



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release.

Date: 01st May, 2024

Time of Issue: 1345 hours IST

Subject:

- i. **Heat wave to severe heat wave conditions likely to continue over East India till 02nd May and over south Peninsular India till 03rd May and gradually improve thereafter.**
- ii. **Heat wave conditions likely over Maharashtra & Gujarat during next 5 days and over Central India during 03rd-05th May.**
- iii. **Heavy rainfall spell accompanied with thunderstorms and gusty winds very likely to continue over Northeast India till 02nd May.**

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 over Gangetic West Bengal; in some parts over Bihar, Sub-Himalayan West Bengal, Jharkhand and Odisha and Heat wave conditions in isolated pockets over Konkan and Gujarat State Rayalaseema. **Heat wave to severe heat wave conditions have been prevailing over Odisha since 15th, Gangetic West Bengal since 17th, Jharkhand & Sub-Himalayan West Bengal, Rayalaseema since 24th, Kerala & Bihar since 26th, Konkan since 27th and Interior Karnataka since 23rd April, 2024.**
- ❖ Yesterday, **the highest maximum temperature of 47.2°C** was reported at **Kalaikunda (Gangetic West Bengal) followed by 47.1°C at Baharagora (Jharkhand)** over the country.
- ❖ **Hot & Humid** prevailed in isolated places over Coastal Karnataka.
- ❖ **Severe warm night conditions** prevailed in isolated places over Odisha and **Warm Night conditions** in isolated places over Gangetic West Bengal and North Interior Karnataka.
- ❖ **Very Heavy** rainfall occurred at isolated places over Arunachal Pradesh and Assam.

Weather Systems and Forecast & Warnings: (Annexure II)

- ❖ A cyclonic circulation lies over northeast Bangladesh and a trough runs from Bihar to Nagaland in lower tropospheric levels. Another cyclonic circulation lies over northeast Assam in lower tropospheric levels. Strong southwesterly winds from Bay of Bengal to northeast India are prevailing. Under their influence:
 - ✓ Fairly widespread to widespread, light to moderate rainfall/snowfall accompanied with isolated **thunderstorm & lightning & gusty winds (30-50 kmph)** very likely over Arunachal Pradesh, Assam, Meghalaya, Sikkim, Nagaland, Manipur, Mizoram, Tripura during next 5 days with isolated **hailstorm** over Sikkim on 01st May, 2024.
 - ✓ **Isolated heavy rainfall** very likely over Arunachal Pradesh and Assam & Meghalaya during 01st-02nd and over Nagaland, Manipur, Mizoram & Tripura during 01st-03rd May; with isolated **very heavy rainfall** over Arunachal Pradesh on 01st & 02nd May and south Assam, Meghalaya, Mizoram & Tripura on 02nd May 2024.
- ❖ A fresh Western Disturbance likely to affect northwest India from 3rd May. Under its influence:
 - ✓ Scattered light to moderate rainfall/snowfall accompanied with **thunderstorm and lightning** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand and Himachal Pradesh during 03rd-06th May 2024.
 - ✓ Isolated very light/light rainfall accompanied with **thunderstorm and lightning** very likely over West Uttar Pradesh. Haryana-Chandigarh-Delhi, Punjab, Rajasthan during 04th-06th May 2024

- ✓ **Strong surface winds (25-35 kmph)** very likely to prevail over Uttar Pradesh, Bihar and Haryana, Chandigarh & Delhi during 01st-03rd May, 2024.
- ❖ Rainfall activity is likely over south peninsular India with isolated to scattered, light to moderate rainfall accompanied with **thunderstorm & lightning** over Coastal Andhra Pradesh & Yanam. Telangana. Rayalaseema, Tamil Nadu, Puducherry & Karaikal, South Interior Karnataka and Kerala & Mahe during 05th-08th May, 2024.

Maximum temperature observation and forecast for next 5 days:

- ❖ Yesterday, maximum temperatures were in the range of 45-47°C over isolated pockets of north Odisha, Gangetic West Bengal, Rayalaseema; in the range of 43-45°C over remaining parts of Gangetic West Bengal and Odisha; in some parts of Jharkhand, Telangana & remaining parts of Rayalaseema and in isolated pockets of Madhya Maharashtra; in the range of 40-43°C over many parts of Bihar, East Madhya Pradesh, Vidarbha and Chhattisgarh; in some parts of East Uttar Pradesh, Marathwada, Gujarat, Coastal Andhra Pradesh and Tamil Nadu and in isolated pockets of West Madhya Pradesh and North Interior Karnataka. These were above normal by 4-8°C in many parts of Gangetic West Bengal and Bihar; in some parts of Odisha and in isolated pockets of Sub-Himalayan West Bengal, Jharkhand, Gujarat, Konkan, Telangana and Kerala.
- ❖ No significant change in maximum temperatures very likely over northwest India during next 24 hours and rise by 4-6°C thereafter.
- ❖ No significant change in maximum temperatures very likely over east India during next 48 hours and fall by 2-3°C thereafter.
- ❖ Fall in maximum temperatures
- ❖ Rise in maximum temperatures by 2-3 °C very likely over Central India during next 3 days.
- ❖ No significant change in maximum temperatures very likely over west India during next 48 hours and rise by 2-3°C 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

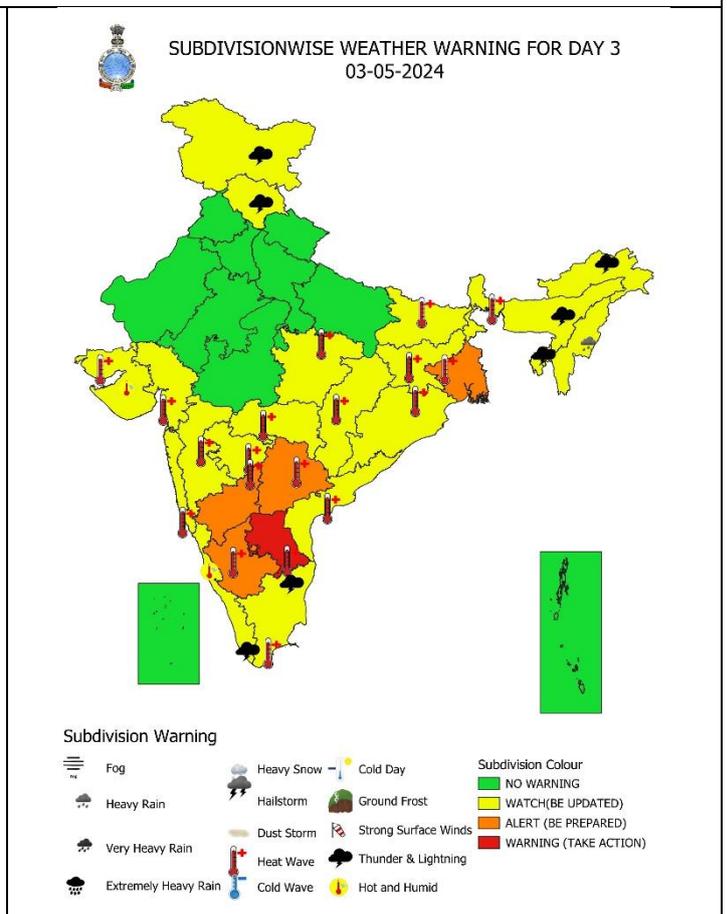
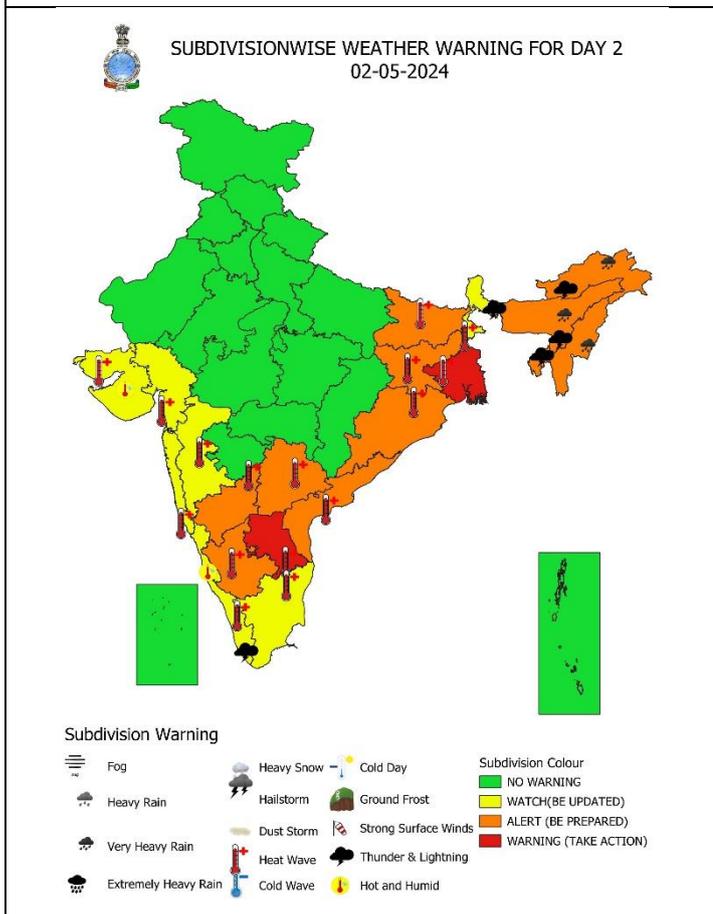
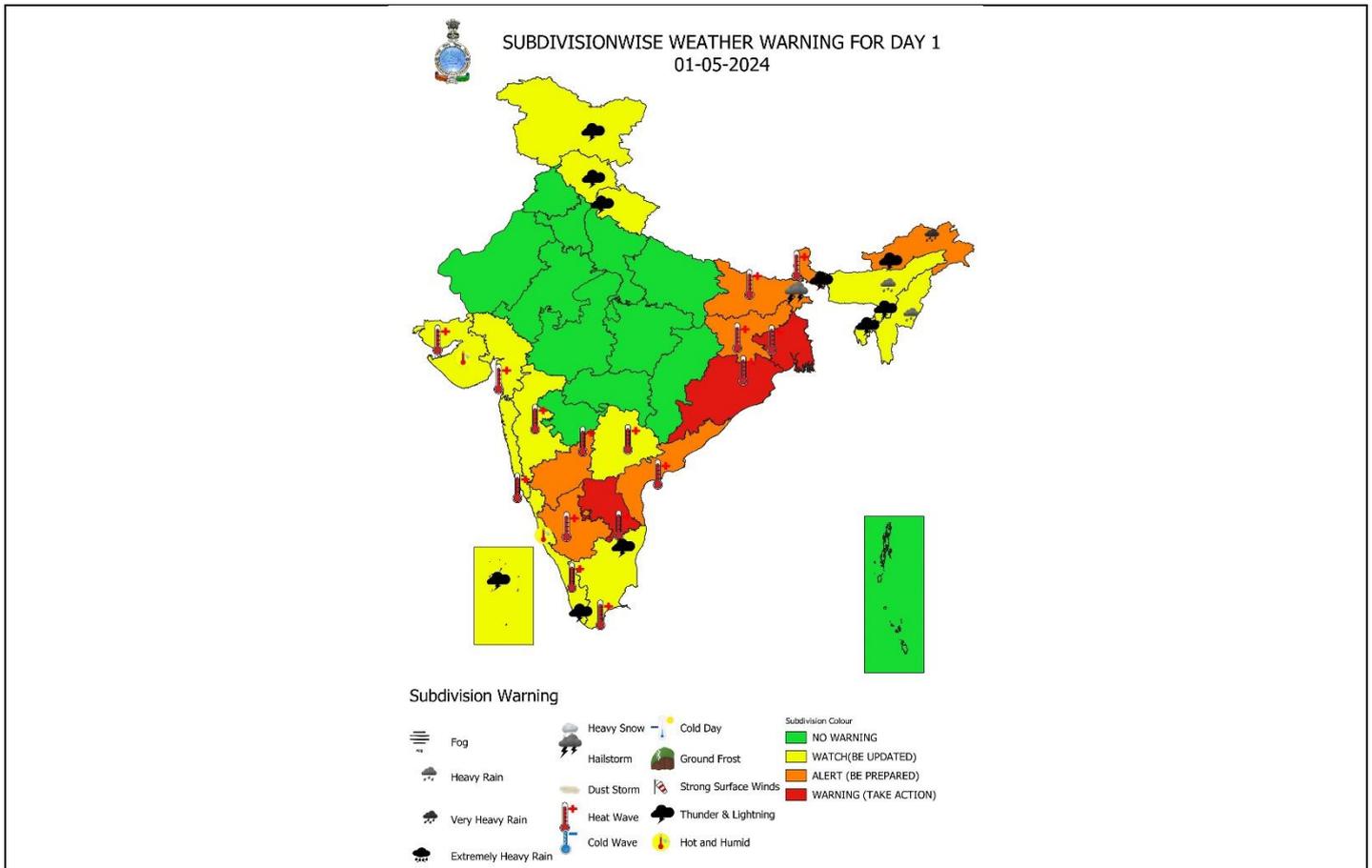
- ❖ **Maximum temperatures in the range of 44-47°C likely to continue over Gangetic West Bengal, East Jharkhand, north Odisha and Rayalaseema till 03rd May and decrease thereafter.**
- ❖ **Heat Wave to severe heat wave conditions** very likely to prevail in many places over Gangetic West Bengal; some parts of Odisha, Bihar on 01st and in isolated pockets of Sub-Himalayan West Bengal, Jharkhand during 01st-02nd May and reduce in intensity thereafter with heat wave conditions in isolated pockets over the region during subsequent 3 days.
- ❖ **Heat Wave to severe heat wave conditions** very likely to prevail in isolated pockets over Rayalaseema during next 3 days and heat wave conditions during subsequent 2 days
- ❖ **Heat wave conditions** very likely in isolated pockets over Telangana, Interior Karnataka, Coastal Andhra Pradesh & Yanam during next 4-5 days; over Kerala on 01st & 02nd and over Tamil Nadu during 01st -03rd May.
- ❖ **Heat wave conditions** very likely in isolated pockets over Konkan, Madhya Maharashtra, Gujarat State during 01st -05th and over Marathwada during 03rd-05th May.
- ❖ **Hot and humid weather** very likely to prevail over Coast Karnataka and Kerala & Mahe during next 5 days and West Assam on 01st May 2024.
- ❖ **Warm night** very likely to prevail over Chhattisgarh during 01st-03rd; over Madhya Maharashtra and Marathwada during 03rd-05th; over Odisha & Gangetic West Bengal on 01st & 02nd May 2024.

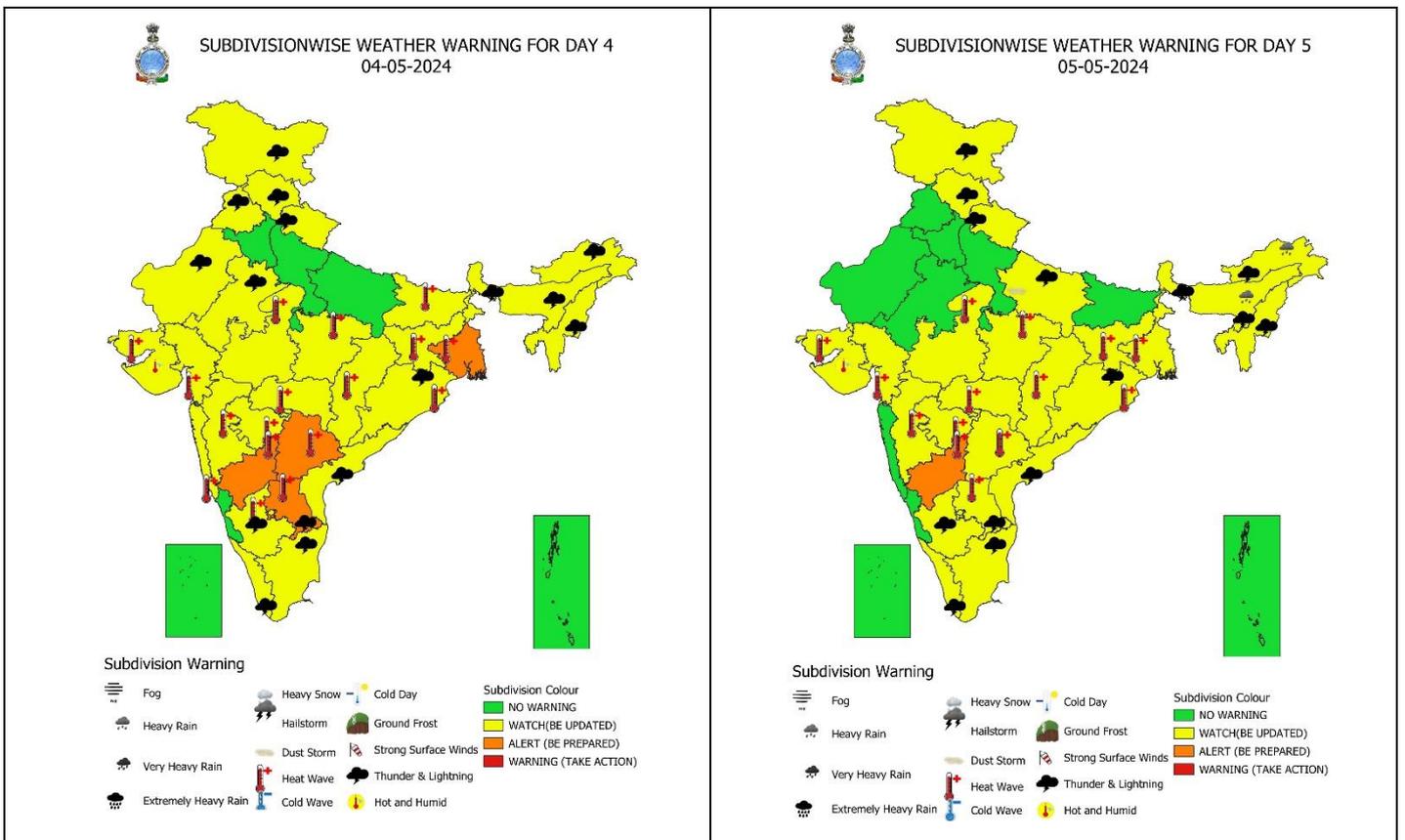
For more details, kindly refer: https://mausam.imd.gov.in/responsive/all_india_forcast_bulletin.php

- ❖ Light to moderate rainfall accompanied **with thunderstorm & lightning** was observed at many places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; at a few places over Kerala & Mahe, Lakshadweep; at isolated places over Himachal Pradesh, West Bengal & Sikkim, Odisha, Punjab, Coastal & North Interior Karnataka, Tamil Nadu, Puducherry & Karaikal.

Significant amount of rainfall (in cm):

- ❖ **Arunachal Pradesh:** Deomali_aws (dist Tirap) 12, Hawaii (dist Anjaw) 9, Deomali (dist Tirap) 6, Miao (dist Changlang) 6, Tawang_ Aws (dist Tawang) 5, Tawang Chamgbu Kvk Aws (dist Tawang) 4, Tawang (dist Tawang) 4, Nachu Arg (dist Upper Subansiri) 3, Yazali (dist Lower Subansiri) 2, Kibithu (dist Anjaw) 2;
- ❖ **Assam & Meghalaya:** Dillighat (dist Dibrugarh) 12, Udaipur (dist Tinsukia) 9, Lala Arg (dist Hailakandi) 9, Margherita (dist Tinsukia) 9, Moranhat (dist Dibrugarh) 7, Naharkatia Arg (dist Dibrugarh) 7, Amraghat Arg (dist Cachar) 7, Silchar_aws (dist Cachar) 7, Silchar (dist Cachar) 6, Badarpur Arg (dist Karimganj) 6, Matijuri Arg (dist Hailakandi) 6, Karimganj_aws (dist Karimganj) 6, Hailakandi_ Aws (dist Hailakandi) 5;
- ❖ **Kerala:** Paripalli Aws (dist Kollam) 5, Haripad (dist Alapuzha) 4, Karumadi Aws (dist Alapuzha) 3, Keerampara Arg (dist Ernakulam) 3, Varkala (dist Thiruvananthapuram) 3, Idamalayar Dam Aws (dist Ernakulam) 3;
- ❖ **Nagaland, Manipur, Mizoram & Tripura:** Jiribam_ Aws (dist Imphal East) 3, Kamalpur (dist Dhalai) 2, Paren Nsdma _aws (dist Peren) 2, Churachandpur (dist Churachandpur) 2;
- ❖ **Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad:** Sonemarg Dual Aws (dist Ganderbal) 3, Gulmarg Aws (dist Baramula) 2, Pahalgam (dist Anantnag) 2, Gulmarg R.s. (dist Baramula) 2; Sub-Himalayan West Bengal & Sikkim: Singhik (dist North Sikkim) 2, Mangan (dist North Sikkim) 2;
- ❖ **Tamil Nadu:** Colachel (dist Kanniyakumari), Ayikudi (dist Tenkasi), Thirupathisaram AWS (dist Kanniyakumari), Thirparappu (dist Kanniyakumari) 3 each, Eraniel (dist Kanniyakumari), Kozhiporvilai (dist Kanniyakumari), Kurunthancode (dist Kanniyakumari), Sivalogam (dist Kanniyakumari), Thuckalay (dist Kanniyakumari), Thenkasi (dist Tenkasi), Periyar (dist Theni) 2 each;





IMPACT & ACTION SUGGESTED due to Heat Wave Conditions:

Red alert Areas (Gangetic West Bengal, Odisha, Bihar, Rayalaseema)

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

Orange alert Areas (Sub-Himalayan West Bengal, Coastal Andhra Pradesh & Yanam, Telangana, Interior Karnataka, Jharkhand)

- ✓ 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 (Gujarat State, Konkan, Madhya Maharashtra, Marathwada, Kerala, Tamil Nadu, Madhya Pradesh, Vidarbha and Chhattisgarh)

- ✓ 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 Isolated heavy rainfall** very likely over Arunachal Pradesh and Assam & Meghalaya during 01st-02nd and over Nagaland, Manipur, Mizoram & Tripura during 01st-03rd May; with isolated **very heavy rainfall** over Arunachal Pradesh on 01st & 02nd May and south Assam, Meghalaya, Mizoram & Tripura on 02nd May 2024.

Impacts Expected for Rainfall/Snowfall over above regions:

- ✓ Disruption of Electricity.
- ✓ Landslide, rock fall and mudslides, Blocking/washout of roads/highways/bridges Nallahs.
- ✓ Disruption of traffic flow.
Damage to Kuccha and unsecured structures.

Suggested Actions

- ✓ Avoid roadway underpasses, drainage ditches, low lying areas and areas where water collects – they can unexpectedly flood or overflow.
- ✓ Stay away from power lines or electrical wires.
- ✓ Don't stay in kuchcha houses during heavy rainfall as it may collapse anytime soon.
- ✓ Drive carefully.

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

- Use hail nets or hail caps in fruit orchards to prevent mechanical damage and provide mechanical support to horticultural crops & staking to vegetables in Sikkim.
- In Arunachal Pradesh, postpone sowing of maize, *jhum* upland rice and vegetables.
- Make necessary arrangements for draining out excess water from crop fields to avoid water stagnation and also provide mechanical support to horticultural crops & staking to vegetables to prevent damage from gusty winds in 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 West Bengal, Odisha, Bihar, Jharkhand, Gujarat, North Konkan, Madhya Maharashtra, Tamil Nadu, Kerala, Interior Karnataka, Andhra Pradesh and Telangana.

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 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 < 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)