



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Press Release

Date: 07<sup>th</sup> July, 2024

Time of Issue: 1340 hours IST

**Subject: (1) Heavy to very heavy rainfall spell with isolated extremely heavy rainfall likely over Konkan & Goa, Madhya Maharashtra and coastal Karnataka today and Heavy to very heavy rainfall during subsequent 4-5 days.**  
**(2) Heavy rainfall spell likely over many parts of Central, northeast & adjoining east India and Uttar Pradesh next 5 days.**

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

- ✓ **Heavy to very heavy rainfall at a few places with extremely heavy falls** at isolated places over Uttarakhand and Konkan & Goa (including Mumbai); **Heavy to very heavy rainfall with extremely heavy falls** at isolated places over West Uttar Pradesh, Coastal Karnataka; **Heavy to very heavy rainfall** at isolated places over Madhya Maharashtra, Odisha, Assam & Meghalaya, South Interior Karnataka; **Heavy rainfall** at isolated places over East Uttar Pradesh, Vidarbha, Marathwada, Nagaland, Manipur, Mizoram & Tripura, Arunachal Pradesh, Himachal Pradesh, North Interior Karnataka.
- ✓ **Gusty winds/squally winds** data reported over the country is attached in [Annexure II](#).

**Weather Systems**

- ✓ The Monsoon trough is active and south of its normal position in lower tropospheric levels.
- ✓ A shear zone runs over north peninsular India in middle levels tilting southwards with height.
- ✓ A cyclonic circulation over Westcentral Bay of Bengal & adjoining northwest Bay of Bengal off north Andhra Pradesh coast in lower & middle tropospheric levels tilting southwestwards with height.
- ✓ The off-shore trough at mean sea level runs along south Gujarat- north Kerala coasts.

**Forecast & Warnings (Annexure III)**

**❖ West and South Peninsular India**

- ✓ Fairly widespread to widespread light to moderate rainfall accompanied with thunderstorm & lightning very likely over Konkan & Goa, Madhya Maharashtra, Kerala & Mahe, Lakshadweep, Coastal Karnataka; scattered to fairly widespread light to moderate rainfall over Marathwada, Gujarat Region, Coastal Andhra Pradesh & Yanam, Telangana and Interior Karnataka; isolated to scattered light to moderate rainfall over Tamil Nadu, Puducherry & Karaikal and Rayalaseema during next 5 days.
- ✓ Isolated **heavy rainfall** very likely over Konkan & Goa, Madhya Maharashtra on 10<sup>th</sup>; Marathwada on 08<sup>th</sup> & 09<sup>th</sup>; Saurashtra & Kutch on 08<sup>th</sup>; Gujarat Region on 09<sup>th</sup>; Kerala & Mahe, Coastal Andhra Pradesh & Yanam, North & South Interior Karnataka on 09<sup>th</sup>, 11<sup>th</sup> & 12<sup>th</sup>; Telangana on 08<sup>th</sup>, 09<sup>th</sup> & 12<sup>th</sup>; Coastal Karnataka on 10<sup>th</sup> & 11<sup>th</sup> July.
- ✓ **Isolated very heavy rainfall also very likely over Konkan & Goa and Madhya Maharashtra on 09<sup>th</sup>, 11<sup>th</sup> & 12<sup>th</sup>; Gujarat Region, Kerala & Mahe, Coastal Andhra Pradesh & Yanam and Interior Karnataka on 08<sup>th</sup> and over Coastal Karnataka on 09<sup>th</sup> & 12<sup>th</sup> July.**

- ✓ **Isolated extremely heavy rainfall also very likely over Konkan & Goa, Ghat regions of Madhya Maharashtra and Coastal Karnataka on 08th July.**

#### ❖ **East & Northeast India**

- ✓ Fairly widespread to widespread light to moderate rainfall accompanied with thunderstorm, lightning very likely over Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim, Bihar and Northeast India; scattered to fairly widespread light to moderate rainfall over Gangetic West Bengal, Jharkhand, Odisha during next 5 days.
- ✓ Isolated **heavy rainfall** very likely over Sub-Himalayan West Bengal & Sikkim, Bihar, Arunachal Pradesh, Assam & Meghalaya during 08<sup>th</sup> – 12<sup>th</sup>; Jharkhand on 12<sup>th</sup>; Odisha on 08<sup>th</sup>; Nagaland, Manipur, Mizoram & Tripura during 08<sup>th</sup> – 11<sup>th</sup> July.
- ✓ **Isolated very heavy rainfall also likely over Sub-Himalayan West Bengal & Sikkim on 08th & 12th, Bihar during 10th – 12th; Arunachal Pradesh, Assam & Meghalaya during 08th – 11th; Nagaland, Manipur, Mizoram & Tripura on 08th July.**
- ✓ **Isolated extremely heavy rainfall very likely over Sub-Himalayan West Bengal & Sikkim on 10th & 11th; Arunachal Pradesh on 09th July.**

#### ❖ **Northwest & Central India**

- ✓ Fairly widespread to widespread light to moderate rainfall accompanied with thunderstorm & lightning very likely over Uttarakhand, Uttar Pradesh and Central India; scattered to fairly widespread light to moderate rainfall over Himachal Pradesh, Haryana-Chandigarh-Delhi; isolated to scattered light to moderate rainfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Punjab and Rajasthan during next 5 days.
- ✓ Isolated heavy rainfall very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Haryana-Chandigarh-Delhi on 12<sup>th</sup>; Himachal Pradesh during 11<sup>th</sup> & 12<sup>th</sup>; Uttarakhand, West Uttar Pradesh, Madhya Pradesh, Chhattisgarh during 09<sup>th</sup> – 12<sup>th</sup>; East Uttar Pradesh during 09<sup>th</sup> – 12<sup>th</sup>; East Rajasthan on 08th & 09th; Vidarbha during 08th-10th July.
- ✓ **Isolated very heavy rainfall also likely over West Uttar Pradesh on 11th; East Uttar Pradesh on 10th & 11th; West Madhya Pradesh on 08th, 11th; East Madhya Pradesh on 10th & 11th 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)

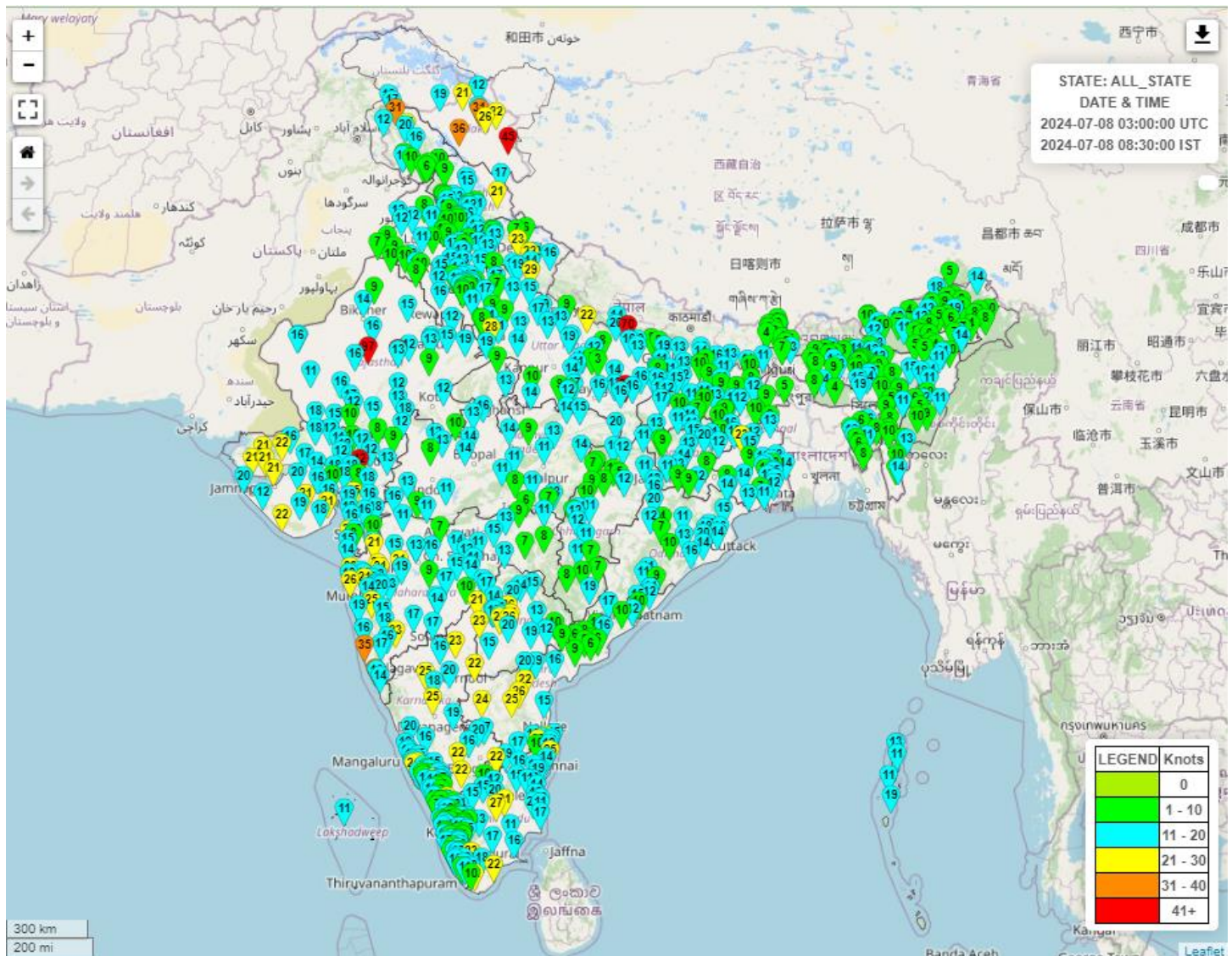
**Significant Rainfall during past 24 hours till 0830 hours IST of today (in cm):**

- ❖ **West Uttar Pradesh:** Baheri (dist Bareilly) 46, Bisalpur (dist Pilibhit) 17, Mirganj (dist Bareilly) 15, Nawabganj (dist Bareilly) 14, Bilaspur (dist Rampur) 13, Pilibhit Tehsil (dist Pilibhit) 12, Suar (dist Rampur) 7, Khairagar (dist Agra) 7, Kasba Tanda (dist Rampur) 7, Milak (dist Rampur) 7,
- ❖ **Uttarakhand:** Banbasa(Champawat)-43, Chorgalia (Nainital)-31,Khatima (U.S.Nagar)-28,Champawat(Champawat )-22 , Haldwani (Nainital)-20,Pantnagar (U.S.Nagar)-20, Haldwani (Nainital )-19, Lohaghat(Champawat )-19, Lohaghat\_Aws(Champawat)-16, Bhimtal(Nainital)-14, Sultanpur Patti (U.S.Nagar)-14, Nainital (Nainital)-14, Kaladhungi (Nainital)-14, Jainti\_Ukg (Almora )-14, Pithoragarh (Pithoragarh)-12, Nainital(Jeolikot)\_Kvk (Nainital)-12.0, Rudrapur(Ukg) (U.S.Nagar)-12.0,Nainital (Nainital)-12,
- ❖ **Konkan & Goa:** Panjim (dist North Goa) 36, Dodamarg (dist Sindhudurg) 31, Mapusa (dist North Goa) 30, Tala (dist Raigad) 29, Mhasla (dist Raigad) 27, Santacruz - Imd Obsy (dist Mumbai Suburban) 27, Rameshwar\_agri (dist Sindhudurg) 25, Murud (dist Raigad) 25, Wakwali\_agri (dist Ratnagiri) 25, Pernem (dist North Goa) 25, Mulde\_Agri (dist Sindhudurg) 25, Kudal (dist Sindhudurg) 23, Valpoi (dist North Goa) 23, Rajapur (dist Ratnagiri) 23, Sanguem (dist South Goa) 22, Vengurla (dist Sindhudurg) 21, Malvan (dist Sindhudurg) 21, Margao (dist South Goa) 21, Dabolim (dist South Goa) 21, Mormugao - Pmo Imd (dist South Goa) 21, Devgad (dist Sindhudurg) 20,
- ❖ **Coastal Karnataka:** Kadra (dist Uttara Kannada) 23, Kumta (dist Uttara Kannada) 22, Gersoppa (dist Uttara Kannada) 20, Shirali Pto (dist Uttara Kannada) 20, Manki (dist Uttara Kannada) 19, Udupi (dist Udupi) 18, Honavar Obsy (dist Uttara Kannada) 17, Kundapur (dist Udupi) 16, Siddapura (dist Udupi) 12, Kollur (dist Udupi) 12,
- ❖ **Madhya Maharashtra:** Gaganbawada (dist Kolhapur) 19, Chandgad (dist Kolhapur) 13, Pandharpur (dist Sholapur) 7, Shahuwadi (dist Kolhapur) 6,
- ❖ **Assam & Meghalaya:** Nongpuh (dist Ri Bhoi) 17, B. P. Ghat (dist Karimganj) 7,
- ❖ **South Interior Karnataka:** Linganamakki Hms (dist Shivamogga) 14, Agumbe Emo (dist Shivamogga) 9, Kammardi (dist Chikkamagaluru) 6,
- ❖ **Odisha:** Banki (Cuttack) 18, Ghasipura (Keonjhargarh) 12, Anandpur (Keonjhargarh) 9, Kukudahandi (Ganjam) 7, Rairakhol (Sambalpur) 7,
- ❖ **East Uttar Pradesh:** Dhaurahara (dist Kheri) 11, Nighasan (dist Kheri) 9, Haraiya (dist Basti) 8, Katerniaghat (dist Bahraich) 7, Bhanpur (dist Basti) 7, Notanwa (dist Maharajganj) 7, Raniganj (dist Pratapgarh)7,
- ❖ **Vidarbha:** Khamgaon (dist Buldhana) 9, Balapur (dist Akola) 9, Motala (dist Buldhana) 9, Akola (dist Akola) 8,
- ❖ **Nagaland, Manipur, Mizoram & Tripura:** Khumluwang (dist West Tripura) 8, Saiha (dist Saiha) 8, Kiphire (dist Kiphire) 5,
- ❖ **Arunachal Pradesh:** Itanagar (dist Papumpara) 7, Naharlagun (dist Papumpara) 4, Nachu (dist Upper Subansiri) 4,
- ❖ **Marathwada:** Ardhapur (dist Nanded) 7, Tuljapur (dist Dharashiv) 7, Ahmedpur (dist Latur) 7,
- ❖ **Himachal Pradesh:** Malraon (dist Bilaspur) 7,
- ❖ **North Interior Karnataka:** Londa (dist Belagavi) 7.

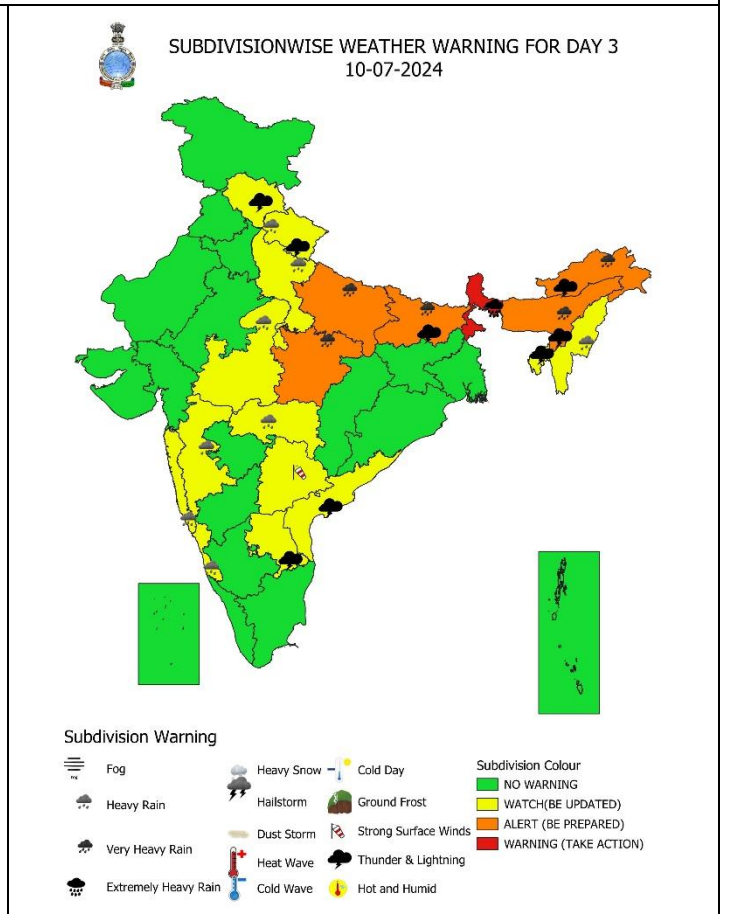
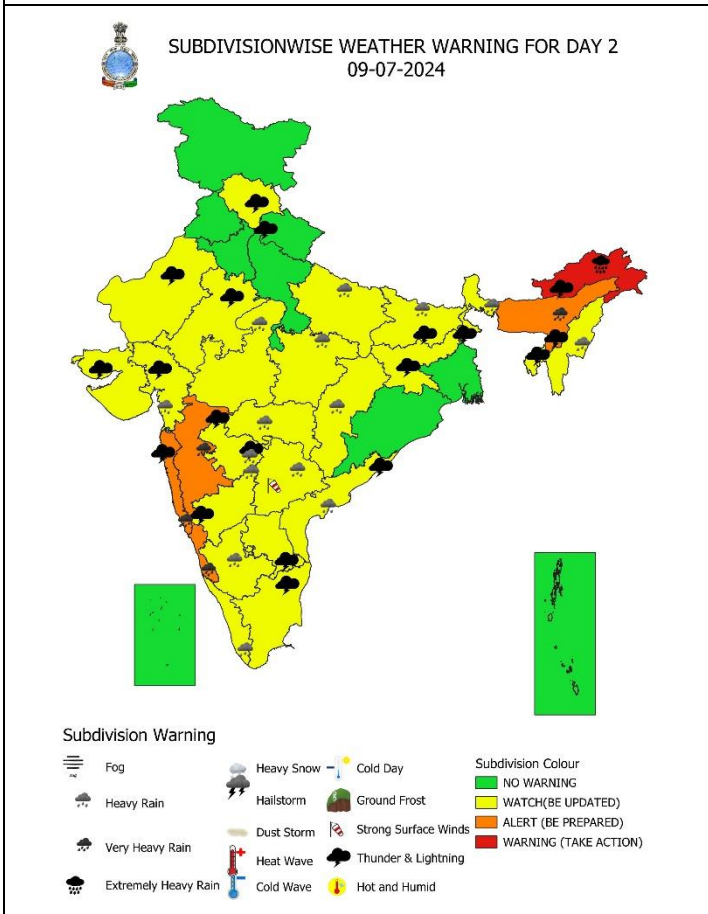
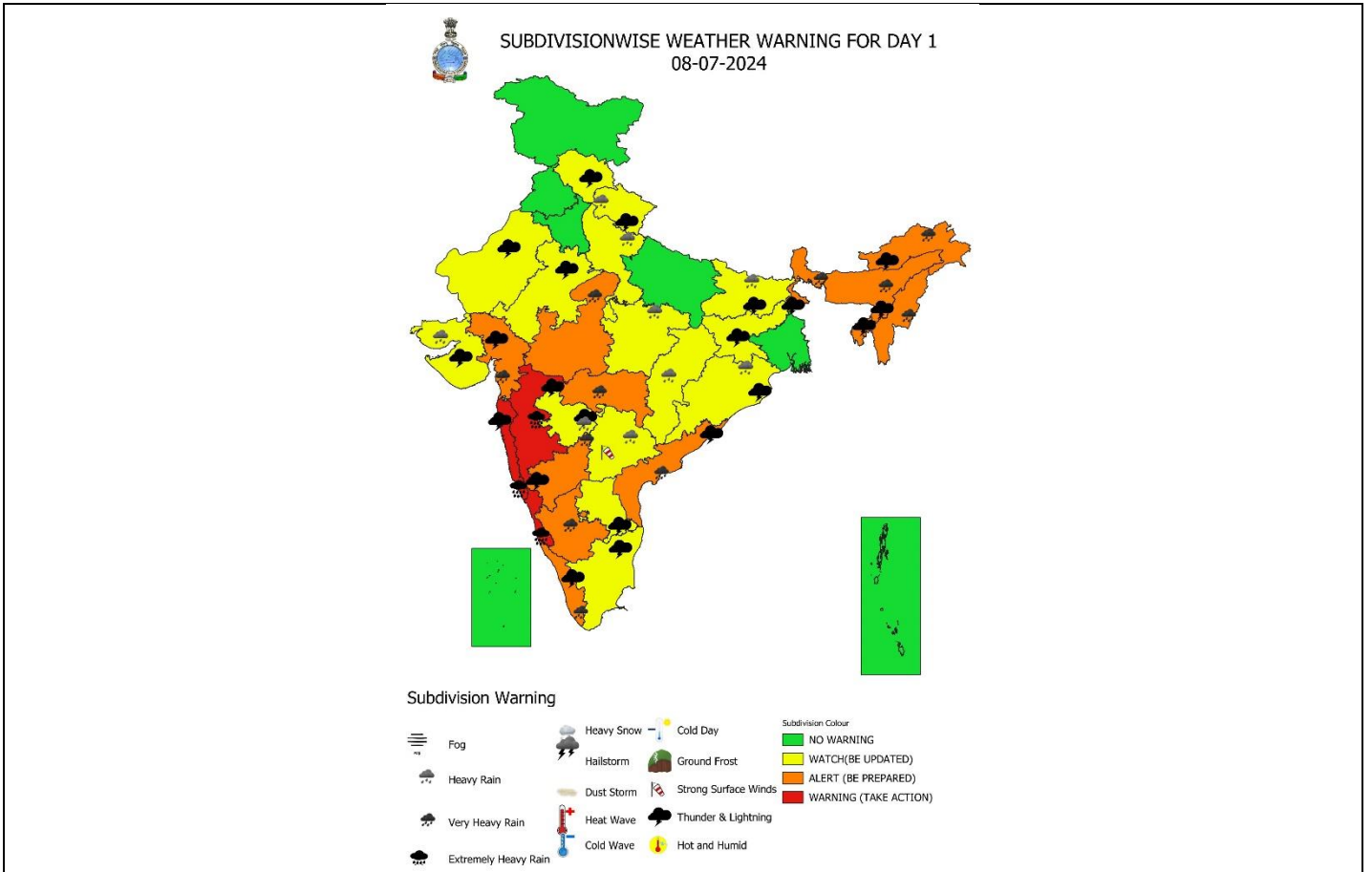
### Reported maximum wind speed (in kmph) during past 24 hours till 0830 hours IST of today:

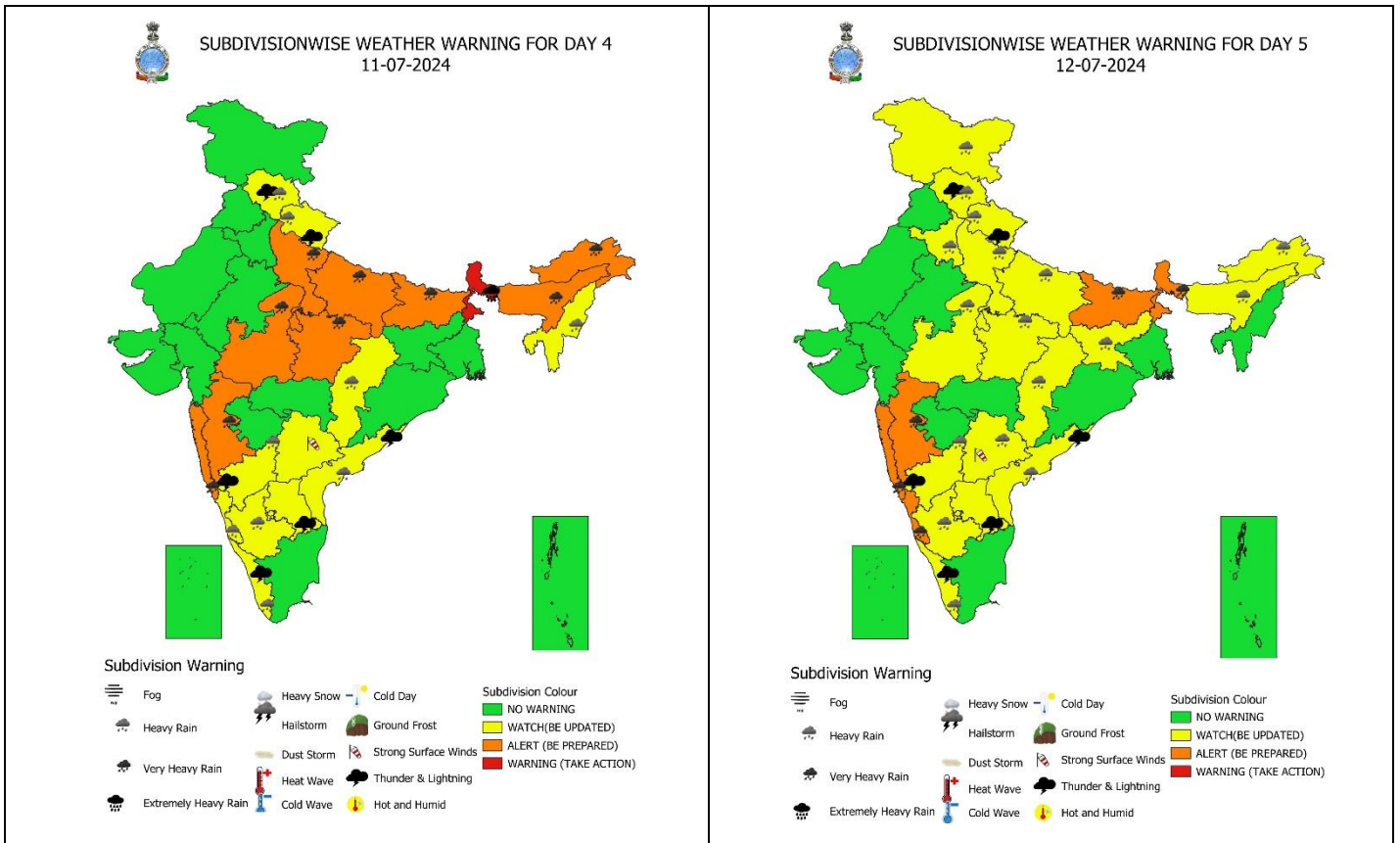
- ❖ **Jammu-Kashmir:** Baramulla-57, Kulgam-50;
- ❖ **Ladakh:** Padum-67, chuchot\_yokma-57, Ushi-48;
- ❖ **Uttarakhand:** Pantnagar 54, Barsar 43;
- ❖ **Uttar Pradesh:** Agra-52;
- ❖ **Kerala:** Padinjaraathara-50, Mannarkkad-48;
- ❖ **Tamil Nadu-** Kadavur-50, ranipet, mahabalipuram-46 each, Tenkasi 43;
- ❖ **Maharashtra:** Alibagh 48, Nimgiri, Junnar and mahabaleshwar-46 each, Santacruz,Snagli, ratnagiri 43 each;
- ❖ **Telangana:** Kaveri\_Siddipit and दौरا-48 each, Tandur 43;
- ❖ **Andhra Pradesh-** Badvel-48, Dharmavarm and utkuru-46 each;
- ❖ **Gujarat:** Maktampur-46;
- ❖ **Karnataka:** Gadag and davanajere-46 each, Kawadmatti\_kv 43;
- ❖ **Gangetic West Bengal:** Durgapur 43;

**Fig.: Gusty winds reported over the country (in knots, 1 Knot = 1.85 kmph) from 0830 hrs IST of 06.07.2024 to 0830 hrs IST of 07.07.2024**



For more details, kindly refer: <http://aws.imd.gov.in:8091/>





**IMPACT & ACTION SUGGESTED due to**

- ✓ **Isolated extremely heavy rainfall very likely over Konkan & Goa, Madhya Maharashtra, Coastal Karnataka on 08<sup>th</sup>; Arunachal Pradesh on 09<sup>th</sup>; Sub-Himalayan West Bengal & Sikkim on 10<sup>th</sup> & 11<sup>th</sup>; July.**
- ✓ **Isolated very heavy rainfall very likely over Gujarat Region, Kerala & Mahe, Coastal Andhra Pradesh & Yanam, North & South Interior Karnataka, Nagaland, Manipur, Mizoram & Tripura on 08<sup>th</sup>; Sub-Himalayan West Bengal & Sikkim on 08<sup>th</sup> & 12<sup>th</sup>, Bihar during 10<sup>th</sup> - 12<sup>th</sup>; Arunachal Pradesh, Assam & Meghalaya during 08<sup>th</sup> - 11<sup>th</sup>; Konkan & Goa, Madhya Maharashtra on 09<sup>th</sup>, 11<sup>th</sup> & 12<sup>th</sup>; Coastal Karnataka on 09<sup>th</sup> & 12<sup>th</sup>; West Uttar Pradesh on 11<sup>th</sup>; East Uttar Pradesh, East Madhya Pradesh on 10<sup>th</sup> & 11<sup>th</sup>; West Madhya Pradesh on 08<sup>th</sup> & 11<sup>th</sup> 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/landsinks/mudsinks.
  - 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)

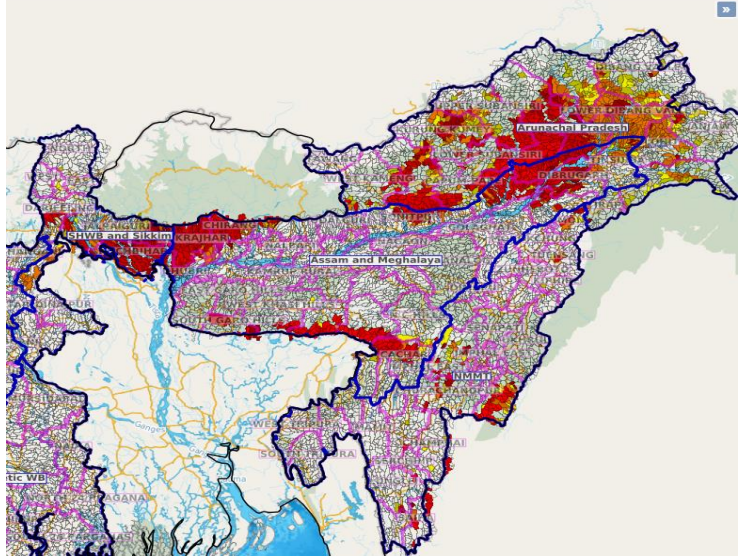
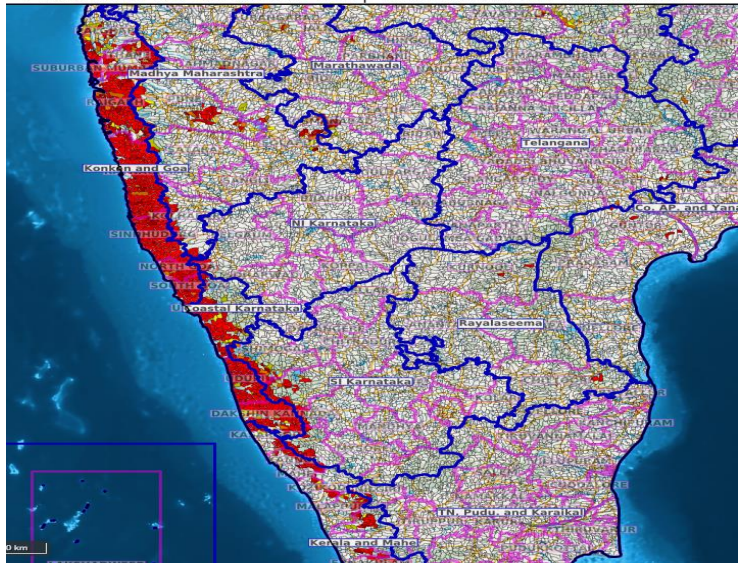
**Action Suggested**

- 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 Arunachal Pradesh, Assam & Meghalaya, Nagaland, Sub-Himalayan West Bengal & Sikkim, Odisha, Bihar, Uttarakhand, West Uttar Pradesh, East Rajasthan, Madhya Pradesh, Chhattisgarh, Maharashtra, Gujarat State, Kerala, Karnataka, Coastal Andhra Pradesh and Telangana.
- Postpone transplanting of rice and finger millet in Konkan.
- Postpone transplanting of rice and sowing of kharif crops like soybean, maize, groundnut in ghat areas of Madhya Maharashtra.
- 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 09-07-2024 :</p> <p>Moderate to High flash flood risk likely over few watersheds &amp; neighbourhoods of Arunachal Pradesh, Assam &amp; Meghalaya and SHWB &amp; Sikkim Met Sub-divisions during next 24 hours.</p> <p>Surface runoff/ Inundation may occur at some fully saturated soils &amp; low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.</p>	<p>Product: WRF FFR   Timescale: 24-hr   Region: "INDIA" Product Date: 2024-07-08 06:00 UTC   Valid Date: 2024-07-09 06:00 UTC</p> 
<p>24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 09-07-2024 :</p> <p>Moderate to High flash flood risk likely over few watersheds &amp; neighbourhoods of Konkan &amp; Goa, Coastal Karnataka and north Kerala &amp; Mahe Met Sub-divisions during next 24 hours.</p> <p>Moderate flash flood risk likely over few watersheds &amp; neighbourhoods of western parts of SI Karnataka and Madhya Maharashtra Met Sub-divisions during next 24 hours.</p> <p>Surface runoff/ Inundation may occur at some fully saturated soils &amp; low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.</p>	<p>Product: WRF FFR   Timescale: 24-hr   Region: "INDIA" Product Date: 2024-07-08 06:00 UTC   Valid Date: 2024-07-09 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; **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.

<b>SPATIAL DISTRIBUTION</b> (% 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)

<b>Probabilistic Forecast</b>	
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



**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 $4.5^{\circ}\text{C}$ to $6.4^{\circ}\text{C}$ .	
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  $40^{\circ}\text{C}$**

Warm Night: When minimum temperature departure $4.5^{\circ}\text{C}$ to $6.4^{\circ}\text{C}$ .	
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 $-4.5^{\circ}\text{C}$ to $-6.4^{\circ}\text{C}$ .	
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 $-4.5^{\circ}\text{C}$ to $-6.4^{\circ}\text{C}$ .	
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)	