



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 01st July, 2024

Time of Issue: 1330 hours IST

Subject: Active monsoon condition very likely over Northwest, East & Northeast India during next 4-5 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 occurred** at isolated places over Meghalaya, Uttarakhand, Gujarat State; **Heavy to very heavy rainfall** at isolated places over Haryana, Tamil Nadu, Odisha, Sub-Himalayan West Bengal & Sikkim, Tripura, Assam; **Heavy rainfall** at isolated places over Rajasthan, Uttar Pradesh, Chhattisgarh, Konkan & Goa, Madhya Maharashtra, Vidarbha, East Madhya Pradesh, Bihar, Kerala, Coastal & South Interior Karnataka, Arunachal Pradesh.
- ❖ **Gusty winds/squally winds** data reported over the country is attached in [Annexure II](#).

Advance of Southwest Monsoon: (Annexure III)

- ❖ Southwest monsoon has further advanced into some more parts of Rajasthan, Haryana, Punjab and entire Chandigarh.
- ❖ Northern Limit of Monsoon now passes through 26°N/65°E, Jaisalmer, Sirsa, Kurukshetra, Rajpura, Ludhiana and 31.2°N/74.5°E.
- ❖ Conditions are favourable for further advance of southwest Monsoon into remaining parts of Rajasthan, Haryana & Punjab during next 2-3 days.

Weather Systems and Forecast & Warnings: (Annexure IV)

- ❖ A cyclonic circulation lies over Haryana and a trough runs from Punjab to Mizoram in lower tropospheric levels. Under their influence;
 - Fairly widespread to widespread light to moderate rainfall accompanied with thunderstorm, lightning very likely over Northwest and Central India during next 5 days.
 - Isolated **heavy rainfall** very likely over Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, Uttar Pradesh, East Rajasthan, West Madhya Pradesh during 01st-05th; West Rajasthan on 01st & 05th; East Madhya Pradesh on 01st, 03rd & 04th July and Chhattisgarh during 01st-03rd July.
 - **Isolated very heavy rainfall likely over Himachal Pradesh on 01st & 02nd July; Uttarakhand, Punjab, Haryana & Uttar Pradesh during 01st-03rd July; East Rajasthan during 03rd-05th July.**
 - **Isolated extremely heavy rainfall very likely over Uttarakhand on 02nd July.**
- ❖ A cyclonic circulation lies over Sub-Himalayan West Bengal & Sikkim and another over northeast Assam in lower tropospheric levels. Under their influence;
 - Widespread light to moderate rainfall accompanied with thunderstorm, lightning **with heavy to very heavy rainfall** very likely over Northeast India, Sub-Himalayan West Bengal & Sikkim and scattered to fairly widespread rainfall over East India during next 5 days.

- Isolated **heavy rainfall** very likely over Bihar during 01st-05th; Gangetic West Bengal on 01st, 04th & 05th; Odisha on 01st and Jharkhand during 01st-03rd July.
- **Isolated very heavy rainfall likely over Bihar on 01st & 02nd July.**
- **Isolated extremely heavy rainfall very likely over Arunachal Pradesh on 01st, 04th & 05th; Tripura, Sub-Himalayan West Bengal & Sikkim on 01st and Assam & Meghalaya on 01st & 02nd July.**
- ❖ A cyclonic circulation lies over north Gujarat & neighbourhood in lower tropospheric levels. The off-shore trough at mean sea level along Maharashtra- Kerala coasts. Under their influence:
 - Fairly widespread to widespread light to moderate rainfall accompanied with thunderstorm & lightning very likely over Kerala & Mahe, Lakshadweep, Coastal Karnataka, Konkan & Goa, Gujarat State; scattered to fairly widespread light to moderate rainfall over Madhya Maharashtra, Coastal Andhra Pradesh & Yanam; isolated to scattered light to moderate rainfall over Marathwada, Tamil Nadu, Puducherry & Karaikal, Rayalaseema, Telangana, Interior Karnataka during next 5 days.
 - Isolated **heavy rainfall** very likely over Gujarat state, Konkan & Goa during 01st-05th July; ghat areas of Madhya Maharashtra on 01st & 02nd July; Coastal Karnataka, Kerala & Mahe during 01st-03rd July and South Interior Karnataka during 03rd-05th July.
 - **Isolated very heavy rainfall very likely over Saurashtra & Kutch on 02nd; Gujarat Region on 02nd, 03rd & 05th; Tamil Nadu, Madhya Maharashtra and Konkan & Goa on 01st July.**
 - **Isolated extremely heavy rainfall very likely over Gujarat State today.**

Maximum temperature forecast for next 5 days:

- ❖ No significant change in maximum temperatures very likely over most parts of the country during next 5 days.

For more details, kindly refer: 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):

- ❖ **Assam & Meghalaya:** Mawkyrwat_arg (dist South West Khasi Hills) 50, Cherrapunji(rkm) (dist East Khasi Hills) 47, Mawkyrwat (dist South West Khasi Hills) 45, Mawsynram (dist East Khasi Hills) 45, Cherrapunji (dist East Khasi Hills) 31, Mawphlang (dist East Khasi Hills) 30, Shella (dist East Khasi Hills) 25, Nongstein (dist West Khasi Hills) 21, Gossaigaon (dist Kokrajhar) 20, Khliehriat (dist East Jaintia Hills) 16, Bhaghmara (dist South Garo Hills) 16, Jiagaon (dist Tinsukia) 15, Williamnagar (dist East Garo Hills) 15, Hazuah (dist Barpeta) 14, Majuli (dist Jorhat) 13, Kokrajhar (dist Kokrajhar) 13, Shillong C.s.o. (dist East Khasi Hills) 12, Ranganadi Nt Xing (dist Lakhimpur) 12, Dholla Bazar (dist Tinsukia) 11, Bahalpur (dist Dhubri) 11, Shillong_ Aws (dist East Khasi Hills) 11, Goibargaon (dist Baksa) 11, Panbari (dist Chirang) 11, Dhemaji (dist Dhemaji) 11, N.lakhimpur/lilabari (dist Lakhimpur) 10, Chauldhowaghat (dist Lakhimpur) 10,
- ❖ **Uttarakhand:** Sama 22, Loharkhet 18, Roshnabad 8, Dharchula 7, Haldwani 6, Karnaprayag 6, Kotdwara 5,
- ❖ **Saurashtra & Kutch:** Manavadar (dist Junagadh) 21, Vanthali (dist Junagadh) 15, Dwarka (dist Devbhoomi Dwarka) 15, Kutiana (dist Porbandar) 15, Mundra (dist Kutch) 13, Mendarda (dist Junagadh) 13, Babra (dist Amreli) 11, Bhesan (dist Junagadh) 11, Junagadh (dist Junagadh) 11, Visavadar (dist Junagadh) 10, Jetpur (dist Rajkot) 9, Vadia (dist Amreli) 8, Keshod (dist Junagadh) 8, Ranavav (dist Porbandar) 8, Morbi (dist Morbi) 8, Dhoraji (dist Rajkot) 7, Jamkandorna (dist Rajkot) 7,
- ❖ **Gujarat Region:** Palsana (dist Surat) 21, Mahuva (dist Surat) 17, Bardoli (dist Surat) 15, Olpad (dist Surat) 14, Kamrej (dist Surat) 14, Vapi (dist Valsad) 13, Kaprada (dist Valsad) 11, Bharuch (dist Bharuch) 11, Khergam (dist Navsari) 9, Navsari (dist Navsari) 9, Gandevi (dist Navsari) 9, Dharampur (dist Valsad) 9, Jalalpor (dist Navsari) 9, Gandhinagar (dist Gandhinagar) 8, Valod (dist Tapi) 8, Hansot (dist Bharuch) 8, Maktampur_aws (dist Bharuch) 8, Mandvi (dist Surat) 7, Chikhli (dist Navsari) 7, Navsari_aws (dist Navsari) 7, Umerpada (dist Surat) 7, Vagra (dist Bharuch) 7, Ankleshwer (dist Bharuch) 7, Vyara (dist Tapi) 7, Dolvan (dist Tapi) 7, Dhansura (dist Aravalli) 7,
- ❖ **Tripura:** Kvk South (dist South Tripura) 18, Kamalpur (dist Dhalai) 11, Kailashahar Aero (dist Unakoti) 11, Kailashahar Aws (dist Unakoti) 11, Kamalpur_aws (dist Dhalai) 9, Gandachara Aws (dist Dhalai) 8, Bagafa (dist South Tripura) 7, Hrc Nagicherra Arg (dist West Tripura) 7, Khowai (dist Khowai) 7, Kadamtala Arg (dist North Tripura) 7, Lembuchhera (dist West Tripura) 7,
- ❖ **Arunachal Pradesh:** ROING MAN (dist Lower Dibang Valley) 18; M.O. PASIGHAT(dist EAST SIANG) 15; PASIGHAT CWC (dist EAST SIANG) 14; NAMSAI_KVK AGRO (dist NAMSAI) 14; M C ITANAGAR (dist PAPUMPARE) 12; NYAPIN AWS (dist KurungKumey)12; ITANAGAR MAN (dist PAPUMPARE) 12; BASAR AWS(dist LEPA RADA) 11; BASAR MAN (dist LEPA RADA) 11; WAKRO AWS (dist LOHIT) 11; NAMSAI CWC (dist NAMSAI) 10; MIAO CWC (dist CHANGLANG) 9; SEPPA_PAMPOLI AWS (dist EAST KAMENG) 8; TEZU (dist LOHIT) 7; PASIGHAT AWS (dist EAST SIANG) 7;
- ❖ **Haryana:** Mahendragarh Kvk Aws (dist Mahendragarh) 16, Mahendragarh (dist Mahendragarh) 7, Hissar (dist Hisar) 7, Kanina (dist Mahendragarh) 7, Manethi Rev (dist Rewari) 6, Bawal (dist Rewari) 5, Bhiwani Rev (dist Bhiwani) 5, Rewari (dist Rewari) 5,
- ❖ **Sub-Himalayan West Bengal & Sikkim:** Chepan (dist Alipurduar) 16, Barobhisha (dist Alipurduar) 15, Alipurduar (pto) (dist Alipurduar) 11, Kumargram (dist Alipurduar) 7, Sukiapokhri (dist Darjeeling) 7
- ❖ **Odisha:** Kotpad (Koraput) 15, Kantapada (Cuttack) 8, Tensa (Sundargarh) 8, Nawarangpur Pto (Nawarangpur) 6, Nawarangpur (Nawarangpur) 6,
- ❖ **Tamil Nadu:** Wood Braiyar Estate (dist The Nilgiris), Harisan Malayalam Ltd. (dist The Nilgiris), Went Worth Estate, Cherumulli (dist The Nilgiris) 13 each,
- ❖ **Chhattisgarh:** Darri (dist Korba) 11, Pali (dist Korba) 11, Korba (dist Korba) 11, Katghora (dist Korba) 9, Kota (dist Bilaspur) 8, Wandrafanagar (dist Balrampur) 8, Usoor (dist Bijapur) 7, Rajpur (dist Balrampur) 7, Lormi (dist Mungeli) 7, Bastar (dist Bastar) 7;
- ❖ **East Uttar Pradesh:** Kakerdarighat (dist Shrawasti) 11, Kheri Lakhimpur (dist Kheri) 11, Kanpur Obsy (dist Kanpur City) 8, Sultanpur Obsy (dist Sultanpur) 8, Rihand Dam Fmo (dist Sonbhadra) 8, Katerniaghat (dist Bahraich) 7,

- ❖ **South Interior Karnataka:** Bhagamandala (dist Kodagu) 11, Agumbe Emo (dist Shivamogga) 9, Kammardi (dist Chikkamagaluru) 8, Somwarpet (dist Kodagu) 6,
- ❖ **Madhya Maharashtra:** Igatpuri (dist Nashik) 11, Mahabaleshwar- Imd Obsy (dist Satara) 11, Peth (dist Nashik) 9, Trimbakshwar (dist Nashik) 8, Harsul - Fmo (dist Nashik) 7,
- ❖ **Konkan & Goa:** Jawhar (dist Palghar) 11, Mokheda - Fmo (dist Palghar) 11, Wada (dist Palghar) 10, Vikramgad (dist Palghar) 10, Valpoi (dist North Goa) 8, Tala (dist Raigad) 8,
- ❖ **West Uttar Pradesh:** Etah (dist Etah) 10, Kasganj (dist Kasganj) 5, Saharanpur (dist Saharanpur) 5,
- ❖ **East Madhya Pradesh:** Rampur (dist Sidhi) 10, Bichhia (dist Mandla) 9, Khargapur (dist Tikamgarh) 9, Mandla (dist Mandla) 8, Mauganj (dist Rewa) 7, Nowgong (dist Chhatarpur) 7, Huzur (dist Rewa) 7, Beohari (dist Shahdol) 7,
- ❖ **Bihar:** Raniganj (dist Araria) 9, Srinagar (dist Purnea) 8, Bahargama (dist Araria) 8, Alalnagar (dist Madhepura) 7,
- ❖ **East Rajasthan:** Ghatol (dist Banswara) 8, Danpur (dist Banswara) 7, Deogarh (dist Rajsamand) 7;
- ❖ **Vidarbha:** Yeotmal (aws) (dist Yeotmal) 8, Digras (dist Yeotmal) 8, Wardha (Aws) (dist Wardha) 7, Yeotmal (dist Yeotmal) 7, Darwha (dist Yeotmal) 7, Arni (dist Yeotmal) 7
- ❖ **West Rajasthan:** Raniwada Sr (dist Jalore) 7, Churu (dist Churu) 7;
- ❖ **Kerala:** Vadakara (Kozhikode district), Vythiri (Wayanad district) & Cheruthazham ARG (Kannur district) 8 each, Quilandi (Kozhikode district), Taliparamba (Kannur district), Vadakara AWS (Kozhikode district) & Ayyankunnu AWS (Kannur district) 7 each
- ❖ **Coastal Karnataka:** Siddapura (dist Udupi) 8, Siddapur (dist Uttara Kannada) 6,

ANNEXURE II

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

Madhya Pradesh: Chhindwara 75, Balaghat, Sehore 46;

Rajasthan: Sikar 72;

Gujarat Region: Gir Somnath 68, Arawali 46;

Himachal Pradesh: Kinnaur 61;

Telangana: Siddipet 59, Rajanna_Sircilla 51, Ranga_Reddy, Peddapalli 50, Nizamabad 44;

Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad: Leh 59, Kargil 57, Jammu 55;

Chhattisgarh: Korba 54, Bastar 50, Durg 46;

Tamil Nadu: Tiruvallur 55;

Maharashtra: Satara 53, Gondia 52, Nashik, Raigad 50, Parbhani, Beed, Ahmednagar 46, Mumbai, Pune 44;

Haryana: Mahendragarh 50;

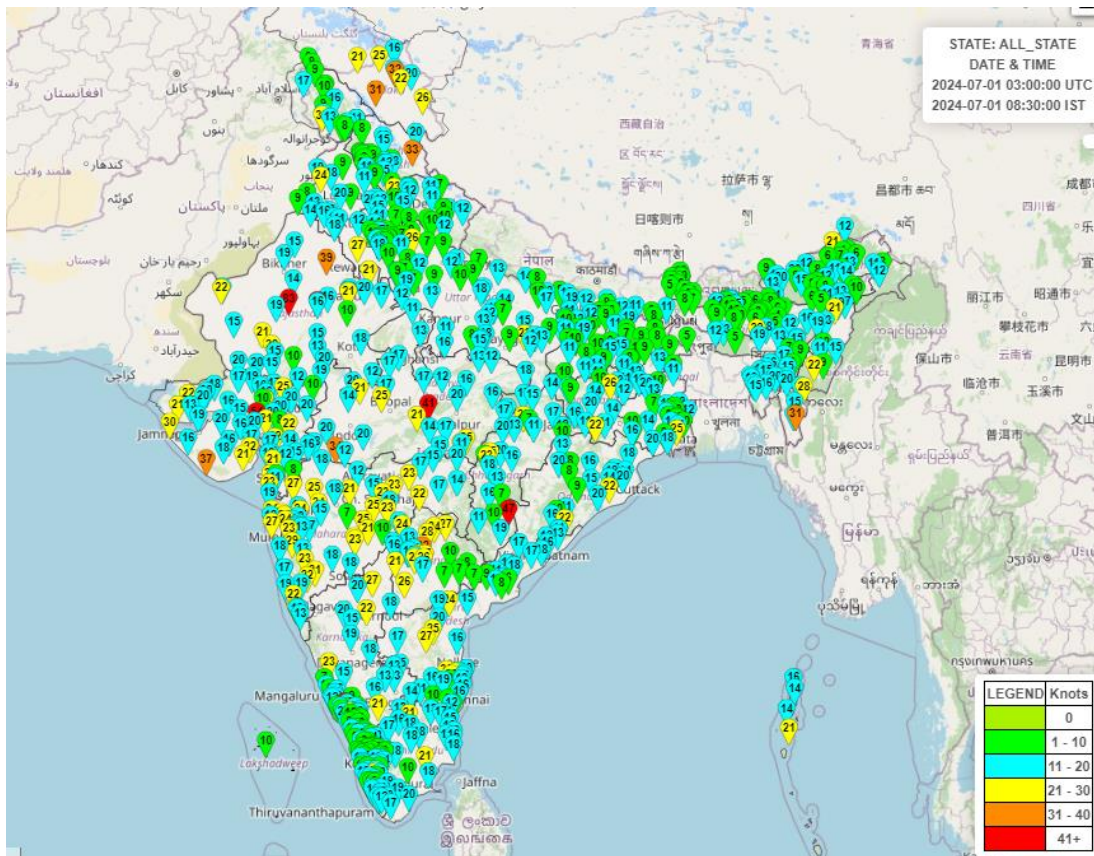
Uttar Pradesh: Charkhi_Dadri 48;

Andhra Pradesh: Kadapa 46;

Kerala: Pathanamthitta 46, Wayanad 44;

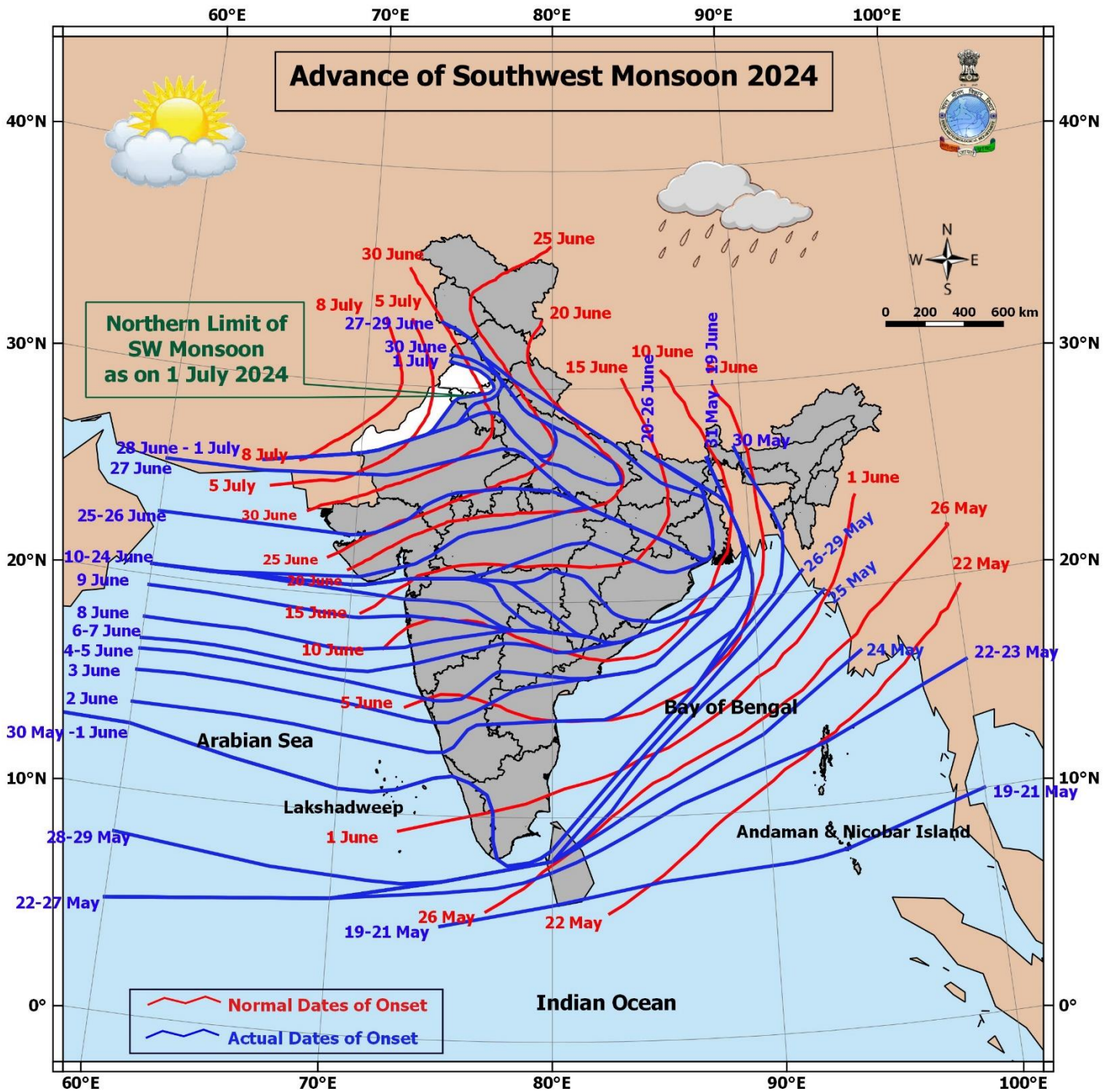
Punjab: Faridkot 44;

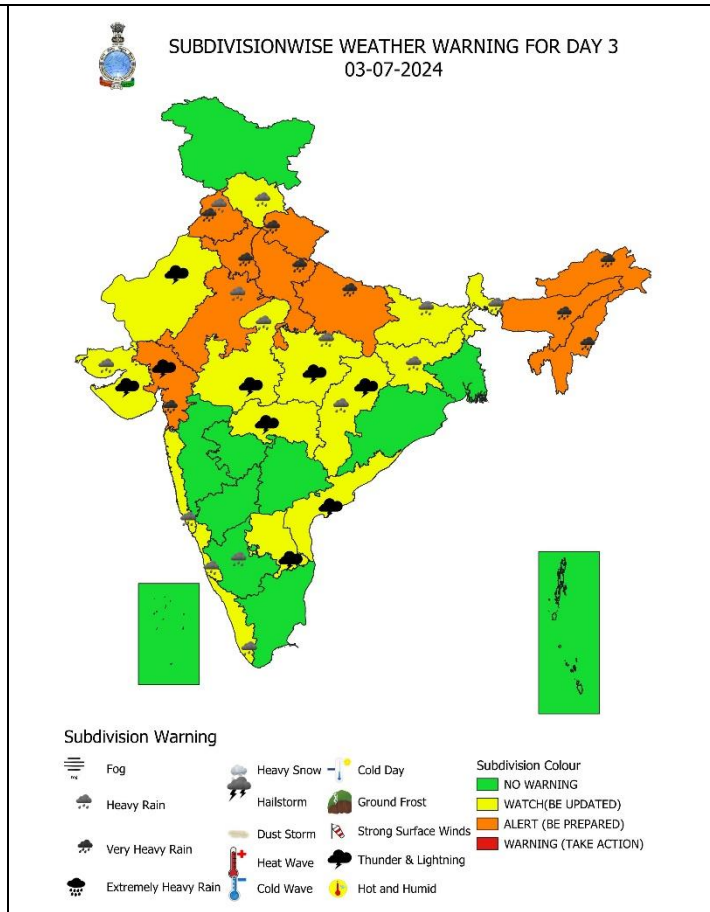
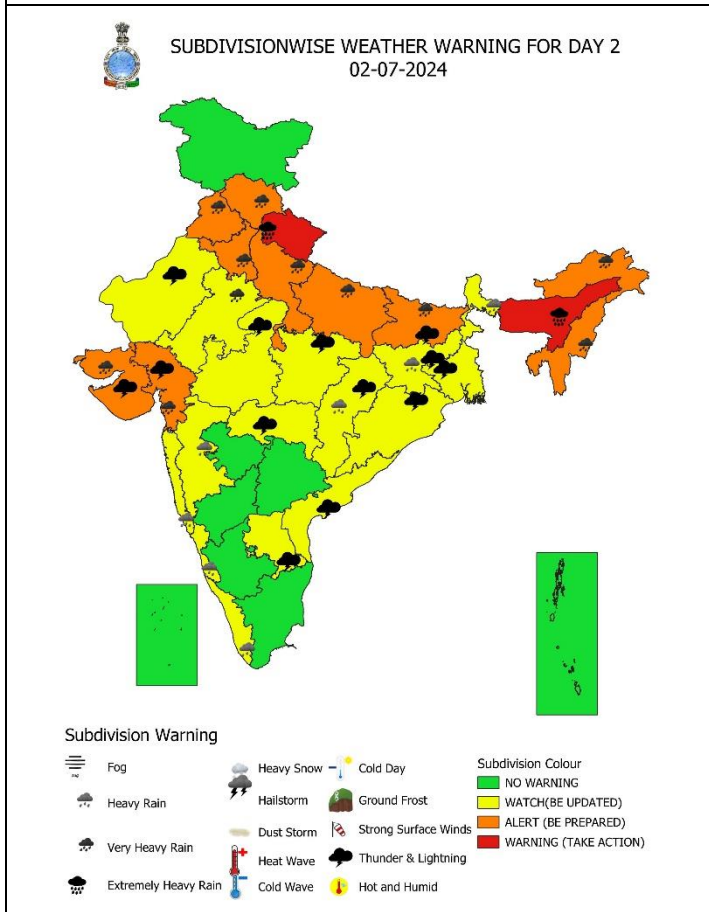
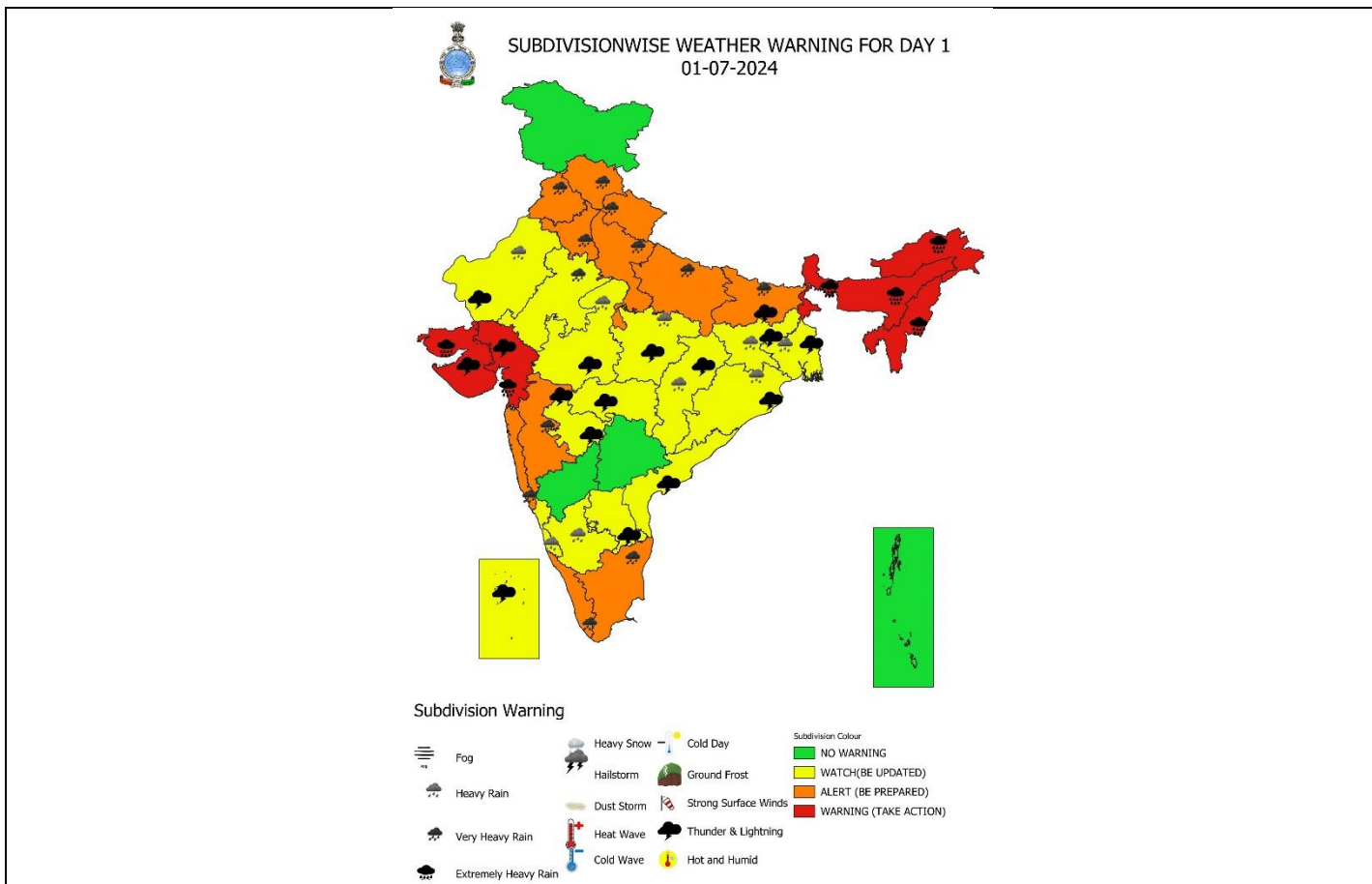
Fig.: Gusty winds reported over the country (in knots, 1 Knot = 1.85 kmph) from 0830 hrs IST of 30.06.2024 to 0830 hrs IST of 01.07.2024

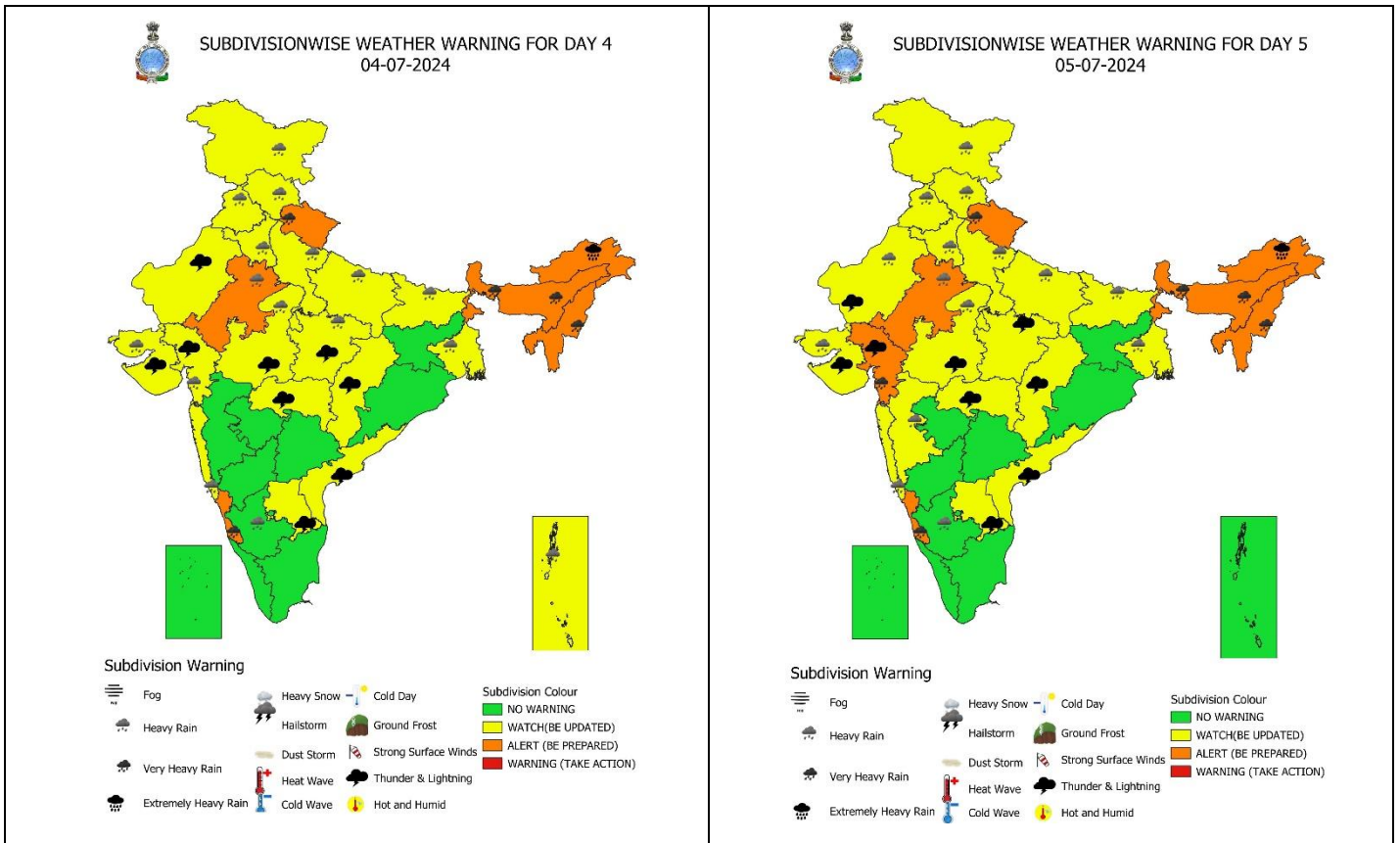


For more details, kindly refer: <http://aws.imd.gov.in:8091/>

Advance of Southwest Monsoon 2024







IMPACT & ACTION SUGGESTED due to

- **Isolated extremely heavy rainfall very likely over Arunachal Pradesh on 01st, 04th & 05th; Tripura, Sub-Himalayan West Bengal & Sikkim, Gujarat State on 01st and Assam & Meghalaya on 01st & 02nd July, Uttarakhand on 02nd July.**
- **Isolated very heavy rainfall very likely over Himachal Pradesh on 01st & 02nd July; Uttarakhand, Punjab, Haryana & Uttar Pradesh during 01st-03rd July; East Rajasthan during 03rd-05th July, Bihar on 01st & 02nd July, Saurashtra & Kutch on 02nd; Gujarat Region on 02nd, 03rd & 05th; Tamil Nadu, Madhya Maharashtra and Konkan & Goa on 01st July.**

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/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.

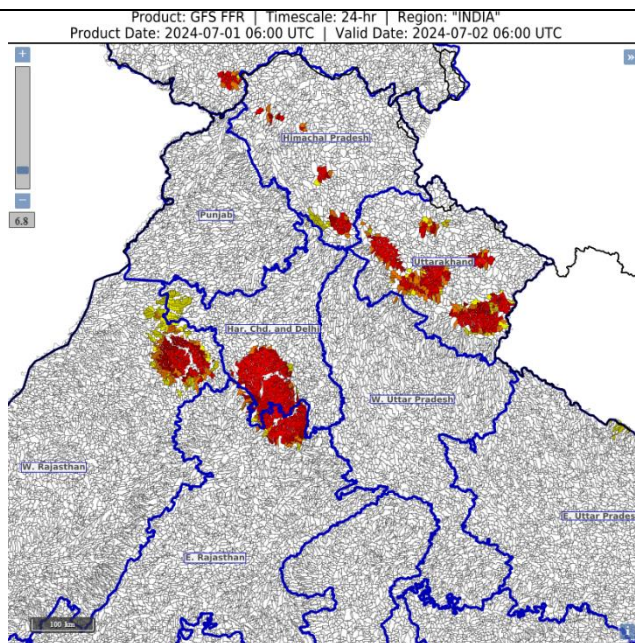
Agromet advisories for Heavy Rainfall, Gusty winds and Heat Wave likely over various parts of the country:

- Make provision for draining out excess water from crop fields to avoid water stagnation in North Eastern States, West Bengal & Sikkim, Odisha, Bihar, Jharkhand, Himachal Pradesh, Uttarakhand, Punjab, Haryana, Uttar Pradesh, East Rajasthan, Madhya Pradesh, Chhattisgarh, Konkan & Goa, Madhya Maharashtra, Vidarbha, Gujarat State, Tamil Nadu, Kerala, Coastal and South Interior Karnataka, Andhra Pradesh and Telangana.
- Postpone land preparation, nursery preparation and transplantation of WRC rice in Arunachal Pradesh.
- Provide mechanical support to horticultural crops & staking to vegetables.

24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 02-07-2024 :

Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of Uttarakhand, Haryana and north Rajasthan Met Sub-divisions (as shown in adjacent map) during next 24 hours.

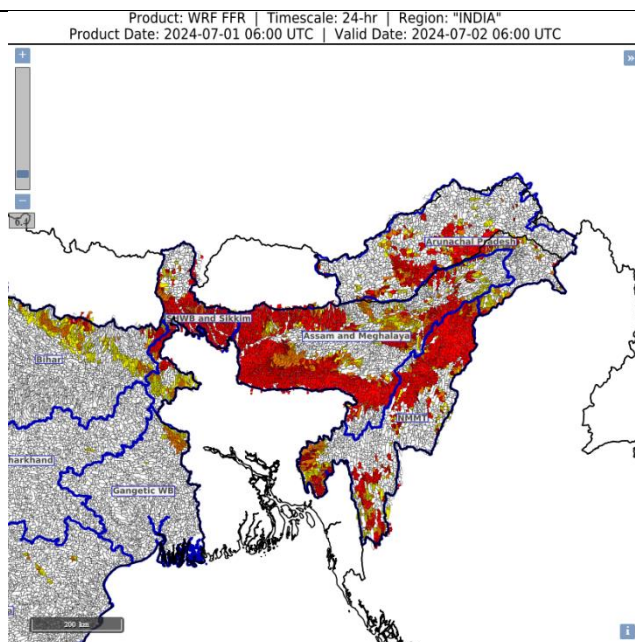
Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.



24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 02-07-2024 :

Moderate flash flood risk likely over few watersheds & neighbourhoods of Assam & Meghalaya, NMMT and SHWB & Sikkim Met Sub-divisions (as shown in adjacent map) during next 24 hours.

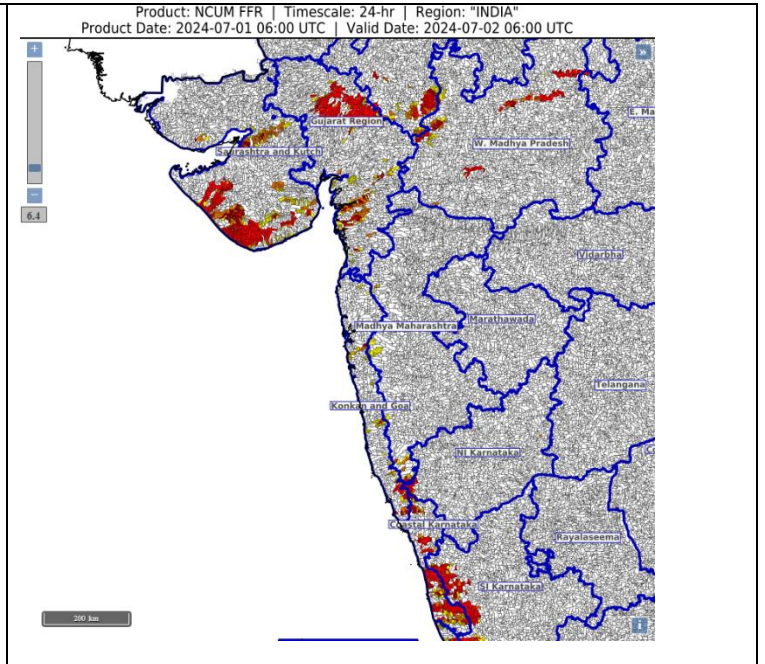
Surface runoff/ Inundation may occur at some fully saturated soils & low-lying areas over AoC as shown in map due to expected rainfall occurrence in next 24 hours.



24 hours Outlook for the Flash Flood Risk (FFR) till 1130 IST of 02-07-2024 :

Low to Moderate flash flood risk likely over few watersheds & neighbourhoods of Saurashtra and Kutch, south Konkan & Goa, Coastal Karnataka Met Sub-divisions (as shown in adjacent map) during next 24 hours.

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.



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.
- ❖ **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 Widespred (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)