



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 15th 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, Assam and Meghalaya during next 4-5 days.**
- ii. **Heat wave to severe heat wave conditions likely to continue over many parts of northern parts of India during next 3-4 days and abate thereafter.**

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

- ❖ Yesterday, **Heat wave to severe heat wave conditions** prevailed in most parts of East Uttar Pradesh; in some parts of Uttarakhand and in isolated pockets over Bihar, Jharkhand, Gangetic West Bengal, north Odisha. **Heat wave conditions** in most parts of West Uttar Pradesh & Himachal Pradesh; in some parts of Punjab, Haryana-Chandigarh-Delhi; at isolated pockets over Jammu division, East Madhya Pradesh and Chhattisgarh.
- ❖ Yesterday, **Warm night conditions** observed in isolated pockets of Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh and East Madhya Pradesh.
- ❖ Yesterday, Maximum temperatures were in the range of 44-46°C over in many parts of East Uttar Pradesh; in some parts of Haryana-Chandigarh-Delhi, East Madhya Pradesh; in isolated pockets over West Uttar Pradesh, south Bihar.
- ❖ Yesterday, **the highest maximum temperature of 46.9°C** was reported at Prayagraj (East Uttar Pradesh) over the country.
- ❖ **Heavy to very heavy rainfall with extremely heavy falls** observed at isolated places over Meghalaya, Sub-Himalayan West Bengal & Sikkim; **Heavy to very heavy rainfall** at isolated places over Assam; **heavy rainfall** at isolated places over Konkan & Goa, Marathwada, Coastal Andhra Pradesh and 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 and another cyclonic circulation lies over north Bangladesh and an east-west trough also runs from northwest Bihar to east Assam 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 15th and over Meghalaya during 15th-19th; Assam during 17th-19th June, 2024.**
 - ✓ Isolated to scattered light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Gangetic West Bengal, Bihar, Jharkhand, Odisha during next 4 days and likely to increase thereafter.
 - ✓ Isolated **heavy rainfall** very likely over Odisha on 15th, 18th & 19th 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** 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 17th & 18th; north Coastal Andhra Pradesh on 15th; Telangana, Marathwada on 16th; Madhya Maharashtra, Gujarat Region on 19th; Konkan & Goa on 18th & 19th June, 2024.
- ❖ A cyclonic circulation lies over southwest Rajasthan & neighbourhood in lower & 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. Isolated **hailstorm** activity also likely over West Madhya Pradesh on 16th June.

Maximum temperature forecast for next 5 days:

- ❖ No significant change in maximum temperatures very likely over East India during next 2 days and fall by 2-3°C thereafter and fall in maximum temperatures fall by 2-3°C over many parts of central India during next 4-5 days.
- ❖ No significant change in maximum temperatures very likely over rest 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 during 15th-18th; in some parts of Punjab, Haryana-Chandigarh-Delhi during 15th-17th; in isolated pockets of over Bihar, Jharkhand on 15th & 16th and **decrease in intensity thereafter over above regions.**
- ❖ **Heat wave conditions** very likely in isolated to some pockets of Himachal Pradesh, Jammu Division, north Rajasthan during 15th-18th; northeast Madhya Pradesh, north Chhattisgarh, Uttarakhand on 15th & 16th; Gangetic West Bengal, north Odisha on 15th June, 2024 and abate thereafter.
- ❖ **Warm night conditions** very likely in isolated pockets of Punjab, Haryana-Chandigarh-Delhi during 15th-17th; Uttar Pradesh, northeast Madhya Pradesh on 15th & 16th June, 2024.
- ❖ **Hot & Humid weather** very likely in isolated pockets of Punjab, Haryana-Chandigarh-Delhi during 15th-17th; Odisha during 16th-18th; Uttar Pradesh, northeast Madhya Pradesh, Gangetic West Bengal on 15th & 16th June, 2024.

For more details, kindly refer: 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, Sub-Himalayan West Bengal & Sikkim, Coastal Karnataka; **at many places** over Vidarbha; **at a few places** over Nagaland, Manipur, Mizoram & Tripura, Andaman & Nicobar Islands, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Madhya Maharashtra, Marathwada, Kerala & Mahe, Lakshadweep, Coastal Andhra Pradesh & Yanam; **at isolated places** over Bihar, Jharkhand, Odisha, Gangetic West Bengal, Himachal Pradesh, Uttarakhand, Haryana, West Uttar Pradesh, East Rajasthan, Madhya Pradesh, Chhattisgarh, Gujarat State, Tamil Nadu, Puducherry & Karaikal, South Interior Karnataka, Rayalaseema and Telangana.

Significant amount of rainfall (in cm):

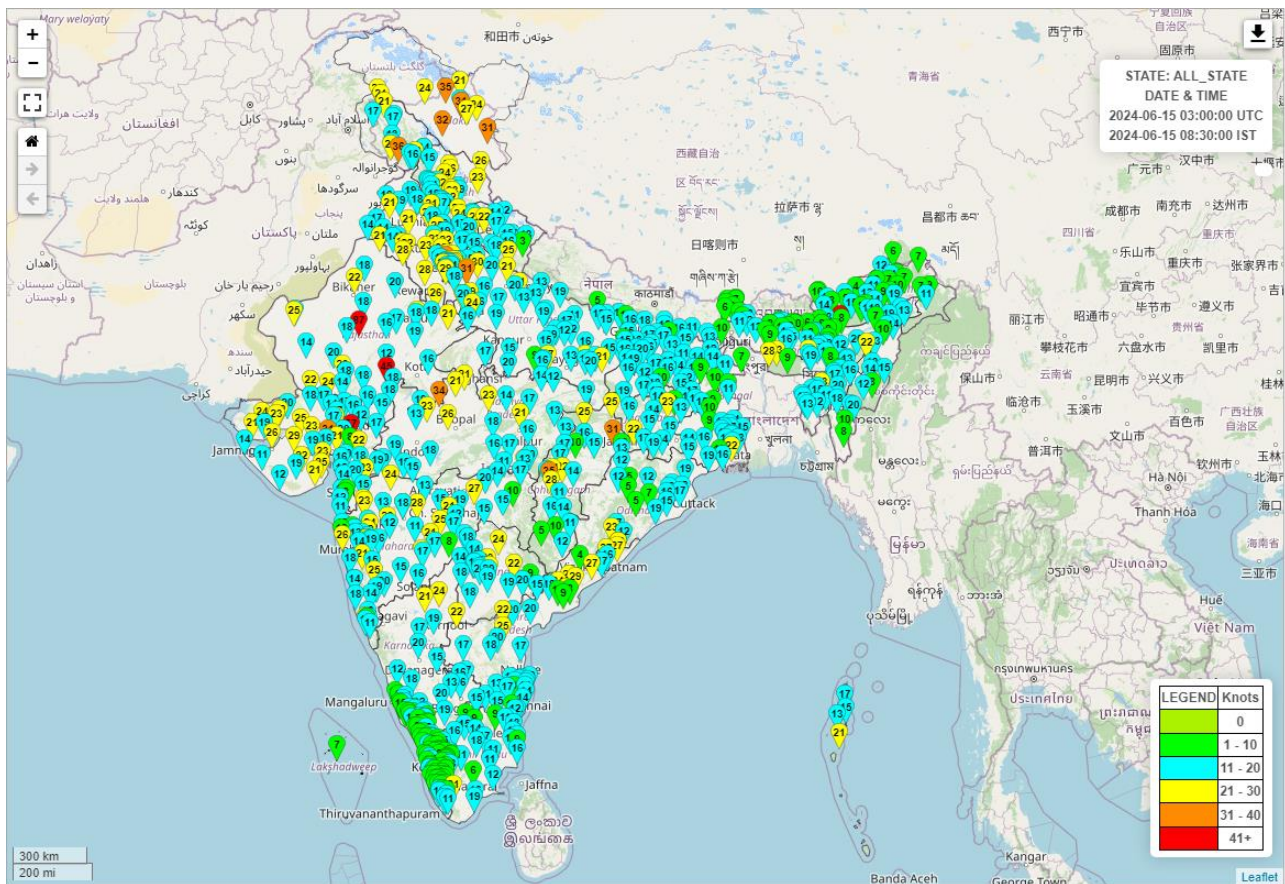
- ❖ **Assam & Meghalaya:** Mawsynram (dist East Khasi Hills) 64, Cherrapunji (dist East Khasi Hills) 51, Cherrapunji(rkm) (dist East Khasi Hills) 50, Shella (dist East Khasi Hills) 40, Mawkyrwat (dist South West Khasi Hills) 30, Mawkyrwat_arg (dist South West Khasi Hills) 27, Matijuri (dist Hailakandi) 17, Barpeta/sarbhog_aws (dist Barpeta) 15, Srijangram Arg (dist Bongaigaon) 15, Tikrikilla (dist West Garo Hills) 13, Manash Nh Xing (dist Barpeta) 12, Kokrajhar (dist Kokrajhar) 12, Halflong (dist N. C. Hills) 11, Beky Rly.bridge (dist Barpeta) 11, Williamnagar (dist East Garo Hills) 10, Barpeta (dist Barpeta) 10, Bahalpur (dist Dhubri) 9, Badarpur Arg (dist Karimganj) 9, Goalpara_aws (dist Goalpara) 8, Tihu Arg (dist Nalbari) 8, Lakhimpur (dist Cachar) 7, Bhaghmara (dist South Garo Hills) 7, Resubelpara (dist North Garo Hills) 7, Nalbari/pagladia (dist Nalbari) 7,
- ❖ **Sub-Himalayan West Bengal & Sikkim:** Alipurduar (pto) (dist Alipurduar) 21, Chepan (dist Alipurduar) 16, Barobhisha (dist Alipurduar) 12, Damthang (dist Namchi) 9, Hasimara (dist Alipurduar) 8, Nh31 Bridge (dist Jalpaiguri) 5,
- ❖ **Konkan & Goa:** Malvan (dist Sindhudurg) 7, Khalapur (dist Raigad) 7, Dapoli_agri (dist Ratnagiri) 7, Wakwali_agri (dist Ratnagiri) 6,
- ❖ **Marathwada:** Selu (dist Parbhani) 7, Gangakhed (dist Parbhani) 4, AUSA (dist Latur) 4,
- ❖ **Bihar:** Jokihat (dist Araria) 7,
- ❖ **Coastal Andhra Pradesh & Yanam:** Seethanagaram (dist Parvathipuram Manyam) 7, Bobbili (dist Vizianagaram) 5,

ANNEXURE II

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

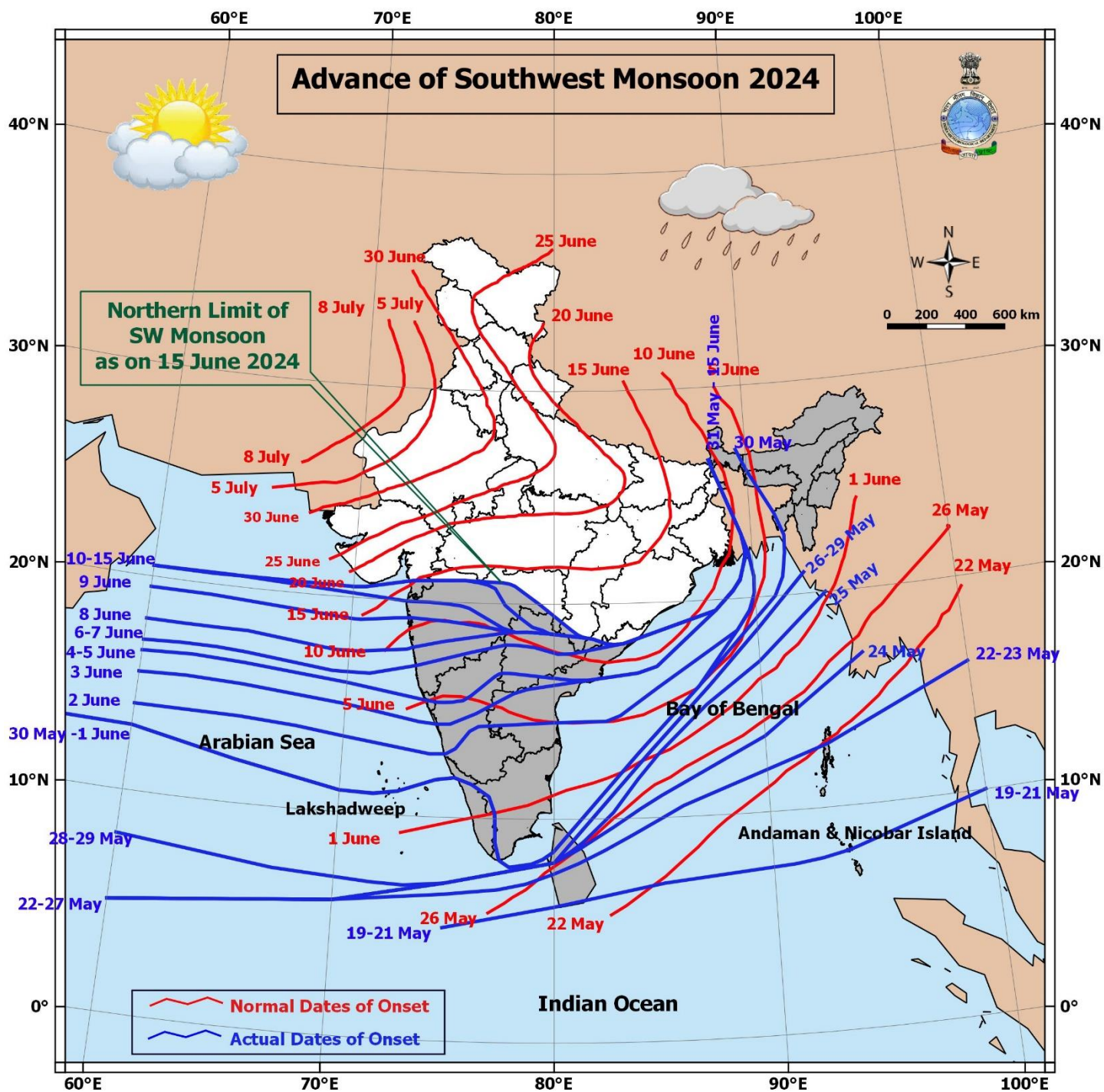
- ❖ **Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad:** Samba 66, Leh 65, Kargil 60;
- ❖ **Chhattisgarh:** Rajnandgaon 65, Jashpur 57;
- ❖ **Madhya Pradesh:** Rajgarh 63, Sehore 48, Sagar, Shajapur 42;
- ❖ **Haryana-Chandigarh-Delhi:** Mewat 61, Mahendragarh 51, Kaithal 46, South_West_delhi 44, Jind, North_West_Delhi 42;
- ❖ **Uttar Pradesh:** Bulandshahar 57, Hathras 53, Chitrakoot 50, Agra 44, Bhadohi 40;
- ❖ **Gujarat State:** Ahmedabad 57, Rajkot 54, Ahmedabad 50, Jamnagar 48, Bhavnagar 46;
- ❖ **Andhra Pradesh :** Kakinada 54, East_Godavari 52, Vizianagaram, Anakapalli 50, Prakasam 46;
- ❖ **Maharashtra:** Jalna 52, Yavatmal 50, Satara, Parbhani 46, Pune 44;
- ❖ **Himachal Pradesh:** Lahual_And_Spiti, Kullu, Sirmaur 48 each, Mandi 44, Kinnaur 46;
- ❖ **Rajasthan:** Alwar 48, Jaisalmer 46, Sirohi 42;
- ❖ **Telangana:** Karimnagar 44, Siddipet 42, Mahabubabad 41;
- ❖ **Karnataka:** Yadgir 44, Bagalkot 39;
- ❖ **Jharkhand:** Bokaro 42, Simdega 41;

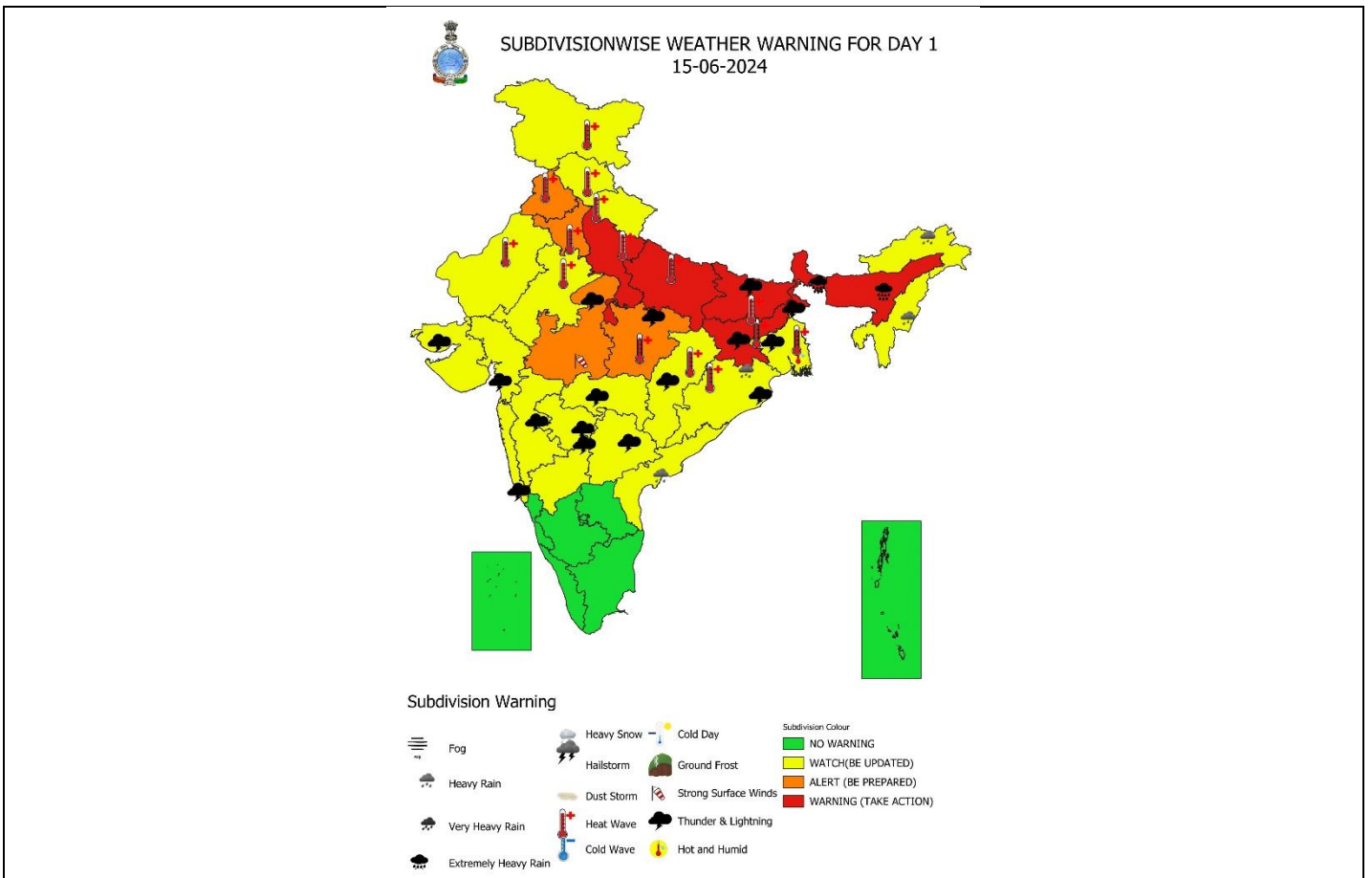
Fig.: Gusty winds reported over the country (in knots, 1 Knot = 1.85 kmph) from 0830 hrs IST of 14.06.2024 to 0830 hrs IST of 15.06.2024

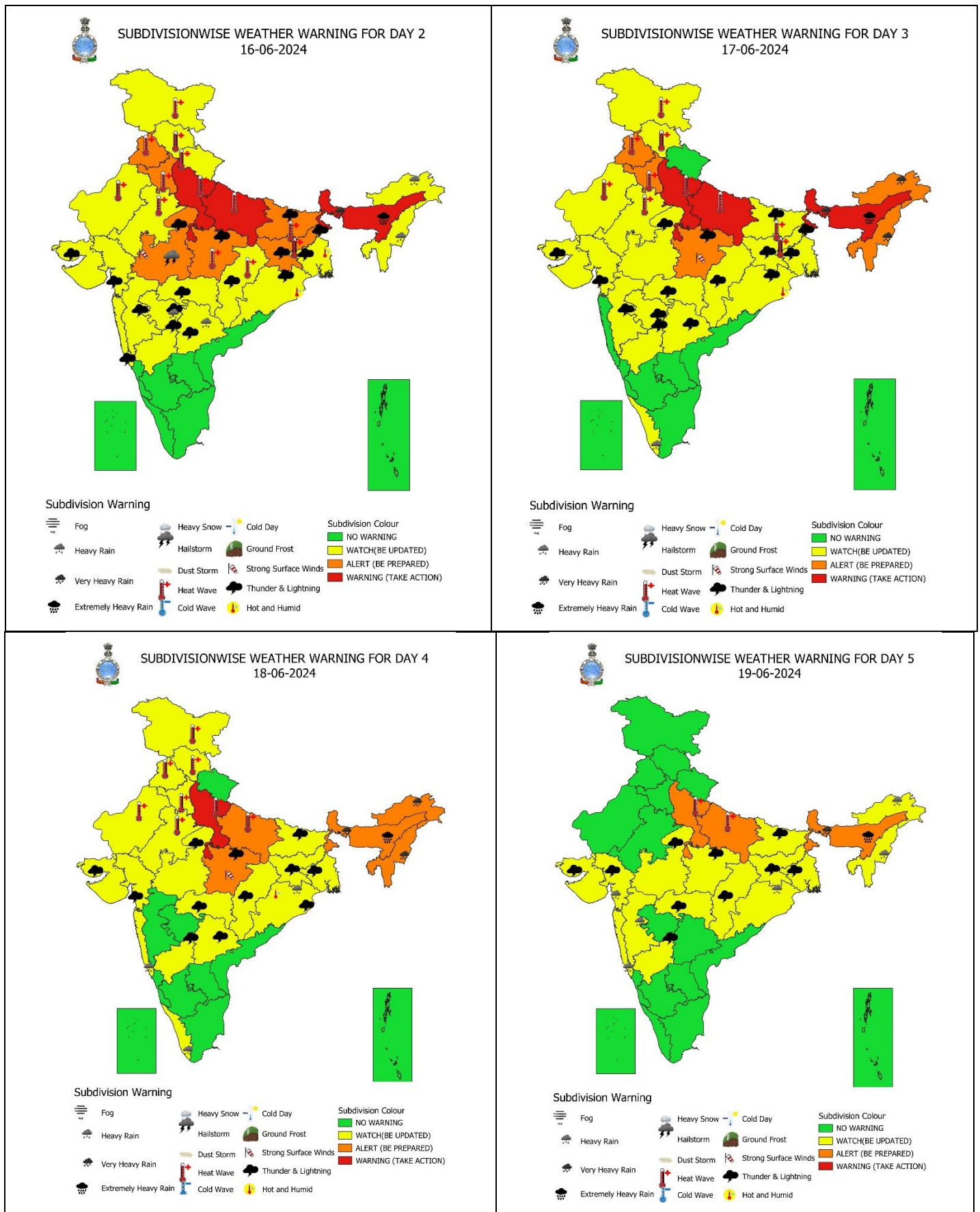


For more details, kindly refer: <http://aws.imd.gov.in:8091/>

Advance of Southwest Monsoon 2024







IMPACT & ACTION SUGGESTED due to Heat Wave Conditions:

Red Alert Areas: West Uttar Pradesh during 15th-18th; East Uttar Pradesh during 15th-17th; Bihar, Jharkhand on 15th;

Orange Alert Areas: Punjab, Haryana-Chandigarh-Delhi during 15th-17th; Bihar, Jharkhand on 16th; East Uttar Pradesh on 18th; West Uttar Pradesh on 19th;

Yellow Alert Areas: Jammu division, Himachal Pradesh, north Rajasthan during 15th-18th; East Madhya Pradesh, Chhattisgarh on 15th & 16th; Gangetic West Bengal and Odisha on 15th June.

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 Coastal Andhra Pradesh, Telangana, Marathwada, Sub Himalayan West Bengal & Sikkim and North Eastern States.
- Postpone fresh planting of ginger, turmeric and sowing of pumpkin, bottle gourd, cucumber and bitter gourd in Meghalaya.
- Postpone nursery sowing of Sali rice and planting of papaya seedlings in Assam.
- Postpone land preparation, nursery preparation and transplanting of WRC rice in Arunachal Pradesh.
- 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.
- Use hail nets or hail caps in fruit orchards to prevent mechanical damage and provide mechanical support to horticultural crops & staking to vegetables in West Madhya Pradesh
- 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)

 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 < 1km 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 Strom: Wind speed > 220 kmph (> 119 knots)