



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

Press Release

Date: 16th July, 2023

Time of Issue: 1400 hours IST

**Subject: i) Heavy to very Heavy rainfall over Uttarakhand and Himachal Pradesh likely to continue during next 2 days and decrease thereafter.
ii) Active monsoon condition very likely to prevail over central & adjoining East India during next 5 days.
iii) Increase in rainfall activity along the West coast of the country from 17th July and decrease over Northeast India.**

Weather observed during past 24 hours ending at 0830 hours IST of today (Annexure I):

Significant Weather features:

- ❖ Under the influence of yesterday's cyclonic circulation over Northwest Bay of Bengal, a low-pressure area has formed over north Odisha and adjoining Gangetic West Bengal & Jharkhand.
- ❖ The western end of the monsoon trough runs near its normal position and the eastern end runs south of its normal position. It passes through Ganganagar, Narnaul, Aligarh, Varanasi, Daltonganj, centre of low-pressure area thence southeastwards to eastcentral Bay of Bengal.
- ❖ A Western Disturbance seen as an upper air cyclonic circulation over north Pakistan & adjoining Jammu-Kashmir.
- ❖ A cyclonic circulation is likely to form over Northwest Bay of Bengal around 18th July, 2023.

Weather Forecast and Warning (Annexure II):

Northwest India: Fairly widespread to widespread rainfall with **isolated heavy rainfall** is very likely to continue over Himachal Pradesh during next 5 days; over Uttarakhand & East Uttar Pradesh during next 3 days; over Haryana-Chandigarh during next 2 days; over West Uttar Pradesh & East Rajasthan during next 4 days; over West Rajasthan on 18th & 19th July, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 20th July.

Isolated heavy to very heavy rainfall very likely over Himachal Pradesh & Uttarakhand during next 2 days and over East Rajasthan on 17th & 18th July. **Isolated thunderstorm & lightning** very likely to continue over the region during next 3-4 days over the region.

East India: Fairly widespread to widespread rainfall with isolated **heavy rainfall** very likely over Odisha during next 5 days; over Andaman & Nicobar Islands during 17th-19th July, West Bengal & Sikkim on 16th July. **Isolated heavy to very heavy rainfall** very likely over Jharkhand and Odisha during next 24 hours.

Isolated thunderstorm & lightning very likely to continue over Bihar and West Bengal & Sikkim during next 2 days and over Andaman & Nicobar Islands during next 5 days.

Central India: Light/moderate fairly widespread to widespread rainfall with **isolated heavy rainfall and thunderstorm & lightning** is very likely over the region during next 5 days. **Isolated heavy to very heavy rainfall** likely over East Madhya Pradesh during 16th-18th; West Madhya Pradesh & Vidarbha on 16th & 18th; over Chhattisgarh on 16th & 17th July.

West India: Light/moderate fairly widespread to widespread rainfall with **isolated heavy rainfall** very likely to continue over the region during next 5 days. **Isolated heavy to very heavy rainfall** over Konkan & Goa, ghat areas of Madhya Maharashtra during 18th-20th July and over Gujarat state on 19th & 20th July. **Isolated thunderstorm & lightning** very likely

to continue over the region during 16th-17th July.

Northeast India: Fairly widespread to widespread rainfall with isolated **heavy rainfall & thunderstorm & lightning** very likely over Arunachal Pradesh on 16th July; over Assam & Meghalaya on 16th & 17th July; over Nagaland, Manipur, Mizoram & Tripura on 16th & 17th July.

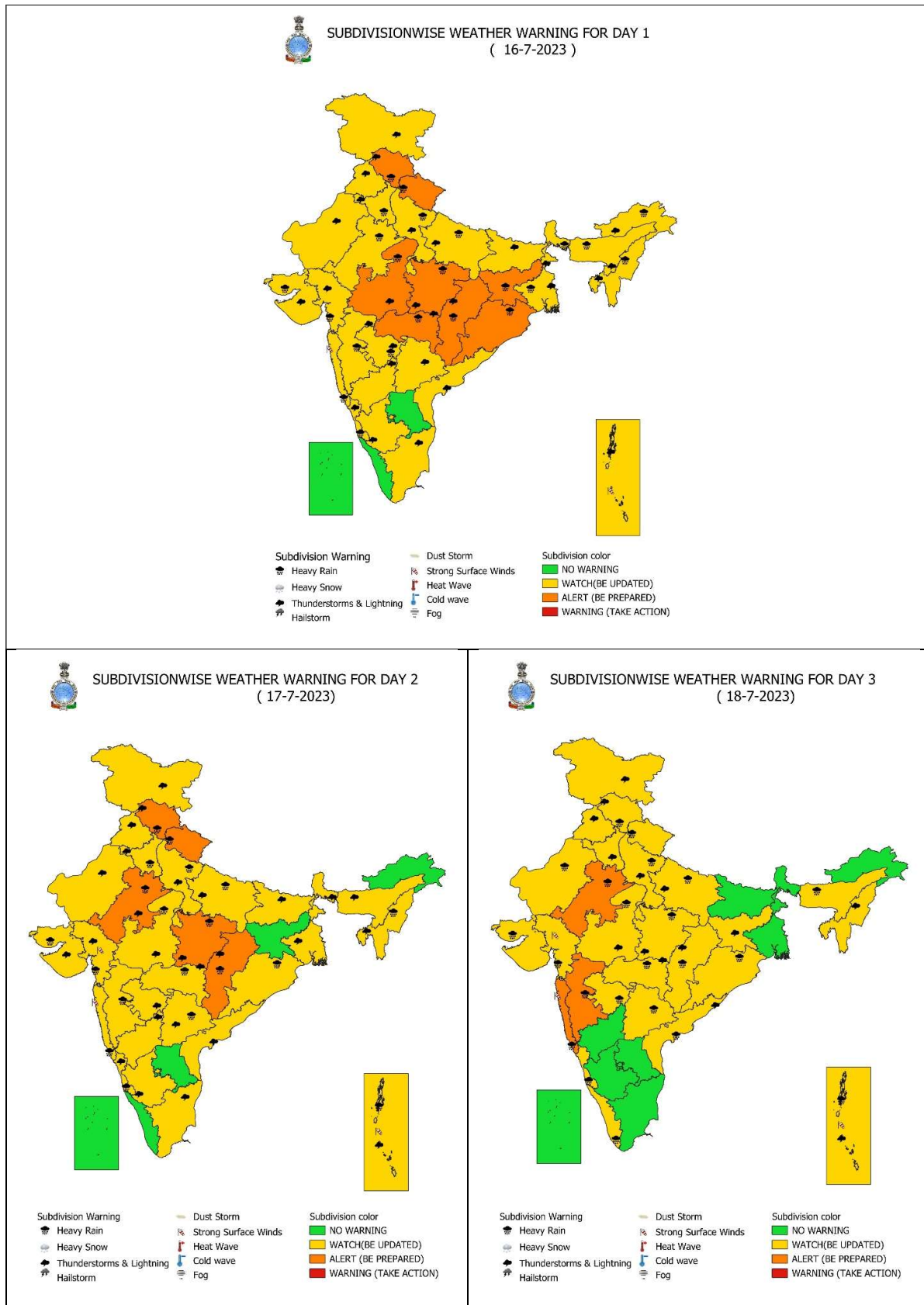
South India: Light/moderate scattered to fairly widespread rainfall with **isolated heavy rainfall** very likely to over Coastal Karnataka during 16th-20th July; over Telangana during 17th-20th July; over Coastal Andhra Pradesh and Kerala & Mahe during 18th-20th July; and over Interior Karnataka on 19th & 20th July. **Isolated thunderstorm & lightning** very likely to continue over Coastal Andhra Pradesh & Yanam during 16th-20th July and over Telangana, Karnataka and Tamil Nadu, Puducherry & Karaikal during 16th-17th July.

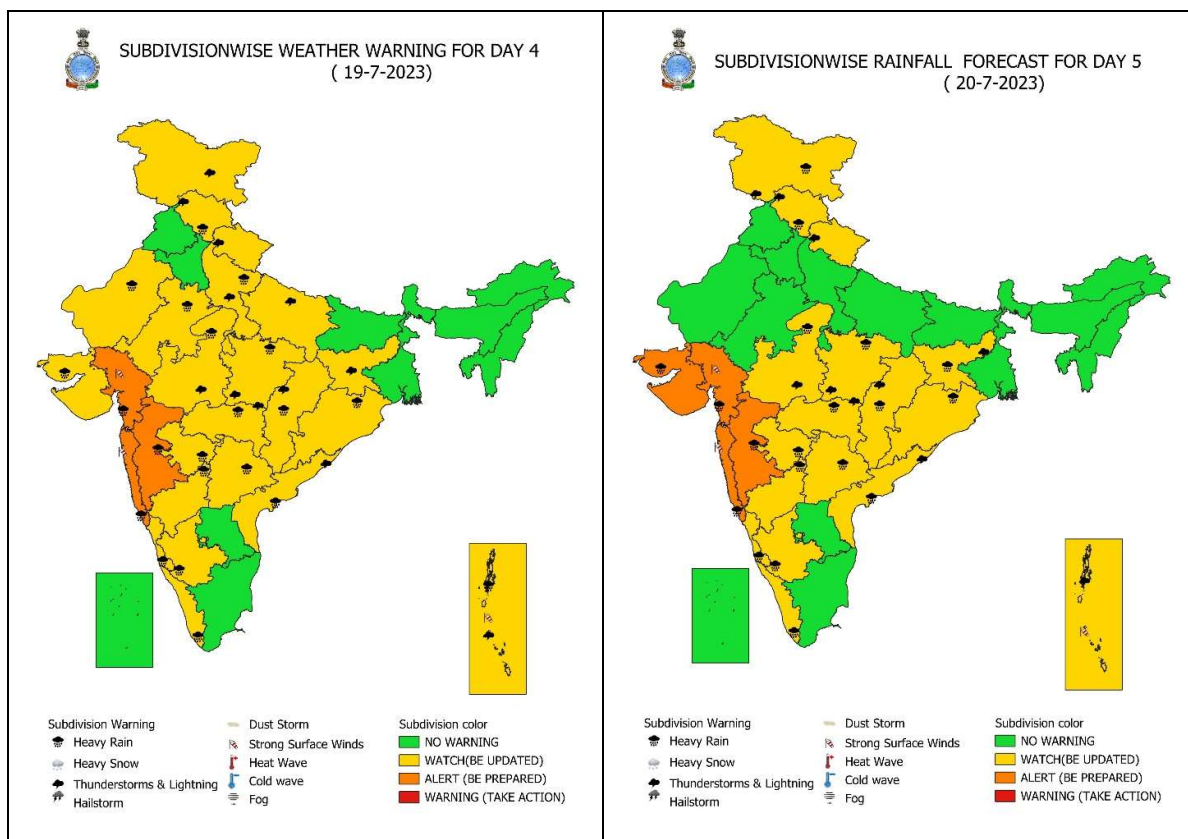
For more details kindly refer: https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php

Annexure I

Rainfall Observations: (from 0830 hours IST of yesterday to 0830 hours IST of today, the 15th July 2023):

- **Heavy Rainfall observed: Heavy to very heavy rainfall** at isolated places over Himachal Pradesh, Uttarakhand, West Uttar Pradesh, East Madhya Pradesh, Saurashtra & Kutch, Konkan & Goa, Telangana and **heavy rainfall** at isolated places over Arunachal Pradesh, Meghalaya, Nagaland, West Bengal, Bihar, East Uttar Pradesh, West Madhya Pradesh, Vidarbha, Gujarat Region and Coastal Karnataka.
- **Significant rainfall recorded (in cm):**
 - ORISSA: Kirmira (dist Jharsuguda) 21, Laikera (dist Jharsuguda) 19, Bhadrak (dist Bhadrak) 17, Kuchinda (dist Sambalpur) 16, Dhamnagar (dist Bhadrak) 15, Kolabira (dist Jharsuguda) 14, Bhandaripokhari (dist Bhadrak) 14, Jagatsinghpur (dist Jagatsinghpur) 13, Kantapada (dist Cuttack) 13, Alipingal (dist Jagatsinghpur) 13, Jharsuguda (dist Jharsuguda) 13, Lahuni para (dist Sundargarh) 12, Banaigarh (dist Sundargarh) 12, Kaptipada (dist Mayurbhanj) 11, Akhuapada (dist Bhadrak) 11, Baliguda (dist Kandhamal) 10, Thakurmunda (dist Mayurbhanj) 10, Tensa (dist Sundargarh) 10, K Nuagaon (dist Kandhamal) 10,
 - HIMACHAL PRADESH: Palampur 15, Jogindarnagar 11, Kataula 9, Sujanpur Tira and Dharmshala 7 each
 - UTTARAKHAND: Loharkhet and Karnaprayag 11 each, Kapkot 7
 - GUJARAT REGION: Chhota Udepur (dist Chhota Udepur) 12, Jambughoda (dist Panchmahal) 11, Dahod_kv (dist Dahod) 8, Godhra (dist Panchmahal) 8, Vaso (dist Kheda) 8,
 - SAURASHTRA & KUTCH: Mahuva (dist Bhavnagar) 7,
 - CHHATTISGARH: Mungeli (dist Mungeli) 8, Pallari/palari (dist Baloda Bazar) 8, Abhanpur (dist Raipur) 8, Chhuria (dist Rajnandgaon) 7, Ambagarh Chowki (dist Rajnandgaon) 7, Durgkondal (dist Kanker) 7,
 - EAST MADHYA PRADESH: Waraseoni (dist Balaghat) 13, Balaghat-aws (dist Balaghat) 11, Bilhari (dist Katni) 11, Tikamgarh-aws (dist Tikamgarh) 11, Mohangarh (dist Tikamgarh) 10, Lidhora (dist Tikamgarh) 10, Badagaon Dhasan (dist Tikamgarh) 10, Tamia (dist Chhindwara) 9, Jabalpur-aws (dist Jabalpur) 9, Bijawar (dist Chhatarpur) 9, Baihar (dist Balaghat) 8, Paraswada (dist Balaghat) 7, Niwari (dist Niwari) 7;
 - WEST MADHYA PRADESH: Deori (dist Raisen) 12, Pichhore (dist Shivpuri) 10, Khaniyadana (dist Shivpuri) 10, Alirajpur (dist Alirajpur) 9, Roan (dist Bhind) 9, Bareli (dist Raisen) 9, Mihona (dist Bhind) 9, Badoda (dist Sheopur) 8, Guna-aws (dist Guna) 8, Kathiwada (dist Alirajpur) 8,
 - TELANGANA: Kotapalle (dist Mancheri) 11; Chennur (dist Mancheri) 6;
 - HARYANA: Rewari 11, Thanesar 10, Bawal and Kurukshetra 7 each
 - DELHI: President House 5 and Pusa 3
 - PUNJAB: Phangota 11,
 - EAST UTTAR PRADESH: Kannauj and Robertsganj 10 each, Ballia and Chopan 9 each, Gaighat 8, Balrampur, Bhinga and Churk 7 each;
 - WEST UTTAR PRADESH: Mauranipur 6, Jasrana 5, Etah 4,
 - EAST RAJASTHAN: Nainwa 11, Lalsot 10, Kotkasim and Chothkabarwara 9 each, Jhalawar and Railmagra 7 each,
 - ARUNACHAL PRADESH: Miao (dist Changlang) 11, Pasighat_ Aero (dist East Siang) 8, Namsai Kv (dist Lohit) 7,
 - ASSAM & MEGHALAYA: Chauldhowaghat (dist Lakhimpur) 12, Neamatighat (dist Jorhat) 8, Bihpuria_ Aws (dist Lakhimpur) 8, Dhemaaji (dist Dhemaaji) 7, Ranganadi Nt Xing (dist Lakhimpur) 7, N.Lakhimpur/lilabari (dist Lakhimpur) 7
 - NAGALAND, MANIPUR, MIZORAM & TRIPURA: Mokokchung_ Aws (dist Mokokchung) 7,
 - JHARKHAND: Jaganathpur (Dist. West Singhbhum) 9, Gumla Bishnupur (Dist. Gumla) 8,
 - VIDARBHA: Saoli (dist Chandrapur) 14, Nagbhir (dist Chandrapur) 12, Gadchiroli (dist Gadchiroli) 11,





Agromet advisories for rainfall likely over various parts of the country:

- Drain out excess water from crop fields to avoid water stagnation in Himachal Pradesh, Uttarakhand, Haryana, Uttar Pradesh, East Rajasthan, West Bengal, Sikkim, Odisha, Jharkhand, Madhya Pradesh, Chhattisgarh, Gujarat state, Konkan & Goa, ghat areas of Madhya Maharashtra, Vidarbha, Coastal Karnataka, Telangana and North Eastern States.
- Postpone transplanting of rice in Uttarakhand.
- Postpone sowing of maize, soybean and vegetables in Uttarakhand.
- Provide staking to vegetables.

Impact & Action Suggested due to very heavy rainfall over Himachal Pradesh, Uttarakhand, East Madhya Pradesh, Chhattisgarh on 16th & 17th July; over West Madhya Pradesh, Vidarbha, Jharkhand, Odisha on 16th July; over East Rajasthan on 17th & 18th July; over Gujarat Region, Konkan & adjoining ghat areas of Madhya Maharashtra during 18th-19th July and over Saurashtra & Kutch on 20th July.

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

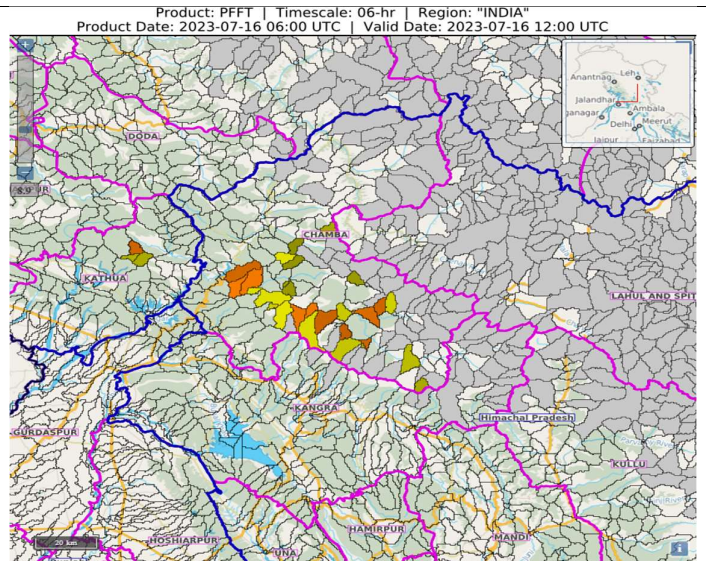
- ❖ Check for traffic congestion on your route before leaving for your destination.
- ❖ Follow any traffic advisories that are issued in this regard.
- ❖ Avoid going to areas that face the water logging problems often.
- ❖ Avoid staying in vulnerable structure.

Persistent Flash Flood Threat (PFFT) till 1730 IST of 16-07-2023:

Moderate flash flood threat likely over few watersheds & neighbourhoods of following Met Sub-divisions during next 6 hours.

Himachal Pradesh - Chamba district.
Jammu & Kashmir & Ladakh - Kathua district.

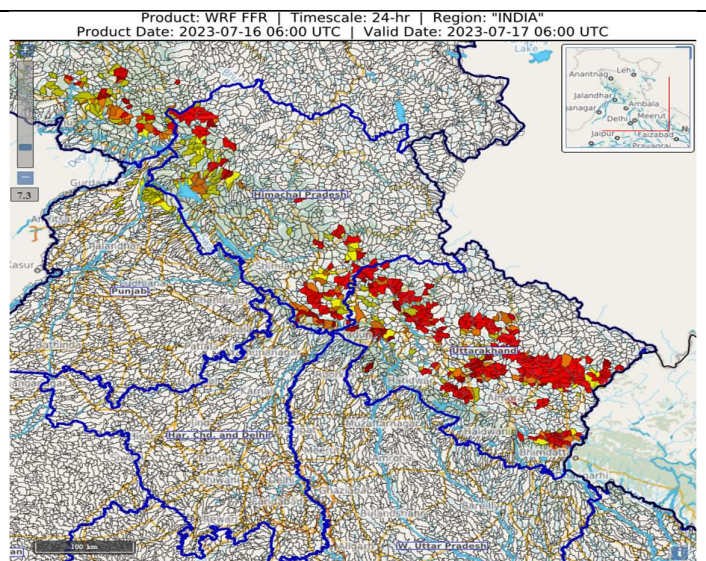
Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 6 hours.



24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 17-07-2023:

Moderate flash flood risk likely over few watersheds & neighbourhoods of Himachal Pradesh & adjoining Jammu & Kashmir & Ladakh and Uttarakhand Met Sub-divisions during next 24 hours.

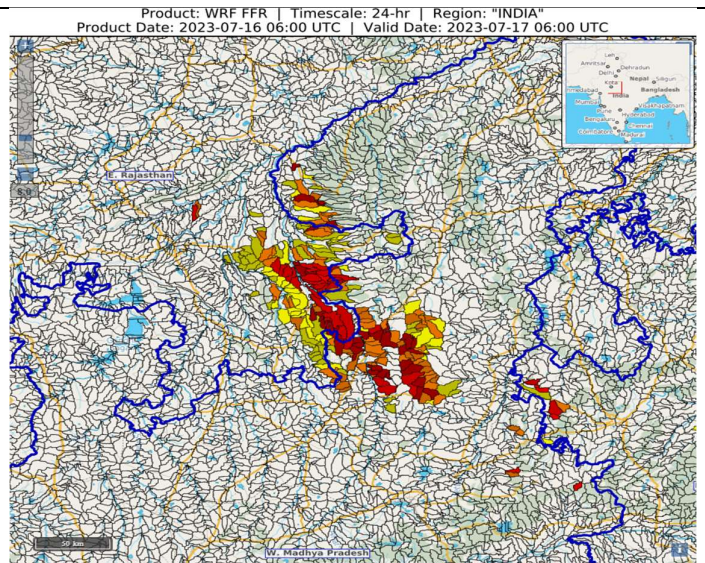
Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.



24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 17-07-2023:

Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of East Rajasthan and adjoining West Madhya Pradesh Met Sub-divisions during next 24 hours.

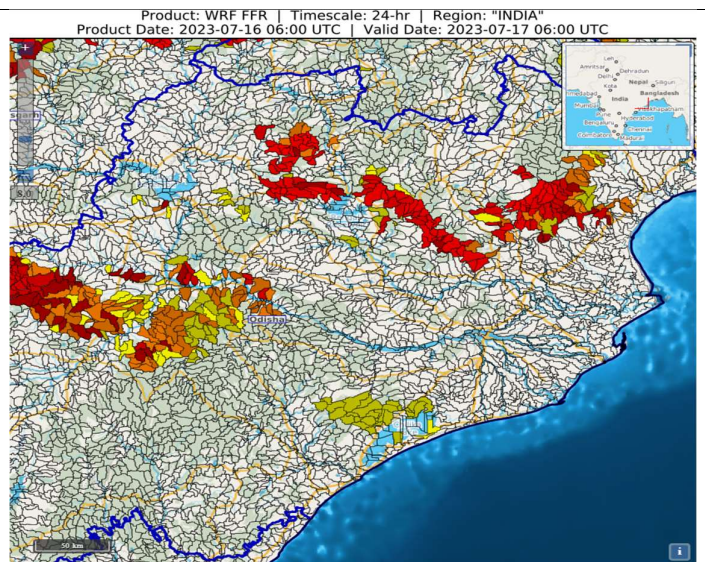
Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.



24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 17-07-2023:

Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of Odisha 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.
- ❖ **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		Subdivision color	
	Heavy Rain		NO WARNING
	Heavy Snow		WATCH(BE UPDATED)
	Thunderstorms & Lightning		ALERT (BE PREPARED)
	Hailstorm		WARNING (TAKE ACTION)
	Dust Storm		
	Strong Surface Winds		
	Heat Wave		
	Cold wave		
	Fog		

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