



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

Press Release

Date: 20th July, 2023

Time of Issue: 1400 hours IST

Subject: i) Exceptionally heavy rainfall occurred at isolated places over Konkan and south Gujarat State. Isolated Extremely heavy rainfall activity likely to continue over Konkan, Madhya Maharashtra & Gujarat State during next 02 days and isolated heavy to very heavy rainfall thereafter. Isolated heavy to very heavy rainfall very likely over Odisha next 03 days and over Chhattisgarh, Vidarbha, Telangana and Interior Karnataka during next 02 days.

ii) Subdued rainfall over northeast & remaining parts of east India likely to continue during next 4-5 days.

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 a low pressure area has formed over Northwest Bay of Bengal & adjoining Odisha in the morning of today. It is likely to move slowly west-north westwards across Odisha coast during 2-3 days.
- ❖ The Monsoon Trough is active, runs south of its normal position and passes through Jaisalmer, Kota, Guna, Damoh, Raipur, centre of low pressure area over northwest Bay of Bengal and adjoining and thence east-southeast wards to East central Bay of Bengal at mean sea level.
- ❖ The shear zone runs roughly along Lat. 20° N in lower & middle tropospheric levels tilting southwards with height.
- ❖ A fresh Western Disturbance as cyclonic circulation is seen over Iran and neighbourhood.
- ❖ A fresh low pressure area is likely to form over Northwest & adjoining Westcentral Bay of Bengal around 24th July.

Weather Forecast and Warning (Annexure II):

Northwest India: Light/moderate Fairly widespread to widespread rainfall with isolated **heavy rainfall** is very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad during 20th-23rd; over Himachal Pradesh, Uttarakhand and East Rajasthan during 20th-24th; over Punjab and Haryana on 22nd; over West Rajasthan on 23rd & 24th; over West Uttar Pradesh on 24th July 2023.

Isolated very heavy rainfall also very likely over Uttarakhand on 21st-22nd and over East Rajasthan on 21st July.

Central India: Light/moderate fairly widespread to widespread rainfall with isolated **heavy rainfall** is very likely over the region during next 5 days. **Isolated very heavy rainfall** also likely over Chhattisgarh on 20th July, over West Madhya Pradesh on 21st July and over Vidarbha on 20th-21st.

West India: Light/moderate fairly widespread to widespread rainfall with **isolated heavy to very heavy rainfall** very likely to continue over Konkan & Goa, ghat areas of Madhya Maharashtra, Gujarat State during next 5 days;

Isolated heavy to very heavy rainfall very likely to continue over Mumbai during next 02 days.

Isolated extremely heavy rainfall likely over Konkan & Goa, ghat areas of Madhya Maharashtra, Gujarat state on 20th & 21st July.

South India: Light/moderate fairly widespread to widespread rainfall with **isolated heavy rainfall** very likely to over Kerala, Karnataka, Coastal Andhra Pradesh & Yanam & Telangana during next 5 days and over Tamil Nadu on 20th July.

Isolated extremely heavy rainfall very likely over Telangana on 20th and isolated very heavy rainfall very likely over Telangana on 21st & 24th; over Coastal Karnataka & North Interior Karnataka on 20th July.

East India: Light/moderate widespread rainfall with isolated **heavy to very heavy rainfall** very likely over Odisha during 20th to 24th and isolated **heavy rainfall** over Andaman & Nicobar Islands during 21st-24th July.

Northeast India: Light/moderate Scattered to Fairly widespread rainfall likely over the region. **Isolated heavy rainfall** likely over Nagaland, Manipur, Mizoram & Tripura during 20th to 22nd; over Assam & Meghalaya on 22nd to 24th and over Arunachal Pradesh on 23rd & 24th July.

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 20th July 2023):

- **Exceptional heavy rainfall observed over Raigad (Matheran: 40cm). Heavy to very heavy with isolated** Extremely **heavy rainfall** at isolated places over Konkan & Goa, Madhya Maharashtra, **Saurashtra & Kutch**, Gujarat Region, Telangana.
- **Significant rainfall recorded (from 0830 hours IST of yesterday to 0830 hours IST of today, the 20th July 2023): (in cm):**

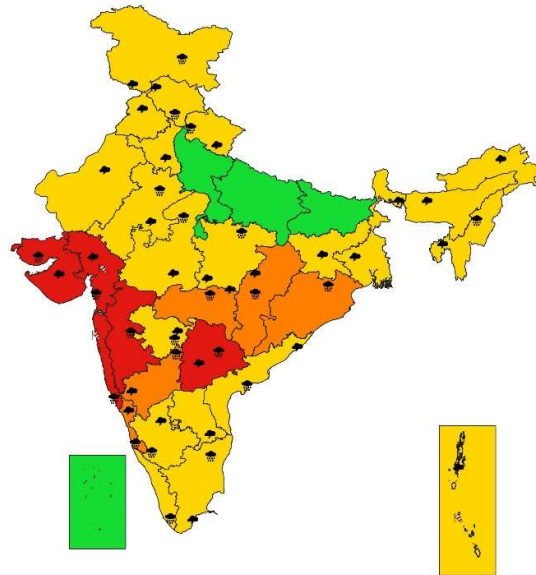
- **Konkan & Goa:** Matheran (dist Raigad) **40**, Ulhasnagar (dist Thane) **31**, Poladpur (dist Raigad) **31**, Dahanu - Imd Obsy (dist Palghar) **31**, Dapoli_agri (dist Ratnagiri) **30**, Ambarnath (dist Thane) **29**, Panvel_agri (dist Raigad) **29**, Mahad (dist Raigad) **28**, Karjat_agri (dist Raigad) **27**, Palghar_agri (dist Palghar) **27**, Pen (dist Raigad) **27**, Mandangad (dist Ratnagiri) **27**, Bhiwandi (dist Thane) **23**, Mhasla (dist Raigad) **23**, Uran (dist Raigad) **22**, Khalapur (dist Raigad) **22**, Chiplun (dist Ratnagiri) **22**, Mangaon (dist Raigad) **20**, Vasai (dist Palghar) **20**, Sudhagad Pali (dist Raigad) **20**, Sangameshwar Devrukh (dist Ratnagiri) **20**, Thane (dist Thane) **19**, Wakwali_agri (dist Ratnagiri) **19**, Murbad (dist Thane) **18**, Khed (dist Ratnagiri) **18**, Tala (dist Raigad) **15**, Kalyan (dist Thane) **15**, Harnai Imd Obsy (dist Ratnagiri) **13**, Tbia Imd Part Time (dist Thane) **13**, Alibag - Imd Part Time (dist Raigad) **11**, Shriwardhan (dist Raigad) **11**, Guhagarh (dist Ratnagiri) **11**;
- **Saurashtra & Kutch:** Mangrol(j) (dist Junagadh) **34**, Malia (dist Junagadh) **22**, Jamjodhpur (dist Jamnagar) **19**, Kutiana (dist Porbandar) **18**, Junagadh (dist Junagadh) **16**, Vallabhipur (dist Bhavnagar) **14**, Kalavad (dist Jamnagar) **14**, Manavadar (dist Junagadh) **14**, Dhoraji (dist Rajkot) **13**, Keshod (dist Junagadh) **13**, Upleta (dist Rajkot) **12**, Lalpur (dist Jamnagar) **12**, Jamnagar (dist Jamnagar) **11**, Vanthali (dist Junagadh) **10**, Jetpur (dist Rajkot) **10**, Bhavnagar (dist Bhavnagar) **10**, Umralla (dist Bhavnagar) **9**, Sutrapada (dist Gir Somnath) **8**, Visavadar (dist Junagadh) **7**, Shihor (dist Bhavnagar) **7**
- **Madhya Maharashtra:** Mahabaleshwar- Imd Obsy (dist Satara) **31**, Lonavala_agri (dist Pune) **28**, Gaganbawada (dist Kolhapur) **15**, Yaval (dist Jalgaon) **12**;
- **Gujarat Region:** Umergam (dist Valsad) **31**, Vapi (dist Valsad) **21**, Daman (dist Daman) **21**, Pardi (dist Valsad) **19**, Daman Fmo (dist Daman) **19**, Sojitra (dist Anand) **15**, Surat City (dist Surat) **15**, Sankheda (dist Chhota Udepur) **14**, Daman_arg (dist Daman) **13**, Valsad (dist Valsad) **12**, Hansot (dist Bharuch) **12**, Tarapur (dist Anand) **12**, Surat_aws (dist Surat) **12**, Choryasi (dist Surat) **11**, Silvassa (dist Dadara & Nagar Haveli) **11**, Matar (dist Kheda) **10**, Umreth (dist Anand) **10**, Valsad_ Kvk Aws (dist Valsad) **10**;
- **Telangana:** Bejjur (dist Kumaram Bheem) **26**, Zaffergadh (dist Jangaon) **17**, Jagadevpur (dist Siddipet) **13**, Medak (dist Medak) **13**, Gudurwrgl (dist Mahabubabad) **13**, Gandhari (dist Kamareddy) **13**, Raghunathpalle (dist Jangaon) **13**, Parvathagiri (dist Warangal) **12**, Ghanpur (dist Jangaon) **12**, Kowdipalle (dist Medak) **12**, Tekmal (dist Medak) **12**, Mirdoddi (dist Siddipet) **12**, Wankdi (dist Kumaram Bheem) **12**, Sadasivanagar (dist Kamareddy) **11**, Jogipet (dist Sangareddy) **11**, Narmetta (dist Jangaon) **11**, Alladurg (dist Medak) **11**, Jangaon (dist Jangaon) **10**, Dubbak (dist Siddipet) **10**, Bachhanpet (dist Jangaon) **10**, Papannapet (dist Medak) **9**, Bhadrachalam (dist B. Kothagudem) **9**, Wargal (dist Siddipet) **9**, Khanapur (dist Warangal) **9**, Gajwel (dist Siddipet) **9**, Chegunta (dist Medak) **9**, Venkatapuram (dist Mulugu) **9**, Kamareddy (dist Kamareddy) **9**, Yadagirigutta (dist Y. Bhuvanagiri) **9**, Naga Reddipet (dist Kamareddy) **8**, Palakurthi (dist Jangaon) **8**, Mutharam Mahadevpur (dist J. Bhupalpally) **8**, Tadwai (dist Kamareddy) **8**, Mustabad (dist Rajanna Sircilla) **7**, Hathanoora (dist Sangareddy) **7**, Dhar Palle (dist Nizamabad) **7**, Kotapalle (dist Mancherla) **7**, Narsapur (dist Medak) **7**, Kondapak (dist Siddipet) **7**, Lingampet (dist Kamareddy) **7**, Dindigul (dist M. Malkajgiri) **7**, Yellareddypeta (dist Rajanna Sircilla) **7**, Chennaraopet (dist Warangal) **7**, Yellareddy (dist Kamareddy) **7**, Kothaguda (dist Mahabubabad) **7**, Bayyaram (dist Mahabubabad) **7**, Sirpur (t) (dist Kumaram Bheem) **7**, Dahegaon (dist Kumaram Bheem) **7**, Kohir (dist Sangareddy) **7**, Medchal (dist M. Malkajgiri) **7**, Mahabubabad (dist Mahabubabad) **7**;

- **Heavy to very heavy at isolated places** observed over Karnataka, Chhattisgarh and **heavy rainfall** at isolated places over Coastal Andhra Pradesh & Yanam, Kerala & Mahe, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Madhya Pradesh, Himachal Pradesh and Odisha.

- **Karnataka:** Castle Rock (dist Uttara Kannada) 17; Jagalbet (dist Uttara Kannada) 13; Yellapur (dist Uttara Kannada) 12, Siddapur (dist Uttara Kannada) 11, Kalasa (dist Chikkamagaluru) 11, Hunchadakatte (dist Shivamogga) 10, Sringeri Hms (dist Chikkamagaluru) 9, Gersoppa (dist Uttara Kannada) 8, Joida (dist Uttara Kannada) 8, Londa (dist Belagavi) 8, Sanivarsante (dist Kodagu) 8, Linganamakki Hms (dist Shivamogga) 8, Kammardi (dist Chikkamagaluru) 8, Somwarpet (dist Kodagu) 8, Thalaguppa (dist Shivamogga) 8, Kottigehara (dist Chikkamagaluru) 8, Koppa (dist Chikkamagaluru) 8, Sakleshpura (dist Hassan) 8, Kadra (dist Uttara Kannada) 7, Kollur (dist Udupi) 7, Chincholi (dist Kalaburgi) 7;
- **Chhattisgarh:** Bijapur (dist Bijapur) 13, Bhairamgarh (dist Bijapur) 11, Bhopalpatnam (dist Bijapur) 8,
- Dantewara (dist Dantewada) 8, Sukma (dist Sukma) 7;
- **Vidarbha:** Ahiri (dist Gadchiroli) 10, Sironcha (dist Gadchiroli) 9, Joiti (dist Chandrapur) 8,
- **Chamorshi (dist Gadchiroli) 8, Pombhurna (dist Chandrapur) 8, Rajura (dist Chandrapur) 7,**
- **Coastal Andhra Pradesh & Yanam:** Chintur (dist Alluri Sitharamaraju) 10, Kunavaram (dist Alluri Sitharamaraju) 9, Kukunoor (dist Eluru) 8;
- **Kerala & Mahe:** Vyttili (dist Wynad) 10, Padinjarathara Dam Aws (dist Wynad) 7, Munnar Kseb (dist Idukki) 7;
- **Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad:** Katra (dist Reasi) 10, Reasi Arg (dist Reasi) 10;
- **West Madhya Pradesh:** Pachmarhi (dist Narmadapuram) 10, Warla (dist Barwani) 7;
- **Himachal Pradesh:** Narkanda Aws (dist Shimla) 9, Hmo Shillaro (dist Shimla) 9;
- **East Madhya Pradesh:** Kurai (dist Seoni) 8, Umreth (dist Chindwara) 7, Parasia (dist Chindwara) 7;
- **Odisha:** Saintala (dist Bolangir) 7.



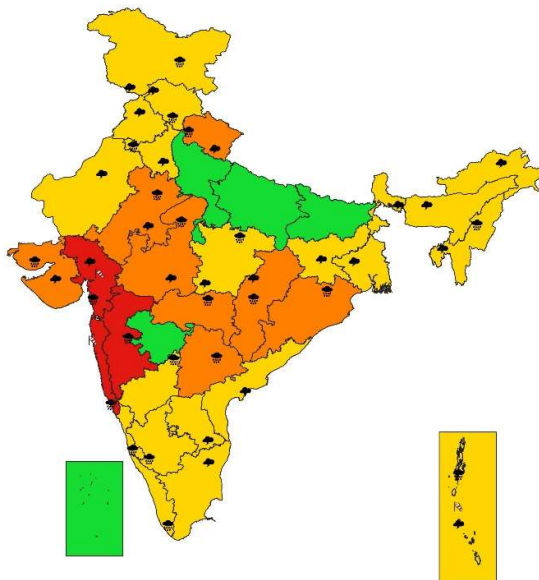
SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
(20-7-2023)



- | | | |
|----------------------------|----------------------|--------------------------|
| 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) |



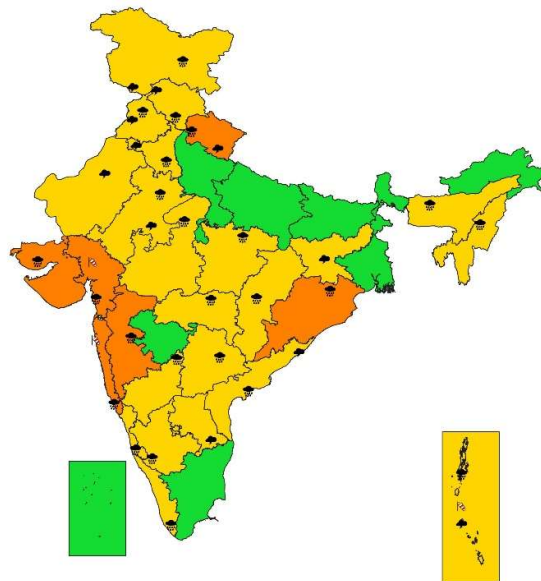
SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
(21-7-2023)



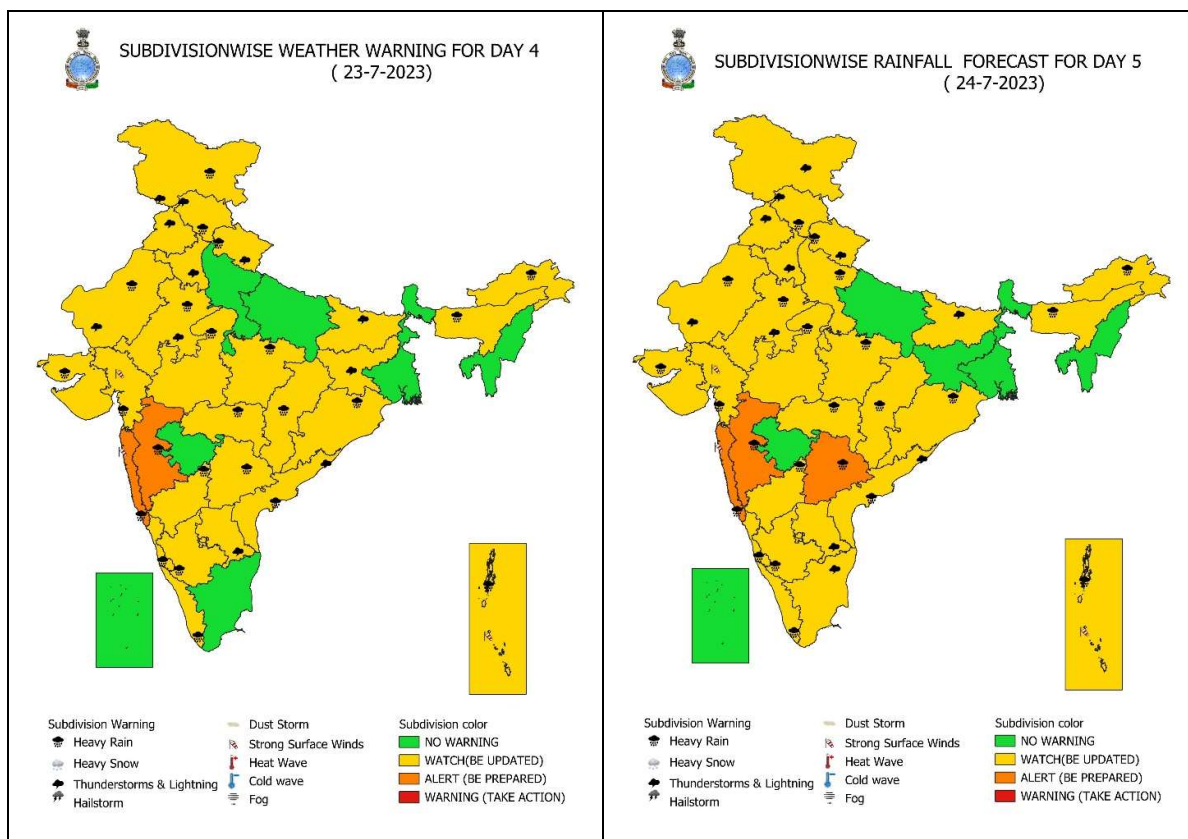
- | | | |
|----------------------------|----------------------|--------------------------|
| Subdivision Warning | Dust Storm | Subdivision color |
| Heavy Rain | Strong Surface Winds | NO WARNING |
| Heavy Snow | Heat Wave | WATCH (BE UPDATED) |
| Thunderstorms & Lightning | Cold wave | ALERT (BE PREPARED)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



SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
(22-7-2023)



- | | | |
|----------------------------|----------------------|--------------------------|
| 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) |



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

- Drain out excess water from crop fields to avoid water stagnation in Jammu & Kashmir, Himachal Pradesh, Uttarakhand, East Rajasthan, Odisha, Madhya Pradesh, Chhattisgarh, Gujarat State, Konkan & Goa, ghat areas of Madhya Maharashtra, Vidarbha, Kerala, Karnataka, Coastal Andhra Pradesh and Telangana.
- Postpone transplanting of rice in South Gujarat. Postpone direct sowing of rice in Telangana.
- Postpone sowing of castor and pigeon pea in Saurashtra region.
- Postpone transplanting of finger millet in Konkan region of Maharashtra.

Impact & Action Suggested due to very heavy rainfall over Vidarbha on 20th & 21st; over Chhattisgarh 20th; over Odisha during 20th to 22nd; over Konkan & Goa and Madhya Maharashtra during 20th to 23rd; over Gujarat State during 20th to 22nd; over Telangana on 20th & 21st; over Coastal Karnataka & North Interior Karnataka 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 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).

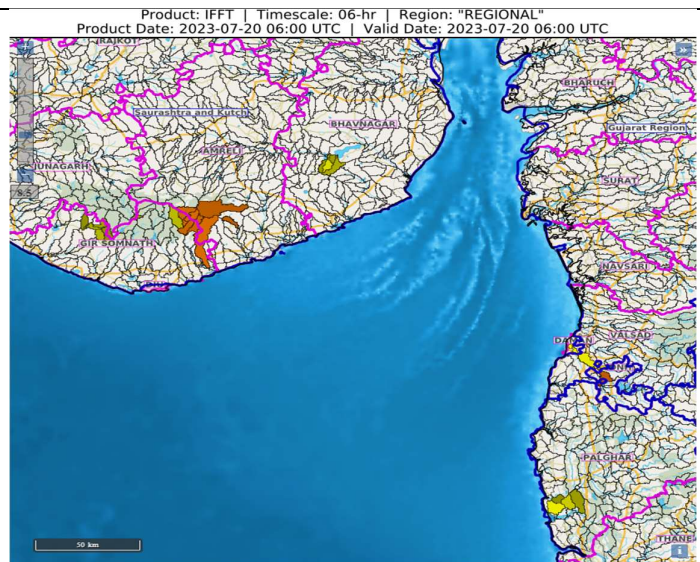
B. Action Suggested

- ❖ 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.

Observed Flash Flood Threat (IFFT) till 1130 IST of 20-07-2023 :

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

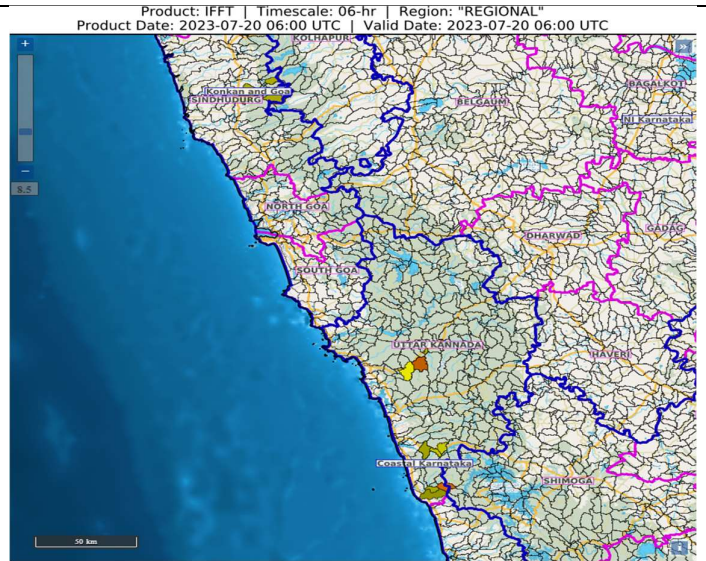
Gujarat Region - Dadar & Nagar Haveli and Daman districts. Saurashtra & Kutch - Amreli, Bhavnagar and Gir Somnath districts.



Observed Flash Flood Threat (IFFT) till 1130 IST of 20-07-2023 :

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

Coastal Karnataka - Uttar Kannada district.
Konkan & Goa - Palghar and Sindhudurg districts.

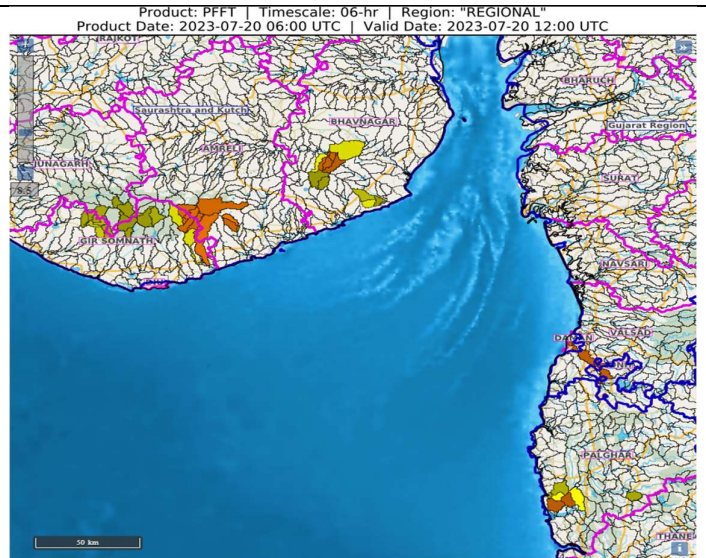


Persistent Flash Flood Threat (PFFT) till 1730 IST of 20-07-2023 :

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

Gujarat Region - Dadar & Nagar Haveli and Daman districts.
Saurashtra & Kutch - Amreli, Bhavnagar, Gir Somnath and Junagarh districts.

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.

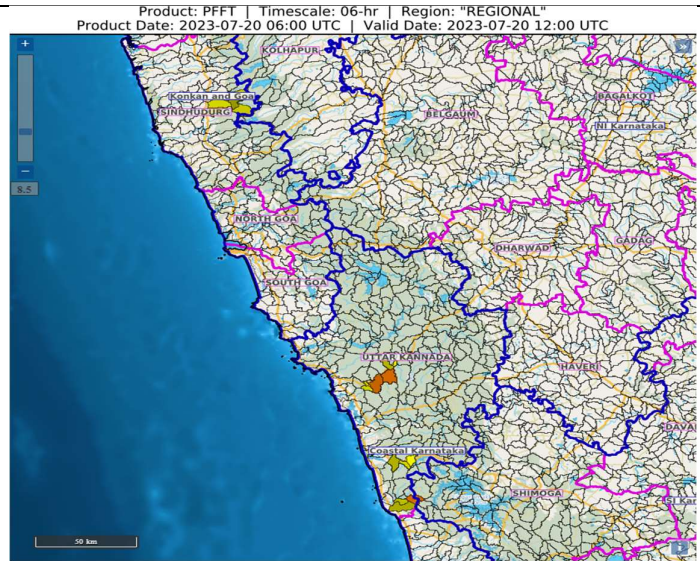


Persistent Flash Flood Threat (PFFT) till 1730 IST of 20-07-2023 :

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

Coastal Karnataka - Uttar Kannada district.
Konkan & Goa - Palghar and Sindhudurg districts.

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.

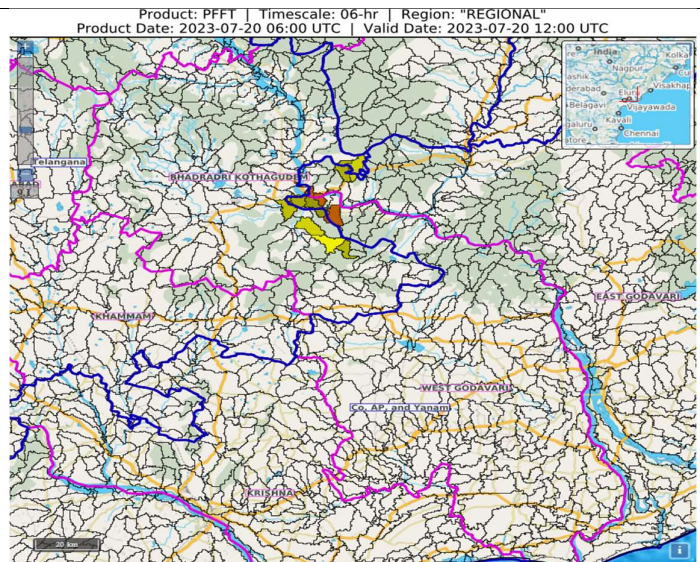


Persistent Flash Flood Threat (PFFT) till 1730 IST of 20-07-2023 :

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

Telangana - B. Kothagudem and Nirmal districts.

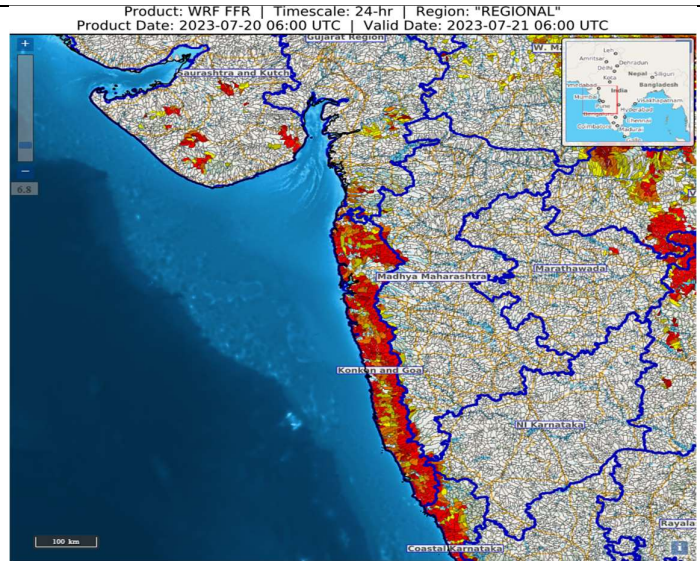
Coastal A.P & Yanam: East Godavari
Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 6 hours.



24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 21-07-2023 :

Moderate flash flood risk likely over few watersheds & neighbourhoods of Coastal Karnataka, Konkan & Goa and adjoining South Gujarat Region and Saurashtra & Kutch Met Sub-divisions during next 24 hours.

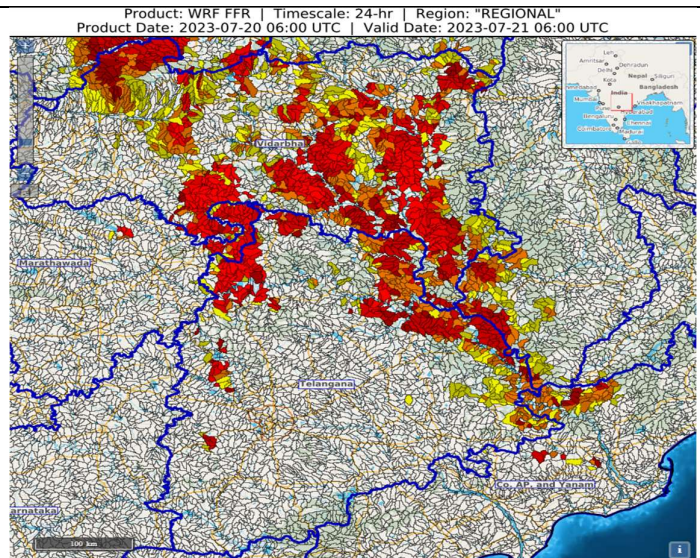
Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.



24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 21-07-2023 :

Moderate flash flood risk likely over few watersheds & neighbourhoods of Telangana, Vidarbha and adjoining Madhya Maharashtra 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 |