



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

Press Release

Date: 23rd July, 2023

Time of Issue: 1300 hours IST

Subject: i) Isolated Extremely heavy rainfall activity likely to continue over Konkan, Ghat areas of Madhya Maharashtra & Gujarat State today, the 23rd July and decrease thereafter.
ii) Isolated heavy rainfall activity likely to continue over central parts of country during 23rd-27th July.
iii) Increase in rainfall activity over northwest India from 25th July.

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

Significant Weather features:

- ❖ The Monsoon Trough is active and runs to the south of its normal position. The Western end is very likely to shift gradually northwards during next 2-3 days.
- ❖ A cyclonic circulation lies over central Madhya Pradesh in lower & middle tropospheric levels.
- ❖ The shear zone lies roughly along Lat. 20° N between 3.1 & 5.8 km above mean sea level.
- ❖ Another cyclonic circulation lies over south Odisha & neighbourhood in lower tropospheric levels.
- ❖ A cyclonic circulation is very likely to form over Westcentral & adjoining Northwest Bay of Bengal on 24th July. Under its influence a Low Pressure Area is likely to form over the same region during subsequent 24 hours.

Weather Forecast and Warning (Annexure II):

Northwest India: Light/moderate fairly widespread to widespread rainfall with isolated **heavy rainfall** is very likely over Himachal Pradesh, Uttarakhand and East Rajasthan during 23rd-27th and over Punjab, Haryana-Chandigarh-Delhi & Uttar Pradesh during 25th-27th; over West Rajasthan on 25th & 26th and Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 26th & 27th July, 2023.

Central India: Light/moderate fairly widespread to widespread rainfall with isolated **heavy rainfall** is very likely over the region during 23rd-27th July, 2023.

Isolated very heavy rainfall also likely over southwest Madhya Pradesh on 23rd and over Chhattisgarh on 26th & 27th July, 2023.

West India: Light/moderate fairly widespread to widespread rainfall with **isolated heavy to very heavy rainfall** very likely to continue over Konkan & Goa and ghat areas of Madhya Maharashtra during 23rd to 27th; over Marathwada on 23rd & 24th and over Gujarat state during 23rd-25th July, 2023.

Isolated extremely heavy rainfall likely over ghat areas of Madhya Maharashtra and Gujarat state on 23rd July, 2023.

South India: Light/moderate fairly widespread to widespread rainfall with **isolated heavy rainfall** very likely over Coastal Andhra Pradesh & Yanam, Telangana, Karnataka and Kerala & Mahe during 23rd-27th; over Rayalaseema during 25th-27th and over Tamil Nadu, Puducherry & Karaikal on 23rd & 24th July, 2023. **Isolated very heavy rainfall very likely over Coastal Karnataka on 23rd & 24th; over South Interior Karnataka and Kerala & Mahe on 23rd; over Coastal Andhra Pradesh & Yanam on 25th & 26th and over Telangana during 25th-27th July.**

East India: Light/moderate fairly widespread to widespread rainfall with isolated **heavy rainfall** very likely over Odisha during 23rd-27th and over Andaman & Nicobar Islands on 23rd & 24th July, 2023.

Isolated very heavy rainfall likely over Odisha during 25th-27th July, 2023.

Northeast India: Light/moderate fairly widespread rainfall very likely over the region. **Isolated heavy rainfall** likely over Arunachal Pradesh and Assam & Meghalaya during 23rd to 27th and over Nagaland, Manipur, Mizoram & Tripura on 23rd, 26th & 27th July, 2023.

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

Rainfall Observations: (from 0830 hours IST of yesterday to 0830 hours IST of today, the 23rd July 2023):

➤ **Heavy rainfall observed:** Heavy to very heavy with isolated Extremely heavy rainfall at isolated places over Gujarat state, Madhya Maharashtra and Coastal & South Interior Karnataka, **heavy to very heavy at isolated places** observed over Punjab, West Madhya Pradesh, Konkan & Goa, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal and **heavy rainfall** at isolated places over Uttarakhand, Haryana, Odisha, Andaman & Nicobar Islands, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, East Rajasthan, Chhattisgarh, Vidarbha and North Interior Karnataka.

➤ **Significant rainfall recorded (in cm):**

- **Gujarat Region:** Navsari (dist Navsari) 31, Jalalpor (dist Navsari) 28, Navasari_aws (dist Navsari) 27, Abad City (dist Ahmedabad) 19, Khergam (dist Navsari) 18, Gandevi (dist Navsari) 16, Mc Ahmedabad_arg (dist Ahmedabad) 15, Bharuch (dist Bharuch) 15, Vagra (dist Bharuch) 14, Dharampur (dist Valsad) 12, Sanand (dist Ahmedabad) 11, Chikhli (dist Navsari) 11, Dahegam (dist Gandhinagar) 10, Pardi (dist Valsad) 10, Madhbun (dist Dadara & Nagar Haveli) 10, Kaprada (dist Valsad) 10, Valod (dist Tapi) 9, Umergam (dist Valsad) 9, Dolvan (dist Tapi) 9, Choryasi (dist Surat) 9, Surat_kv Aws (dist Surat) 9, Mahuva (dist Surat) 9, Virpur (dist Mahisagar) 9, Karjan (dist Vadodara) 9, Maktampur_aws (dist Bharuch) 9, Gandhinagar (dist Gandhinagar) 8, Khanvel (dist Dadara & Nagar Haveli) 8, Surat City (dist Surat) 8, Daman (dist Daman) 7, Vapi (dist Valsad) 7, Suigam (dist Banaskantha) 7, Borsad (dist Anand) 7, Valsad (dist Valsad) 7,
- **Coastal Karnataka:** Castle Rock (dist Uttara Kannada) 28, Karkala (dist Udupi) 23, Mulki (dist Dakshina Kannada) 22, Udupi (dist Udupi) 22, Belthangadi (dist Dakshina Kannada) 17, Gersoppa (dist Uttara Kannada) 16, Kota (dist Udupi) 15, Uppinangadi (dist Dakshina Kannada) 15, Mani (dist Dakshina Kannada) 15, Mangaluru Ap Obsy (dist Dakshina Kannada) 14, Dharmasthala (dist Dakshina Kannada) 14, Puttur Hms (dist Dakshina Kannada) 14, Panambur Obsy (dist Dakshina Kannada) 13, Sulya (dist Dakshina Kannada) 13, Siddapura (dist Udupi) 13, Siddapur (dist Uttara Kannada) 13, Kumta (dist Uttara Kannada) 12, Kundapur (dist Udupi) 11, Kadra (dist Uttara Kannada) 11, Kollur (dist Udupi) 11, Yellapur (dist Uttara Kannada) 11, Haliyal (dist Uttara Kannada) 10, Manki (dist Uttara Kannada) 10, Joida (dist Uttara Kannada) 9, Gokarna (dist Uttara Kannada) 9, Manchikere

(dist Uttara Kannada) 9, Karwar Obsy (dist Uttara Kannada) 8, Banavasi (dist Uttara Kannada) 8, Honavar Obsy (dist Uttara Kannada) 7.

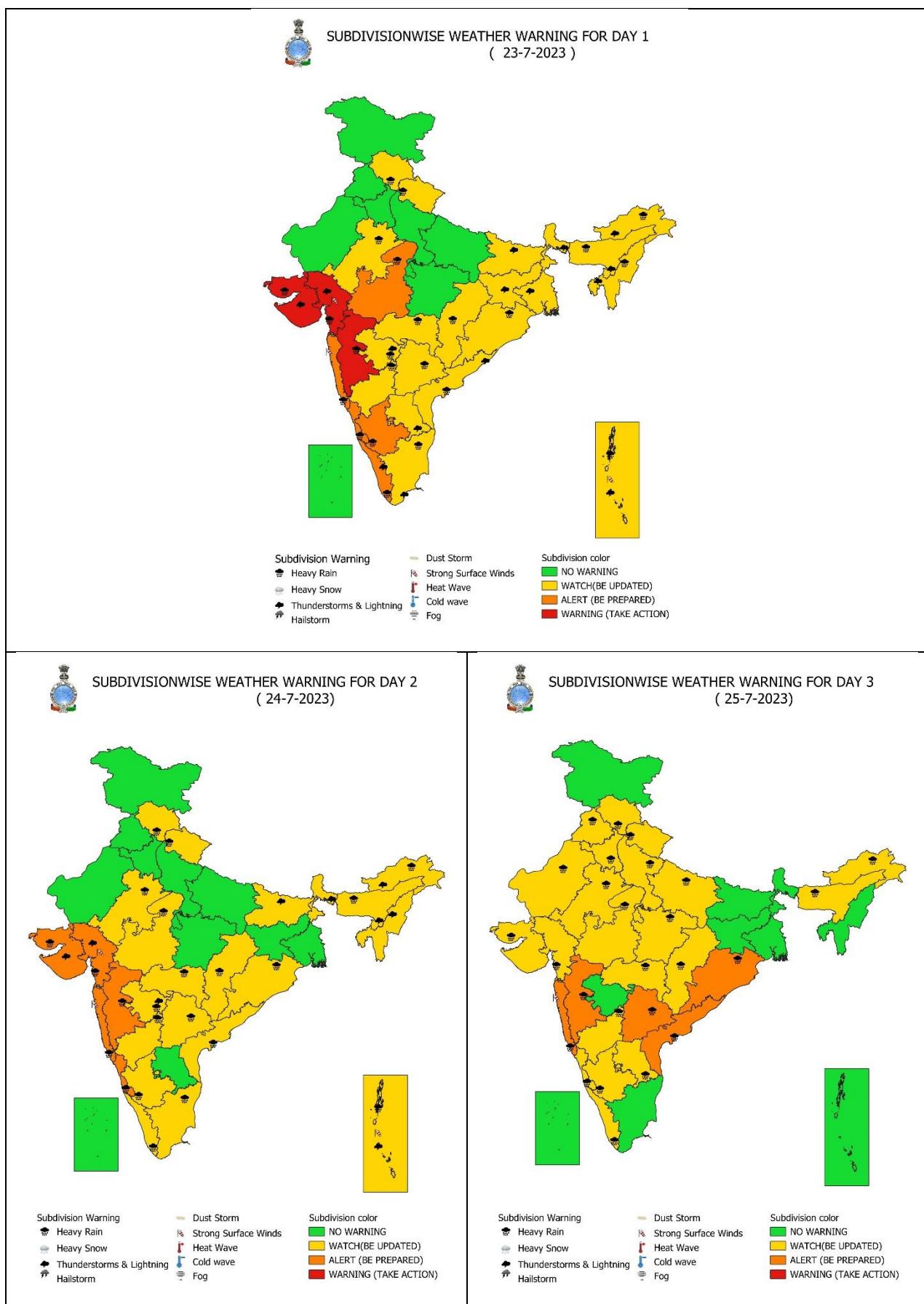
- **South Interior Karnataka:** Bhagamandala (dist Kodagu) 24, Kottigehara (dist Chikkamagaluru) 17, Linganamakki Hms (dist Shivamogga) 14, Napoklu (dist Kodagu) 13, Jayapura (dist Chikkamagaluru) 12, Kalasa (dist Chikkamagaluru) 12, Koppa (dist Chikkamagaluru) 11, Murnadu (dist Kodagu) 11, Thalaguppa (dist Shivamogga) 11, Hunchadakatte (dist Shivamogga) 10, Sringeri Hms (dist Chikkamagaluru) 10, Somwarpet (dist Kodagu) 9, Kammardi (dist Chikkamagaluru) 8, Balehonnur (dist Chikkamagaluru) 7,
- **Saurashtra & Kutch:** Junagadh (dist Junagadh) 24, Umrala (dist Bhavnagar) 20, Keshod (dist Junagadh) 19, Mendarda (dist Junagadh) 18, Khambhalia (dist Devbhoomi Dwarka) 17, Vallabhipur (dist Bhavnagar) 17, Visavadar (dist Junagadh) 15, Botad (dist Botad) 13, Bhavnagar (dist Bhavnagar) 12, Vanthali (dist Junagadh) 11, Dasada (dist Surendranagar) 9, Jamnagar_kv Aws (dist Jamnagar) 9, Babra (dist Amreli) 8, Barvala (dist Botad) 8, Diu (dist Diu) 7, Lilia (dist Amreli) 7, Gir Gadhada (dist Gir Somnath) 7, Kotdasangani (dist Rajkot) 7, Barvala_arg (dist Botad) 7, Jamnagar (dist Jamnagar) 7, Una (dist Gir Somnath) 7, Kutiana (dist Porbandar) 7, Limbdi (dist Surendranagar) 7, Mandvi(k) (dist Kutch) 7, Rapar (dist Kutch) 7,
- **Madhya Maharashtra:** Gaganbawada (dist Kolhapur) 21, Mahabaleshwar- Imd Obsy (dist Satara) 16, Lonavala_agri (dist Pune) 14, Radhanagari (dist Kolhapur) 11, Ajra (dist Kolhapur) 10, Chandgad (dist Kolhapur) 9, Shahuwadi (dist Kolhapur) 9, Yaval (dist Jalgaon) 7,
- **Kerala & Mahe:** Vellarikkundu Aws (dist Kasargod) 18, Muliyar Aws (dist Kasargod) 13, Ams Kannur (dist Cannur) 13, Aralam Aws (dist Cannur) 12, Kannur Airport Aws (dist Cannur) 12, Kudulu (dist Kasargod) 12, Vytiri (dist Wynad) 11, Bayar Aws (dist Kasargod) 11, Mattannur Arg (dist Cannur) 11, Taliparamba (dist Cannur) 10, Kannur (dist Cannur) 10, Peringome Aws (dist Cannur) 9, Manantoddy (dist Wynad) 8, Ambalavayal (dist Wynad) 8, Quilandi (dist Kozhikode) 8, Mahe (dist Mahe) 8, Madikkai Aws (dist Kasargod) 8, Vadakara Aws (dist Kozhikode) 8, Hosdurg (dist Kasargod) 7, Nilambur (dist Malappuram) 7, Perinthalamanna (dist Malappuram) 7, Kalpeta Aws (dist Wynad) 7, Pothundy Dam Aws (dist Palakkad) 7, Vellanikkara (dist Thrissur) 7,
- **West Madhya Pradesh:** Barwaha (dist Khargone) 17, Burhanpur (dist Burhanpur) 13, Bajna (dist Ratlam) 12, Nepanagar (dist Burhanpur) 11, Satwas (dist Dewas) 11, Tal (dist Ratlam) 9, Manawar (dist Dhar) 8, Meghnagar (dist Jhabua) 8, Thandla (dist Jhabua) 8, Thikri (dist Barwani) 7, Sailana (dist Ratlam) 7, Bagh (dist Dhar) 7, Jhabua-aws (dist Jhabua) 7, Tirla (dist Dhar) 7, Jawar (dist Sehore) 7, Bhikangaon (dist Khargone) 7, Tonkhurd (dist Dewas) 7, Sonkatch (dist Dewas) 7;
- **Konkan & Goa:** Matheran (dist Raigad) 16, Bhiwandi (dist Thane) 15, Dodamarg (dist Sindhudurg) 15, Pen (dist Raigad) 14, Roha (dist Raigad) 13, Vaibhavwadi (dist Sindhudurg) 12, Pernem (dist North Goa) 12, Tala (dist Raigad) 11, Ambernath (dist Thane) 11, Rajapur (dist Ratnagiri) 11, Ulhasnagar (dist Thane) 11, Murbad (dist Thane) 10, Panvel_agri (dist Raigad) 10, Chiplun(dist Ratnagiri) 10, Mapusa (dist North Goa) 10, Sudhagad Pali (dist Raigad) 9, Malvan (dist Sindhudurg) 9, Karjat_agri (dist Raigad) 9, Lanja (dist Ratnagiri) 9, Poladpur (dist Raigad) 9, Mormugao - Pmo Imd (dist South Goa) 9, Kankavli (dist Sindhudurg) 9, Mulde_Agri (dist Sindhudurg) 9, Dabolim N.a.s.- Navy (dist South Goa) 8, Sanguem (dist South Goa) 8, Kudal (dist Sindhudurg) 8, Rameshwar_agri (dist Sindhudurg) 8, Devgad (dist Sindhudurg) 8, Murud (dist Raigad) 8, Mahad (dist Raigad) 8, Mandangad (dist Ratnagiri) 8, Panjim - Imd Obsy (dist North Goa) 8, Mangaon (dist Raigad) 7, Alibag - Imd Part Time (dist Raigad) 7, Kalyan (dist Thane) 7, Mhasla (dist Raigad) 7, Khalapur (dist Raigad) 7, Sangameshwar Devruk (dist Ratnagiri) 7,

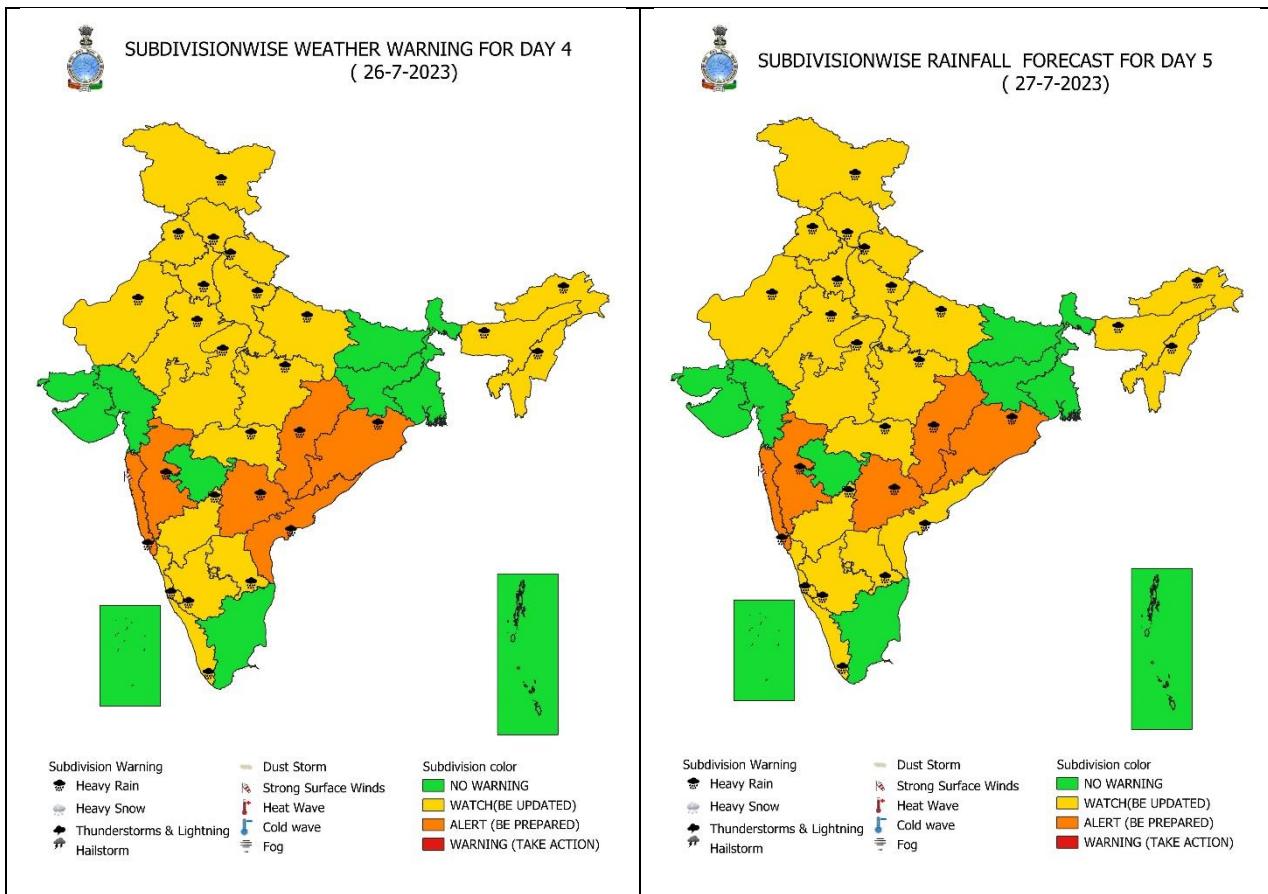
Canacona (dist South Goa) 7, Guhagarh (dist Ratnagiri) 7, Sawantwadi (dist Sindhudurg) 7, Wakwali_agri (dist Ratnagiri) 7, Vasai (dist Palghar) 7;

- **Punjab:** Kapurthala (dist Kapurthala) 14, Bhuchar Irr (dist Tarn Taran) 11, Faridkot (dist Faridkot) 9, Athwal Irr (dist Gurdaspur) 9, Amritsar (dist Amritsar) 9, Jandiala Irr (dist Amritsar) 8, Valtoba Irr (dist Tarn Taran) 8, Jalandhar (dist Jalandhar) 8, Taran Taran (dist Tarn Taran) 8, Aliwal (dist Gurdaspur) 7, Patti (dist Tarn Taran) 7, Manihala Irr (dist Tarn Taran) 7.
- **Tamilnadu, Puducherry & Karaikal:** Avalanche (The Nilgiris) 14, **Gudalur Bazaar** (The Nilgiris) 8, Upper Gudalur (The Nilgiris) 7, Chinnakalar (Coimbatore) 7.
- **Odisha :** Nawana (dist Mayurbhanj) 11, Udala (dist Mayurbhanj) 9, Kaptipada (dist Mayurbhanj) 8, Kukudahandi (dist Ganjam) 8, Bhuban (dist Dhenkanal) 8, G B Nagar (dist Mayurbhanj) 8, Balimundali (dist Mayurbhanj) 8, Soro (dist Balasore) 7,
- **Andaman & Nicobar Islands:** Long Island: 11; Port Blair: 7;
- **Vidarbha:** Digras (dist Yeotmal) 10, Balapur (dist Akola) 8, Barshitakli (dist Akola) 8, Mahagaon (dist Yeotmal) 8, Akola (dist Akola) 8, Jalgaon Jamod (dist Buldhana) 8, Sangrampur (dist Buldhana) 7, Manora (dist Washim) 7,
- **North Interior Karnataka:** Londa (dist Belagavi) 10, Kalghatgi (dist Dharwad) 6,
- **Chhattisgarh:** Lohandiguda (dist Bastar) 10, Sukma (dist Sukma) 8, Gharghoda (dist Raigarh) 7, Kuakonda (dist Dantewada) 7;
- **Nagaland, Manipur, Mizoram & Tripura:** Gandecherra (dist Dhalai) 9, Zunheboto (dist Zunheboto) 9,
- **Uttarakhand:** Gangolighat (dist Pithoragarh) 8;
- **East Rajasthan:** Veja Sr (dist Dungarpur) 8, Mandana Sr (dist Kota) 7, Sajjangarh Sr (dist Banswara) 7, Bhungra Sr (dist Banswara) 7, Kotri (dist Bhilwara) 7, Amet (dist Rajsamand) 7.
- **West Rajasthan:** Dorimanna Sr (dist Barmer) 7.
- **Haryana-Chandigarh:** Partapnagar Rev (dist Yamuna Nagar) 7, Tajewala (dist Yamuna Nagar) 7,
- **Sub-Himalaya West Bengal & Sikkim:**
- **Arunachal Pradesh:** Naharlagun (dist Papumpara) 7,

- ❖ **Heavy Rain:** 64.5 to 115.5 mm; **Very Heavy Rain:** 115.6 to 204.4 mm; **Extremely Heavy Rain:** >204.4mm.
- ❖ **Obsy:** Observatory; **Dist.:** District; **AWS:** Automatic Weather Station; **ARG:** Automatic Rain Gauge; **FMO:** Flood Meteorological Office; **KVK:** Krishi Vigyan Kendra

Annexure II





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

- Drain out excess water from crop fields to avoid water stagnation in Himachal Pradesh, Uttarakhand, Punjab, East Rajasthan, Andaman & Nicobar Islands, Sub Himalayan West Bengal & Sikkim, Odisha, West Madhya Pradesh, Chhattisgarh, Maharashtra, Gujarat State, Tamil Nadu, Kerala, Karnataka, Coastal Andhra Pradesh, Telangana and North Eastern States.
- Postpone transplanting of rice and finger millet in Konkan; rice in Gujarat and ghat regions of Madhya Maharashtra.
- Postpone sowing of castor and pigeon pea in Saurashtra region; groundnut, maize, late sown cotton and red gram in Coastal Karnataka.

Impact & Action Suggested due to very heavy/extremely heavy rainfall over Gujarat State, Konkan & Goa, ghat areas of Madhya Maharashtra and Coastal Karnataka on 23rd & 24th July, 2023.

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 kutch 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.

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 Widespred (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