



**Government of India
Ministry of Earth Sciences
India Meteorological Department**

Press Release

Date: 10th August, 2023

Time of Issue: 1315 hours IST

**Subject: i) Exceptional heavy rainfall observed over Rishikesh (Dehradun)-43 cm.
ii) Isolated heavy to very heavy rainfall likely to continue over Uttarakhand, northern parts of East Uttar Pradesh & Bihar, Sikkim and Arunachal Pradesh during next 4-5 days.
iii) Subdued rainfall activity likely over rest parts of the country during next one week.**

**Weather observed during past 24 hours ending at 0830 hours IST of today (Annexure I):
For Flash Flood Guidance (Annexure III)**

Significant Weather features:

- ❖ A cyclonic circulation lies over northeast Uttar Pradesh and adjoining northwest Bihar in lower tropospheric levels.
- ❖ The Monsoon Trough lies north of its normal position. It is likely to continue to remain north of its normal position or along the foothills of Himalayas during next 4-5 days.
- ❖ A Western Disturbance as a trough in middle tropospheric westerlies runs roughly along Long. 64°E to the north of 30°N.

Weather Forecast and Warnings: (Annexure II)

Northwest India: Light/moderate scattered to fairly widespread rainfall with isolated **heavy to very heavy rainfall** activity very likely to continue over Uttarakhand, northern parts of East Uttar Pradesh during 10th-14th August and isolated **heavy rainfall** likely over Himachal Pradesh during 10th-14th; Punjab, Haryana on 10th & 13th; West Uttar Pradesh and Jammu on 10th August, 2023.

Isolated **extremely heavy rainfall** also likely over Uttarakhand during 10th-13th August.

Subdued rainfall activity likely over rest parts of northwest India during next 7 days.

East India: Light/moderate fairly widespread to widespread rainfall with **isolated heavy rainfall** activity very likely over northern parts of Bihar, Sub-Himalayan West Bengal & Sikkim during 10th-14th August and Gangetic West Bengal on 12th August. Isolated **very heavy rainfall** likely over northern parts of Bihar during 10th-13th and over Sikkim on 11th & 12th August.

Northeast India: Light/moderate fairly widespread to widespread rainfall with isolated **heavy to very heavy rainfall** activity very likely over Arunachal Pradesh, Assam, Meghalaya and Nagaland, Manipur, Mizoram & Tripura during next 4 days.

Central, West & South India: Subdued rainfall activity likely over these regions during next 7 days.

For more details kindly refer: https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php

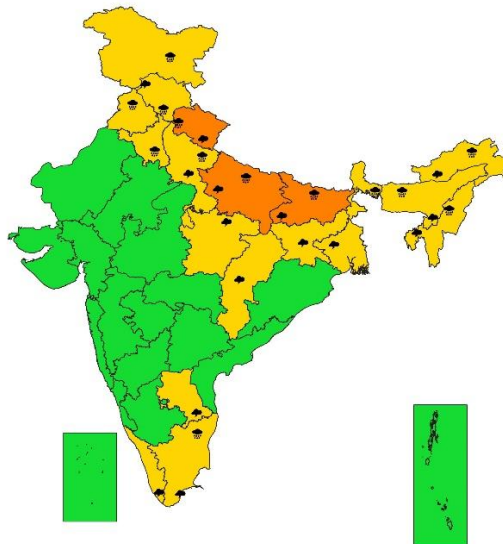
Rainfall Observations: (from 0830 hours IST of yesterday to 0830 hours IST of today, the 10th August, 2023):

- **Exceptional heavy rainfall observed over Rishikesh (Dehradun)-43 cm.**
- **Heavy to very heavy rainfall with extremely heavy falls** at isolated places over Uttarakhand, Bihar; **Heavy to very heavy rainfall** at isolated places over East Uttar Pradesh, Assam, Tamil Nadu and **heavy rainfall** at isolated places over West Uttar Pradesh, Arunachal Pradesh, Nagaland and Rayalaseema.
- **Significant rainfall recorded (in cm):**
 - ✓ **Uttarakhand: Dehradun:** Rishikesh-43, Haripur- 14, Jollygrant-11, Mussoorie-7; **Pauri Garhwal:** Neelkanth- 24, Yamkeshwar-13, Kotdwar-7; **Udham Singh Nagar:** Gular Bhoj-13, Kashipur- 9, Bajpur-8; **Tehri Garhwal:** Narendra Nagar-18; **Champawat:** Tanakpur-12, Banbasa-8
 - ✓ **Bihar: East Champaran:** Chatia-26, Patahi-11, Ahirwalia-10; **Gopalganj:** Barauli-16, **Muzaffarpur:** Rewaghat-15, Gaighat-12, **Saran:** Marsrakh-9
 - ✓ **East Uttar Pradesh:** Uska Bazar (dist Siddharth Nagar) 19, Mehdawal (dist Sant Kabir Nagar) 14, Birdghat (dist Gorakhpur) 14, Gorakhpur (dist Gorakhpur) 13, Mukhlispur (dist Gorakhpur) 12, Bangsaon (dist Gorakhpur) 12, Bhinga (dist Shrawasti) 11, Basti (dist Basti) 11, Kakerdarighat (dist Shrawasti) 11, Regoli (dist Gorakhpur) 10, Chanderdeepghat (dist Gorakhpur) 10, Kakrahi (dist Siddharth Nagar) 10, Nichlaul (dist Maharajganj) 10, Salempur (dist Deoria) 9, Bhanpur (dist Basti) 8,
 - ✓ **Assam: Chauldhowaghat (dist Lakhimpur) 13**
 - ✓ **Odisha:** Balasore (dist Balasore) 9, Remuna (dist Balasore) 5,
 - ✓ **West Uttar Pradesh:** Najibabad (dist Bijnor) 8,
 - ✓ **Rayalaseema:** Muddanur (dist Ysr District) 8,
 - ✓ **Arunachal Pradesh:** Roing (dist Lower Dibang Valley) 7
 - ✓ **Nagaland:** Mokokchung (dist Mokokchung) 7, Tuensang (dist Tuensang) 7,
 - ✓ **Punjab:** Adampur Iaf (dist Jalandhar) 6, Tibri (dist Gurdaspur) 5,
 - ✓ **Jammu:** Jammu (dist Jammu) 5, Katra (dist Reasi) 4, Samba (dist Samba) 4,

Annexure II



SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
(10-8-2023)



Subdivision Warning

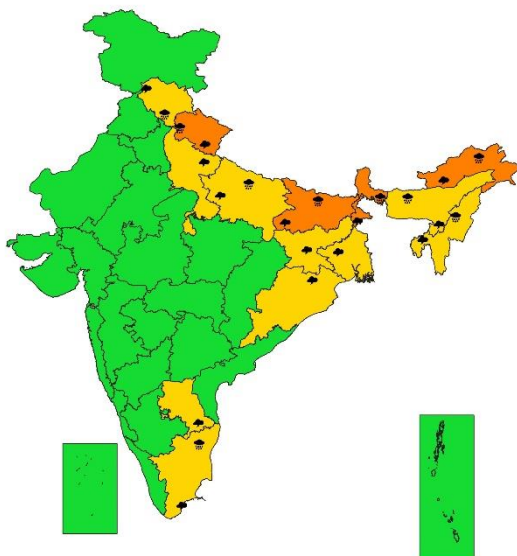
- Heavy Rain
- Heavy Snow
- Thunderstorms & Lightning
- Hailstorm
- Dust Storm
- Strong Surface Winds
- Heat Wave
- Cold wave
- Fog

Subdivision color

- NO WARNING
- WATCH (BE UPDATED)
- ALERT (BE PREPARED)
- WARNING (TAKE ACTION)



SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
(11-8-2023)



Subdivision Warning

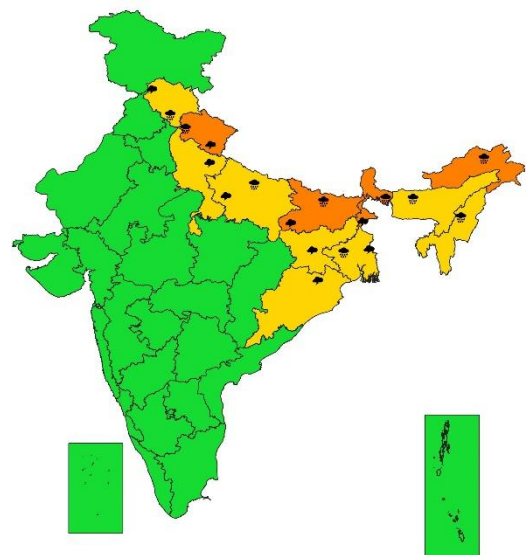
- Heavy Rain
- Heavy Snow
- Thunderstorms & Lightning
- Hailstorm
- Dust Storm
- Strong Surface Winds
- Heat Wave
- Cold wave
- Fog

Subdivision color

- NO WARNING
- WATCH (BE UPDATED)
- ALERT (BE PREPARED)
- WARNING (TAKE ACTION)



SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
(12-8-2023)

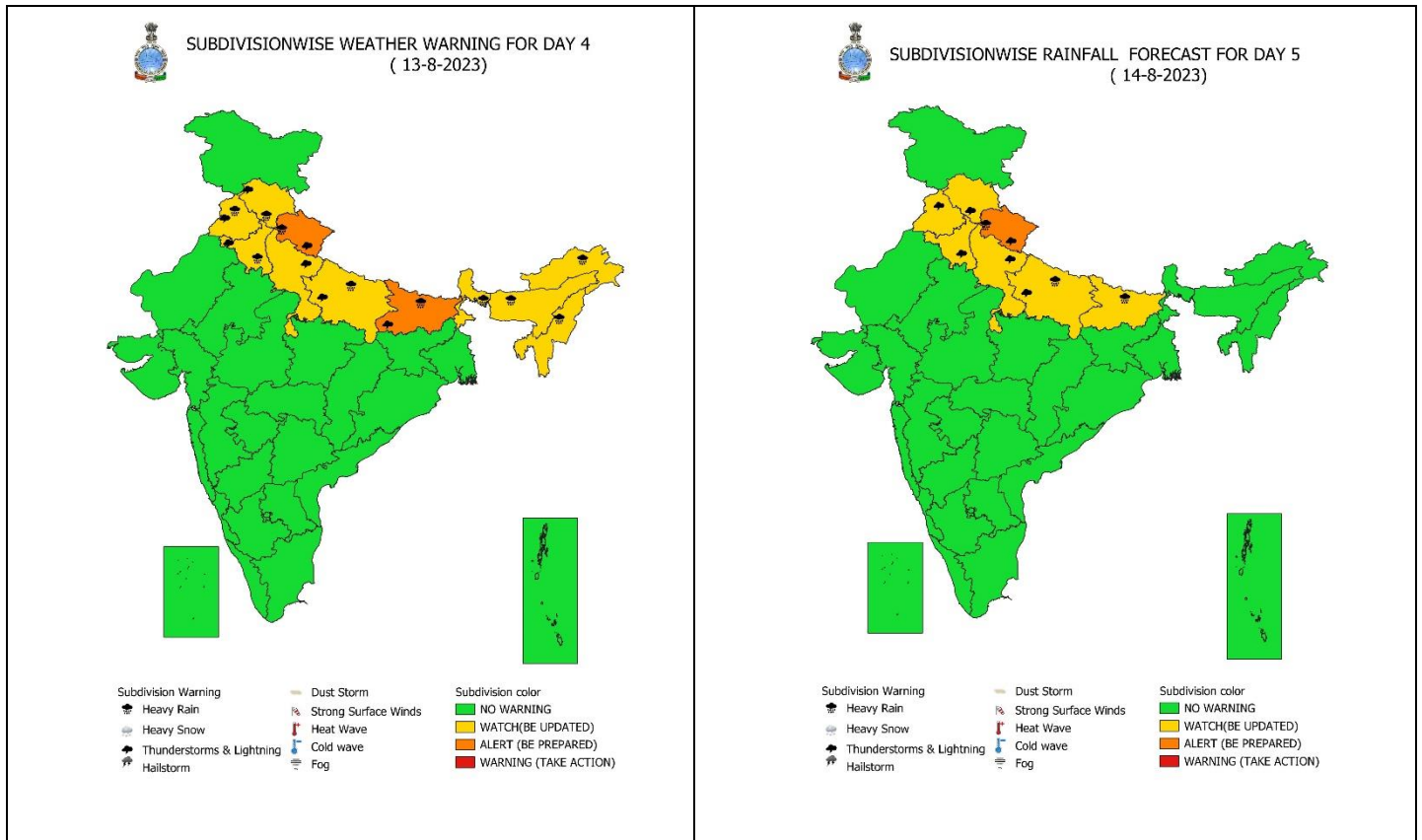


Subdivision Warning

- Heavy Rain
- Heavy Snow
- Thunderstorms & Lightning
- Hailstorm
- Dust Storm
- Strong Surface Winds
- Heat Wave
- Cold wave
- Fog

Subdivision color

- NO WARNING
- WATCH (BE UPDATED)
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- WARNING (TAKE ACTION)



Impact & Action Suggested due to very heavy/extremely heavy rainfall over:

1. Uttarakhand and Bihar during 10th-13th August
2. East Uttar Pradesh on 10th August;
3. Arunachal Pradesh and Sub-Himalayan West Bengal & Sikkim on 11th & 12th August

A. Impact Expected

- ❖ Localized Flooding of roads, water logging in low lying areas and closure of underpasses mainly in urban areas of the above region.
- ❖ Occasional reduction in visibility due to heavy rainfall.
- ❖ Disruption of traffic in major cities due to water logging in roads leading to increased travel time.
- ❖ Minor damage to kutchha roads.
- ❖ Possibilities of damage to vulnerable structure.
- ❖ Localized Landslides/Mudslides in the hilly areas.
- ❖ Damage to horticulture and standing crops in some areas due to inundation.
- ❖ It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC).

B. Action Suggested

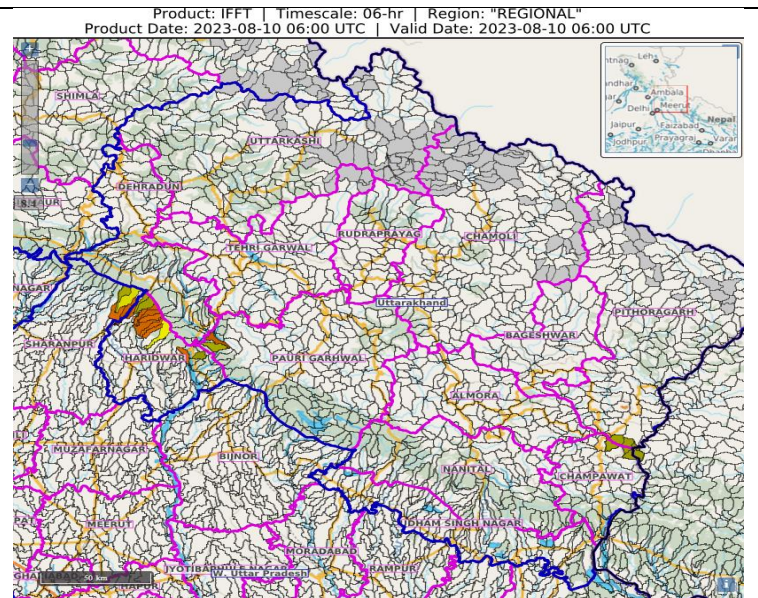
- ❖ Check for traffic congestion on your route before leaving for your destination.
- ❖ Follow any traffic advisories that are issued in this regard.
- ❖ Avoid going to areas that face the water logging problems often.
- ❖ Avoid staying in vulnerable structure.

Annexure III

Observed Flash Flood Threat (IFFT) till 1130 IST of 10-08-2023 :

Low to Moderate flash flood threat observed over few watersheds & neighbourhoods of following Met Sub-divisions during last 6 hours.

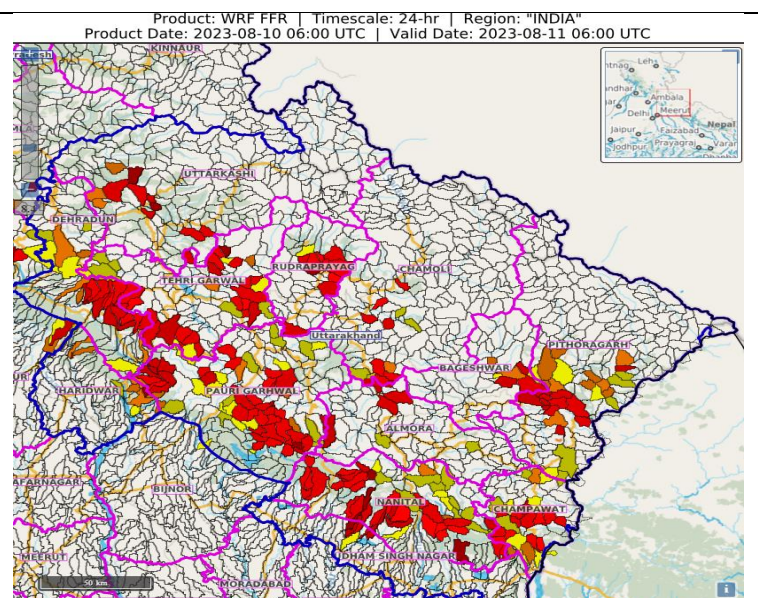
Uttarakhand - Champawat, Haridwar, Pauri Garhwal and Pithoragarh districts.



24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 11-08-2023 :

Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of **Uttarakhand** Met Sub-divisions during next 24 hours.














Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.




Legends:

- ❖ **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
- ❖ **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-Himalaya 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	
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)