



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 22nd July, 2024

Time of Issue: 1320 hours IST

- Subject: 1) Isolated extremely heavy rainfall very likely over West Madhya Pradesh and very heavy rainfall over East Madhya Pradesh, Vidarbha & Chhattisgarh on 22nd July.**
2) Isolated extremely heavy rainfall also very likely over Gujarat State, Konkan & Goa, Madhya Maharashtra during next 3 days and heavy to very heavy rainfall thereafter.
3) Rainfall activity is likely to increase over Indo-Gangetic plains during next 3 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 Madhya Maharashtra, Gujarat Region, Konkan & Goa; **Heavy to very heavy rainfall** at isolated places over Coastal Karnataka, Vidarbha, Chhattisgarh, Madhya Pradesh, Odisha, Assam & Meghalaya; **Heavy rainfall** at isolated places over South Interior Karnataka, Telangana, Himachal Pradesh, East Rajasthan, Coastal Andhra Pradesh & Yanam, North Interior Karnataka.

Weather Systems

- ✓ The **Well marked low pressure area** over interior Odisha & adjoining Chhattisgarh has weakened into a Low-Pressure Area over East Madhya Pradesh & adjoining Chhattisgarh.
- ✓ The Monsoon trough is active and lies south of its normal position. It is likely to move northwards during next 24 hours.
- ✓ The **shear zone** lies in lower & middle tropospheric levels along 21°N tilting southwards with height.
- ✓ The **off-shore trough** at mean sea level along South Gujarat-Kerala coasts.
- ✓ A fresh **Western Disturbance** seen as a trough in middle tropospheric levels roughly along Long. 65°E to the north of Lat. 30°N.

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 during 22nd-24th and West Madhya Pradesh on 22nd July.**
- ✓ **Very heavy rainfall very likely at isolated places over East Madhya Pradesh during 22nd-24th; Chhattisgarh, Vidarbha, Coastal Karnataka on 22nd; Konkan & Goa, Madhya Maharashtra, Gujarat State 25th & 26th; West Madhya Pradesh and Odisha on 23rd & 24th July.**
- ✓ **Heavy rainfall** very likely at isolated/some places over Coastal & South Interior Karnataka during 22nd-26th; Coastal Andhra Pradesh & Yanam, Telangana on 22nd; Odisha, Kerala & Mahe, North Interior Karnataka on 22nd, 25th & 26th; Jharkhand during 22nd-25th; Gangetic West Bengal during 22nd-24th; Madhya Pradesh on 25th & 26th; Chhattisgarh on 23rd & 24th July.
- ✓ **Strong surface winds (30-40 kmph)** very likely over south peninsular India during next 2 days.

❖ 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, Uttar Pradesh and isolated to scattered rainfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, West Rajasthan during next 5 days.
- ✓ **Isolated very heavy rainfall also likely over Uttarakhand on 22nd & 23rd; West Uttar Pradesh, Punjab, Haryana on 23rd and East Rajasthan on 23rd & 24th July.**
- ✓ Isolated **heavy rainfall** very likely over Himachal Pradesh, Uttarakhand, West Uttar Pradesh, East Rajasthan during 22nd-26th; Punjab & Haryana-Chandigarh during 22nd-24th; East Uttar Pradesh during 23rd- 26th July.
- ✓ **Hot & humid weather** is likely over West Rajasthan during next 2 days.
- ✓ **Above normal temperatures with high humidity are likely to prevail over Punjab and Haryana-Chandigarh-Delhi during next 2 days.**

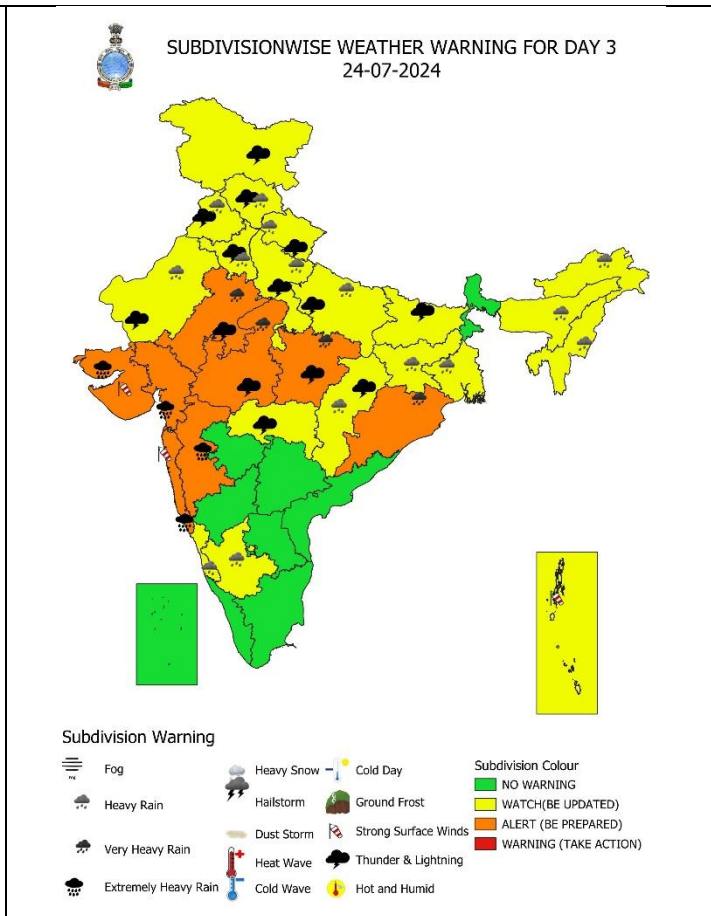
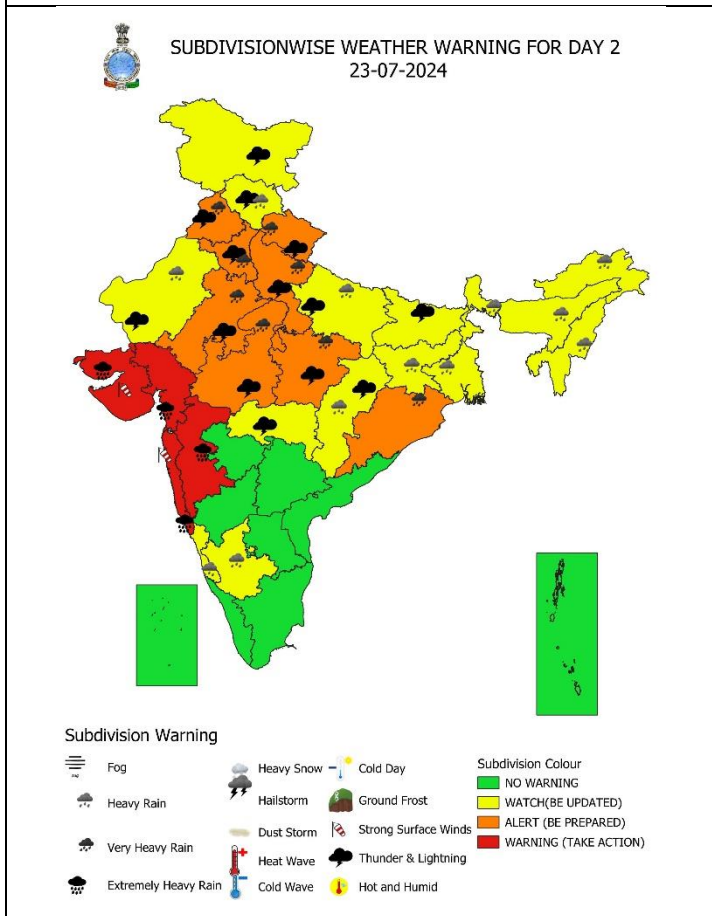
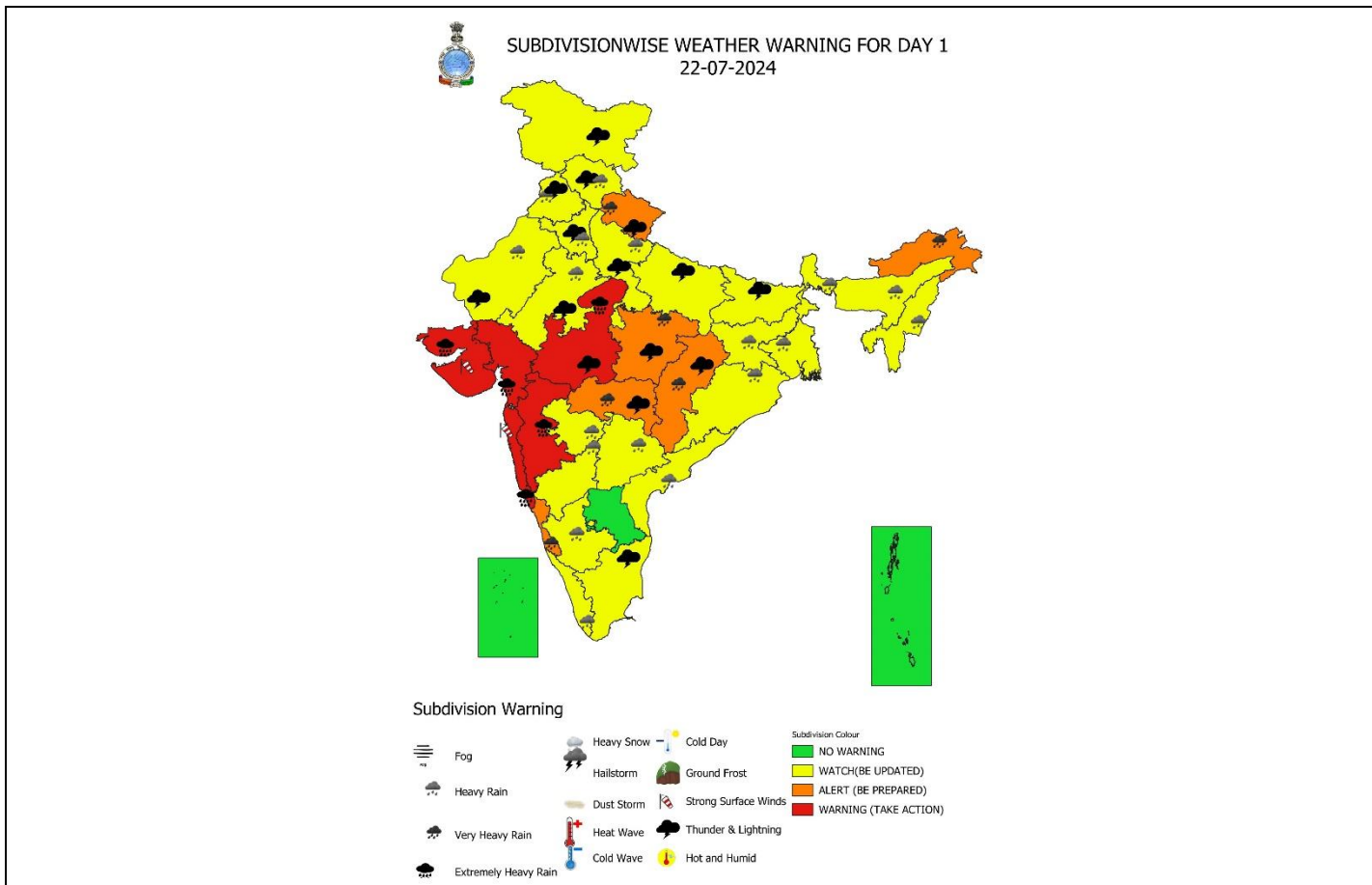
❖ Northeast India

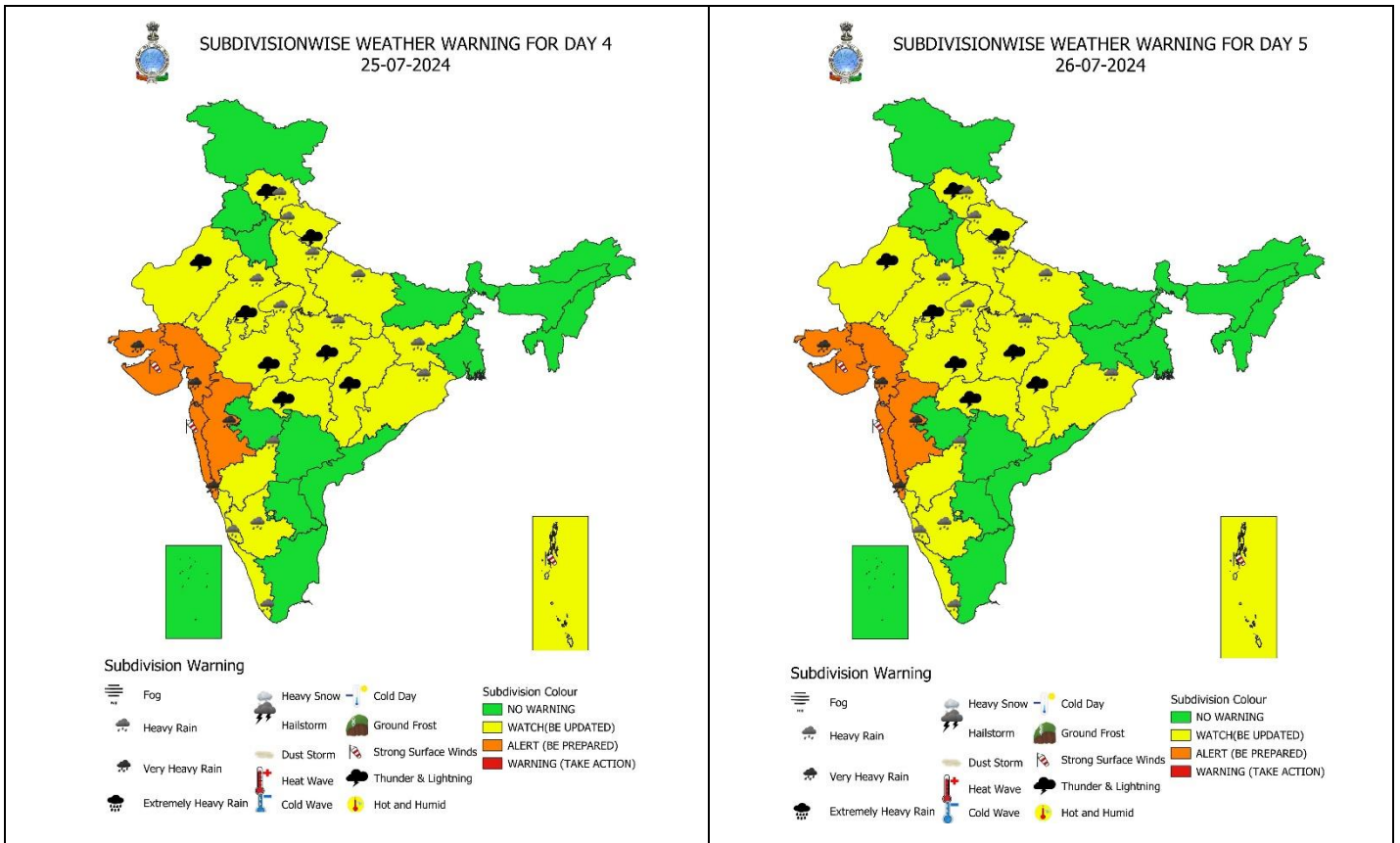
- ✓ Fairly widespread to widespread light to moderate rainfall with **accompanied with thunderstorm, lightning** very likely over Northeast India during next 5 days.
- ✓ Isolated **heavy rainfall** very likely over Assam & Meghalaya during next 5 days; Arunachal Pradesh, Nagaland, Manipur during 22nd-24th July.

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):

- ❖ **Madhya Maharashtra:** Mahabaleshwar- Imd Obsy (dist Satara) 24, Shahuwadi (dist Kolhapur) 15, Lonavala_agri (dist Pune) 15, Chandgad (dist Kolhapur) 10, Ajra (dist Kolhapur) 10, Kokrud (dist Sangli) 9, Panhala (dist Kolhapur) 9, Patan (dist Satara) 9, Igatpuri (dist Nashik) 7,
- ❖ **Gujarat Region:** Umergam (dist Valsad) 22, Surat City (dist Surat) 19, Kamrej (dist Surat) 16, Palsana (dist Surat) 16, Surat_kvks Aws (dist Surat) 15, Daman (dist Daman) 14, Nizer (dist Tapi) 14, Mahuva (dist Surat) 13, Navsari (dist Navsari) 12, Navasari_aws (dist Navsari) 12, Ankleshwer (dist Bharuch) 11, Pardi (dist Valsad) 11, Valsad_Kvk Aws (dist Valsad) 11, Olpad (dist Surat) 11, Bardoli (dist Surat) 11, Gandevi (dist Navsari) 10, Khambhat (dist Anand) 10, Umerpada (dist Surat) 9, Kaprada (dist Valsad) 9, Valod (dist Tapi) 9, Dholka (dist Ahmedabad) 8, Jalalpor (dist Navsari) 8, Khergam (dist Navsari) 7, Dolvan (dist Tapi) 7, Valia (dist Bharuch) 7, Dhandhuka_arg (dist Ahmedabad) 7, Chikhli (dist Navsari) 7, Dhandhuka (dist Ahmedabad) 7, Netrang (dist Bharuch) 7,
- ❖ **Konkan & Goa:** Rajapur (dist Ratnagiri) 21, Dahanu - Imd Obsy (dist Palghar) 19, Santacruz - Imd Obsy (dist Mumbai Suburban) 18, Talasari (dist Palghar) 17, Matheran (dist Raigad) 15, Palghar_agri (dist Palghar) 15, Poladpur (dist Raigad) 14, Mandangad (dist Ratnagiri) 14, Vaibhavwadi (dist Sindhudurg) 14, Lanja (dist Ratnagiri) 14, Thane (dist Thane) 14, Panvel_agri (dist Raigad) 13, Mhasla (dist Raigad) 13, Tbia Imd Part Time (dist Thane) 13, Murbad (dist Thane) 12, Karjat_agri (dist Raigad) 12, Sangameshwar Devrukh (dist Ratnagiri) 12, Chiplun (dist Ratnagiri) 12, Khalapur (dist Raigad) 11, Wada (dist Palghar) 11, Mahad (dist Raigad) 11, Dapoli_agri (dist Ratnagiri) 10, Jawhar (dist Palghar) 10, Wakwali_agri (dist Ratnagiri) 10, Uran (dist Raigad) 10, Khed (dist Ratnagiri) 10, Sudhagad Pali (dist Raigad) 9, Vasai (dist Palghar) 9, Pen (dist Raigad) 9, Harnai Imd Obsy (dist Ratnagiri) 9, Bhiwandi (dist Thane) 8, Mokheda - Fmo (dist Palghar) 8, Mangaon (dist Raigad) 8, Savarde-arg (dist Ratnagiri) 7, Ulhasnagar (dist Thane) 7, Ratnagiri - Imd Obsy (dist Ratnagiri) 7, Tala (dist Raigad) 7, Colaba - Imd Obsy (dist Mumbai City) 7, Rameshwar_agri (dist Sindhudurg) 7, Guhagarh (dist Ratnagiri) 7,
- ❖ **Coastal Karnataka:** Castle Rock (dist Uttara Kannada) 20, Gersoppa (dist Uttara Kannada) 13, Siddapur (dist Uttara Kannada) 10, Udupi (dist Udupi) 8, Dharmasthala (dist Dakshina Kannada) 8, Kundapur (dist Udupi) 7, Kumta (dist Uttara Kannada) 7;
- ❖ **Odisha:** Chittrakunda K Guma (Malkangiri) 17, Nawapara (Nawapara) 10, Padia (Malkangiri) 10, Malkangiri (Malkangiri) 9, Korukunda (Malkangiri) 8,
- ❖ **Assam & Meghalaya:** Mawsynram (dist East Khasi Hills) 14, Patharughat Arg (dist Darrang) 12, Cherrapunji (dist East Khasi Hills) 9, Melabazar/matunga (dist Nalbari) 8, Cherrapunji(rkm) (dist East Khasi Hills) 8, Moranhat (dist Dibrugarh) 7,
- ❖ **Chhattisgarh:** Bhairamgarh (dist Bijapur) 14, Charama (dist Kanker) 10, Bhanupratappur (dist Kanker) 10, Kutaru (dist Bijapur) 10, Lawan (dist Baloda Bazar) 10, Bijapur (dist Bijapur) 9, Arjunda (dist Balod) 9, Bade Bachel (dist Dantewada) 9, Dornapal (dist Sukma) 9, Belargaon (dist Dhamtari) 8, Sukma (dist Sukma) 8, Gangalur (dist Bijapur) 8, Gariabund (dist Gariaband) 8, Durg (dist Durg) 8, Orcha (dist Narayanpur) 7, Kanker (dist Kanker) 7, Kashdol (dist Baloda Bazar) 7, Jagargunda (dist Sukma) 7, Kawardha (dist Kabirdham) 7,
- ❖ **Vidarbha:** Lakhandur (dist Bhandara) 16, Kurkheda (dist Gadchiroli) 14, Pauni (dist Bhandara) 13, Desaiganj (dist Gadchiroli) 13, Arjuni Morgaon (dist Gondia) 12, Armori (dist Gadchiroli) 12, Kharangha (dist Wardha) 11, Bramhapuri (dist Chandrapur) 11, Deori (dist Gondia) 9, Bhiwapur (dist Nagpur) 8, Nagbhir (dist Chandrapur) 8, Mulchera (dist Gadchiroli) 8, Selu (dist Wardha) 8, Gadchiroli (dist Gadchiroli) 7, Umrer (dist Nagpur) 7, Korchi (dist Gadchiroli) 7, Ahiri (dist Gadchiroli) 7, Kuhi (dist Nagpur) 7,
- ❖ **Uttarakhand:** Sama (Bageshwar) : 13, Banbasa (Champawat) : 10, Bhatwari (Uttarkashi) : 7, Dehradun (Dehradun) : 7, Munsiyari (Pithoragarh) : 7, Dharchula (Pithoragarh) : 7,
- ❖ **West Madhya Pradesh:** Ichhawar (dist Sehore) 13, Amla (dist Betul) 12, Bareli (dist Raisen) 10, Shamshabad (dist Vidisha) 8, Ashta-aws (dist Sehore) 8, Khategaon (dist Dewas) 7, Sehore-aws (dist Sehore) 7, Gandhwani (dist Dhar) 7,
- ❖ **East Madhya Pradesh:** Jabalpur-aws (dist Jabalpur) 12, Narsinghpur-aws (dist Narsinghpur) 11, Lakhnadon (dist Seoni) 10, Gadarwara (dist Narsinghpur) 9, Bichhua (dist Chindwara) 9, Amarwara (dist Chindwara) 9, Chhapara (dist Seoni) 9, Gotegaon (dist Narsinghpur) 8, Mohkheda (dist Chindwara) 7, Seoni (dist Seoni) 7,
- ❖ **Meghalaya:** Sohra ARG (dist. East Khasi Hills) 11, Sohra (dist. East Khasi Hills) 9, RKM Sohra (dist. East Khasi Hills) 8, Pynursla (dist. East Khasi Hills) 8.
- ❖ **Telangana:** Banswada (dist Kamareddy) 11, Venkatapuram (dist Mulugu) 10, Venkatapur (dist Mulugu) 9, Gandhari (dist Kamareddy) 8, Shayampet (dist Hanumakonda) 8, Parkal (dist Hanumakonda) 8, Govindaraopet (dist Mulugu) 7, Huzurabad (dist Karimnagar) 7, Tadwai Mlg (dist Mulugu) 7, Tadwai (dist Kamareddy) 7, Mulug (dist Mulugu) 7,
- ❖ **South Interior Karnataka:** Agumbe Emo (dist Shivamogga) 11, Linganamakki Hms (dist Shivamogga) 8, Kammardi (dist Chikkamagaluru) 8, Hunchadakatte (dist Shivamogga) 8, Kottigehara (dist Chikkamagaluru) 8, Koppa (dist Chikkamagaluru) 7,
- ❖ **Saurashtra & Kutch:** Manavadar (dist Junagadh) 10, Jamjodhpur (dist Jamnagar) 9, Jamnagar (dist Jamnagar) 8, Visavadar (dist Junagadh) 8, Veraval (dist Gir Somnath) 8, Mendarda (dist Junagadh) 7, Ghoga_arg (dist Bhavnagar) 7, Sutrapada (dist Gir Somnath) 7, Ghogha (dist Bhavnagar) 7,
- ❖ **Sub-Himalayan West Bengal & Sikkim:** Jhallong (dist Kalimpong) 10, Neora (dist Jalpaiguri) 9, Nagarkata (dist Jalpaiguri) 8, Rongo (dist Kalimpong) 7,
- ❖ **Himachal Pradesh:** Bharari (dist Hamirpur) 9, Bhoranj (dist Hamirpur) 9, Dharmsala (dist Kangra) 7,
- ❖ **Coastal Andhra Pradesh & Yanam:** Anakapalle (dist Anakapalli) 8, Chintur (dist Alluri Sitharamaraju) 7,
- ❖ **East Rajasthan:** Nimbahera (dist Chittorgarh) 7, Niwai (dist Tonk) 7,
- ❖ **North Interior Karnataka:** Londa (dist Belagavi) 7





IMPACT & ACTION SUGGESTED due to

- ✓ **Isolated extremely heavy rainfall very likely over Gujarat State, Konkan & Goa, Madhya Maharashtra during 22nd-24th and West Madhya Pradesh on 22nd July.**
- ✓ **Very heavy rainfall very likely at isolated places over East Madhya Pradesh during 22nd-24th; Chhattisgarh, Vidarbha, Coastal Karnataka on 22nd; West Madhya Pradesh, East Rajasthan and Odisha on 23rd & 24th; Uttarakhand on 22nd & 23rd; West Uttar Pradesh, Punjab, Haryana on 23rd; Konkan & Goa, Madhya Maharashtra, Gujarat State 25th & 26th 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.

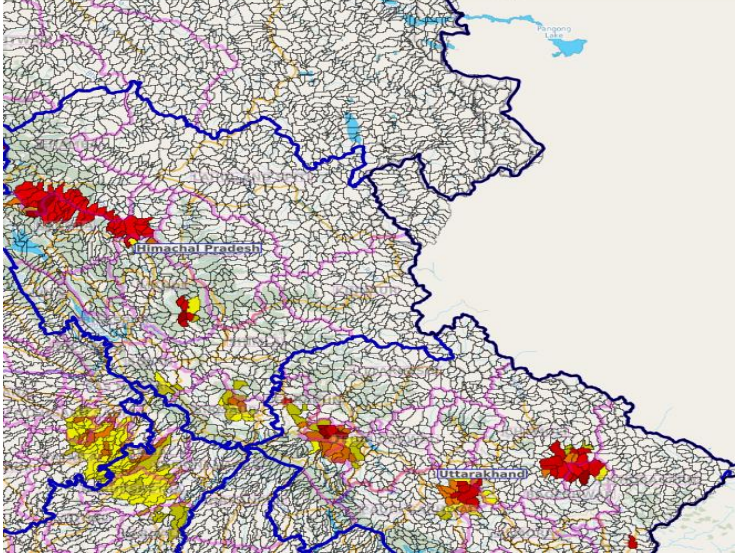
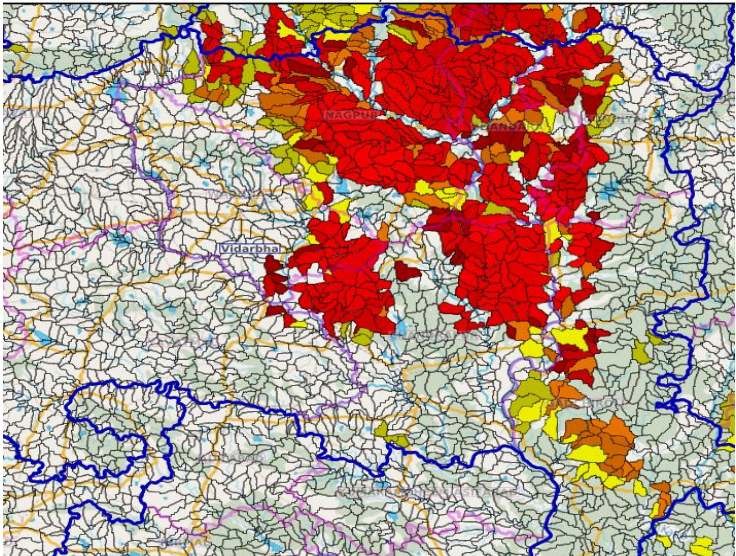
IMPACT & ACTION SUGGESTED due to Hot & Humid weather Conditions: (Punjab, Haryana-Chandigarh-Delhi West Rajasthan)

- ✓ 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, Nagaland, Manipur, Sub Himalayan West Bengal, Odisha, Himachal Pradesh, Uttarakhand, West Uttar Pradesh, Madhya Pradesh, Chhattisgarh, Vidarbha, Konkan & Goa, Ghat areas of Madhya Maharashtra, Gujarat State, Kerala, Coastal and South Interior Karnataka and Telangana.
- 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 West Madhya Pradesh.
- Postpone sowing of soybean, groundnut, sesame, green gram, black gram and ginger in West Madhya Pradesh.
- Provide mechanical support to horticultural crops & staking to vegetables.

FLASH FLOOD GUIDANCE:

<p>24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 23-07-2024 :</p> <p>Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of Uttarakhand and Himachal Pradesh Met Sub-divisions during next 24 hours.</p> <p>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.</p>	<p>Product: GFS FFR Timescale: 24-hr Region: "INDIA" Product Date: 2024-07-22 06:00 UTC Valid Date: 2024-07-23 06:00 UTC</p> 
<p>24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 23-07-2024 :</p> <p>Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of Vidarbha Met Sub-divisions during next 24 hours.</p> <p>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.</p>	<p>Product: GFS FFR Timescale: 24-hr Region: "INDIA" Product Date: 2024-07-22 06:00 UTC Valid Date: 2024-07-23 06:00 UTC</p> 

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 Widespread (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)



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)