



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

**Press Release**

**Date: 21<sup>st</sup> September, 2023**

**Time of Issue: 1345 hours IST**

**Subject: 1) Heavy to very heavy rainfall likely to continue over Odisha, Chhattisgarh, Madhya Pradesh, Vidarbha on 21<sup>st</sup>, over Bihar, Jharkhand, West Bengal & Sikkim on 21<sup>st</sup> & 22<sup>nd</sup> and over northeast India during 21<sup>st</sup>-23<sup>rd</sup> September.**  
**2) Reduced rainfall activity likely to continue over northwest and adjoining westcentral India during next 5 days. However, the conditions for commencement of withdrawal of Southwest Monsoon rainfall from parts of West Rajasthan is likely to develop towards the end of the forecast period.**  
**3) Thunderstorm accompanied with cloud-to-ground lightning very likely over Madhya Pradesh, Vidarbha and Chhattisgarh during 21<sup>st</sup>-22<sup>nd</sup> September.**

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

**Significant Weather features:**

- ❖ Yesterday's **Low Pressure Area** now lies over **Southeast Jharkhand & neighbourhood**. Associated cyclonic circulation extends upto middle tropospheric levels tilting south-westwards with height.
- ❖ A trough runs from cyclonic circulation associated with the **Low Pressure Area** over southeast Jharkhand to southwest Uttar Pradesh in lower tropospheric levels.
- ❖ The Monsoon Trough currently lies south to its normal position. It is likely to gradually shift northwards during the next 2-3 days.

**Weather Forecast and Warnings: (Annexure II)**

**East India:** Light/moderate fairly widespread to widespread rainfall/thunderstorm & lightning with **isolated heavy rainfall** very likely over Sub-Himalayan West Bengal & Sikkim during 21<sup>st</sup>-24<sup>th</sup>; Bihar during 21<sup>st</sup>-23<sup>rd</sup>; Odisha, Jharkhand, Gangetic West Bengal on 21<sup>st</sup> & 22<sup>nd</sup> and Andaman & Nicobar Islands during 23<sup>rd</sup>-25<sup>th</sup> September.

**Isolated very heavy rainfall very likely over Sub-Himalayan West Bengal & Sikkim during 21<sup>st</sup>-23<sup>rd</sup>; Odisha, Jharkhand on 21<sup>st</sup> and Bihar on 21<sup>st</sup> & 22<sup>nd</sup> September.**

**Isolated extremely heavy rainfall very likely over Sub-Himalayan West Bengal & Sikkim on 21<sup>st</sup> September.**

**Northeast India:** Light/moderate scattered to fairly widespread rainfall/thunderstorm with **isolated heavy to very heavy rainfall** activity very likely over Arunachal Pradesh, Assam & Meghalaya,

Nagaland & Manipur during 21<sup>st</sup>-24<sup>th</sup> September.

**Isolated extremely heavy rainfall very likely over Assam & Meghalaya on 21<sup>st</sup> September.**

**Central India:** Light/moderate fairly widespread to widespread rainfall/thunderstorm & lightning with **isolated heavy rainfall** very likely over East Madhya Pradesh, Chhattisgarh during 21<sup>st</sup>-23<sup>rd</sup>, West Madhya Pradesh and Vidarbha on 21<sup>st</sup> & 22<sup>nd</sup> September.

**Isolated very heavy rainfall very likely over East Madhya Pradesh, Vidarbha and Chhattisgarh on 21<sup>st</sup> September.**

**South India:** Light/moderate fairly widespread to widespread rainfall with isolated **heavy rainfall** very likely over Kerala, Tamil Nadu on 21<sup>st</sup> & 22<sup>nd</sup>; Coastal Andhra Pradesh and Telangana on 21<sup>st</sup> September.

**Northwest India:** Light/moderate scattered to fairly widespread rainfall/thunderstorm with isolated **heavy falls** very likely over Uttarakhand on 21<sup>st</sup> and East Uttar Pradesh on 21<sup>st</sup> & 22<sup>nd</sup> September.

**West India:** Light/moderate fairly widespread to widespread rainfall/thunderstorm & lightning with **isolated heavy rainfall** very likely over north Konkan on 21<sup>st</sup>, 24<sup>th</sup> & 25<sup>th</sup>; Madhya Maharashtra and Marathawada on 21<sup>st</sup> & 22<sup>nd</sup> September.

Isolated to scattered light/moderate rainfall likely over rest parts of the country during next 5 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)

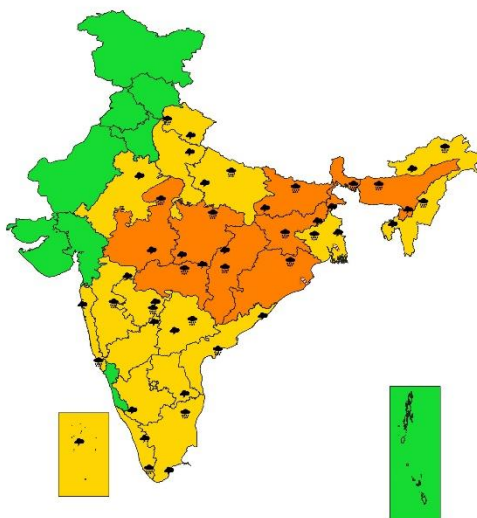
**Rainfall observations: (from 0830 hours IST of yesterday to 0830 hours IST of today, the 21<sup>st</sup> September, 2023):**

- **Heavy to very heavy rainfall** at isolated places over Chhattisgarh, Odisha, East Madhya Pradesh, Sub-Himalayan West Bengal, Assam & Meghalaya, Manipur, and **heavy rainfall** at isolated places over northwest Rajasthan, East Uttar Pradesh, Gangetic West Bengal, Bihar, Coastal Andhra Pradesh, Tamil Nadu and Telangana.
- **Significant rainfall recorded (in cm):**
- ✓ **Uttarakhand:** Nainital : Haldwani-18, Nainital-13, Pithoragarh: Dharchula-13,
- ✓ **Chhattisgarh:** Lormi (dist Mungeli) 17, Bilha (dist Bilaspur) 14, Mungeli (dist Mungeli) 11, Simga (dist Baloda Bazar) 11, Patharia (dist Mungeli) 10, Pallari/palari (dist Baloda Bazar) 9, Masturi (dist Bilaspur) 9, Champa (dist Janjgir) 8, Labhandih (dist Raipur) 8, Kota (dist Bilaspur) 8, Rajim (dist Gariaband) 8, Nawagarh (dist Bemetara) 7, Akaltara (dist Janjgir) 7, Baloda Bazar (dist Baloda Bazar) 7, Mahasamund (dist Mahasamund) 7, Seovrinarayan (dist Janjgir) 7, Bilaigarh (dist Baloda Bazar) 7,
- ✓ **Sub-Himalayan West Bengal:** Buxaduar, Dhupguri-13, Neora, Sankosh, Banarhat -12, Tufanganj-11, Nagrakata, Bhutanghat, Ghish-10, Gazoledoba, Sevoke, Jalpaiguri, Diana-9, Falakata, Barobhisha, Nh – 31(Road Bridge), Hasimara, Chepan, Jhallong, Rongo, Mathabhanga-8, Domohani, Murti, AMFU Kalimpong, Champasari, Lava, Algarah, Chel, Shaladang-7
- ✓ **Assam & Meghalaya:** Panbari (dist Chirang) 15, Manash Nh Xing (dist Barpeta) 15, Bahalpur (dist Dhubri) 13, Dholai (dist Cachar) 12, Aie Nh Xing (dist Bongaigaon) 11, Kokrajhar (dist Kokrajhar) 10, Gossaigaon (dist Kokrajhar) 10, Beka Rly.bridge (dist Barpeta) 10, Goalpara\_pto (dist Goalpara) 10, Goalpara\_cwc (dist Goalpara) 9, Barpeta Arg (dist Barpeta) 8, Goibargaon (dist Baksa) 7, Srijangram Arg (dist Bongaigaon) 7, Shohra (ARG)(East Khasi Hills) 7
- ✓ **Odisha:** Sinapali (dist Nawapara) 12, Karanjia (dist Mayurbhanj) 12, Th Rampur (dist Kalahandi) 11, Dharmagarh (dist Kalahandi) 11, Raurkela (dist Sundargarh) 10, Birmaharajpur (dist Sonepur) 9, Gopalpur (dist Ganjam) 9, Banki (dist Cuttack) 9, Mandira Dam (dist Sundargarh) 9, Rajgangpur (dist Sundargarh) 8, Kashipur (dist Rayagada) 8, Kalampur (dist Kalahandi) 7, Madanpur Rampur (dist Kalahandi) 7, Similiguda (dist Koraput) 7, Komna (dist Nawapara) 7, Kosagumda (dist Nawarangpur) 7, Harabhanga (dist Boudhgarh) 7, Phulbani (dist Kandhamal) 7, Gudari (dist Rayagada) 7, Papadahandi (dist Nawarangpur) 7, Jaipatna (dist Kalahandi) 7, Hinjili (dist Ganjam) 7,
- ✓ **Jharkhand:** Tenughat-12; Rania-9; Hazaribagh-7;
- ✓ **Manipur:** Chotabekra (Jiribam) 13
- ✓ **East Madhya Pradesh:** Karanjia (dist Dindori) 11, Baihar (dist Balaghat) 9, Amarkantak (dist Anuppur) 9,
- ✓ **Telangana:** Yellareddypeta (dist Rajanna Sircilla) 11, Mandhamarri (dist Mancherial) 8, Mustabad (dist Rajanna Sircilla) 7, Dubbak (dist Siddipet) 7,
- ✓ **East Uttar Pradesh:** Kanpur-10, Gorakhpur-9
- ✓ **Tamil Nadu:** Tirupattur PTO (Tirupattur) 10, Arcot (dist Ranipet), Polur (dist Tiruvannamalai) 9 each, Cheyyar (dist Tiruvannamalai) 8, Arani (dist Tiruvannamalai), Ranipet (dist Ranipet) 7 each,
- ✓ **Konkan & Goa:** Wakwali\_agri (dist Ratnagiri) 8, Panjim - Imd Obsy (dist North Goa) 8, Mangaon (dist Raigad) 7, Mormugao - Pmo Imd (dist South Goa) 7,
- ✓ **Madhya Maharashtra:** Mahabaleshwar- Imd Obsy (dist Satara) 8,
- ✓ **West Rajasthan:** Sriganganagar Tehsil Sr (dist Sri Ganganagar) 7, Ganganagar (dist Sri Ganganagar) 7, Mirzewala (dist Sri Ganganagar) 7,
- ✓ **Coastal Andhra Pradesh:** Vijayawada A.p. (dist Ntr District) 7, Chintur (dist Alluri Sitharamaraju) 5,
- ✓ **Gangetic West Bengal:** Sundarpur CWC, Narayanpur : 7
- ✓ **Bihar:** Araria: Raniganj-7

**Obsy:** Observatory; **AWS:** Automatic Weather Station; **dist:** District; **NH:** National Highway; **KVK:** Krishi Vigyan Kendra; **DVC:** Damodar Valley Corporation



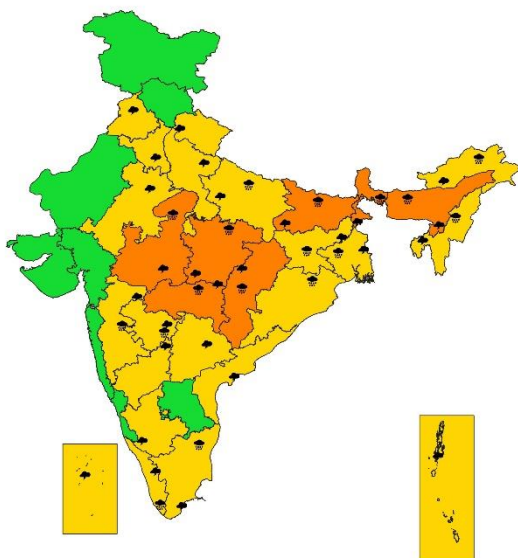
SUBDIVISIONWISE WEATHER WARNING FOR DAY 1  
( 21-9-2023 )



- |  |   |  |
|--|---|--|
| <b>Subdivision Warning</b><br>Heavy Rain<br>Heavy Snow<br>Thunderstorms & Lightning<br>Hailstorm | Dust Storm<br>Strong Surface Winds<br>Heat Wave<br>Cold wave<br>Fog | <b>Subdivision color</b><br>NO WARNING<br>WATCH (BE UPDATED)<br>ALERT (BE PREPARED)<br>WARNING (TAKE ACTION) |
|--|---|--|



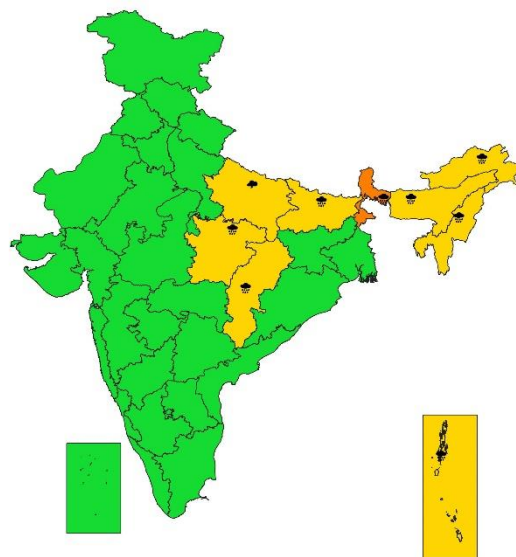
SUBDIVISIONWISE WEATHER WARNING FOR DAY 2  
( 22-9-2023 )



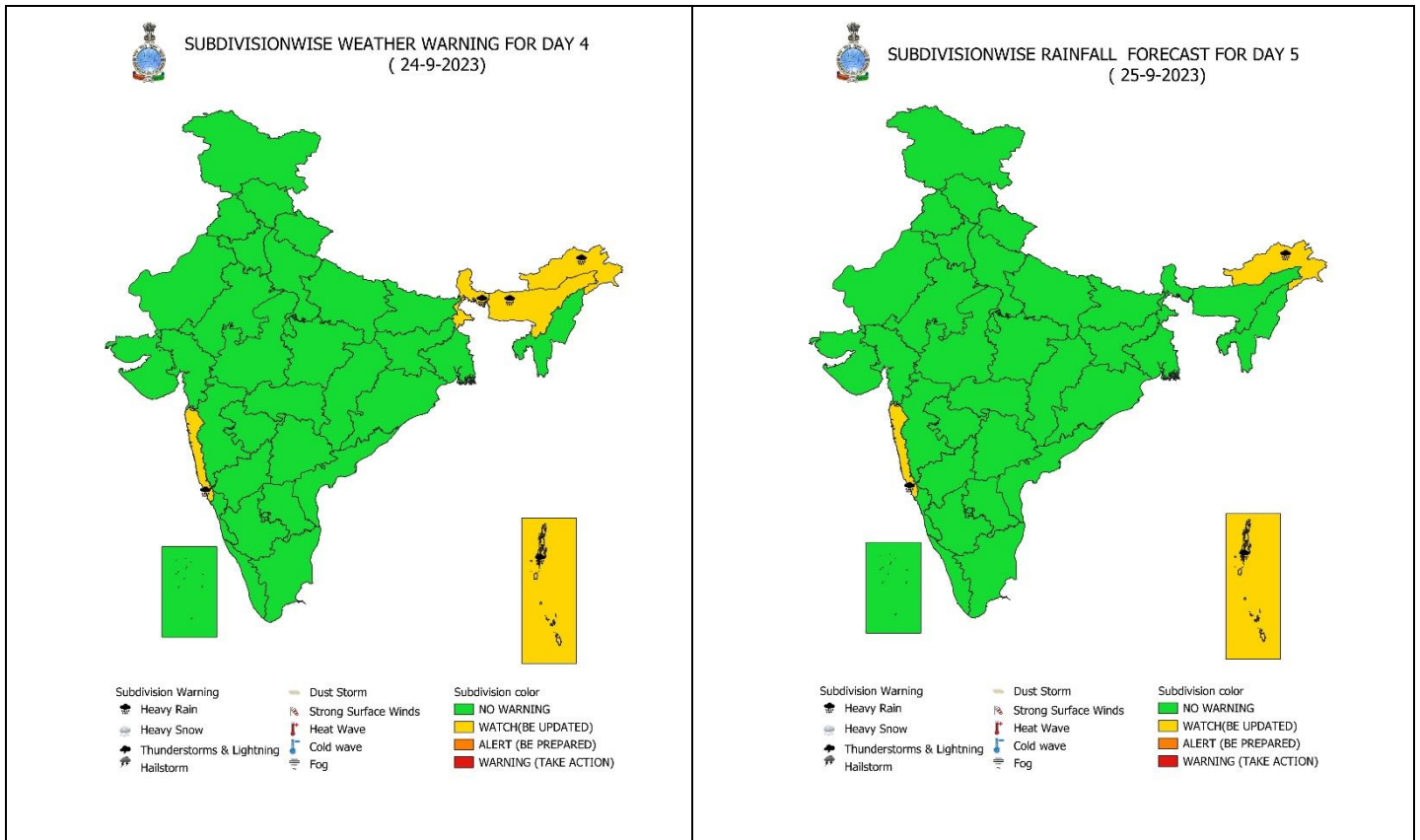
- |  |   |  |
|--|---|--|
| <b>Subdivision Warning</b><br>Heavy Rain<br>Heavy Snow<br>Thunderstorms & Lightning<br>Hailstorm | Dust Storm<br>Strong Surface Winds<br>Heat Wave<br>Cold wave<br>Fog | <b>Subdivision color</b><br>NO WARNING<br>WATCH (BE UPDATED)<br>ALERT (BE PREPARED)<br>WARNING (TAKE ACTION) |
|--|---|--|



SUBDIVISIONWISE WEATHER WARNING FOR DAY 3  
( 23-9-2023 )



- |  |   |  |
|--|---|--|
| <b>Subdivision Warning</b><br>Heavy Rain<br>Heavy Snow<br>Thunderstorms & Lightning<br>Hailstorm | Dust Storm<br>Strong Surface Winds<br>Heat Wave<br>Cold wave<br>Fog | <b>Subdivision color</b><br>NO WARNING<br>WATCH (BE UPDATED)<br>ALERT (BE PREPARED)<br>WARNING (TAKE ACTION) |
|--|---|--|



**Impact & Action Suggested due to very heavy rainfall** over Odisha, Chhattisgarh, Jharkhand, Assam & Meghalaya on 21<sup>st</sup> and Sub-Himalayan West Bengal & Sikkim during 21<sup>st</sup>-23<sup>rd</sup>; Bihar on 21<sup>st</sup> & 22<sup>nd</sup> September.

#### 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 kutcha 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



**Impact expected and action suggested due to isolated thunderstorm with lightning over Madhya Pradesh, Vidarbha and Chhattisgarh on 21<sup>st</sup> & 22<sup>nd</sup> September.**

**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:**

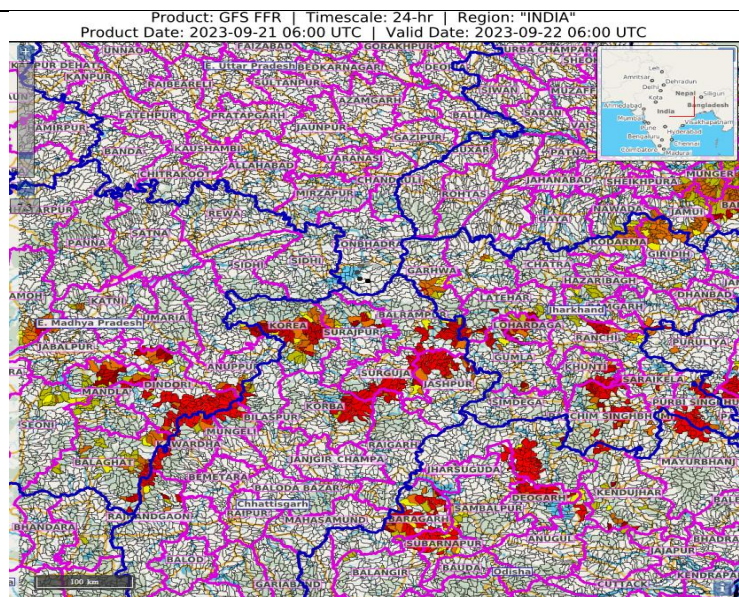
- Stay indoors, close windows & doors and avoid travel if possible.
- Take safe shelters; do not take shelter under trees.
- Do not lie on concrete floors and do not lean against concrete walls.
- Unplug electrical/ electronic appliances.
- Immediately get out of water bodies.
- Keep away from all the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

**Annexure III**

**24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 22-09-2023 :**

Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of Jharkhand, North Chhattisgarh & adjoining East Madhya Pradesh Met Sub-divisions during next 24 hours.

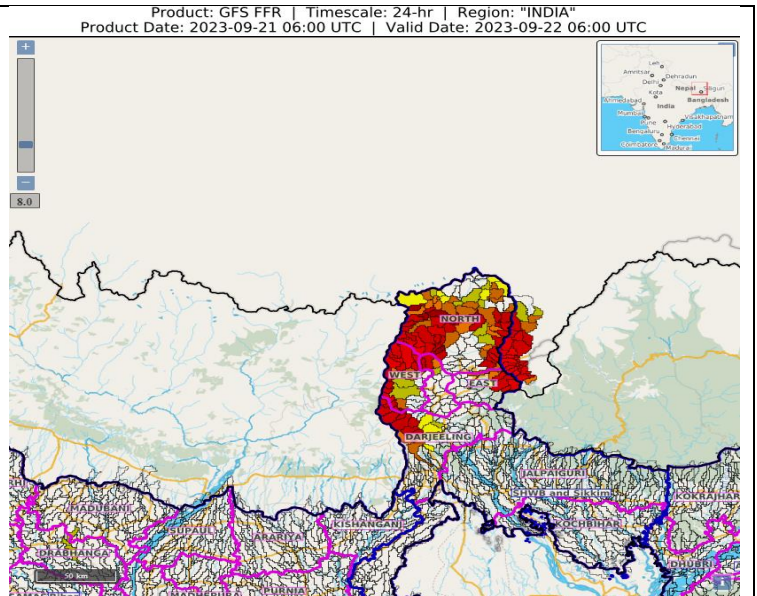
Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.



**24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 22-09-2023 :**

Light to Moderate flash flood risk likely over few watersheds & neighbourhoods of SHWB & Sikkim Met Sub-divisions during next 24 hours.

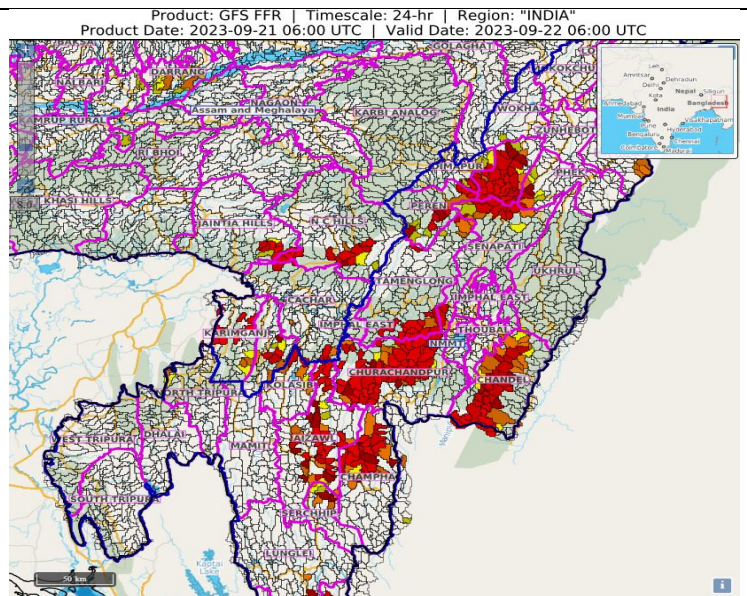
Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.



**24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 22-09-2023 :**

Light to Moderate flash flood risk likely over few watersheds & neighbourhoods of NMMT 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.
- ❖ **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)