



Government of India  
Ministry of Earth Sciences  
India Meteorological Department



Press Release

Date: 11<sup>th</sup> May, 2024

Time of Issue: 1355 hours IST

**Subject: (i)Wet spell accompanied with thunderstorms; lightning & gusty winds very likely over northwest India till 12<sup>th</sup>, East India till 13<sup>th</sup> and Central and south Peninsular India till 15<sup>th</sup> May, 2024.**

**(ii) Due to ongoing thunderstorm activity Heat Wave has abated and unlikely to develop during next 3 days.**

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

- ❖ **Heavy** rainfall occurred at isolated places Tamil Nadu, East Rajasthan, West Madhya Pradesh, Meghalaya, Tripura, Odisha, Marathwada.
- ❖ **Hailstorm activity** observed at isolated places over Uttarakhand, Haryana, West Uttar Pradesh, East Rajasthan, Madhya Pradesh, Vidarbha, Chhattisgarh.
- ❖ **Thundersquall/Gusty winds** observed at some places over Uttarakhand, Punjab, Haryana-Chandigarh-Delhi, West Uttar Pradesh, Rajasthan and Madhya Pradesh and at isolated pockets over Tamil Nadu, Puducherry & Karaikal, Chhattisgarh, Marathwada.
- ❖ Yesterday, the **highest maximum temperature** of 45.5°C was reported at **Bikaner (West Rajasthan)** over the country.

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

- ❖ The Western Disturbance now seen as a trough in middle tropospheric westerlies roughly along long. 64°E to the north of lat. 28°N. A cyclonic circulation lies over West Uttar Pradesh and another over south Rajasthan in lower tropospheric levels. A trough runs from west Uttar Pradesh to south Assam in lower tropospheric levels. Under their influence:
  - ✓ Fairly widespread to widespread rainfall activity accompanied with **thunderstorm, lightning & gusty winds (40-50 kmph)** very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand during 11<sup>th</sup>-13<sup>th</sup> May, 2024.
  - ✓ **Hailstorm activity** very likely at isolated places over Himachal Pradesh on 11<sup>th</sup>; over Uttarakhand on 11<sup>th</sup> & 12<sup>th</sup> May, 2024.
  - ✓ **Thundersquall wind (50-60 kmph)** at isolated place over Uttarakhand on 11<sup>th</sup> & 12<sup>th</sup> May, 2024.
  - ✓ Isolated to scattered light to moderate rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Haryana-Chandigarh, Punjab, Uttar Pradesh on 11<sup>th</sup> & 12<sup>th</sup>; over Rajasthan during 10<sup>th</sup>-13<sup>th</sup> May, 2024.
  - ✓ **Duststorm/thunderstorm with gusty winds (30-40 kmph)** very likely to prevail Uttar Pradesh on 11<sup>th</sup> & 12<sup>th</sup> and over Rajasthan during 11<sup>th</sup>-13<sup>th</sup> May, 2024.
  - ✓ **Strong surface winds (30-40 kmph)** very likely to prevail over plains of Uttar Pradesh and south Rajasthan during next 3 days.

- ❖ A Trough/Wind Discontinuity runs from Marathawada to Comorin area and a cyclonic circulation lies over southeast Arabian Sea off Kerala coast. A cyclonic circulation lies over northeast Assam & neighbourhood and another over north Bangladesh & neighbourhood. Under its influence:
  - ✓ Isolated to fairly widespread light to moderate rainfall accompanied with **thunderstorm, lightning & squally winds (30-50 kmph)** very likely over West Madhya Pradesh, Madhya Maharashtra, Jharkhand, West Bengal & Sikkim and Andaman & Nicobar Islands during 11<sup>th</sup> – 13<sup>th</sup>; over Bihar on 11<sup>th</sup> & 12<sup>th</sup>; over Konkan & Goa, Gujarat Region during 11<sup>th</sup> -14<sup>th</sup>; and over Vidarbha, Madhya Maharashtra, Marathwada and Chhattisgarh, Odisha, Coastal Andhra Pradesh & Yanam, Rayalaseema, Telangana, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, North & South Interior Karnataka, Arunachal Pradesh, Assam and Meghalaya, Nagaland, Manipur, Mizoram & Tripura during 11<sup>th</sup> – 15<sup>th</sup>; over Lakshadweep and Coastal Karnataka on 12<sup>th</sup> & 13<sup>th</sup> and over Saurashtra & Kutch on 13<sup>th</sup> & 14<sup>th</sup> May, 2024.
  - ✓ **Hailstorm activity also very likely over Madhya Pradesh, Madhya Maharashtra during 11<sup>th</sup> – 13<sup>th</sup>; over Vidarbha, Chhattisgarh on 12<sup>th</sup> & 13<sup>th</sup> and over Marathwada on 12<sup>th</sup> May, 2024.**
  - ✓ **Isolated heavy rainfall very likely over Gangetic West Bengal, Meghalaya on 11<sup>th</sup>; over Coastal Andhra Pradesh & Yanam and Telangana on 12<sup>th</sup>; over Odisha during 11<sup>th</sup> -13<sup>th</sup>, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe during 11<sup>th</sup> – 15<sup>th</sup>; over South Interior Karnataka during 11<sup>th</sup> – 14<sup>th</sup> and over North Interior Karnataka on 12<sup>th</sup> & 13<sup>th</sup> May, 2024.**

#### Maximum temperature observation and forecast for next 5 days:

- ❖ **Areas having maximum temperatures greater than 40°C:-** Yesterday, maximum temperatures were in the range of 42-45°C over many parts of Rajasthan; in isolated pockets of northwest Madhya Pradesh and south Haryana and in the range of 40-42°C over many parts of Madhya Pradesh; in some parts of Vidarbha and Marathwada; at isolated pockets of Madhya Maharashtra, Gujarat state, west Odisha and Rayalaseema. These were above normal by 1-3°C in some parts of Rajasthan and West Madhya Pradesh; in isolated pockets of west Telangana and below normal by 2-4°C over some parts of Telangana, Vidarbha, Chhattisgarh, East Madhya Pradesh, central parts of Uttar Pradesh, Gangetic West Bengal and east Jharkhand and Odisha.
- ❖ **No significant change in maximum temperatures very likely over Northwest India during 2 days and rise by about 4-5°C thereafter.**
- ❖ No significant change in maximum temperatures very likely over many parts of East India during next 3 days and rise by about 3-4°C thereafter.
- ❖ No significant change in maximum temperatures very likely over rest parts of the country.

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

- ❖ **Hot and humid weather** very likely to prevail in isolated pockets over coastal parts of Saurashtra & Kutch during next 5 days.

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)

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

- ❖ **Rajasthan:** Chandawal 111, Karauli 74, Anta\_Baran 61, Fatehpur 66, Bikaner 62, Lunkarnsar 61, Alwar , Hanumangarh, Balasmand 57 each
- ❖ **Delhi:** Palam 92, Ujwa 77, Jafarpur 57, Lodhi road 61, Pragati Maidan 63, Pitampura 57, Narayana 50, Najafgarh 40;
- ❖ **Haryana\_ Chandigarh:** Jind 103, Panipat 98, Faridabad 87, Sonapat 81, , Karnal 68, Sirsa 66, Mahendargarh 66, Kaithal 61, Chandigarh 59, Rohtak 53, Kurushetra 51, Ambala 40,
- ❖ **Punjab:** Ropar 72, Jalandhar 70, Shahid\_Bhagat\_Singh\_Nagar 70, Firozpur 57, Ludhiana 55, Patiala 55, Rupnagar 51
- ❖ **Vidarbha:** Gondia 61, Nagpur\_City 61, Wardha 50, Yavatmai 46
- ❖ **West Madhya Pradesh:** Shajapur 69, Indore 68, Ashoknagar 60, Shivpuri 54, Neemuch 50, Khandwa 49, Gwalior 47, Bhopal 32, Badwani 32
- ❖ **East Madhya Pradesh:** Shahdol 52, Jabalpur 47, Chhindwada 45, Chhatarpur 45, Sagar 37, Balaghat 34, Seoni 32
- ❖ **Chhattisgarh:** Mungeli 61, Janjgir 61, Surajpur 42, Koriya 38

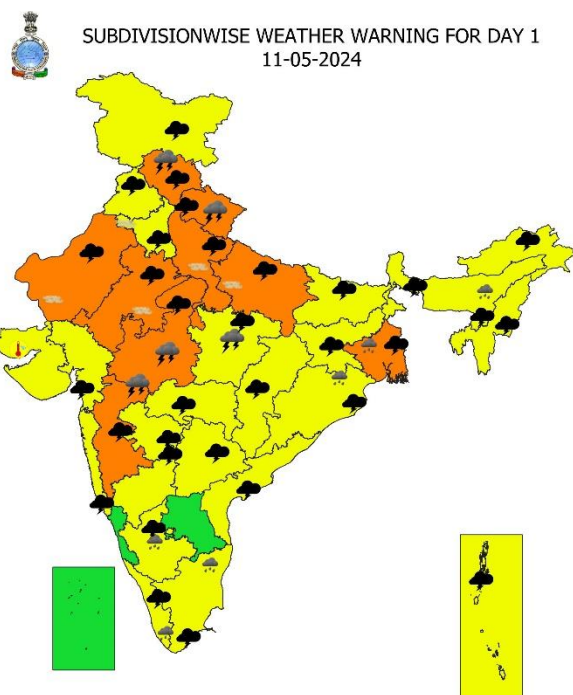
**Realised Rainfall during past 24 hours till 0830 hours IST of today:**

- ❖ Light to moderate rainfall accompanied with isolated thunderstorm & lightning observed at many places over Uttarakhand, Andaman & Nicobar Islands, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura; at a few places over Himachal Pradesh, Haryana-Chandigarh-Delhi, Punjab, Sub-Himalayan West Bengal & Sikkim, Coastal Andhra Pradesh & Yanam, Tamil Nadu, Puducherry & Karaikal, South Interior Karnataka and Kerala & Mahe; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Rajasthan, Madhya Pradesh, Uttar Pradesh, Odisha, Gangetic West Bengal, Jharkhand, Bihar, Madhya Maharashtra, Marathwada, Vidarbha, Chhattisgarh, Telangana , Rayalaseema, North Interior Karnataka

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

- ❖ **Tamil Nadu, Puducherry & Karaikal:** Pennagaram (dist Dharmapuri) 10, Hogenekal (dist Dharmapuri) 8, Samayapuram (dist Thiruchirappalli) 7, Usilampatti (dist Madurai) , Musiri (dist Thiruchirappalli) 6 each, Ammapettai (dist Erode), Perunchani Dam (dist Kanniyakumari), Mettupatti (dist Madurai), Kallandri (dist Madurai), Devimangalam (dist Thiruchirappalli), Puthan Dam (dist Kanniyakumari), Upper Gudalur (dist The Nilgiris), Aruppukottai (dist Virudhunagar) 5 each, Alangudi (dist Pudukkottai) , Perungalur (dist Pudukkottai) , Pulipatti (dist Madurai) 4 each;
- ❖ **Nagaland, Manipur, Mizoram & Tripura:** Kailashahar Aero (dist Unakoti) 9, Kailashahar Aws (dist Unakoti) 9, Kamalpur (dist Dhalai) 7, Dharmanagar/ Panisagar (dist North Tripura) 6, Lembuchhera (dist West Tripura) 5, Ashapara Aws (dist North Tripura) 5, Kamalpur\_aws (dist Dhalai) 4;
- ❖ **East Rajasthan:** Gogunda Sr (dist Udaipur) 7, Bhinay Sr (dist Ajmer) 3, Chhotisadri (dist Pratapgarh) 2, Bhuhana Sr (dist Jhunjhunu) 2, Ajmer Tehsil Sr (dist Ajmer) 2;
- ❖ **Assam & Meghalaya:** Shillong C.s.o. (dist East Khasi Hills) 6, Gharmura (dist Hailakandi) 5, Shillong\_Aws (dist East Khasi Hills) 5;
- ❖ **Kerala:** Konni (Pathanamthitta district) 6, Poonjar AWS (Kottayam district) 5, Aryankavu (Kollam district), Myladumpara (Idukki district) & Anchal ARG (Kollam district) 3 each
- ❖ **South Interior Karnataka:** Gubbi (dist Tumakuru) 6, Mandya Pto (dist Mandya) 6, Krishnarajasagara (dist Mandya) 6, K R Nagara (dist Mysuru) 5, Chikballapura (dist Chikaballapura) 3, Chitradurga Obsy (dist Chitradurga) 3;
- ❖ **Coastal Andhra Pradesh & Yanam:** Tanuku (dist West Godavari) 6, Chodavaram (dist Anakapalli) 5, Vijayawada(arg) (dist Ntr District) 4;
- ❖ **Telangana:** Sathupalle (dist Khammam) 6, Midjil (dist Mahabubnagar) 3;

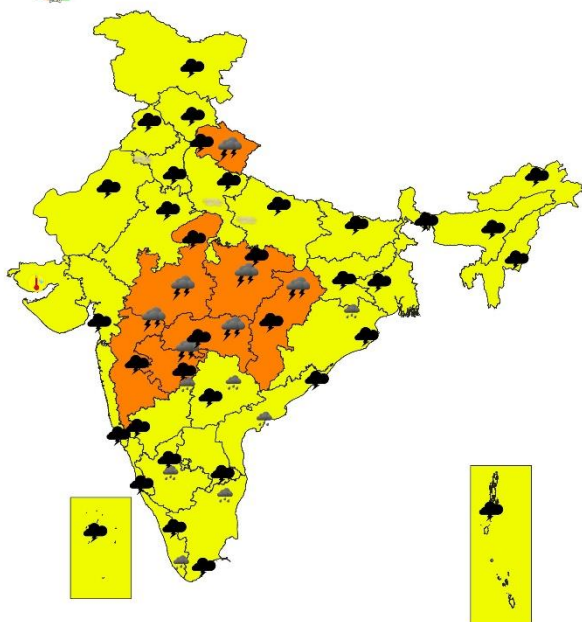
- ❖ **Chhattisgarh:** Bhaiyathan (dist Surajpur) 5, Lormi (dist Mungeli) 3, Takhatpur (dist Bilaspur) 3, Manora (dist Jashpur) 3;
- ❖ **Haryana:** Madluda Rev (dist Panipat) 5, Ganaur (dist Sonapat) 4, Alewa Rev (dist Jind) 3, Samalkha (dist Panipat) 3, Rajaund (dist Kaithal) 3;
- ❖ **North Interior Karnataka:** Belagavi Ap Obsy (dist Belagavi) 2, Yedrami (dist Kalaburgi) 1;
- ❖ **Arunachal Pradesh:** Namsai (dist Lohit) 3, Daparijo (dist Upper Subansiri) 3;
- ❖ **Sub-Himalayan West Bengal:** AMFU Majhian (dist South Dinajpur) 4;
- ❖ **Madhya Maharashtra:** Pune City - Imd Obsy (dist Pune) 3, Chinchwad - Arg (dist Pune) 3, Ambegaon Ghodegaon (dist Pune) 3



## Subdivision Warning



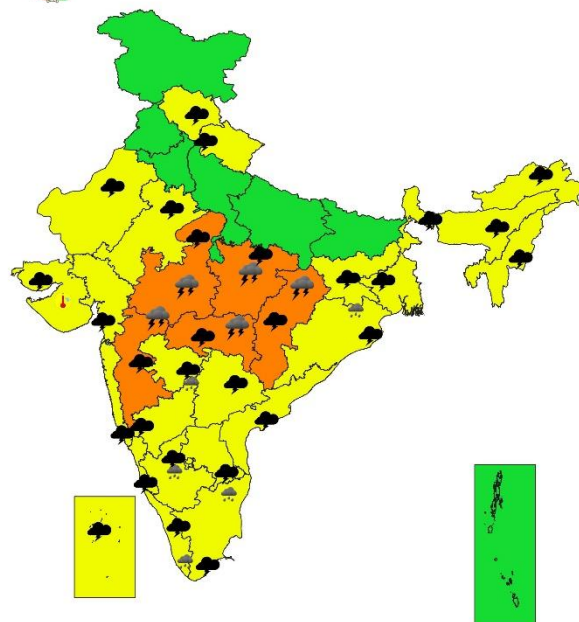
**SUBDIVISIONWISE WEATHER WARNING FOR DAY 2**  
12-05-2024



## Subdivision Warning



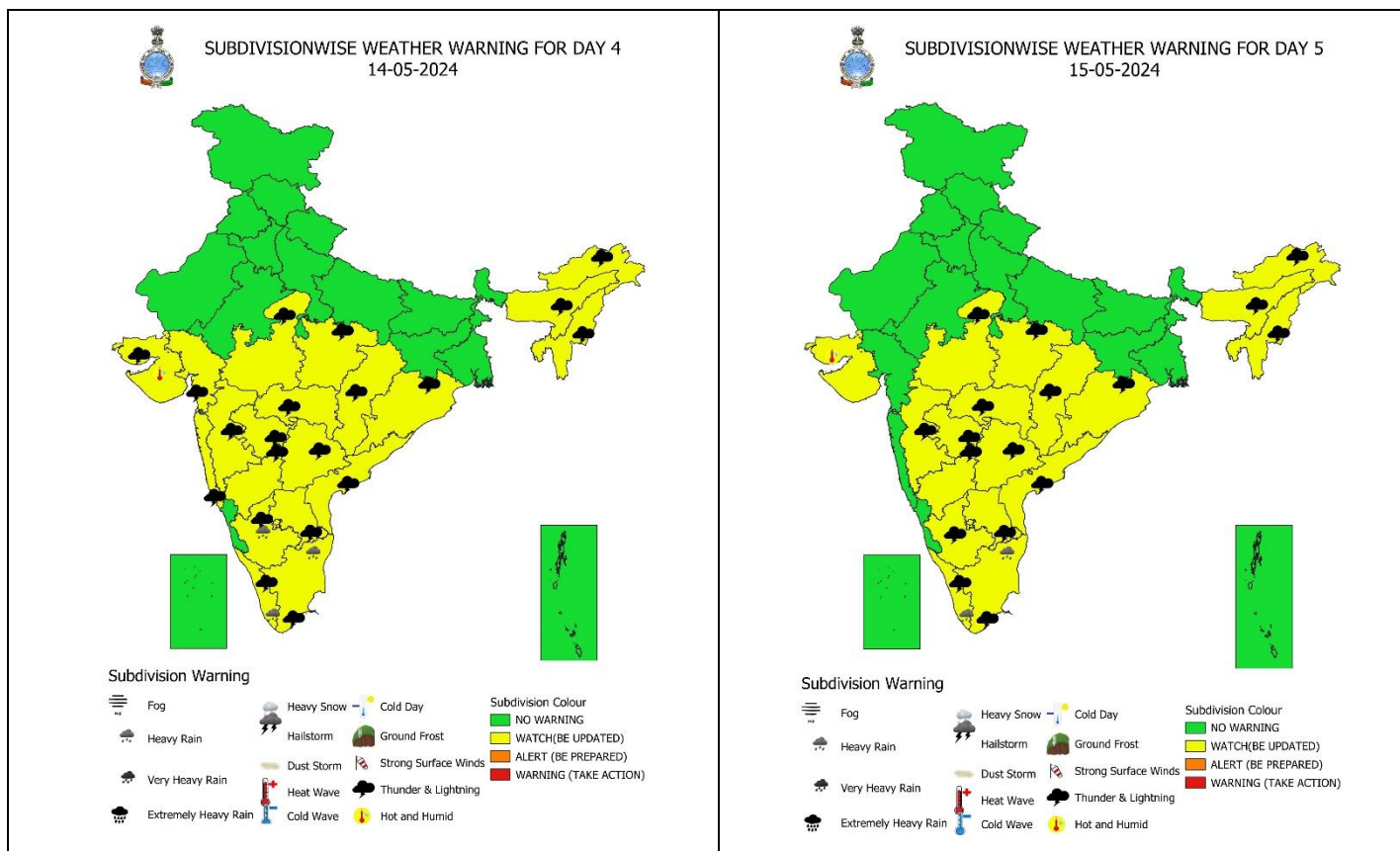
**SUBDIVISIONWISE WEATHER WARNING FOR DAY 3**  
13-05-2024



## Subdivision Warning







## 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.

**Impact expected and action suggested due to thunderstorm accompanied with lightning/gusty winds & Hailstorm over** Himachal Pradesh on 11<sup>th</sup>; over Uttarakhand on 11<sup>th</sup> & 12<sup>th</sup>; over Madhya Pradesh, Madhya Maharashtra during 11<sup>th</sup> – 13<sup>th</sup>; over Vidarbha, Chhattisgarh on 12<sup>th</sup> & 13<sup>th</sup> and over Marathwada on 12<sup>th</sup> May, 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.

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

- Drain out excess water from crop fields to avoid water stagnation in Tamil Nadu, Kerala, South Interior Karnataka, Gangetic West Bengal, Odisha and Meghalaya.
- Use hail nets or hail caps in fruit orchards to prevent mechanical damage and provide mechanical support to horticultural crops & staking to vegetables in Himachal Pradesh, Uttarakhand, Madhya Pradesh, Chhattisgarh and Madhya Maharashtra, Marathwada and Vidarbha regions of Maharashtra.
- Provide mechanical support to horticultural crops & staking to vegetables to prevent damage from gusty winds.

## 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)



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  $4.5^{\circ}\text{C}$  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  $< 1\text{km}$

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)