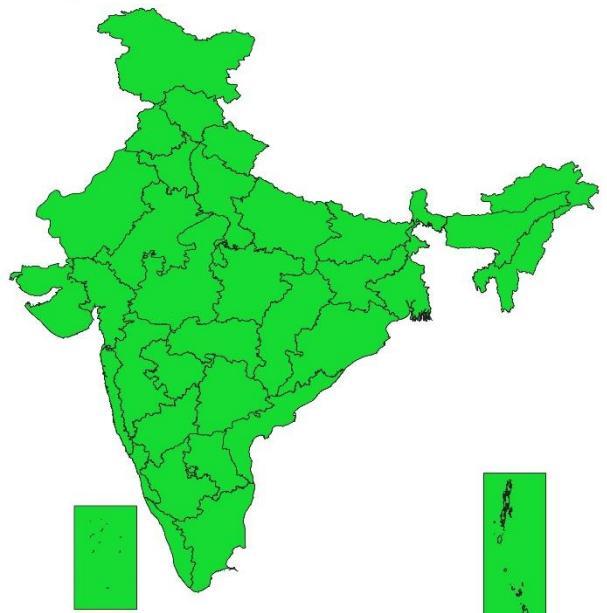


Subdivision Warning

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 ACTI!



SUBDIVISIONWISE WEATHER WARNING FOR DAY 5  
24-02-2024



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 ACTI!

**Impact & Action Suggested due to heavy/very heavy rainfall/snowfall:** Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Himachal Pradesh on 20th February, 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 with lightning/gusty winds &**

**Hailstorm:** Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh, north Rajasthan and West Uttar Pradesh on 20th; over Sub-Himalayan West Bengal & Sikkim and Bihar on 21st February, 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 rainfall accompanied with Heavy rainfall, Gusty winds and hailstorms likely over various parts of the country**

- Drain out excess water from crop fields to avoid water stagnation in Jammu & Kashmir and Himachal Pradesh.
- Make necessary arrangements to drain out excess water from the crop fields in Uttarakhand, Punjab, Arunachal Pradesh and Sub Himalayan West Bengal & Sikkim.
- Remove snow immediately from the branches and crotches in Jammu & Kashmir and Himachal Pradesh.
- Postpone sowing of French bean & Potato in Uttarakhand and direct sowing of vegetables in Jammu & Kashmir.
- Use hail nets or hail caps in fruit orchards to protect them from mechanical damage in Himachal Pradesh, Uttarakhand, Punjab, Haryana, West Uttar Pradesh and north Rajasthan.
- Keep harvested produce in safe places.
- Provide mechanical support to horticultural crops and staking to vegetables.

### 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)