

Monday, April 29, 2024  
Time of Issue: 0745 hours IST  
(MORNING)

## All India Impact Based Weather Warning Bulletin

### 29 April (Day 1):

- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40-50 kmph) & hailstorm** very likely at isolated places over Himachal Pradesh, Uttarakhand and Punjab; **with lightning & gusty winds (speed reaching 40-50 kmph)** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura; **with lightning, gusty winds (speed reaching 35-45 kmph) &** at isolated places over Uttar Pradesh, **with lightning, duststorm & gusty winds (speed reaching 30-40 kmph)** at isolated places over Haryana-Chandigarh-Delhi; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places over West Rajasthan, East Madhya Pradesh, Vidarbha, Chhattisgarh, Coastal Andhra Pradesh & Yanam **with lightning** at isolated places over Arunachal Pradesh, Kerala & Mahe, Sub-Himalayan West Bengal & Sikkim and Lakshadweep.
- ❖ **Heavy rainfall** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Arunachal Pradesh and Assam & Meghalaya.
- ❖ **Hot and humid weather** very likely to prevail over west Assam, Meghalaya, Tripura, Kerala & Mahe and Coastal Karnataka.
- ❖ **Heat wave to severe heat wave conditions** very likely to prevail at many places over Gangetic West Bengal, Bihar; at some places over Jharkhand, Odisha; **heat wave conditions** in isolated pockets over East Uttar Pradesh, Sub-Himalayan West Bengal, Saurashtra & Kutch, Konkan & Goa, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema and Interior Karnataka.
- ❖ **Warm night conditions** very likely to prevail in isolated pockets over East Uttar Pradesh and Saurashtra & Kutch.

### 30 April (Day 2):

- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40-50 kmph)** very likely at isolated places over Nagaland, Manipur, Mizoram & Tripura; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places over Assam & Meghalaya, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Punjab, Coastal Andhra Pradesh & Yanam **with lightning** at isolated places over Himachal Pradesh, Arunachal Pradesh, Kerala & Mahe, Sub-Himalayan West Bengal & Sikkim.
- ❖ **Heavy rainfall** very likely at isolated places over Arunachal Pradesh and Assam & Meghalaya.
- ❖ **Hot and humid weather** very likely to prevail over west Assam, Meghalaya, Tripura, Kerala & Mahe, Konkan & Goa and Coastal Karnataka.
- ❖ **Heat wave to severe heat wave conditions** very likely to prevail at many places over Gangetic West Bengal; at some places over Odisha, Bihar and Jharkhand; **heat wave conditions** in isolated pockets over Sub-Himalayan West Bengal, East Uttar Pradesh, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema and Interior Karnataka.

### 01 May (Day 3):

- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40-50 kmph)** very likely at isolated places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places over Assam & Meghalaya, **with lightning** at isolated places over Kerala & Mahe.
- ❖ **Heavy to very heavy rainfall** likely at isolated places over Arunachal Pradesh and Assam & Meghalaya; **Heavy rainfall** very likely at isolated places over Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Hot and humid weather** very likely to prevail over Kerala & Mahe and Coastal Karnataka.
- ❖ **Heat wave to severe heat wave conditions** very likely to prevail at many places over Gangetic West Bengal; at some places over Odisha, Bihar and Jharkhand; **heat wave conditions** in isolated pockets over Sub-Himalayan West Bengal, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema and Interior Karnataka.

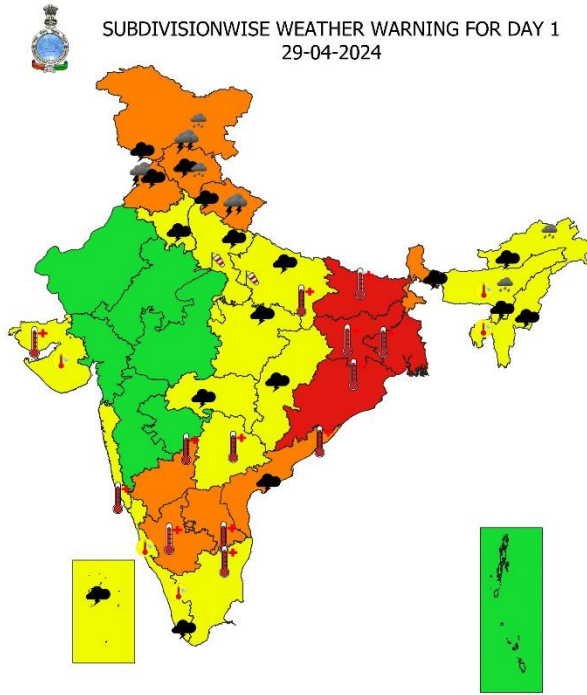
### 02 May (Day 4):

- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40-50 kmph)** very likely at isolated places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Assam & Meghalaya **with lightning** at isolated places over Kerala & Mahe.
- ❖ **Heavy to very heavy rainfall with extremely heavy falls** likely at isolated places over Assam & Meghalaya and **Heavy to very heavy rainfall** at isolated places over Arunachal Pradesh and Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Hot and humid weather** likely to prevail over Kerala & Mahe, Telangana and Coastal Karnataka.
- ❖ **Heat wave conditions** likely to prevail at isolated places over Gangetic West Bengal, Odisha, Bihar, Jharkhand, Coastal Andhra Pradesh & Yanam, Rayalaseema and Interior Karnataka.

### 03 May (Day 5):

- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40-50 kmph)** very likely at isolated places over Nagaland, Manipur, Mizoram & Tripura, Assam & Meghalaya **with lightning** at isolated places over Kerala & Mahe.
- ❖ **Heavy rainfall** likely at isolated places over south Assam & Meghalaya, Tripura and Mizoram.
- ❖ **Hot and humid weather** likely to prevail over Kerala & Mahe, Telangana and Coastal Karnataka.
- ❖ **Heat wave conditions** likely to prevail at isolated places over Coastal Andhra Pradesh & Yanam, Rayalaseema and Interior Karnataka.

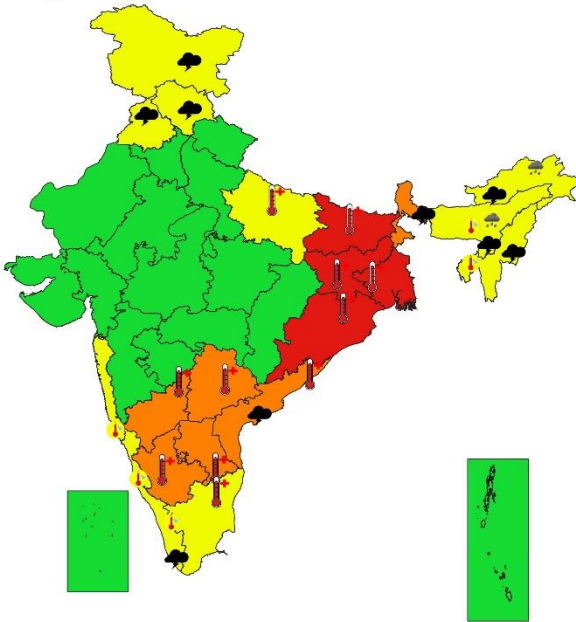
SUBDIVISIONWISE WEATHER WARNING FOR DAY 1  
 29-04-2024



**Subdivision Warning**

Fog	Heavy Snow	Cold Day	<b>Subdivision Colour</b>
Heavy Rain	Hailstorm	Ground Frost	NO WARNING
Very Heavy Rain	Dust Storm	Strong Surface Winds	WATCH (BE UPDATED)
Extremely Heavy Rain	Heat Wave	Thunder & Lightning	ALERT (BE PREPARED)
	Cold Wave	Hot and Humid	WARNING (TAKE ACTION)

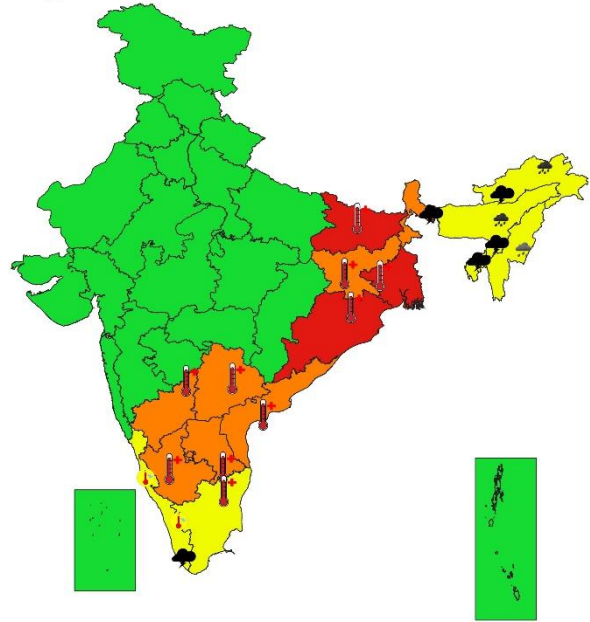
SUBDIVISIONWISE WEATHER WARNING FOR DAY 2  
 30-04-2024



**Subdivision Warning**

Fog	Heavy Snow	Cold Day	<b>Subdivision Colour</b>
Heavy Rain	Hailstorm	Ground Frost	NO WARNING
Very Heavy Rain	Dust Storm	Strong Surface Winds	WATCH (BE UPDATED)
Extremely Heavy Rain	Heat Wave	Thunder & Lightning	ALERT (BE PREPARED)
	Cold Wave	Hot and Humid	WARNING (TAKE ACTION)

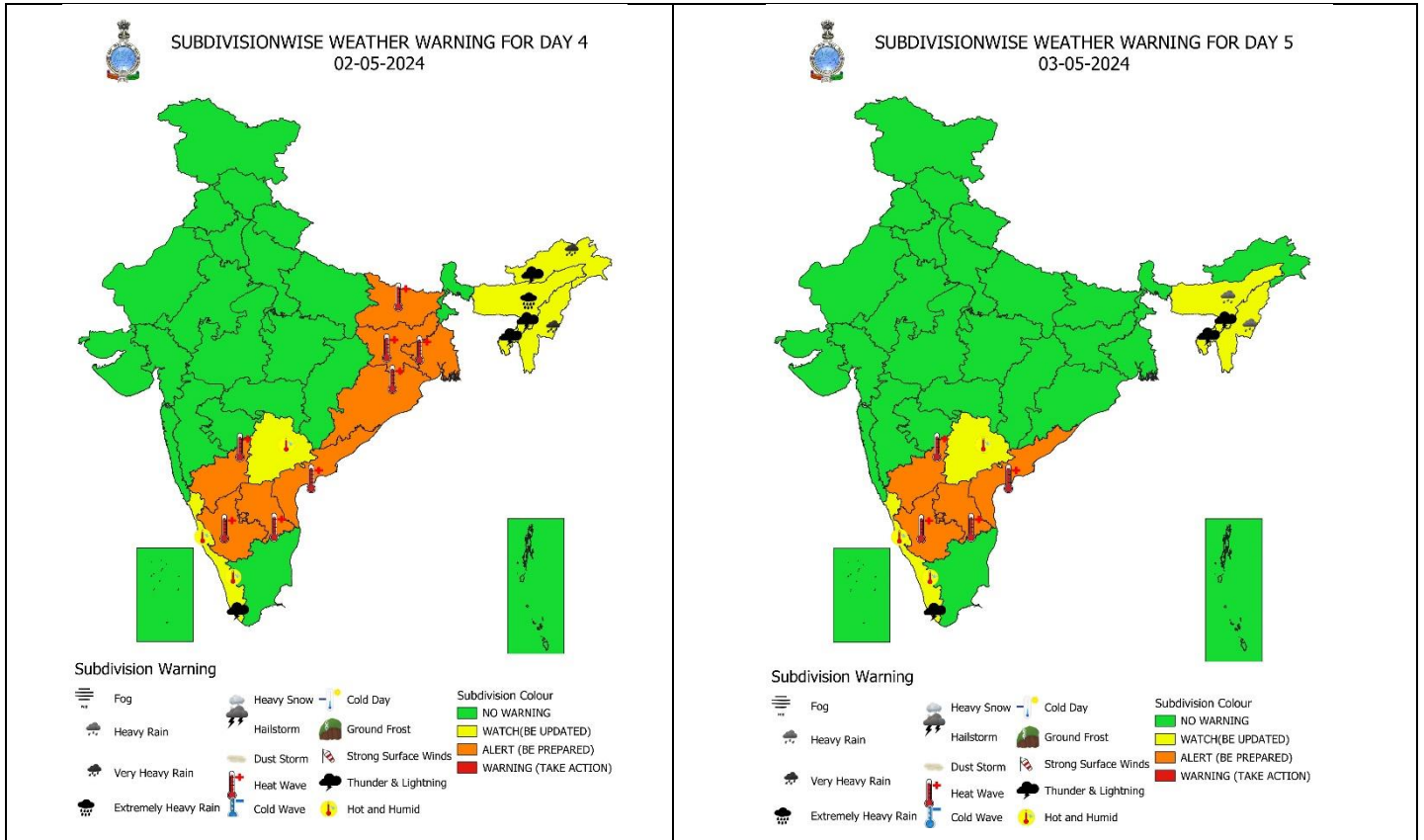
SUBDIVISIONWISE WEATHER WARNING FOR DAY 3  
 01-05-2024



**Subdivision Warning**

Fog	Heavy Snow	Cold Day	<b>Subdivision Colour</b>
Heavy Rain	Hailstorm	Ground Frost	NO WARNING
Very Heavy Rain	Dust Storm	Strong Surface Winds	WATCH (BE UPDATED)
Extremely Heavy Rain	Heat Wave	Thunder & Lightning	ALERT (BE PREPARED)
	Cold Wave	Hot and Humid	WARNING (TAKE ACTION)

**\* Red colour warning does not mean "Red Alert", Red colour warning means "Take Action".**  
 Forecast and Warning for any day is valid from 0830 hours IST of day till 0830 hours IST of next day.  
 For more details, kindly visit <https://mausam.imd.gov.in> or contact: 011-2434-4599  
 (Service to the Nation since 1875)



**Impact expected and action suggested due to thunderstorm accompanied with lightning/gusty winds & Hailstorm over Himachal Pradesh, Uttarakhand and Punjab on 29th 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 heavy/very heavy rainfall over Jammu-Kashmir-Gilgit-Baltistan-Muzaffarabad and Himachal Pradesh on 29<sup>th</sup> April; over Arunachal Pradesh, Assam & Meghalaya during 29<sup>th</sup> April-02<sup>nd</sup> May and Nagaland, Manipur, Mizoram & Tripura on 01<sup>st</sup> & 02<sup>nd</sup> 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.

#### **IMPACT & ACTION SUGGESTED due to Heat Wave Conditions:**

##### **Red alert Areas (West Bengal, Bihar, Jharkhand & Odisha)**

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

##### **Orange alert Areas (Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema & 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 (East Uttar Pradesh, Tamil Nadu)**

- ❖ 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 Himachal Pradesh, Uttarakhand, Punjab, Haryana and Madhya Pradesh. Keep the harvested produce at safer places or cover the heaps of harvested produce in the fields with tarpaulin sheets.
- In Jammu & Kashmir, withhold harvesting of wheat; shift already harvested produce of wheat, mustard chickpea and pea from crop fields to safer places or cover the harvested produce with polythene sheet or tarpaulin; postpone sowing of vegetables, turmeric and transplanting of cucurbits.
- 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 in Jammu & Kashmir, Himachal Pradesh, Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- 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, North Konkan, Tamil Nadu, North Kerala, Interior Karnataka, Rayalaseema and Telangana.
- Provide mechanical support to horticultural crops & staking to vegetables to prevent damage from gusty winds.

## 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  $< 1\text{km}$

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)

Kindly download MAUSAM APP for location specific forecast & warning, MEGHDOOT APP for Agromet advisory and DAMINI APP for Lightning Warning & visit state MC/RMC websites for district wise warning.

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