

Tuesday, April 16, 2024
Time of Issue: 0800 hours IST
(MORNING)

All India Impact Based Weather Warning Bulletin

16 April (Day 1):

- ❖ **Thunderstorm accompanied with lightning, gusty winds (speed reaching 40-50 kmph) & hailstorm** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places over Nagaland, Manipur, Mizoram & Tripura; **with lightning** at isolated places over Himachal Pradesh, Arunachal Pradesh and Assam & Meghalaya.
- ❖ **Heavy rainfall/snowfall** very likely at isolated places over Arunachal Pradesh; **Heavy rainfall** at isolated places over Assam & Meghalaya.
- ❖ **Hot and humid weather** very likely to prevail over coastal areas of Gujarat, Coastal Karnataka, Gangetic West Bengal, Odisha, Coastal Andhra Pradesh & Yanam, Rayalaseema, Konkan & Goa, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe,
- ❖ **Heat wave** very likely to prevail in isolated pockets over north Konkan, Odisha and Coastal Andhra Pradesh & Yanam.
- ❖ **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** very likely to prevail over Gulf of Oman and adjoining Northwest Arabian Sea. Fishermen are advised not to venture into these areas.

17 April (Day 2):

- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph)** very likely at isolated places over Nagaland, Manipur, Mizoram & Tripura; **with lightning** at isolated places over Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya and Kerala & Mahe.
- ❖ **Heavy rainfall/snowfall** very likely at isolated places over Arunachal Pradesh; **Heavy rainfall** at isolated places over Assam & Meghalaya.
- ❖ **Hot and humid weather** very likely to prevail over coastal areas of Gujarat, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe, Rayalaseema and Konkan & Goa.
- ❖ **Heat wave** very likely to prevail in isolated pockets over Odisha, Gangetic West Bengal, Coastal Andhra Pradesh & Yanam and Telangana.
- ❖ **Squally weather with wind speed 45 kmph to 55 kmph gusting to 65 kmph** very likely to prevail over Gulf of Oman and adjoining Northwest Arabian Sea. Fishermen are advised not to venture into these areas.

18 April (Day 3):

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

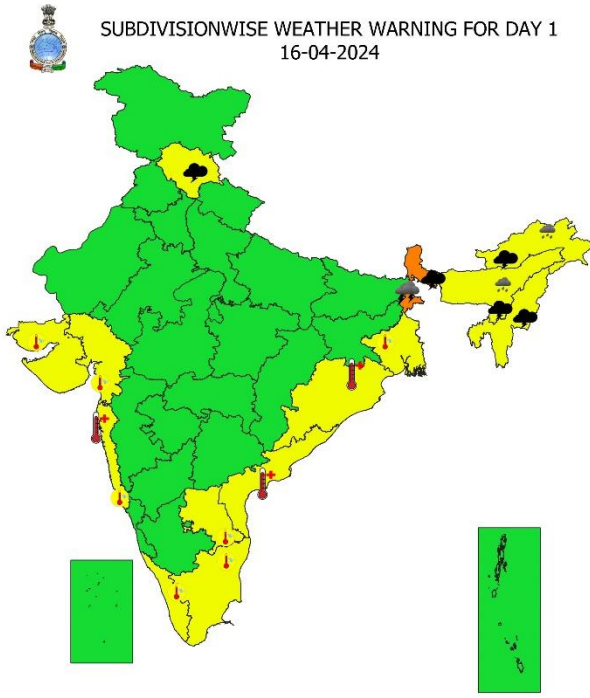
19 April (Day 4):

- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph) & hailstorm** likely at isolated places over Uttarakhand; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places over Punjab, Haryana-Chandigarh-Delhi, West Uttar Pradesh, Rajasthan, West Madhya Pradesh and Kerala & Mahe; **with lightning** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Telangana, Karnataka and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Heavy rainfall/snowfall** likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Arunachal Pradesh; **Heavy rainfall** at isolated places over Assam & Meghalaya and Kerala & Mahe.
- ❖ **Hot and humid weather** likely to prevail over Rayalaseema and Bihar.
- ❖ **Heat wave** likely to prevail in isolated pockets over Gangetic West Bengal and Odisha.

20 April (Day 5):

- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph) & hailstorm** likely at isolated places over Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning** at isolated places over Sub-Himalayan West Bengal & Sikkim, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Rajasthan, West Madhya Pradesh, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe.
- ❖ **Heavy rainfall/snowfall** likely at isolated places over Arunachal Pradesh; **Heavy rainfall** at isolated places over Assam & Meghalaya.
- ❖ **Hot and humid weather** likely to prevail over Rayalaseema and Bihar.
- ❖ **Heat wave** likely to prevail in isolated pockets over Gangetic West Bengal and Odisha.

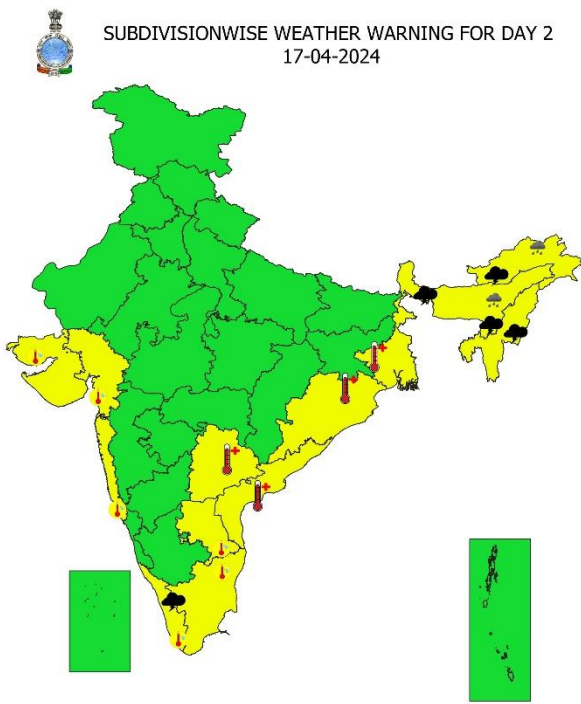
**SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
 16-04-2024**



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)

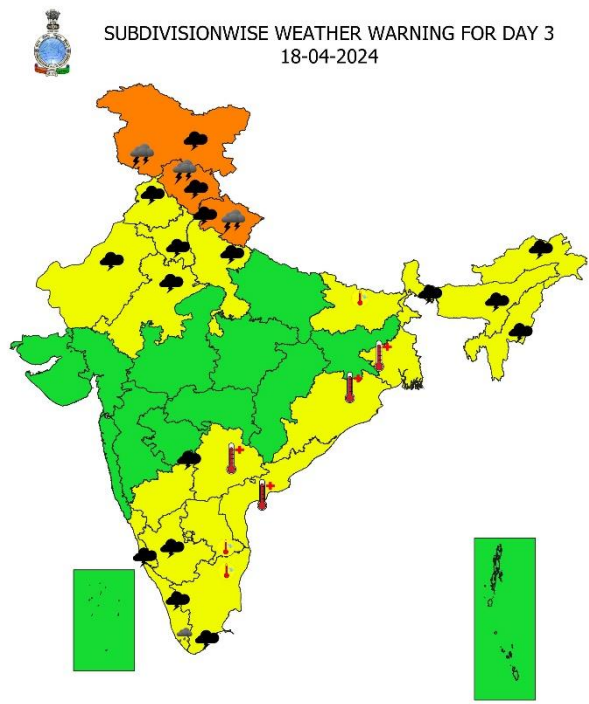
**SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
 17-04-2024**



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)

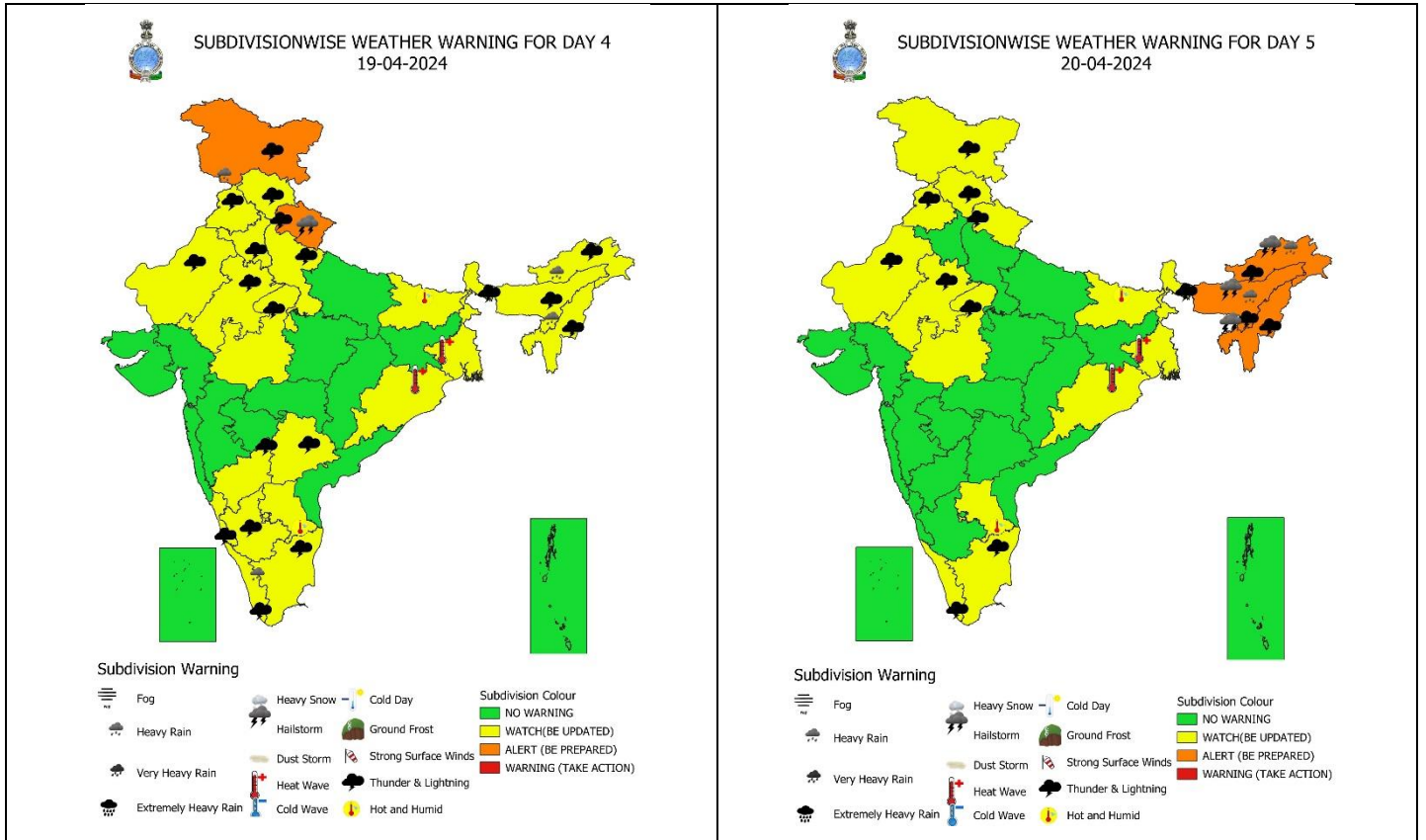
**SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
 18-04-2024**



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 expected and action suggested due to thunderstorm accompanied with lightning/gusty winds & Hailstorm over Jammu Division, Himachal Pradesh & Uttarakhand on 18th & 19th and Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura on 20th 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.

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Impact & Action Suggested due to heavy rainfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 19th April, 2024.

Impacts Expected for Rain/Snow

- 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:

Yellow Alert Areas (Gangetic West Bengal, coastal Odisha, Telangana and Coastal Andhra Pradesh & Yanam)

- ❖ 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 Hailstorm 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 and Sub Himalayan West Bengal & Sikkim. Keep the harvested produce at safer places or cover the heaps of harvested produce in the fields with tarpaulin sheets.
- Make necessary arrangements for draining out excess water from crop fields to avoid water stagnation in Jammu & Kashmir, Himachal Pradesh, Arunachal Pradesh and Assam & Meghalaya.
- Withhold harvesting of mustard and pulses in Jammu & Kashmir; mustard in Himachal Pradesh; wheat, mustard, barley and pulses in Uttarakhand. Keep the already harvested crop at safer places.
- Postpone fresh sowing of rice, soybean, vegetables and maize in *Jhum* in Arunachal Pradesh. Harvest the mustard crop and keep the harvested produce at the safer place.
- Apply light and frequent irrigation to standing crops to avoid heat stress; provide mulching to conserve soil moisture and minimize evaporation in Odisha, Gangetic West Bengal, Coastal Andhra Pradesh and Telangana.

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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