



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release
Date: 23rd July, 2024
Time of Issue: 1345 hours IST

**Subject: 1) Isolated extremely heavy rainfall very likely continue over Gujarat State, Konkan & Goa, Madhya Maharashtra during next 2 days and heavy to very heavy rainfall thereafter.
2) Rainfall activity is likely to increase over Indo-Gangetic plains during next 2 days.**

Realised weather during past 24 hours till 0830 hours IST of today: (details in Annexure I)

- ✓ **Heavy to very heavy rainfall** with **extremely heavy falls at isolated** places over Saurashtra & Kutch, East Madhya Pradesh, ghat areas of Madhya Maharashtra; **Heavy to very heavy rainfall** at some places over Konkan & Goa; at isolated places over West Madhya Pradesh, Himachal Pradesh, Punjab, Gujarat Region, Chhattisgarh, Meghalaya, Coastal Karnataka; **Heavy rainfall** at isolated places over Uttarakhand, Haryana, East Rajasthan, Jammu & Kashmir, West Uttar Pradesh, Vidarbha, Odisha, Sub-Himalayan West Bengal & Sikkim, Assam and South Interior Karnataka.

Weather Systems

- ✓ The low-pressure area over East Madhya Pradesh & adjoining Chhattisgarh has become less marked. However, the associated cyclonic circulation now lies over Jharkhand & neighbourhood in lower & middle tropospheric levels.
- ✓ The **Monsoon trough** is active and lies near to its normal position. It is likely to continue to near its normal position during next 4-5 days.
- ✓ The **shear zone** lies in lower & middle tropospheric levels along 22°N tilting southwards with height.
- ✓ The **off-shore trough** at mean sea level along South Gujarat-north Karnataka coasts.
- ✓ A cyclonic circulation lies over southwest Rajasthan and another over northwest Uttar Pradesh in lower tropospheric levels.

Forecast & Warnings: (Annexure II)

❖ **West, Central, East and South Peninsular India**

- ✓ Fairly widespread to widespread light to moderate rainfall accompanied with thunderstorm & lightning very likely over the region during next 5 days.
- ✓ **Isolated extremely heavy rainfall very likely over Gujarat State, Konkan & Goa, Madhya Maharashtra on 23rd & 24th and over East Madhya Pradesh on 23rd July.**
- ✓ **Very heavy rainfall very likely at isolated places over Odisha during 23rd-26th; Konkan & Goa, Madhya Maharashtra, Gujarat State during 25th-27th; Coastal Karnataka on 23rd; West Madhya Pradesh, Chhattisgarh on 23rd & 24th; East Madhya Pradesh on 24th and Kerala & Mahe on 25th July.**

- ✓ **Heavy rainfall** very likely at isolated/some places over Odisha, Kerala & Mahe, Karnataka during 23rd-27th; Jharkhand, Vidarbha on 23rd & 24th; Sub-Himalayan West Bengal & Sikkim on 23rd; Madhya Pradesh and Chhattisgarh during 25th-27th July.

❖ Northwest India

- ✓ Scattered to fairly widespread light to moderate rainfall **accompanied with thunderstorm & lightning** very likely over Himachal Pradesh, Uttarakhand, East Rajasthan, Haryana-Chandigarh-Delhi, Punjab, West Uttar Pradesh and isolated to scattered rainfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Rajasthan and East Uttar Pradesh during next 5 days.
- ✓ **Isolated very heavy rainfall also likely over Uttarakhand, Punjab, Haryana, East Rajasthan on 23rd & 24th July and Himachal Pradesh on 23rd July.**
- ✓ Isolated **heavy rainfall** very likely over Himachal Pradesh, Uttarakhand, East Rajasthan during 23rd-27th; West Uttar Pradesh, Jammu on 23rd & 24th and West Rajasthan & Delhi on 23rd July.
- ✓ **Hot & humid weather** is likely over West Rajasthan during next 24 hours.
- ✓ **Above normal temperatures with high humidity are likely to prevail over Punjab and Haryana-Chandigarh-Delhi during next 2 days.**

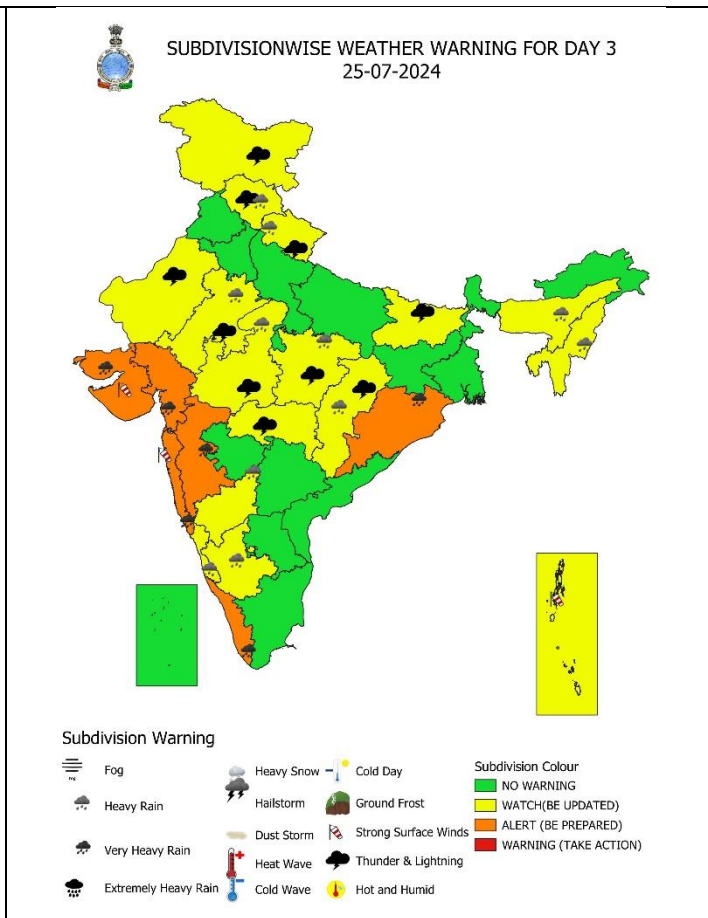
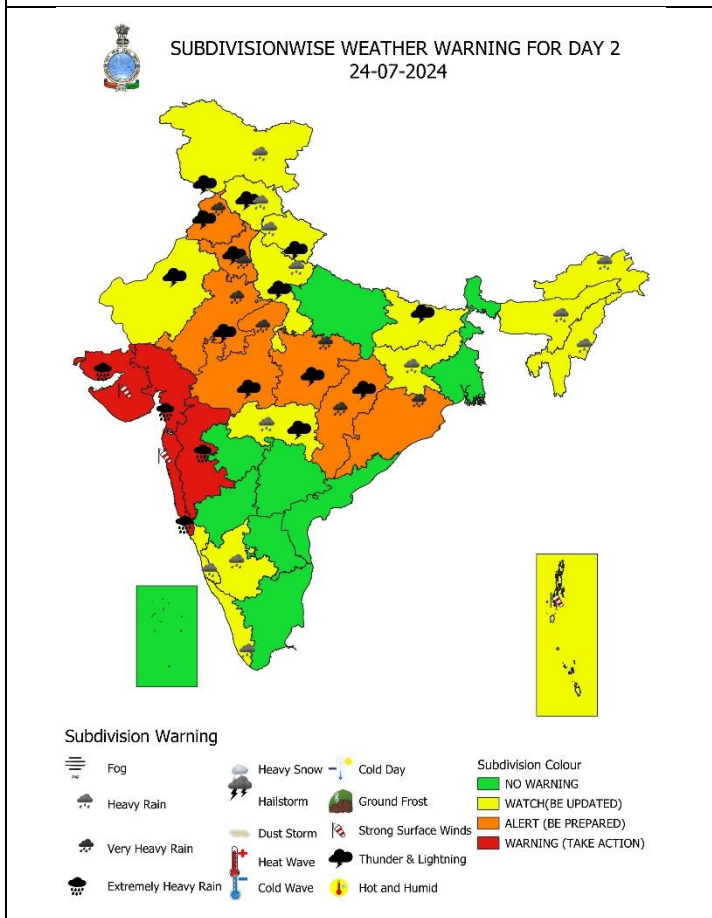
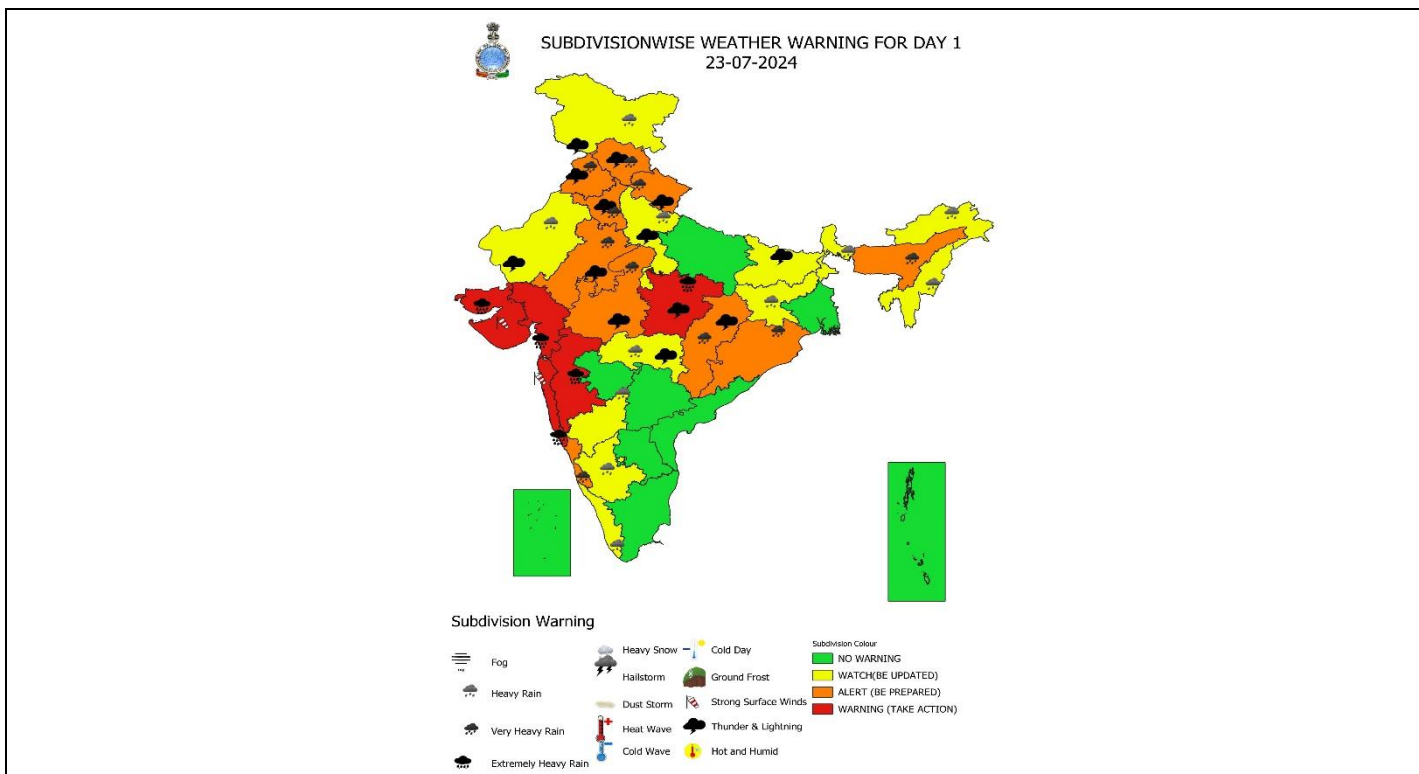
❖ Northeast India

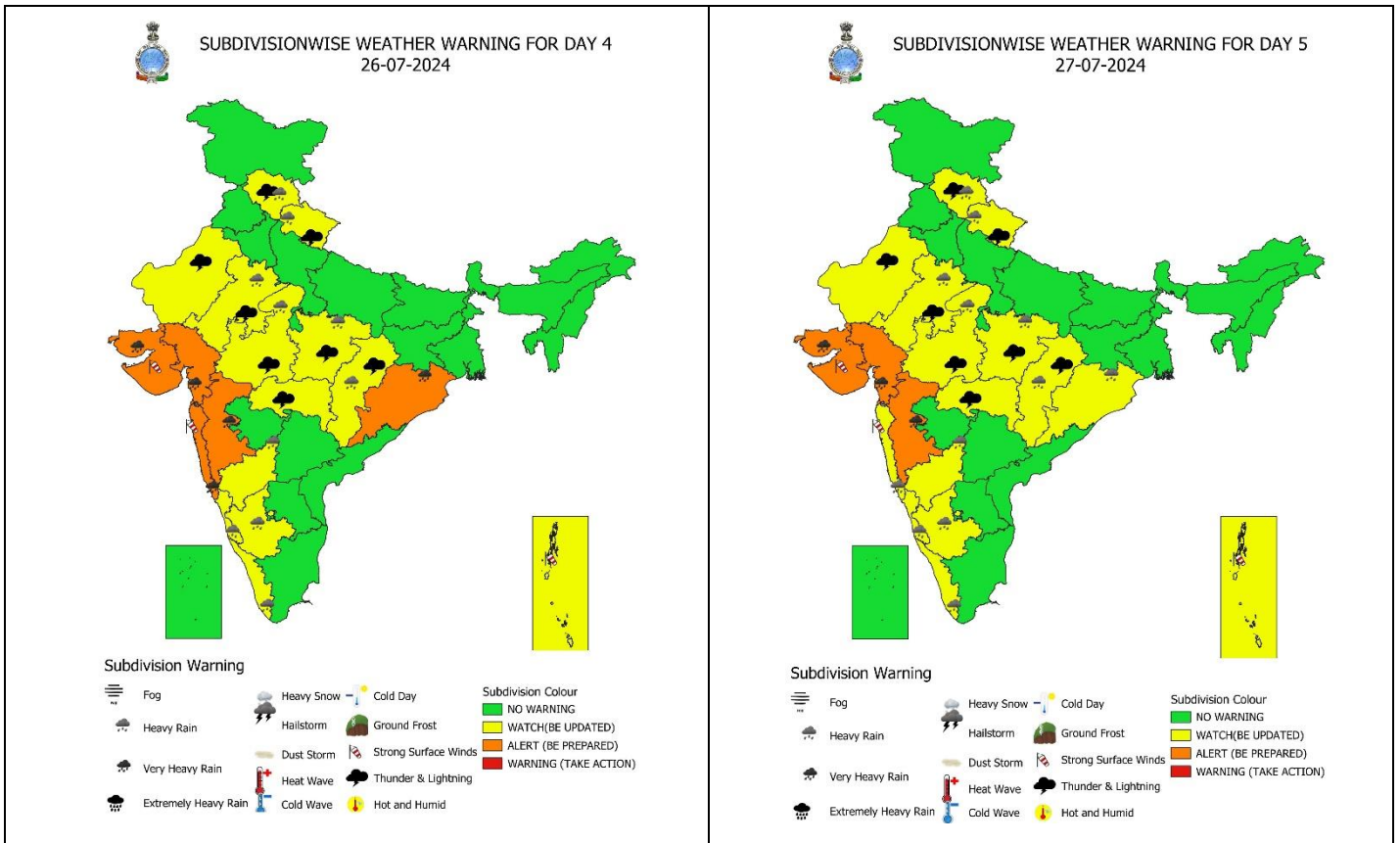
- ✓ Fairly widespread to widespread light to moderate rainfall with **accompanied with thunderstorm, lightning** very likely over Northeast India during next 5 days.
- ✓ Isolated **heavy rainfall** very likely over Arunachal Pradesh on 23rd & 24th; Assam & Meghalaya and Nagaland, Manipur during 23rd-25th July.
- ✓ **Isolated very heavy rainfall also likely over Assam & Meghalaya today.**

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

Significant Rainfall recorded during past 24 hours till 0830 hours IST of today (in cm):

- ❖ **Saurashtra & Kutch:** Kalyanpur (dist Devbhoomi Dwarka) 29, Visavadar (dist Junagadh) 24, Dwarka (dist Devbhoomi Dwarka) 21, Manavadar (dist Junagadh) 21, Malia (dist Junagadh) 19, Upleta (dist Rajkot) 15, Mundra (dist Kutch) 14, Ranavav (dist Porbandar) 14, Okha (dist Devbhoomi Dwarka) 13, Kutiana (dist Porbandar) 12, Kodinar (dist Gir Somnath) 12, Mangrol(j) (dist Junagadh) 10, Porbandar (dist Porbandar) 10, Junagadh (dist Junagadh) 9, Nakhatrana (dist Kutch) 9, Vanthali (dist Junagadh) 9, Sutrapada (dist Gir Somnath) 9, Keshod (dist Junagadh) 8, Jamjodhpur (dist Jamnagar) 8, Mendarda (dist Junagadh) 7, Bhanvad (dist Devbhoomi Dwarka) 7, Gir Gadhada (dist Gir Somnath) 7, Dhoraji (dist Rajkot) 7,
- ❖ **East Madhya Pradesh:** Bijadandi (dist Mandla) 27, Damoh-aws (dist Damoh) 19, Nainpur (dist Mandla) 18, Ghansore (dist Narsinghpur) 13, Khurai (dist Sagar) 13, Keolari (dist Seoni) 11, Bargi (dist Jabalpur) 11, Chhapara (dist Seoni) 10, Amarwara (dist Chindwara) 9, Kumdam (dist Jabalpur) 9, Dhanora (dist Seoni) 9, Bilaspur (dist Umaria) 9, Banda (dist Sagar) 9, Bilhari (dist Katni) 8, Patharia (dist Damoh) 8, Mohkheda (dist Chindwara) 8, Simariya (dist Panna) 8, Lakhnadon (dist Seoni) 8, Rehli (dist Sagar) 7, Tirodi (dist Balaghat) 7, Harrai (dist Chindwara) 7, Malthone (dist Sagar) 7, Mandla (dist Mandla) 7,
- ❖ **Konkan & Goa:** Talasari (dist Palghar) 20, Matheran (dist Raigad) 19, Karjat_agri (dist Raigad) 17, Vikramgad (dist Palghar) 16, Palghar_agri (dist Palghar) 16, Jawhar (dist Palghar) 16, Khalapur (dist Raigad) 14, Panvel_agri (dist Raigad) 14, Dahanu - Imd Obsy (dist Palghar) 13, Pen (dist Raigad) 13, Tala (dist Raigad) 13, Murbad (dist Thane) 12, Wada (dist Palghar) 12, Roha (dist Raigad) 11, Kankavli (dist Sindhudurg) 11, Sangameshwar Devrukh (dist Ratnagiri) 11, Uran (dist Raigad) 11, Sudhagad Pali (dist Raigad) 11, Ponda (dist North Goa) 9, Colaba - Imd Obsy (dist Mumbai City) 9, Mangaon (dist Raigad) 9, Dapoli_agri (dist Ratnagiri) 9, Vasai (dist Palghar) 9, Rajapur (dist Ratnagiri) 9, Thane (dist Thane) 8, Mandangad (dist Ratnagiri) 8, Mahad (dist Raigad) 8, Ulhasnagar (dist Thane) 8,
- ❖ **Madhya Maharashtra:** Gaganbawada (dist Kolhapur) 17, Mahabaleshwar- Imd Obsy (dist Satara) 15, Lonavala_agri (dist Pune) 14, Igatpuri (dist Nashik) 12, Chandgad (dist Kolhapur) 12, Ajra (dist Kolhapur) 10, Peth (dist Nashik) 9, Trimbakshwar (dist Nashik) 8, Velhe (dist Pune) 8, Yaval (dist Jalgaon) 8, Patan (dist Satara) 7, Panhala (dist Kolhapur) 7,
- ❖ **Gujarat Region:** Palsana (dist Surat) 19, Bardoli (dist Surat) 18, Kaprada (dist Valsad) 18, Vapi (dist Valsad) 17, Pardi (dist Valsad) 16, Khergam (dist Navsari) 16, Chikhli (dist Navsari) 15, Kamrej (dist Surat) 15, Daman (dist Daman) 14, Dharampur (dist Valsad) 14, Mandvi (dist Surat) 13, Umergam (dist Valsad) 12, Navsari (dist Navsari) 12, Gandevi (dist Navsari) 11, Surat City (dist Surat) 10, Vansda (dist Navsari) 10, Surat_kvks Aws (dist Surat) 9, Mahuva (dist Surat) 9, Jalalpor (dist Navsari) 8, Valsad (dist Valsad) 8, Silvassa (dist Dadara & Nagar Haveli) 8, Ankleshwer (dist Bharuch) 8, Dang_kvks Aws (dist Dangs) 7, Vyara (dist Tapi) 7, Dolvan (dist Tapi) 7, Waghai (dist Dangs) 7;
- ❖ **Chhattisgarh:** Balod (dist Balod) 16, Kukrel (dist Dhamtari) 13, Dondilohara (dist Balod) 12, Gurur (dist Balod) 10, Lormi (dist Mungeli) 10, Ambagarh Chowki (dist Mohala Manpur Chowki) 9, Dhamtari (dist Dhamtari) 9, Nerharpur (dist Kanker) 8, Bhairamgarh (dist Bijapur) 8, Simga (dist Baloda Bazar) 8, Takhatpur (dist Bilaspur) 8, Doundi (dist Balod) 8, Lalpur Thana (dist Mungeli) 7, Chhuria (dist Rajnandgaon) 7, Dadhi (dist Bemetara) 7, Bade Bacheli (dist Dantewada) 7, Bhanupratappur (dist Kanker) 7, Kumarda (dist Rajnandgaon) 7,
- ❖ **Assam & Meghalaya:** Mawsynram (dist East Khasi Hills) 16, Cherrapunji (dist East Khasi Hills) 13, Cherrapunji(rkm) (dist East Khasi Hills) 13, Mawkyrwat (dist South West Khasi Hills) 7,
- ❖ **Himachal Pradesh:** Kangra Aero (dist Kangra) 15, Dharmshala (dist Kangra) 14, Dharmshala Aws (dist Kangra) 13, Palampur (dist Kangra) 11, Nagrota Surian (dist Kangra) 10;
- ❖ **Coastal Karnataka:** Castle Rock (dist Uttara Kannada) 15, Siddapur (dist Uttara Kannada) 10, Shirali Pto (dist Uttara Kannada) 9, Manki (dist Uttara Kannada) 9, Gokarna (dist Uttara Kannada) 7, Dharmasthala (dist Dakshina Kannada) 7, Siddapura (dist Udupi) 7, Yellapur (dist Uttara Kannada) 7,
- ❖ **West Madhya Pradesh:** Mungaoli (dist Ashoknagar) 13, Deori (dist Raisen) 9, Sohagpur (dist Narmadapuram) 9, Pipariya (dist Narmadapuram) 8, Manasa (dist Neemuch) 7
- ❖ **Punjab:** Phangota (dist Pathankot) 12, Ranjit Sagar Dam Site (dist Pathankot) 9, Shahpur Kandi (dist Pathankot) 8,
- ❖ **Jammu & Kashmir:** Udampur(iaf) (dist Udampur) 11, Chatha_agro Aws (dist Jammu) 11, Jammu Aero (dist Jammu) 8, Burmal Arg (dist Kathua) 7,
- ❖ **West Uttar Pradesh:** Muzaffarnagar (dist Muzaffarnagar) 11, Mawana (dist Meerut) 11, Muzaffarnagar(t) (dist Muzaffarnagar) 7,
- ❖ **Vidarbha:** Korchi (dist Gadchiroli) 11, Arjuni Morgaon (dist Gondia) 9,
- ❖ **Haryana:** Tajewala (dist Yamuna Nagar) 10,
- ❖ **Uttarakhand:** Roorkee(HARIDWAR) : 10, Laksar(HARIDWAR) : 10, Bhagwanpur(HARIDWAR) : 7,
- ❖ **East Rajasthan:** Bhopalsagar Sr (dist Chittorgarh) 10, Kapasan Sr (dist Chittorgarh) 7,
- ❖ **Odsiha:** Athmalik (Angul) 10, Tikarpara (Angul) 10, Banarpal (Angul) 9, Barmul (Nayagarh) 9, Similiguda (Koraput) 8, Angul (Angul) 8, Lamataput (Koraput) 7, Hindol (Dhenkanal) 7, Nawapara (Nawapara) 7, Malkangiri (Malkangiri) 7, Mathili (Malkangiri) 7,
- ❖ **Sub-Himalayan West Bengal & Sikkim:** Lava (dist Kalimpong) 8, Amfu Kalimpong (dist Kalimpong) 7,
- ❖ **South Interior Karnataka:** Somwarpet (dist Kodagu) 7, Kammardi (dist Chikkamagaluru) 7,





IMPACT & ACTION SUGGESTED due to

- ✓ **Isolated extremely heavy rainfall very likely over Gujarat State, Konkan & Goa, Madhya Maharashtra on 23rd & 24th and over East Madhya Pradesh on 23rd July.**
- ✓ **Very heavy rainfall very likely at isolated places over Odisha during 23rd-26th; Konkan & Goa, Madhya Maharashtra, Gujarat State during 25th-27th; Coastal Karnataka, Himachal Pradesh on 23rd; West Madhya Pradesh, Chhattisgarh, Uttarakhand, Punjab, Haryana, East Rajasthan on 23rd & 24th and Kerala & Mahe on 25th July.**

- 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/landslips/mud slips/land sinks/mud sinks.
- 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)

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 & ACTION SUGGESTED due to Hot & Humid weather Conditions: (Punjab, Haryana-Chandigarh-Delhi, West Rajasthan)

- ✓ Drink sufficient water- even if not thirsty.
- ✓ Use ORS, homemade drinks like lassi, torani (rice water), lemon water, buttermilk, etc. to keep yourself hydrated.
- ✓ Wear lightweight, light colour, loose, cotton clothes.

Agromet advisories for Heavy Rainfall likely over various parts of the country

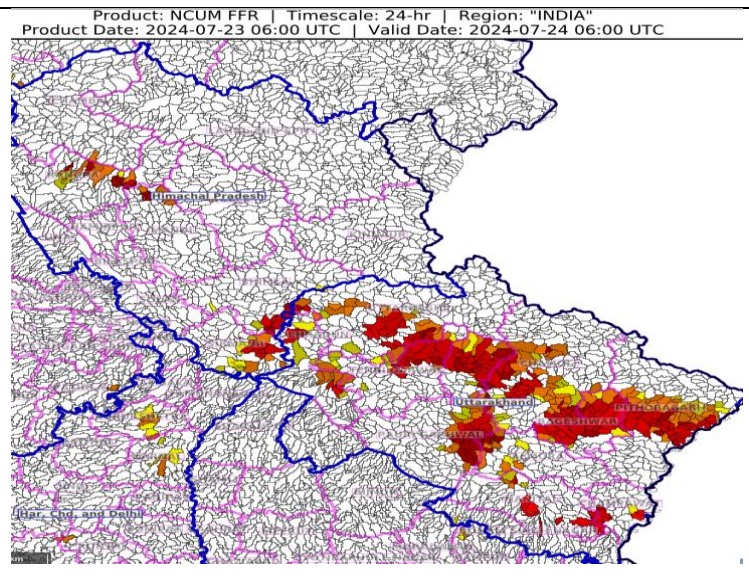
- Make provision for draining out excess water from crop fields to avoid water stagnation in Arunachal Pradesh, Assam & Meghalaya, Sub Himalayan West Bengal, Odisha, Himachal Pradesh, Uttarakhand, Punjab, Haryana, West Uttar Pradesh, East Rajasthan, Madhya Pradesh, Chhattisgarh, Vidarbha, Konkan & Goa, Ghat areas of Madhya Maharashtra, Gujarat State, Kerala, Coastal and South Interior Karnataka.
- Postpone transplanting of rice in South Gujarat; finger millet and vegetables in Konkan and ghat areas of Madhya Maharashtra; rice, early cauliflower, tomato, chilli and brinjal in Madhya Pradesh.
- Postpone sowing of soybean, groundnut, sesame, green gram, black gram and ginger in Madhya Pradesh; sesame, green gram and black gram in Saurashtra.
- Provide mechanical support to horticultural crops & staking to vegetables.

FLASH FLOOD GUIDANCE:

24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 24-07-2024 :

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

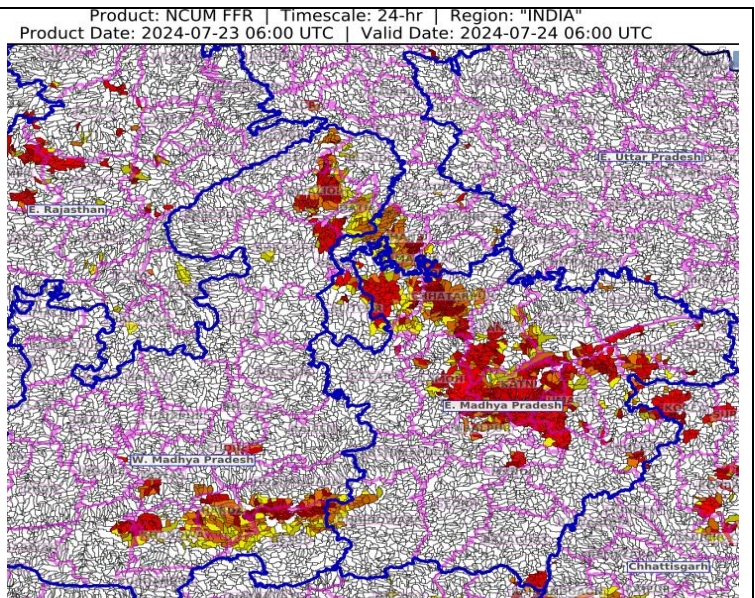
Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.



24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 24-07-2024 :

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

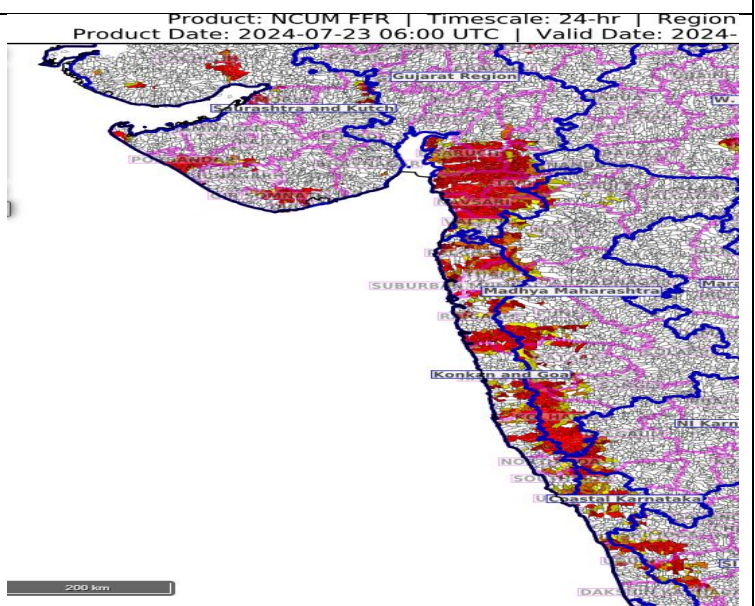
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24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 24-07-2024 :

Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of Coastal Karnataka adjoining SI Karnataka, south Gujarat Region, Konkan & Goa 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.



Legends & abbreviations:

- ❖ **Heavy Rain:**64.5-115.5mm; **Very Heavy Rain:**115.6-204.4mm; **Extremely Heavy Rain:** >204.4mm.
- ❖ **Obsy:** Observatory; **AWS:** Automatic Weather Station; **ARG:** Automatic Rain Gauge; **dist:** District; **NH:** National Highway; **KVK:** Krishi Vigyan Kendra; **DVC:** Damodar Valley Corporation; **PTO:** Part Time Office, **Aero:** Aerodrome, **IAF:** Indian Air Force.
- ❖ **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-Himalayan 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 Marathawada.
 - **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)

 Fog
 Heavy Rain
 Very Heavy Rain
 Extremely Heavy Rain

 Heavy Snow
 Hailstorm
 Dust Storm
 Heat Wave
 Cold Wave

 Cold Day
 Ground Frost
 Strong Surface Winds
 Thunder & Lightning
 Hot and Humid

Subdivision Colour

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

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

LEGENDS

WARNING

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

Probabilistic Forecast

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



Rain/ Snow *

Heavy: 64.5 to 115.5 mm/cm *	
Very Heavy: 115.6 to 204.4 mm/cm*	
Extremely Heavy: > 204.4 mm/cm *	



Heat Wave

When maximum temperature of a station reaches $\geq 40^{\circ}\text{C}$ for plains and $\geq 30^{\circ}\text{C}$ for hilly regions

(a) Based on Departure from normal

Heat Wave: Maximum Temperature Departure from normal 4.5°C to 6.4°C .	
Severe Heat Wave: Maximum Temperature Departure from normal $\geq 6.5^{\circ}\text{C}$	

(b). Based on Actual maximum temperature

Heat Wave: When actual maximum temperature $\geq 45^{\circ}\text{C}$.	
Severe Heat Wave: When actual maximum temperature $\geq 47^{\circ}\text{C}$	

(c). Criteria for heat wave for coastal stations

When maximum temperature departure is $>4.5^{\circ}\text{C}$ from normal. Heat Wave may be described provided maximum temperature $\geq 37^{\circ}\text{C}$



Warm Night

When maximum temperature remains 40°C

Warm Night: When minimum temperature departure 4.5°C to 6.4°C .	
Severe Warm Night: When minimum temperature departure $>6.4^{\circ}\text{C}$.	



Cold Wave

When minimum temperature of a station $\leq 10^{\circ}\text{C}$ for plains and $\leq 0^{\circ}\text{C}$ for hilly regions.

(a). Based on departure

Cold Wave: Minimum Temperature Departure from normal -4.5°C to -6.4°C .	
Severe Cold Wave: Minimum Temperature Departure from normal $\leq -6.5^{\circ}\text{C}$	

(b) Based on actual Minimum Temperature (for Plains only)

Cold Wave : When Minimum Temperature is $\leq 4.0^{\circ}\text{C}$	
Severe Cold Wave: When Minimum Temperature is $\leq 2.0^{\circ}\text{C}$	

(c) For Coastal Stations

When Minimum Temperature departure is $\leq -4.5^{\circ}\text{C}$ & actual Minimum Temperature is $\leq 15^{\circ}\text{C}$



Cold Day

When minimum temperature of a station $\leq 10^{\circ}\text{C}$ for plains and $\leq 0^{\circ}\text{C}$ for hilly regions

Based on departure

Cold Day: Maximum Temperature Departure from normal -4.5°C to -6.4°C .	
Severe Cold Day: Maximum Temperature Departure from normal $\leq -6.5^{\circ}\text{C}$	



Fog

Phenomenon of small droplets suspended in air and the horizontal visibility $< 1\text{km}$

Moderate Fog: When the visibility between 500-200 metres	
Dense Fog: when the visibility between 50- 200 metres	
Very Dense Fog: when the visibility < 50 metres	



Thunderstorm

Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)



Dust/Sand Storm

An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.



Frost

Ice deposits on ground

Air temperature $\leq 4^{\circ}\text{C}$ (over Plains)	
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Squall

A strong wind that rises suddenly, lasts for atleast 1 minute.

Moderate: Wind speed 52-61 kmph	
Severe: Wind speed 62-87 kmph	
Very Severe: Wind speed >87 kmph	



Sea State

Effect of various waves in the sea over specific area

Rough to very rough: Wind speed 41-62 kmph (22-33 knots) & Wave height 2.5-6 metre	
High to very high: Wind speed 63-117 kmph (34-63 knots) & Wave height 6-14 metre	
Phenomenal: Wind speed >117 kmph (>63 knots) & Wave height >14 metre	



Cyclone

Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots)	
Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots)	
Very Severe Cyclonic Storm: Wind speed 118-165 kmph (64 - 89 knots)	
Extremely Severe Cyclonic Storm: Wind speed 166-220 kmph (90 -119 knots)	
Super Cyclone Storm: Wind speed >220 kmph (>119 knots)	