



Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 10th May, 2024

Time of Issue: 1320 hours IST

Subject: Wet spell accompanied with thunderstorms; lightning & gusty winds very likely over Central, East & south Peninsular India till 13th May, 2024.

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

- ❖ **Yesterday, heat wave conditions** prevailed in some parts of West Rajasthan (exceeding maximum temperatures 45°C)
- ❖ **Very Heavy** rainfall occurred at isolated places over Tamil Nadu, Kerala **and Heavy** rainfall occurred at isolated places over *Rayalaseema, Gangetic West Bengal and South Interior Karnataka*.
- ❖ **Hailstorm activity** observed at some places over *Madhya Pradesh*, and at isolated places over *Himachal Pradesh, Vidarbha, Jharkhand*.
- ❖ Yesterday, the **highest maximum temperature** of 46.2°C was reported at **Phalodi (West Rajasthan)** over the country.

Weather Systems and Forecast & Warnings: (Annexure II)

- ❖ A cyclonic circulation lies over north Bihar and a trough runs from this cyclonic circulation to north Odisha and another cyclonic circulation lies over northeast Assam & neighbourhood in lower tropospheric levels. Under their influence:
 - ✓ Scattered to fairly widespread light to moderate rainfall accompanied with **thunderstorm, lightning & squally winds (40-50 kmph)** very likely over West Bengal & Sikkim during 10th – 12th; isolated to scattered rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** over Bihar, Jharkhand during 10th-12th; over Odisha during 10th – 14th May, 2024.
 - ✓ **Isolated heavy rainfall also very likely over Gangetic West Bengal on 11th; over Odisha during 10th-12th May, 2024.**
 - ✓ Fairly widespread to widespread light to moderate rainfall accompanied with isolated **thunderstorm, lightning & gusty winds (30-40 kmph)** very likely over Arunachal Pradesh, Assam, Meghalaya, Nagaland, Manipur, Mizoram & Tripura during next 7 days.
 - ✓ **Isolated heavy rainfall also very likely over Assam & Meghalaya on 10th May, 2024.**
- ❖ A cyclonic circulation lies over central Madhya Pradesh and an east-west trough runs from northwest Rajasthan to south Assam in lower tropospheric levels. Under its influence:
 - ✓ Isolated to scattered rainfall accompanied with **thunderstorm, lightning & gusty winds (30-40 kmph)** over very likely Vidarbha, Madhya Maharashtra, Marathwada and Chhattisgarh during 10th – 14th; over Madhya Pradesh during 09th-11th; over Marathwada on 09th May, 2024.
 - ✓ **Thunderstorm, lightning & gusty winds (50-60 kmph)** very likely over Madhya Pradesh during 10th – 13th May, 2024.
 - ✓ **Hailstorm activity also very likely over Madhya Pradesh during 10th – 13th; over Vidarbha on 12th & 13th; over Madhya Maharashtra on 11th & 12th; over Marathwada on 12th May, 2024.**
- ❖ A cyclonic circulation lies over south Kerala and due to likely formation of north-south trough in Peninsular India in lower tropospheric levels. Under its influence:

- ✓ Isolated to scattered light to moderate rainfall accompanied with **thunderstorm & lightning & gusty winds (30-40 kmph)** very likely over Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Rayalaseema and Telangana during 10th-14th; scattered to fairly widespread rainfall accompanied with **thunderstorm, lightning & gusty winds (40-50 kmph)** over Kerala & Mahe, Karnataka and Lakshadweep during 10th-14th May, 2024.
- ✓ ***Isolated heavy rainfall very likely over Coastal Karnataka during 11th -13th; over Tamil Nadu, Puducherry & Karaikal during 10th-14th; over North Interior Karnataka on 12th & 13th and over Kerala & Mahe, South Interior Karnataka during 10th-13th May, 2024.***
- ❖ A cyclonic circulation lies over Iran in lower tropospheric levels with a trough aloft in middle tropospheric westerlies roughly along Long. 58°E to the north of Lat. 26°N and a cyclonic circulation over northwest Rajasthan in lower tropospheric levels. Under its influence:
 - ✓ Scattered to fairly 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 10th-13th May, 2024.
 - ✓ **Hailstorm activity** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 10th & 11th; over Himachal Pradesh on 10th; over Uttarakhand during 10th – 13th May, 2024.
 - ✓ **Thundersquall wind (50-60 kmph)** at isolated place over Uttarakhand on 11th-13th May, 2024.
 - ✓ ***Isolated heavy rainfall very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 12th 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 and Rajasthan during 10th-13th May, 2024.
 - ✓ **Duststorm/thunderstorm with gusty winds (30-40 kmph)** very likely to prevail Uttar Pradesh, Haryana-Chandigarh-Delhi during 10th-13th and over Rajasthan on 10th & 11th May, 2024.
 - ✓ **Strong surface winds (30-40 kmph)** very likely to prevail over plains of Uttar Pradesh and south Rajasthan during next 4 days.

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 43-46°C over many parts of West Rajasthan; in isolated pockets of East Rajasthan and in the range of 40-43°C over many parts of Madhya Pradesh; in some parts of Gujarat & Odisha; at isolated pockets of Madhya Maharashtra, Marathwada and south Haryana & Telangana. These were above normal by 2-4°C in some parts of Rajasthan & Tamil Nadu; in isolated pockets of Gujrat, North Interior Karnataka and above normal by 1-2°C over rest of the above-mentioned areas.
- ❖ **No significant change in maximum temperatures very likely over Northwest India during next 24 hours and fall by about 2-4°C thereafter for subsequent 3 days and rise by about 2-4°C thereafter.**
- ❖ No significant change in maximum temperatures very likely over many parts of central & West India during next 2 days and fall by about 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:

- ❖ **Heat wave conditions** very likely to prevail in isolated pockets over West Rajasthan on 10th May, 2024.
- ❖ **Hot and humid weather** very likely to prevail in isolated pockets over coastal parts of Saurashtra & Kutch during next 3 days; over Kerala on 10th May, 2024.

For more details, kindly refer: 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:

- ❖ **West Madhya Pradesh:** Sehore 87 kmph, Raisen 69 kmph, Shajapur 62 kmph, Bhopal 38 kmph;
- ❖ **East Madhya Pradesh:** Singrauli 71 kmph, Rewa 67 kmph, Damoh 54 kmph, Sagar 52 kmph, Katni 50 kmph, Jabalpur 56 kmph, Balaghat 43 kmph, Chhindwada 41 kmph, Shahdol 41 kmph, Seoni 39 kmph, Mandla 37 kmph;
- ❖ **Vidarbha:** Gondia 61 kmph, Wardha 50 kmph, Nagpur City 61 kmph, Yavatmai 46 kmph, Gadchirolo 42 kmph;
- ❖ **Telangana:** Karimnagar 50 kmph, Nizamabad 48 kmph, Siddipet 39 kmph;
- ❖ **Odisha:** Gajapati 57 kmph
- ❖ **Jharkhand:** Giridih-Bengabad 70 kmph
- ❖ **Gangetic West Bengal:** Kharagpur 59 kmph;
- ❖ **Bihar:** Pusa 63 kmph

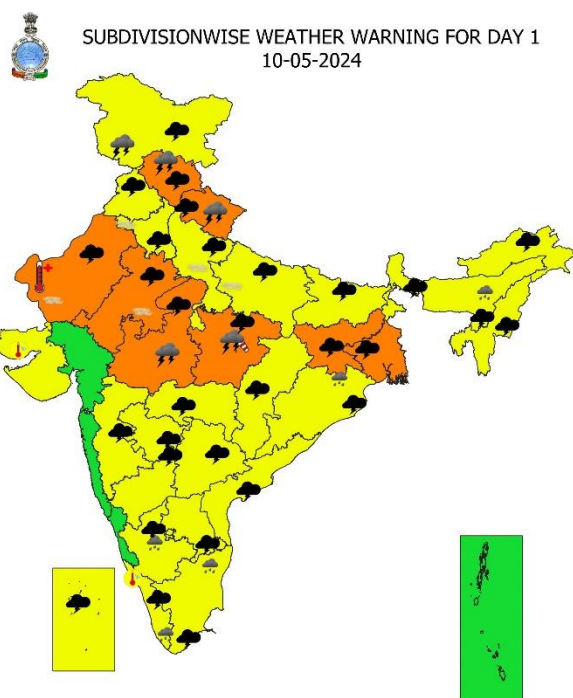
Realised Rainfall during past 24 hours till 0830 hours IST of today:

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

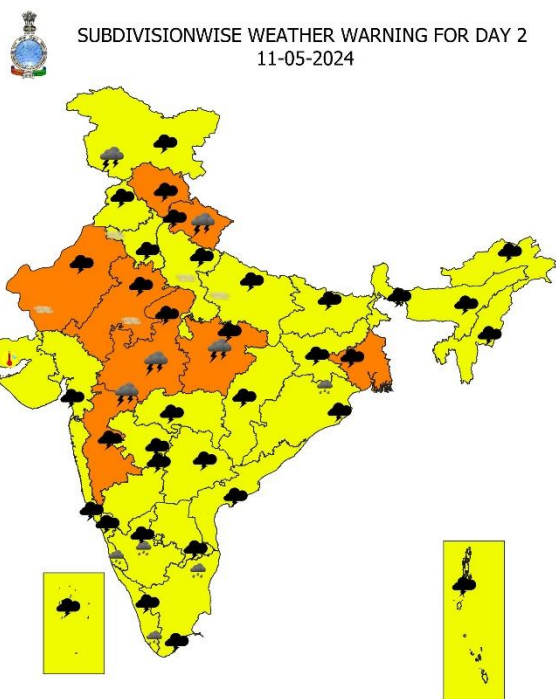
Significant amount of rainfall (in cm):

- ❖ **Tamil Nadu, Puducherry & Karaikal:** Sothuparai (dist Theni) 13, Periyakulam (dist Theni) , Peraiyur (dist Madurai) 9 each, Watrap (dist Virudhunagar) 8, Manjalar (dist Theni), Valparai PAP (dist Coimbatore), Valparai Taluk Office (dist Coimbatore), Perunchani Dam (dist Kanniyakumari) 6 each, Puthan Dam (dist Kanniyakumari), Periyar (dist Theni), Srivilliputhur (dist Virudhunagar), Kodivery (dist Erode), Kil Kotagiri Estate (dist The Nilgiris), Anaimalai Taluk Office (dist Coimbatore), Elumalai (dist Madurai), Pilavakkal Periyar Dam (dist Virudhunagar), Adayamadai (dist Kanniyakumari) 5 each
- ❖ **Kerala:** Thritla (dist Palakkad) 12, Ottapalam (dist Palakkad) 9, Mankara Aws (dist Palakkad) 9, Kollamkode (dist Palakkad) 8, Enamakkal (dist Thrissur) 7, Vyanthala Arg (dist Thrissur) 7, Kottayam (dist Kottayam) 7, Pattermbi (dist Palakkad) 6, Kanjirappally (dist Kottayam) 6;
- ❖ **Rayalaseema:** Alur (dist Kurnool) 9, Koilkuntla (dist Nandyal) 3, Jammalamadugu (dist Ysr) 3;
- ❖ **Gangetic West Bengal:** Kalaikunda (Iaf) (dist West Midnapore) 9, Harinkhola (dist Hooghly) 8, Amfu Kharagpur (dist West Midnapore) 7, Midnapore (dist West Midnapore) 7, Midnapore(cwc) (dist West Midnapore) 7, Alipore (dist Kolkata) 6, Panagarh (iaf) (dist Burdwan) 6, Mo Saltlake (dist North 24 Parganas) 6, Amfu Kakdwip (dist South 24 Parganas) 5, Canning (dist South 24 Parganas) 5, Durgapur (dist Burdwan) 5, Asansol (dist Burdwan) 5;
- ❖ **North Interior Karnataka:** Bellatti (dist Gadag) 4, Narayanpur Hms (dist Yadgir) 1;
- ❖ **South Interior Karnataka:** Bengaluru Kial Obsy (dist Bengaluru Urban) 7, Hunsur (dist Mysuru) 5;
- ❖ **Coastal Andhra Pradesh & Yanam:** Gantyada (dist Vizianagaram) 5, Srungavarapukota (dist Vizianagaram) 5, Tanuku (dist West Godavari) 5, Merakamudidam (dist Vizianagaram) 4, Therlam (dist Vizianagaram) 4;
- ❖ **Coastal Andhra Pradesh & Yanam:** Gantyada (dist Vizianagaram) 5, Srungavarapukota (dist Vizianagaram) 5, Tanuku (dist West Godavari) 5
- ❖ **Rayalaseema:** Gantyada (dist Vizianagaram) 5, Srungavarapukota (dist Vizianagaram) 5, Tanuku (dist West Godavari) 5;
- ❖ **Chhattisgarh:** Pakhanjur (dist Kanker) 3;

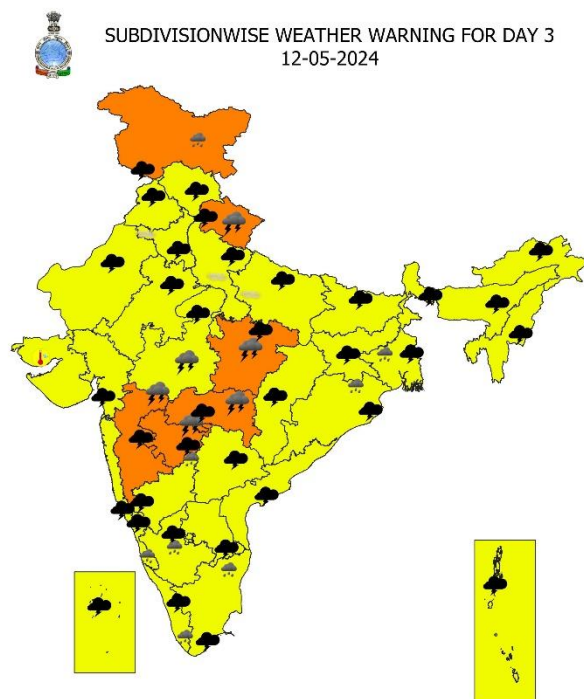
- ❖ **Himachal Pradesh:** BIJAH I Bijahi (dist Mandi) 4;
- ❖ **East Madhya Pradesh:** Sihawal (dist Sidhi) 5, Amanganj (dist Panna) 5;
- ❖ **Assam & Meghalaya:** Williamnagar (dist East Garo Hills) 5, Amraghat (dist Cachar) 4, Lala Arg (dist Hailakandi) 4, Amraghat Arg (dist Cachar) 4, Dholai (dist Cachar) 4;
- ❖ **Nagaland, Manipur, Mizoram & Tripura:** Imphal T-aero (dist Imphal East) 3, Mokokchang (dist Mokokchung) 3;
- ❖ **Arunachal Pradesh:** Hawai (dist Anjaw) 1, Tezu (dist Lohit) 1.



Subdivision Warning

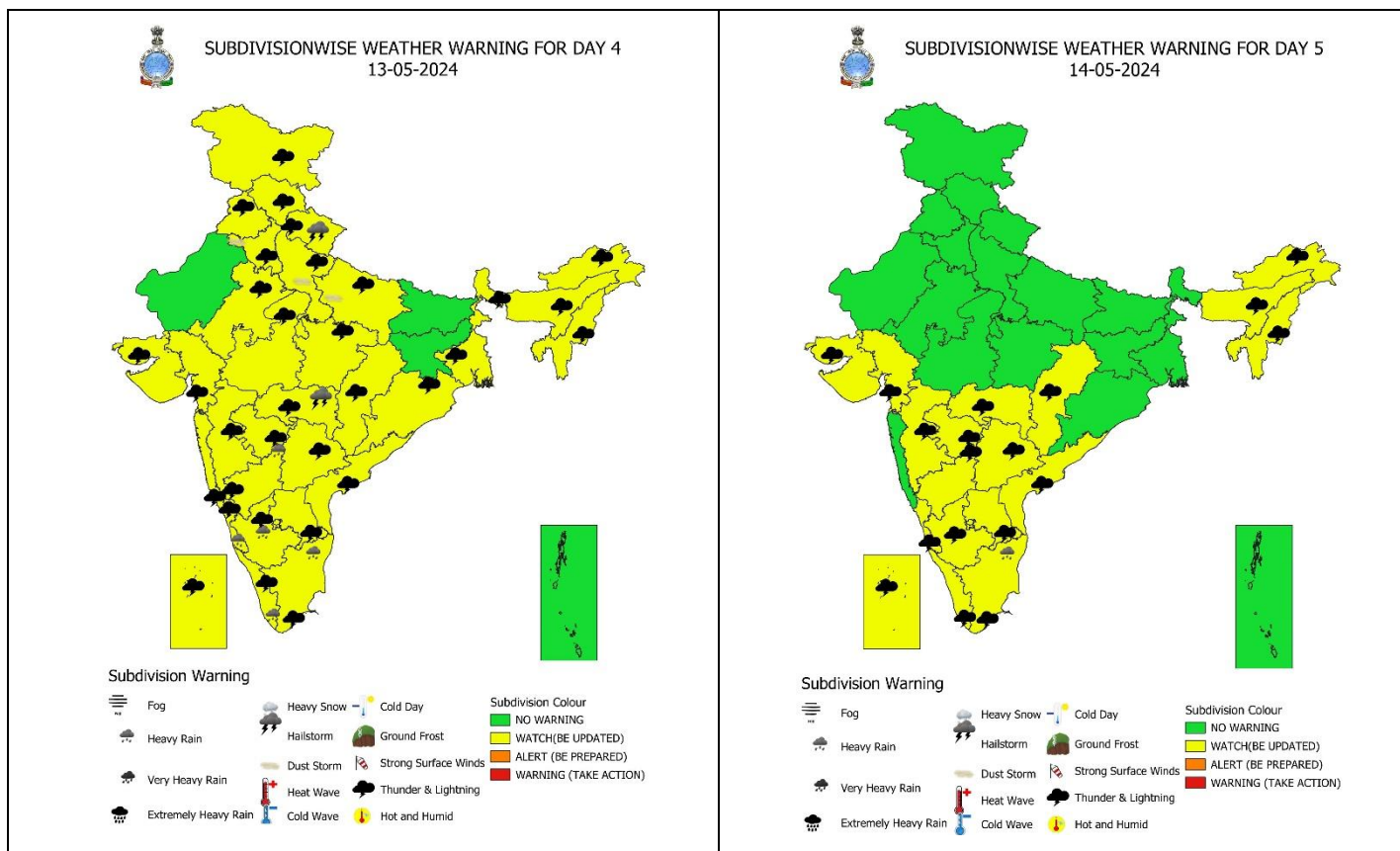


Subdivision Warning



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 Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 10th & 11th; over Himachal Pradesh on 10th; over Uttarakhand during 10th – 13th; over Madhya Pradesh during 10th – 13th; over Vidarbha on 12th & 13th; over Madhya Maharashtra on 11th & 12th; over Marathwada on 12th 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 kutch 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 Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Madhya Pradesh and Madhya Maharashtra & Marathwada regions of Maharashtra.
- Apply need-based irrigation to standing crops to avoid heat stress; provide mulching to conserve soil moisture and minimise evaporation.
- 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)

 Fog

 Heavy Snow

 Cold Day

 Hailstorm

 Ground Frost

 Dust Storm

 Strong Surface Winds

 Heat Wave

 Thunder & Lightning

 Cold Wave

 Hot and Humid

 Very Heavy Rain

 Extremely Heavy Rain

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 $< 1\text{km}$

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)