

Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 25th April, 2024

Time of Issue: 1300 hours IST

Subject:

- i. **Heat wave to severe heat wave conditions likely to continue over East and south Peninsular India during next 5 days.**
- ii. **A fresh spell of rainfall accompanied with thunderstorms/lightning and gusty winds likely over Northwest India mainly during 26th – 28th April, 2024.**

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

- ❖ **Heat Wave to severe heat wave conditions** prevailed in some parts over Gangetic West Bengal; in isolated pockets over Sub-Himalayan West Bengal; **Heat Wave conditions** in isolated pockets over Coastal Andhra Pradesh & Yanam, Rayalaseema, Interior Karnataka, Bihar and Odisha. **Heat wave conditions are prevailing over Odisha since 15th and over Gangetic West Bengal since 17th April.**
- ❖ **Light to moderate rainfall** accompanied with isolated thunderstorm & lightning observed at many places over Arunachal Pradesh; observed at a few places over Assam & Meghalaya, Lakshadweep and at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Madhya Pradesh, Konkan & Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Odisha, Coastal Andhra Pradesh & Yanam, Tamil Nadu, Interior Karnataka, Kerala and Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Light to moderate rainfall** accompanied with thunderstorm & lightning
- ❖ **Heavy to very heavy rainfall** observed over Assam & Meghalaya and **heavy rainfall** over Arunachal Pradesh.
- ❖ **Hailstorm** observed at isolated places over Madhya Maharashtra, East Madhya Pradesh and Vidarbha.
- ❖ **Thundersquall with hailstorm** occurred over Manipur.

Weather Systems and Forecast & Warnings: (Annexure II)

- ❖ A Western Disturbance as a cyclonic circulation lies over south Iran in middle & upper tropospheric levels. An induced cyclonic circulation is likely to form over West Rajasthan in lower tropospheric levels on 26th April, 2024. Under their influence:
 - ✓ Scattered to fairly widespread light to moderate rainfall/snowfall accompanied with **thunderstorm, lightning** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and isolated rainfall over Uttarakhand during 26th-28th April, 2024 with possibility of **hailstorm over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 26th & 27th and Himachal Pradesh on 27th & 28th April, 2024.**
 - ✓ Isolated **Heavy rainfall** also likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 27th & 28th April and Himachal Pradesh on 27th April, 2024.
 - ✓ Isolated rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Punjab during 26th-28th and Haryana-Chandigarh-Delhi on 26 & 27th; over Rajasthan and West Uttar Pradesh on 26th April, 2024.
 - ✓ Isolated **Hailstorm** very likely over Punjab and Haryana on 26th & 27th April, 2024.
 - ✓ **Strong surface winds (25-35 kmph)** very likely to prevail over Uttar Pradesh and south Rajasthan during 25th-27th April.
- ❖ A cyclonic circulation lies over Marathwada & adjoining Madhya Maharashtra and a trough/wind discontinuity runs from this cyclonic circulation to north coastal Tamil Nadu in lower tropospheric levels. Another cyclonic circulation lies over central parts of south Madhya Pradesh and a trough/wind discontinuity runs from this cyclonic circulation over to South Interior Karnataka in lower tropospheric levels. Under their influence:
 - ✓ Isolated light rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Madhya Maharashtra, Marathwada, Madhya Pradesh, Vidarbha, Chhattisgarh during 25th-27th April, 2024.

- ✓ Isolated **Hailstorm** very likely over Vidarbha, south Madhya Maharashtra and Marathwada on 25th; over north West Madhya Pradesh on 26th & 27th and East Madhya Pradesh on 27th April, 2024.
- ✓ Isolated light to moderate rainfall accompanied with isolated **thunderstorm & lightning** very likely over Kerala & Mahe and Coastal Andhra Pradesh & Yanam on 25th & 26th April, 2024.
- ❖ A cyclonic circulation lies over northeast Assam in lower tropospheric levels. Under its 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 and scattered to fairly widespread rainfall over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during 25th -29th April, 2024.
 - ✓ Isolated light to moderate rainfall accompanied with isolated **thunderstorm & lightning** very likely over Sikkim on 28th April, 2024.
 - ✓ **Isolated heavy rainfall** very likely over Arunachal Pradesh and Assam & Meghalaya on 28th April, 2024

Maximum temperature observation and forecast for next 5 days:

- ❖ Yesterday, maximum temperatures were in the range of 42-44°C over many parts of Rayalaseema; in some parts of Coastal Andhra Pradesh & Yanam, Telangana, Odisha and Gangetic West Bengal and in isolated pockets over Tamil Nadu, Puducherry & Karaikal and Jharkhand. These were in the range of 40-42°C over many parts of Bihar, East Uttar Pradesh; some parts of Gujarat; in isolated pockets over interior Karnataka, interior Maharashtra, West Rajasthan, Madhya Pradesh and West Uttar Pradesh. These were above normal by 3-5°C over many parts of West Bengal & Sikkim; at isolated pockets over Bihar, Jharkhand, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Arunachal Pradesh.
- ❖ Rise by about 2°C in maximum temperatures very likely over many parts of Northwest India during next 2 days and fall by 2-3°C for subsequent 3 days.
- ❖ Rise by 2-3°C in maximum temperatures very likely over East India during next 3 days and no significant change thereafter.
- ❖ Rise by 2-3°C in maximum temperatures very likely over Maharashtra during next 4-5 days.
- ❖ No significant change in maximum temperatures very likely over rest parts of the country.

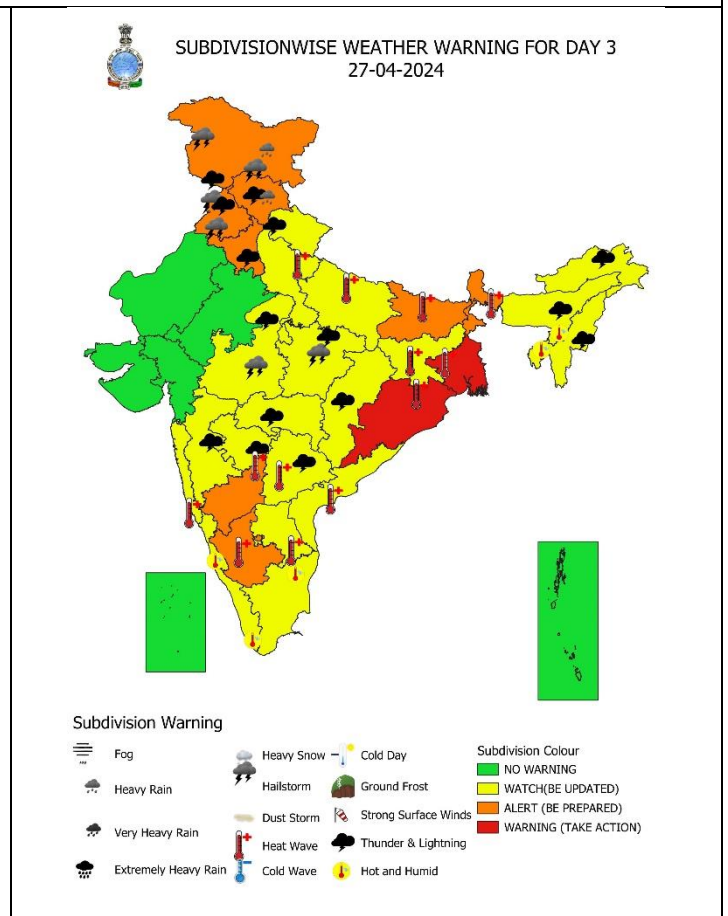
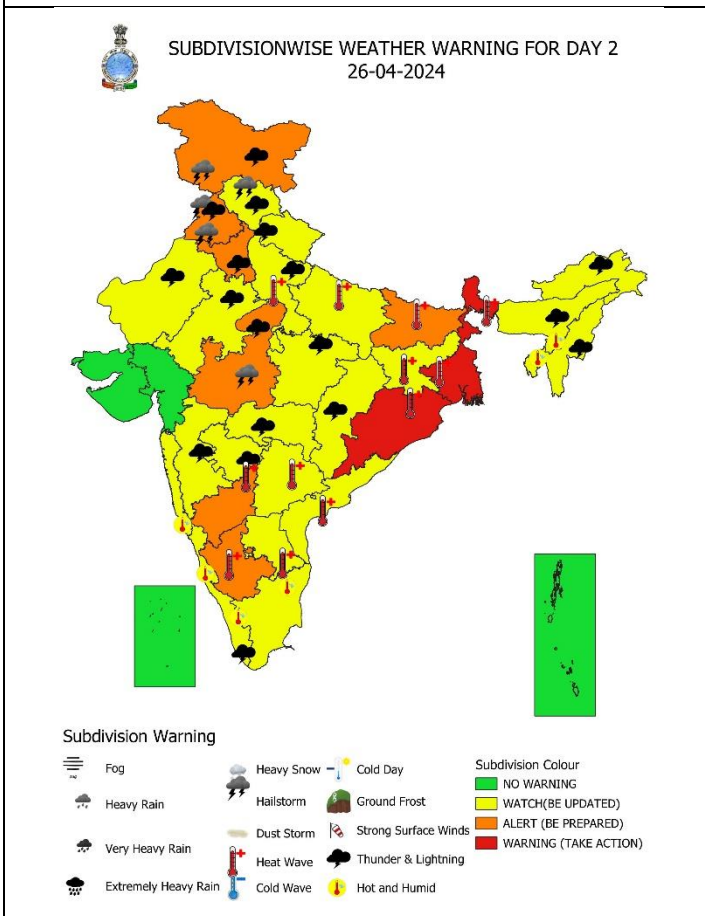
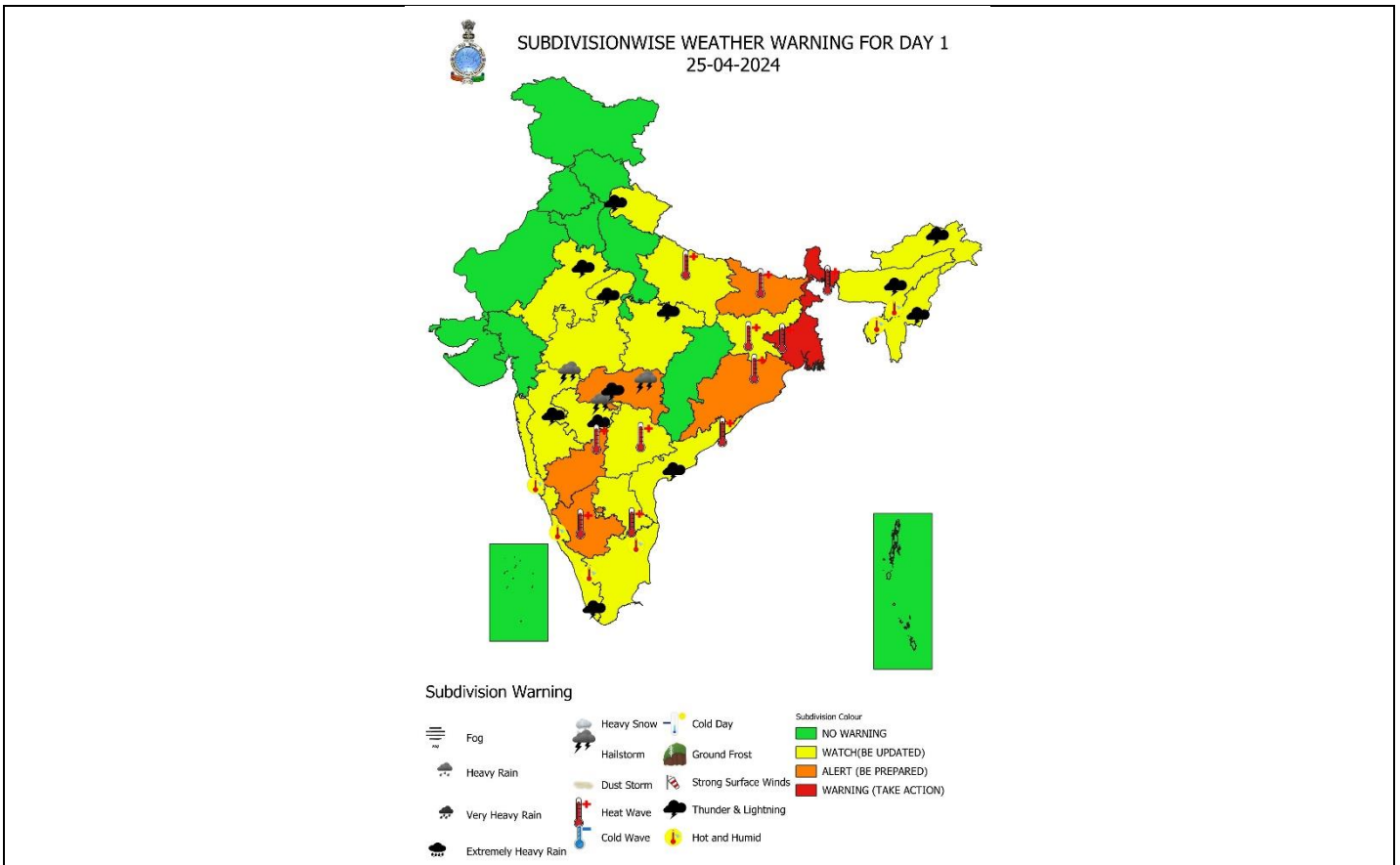
Heat Wave, Warm Night and Hot & Humid weather warning for next 5 days:

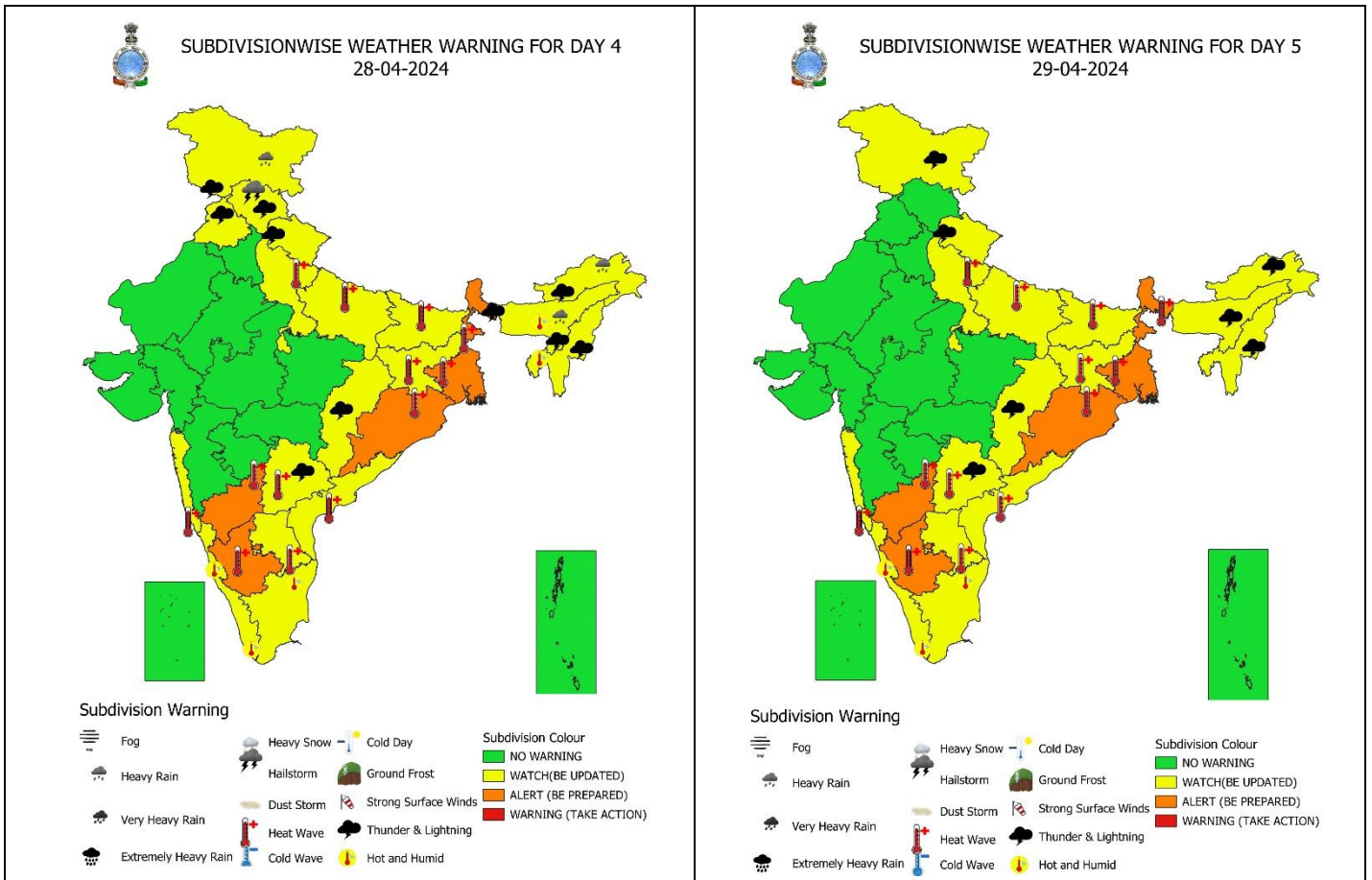
- ❖ **Heat Wave to severe heat wave conditions** very likely to prevail in many places over Gangetic West Bengal, in some parts over Odisha and in isolated pockets over Sub-Himalayan West Bengal during next 5 days. **Heat wave conditions** in isolated pockets over Bihar, Jharkhand, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Interior Karnataka, East Uttar Pradesh during next 5 days and West Uttar Pradesh during 26th-29th; Konkan during 27th-29th April.
- ❖ **Hot and humid weather** very likely to prevail over Tripura, Kerala & Mahe, Coastal Karnataka, Tamil Nadu, Puducherry & Karaikal during 25th-28th; Assam & Meghalaya during 25th-28th; Konkan & Goa on 25th & 26th April, 2024.
- ❖ **Warm night** very likely to prevail over Odisha during 27th-29th April, 2024.

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

Significant amount of rainfall (in cm):

- ❖ **Assam & Meghalaya:** Cacher Kvk Aws (dist Cachar) 13, Silchar_aws (dist Cachar) 6, B P Ghat (dist Karimganj) 5, Udaipur (dist Tinsukia) 5, Badarpur Arg (dist Karimganj) 4, A P Ghat (dist Cachar) 3, Silchar (dist Cachar) 3, Lakhipur Arg (dist Cachar) 3, Naharkatia Arg (dist Dibrugarh) 3, Dholai (dist Cachar) 3, Amraghat Arg (dist Cachar) 3,
- ❖ **Arunachal Pradesh:** Roing (dist Lower Dibang Valley) 8, Kibithu (dist Anjaw) 5, Hawaii (dist Anjaw) 5, Miao (dist Changlang) 3, Tezu (dist Lohit) 3,
- ❖ **Nagaland, Manipur, Mizoram & Tripura:** Jiribam_ Aws (dist Imphal East) 5, Chottabekra (dist Imphal West) 3, Tamenglong (dist Tamenglong) 3, Ukhrul_ Aws (dist Ukhrul) 2,
- ❖ **Tamil Nadu:** Kaniyakumari-6;
- ❖ **Madhya Maharashtra:** Kagal (dist Kolhapur) 2, Satara - Imd Obsy (dist Satara) 2, Gadhinglaj (dist Kolhapur) 2, Ahmednagar - Imd Pt (dist Ahmednagar) 1, Chas_agri (dist Ahmednagar) 1
- ❖ **Himachal Pradesh:** Kullu-2
- ❖ **East Madhya Pradesh:** Sausar (dist Chindwara) 2,
- ❖ **North Interior Karnataka:** Belagavi-2





Impact expected and action suggested due to thunderstorm accompanied with lightning/gusty winds & Hailstorm over Vidarbha on 25th; West Madhya Pradesh on 26th; Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Punjab and Haryana on 26th & 27th, Himachal Pradesh on 27th & 28th April, 2024.

Impact expected:

- ❖ Strong wind/hail may damage plantation, horticulture and standing crops.
- ❖ Hail may injure people and cattle at open places.
- ❖ Partial damage to vulnerable structures due to strong winds.
- ❖ Minor damage to kutcha houses/walls and huts.
- ❖ Loose objects may fly.

Action suggested:

- ❖ Stay indoors, close windows & doors and avoid travel if possible.
- ❖ Take safe shelters; do not take shelter under trees.
- ❖ Do not lie on concrete floors and do not lean against concrete walls.
- ❖ Unplug electrical/ electronic appliances.
- ❖ Immediately get out of water bodies.
- ❖ Keep away from all the objects that conduct electricity.

Impact & Action Suggested due to very heavy/heavy rainfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 27th & 28th; Himachal Pradesh on 27th; over Arunachal Pradesh, Assam & Meghalaya on 28th April, 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.

IMPACT & ACTION SUGGESTED due to Heat Wave Conditions:

Red alert Areas (Gangetic West Bengal, Odisha)

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

Orange alert Areas (Bihar, Interior Karnataka,)

- ❖ 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 (Jharkhand, Telangana, Coastal Andhra Pradesh & Yanam, Rayalaseema, Tamil Nadu, Uttar Pradesh, Konkan)

- ❖ 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, 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 Jammu & Kashmir, Himachal Pradesh, Punjab, Haryana, West Madhya Pradesh, Vidarbha, Madhya Maharashtra and Marathwada. Keep the harvested produce at safer places or cover the heaps of harvested produce in the fields with tarpaulin sheets.
- 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, Uttar Pradesh, Interior Karnataka, Andhra Pradesh and Telangana.
- 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)

Subdivision Warning	 Dust Storm	Subdivision color
 Heavy Rain	 Strong Surface Winds	 NO WARNING
 Heavy Snow	 Heat Wave	 WATCH(BE UPDATED)
 Thunderstorms & Lightning	 Cold wave	 ALERT (BE PREPARED)
 Hailstorm	 Fog	 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)