

Tuesday, April 16, 2024
Time of Issue: 2000 hours IST
(NIGHT)

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 Madhya Pradesh, Vidarbha, Chhattisgarh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura and Lakshadweep; **with lightning** at isolated places over Himachal Pradesh, Uttarakhand, Arunachal Pradesh, Odisha, Gangetic West Bengal, Madhya Maharashtra, Marathwada 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, Gangetic West Bengal, Rayalaseema, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Heat wave** very likely to prevail in isolated pockets over Gangetic West Bengal, Odisha, north Konkan, Saurashtra & Kutch.
- ❖ **Warm Night** very likely to prevail in isolated pockets over Madhya Maharashtra.
- ❖ **Squally weather with wind speed 40 kmph to 45 kmph gusting to 55 kmph** very likely to prevail over Lakshadweep and adjoining Maldives Area; **with wind speed 45 kmph to 55 kmph gusting to 65 kmph** 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 Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura; **with lightning** at isolated places over Arunachal Pradesh, Madhya Maharashtra, Marathwada, Coastal Andhra Pradesh & Yanam, Rayalaseema 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, Gangetic West Bengal, Coastal Karnataka, Rayalaseema, Coastal Andhra Pradesh & Yanam, Kerala & Mahe and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Heat wave** very likely to prevail in isolated pockets over Gangetic West Bengal, Odisha, north Konkan, Saurashtra & Kutch, Coastal Andhra Pradesh & Yanam and Telangana.
- ❖ **Warm Night** very likely to prevail in isolated pockets over Odisha and Madhya Maharashtra.
- ❖ **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 40-50 kmph)** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim; **with lightning & hailstorm** at isolated places over Himachal Pradesh; **with lightning & gusty winds (speed reaching 30-40 kmph)** at isolated places over Punjab, West Rajasthan, Coastal & South Interior Karnataka and Kerala & Mahe; **with lightning** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Arunachal Pradesh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura, Madhya Maharashtra, Marathwada, Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh & Yanam and Rayalaseema.
- ❖ **Heavy rainfall/snowfall** very likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and Arunachal Pradesh; **Heavy rainfall** at isolated places over Kerala & Mahe.
- ❖ **Hot and humid weather** very likely to prevail over coastal areas of Gujarat, Gangetic West Bengal, Bihar, Coastal Karnataka, Rayalaseema, Coastal Andhra Pradesh & Yanam, Konkan & Goa and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Heat wave** very likely to prevail in isolated pockets over Odisha, Gangetic West Bengal, Coastal Andhra Pradesh & Yanam and Telangana.
- ❖ **Warm Night** very likely to prevail in isolated pockets over Odisha and Madhya Maharashtra.

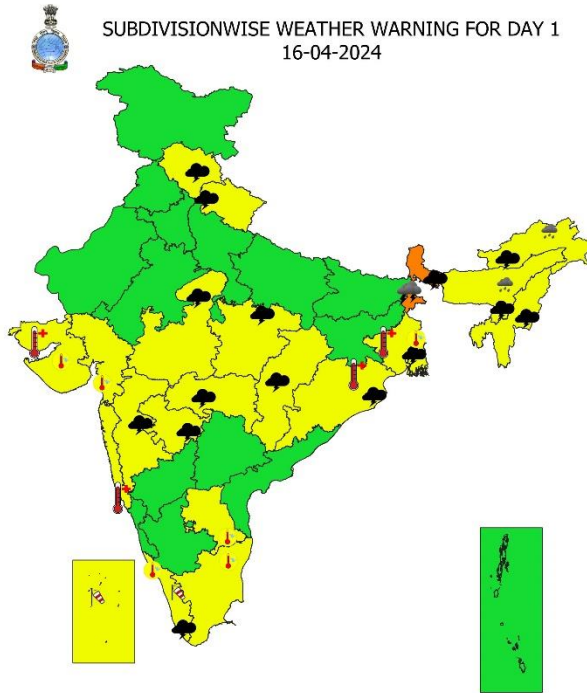
19 April (Day 4):

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

20 April (Day 5):

- ❖ **Thunderstorm accompanied with lightning & gusty winds (speed reaching 30-40 kmph) & hailstorm** likely at isolated places over Punjab, Haryana-Chandigarh-Delhi, Vidarbha, Chhattisgarh, Assam & Meghalaya and Kerala & Mahe; **with lightning** at isolated places over Himachal Pradesh, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Rayalaseema and Telangana.
- ❖ **Heavy rainfall/snowfall** likely at isolated places over Arunachal Pradesh; **Heavy rainfall** at isolated places over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Hot and humid weather** likely to prevail over Gangetic West Bengal, Bihar, Rayalaseema, Konkan & Goa and Tamil Nadu, Puducherry & Karaikal.
- ❖ **Heat wave** likely to prevail in isolated pockets over Gangetic West Bengal and Odisha.
- ❖ **Warm Night** likely to prevail in isolated pockets over Odisha.

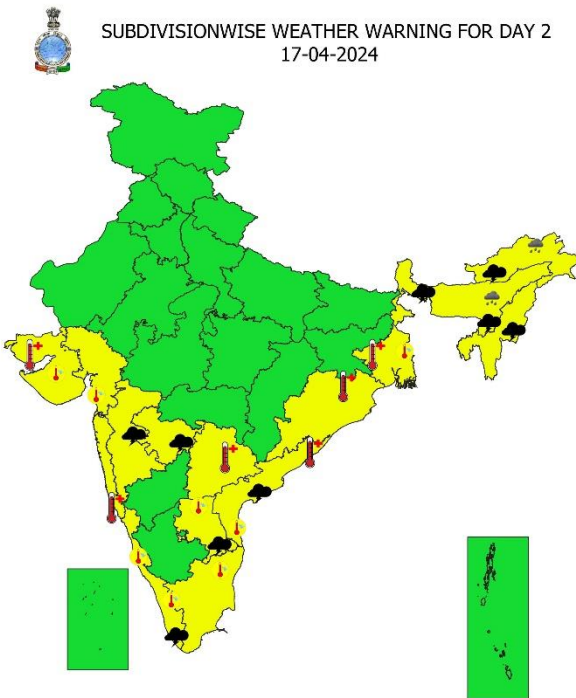
SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
 16-04-2024



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)

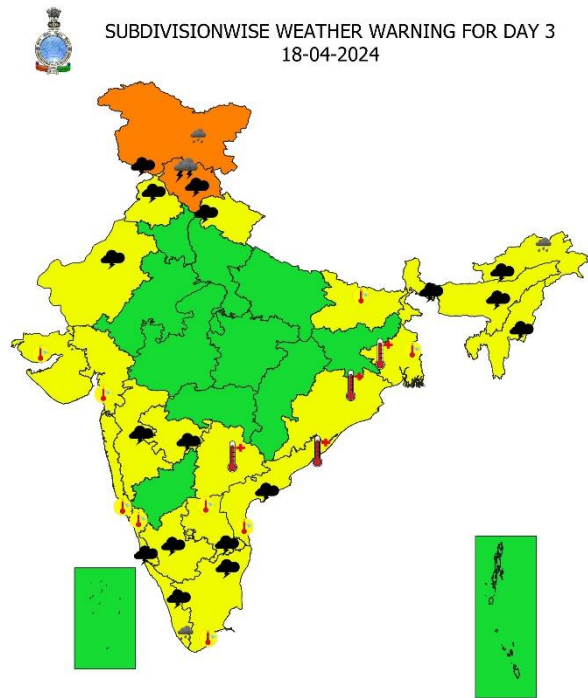
SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
 17-04-2024



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)

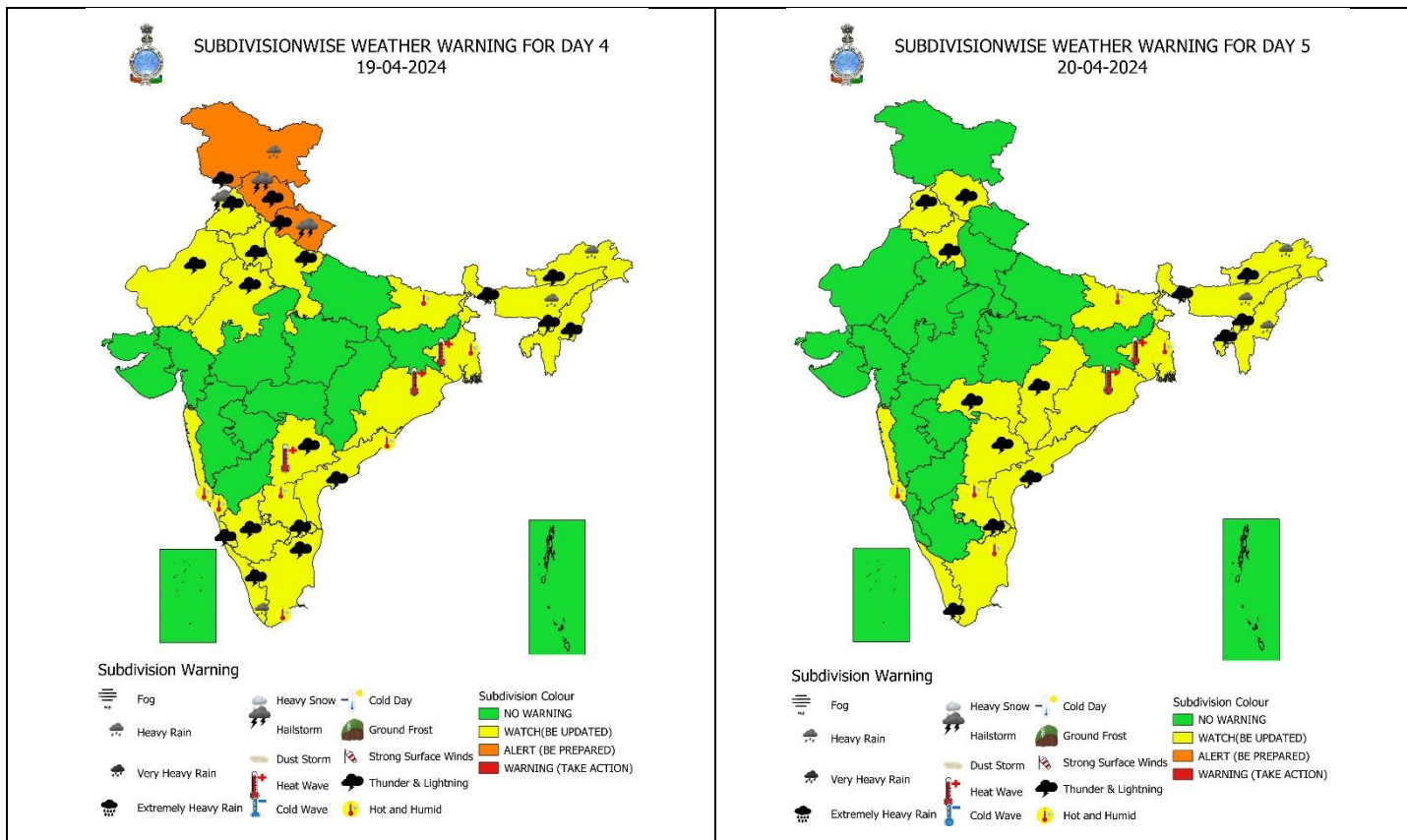
SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
 18-04-2024



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 Sikkim on 16th; Himachal Pradesh on 18th & 19th and Uttarakhand & Punjab 19th 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/snowfall over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 18th & 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, North Konkan, Saurashtra & Kutch, 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.

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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