

Government of India Ministry of Earth Sciences India Meteorological Department



Press Release. Date: 30th May, 2024 Time of Issue: 1345 hours IST

Subject:

- i. Southwest Monsoon has set in over Kerala and advanced into most parts of Northeast India, today the 30th May, 2024.
- ii. Isolated heavy to very heavy rainfall likely to continue over Northeast India during next 4-5 days.
- iii. **Prevailing heat wave to severe heat wave conditions over Northwest & Central India likely to reduce gradually from today.**

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

- Heat wave to severe heat wave conditions prevailed over most parts of Punjab; in many parts of Haryana-Chandigarh-Delhi, Uttar Pradesh; in some parts of Rajasthan, Bihar, East Madhya Pradesh; in isolated pockets of Odisha, Jharkhand. Heat wave conditions prevailed in some parts of Chhattisgarh, Vidarbha, Himachal Pradesh; in isolated pockets of West Madhya Pradesh. Heat wave conditions have been prevailing over Haryana, Chandigarh & Delhi, Rajasthan since 17th and over Madhya Pradesh & Uttar Pradesh since 18th May, 2024. 2024.
- Warm night conditions observed in isolated pockets of Punjab, Haryana, Delhi, Rajasthan, Uttar Pradesh, Bihar, Jharkhand, Odisha and Madhya Pradesh.
- ✤ Yesterday, the highest maximum temperature of 48.8°C was reported at Rohtak (Haryana) over the country.
- Heavy to very heavy rainfall with extremely heavy falls observed at isolated places over Meghalaya; Heavy to very heavy rainfall at isolated places over Kerala & Mahe, Assam and heavy rainfall at isolated places over Lakshadweep, Arunachal Pradesh and Nagaland, Manipur.
- *Gusty winds/squally winds* data reported over the country is attached in Annexure II.

Weather Systems and Forecast & Warnings: (Annexure III)

Advance of Southwest Monsoon:

- Southwest Monsoon has set in over Kerala and advanced into most parts of northeast India including entire Nagaland, Manipur, Mizoram, Arunachal Pradesh and most parts of Tripura, Meghalaya and Assam today, the 30th May 2024.
- The Southwest Monsoon has advanced into remaining parts of southwest Arabian Sea, some parts of west central Arabian Sea, most parts southeast Arabian Sea and Lakshadweep area, most parts of Kerala, Mahe, some parts of south Tamil Nadu, remaining parts of Maldives and Comorin area; some more parts northeast Bay of Bengal, most parts of northeast India including entire Nagaland, Manipur, Mizoram, Arunachal Pradesh and most parts of Tripura, Meghalaya and Assam. Thus, Southwest Monsoon has set in over Kerala, today the 30th May, 2024.
- ✤ The Northern Limit of Monsoon passes through 13°N/60°E, 12°N/65°E, 11°N/70°E, Amini, Kannur, Coimbatore, Kanyakumari, 8.5°N/80°E, 13°N/84°E, 16°N/87°E, 20°N/91°E, Agartala, Dhubri, 27°N/89.5°E. (Annexure IV)

- Conditions are favourable for further advance of Southwest Monsoon into some more parts of central Arabian Sea, remaining parts of south Arabian Sea, Lakshadweep area and Kerala, some parts of Karnataka, Some more parts of Tamil Nadu, Southwest & Central Bay of Bengal, remaining parts of Northeast Bay of Bengal and Assam and Meghalaya and some parts of Sub-Himalayan West Bengal and Sikkim during next 2-3 days.
- A cyclonic circulation lies over northeast Assam & neighbourhood in lower tropospheric levels. Strong southwesterly/southerly winds are prevailing from Bay of Bengal to northeastern States in lower tropospheric levels. Under its influence:
 - ✓ Fairly widespread to 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/very heavy rainfall very likely over Arunachal Pradesh, Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim during next 5 days and isolated heavy rainfall over Nagaland, Manipur, Mizoram & Tripura on 30th & 31st May, 2024.
 - ✓ Isolated **extremely heavy rainfall** also likely over Meghalaya today, the 30th May, 2024.
- A cyclonic circulation lies over northwest Uttar Pradesh & neighbourhood and a trough runs from above this to west Bangladesh in lower tropospheric levels. Under its influence; Isolated to scattered light/moderate rainfall with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Bihar, Jharkhand, Gangetic West Bengal, Odisha, Chhattisgarh during next 5 days and over Madhya Pradesh, Vidarbha, Madhya Maharashtra, Marathwada during 01st-03rd June.
- A shear zone runs roughly along Lat. 8°N over south peninsular India and a cyclonic circulation lies over southeast Arabian Sea off south Kerala in middle tropospheric levels. Strong westerly winds are prevailing along Kerala Coast. Under its influence:
 - ✓ Fairly widespread to widespread light to moderate rainfall accompanied with thunderstorm, lightning & gusty winds (30-40 kmph) likely over Kerala & Mahe, Lakshadweep, Andaman & Nicobar Islands, Karnataka; isolated to scattered light to moderate rainfall over Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh, Telangana, Rayalaseema during next 7 days.
 - \checkmark Isolated heavy to very heavy rainfall very likely over Kerala & Mahe during next 5 days.
 - ✓ Isolated heavy rainfall very likely over Lakshadweep on 30th; over Andaman & Nicobar Islands during 31st May- 02nd June; Tamil Nadu and South Interior Karnataka during 01st-03rd June, 2024.
 - ✓ Strong surface winds (speed reaching 30-40 kmph) likely over Coastal Andhra Pradesh & Yanam, Rayalaseema and Karnataka during 31st May-03rd June.
- A Western Disturbance seen as a cyclonic circulation over Jammu division & neighbourhood with trough aloft in lower & middle tropospheric westerlies roughly along Long. 73°E to the north of Lat. 30°N. Under its influence;
 - ✓ Isolated to scattered light rainfall accompanied with thunderstorm, lightning very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand during 30th May-02nd June, 2024.
 - ✓ Isolated very light/light rainfall with thunderstorm, lightning very likely over plains of Northwest India during 30th May-02nd June.
 - ✓ Duststorm very likely over Uttar Pradesh during 30th May-01st and Haryana-Chandigarh-Delhi on 30th & 31st May.
- Strong surface winds (speed reaching 30-40 kmph) likely over Gujarat State on 30th & 31st May.

Maximum temperature observation and forecast for next 5 days:

- Areas having maximum temperatures greater than 42°C: Yesterday, maximum temperatures were in the range of 46-50°C in most parts of Haryana-Chandigarh-Delhi; in many parts of West Rajasthan; in some parts of West Madhya Pradesh; in isolated pockets over East Madhya Pradesh, East Uttar Pradesh, Jharkhand, Odisha; in the range of 42-46°C in many parts of West Uttar Pradesh, Vidarbha; in some parts of Bihar, Chhattisgarh; in isolated pockets over Marathwada, Telangana, Coastal Andhra Pradesh. These were above normal by 3- 6°C over many parts of Northwest India and in some parts of Central & East India.
- Gradual fall in maximum temperatures by 2-4°C very likely over Northwest & Central India during next 5 days.
- No significant change in maximum temperatures very likely over East India during next 2 days and gradual fall by 2-3°C thereafter.
- Rise in maximum temperatures by 2-3°C very likely over Maharashtra and south peninsular India during next 3 days and no significant change thereafter.
- No significant change in maximum temperatures very likely over rest parts of the country.

Heat Wave, Warm Night and Hot & Humid weather warning for next 5 days:

- Heat wave to severe heat wave conditions very likely in some parts of Punjab, Haryana-Chandigarh-Delhi, Rajasthan, Uttar Pradesh, Bihar; in isolated pockets of Jharkhand, Odisha on 30th and gradual reduction thereafter with heat wave conditions in isolated pockets till 01st June, 2024.
- Prevailing heat wave to severe heat wave conditions likely to reduce gradually over Northwest & Central India from today, 30th May 2024.
- Heat wave conditions very likely in isolated pockets of Madhya Pradesh, Vidarbha, Uttarakhand on 30th & 31st May, Chhattisgarh, Jammu division, Himachal Pradesh on 30th May, 2024.
- Hot and humid weather very likely to prevail over isolated pockets of Konkan & Goa during 30th May-01st June; Gangetic West Bengal on 30th & 31st May, 2024.
- Warm night conditions in isolated pockets very likely to prevail over Punjab, Haryana-Chandigarh-Delhi, Bihar, Odisha during 30th May-01st June; Uttar Pradesh on 30th & 31st May and Rajasthan, Jharkhand Chhattisgarh on 30th May, 2024.

For more details, kindly refer: https://mausam.imd.gov.in/responsive/all_india_forcast_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 Andaman & Nicobar Islands, Arunachal Pradesh, Assam & Meghalaya; at a few places over Nagaland, Manipur, Mizoram & Tripura and at isolated places over Konkan & Goa, Madhya Pradesh, Vidarbha, Chhattisgarh, Tamil Nadu, Puducherry & Karaikal, Karnataka, Odisha, Bihar, Uttar Pradesh, Uttarakhand, Punjab, Haryana, Delhi, Himachal Pradesh and Jammu-Kashmir.

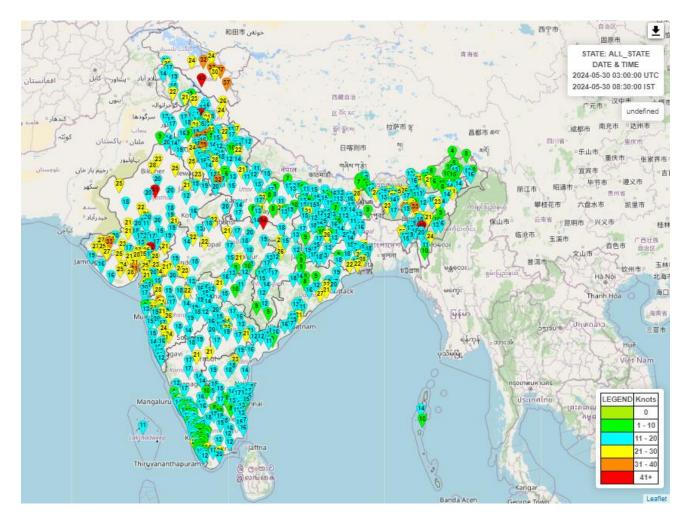
Significant amount of rainfall (in cm):

- Assam & Meghalaya: Mawsynram (dist East Khasi Hills) 66, Cherrapunji(rkm) (dist East Khasi Hills) 66, Cherrapunji (dist East Khasi Hills) 63, Khliehriat (dist East Jaintia Hills) 33, Jowai_aws (dist West Jaintia Hills) 31, Mawphlang (dist East Khasi Hills) 21, Mawkyrwat (dist South West Khasi Hills) 20, Mawkyrwat_arg (dist South West Khasi Hills) 19, Halflong (dist N. C. Hills) 13, Fakiragram Arg (dist Kokrajhar) 12, Aie Nh Xing (dist Bongaigaon) 12, Lakhipur (dist Cachar) 11, Lakhipur Arg (dist Cachar) 10, Silchar (dist Cachar) 9, Silchar_aws (dist Cachar) 9, Manash Nh Xing (dist Barpeta) 9, A P Ghat (dist Cachar) 8, Gossaigaon (dist Kokrajhar) 8, Karimganj (dist Karimganj) 8, B P Ghat (dist Karimganj) 7, Beky Rly.bridge (dist Barpeta) 7, Dudhnoi Arg (dist Goalpara) 7, Harinagar Arg (dist Karimganj) 7, Kokrajhar (dist Kokrajhar) 7,
- KERALA & MAHE: Mancompu (dist Alapuzha) 19, Karumadi (dist Alapuzha), KALAMASSERYAWS (ERNAKULAM) 15, Kodungallur (dist Thrissur) 14, Mavelikara (dist Alapuzha) 10, Choondy (dist Ernakulam) 10, Ulanad Aws (dist Pathanamthitta) 10, Cheruvanchery Aws(dist Cannur) 9, Thiruvananthapuram (dist Thiruvananthapuram) 9, Nooranad Aws (distAlapuzha) 9, Ponnani (dist Malappuram) 9, Piravam (dist Ernakulam) 8, Thiruvalla Aws (distPathanamthitta) 8, Irinjalakuda (dist Thrissur) 8, Airport Chakka Arg (dist Thiruvananthapuram)7, Cherthala (dist Alapuzha) 7, Enamakkal (dist Thrissur) 7, Trivandrum Aero (distThiruvananthapuram) 7, Vaikom (dist Kottayam) 7, Kayamkulam (dist Alapuzha) 7, Haripad(dist Alapuzha) 6,
- Nagaland, Manipur, Mizoram & Tripura: Jiribam_ Aws (dist Imphal East) 11, Tening Nsdma_aws (dist Peren) 10, Tamenglong (dist Tamenglong) 7, Ukhrul (dist Ukhrul) 6, Kolasib Agri (dist Kolasib) 4, Paren Nsdma _aws (dist Peren) 4, Kadamtala Arg (dist North Tripura) 4,
- LAKSHADWEEP: Minicoy (dist Lakshadweep) 8, Amini (dist Lakshadweep) 3, Agathi (distLakshadweep)
 2
- Arunachal Pradesh: Naharlagun_Aws (dist Papumpara) 7, Pasighat_Aero (dist East Siang) 3,
- TAMILNADU: Mullanginavillai (dist Kanniyakumari) 4,Valparai PTO (dist Coimbatore), UPASI_Tea_Research_Foundation AWS (distCoimbatore) 3 each.Cincona (dist Coimbatore), Sholayar (dist Coimbatore), Valparai PAP (distCoimbatore) 2 each,
- COASTAL KARNATAKA: Mangaluru Ap Obsy (dist Dakshina Kannada) 3, Dharmasthala (dist DakshinaKannada) 2,
- Sub-Himalayan West Bengal & Sikkim: Cooch Behar (dist Cooch Behar) 5, Bagrakote (dist Darjeeling) 5, Ranipool (dist East Sikkim) 4, Hasimara (dist Jalpaiguri) 4, Jalpaiguri (dist Jalpaiguri) 4, Domohani (dist Jalpaiguri) 3, Kabi (dist North Sikkim) 3, Chengmari/diana (dist Jalpaiguri) 3, Chepan (dist Jalpaiguri) 2,

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

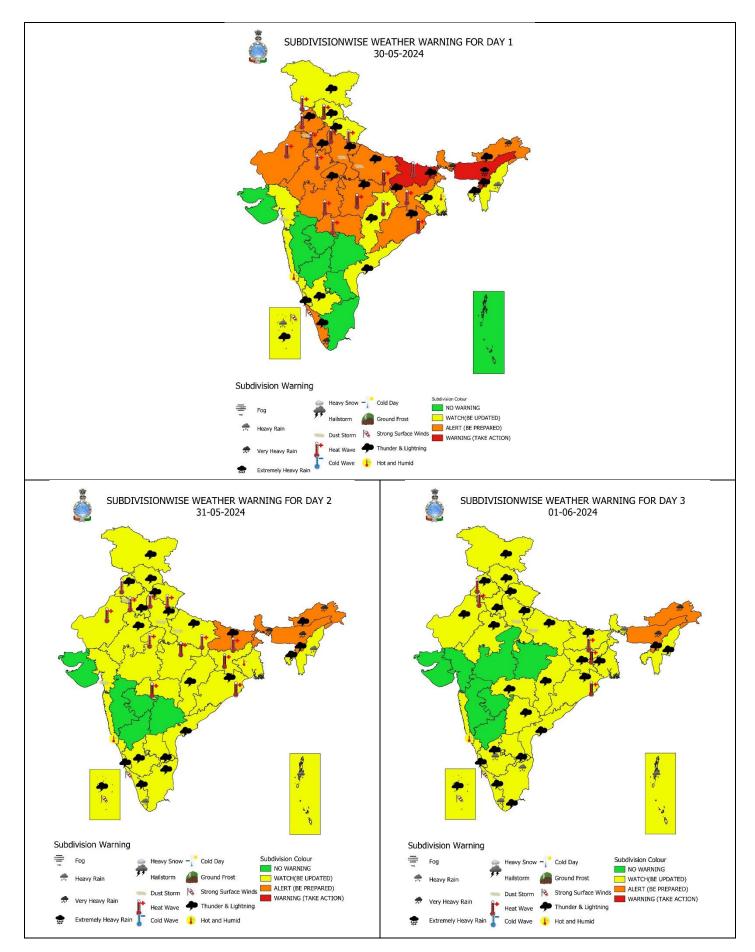
- **Gujarat State**: Panchmahal-96, Kachchh-61, Bhavnagar-57, Ahmedabad-52, Bharuch-50;
- Telangana: Hyderabad-85, Ranga_Reddy-41;
- Himachal Pradesh: Bilaspur-81, Lahaul & Spiti-48, Shimla-46, Kinnaur, Solan-44 each;
- **Haryana**: Panipat-72, Kaithal-70, Sonipat-67, Yamunanagar-57, Mahendragarh, Mewat-46 each;
- **Assam & Meghalaya**: Jaintia_Hills-61, South_West_Khasi_Hills-57, Barpeta-50, Nalbari-48;
- Madhya Maharashtra: Pune-65, Nashik-52;
- Uttar Pradesh: Agra-59, Bulandshahar 52, Bhadohi- 46, Jalaun-41;
- Delhi: East Delhi-54, Central Delhi-52,
- Bihar: Krishnaganj-52;
- Gangetic West Bengal: South_Twenty_Four_Parganas-52;
- Uttarakhand: Chamoli-50, Tehri Garhwal-40;
- **Kerala**: Pathanamthitta-46;
- Andhra Pradesh: Prakasam-42, Kurnool-39;

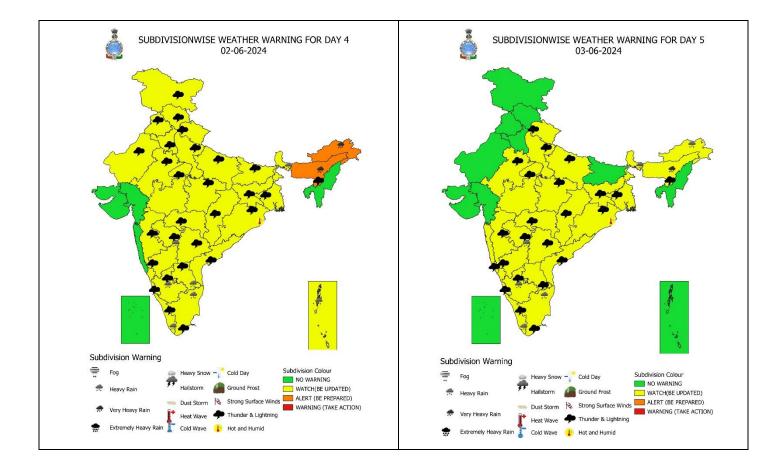
Fig.: Gusty winds reported over the country (in knots, 1 Knot = 1.85 kmph) from 0830 hrs IST of 29.05.2024 to 0830 hrs IST of 30.05.2024



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

ANNEXURE III





IMPACT & ACTION SUGGESTED due to very heavy rainfall/extremely falls over Kerala & Mahe on 30th; Sub-Himalayan West Bengal & Sikkim on 30th & 31st May; Assam, Meghalaya, Arunachal Pradesh during 30th May-02nd June, *2024*.

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/mudsliks
- > 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)

A. 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.

IMPACT & ACTION SUGGESTED due to Heat Wave Conditions:

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:

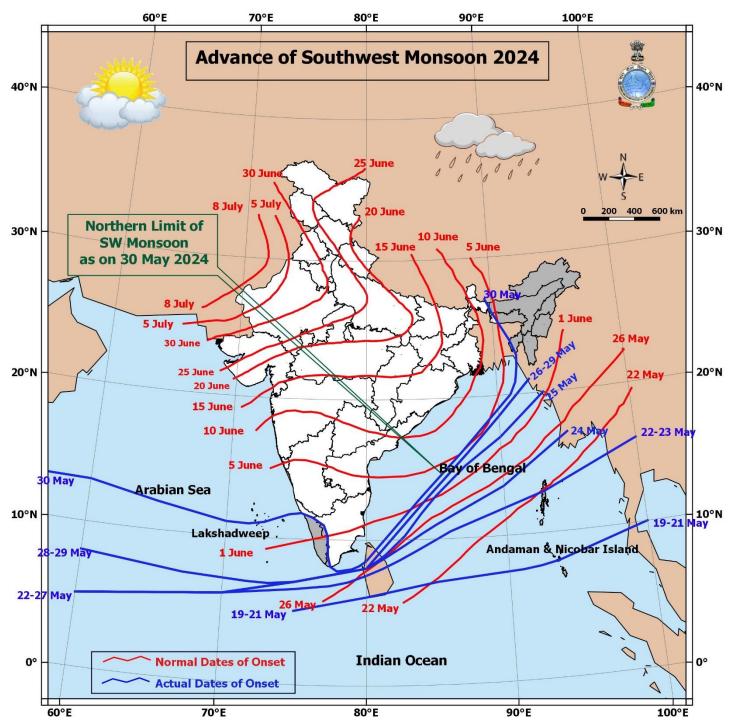
- Moderate temperature & heat is tolerable for general public but moderate health concern likely for vulnerable people e.g. infants, elderly, people with chronic diseases.
- > Avoid heat exposure.
- > Wear lightweight, light colour, loose, cotton clothes.
- > Cover your head, use a cloth, hat or umbrella.

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

(Based on the IBF and advisories issued by different AMFUs)

- Drain out excess water from crop fields to avoid water stagnation in Kerala, Lakshadweep, Sub-Himalayan West Bengal & Sikkim and North-Eastern States.
- 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, Bihar, Jharkhand, Odisha, Madhya Pradesh, Vidarbha and Chhattisgarh.
- Provide mechanical support to horticultural crops & amp; staking to vegetables to prevent damage from gusty winds.

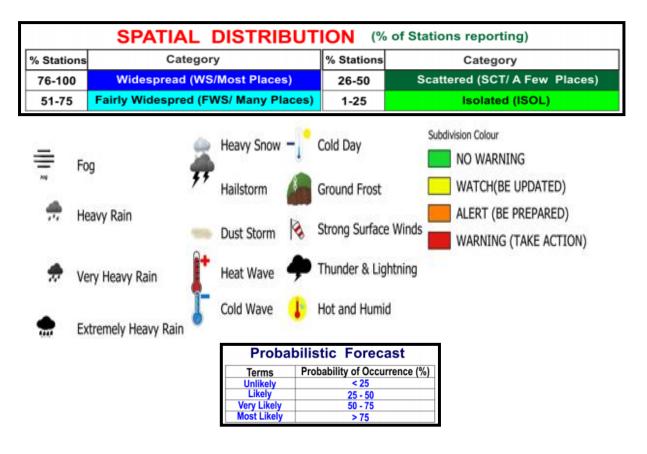
ANNEXURE IV



Advance of Southwest Monsoon 2024

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.



	(LEGENDS)
	WARNING Probabilistic Forecast
	WARNING (TAKE ACTION) Terms Probability of Occurrence (%)
	ALERT (BE PREPARED) Unlikely <25 Likely 25 - 50
	WATCH (BE UPDATED) Very Likely 50 - 75
	NO WARNING (NO ACTION) 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 *
	When maximum temperature of a station reaches ≥40° C for plains and ≥30° C for hilly regi
	(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 ≥6.5° C
	(b). Based on Actual maximum temperature Heat Wave: When actual maximum temperature ≥45°C.
	Severe Heat Wave: When actual maximum temperature ≥40°C
	(c). Criteria for heat wave for coastal stations
	When maximum temperature departure is >4.5°C from normal. Heat Wave may be described provided maximu
	temperature ≥37°C
1+	When maximum temperature remains 40°C
arm Night	Warm Night: When minimum temperature departure 4.5 °C to 6.4 °C. Severe Warm Night: When minimum temperature departure >6.4 °C.
	Correct main right mon minimum emperature departure 20.4 C.
	When minimum temperature of a station $\leq 10^{\circ}$ C for plains and $\leq 0^{\circ}$ C for hilly regions.
	(a). Based on departure
	Cold Wave: Minimum Temperature Departure from normal -4.5 °C to -6.4 °C.
<u>l</u> -	Severe Cold Wave: Minimum Temperature Departure from normal ≤ -6.5 °C
Cold Wave	(b) Based on actual Minimum Temperature (for Plains only)
	Cold Wave : When Minimum Temperature is ≤ 4.0 °C
	Severe Cold Wave: When Minimum Temperature is ≤ 2.0 °C
	(c) For Coastal Stations When Minimum Temperature departure is ≤-4.5 °C & actual Minimum Temperature is ≤ 15 °C
↓ – Cold Day	When minimum temperature of a station ≤10°C for plains and ≤0°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 ≤ -6.5 °C
_	Phenomenon of small droplets suspended in air and the horizontal visibility < 1kr
CO Fog	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
41	Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling
understorm	sound (thunder)
understorm	
	An ensemble of particles of dust or sand energetically lifted to great heights by a strong and
Dust/Sand	turbulent wind.
Storm	
~	Ice deposits on ground
55	Air temperature ≤4°C (over Plains)
Frost	
	A strong wind that rises suddenly, lasts for atleast 1 minute.
P	Moderate: Wind speed 52-61 kmph
Squall	Severe: Wind speed 62-87 kmph
	Very Severe: Wind speed >87 kmph
Squall	Effect of various waves in the sea over specific area
Squan	
Gulan	Rough to very rough: Wind speed 41-62 kmph (22-33 knots) & Wave height 2.5-6 metre
((.	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
Sea State	Rough to very rough: Wind speed 41-62 kmph (22-33 knots) & Wave height 2.5-6 metre
((.	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
(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 Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots) Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots)
General State	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 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)
((.	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 Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots) Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots)