

Sunday, May 19, 2024
Time of Issue: 0800 hours IST
(MORNING)

All India Impact Based Weather Warning Bulletin

19 May (Day 1):

- ❖ **Heavy to very Heavy rainfall with extremely heavy falls** very likely at isolated places over Tamil Nadu, Kerala & Mahe; **Heavy to very heavy rainfall** at isolated places over South Interior Karnataka, Meghalaya and **Heavy rainfall** at isolated places over Assam, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Coastal Karnataka, Lakshadweep
- ❖ **Heat Wave to severe heat wave Conditions** very likely to prevail in many parts over Punjab, Haryana-Chandigarh-Delhi, West Rajasthan; in some parts of West Uttar Pradesh and **heat wave conditions** in some parts of East Uttar Pradesh, East Rajasthan; in isolated pockets over Uttarakhand, north Madhya Pradesh, Gangetic West Bengal, Bihar, Jharkhand and Gujarat state.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 40-50 kmph)** very likely at many places over South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe; at isolated places over Sub-Himalayan West Bengal & Sikkim, Bihar; **with lightning & gusty winds (speed reaching 30-40 kmph)** at some places over Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Coastal Karnataka, North Interior Karnataka; at isolated places over Uttarakhand, Madhya Pradesh, Vidarbha, Chhattisgarh, Marathwada, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema; **with lightning** at some places over Lakshadweep; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Andaman & Nicobar Islands, Gangetic West Bengal, Odisha, Arunachal Pradesh, Goa.
- ❖ **Hot and humid weather** very likely to prevail over Konkan & Goa and Sub-Himalayan West Bengal.
- ❖ **Warm night conditions** very likely to prevail in isolated pockets over East Uttar Pradesh, Bihar and West Rajasthan
- ❖ **Squally weather with wind speed 40 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over along and off Kerala Coast, Lakshadweep, Maldives areas, Comorin area, Gulf of Mannar & along and off Sri Lanka coast; Fishermen are advised not to venture into these areas.

20 May (Day 2):

- ❖ **Heavy to very Heavy rainfall with extremely heavy falls** very likely at isolated places over Tamil Nadu, Kerala & Mahe; **Heavy to very heavy rainfall** at isolated places over South Interior Karnataka and Meghalaya and **Heavy rainfall** at isolated places over Andaman & Nicobar Islands, Sub-Himalayan West Bengal & Sikkim, Assam Lakshadweep, Coastal Karnataka.
- ❖ **Heat Wave to severe heat wave Conditions** very likely to prevail in many parts over Punjab, Haryana-Chandigarh-Delhi, West Rajasthan and **heat wave conditions** in some parts of West Uttar Pradesh, East Rajasthan; in isolated pockets over Uttarakhand, East Uttar Pradesh, Madhya Pradesh, Bihar, Jharkhand, Gangetic West Bengal, Odisha and Gujarat state.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 40-50 kmph)** very likely at many places over South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe; at isolated places over West Bengal & Sikkim, Bihar; **with lightning & gusty winds (speed reaching 30-40 kmph)** at some places over Coastal Karnataka, North Interior Karnataka; at isolated places over Uttarakhand, Vidarbha, Chhattisgarh, Jharkhand, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema; **with lightning** at some places over Lakshadweep; at isolated places over Odisha, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Goa.
- ❖ **Hot and humid weather** very likely to prevail over Konkan & Goa.
- ❖ **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** very likely to prevail over along and off Kerala and adjoining Karnataka coasts, Lakshadweep, Maldives areas, Comorin area, Gulf of Mannar, along and off Sri Lanka coast; **with wind speed 40 kmph to 45 kmph gusting to 55 kmph** prevailing over Andaman Sea. Fishermen are advised not to venture into these areas.

21 May (Day 3):

- ❖ **Heavy to very heavy rainfall with extremely heavy falls** likely at isolated places over Tamil Nadu, Kerala & Mahe; and **Heavy rainfall** at isolated places over Andaman & Nicobar Islands, South Interior & Coastal Karnataka and Lakshadweep.
- ❖ **Heat Wave to severe heat wave Conditions** likely to prevail in most parts of West Rajasthan; in many parts over Punjab and Haryana-Chandigarh-Delhi; in some parts over East Rajasthan and **heat wave conditions** in some parts of West Uttar Pradesh; in isolated pockets over Uttarakhand, East Uttar Pradesh, Madhya Pradesh, Odisha and Gujarat state.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 40-50 kmph)** likely at many places over South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe; at isolated places over West Bengal, Bihar; **with lightning & gusty winds (speed reaching 30-40 kmph)** at some places over Coastal Karnataka, North Interior Karnataka, Lakshadweep; at isolated places over Uttarakhand, Vidarbha, Sub-Himalayan West Bengal & Sikkim, Odisha, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema; **with lightning** at isolated places over East Uttar Pradesh, Marathwada.
- ❖ **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over along and off Kerala, Karnataka coasts, Lakshadweep, Maldives areas, Comorin area, Gulf of Mannar, along and off Sri Lanka coast, Tamil Nadu coast and adjoining Southwest Bay of Bengal; along and off Somalia coast **with wind speed 40 kmph to 45 kmph gusting to 55 kmph** prevailing over Andaman Sea. Fishermen are advised not to venture into these areas.

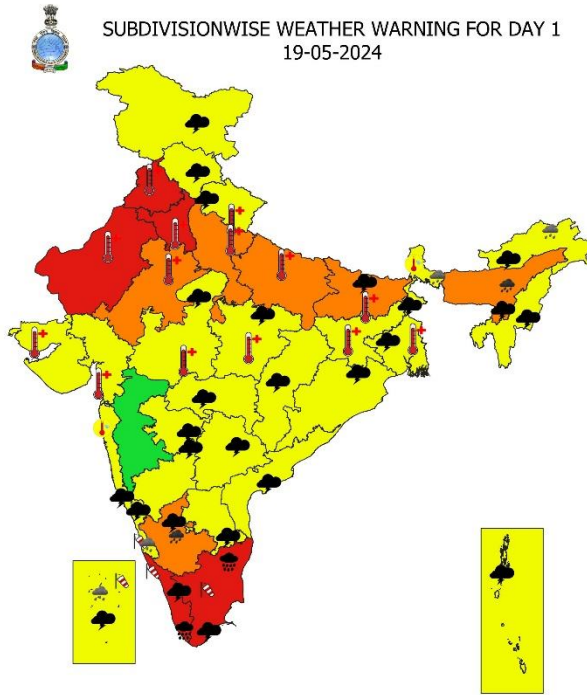
22 May (Day 4):

- ❖ **Heavy to very heavy rainfall** likely at isolated places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and **Heavy rainfall** at isolated places over Andaman & Nicobar Islands, Coastal Karnataka and South Interior Karnataka
- ❖ **Heat Wave to severe heat wave Conditions** likely to prevail in most parts of West Rajasthan; in many parts over Punjab and Haryana-Chandigarh-Delhi; in some parts over East Rajasthan and **heat wave conditions** in isolated pockets over Uttarakhand, West Uttar Pradesh, Madhya Pradesh, Odisha and Gujarat state.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 40-50 kmph)** likely at many places over South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe; at isolated places over Bihar; **with lightning & gusty winds (speed reaching 30-40 kmph)** at some places over Coastal Karnataka, North Interior Karnataka, Lakshadweep; at isolated places over Uttarakhand, Vidarbha, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema; **with lightning** at isolated places over East Uttar Pradesh, Konkan & Goa.
- ❖ **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over along and off Kerala, Karnataka coasts, Lakshadweep, Maldives areas, Comorin area, Gulf of Mannar, along and off Sri Lanka coast, Tamil Nadu coast, Southwest Bay of Bengal and adjoining Southeast Bay of Bengal, along and off Somalia coast; **with wind speed 40 kmph to 45 kmph gusting to 55 kmph** prevailing over along over Andaman Sea. Fishermen are advised not to venture into these areas.

23 May (Day 5):

- ❖ **Heavy to very heavy rainfall** likely at isolated places over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and **Heavy rainfall** at isolated places over Andaman & Nicobar Islands, Coastal Karnataka and South Interior Karnataka
- ❖ **Heat Wave to severe heat wave Conditions** likely to prevail in most parts of West Rajasthan; in many parts over Punjab and Haryana-Chandigarh-Delhi; in some parts over East Rajasthan and **heat wave conditions** in isolated pockets over Uttarakhand, West Uttar Pradesh, Madhya Pradesh, Odisha and Gujarat state.
- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 40-50 kmph)** likely at many places over South Interior Karnataka, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe; at isolated places over Bihar; **with lightning & gusty winds (speed reaching 30-40 kmph)** at some places over Coastal Karnataka, North Interior Karnataka, Lakshadweep; at isolated places over Uttarakhand, Vidarbha, Chhattisgarh, Sub-Himalayan West Bengal & Sikkim, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema; **with lightning** at isolated places over East Uttar Pradesh, Konkan & Goa.
- ❖ **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** likely to prevail over along and off Kerala, Karnataka coasts, Lakshadweep, Maldives areas, Comorin area, Gulf of Mannar, along and off Sri Lanka coast, Tamil Nadu coast, Southwest Bay of Bengal and adjoining Southeast Bay of Bengal, along and off Somalia coast; **with wind speed 40 kmph to 45 kmph gusting to 55 kmph** prevailing over along over Andaman Sea. Fishermen are advised not to venture into these areas.

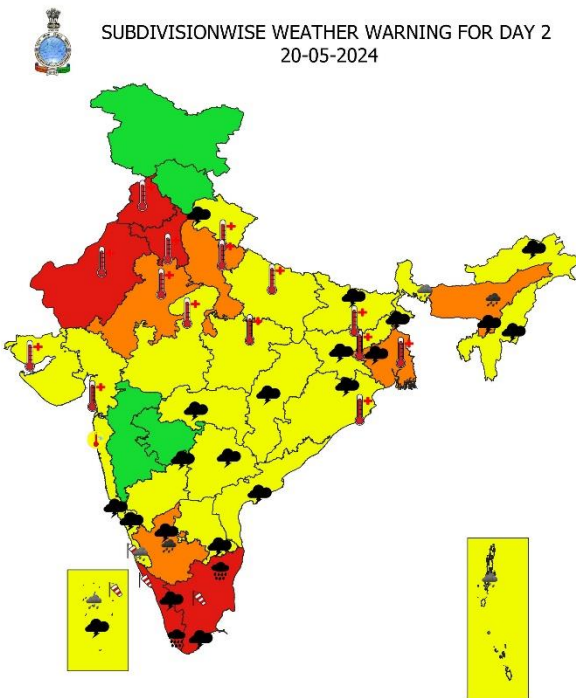
SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
 19-05-2024



Subdivision Warning

- | | | | |
|----------------------|------------|----------------------|---------------------------|
| Fog | Heavy Snow | Cold Day | Subdivision Colour |
| 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) |

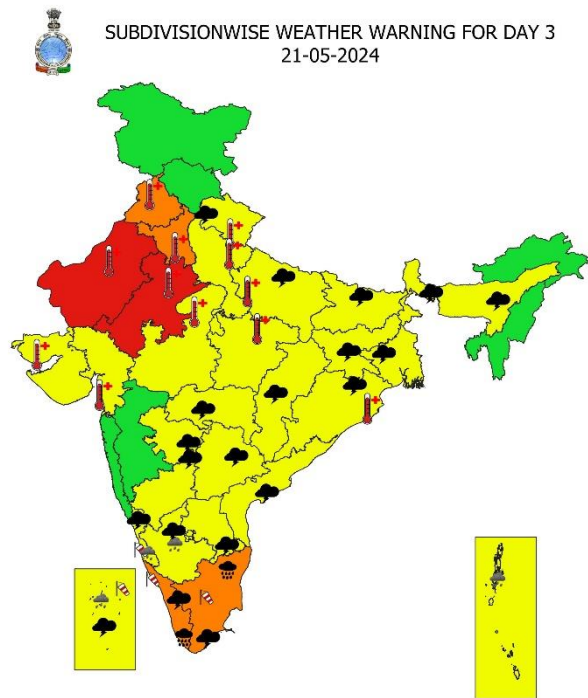
SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
 20-05-2024



Subdivision Warning

- | | | | |
|----------------------|------------|----------------------|---------------------------|
| Fog | Heavy Snow | Cold Day | Subdivision Colour |
| 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) |

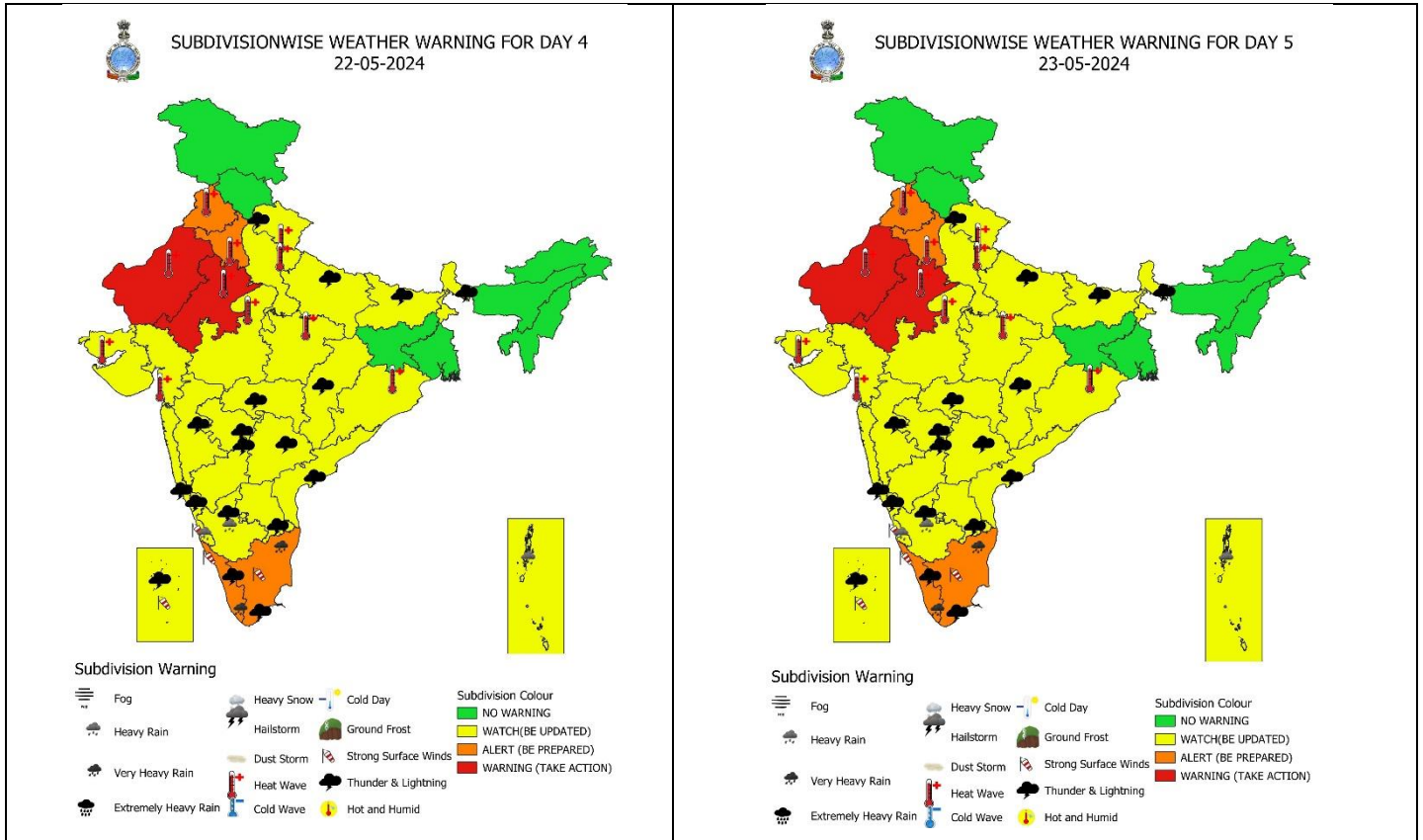
SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
 21-05-2024



Subdivision Warning

- | | | | |
|----------------------|------------|----------------------|---------------------------|
| Fog | Heavy Snow | Cold Day | Subdivision Colour |
| 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 & ACTION SUGGESTED due to very heavy rainfall/extremely falls over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe during 19th-22nd; South Interior Karnataka, Meghalaya on 19th & 20th May 2024

A. Impact Expected

- Localized Flooding of roads, water logging in low lying areas and closure of underpasses mainly in urban areas of the above region.
- Occasional reduction in visibility due to heavy rainfall.
- Disruption of traffic in major cities due to water logging in roads leading to increased travel time.
- Minor damage to kutcha roads.
- Possibilities of damage to vulnerable structure.
- Localized Landslides/Mudslides
- Damage to horticulture and standing crops in some areas due to inundation.
- It may lead to riverine flooding in some river catchments (for riverine flooding please visit Web page of CWC)

B. Action Suggested

- Check for traffic congestion on your route before leaving for your destination.
- Follow any traffic advisories that are issued in this regard.
- Avoid going to areas that face the water logging problems often.
- Avoid staying in vulnerable structure.

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IMPACT & ACTION SUGGESTED due to Heat Wave Conditions:

Red alert Areas:

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

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.

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

- Make provision for draining out excess water from crop fields to avoid water stagnation in Arunachal Pradesh, Assam & Meghalaya, Tripura, Sub Himalayan West Bengal & Sikkim, South Odisha, Andaman Nicobar Islands, Tamil Nadu, Kerala, Lakshadweep, Coastal Karnataka, South Interior Karnataka and Andhra Pradesh.
- Apply light and frequent irrigation to standing crops to avoid heat stress; provide mulching to conserve soil moisture and minimise evaporation in Himachal Pradesh, Uttarakhand, Punjab, Haryana, Uttar Pradesh, Rajasthan, Gangetic West Bengal, Jharkhand, Bihar, Gujarat and North Madhya Pradesh.
- Provide mechanical support to horticultural crops & staking to vegetables to prevent damage from gusty winds.

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)

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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