



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Press Release

Date: 14<sup>th</sup> June, 2024

Time of Issue: 1345 hours IST

**Subject:**

- i. **Heavy to very heavy rainfall with isolated extremely heavy falls very likely to continue over Sub-Himalayan West Bengal, Sikkim and Northeast India during next 4-5 days.**
- ii. **Heat wave to severe heat wave conditions likely to continue over northern parts of India during next 4-5 days.**

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

- ❖ Yesterday, **Heat wave conditions observed in most parts with severe heat wave condition** at isolated pockets of Uttar Pradesh and Delhi; **Heat wave conditions in some parts with severe heat wave condition** at isolated pockets of Jharkhand; **Heat wave to severe heat wave condition** in some parts of Bihar and Punjab; **Heat wave to severe heat wave condition** at isolated pockets of north Odisha and Gangetic West Bengal; Heat wave conditions at isolated places over north Rajasthan; in many parts of Himachal Pradesh; in some parts of Uttarakhand and in isolated pockets of Chhattisgarh.
- ❖ Yesterday, **Warm night conditions** observed in isolated pockets of Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh and northwest Rajasthan.
- ❖ Yesterday, Maximum temperatures are in the range of 44-47°C over many parts of Haryana-Chandigarh-Delhi; over some parts of west Jharkhand, southwest Bihar, Uttar Pradesh, north Rajasthan.
- ❖ Yesterday, **the highest maximum temperature of 47.2°C** was reported at Buxar (Bihar) over the country.
- ❖ **Heavy to very heavy rainfall** observed at isolated places Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim; **heavy rainfall** at isolated places over Nagaland, Manipur, Mizoram & Tripura, North Interior Karnataka, Konkan & Goa, Telangana, Marathwada, Bihar.
- ❖ **Gusty winds/squally winds** data reported over the country is attached in **Annexure II**.

**Advance of Southwest Monsoon:**

- ❖ The Northern Limit of Monsoon continues to pass through 20.5°N/60°E, 20.5°N/63°E, 20.5°N/70°E, Navsari, Jalgaon, Amravati, Chandrapur, Bijapur, Sukma, Malkangiri, Vizianagaram, 19.5°N/88°E, 21.5°N/89.5°E, 23°N/89.5°E and Islampur. (**Annexure III**)
- ❖ Conditions are favourable for further advance of Southwest Monsoon into some more parts of Maharashtra, Chhattisgarh, Odisha, Coastal Andhra Pradesh & Northwest Bay of Bengal, some parts of Gangetic West Bengal, remaining parts of Sub Himalayan West Bengal and some parts of Bihar during next 4-5 days.

**Weather Systems and Forecast & Warnings: (Annexure IV)**

- ❖ A cyclonic circulation lies over northeast Assam & neighbourhood and an east-west trough runs from central parts of Uttar Pradesh to east Meghalaya in lower tropospheric levels. Strong southwesterly/southerly winds are prevailing from Bay of Bengal to northeastern States in lower tropospheric levels. Under their influence:
  - ✓ Widespread light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** likely over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Sub-Himalayan West Bengal & Sikkim during next 7 days.

- ✓ Isolated **heavy to very heavy rainfall** very likely over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura during next 5 days.
  - ✓ **Isolated extremely heavy rainfall also likely over Sub-Himalayan West Bengal & Sikkim on 14<sup>th</sup> and over Meghalaya during 15<sup>th</sup>-18<sup>th</sup>; Assam on 17<sup>th</sup> & 18<sup>th</sup> June, 2024.**
  - ✓ Scattered to fairly widespread light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Gangetic West Bengal, Bihar, Jharkhand, Odisha during next 5 days.
  - ✓ Isolated **heavy rainfall** very likely over Odisha on 17<sup>th</sup> & 18<sup>th</sup> and east Bihar on 18<sup>th</sup> June, 2024.
- ❖ Strong westerly winds are prevailing along the west coast of India. A trough runs from Rayalaseema to central parts of Bay of Bengal in lower & middle tropospheric levels. Under their influence:
- ✓ Fairly widespread to widespread light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (40-50 kmph)** likely over Konkan & Goa and scattered rainfall over Madhya Maharashtra & Marathwada during next 5 days.
  - ✓ Fairly widespread to widespread light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** likely over Karnataka, Kerala & Mahe, Lakshadweep, Andaman & Nicobar Islands; isolated to scattered light to moderate rainfall over Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, Tamil Nadu, Puducherry & Karaikal during next 5 days.
  - ✓ Isolated **heavy rainfall** very likely over Kerala & Mahe on 17<sup>th</sup> & 18<sup>th</sup>; North Coastal Andhra Pradesh & North Interior Karnataka on 14<sup>th</sup> & 17<sup>th</sup>; Marathwada on 14<sup>th</sup>, 16<sup>th</sup> & 17<sup>th</sup>; Madhya Maharashtra on 18<sup>th</sup>; Konkan & Goa on 14<sup>th</sup>, 17<sup>th</sup> & 18<sup>th</sup> June, 2024.
- ❖ A cyclonic circulation lies over southwest Rajasthan & neighbourhood in lowest & middle tropospheric levels. Under its influence; light to moderate isolated to scattered rainfall with **thunderstorm, lightning & gusty winds (40-60 kmph)** very likely over Madhya Pradesh, Vidarbha, Chhattisgarh during next 5 days.

#### Maximum temperature forecast for next 5 days:

- ❖ No significant change in maximum temperatures very likely over most parts of the country.

#### Heat Wave and Warm Night warning for next 5 days:

- ❖ **Heat wave to severe heat wave conditions** very likely in many/ most parts of Uttar Pradesh, in some/many parts of Punjab, Haryana-Chandigarh-Delhi during 14<sup>th</sup>-18<sup>th</sup>; western parts of Gangetic West Bengal and Bihar on 14<sup>th</sup>; Jharkhand and Uttarakhand during 14<sup>th</sup>-15<sup>th</sup> and isolated **heat wave conditions** over western parts of Gangetic West Bengal and Bihar on 15<sup>th</sup>; Jharkhand & Uttarakhand on 16<sup>th</sup> June, 2024.
- ❖ **Heat wave conditions** very likely in isolated to some pockets of Himachal Pradesh, Jammu Division during 14<sup>th</sup>-17<sup>th</sup>; northeast Madhya Pradesh during 14<sup>th</sup>-16<sup>th</sup>; north Rajasthan, north Odisha on 14<sup>th</sup>; north Chhattisgarh on 14<sup>th</sup> & 15<sup>th</sup> June, 2024.
- ❖ **Warm night conditions** very likely in isolated pockets of northeast Madhya Pradesh, Punjab, Haryana-Chandigarh-Delhi on 14<sup>th</sup> & 15<sup>th</sup> and Uttar Pradesh during 14<sup>th</sup>-16<sup>th</sup> June, 2024.

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)

**Realised Rainfall during past 24 hours till 0830 hours IST of today:**

- ❖ Light to moderate rainfall accompanied with thunderstorm & lightning observed **at most places** over Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Konkan & Goa, Coastal Karnataka, South Interior Karnataka, Sub-Himalayan West Bengal & Sikkim; **at many places** over Marathwada, North Interior Karnataka, Kerala & Mahe, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Andaman & Nicobar Islands; **at a few places** over Madhya Maharashtra, Lakshadweep, Rayalaseema, Telangana; **at isolated places** over Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Gujarat State, Himachal Pradesh, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh, Gangetic West Bengal, Bihar, Jharkhand and Odisha.

**Significant amount of rainfall (in cm):**

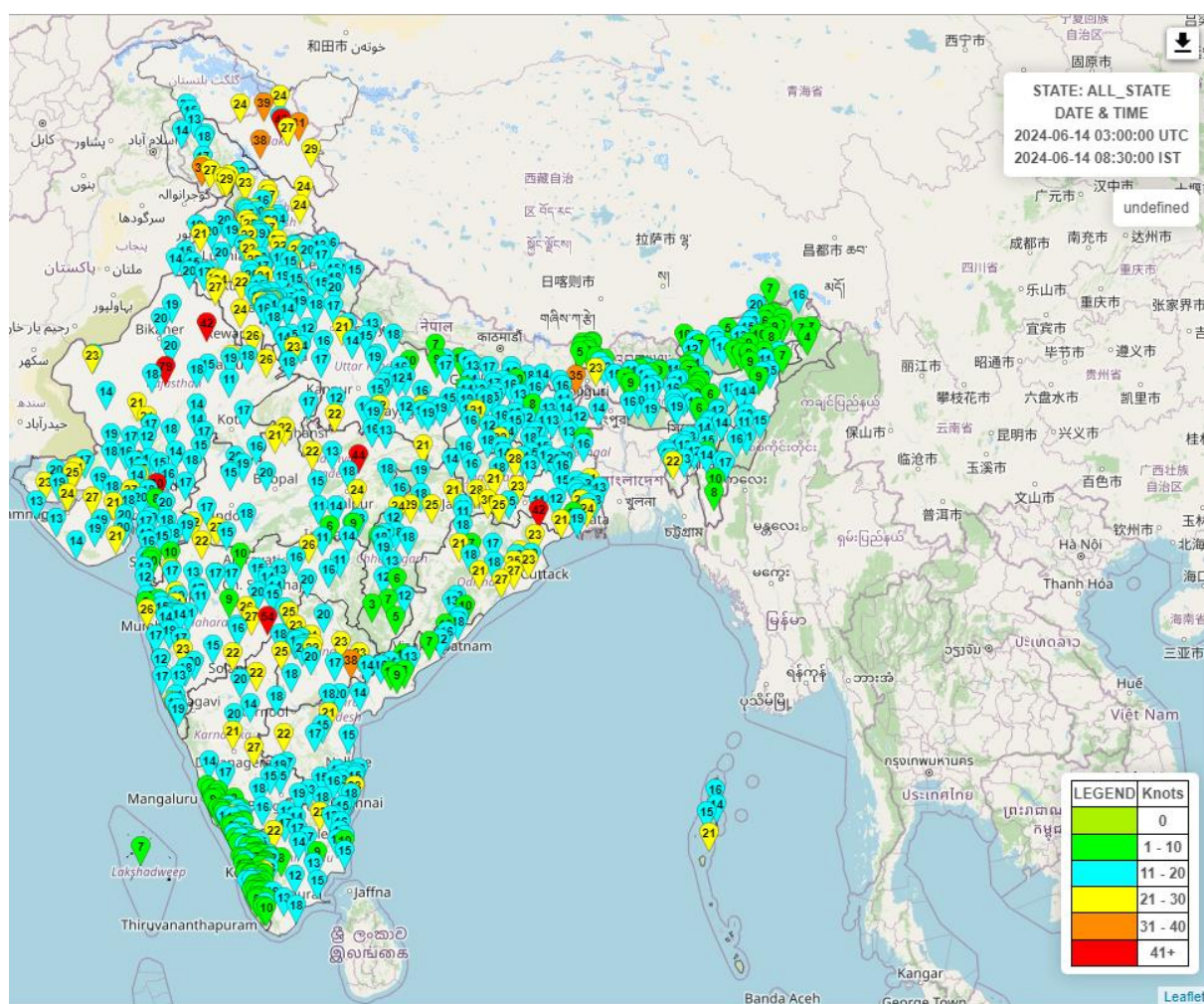
- ❖ **Assam & Meghalaya:** Manash Nh Xing (dist Barpeta) 16, Fakiragram Arg (dist Kokrajhar) 15, Bilasipara Arg (dist Dhubri) 14, Barpeta (dist Barpeta) 13, Hailakandi\_ Aws (dist Hailakandi) 12, Panbari (dist Chirang) 12, Kokrajhar (dist Kokrajhar) 11, Matijuri (dist Hailakandi) 11, Aie Nh Xing (dist Bongaigaon) 10, Lala Arg (dist Hailakandi) 10, Beky Rly.bridge (dist Barpeta) 10, Hazuah (dist Barpeta) 9, Matijuri Arg (dist Hailakandi) 8, Srijangram Arg (dist Bongaigaon) 7, Tihu Arg (dist Nalbari) 7, Barpeta/sarbhog\_aws (dist Barpeta) 7;
- ❖ **North Interior Karnataka:** Chincholi (dist Kalaburgi) 11, Kamalapur (dist Kalaburgi) 7, Humnabad (dist Bidar) 4, Kalaburgi Obsy (dist Kalaburgi) 4, Sulepet (dist Kalaburgi) 4, Shahpur (dist Yadgir) 4;
- ❖ **Nagaland, Manipur, Mizoram & Tripura:** Bagafa (dist South Tripura) 10, Kvk South (dist South Tripura) 10, Lembuchhera (dist West Tripura) 8, Belonia Arg (dist South Tripura) 6, Budhjongnagar Arg (dist West Tripura) 6, Agartala Aero (dist West Tripura) 6, Belonia (dist South Tripura) 6, Dm Office Arg (dist West Tripura) 5, Khowai (dist Khowai) 5, Jiribam\_ Aws (dist Imphal East) 5, Teliamura\_arg (dist Khowai) 5,
- ❖ **Konkan & Goa:** Alibag - Imd Part Time (dist Raigad) 10, Chiplun (dist Ratnagiri) 8, Mandangad (dist Ratnagiri) 7, Panjim - Imd Obsy (dist North Goa) 7, Dapoli\_agri (dist Ratnagiri) 6, Tala (dist Raigad) 6, Vaibhavwadi (dist Sindhudurg) 5, Colaba - Imd Obsy (dist Mumbai City) 5, Ambernath (dist Thane) 5, Mormugao - Pmo Imd (dist South Goa) 5, Murud (dist Raigad) 5, Ratnagiri - Imd Obsy (dist Ratnagiri) 5, Lanja (dist Ratnagiri) 5;
- ❖ **Telangana:** Peddemul (dist Vikarabad) 7, Chinthakam (dist Khammam) 6, Narayanpet (dist Narayanpet) 5, Utkoor (dist Narayanpet) 5, Manchal (dist Rangareddy) 5, Alladurg (dist Medak) 5, Tandur (dist Vikarabad) 5, Mominpet (dist Vikarabad) 5, Mallapur (dist Jagtial) 4, Bomraspeta (dist Vikarabad) 4, Mothey (dist Suryapet) 4, Huzur Nagar (dist Suryapet) 4, Gangadhara (dist Karimnagar) 4;
- ❖ **Marathwada:** Udgir (dist Latur) 7, Renapur (dist Latur) 7, Lohara (dist Dharashiv) 6, Patoda (dist Beed) 6, Loha (dist Nanded) 5, Dharur (dist Beed) 5, Dharashiv Imd Parttime (dist Dharashiv) 4;
- ❖ **Bihar:** Kisanganj (dist. Kisanganj)-8, Thakurganj (dist. Kisanganj)-7, Tedhagach (dist. Kisanganj)-5, Dighalbank & Chargharia (dist. Kisanganj)-4 each;
- ❖ **Coastal Karnataka:** Gokarna (dist Uttara Kannada) 5, Ankola (dist Uttara Kannada) 4;
- ❖ **Coastal Andhra Pradesh & Yanam:** Gudivada (dist Krishna) 6, Amaravati (dist Guntur) 4, Tiruvuru (dist Ntr District) 4;
- ❖ **Arunachal Pradesh:** Daparijo (dist Upper Subansiri) 6, Itanagar (dist Papumpara) 4
- ❖ **Madhya Maharashtra:** Jalgaon - Imd Pt (dist Jalgaon) 5, Jamkhed (dist Ahmednagar) 5, Mahabaleshwar-Imd Obsy (dist Satara) 4;



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

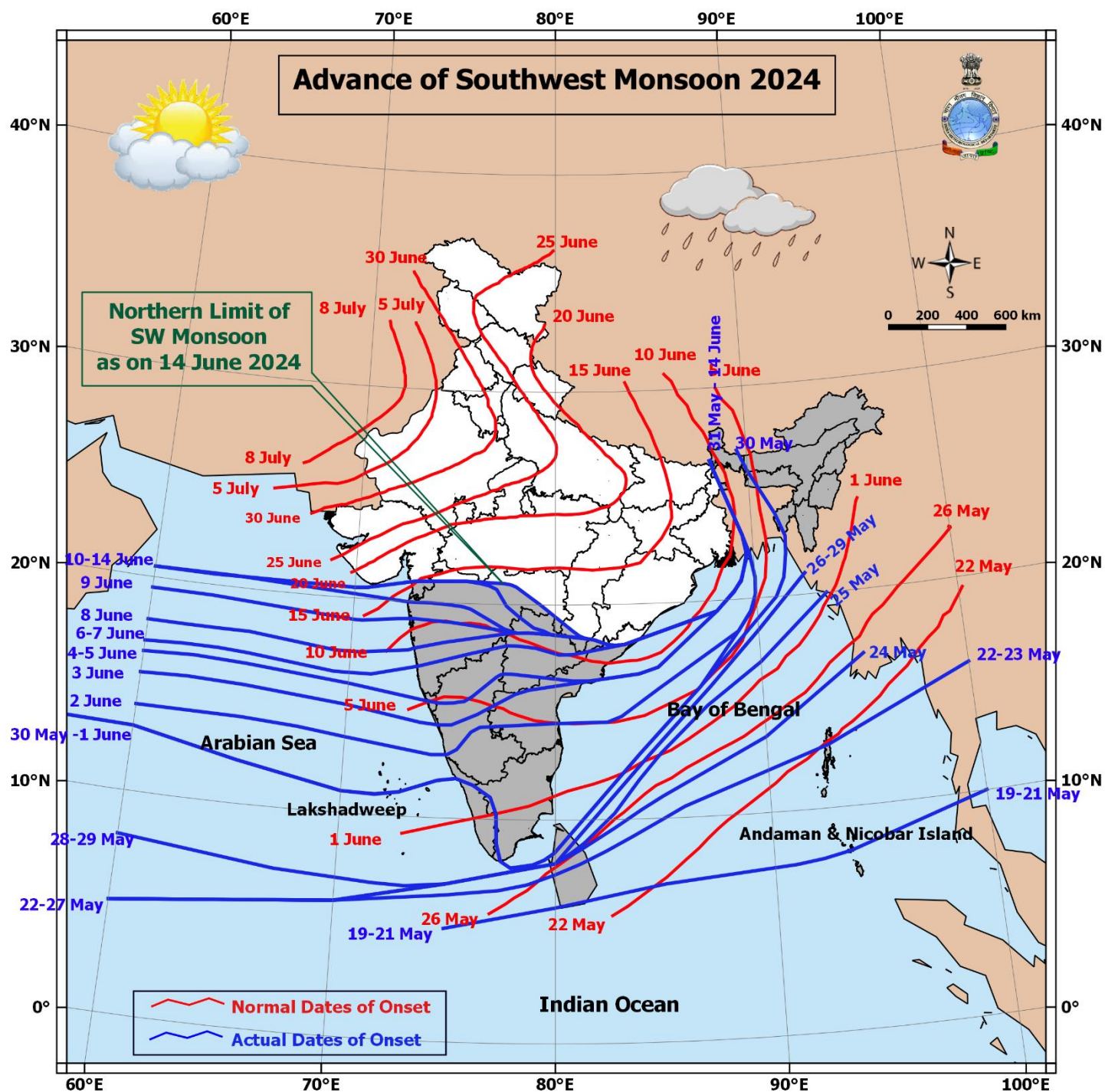
- ❖ Madhya Pradesh: Katni-81, Mandla-44, Chhatarpur, Sagar, Ashoknagar -41 each;
- ❖ Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad: Leh-80, Kargil-70, Jammu-57, Kathua-55, Samba-50;
- ❖ Odisha: Mayurbhanj-78, Sundergarh-55, Cuttack-54, Puri-50, Bhadrak-42;
- ❖ Rajasthan: Sikar-78, Karauli, Alwar-48 each, Jaisalmer-42;
- ❖ Andhra Pradesh & Yanam: NTR-70, Anantapur-41, Prakasam-39;
- ❖ Bihar: Krishanaganj-65, Arwal-39;
- ❖ Punjab: Pathankot-54, Shahid Bhagat Singh Nagar-48, Ropar-42, Faridkot-39;
- ❖ Chhattisgarh: Bilaspur-54, Janjgir Champa-46, Mungeli-44;
- ❖ Jharkhand: Simdega, Bokaro-52 each, Kiriburu-46;
- ❖ Karnataka: Chitradurga-50, Yadgir-41, Davanagere-39;
- ❖ Himachal Pradesh: Kullu, Solan, Sirmaur-50 each, Lahaul & Spiti-44;
- ❖ Haryana: Hisar-50, Mahendragarh-34, Fatehabad-42, Kaithal, Jind-41 each;
- ❖ Gujarat State: Rajkot, Ahmedabad-50 each, Kachchh-46;
- ❖ Maharashtra: Jalgaon-50, Beed, Raigad-48 each;
- ❖ Telangana: Vikarabad, Nizamabad-46 each, Kamareddy, Mahabubabad, Khammam-42 each;

**Fig.: Gusty winds reported over the country (in knots, 1 Knot = 1.85 kmph) from 0830 hrs IST of 13.06.2024 to 0830 hrs IST of 14.06.2024**

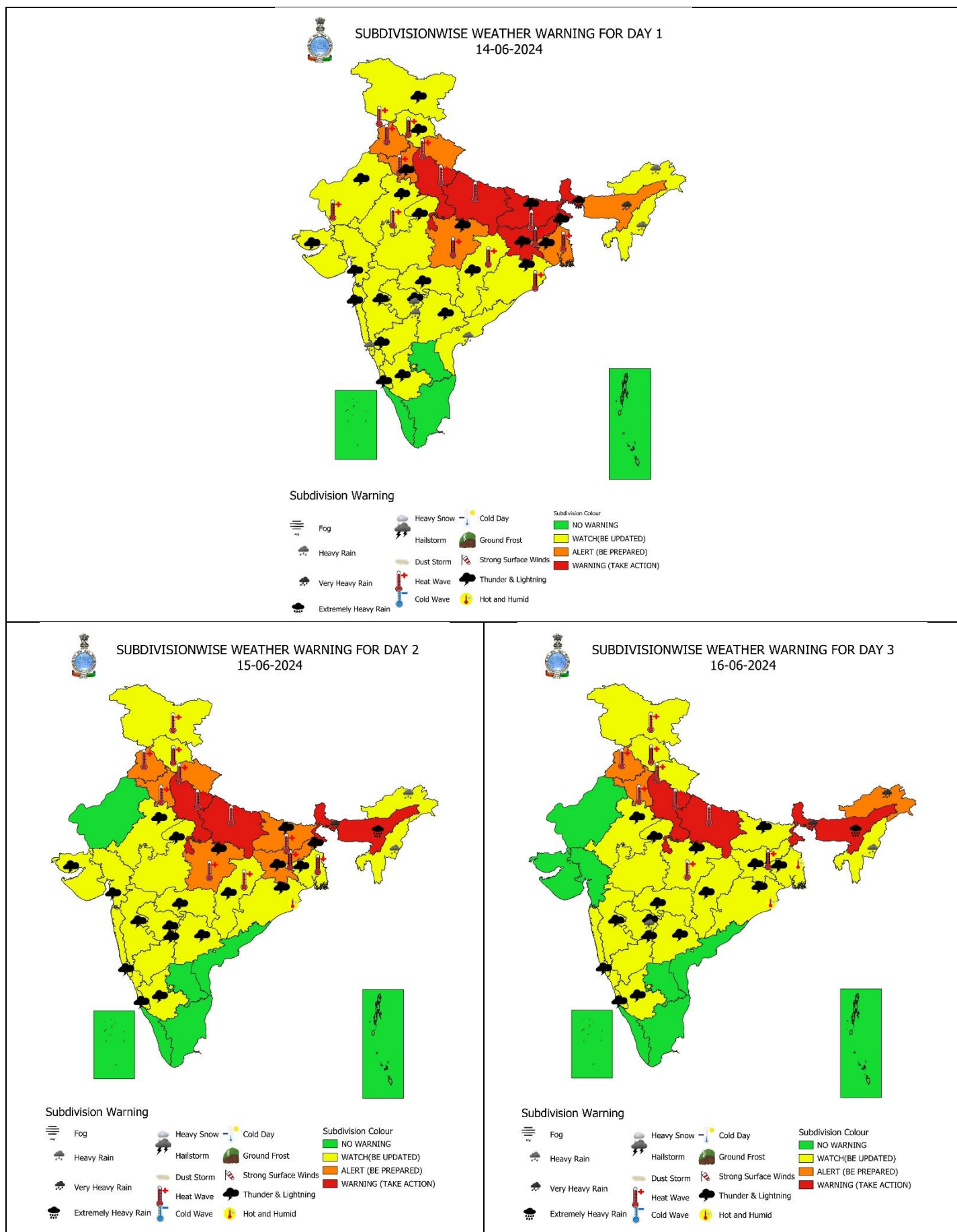


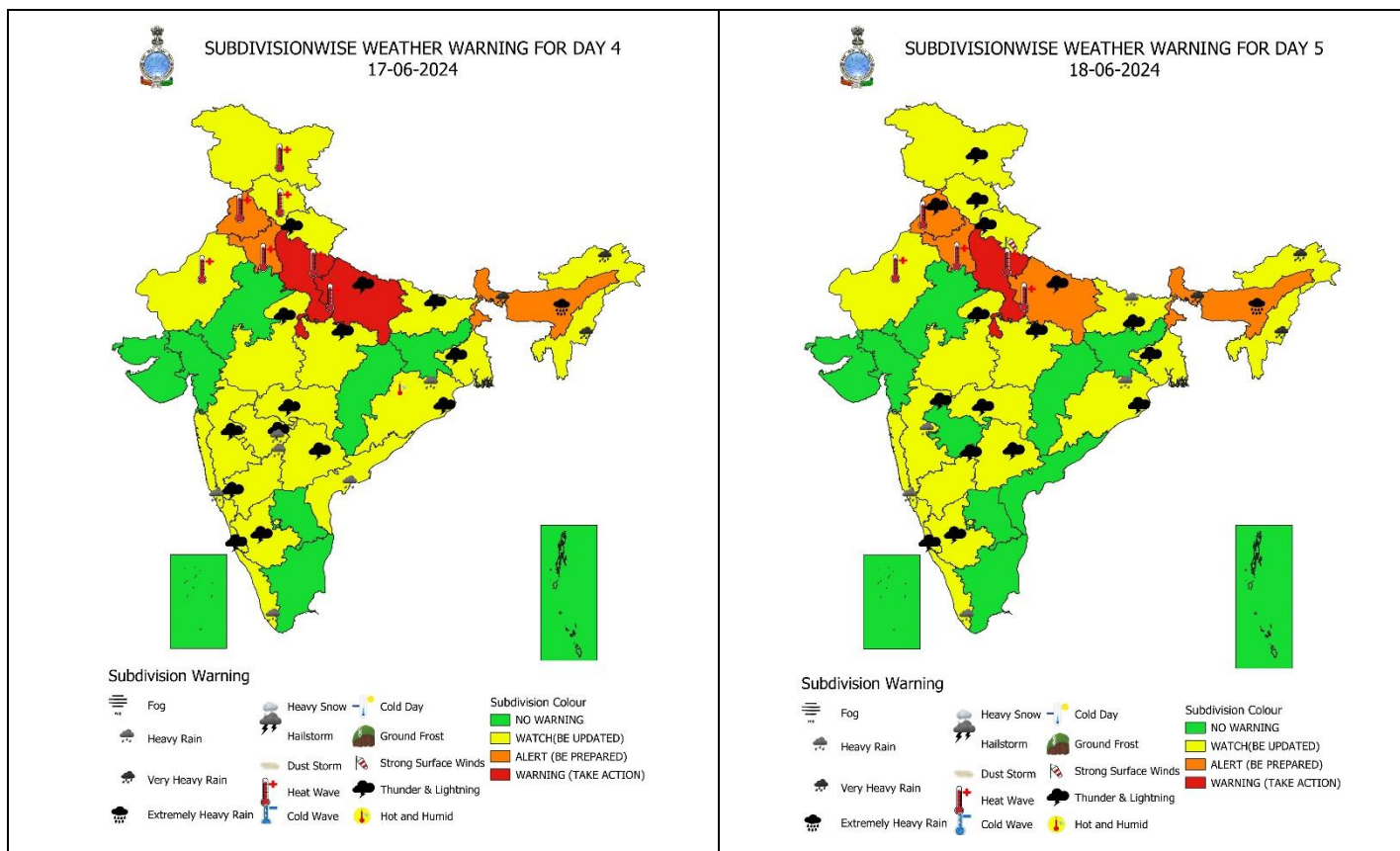
For more details, kindly refer: <http://aws.imd.gov.in:8091/>

## Advance of Southwest Monsoon 2024









## IMPACT & ACTION SUGGESTED due to Heat Wave Conditions:

**Red Alert Areas:** Bihar & Jharkhand on 14<sup>th</sup>; Uttar Pradesh during 14<sup>th</sup>-18<sup>th</sup>

**Orange Alert Areas:** Uttarakhand on 14<sup>th</sup> & 15<sup>th</sup>; Punjab & Haryana-Chandigarh-Delhi during 14<sup>th</sup>-18<sup>th</sup>; East Madhya Pradesh on 14<sup>th</sup> & 15<sup>th</sup>; Gangetic West Bengal on 14<sup>th</sup>; Bihar & Jharkhand on 15<sup>th</sup>;

**Yellow Alert Areas:** Uttarakhand on 16<sup>th</sup>; Himachal Pradesh, Jammu-Division during 14<sup>th</sup>-17<sup>th</sup>; north Rajasthan on 14<sup>th</sup>; Chhattisgarh on 14<sup>th</sup> & 15<sup>th</sup>; Gangetic West Bengal on 15<sup>th</sup> June, 2024.

### Red alert Areas

- Very high likelihood of developing heat illness and heat stroke in all ages.
- Extreme care needed for vulnerable people.

### Orange alert Areas:

- High temperature & increased likelihood of heat illness symptoms in people who are either exposed to sun for a prolonged period or doing heavy work.
- High health concern for vulnerable people e.g. infants, elderly, people with chronic diseases.
- Avoid heat exposure- keep cool. Avoid dehydration.
- Drink sufficient water- even if not thirsty.
- Use ORS, homemade drinks like lassi, torani (rice water), lemon water, buttermilk, etc. to keep yourself hydrated.

### Yellow alert Areas:

- Moderate temperature & heat is tolerable for general public but moderate health concern likely for vulnerable people e.g. infants, elderly, people with chronic diseases.
- Avoid heat exposure.
- Wear lightweight, light colour, loose, cotton clothes.
- Cover your head, use a cloth, hat or umbrella.

**IMPACT & ACTION SUGGESTED due to very heavy/extremely heavy rainfall over Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura during next 5 days.**

#### **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 kutcha roads.
- Possibilities of damage to vulnerable structure.
- Localized Landslides/Mudslides/landslips/mudslips/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, Gusty winds and Heat Wave likely over various parts of the country:**

- Make provision for draining out excess water from crop fields to avoid water stagnation in North Interior Karnataka, Coastal Andhra Pradesh, Konkan, Marathwada, Sub Himalayan West Bengal & Sikkim and North Eastern States.
- Postpone sowing of Soybean in Sub Himalayan West Bengal.
- Apply light and frequent irrigation to standing crops to avoid heat stress; provide mulching to conserve soil moisture and minimise evaporation in Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Uttar Pradesh, Rajasthan, East Madhya Pradesh, Chhattisgarh, Gangetic West Bengal, Odisha, Bihar and Jharkhand.
- Provide mechanical support to horticultural crops & staking to vegetables.



## 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.
- ❖ **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

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

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