



Date: 01<sup>st</sup> March, 2024

Time of Issue: 1330 hours IST

### 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 03<sup>rd</sup> March with peak intensity on 01<sup>st</sup> & 02<sup>nd</sup> 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 03<sup>rd</sup> March. Under their influence:
  - Fairly widespread to widespread light/moderate rainfall accompanied with thunderstorms & lightning very likely over Western Himalayan Region till 03<sup>rd</sup> 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 01<sup>st</sup>-03<sup>rd</sup> 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 01<sup>st</sup> & 02<sup>nd</sup> March. Isolated heavy rainfall over Punjab on 02<sup>nd</sup> March, 2024.***
  - Hailstorm activity also very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, West Rajasthan on 01<sup>st</sup>; Punjab, Haryana, Chandigarh, West Uttar Pradesh, north

**Madhya Pradesh, East Rajasthan on 01<sup>st</sup> & 02<sup>nd</sup> March and over East Uttar Pradesh on 02<sup>nd</sup> March, 2024.**

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

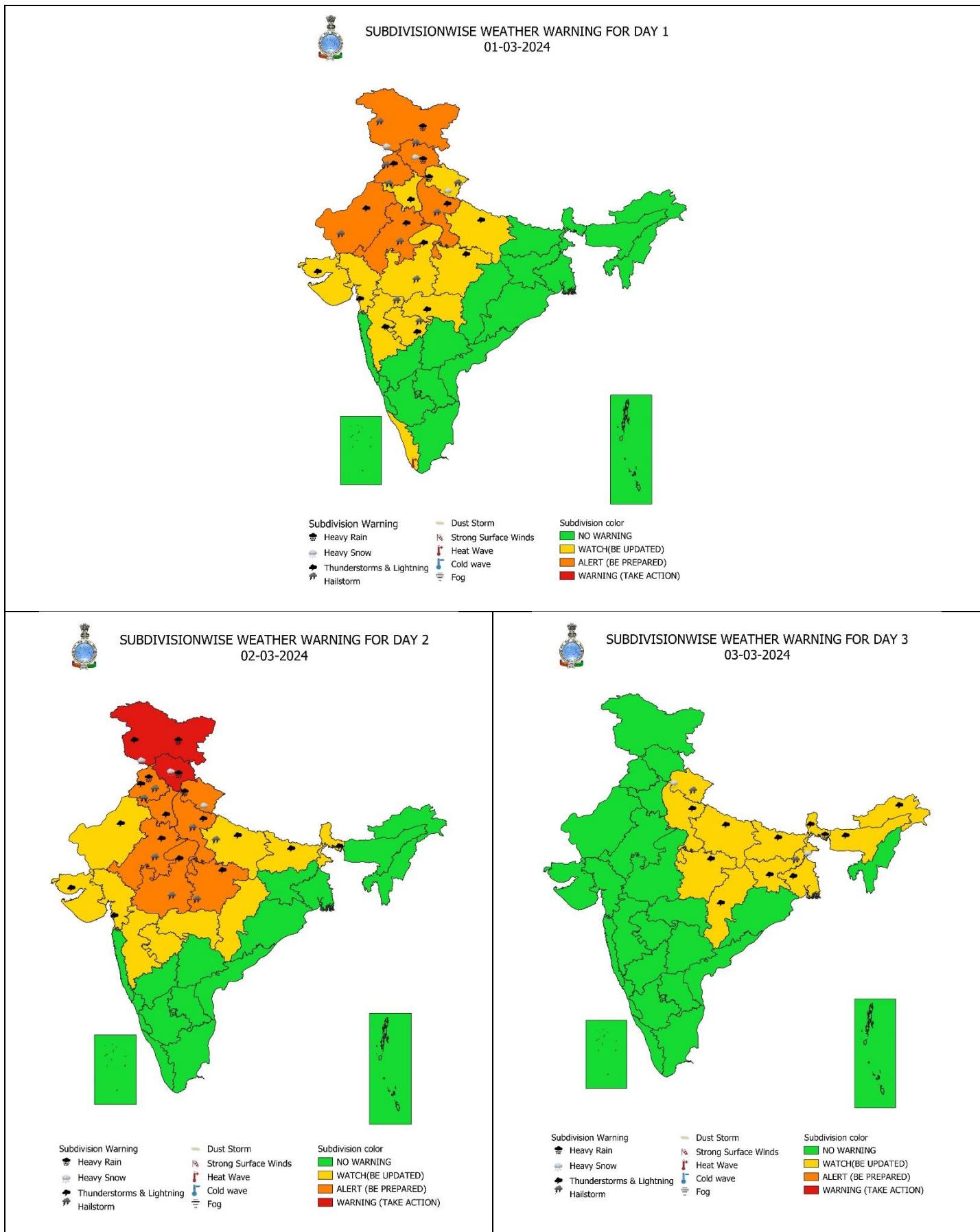
<b>S. No.</b>	<b>State/sub-division</b>	<b>Forecast</b>
1.	<b>Jammu, Kashmir and Ladakh</b>	<ul style="list-style-type: none"> <li>Light to moderate rain/snowfall at most places accompanied with isolated thunderstorm, lightning &amp; gusty winds (speed reaching 40-50 kmph gusting to 60 kmph) on 01<sup>st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

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

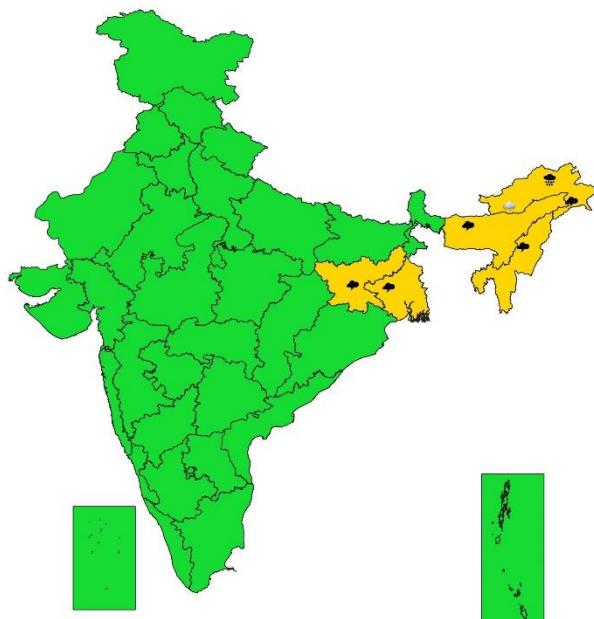
**Krishna Mishra**  
**Scientist 'C'**  
**NWFC, IMD New Delhi**

## ANNEXURE I





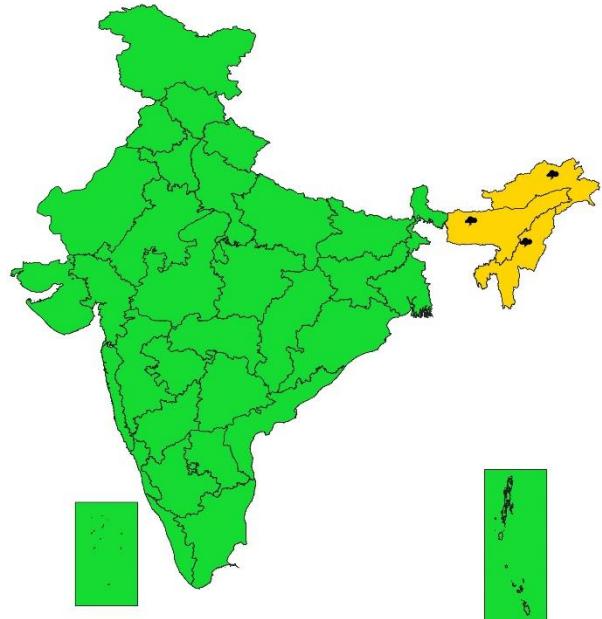
SUBDIVISIONWISE WEATHER WARNING FOR DAY 4  
04-03-2024



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-5  
05-03-2024



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 01<sup>st</sup>; Punjab, Haryana, Chandigarh, West Uttar Pradesh, East Rajasthan, north Madhya Pradesh on 01<sup>st</sup> & 02<sup>nd</sup> March and over East Uttar Pradesh on 02<sup>nd</sup> 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 01<sup>st</sup> & 02<sup>nd</sup> 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 Widespred (FWS/ Many Places)	1-25	Isolated (ISOL)

Subdivision Warning	Dust Storm	Subdivision color
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Thunderstorms & Lightning	Cold wave	ALERT (BE PREPARED)
Hailstorm	Fog	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)	