



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Press Release

Date: 27<sup>th</sup> July, 2024

Time of Issue: 1330 hours IST

**Subject: 1) Isolated Extremely Heavy rainfall very likely over west Madhya Pradesh for 27<sup>th</sup> July, Gujarat region on 28<sup>th</sup> July, Isolated Very heavy rainfall very likely over Ghat areas of Madhya Maharashtra, Konkan & Goa and Coastal and southern Interior Karnataka during next 2 days; and reduce gradually in subsequent days.**  
**2) Heavy to Very heavy rainfall likely to continue over Central India during next 2 days.**

**During past 24 hours till 0830 hours IST of today 27<sup>th</sup> July: (details in Annexure I)**

- ✓ **Heavy to very heavy rainfall** at some places with **extremely heavy falls at isolated** places over Chhattisgarh; **Heavy to very heavy rainfall** at isolated places over Tamil Nadu, West Madhya Pradesh, Madhya Maharashtra, Uttarakhand, South Interior Karnataka, Coastal Karnataka & Odisha; **Heavy rainfall** at isolated places over Haryana-Chandigarh, East Rajasthan, East Madhya Pradesh, Kerala & Mahe, Konkan & Goa, Vidarbha & North Interior Karnataka.

### Weather Systems

- ✓ The Well Marked Low Pressure area over Gangetic West Bengal & adjoining north Odisha now lies as a **Low-Pressure** area over the same region. The associated cyclonic circulation extending upto 7.6 km above mean sea level tilting southwestwards with height persists. It is likely to move west-northwestwards during next 24 hours.
- ✓ The Monsoon trough at mean sea level now passes through Sri Ganganagar, Sikar, Gwalior, Sidhi, Centre of Low-Pressure area over Gangetic West Bengal & adjoining north Odisha and thence eastwards to north Bay of Bengal.
- ✓ A cyclonic circulation lies over northwest Uttar Pradesh and extends upto 1.5 km above mean sea level.
- ✓ The shear zone persists roughly along 18°N over Indian region between 5.8 & 7.6 km above mean sea level tilting southwards with height.
- ✓ The off-shore trough at mean sea level now runs along South Gujarat to north Karnataka coast.

### Forecast & Warnings: (Annexure II)

#### ❖ West & Central 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 west Madhya Pradesh for 27<sup>th</sup> July, Gujarat region on 28<sup>th</sup> July.**

- ✓ **Very heavy rainfall very likely at isolated places over West Madhya Pradesh, Vidarbha & Chhattisgarh on 27th, East Madhya Pradesh on 27th & 31st, Konkan & Goa, Madhya Maharashtra on 27th & 28th, Gujarat Region on 27th and 29th, Saurashtra & Kutch on 28th July;**
- ✓ **Heavy rainfall** very likely at isolated places over West Madhya Pradesh and Vidarbha on 28<sup>th</sup> & 31<sup>st</sup>, East Madhya Pradesh on 28<sup>th</sup>, Chhattisgarh on 28<sup>th</sup>, 30<sup>th</sup> & 31<sup>st</sup>, Konkan & Goa and Madhya Maharashtra during 29th to 31st, Marathwada on 27th, Saurashtra & Kutch on 27th & 29th, Gujarat Region on 30<sup>th</sup> & 31<sup>st</sup> July.

#### ❖ Northwest India

- ✓ Fairly widespread to widespread light to moderate rainfall **accompanied with thunderstorm & lightning** very likely over Himachal Pradesh, Uttarakhand, East Rajasthan; scattered to fairly widespread rainfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, West Rajasthan during next 5 days.
- ✓ **Isolated very heavy rainfall also likely over Uttarakhand on 27<sup>th</sup>, 30<sup>th</sup> & 31<sup>st</sup>; East Rajasthan on 27<sup>th</sup> & 28<sup>th</sup> July.**
- ✓ Isolated **heavy rainfall** very likely over Himachal Pradesh, Haryana-Chandigarh-Delhi during 27<sup>th</sup> - 31<sup>st</sup>, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad & Punjab on 30<sup>th</sup> & 31<sup>st</sup>, Uttarakhand & West Rajasthan on 28<sup>th</sup> & 29<sup>th</sup>, Uttar Pradesh on 27<sup>th</sup>, 30<sup>th</sup> & 31<sup>st</sup>, East Rajasthan during 28<sup>th</sup> - 31<sup>st</sup> July.

#### ❖ South Peninsular India:

- ✓ Fairly widespread to widespread light to moderate rainfall over Kerala & Mahe and Coastal Karnataka and Scattered to fairly widespread light to moderate rainfall accompanied with thunderstorm & lightning very likely over Interior Karnataka, Lakshadweep and isolated to scattered rainfall over Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema, Tamil Nadu, Puducherry & Karaikal during next 5 days.
- ✓ **Very heavy rainfall very likely at isolated places over Kerala & Mahe on 28th July, Coastal Karnataka on 27th & 28th and South Interior Karnataka on 27th July.**
- ✓ **Heavy rainfall** very likely at isolated places over Tamil Nadu, Puducherry & Karaikal, North Interior Karnataka on 27<sup>th</sup> & 28<sup>th</sup>, Kerala & Mahe on 27<sup>th</sup>, 29<sup>th</sup> & 30<sup>th</sup>, South Interior Karnataka on 28<sup>th</sup>, Coastal Karnataka during 29<sup>th</sup> & 30<sup>th</sup> July;

#### ❖ East & Northeast India

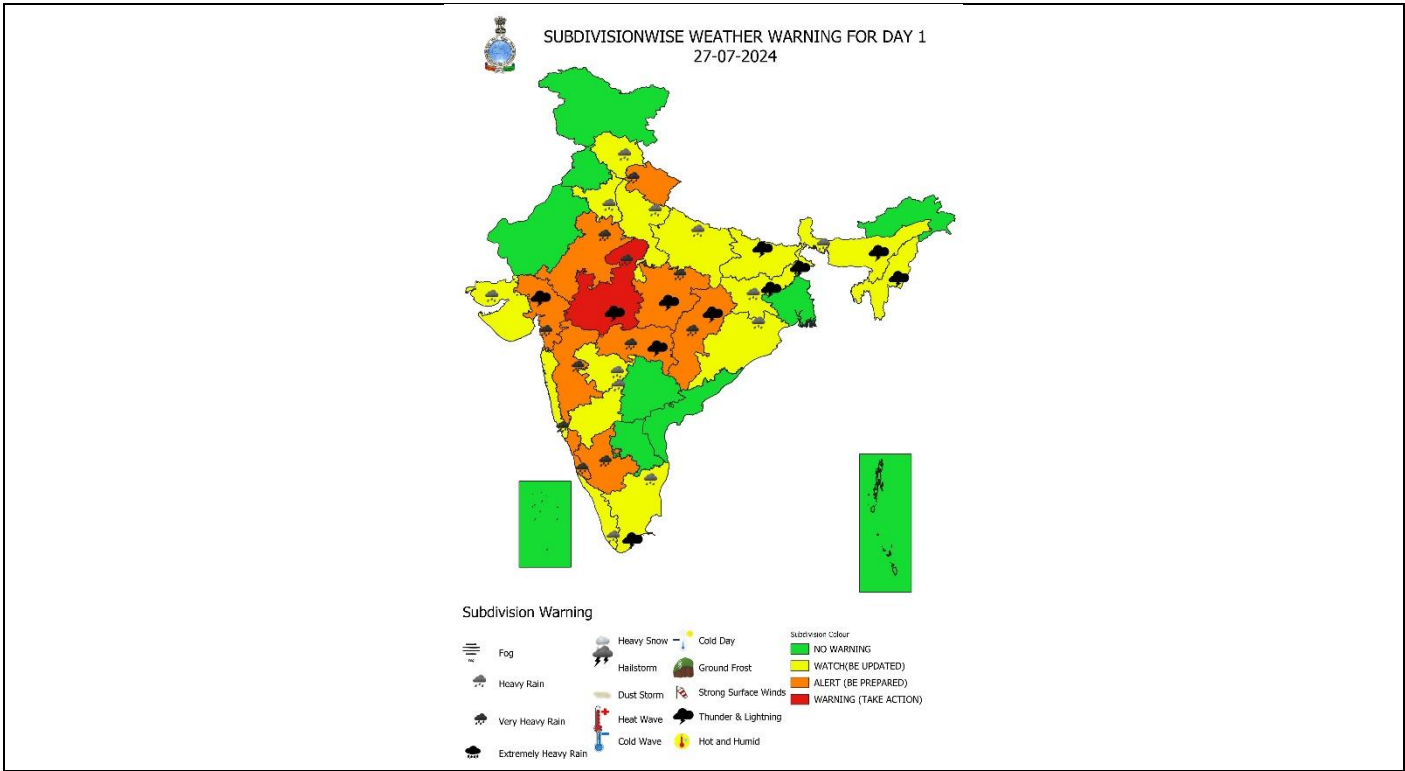
- ✓ Fairly widespread to widespread light to moderate rainfall **accompanied with thunderstorm, lightning** very likely over East & Northeast India during next 5 days.
- ✓ **Very heavy rainfall very likely at isolated places over Nagaland & Manipur on 29th & 30th July.**
- ✓ Isolated **heavy rainfall** very likely over Sub-Himalayan West Bengal & Sikkim during 27<sup>th</sup> - 29<sup>th</sup>, Gangetic West Bengal on 31<sup>st</sup>, Bihar during 29<sup>th</sup> - 31<sup>st</sup>, Jharkhand on 27<sup>th</sup>, 30<sup>th</sup> & 31<sup>st</sup>, Odisha during 27<sup>th</sup> - 31<sup>st</sup>, Arunachal Pradesh on 28<sup>th</sup> & 29<sup>th</sup>, Assam & Meghalaya during 28<sup>th</sup> - 31<sup>st</sup>, Nagaland, Manipur, Mizoram & Tripura on 28<sup>th</sup> & 31<sup>st</sup> July.

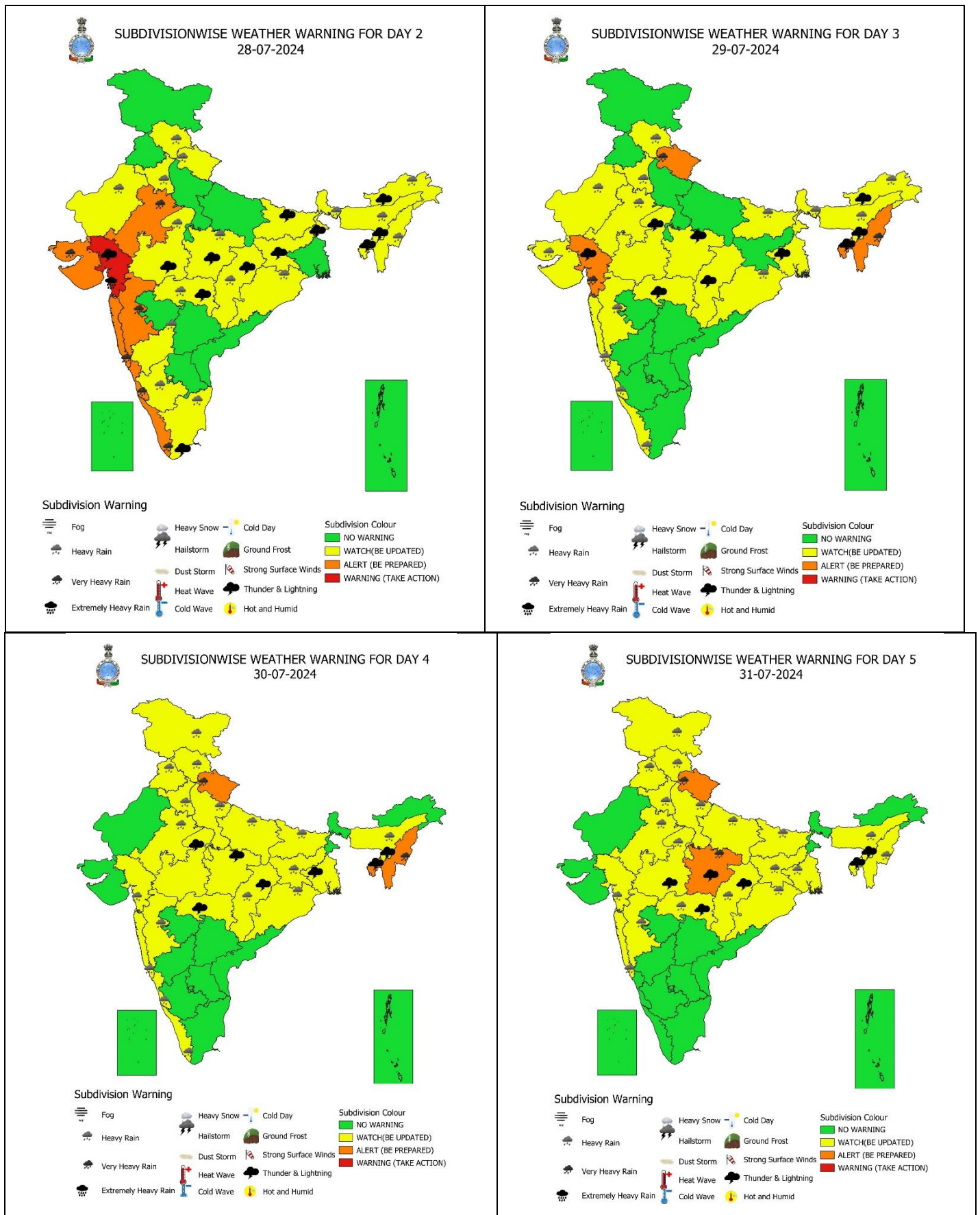
For more details, kindly refer: [https://mausam.imd.gov.in/responsive/all\\_india\\_forecast\\_bulletin.php](https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php)

**Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 27<sup>th</sup> July (in cm):**

- ❖ **Odisha:** Nandapur (dist Koraput) 14, Jeypore (dist Koraput) 13, Lamataput (dist Koraput) 11, Muruda (dist Mayurbhanj) 11, Bhograi (dist Balasore) 11, Th Rampur (dist Kalahandi) 11, Banaigarh (dist Sundargarh) 11, Koraput (dist Koraput) 10, Jaleswar (dist Balasore) 10, Mathili (dist Malkangiri) 9, Karanjia (dist Mayurbhanj) 9, Bahalda (dist Mayurbhanj) 9, Sarasakana (dist Mayurbhanj) 8, Joshipur (dist Mayurbhanj) 8, Binika (dist Sonapur) 8, Chandanpur (dist Mayurbhanj) 8, Chandua Kuliana (dist Mayurbhanj) 7, Jaipatna (dist Kalahandi) 7;
- ❖ **Chhattisgarh:** Bhairamgarh (dist Bijapur) 24, Simga (dist Baloda Bazar) 14, Kutaru (dist Bijapur) 14, Patharia (dist Mungeli) 10, Suhela (dist Baloda Bazar) 9, Shankargarh (dist Balrampur) 8, Bhatapara (dist Baloda Bazar) 8, Bade Bacheli (dist Dantewada) 8, Pakhanjur (dist Kanker) 8, Gidam (dist Dantewada) 8, Sukma (dist Sukma) 7, Pallari/palari (dist Baloda Bazar) 7, Pachpedi (dist Bilaspur) 7, Baloda Bazar (dist Baloda Bazar) 7, Bijapur (dist Bijapur) 7, Katekalyan (dist Dantewada) 7, Masturi (dist Bilaspur) 7, Dantewara (dist Dantewada) 7, Katghora (dist Korba) 7, Bhopalpatnam (dist Bijapur) 7;
- ❖ **West Madhya Pradesh:** Bareilly (dist Raisen) 17, Badi (dist Raisen) 15, Kumbhraj (dist Guna) 14, Gairatgang (dist Raisen) 9, Udaigarh (dist Alirajpur) 9, Raisen-aws (dist Raisen) 8, Jabot (dist Alirajpur) 8, Jawad (dist Neemuch) 8, Biaora (dist Rajgarh) 7, Navibagh Aet (dist Bhopal) 7, Goharganj (dist Raisen) 7, Gulabganj (dist Vidisha) 7;
- ❖ **West Uttar Pradesh:** Auraiya (cwc) (dist Auraiya) 9, Chilahat (dist Jhansi) 8;
- ❖ **East Madhya Pradesh:** Mada (dist Singrauli) 10, Jaisinagar (dist Sagar) 10, Gonour (dist Panna) 9, Amarwara (dist Chindwara) 8, Pawai (dist Panna) 8, Tamia (dist Chindwara) 8, Lidhora (dist Tikamgarh) 8, Chitrangi (dist Singrauli) 7;
- ❖ **Konkan & Goa:** Poladpur (dist Raigad) 7, Kankavli (dist Sindhudurg) 7;
- ❖ **Vidarbha:** Bhamragad (dist Gadchiroli) 7;
- ❖ **Madhya Maharashtra:** Mahabaleshwar- Imd Obsy (dist Satara) 17, Chandgad (dist Kolhapur) 16, Shahuwadi (dist Kolhapur) 12, Velhe (dist Pune) 11, Radhanagari (dist Kolhapur) 10, Ajra (dist Kolhapur) 7, Gadhinglaj (dist Kolhapur) 7;
- ❖ **Coastal Karnataka:** Castle Rock (dist Uttara Kannada) 14, Gersoppa (dist Uttara Kannada) 11, Haliyal (dist Uttara Kannada) 9, Yellapur (dist Uttara Kannada) 8, Dharmasthala (dist Dakshina Kannada) 8, Sulya (dist Dakshina Kannada) 8, Karkala (dist Udupi) 8;
- ❖ **South Interior Karnataka:** Agumbe Emo (dist Shivamogga) 16, Mudigere (dist Chikkamagaluru) 16, Somwarpet (dist Kodagu) 15, Sringeri Hms (dist Chikkamagaluru) 14, Napoklu (dist Kodagu) 11, Bhagamandala (dist Kodagu) 11, Tarikere (dist Chikkamagaluru) 11, Kottigehara (dist Chikkamagaluru) 10, Kalasa (dist Chikkamagaluru) 10, Jayapura (dist Chikkamagaluru) 10, Koppa (dist Chikkamagaluru) 10, Tyagarthi (dist Shivamogga) 9, Balehonnur (dist Chikkamagaluru) 7, Ponnampet Pwd (dist Kodagu) 7, N R Pura (dist Chikkamagaluru) 7, Ajjampur (dist Chikkamagaluru) 7;
- ❖ **North Interior Karnataka:** Londa (dist Belagavi) 11;
- ❖ **East Rajasthan:** Badesar (Chittorgarh) 8, Chittorgarh (Chittorgarh) 8;
- ❖ **Uttarakhand:** Haripur (DEHRADUN) 20, Ganganagar (RUDRAPRAYAG) 12, Karnprayag (CHAMOLI) 12, Mussoorie (DEHRADUN) 9, Jakholi (RUDRAPRAYAG) 9, Loharkhet (BAGESHWAR) 8, Didihat (PITHORAGARH) 8, Champawat (CHAMPAWAT) 8, Kapkot (BAGESHWAR) 7, Lohaghat (CHAMPAWAT) 7, Gangolihat (PITHORAGARH) 7, Sama (BAGESHWAR) 7, Dhanaulti (TEHRI GARHWAL) 7, Ukhimath (RUDRAPRAYAG) 7;
- ❖ **Tamil nadu:** Avalanche (dist The Nilgiris) 18, Upper Bhavani (dist The Nilgiris) 9, Vint Worth Estate (dist The Nilgiris), Barwood (dist The Nilgiris), Kunda Bridge (dist The Nilgiris) 7 each;
- ❖ **Kerala & Mahe:** Vyttili (dist Wynad) 10, Vellarikkundu (dist Kasargod) 9, Panathur (dist Kasargod) 9, Munderi (dist Malappuram) 9, Chittur (dist Palakkad) 8, Aralam (dist Cannur) 8, Karapuzha (dist Wynad) 7, Manantoddy (dist Wynad) 7, Ambalavayal (dist Wynad) 7, Muliya (dist Kasargod) 7;
- ❖ **Haryana-Chandigarh:** Kaul Aws (dist Kaithal) 8, Pehowa (dist Kurukshetra) 7;

ANNEXURE II





## **IMPACT & ACTION SUGGESTED due to**

- ✓ **Isolated extremely heavy rainfall very likely over Gujarat Region on 28th July.**
- ✓ **Very heavy rainfall very likely at isolated places over Uttarakhand on 27th, 30th & 31st; East Rajasthan, Konkan & Goa, Madhya Maharashtra and North Interior Karnataka on 27th & 28th; West Madhya Pradesh, Vidarbha, Chhattisgarh and South Interior Karnataka on 27th; East Madhya Pradesh on 27th & 31st; Nagaland & Manipur on 29th & 30th; Saurashtra & Kutch and Kerala & Mahe on 28th; Gujarat Region on 27th & 29th 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 kutcha 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.

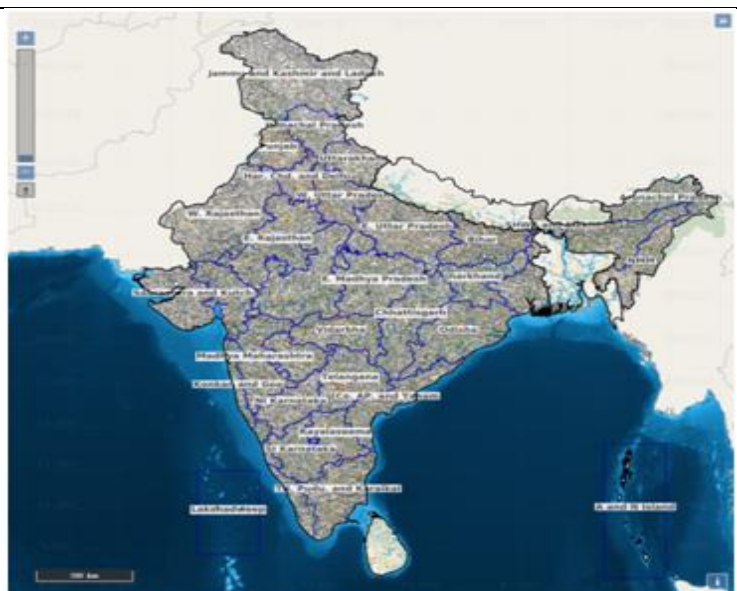
## **Agromet advisories for Heavy Rainfall likely over various parts of the country**

- Make provision for draining out excess water from crop fields to avoid water stagnation in Sub Himalayan West Bengal, Odisha, Jharkhand, Himachal Pradesh, Uttarakhand, Haryana, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Chhattisgarh, Vidarbha, Konkan & Goa, Ghat areas of Madhya Maharashtra, Gujarat State, Tamil Nadu, Kerala and Karnataka.
- Postpone transplanting of rice and vegetable seedlings in Konkan and ghat areas of Madhya Maharashtra.
- 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 28-07-2024 :

No Flash flood risk likely 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 Widespread (FWS/ Many Places)	1-25	Isolated (ISOL)



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













## LEGENDS

### WARNING

<b>WARNING (TAKE ACTION)</b>
<b>ALERT ( BE PREPARED)</b>
<b>WATCH (BE UPDATED)</b>
<b>NO WARNING ( NO ACTION)</b>

### Probabilistic Forecast

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

 <b>Rain/ Snow *</b>	<b>Heavy:</b> 64.5 to 115.5 mm/cm * <b>Very Heavy:</b> 115.6 to 204.4 mm/cm* <b>Extremely Heavy:</b> > 204.4 mm/cm *
 <b>Heat Wave</b>	<p><b>When maximum temperature of a station reaches <math>\geq 40^{\circ}\text{C}</math> for plains and <math>\geq 30^{\circ}\text{C}</math> for hilly regions</b></p> <p><b>(a) Based on Departure from normal</b></p> <p><b>Heat Wave:</b> Maximum Temperature Departure from normal <math>4.5^{\circ}\text{C}</math> to <math>6.4^{\circ}\text{C}</math>.  <b>Severe Heat Wave:</b> Maximum Temperature Departure from normal <math>\geq 6.5^{\circ}\text{C}</math></p> <p><b>(b). Based on Actual maximum temperature</b></p> <p><b>Heat Wave:</b> When actual maximum temperature <math>\geq 45^{\circ}\text{C}</math>.  <b>Severe Heat Wave:</b> When actual maximum temperature <math>\geq 47^{\circ}\text{C}</math></p> <p><b>( c). Criteria for heat wave for coastal stations</b>            When maximum temperature departure is <math>&gt; 4.5^{\circ}\text{C}</math> from normal. Heat Wave may be described provided maximum temperature <math>\geq 37^{\circ}\text{C}</math></p>
 <b>Warm Night</b>	<p><b>When maximum temperature remains <math>40^{\circ}\text{C}</math></b></p> <p><b>Warm Night:</b> When minimum temperature departure <math>4.5^{\circ}\text{C}</math> to <math>6.4^{\circ}\text{C}</math>.  <b>Severe Warm Night:</b> When minimum temperature departure <math>&gt; 6.4^{\circ}\text{C}</math>.</p>
 <b>Cold Wave</b>	<p><b>When minimum temperature of a station <math>\leq 10^{\circ}\text{C}</math> for plains and <math>\leq 0^{\circ}\text{C}</math> for hilly regions.</b></p> <p><b>(a). Based on departure</b></p> <p><b>Cold Wave:</b> Minimum Temperature Departure from normal <math>-4.5^{\circ}\text{C}</math> to <math>-6.4^{\circ}\text{C}</math>.  <b>Severe Cold Wave:</b> Minimum Temperature Departure from normal <math>\leq -6.5^{\circ}\text{C}</math></p> <p><b>(b) Based on actual Minimum Temperature (for Plains only)</b></p> <p><b>Cold Wave :</b> When Minimum Temperature is <math>\leq 4.0^{\circ}\text{C}</math>  <b>Severe Cold Wave:</b> When Minimum Temperature is <math>\leq 2.0^{\circ}\text{C}</math></p> <p><b>( c) For Coastal Stations</b>            When Minimum Temperature departure is <math>\leq -4.5^{\circ}\text{C}</math> &amp; actual Minimum Temperature is <math>\leq 15^{\circ}\text{C}</math></p>
 <b>Cold Day</b>	<p><b>When minimum temperature of a station <math>\leq 10^{\circ}\text{C}</math> for plains and <math>\leq 0^{\circ}\text{C}</math> for hilly regions</b></p> <p><b>Based on departure</b></p> <p><b>Cold Day:</b> Maximum Temperature Departure from normal <math>-4.5^{\circ}\text{C}</math> to <math>-6.4^{\circ}\text{C}</math>.  <b>Severe Cold Day:</b> Maximum Temperature Departure from normal <math>\leq -6.5^{\circ}\text{C}</math></p>
 <b>Fog</b>	<p><b>Phenomenon of small droplets suspended in air and the horizontal visibility &lt; 1km</b></p> <p><b>Moderate Fog:</b> When the visibility between 500-200 metres  <b>Dense Fog:</b> when the visibility between 50- 200 metres  <b>Very Dense Fog:</b> when the visibility &lt; 50 metres</p>
 <b>Thunderstorm</b>	<p><b>Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder)</b></p>
 <b>Dust/Sand Storm</b>	<p><b>An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind.</b></p>
 <b>Frost</b>	<p><b>Ice deposits on ground</b></p> <p>Air temperature <math>\leq 4^{\circ}\text{C}</math> ( over Plains)</p>
 <b>Squall</b>	<p><b>A strong wind that rises suddenly, lasts for atleast 1 minute.</b></p> <p><b>Moderate:</b> Wind speed 52-61 kmph  <b>Severe:</b> Wind speed 62-87 kmph  <b>Very Severe:</b> Wind speed <math>&gt; 87</math> kmph</p>
 <b>Sea State</b>	<p><b>Effect of various waves in the sea over specific area</b></p> <p><b>Rough to very rough:</b> Wind speed 41-62 kmph (22-33 knots) &amp; Wave height 2.5-6 metre  <b>High to very high:</b> Wind speed 63-117 kmph ( 34-63 knots) &amp; Wave height 6-14 metre  <b>Phenomenal:</b> Wind speed <math>&gt; 117</math> kmph (<math>&gt; 63</math> knots) &amp; Wave height <math>&gt; 14</math> metre</p>
 <b>Cyclone</b>	<p><b>Cyclonic Storm:</b> Wind speed 62-87 kmph (34-47 knots)  <b>Severe Cyclonic Storm:</b> Wind speed 88-117 kmph (48-63 knots)  <b>Very Severe Cyclonic Storm:</b> Wind speed 118-165 kmph (64 - 89 knots)  <b>Extremely Severe Cyclonic Storm:</b> Wind speed 166-220 kmph (90 -119 knots)  <b>Super Cyclone Strom:</b> Wind speed <math>&gt; 220</math> kmph (<math>&gt; 119</math> knots)</p>