

Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Press Release

Date: 24<sup>th</sup> April, 2024

Time of Issue: 1400 hours IST

**Subject:**

- i. **Heat wave to severe heat wave conditions likely to continue over East and south Peninsular India during next five days.**
- ii. **A fresh spell of rainfall accompanied with thunderstorms/lightning and gusty winds likely over Northwest India mainly during 26<sup>th</sup> – 28<sup>th</sup> April.**
- iii. **Heavy rainfall accompanied with thunderstorms/lightning and gusty winds likely at isolated places over Northeast India on 24<sup>th</sup>, 27<sup>th</sup> & 28<sup>th</sup> April, 2024.**

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

- ❖ **Light to moderate rainfall/snowfall** accompanied with isolated thunderstorm & lightning observed at many places over Arunachal Pradesh; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Sub-Himalayan West Bengal & Sikkim.
- ❖ **Light to moderate rainfall** accompanied with thunderstorm & lightning observed at a few places over Assam & Meghalaya, Kerala & Mahe and at isolated places over Punjab, Haryana-Chandigarh-Delhi, Rajasthan, Madhya Pradesh, Konkan & Goa, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Odisha, Jharkhand, Bihar, West Uttar Pradesh, Coastal Andhra Pradesh & Yanam, Telangana, Tamil Nadu, Puducherry & Karaikal, North & South Interior Karnataka, Gangetic West Bengal, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Heavy rain observed at isolated places over Arunachal Pradesh and Assam & Meghalaya**
- ❖ **Hailstorm** observed at isolated places over Himachal Pradesh, East Uttar Pradesh, Jharkhand, Madhya Pradesh, Vidarbha.
- ❖ **Heat Wave to severe heat wave conditions** prevailed in some parts over Gangetic West Bengal; at isolated places over Sub-Himalayan West Bengal & Sikkim and Odisha; **Heat Wave conditions** in isolated places over Rayalaseema, North & South Interior Karnataka. **Heat wave conditions are prevailing over Odisha since 15<sup>th</sup> and over Gangetic West Bengal since 17<sup>th</sup> April.**
- ❖ **Dust storm** observed over Uttar Pradesh.

**Weather Systems and Forecast & Warnings: (Annexure II)**

- ❖ 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 (30-40 kmph)** very likely over Arunachal Pradesh, and isolated to scattered rainfall over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during 24<sup>th</sup> -28<sup>th</sup> April, 2024.
  - ✓ Isolated light to moderate rainfall accompanied with isolated **thunderstorm & lightning & gusty winds (30-40 kmph)** very likely over Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim during 24<sup>th</sup> -26<sup>th</sup> April, 2024.
  - ✓ **Isolated heavy rainfall** very likely over Arunachal Pradesh on 24<sup>th</sup>, 27<sup>th</sup> & 28<sup>th</sup>; over Assam & Meghalaya on 28<sup>th</sup> April, 2024.
- ❖ A Western Disturbance as a cyclonic circulation lies over Jammu division in middle tropospheric levels. A cyclonic circulation lies over northwest Uttar Pradesh & neighbourhood in lower tropospheric levels. A fresh Western Disturbance seen as a cyclonic circulation in middle tropospheric westerlies over Iran & neighbourhood in middle & upper tropospheric levels. Under their influence:

- ✓ Isolated to scattered light to moderate rainfall/snowfall accompanied with **thunderstorm, lightning** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; Himachal Pradesh, Uttarakhand on 24<sup>th</sup> and Scattered to fairly widespread light to moderate rainfall/snowfall accompanied with **thunderstorm, lightning** very likely over the same region during 26<sup>th</sup>-28<sup>th</sup> April, 2024 with possibility of **hailstorm over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 26<sup>th</sup>, Himachal Pradesh during 26<sup>th</sup> -28<sup>th</sup> April, 2024.**
  - ✓ Isolated **Heavy rainfall** likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 27<sup>th</sup> & 28<sup>th</sup> April, 2024.
  - ✓ Isolated rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Punjab and Haryana-Chandigarh-Delhi on 26 & 27<sup>th</sup>; over Rajasthan on 26<sup>th</sup>; over West Uttar Pradesh on 26<sup>th</sup>; over East Uttar Pradesh on 27<sup>th</sup> April, 2024.
  - ✓ Isolated **Hailstorm** very likely over Punjab on 26<sup>th</sup> & 27<sup>th</sup>; over Haryana on 27<sup>th</sup> April, 2024.
- ❖ A cyclonic circulation lies over Madhya Maharashtra another over Telangana in lower tropospheric levels. A trough/wind discontinuity runs from cyclonic circulation over Telangana to south Tamil Nadu in lower tropospheric levels Under its influence:
- ✓ Isolated light rainfall accompanied with **thunderstorm, lightning & gusty winds (30-50 kmph)** very likely over Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh during 24<sup>th</sup> – 27<sup>th</sup> April, 2024.
  - ✓ Isolated **Hailstorm** very likely over South Madhya Pradesh, Madhya Maharashtra, Marathwada and Vidarbha on 24<sup>th</sup> April, 2024.
  - ✓ Isolated to scattered light to moderate rainfall accompanied with isolated **thunderstorm & lightning** very likely over Kerala & Mahe on 24<sup>th</sup> & 25<sup>th</sup>; Interior Karnataka, Telangana on 24<sup>th</sup> 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 and in isolated pockets over south Coastal Andhra Pradesh & Yanam and north Tamil Nadu. These were in the range of 40-42°C over many parts of Telangana, Tamil Nadu, Telangana, Gangetic West Bengal, Bihar; some parts of Coastal Andhra Pradesh, south Coastal Andhra Pradesh & Yanam, Odisha, East Madhya Pradesh, Jharkhand, East Uttar Pradesh; at isolated pockets over Madhya Maharashtra, southwest Madhya Pradesh and Vidarbha. These were above normal by 3-5°C over many parts of Gangetic West Bengal and Sikkim; at isolated pockets over coastal Odisha, Coastal Andhra Pradesh & Yanam, Tamil Nadu, Puducherry & Karaikal, northeast Jharkhand and east Bihar.
- ❖ No significant change in maximum temperatures very likely over Maharashtra during next India during next 24 hours and rise gradually by 3-4°C thereafter.
- ❖ Rise by 2-3°C in maximum temperatures very likely over central & East India during next 4-5 days.
- ❖ No significant change in maximum temperatures very likely over rest parts of the country.

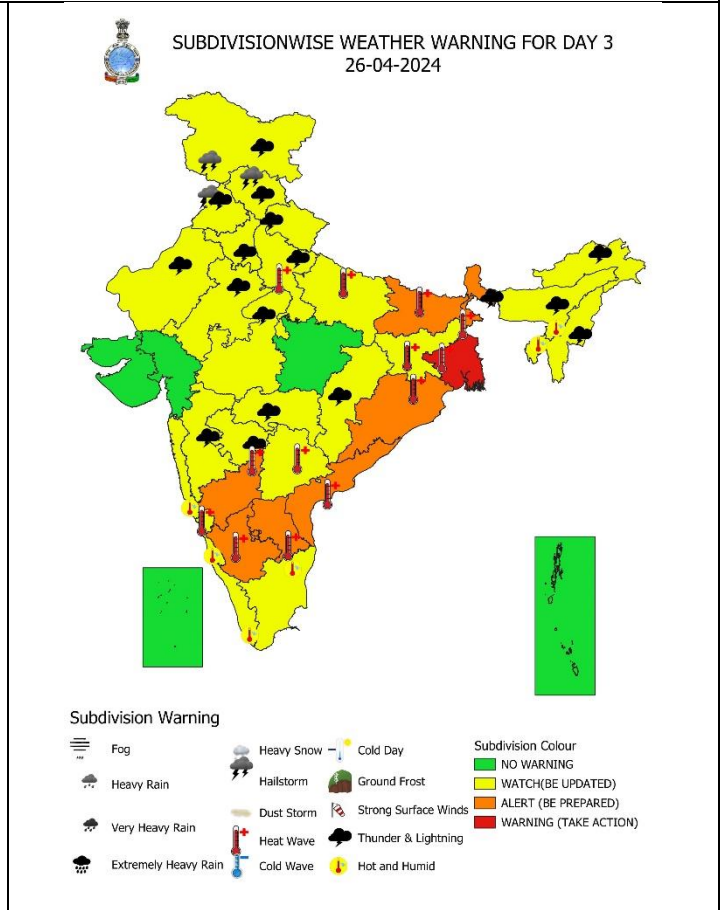
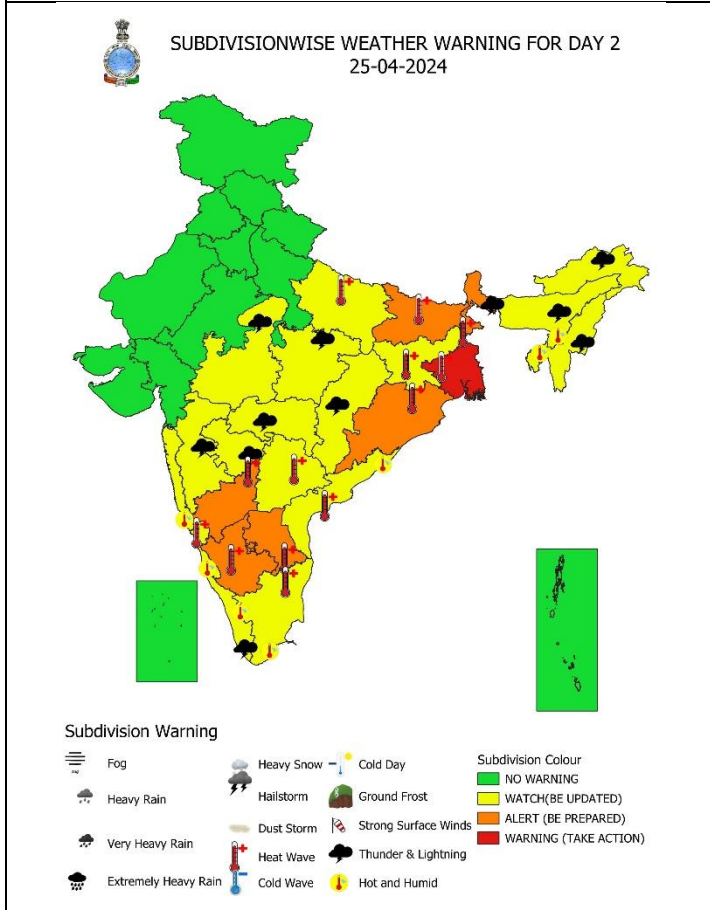
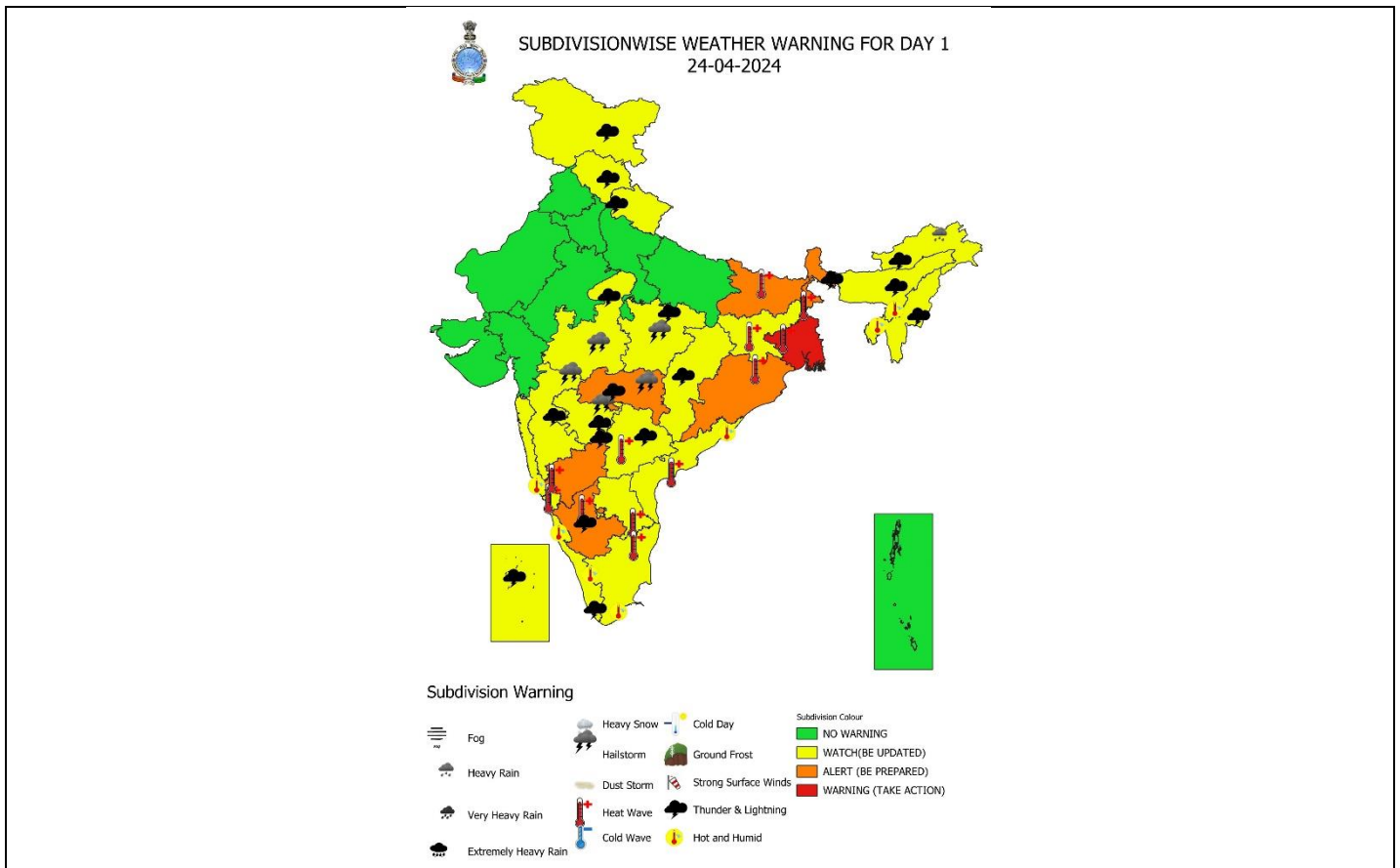
#### Heat Wave, Warm Night and Hot & Humid weather warning for next 5 days:

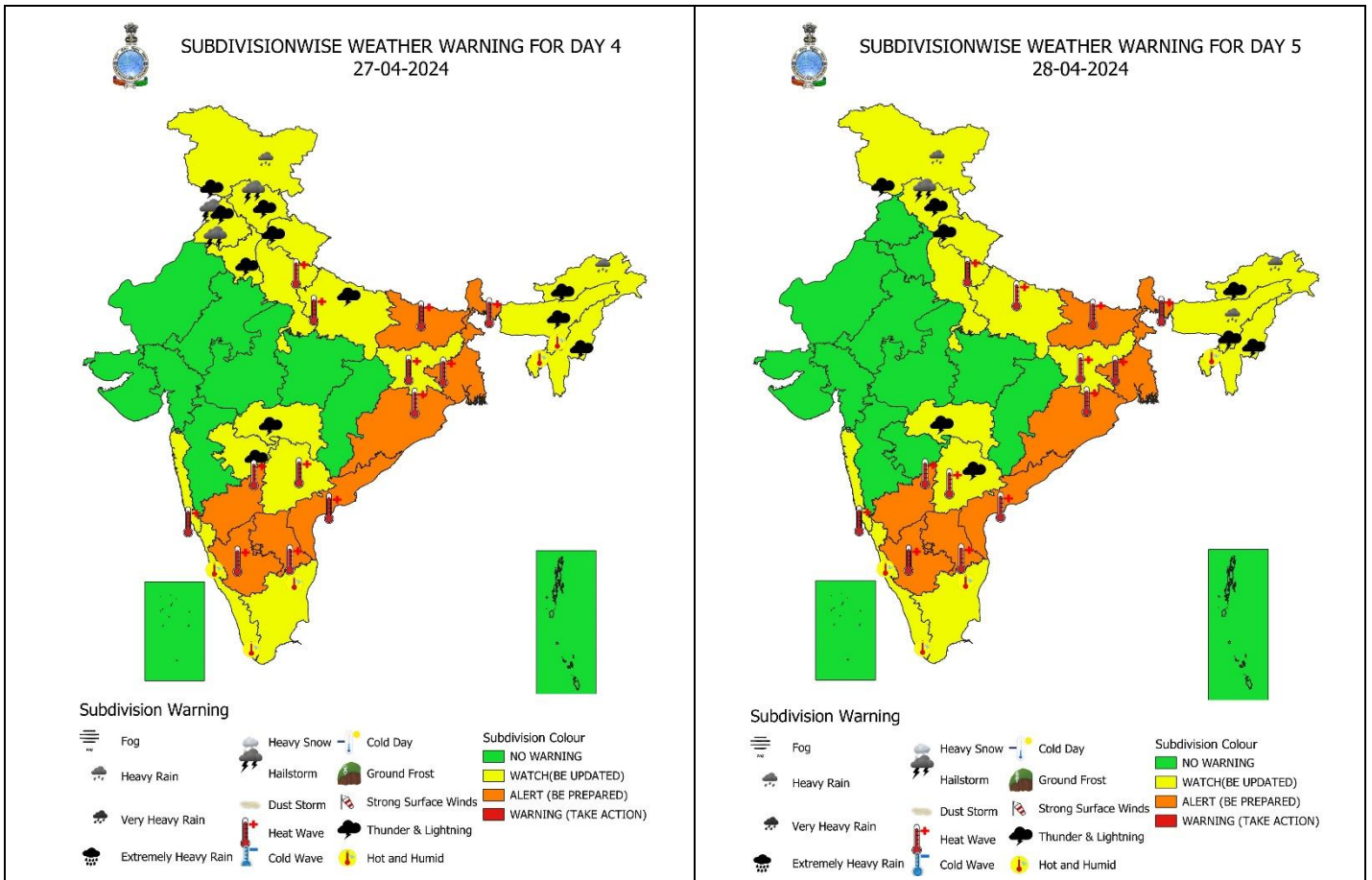
- ❖ **Heat Wave to severe heat wave conditions** very likely to prevail in some places over coastal Odisha, Gangetic West Bengal & in isolated pockets over Sub-Himalayan West Bengal & Sikkim, Interior Karnataka during next 5 days. **Heat wave conditions** in isolated pockets over Bihar, Jharkhand, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, during next 5 days; Coastal Karnataka during 24<sup>th</sup> – 26<sup>th</sup>, Tamil Nadu on 24<sup>th</sup> & 25<sup>th</sup>; East Uttar Pradesh during 25<sup>th</sup> – 28<sup>th</sup> and West Uttar Pradesh during 26<sup>th</sup>-28<sup>th</sup>; Konkan on 27<sup>th</sup> & 28<sup>th</sup> April.
- ❖ **Hot and humid weather** very likely to prevail over Tripura, Kerala & Mahe, Coastal Karnataka, Tamil Nadu during 24<sup>th</sup> – 28<sup>th</sup>; Assam & Meghalaya during 24<sup>th</sup> – 27<sup>th</sup>; Konkan & Goa during 24<sup>th</sup> -26<sup>th</sup>; south Coastal Andhra Pradesh & Yanam on 24<sup>th</sup> & 25<sup>th</sup> April, 2024.

For more details, kindly refer: [https://mausam.imd.gov.in/responsive/all\\_india\\_forecast\\_bulletin.php](https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php)

**Significant amount of rainfall (in cm):**

- ❖ **Arunachal Pradesh:** Nachu Arg (dist Upper Subansiri) 11, Oyan Arg (dist East Siang) 11, Tuting (dist Upper Siang) 9, Kibithu (dist Anjaw) 6, Pasighat\_ Aero (dist East Siang) 5, Roing (dist Lower Dibang Valley) 5, Kabu Basti (dist West Siang) 3, Hawaii (dist Anjaw) 3, Namsai Kvk Aws (dist Lohit) 2, Namsai (dist Lohit) 2, Kamba Aws (dist West Siang) 2, Tezu (dist Lohit) 1
- ❖ **Assam & Meghalaya:** Halflong (dist N. C. Hills) 11, Jiagaon (dist Tinsukia) 5, Lakhipur (dist Cachar) 4, Dhemaji (dist Dhemaji) 4, Lakhipur Arg (dist Cachar) 3, D/mohanbari Aero (dist Dibrugarh) 3, Mohanbari\_aws (dist Dibrugarh) 2, Dholla Bazar (dist Tinsukia) 2, Lakhimpur Arg (dist Lakhimpur) 2, Udaipur (dist Tinsukia) 1, Tinsukia (dist Tinsukia) 1, Chauldhowaghat (dist Lakhimpur) 1, Ranganadi Nt Xing (dist Lakhimpur) 1, Chouldhuwaghat Arg (dist Lakhimpur) 1, Mangaldai\_aws (dist Darrang) 1, Cacher Kvk Aws (dist Cachar) 1, Badarpur Arg (dist Karimganj) 1, Khowang (dist Dibrugarh) 1;
- ❖ **Nagaland, Manipur, Mizoram & Tripura:** Tamenglong (dist Tamenglong) 2, Jiribam\_ Aws (dist Imphal East) 1;
- ❖ **Vidarbha:** Gondia (Aws) (dist Gondia) 2, Tumsar (dist Bhandara) 2, Tiroda (arg) (dist Gondia) 2, Digras (dist Yeotmal) 1, Shegaon (arg) (dist Buldhana) 1, Nagbhir (dist Chandrapur) 1, Mohadi (dist Bhandara) 1;
- ❖ **Marathwada:** Manjlegaon (dist Beed) 2, Parbhani - Imd Obsy (dist Parbhani) 2;
- ❖ **Madhya Maharashtra:** Jeur - Imd Parttime (dist Sholapur) 1





**Impact expected and action suggested due to thunderstorm accompanied with lightning/gusty winds & Hailstorm over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 26<sup>th</sup>, Himachal Pradesh during 26<sup>th</sup> – 28<sup>th</sup>; over Punjab on 26<sup>th</sup> & 27<sup>th</sup>; over Haryana on 27<sup>th</sup>; South Madhya Pradesh, Madhya Maharashtra, Marathwada and Vidarbha on 24<sup>th</sup> 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 27<sup>th</sup> & 28<sup>th</sup>; over Arunachal Pradesh on 24<sup>th</sup>, 27<sup>th</sup> & 28<sup>th</sup>; over Assam & Meghalaya on 28<sup>th</sup> 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)**

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

**Orange alert Areas (Odisha, Bihar, Coastal Andhra Pradesh & Yanam, Interior Karnataka, Rayalaseema)**

- ❖ 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 Karnataka, 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:**

- Postpone sowing of maize and cowpea and drain out excess water from crop fields to avoid water stagnation in Arunachal Pradesh.
- Use hail nets or hail caps in fruit orchards to prevent mechanical damage and provide mechanical support to horticultural crops & staking to vegetables in Madhya Maharashtra and Marathwada.
- 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, Tamil Nadu, 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.

<b>SPATIAL DISTRIBUTION</b> (% 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)

<b>Probabilistic Forecast</b>	
Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

## LEGENDS

### WARNING

<b>WARNING (TAKE ACTION)</b>
<b>ALERT ( BE PREPARED)</b>
<b>WATCH (BE UPDATED)</b>
<b>NO WARNING ( NO ACTION)</b>

### 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  $4.5^{\circ}\text{C}$  to  $6.4^{\circ}\text{C}$ .  
**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  $40^{\circ}\text{C}$**

**Warm Night:** When minimum temperature departure  $4.5^{\circ}\text{C}$  to  $6.4^{\circ}\text{C}$ .  
**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  $-4.5^{\circ}\text{C}$  to  $-6.4^{\circ}\text{C}$ .  
**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  $-4.5^{\circ}\text{C}$  to  $-6.4^{\circ}\text{C}$ .  
**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)