

Wednesday, January 31, 2024
Time of Issue: 2000 hours IST
(NIGHT)

All India Impact Based Weather Warning Bulletin

31 January (Day 1):

- ❖ **Dense to very dense fog** very likely in isolated pockets over Uttar Pradesh and **Dense fog** in isolated pockets over Madhya Pradesh, Bihar and Odisha.
- ❖ **Heavy Rainfall/snowfall** very likely at isolated places over Jammu-Kashmir and Himachal Pradesh.
- ❖ **Thunderstorm accompanied with lightning, hailstorm & gusty winds (speed 30-40 kmph)** very likely at isolated places over Punjab and Haryana-Chandigarh-Delhi; **with lightning & hailstorm** very likely at isolated places over Uttarakhand, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh and **with lightning** at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, West Uttar Pradesh, Rajasthan, east Assam, Nagaland and Manipur.

01 February (Day 2):

- ❖ **Dense to very dense fog** very likely in some parts over Punjab, Haryana-Chandigarh-Delhi; in isolated pockets over Uttar Pradesh and **Dense fog** in isolated pockets over Odisha.
- ❖ **Heavy Rainfall/snowfall** very likely at isolated places over Jammu-Kashmir, Himachal Pradesh and Uttarakhand.
- ❖ **Thunderstorm accompanied with lightning & hailstorm** very likely at isolated places over Uttarakhand and Arunachal Pradesh; **with lightning & gusty winds (speed 30-40 kmph)** at isolated places over Punjab, Haryana-Chandigarh-Delhi and **with lightning** at isolated places over Himachal Pradesh, West Uttar Pradesh, Gangetic West Bengal, east Assam, Nagaland and Manipur.

02 February (Day 3):

- ❖ **Dense to very dense fog** very likely in isolated pockets over Punjab, Haryana-Chandigarh-Delhi and Uttar Pradesh.
- ❖ **Heavy Rainfall/snowfall** very likely at isolated places over Arunachal Pradesh.
- ❖ **Thunderstorm accompanied with lightning & hailstorm** very likely at isolated places over Sub-Himalayan West Bengal & Sikkim and **with lightning** at isolated places over Arunachal Pradesh, east Assam, Nagaland and Manipur.

03 February (Day 4):

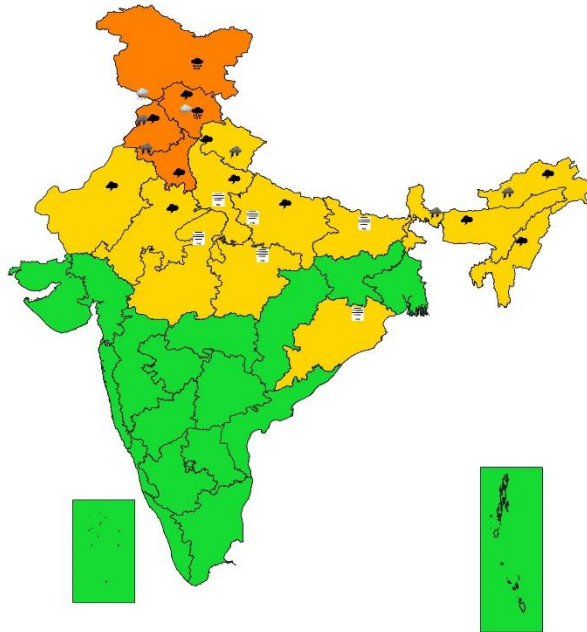
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Uttarakhand, Punjab, Haryana-Chandigarh-Delhi and Rajasthan.

04 February (Day 5):

- ❖ **No Warning.**



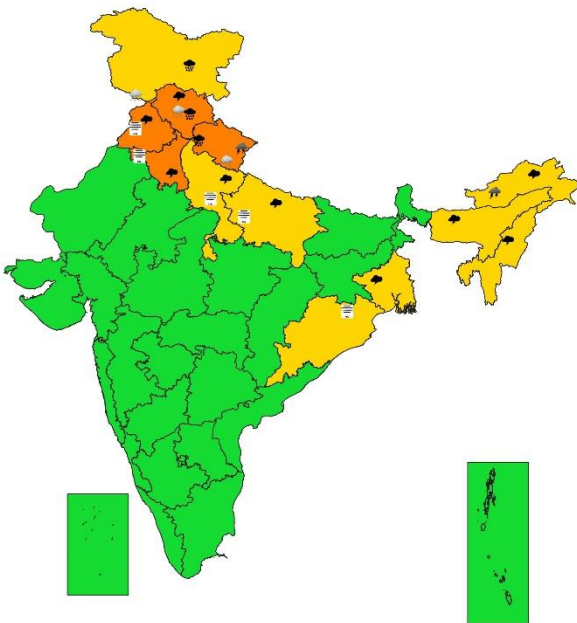
**SUBDIVISIONWISE WEATHER WARNING FOR DAY 1
31-01-2024**



- | | | |
|----------------------------|----------------------|--------------------------|
| Subdivision Warning | Dust Storm | Subdivision color |
| Heavy Rain | Strong Surface Winds | NO WARNING |
| Heavy Snow | Heat Wave | WATCH (BE UPDATED) |
| Thunderstorms & Lightning | Cold wave | ALERT (BE PREPARED) |
| Hailstorm | Fog | WARNING (TAKE ACTION) |



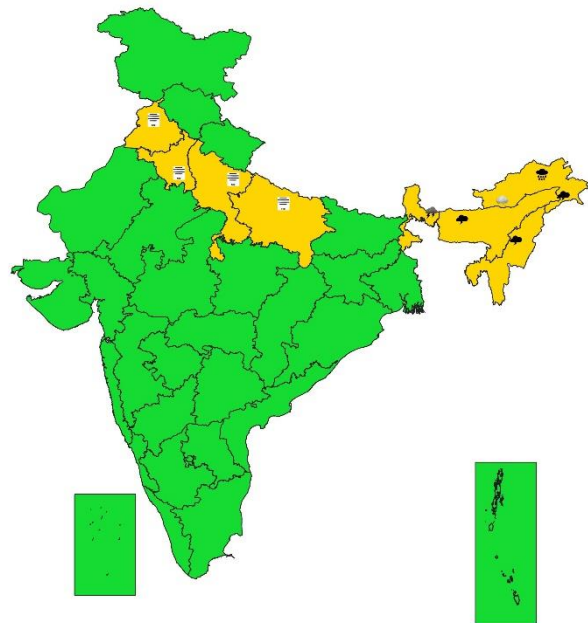
**SUBDIVISIONWISE WEATHER WARNING FOR DAY 2
01-02-2024**



- | | | |
|----------------------------|----------------------|--------------------------|
| Subdivision Warning | Dust Storm | Subdivision color |
| Heavy Rain | Strong Surface Winds | NO WARNING |
| Heavy Snow | Heat Wave | WATCH (BE UPDATED) |
| Thunderstorms & Lightning | Cold wave | ALERT (BE PREPARED) |
| Hailstorm | Fog | WARNING (TAKE ACTION) |

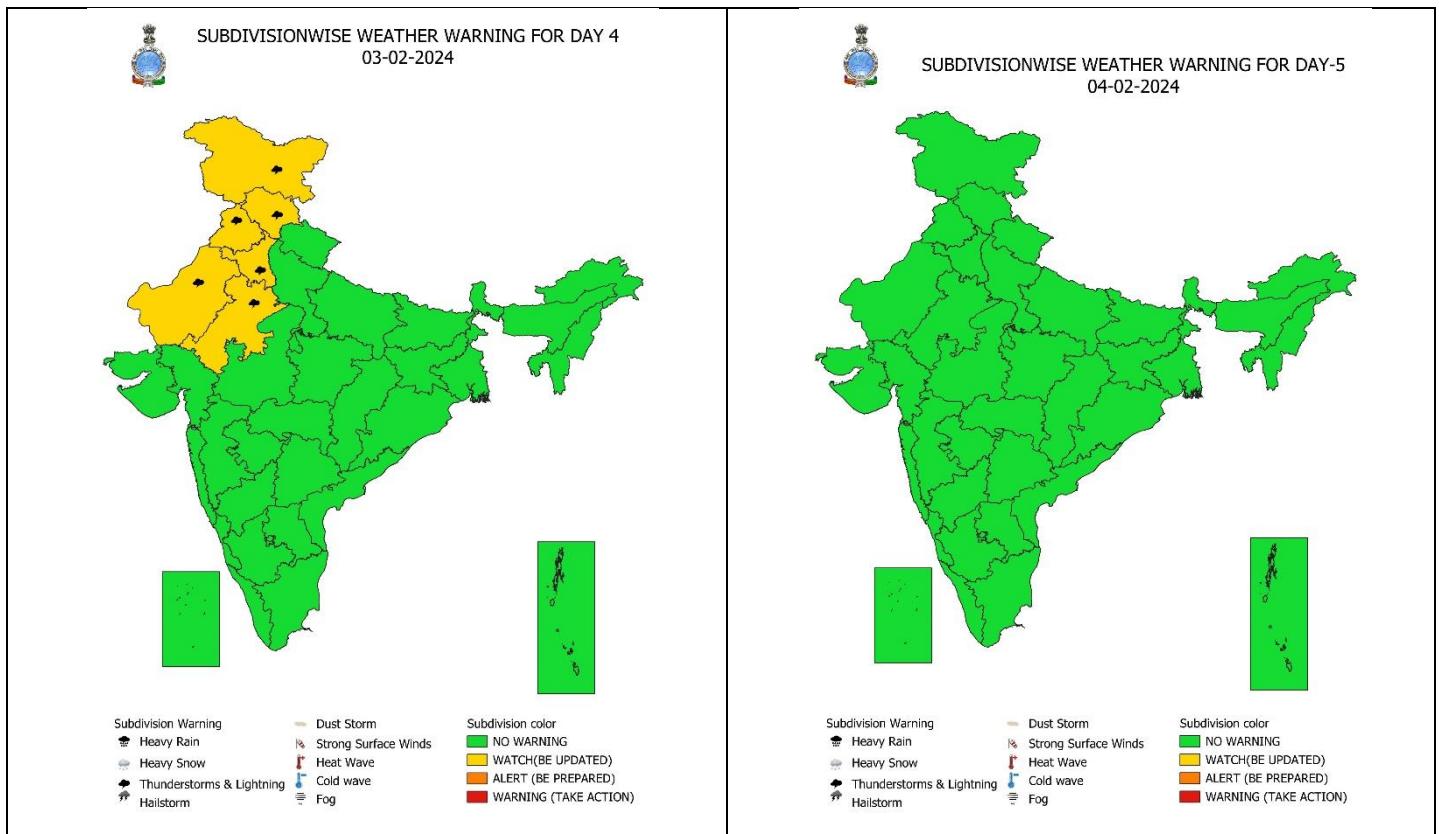


**SUBDIVISIONWISE WEATHER WARNING FOR DAY 3
02-02-2024**



- | | | |
|----------------------------|----------------------|--------------------------|
| Subdivision Warning | Dust Storm | Subdivision color |
| Heavy Rain | Strong Surface Winds | NO WARNING |
| Heavy Snow | Heat Wave | WATCH (BE UPDATED) |
| Thunderstorms & Lightning | Cold wave | ALERT (BE PREPARED) |
| Hailstorm | Fog | 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 heavy rainfall/snowfall over:

1. Jammu-Kashmir, Himachal Pradesh on 31st January & 01st February.
2. Uttarakhand on 01st February

A. 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.

B. 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 kuchha houses during heavy rainfall as it may collapse anytime soon
- Drive carefully.

Impact expected and action suggested due to thunderstorm with lightning/gusty winds & Hailstorm:

- ❖ **31st January:** Uttarakhand, Punjab, Haryana, Sub-Himalayan West Bengal & Sikkim, Arunachal Pradesh
- ❖ **01st February:** Uttarakhand, Arunachal Pradesh
- ❖ **02nd February:** Sub-Himalayan West Bengal & Sikkim

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 kutchha 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 expected due to dense to very dense fog in the morning hours over Punjab, Haryana-Chandigarh-Delhi on 02nd February, 2024.

❖ Transport and Aviation:

- ❖ May affect some airports, highways and railway routes in the areas of met- sub-division.
- ❖ Difficult driving conditions with slower journey times.
- ❖ Unless taken precautionary measures, it may lead to some road traffic collisions.

❖ Power Sector:

- ❖ Chances of Tripping of Power lines in the very dense fog routes.

❖ Human Health:

- ❖ Lung related health impacts: Dense fog contains particulate matter and other pollutants and in case exposed it gets lodged in the lungs, clogging them and decreasing their functional capacity which increases episodes of wheezing, coughing and shortness of breath.
- ❖ Impact on people having asthma bronchitis: Long time exposure to dense fog may cause respiratory problem for people having asthma bronchitis and other lung related health problems.
- ❖ Eye Irritation: Dense fog contains pollutions of various types and these Pollutants in the air if exposed may tend to irritate the membranes of the eye causing various infections leading to redness or swelling of the eye.

Action suggested:

❖ Transport and Aviation:

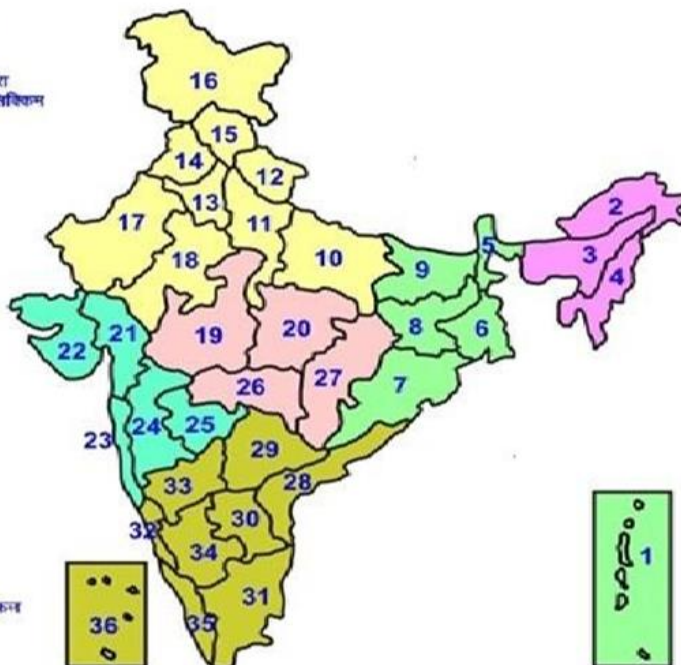
- ❖ Be careful while driving or outing through any transport.
- ❖ Use fog lights during driving.
- ❖ Be in touch with airlines, railways and state transport for schedule of your journey.

❖ Power Sector:

- ❖ To keep ready Maintenance Team
- ❖ Human Health: To avoid outing until unless emergency and to cover the face.

LEGENDS

- 1 अंडमान और निकोबार द्वीप समुह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नागालैंड, मणिपुर, मीज़ोरम और त्रिपुरा
- 5 उप-हिमालय पश्चिम बंगाल एवं सिक्किम
- 6 पश्चिम बंगाल
- 7 ओडिशा
- 8 झारखंड
- 9 बिहार
- 10 पूर्वी उत्तर प्रदेश
- 11 पश्चिम उत्तर प्रदेश
- 12 उत्तराखंड
- 13 हरियाणा, चंडीगढ़ एवं दिल्ली
- 14 पंजाब
- 15 हिमाचल प्रदेश
- 16 जम्मू एवं कश्मीर एवं लद्दाख
- 17 पश्चिम राजस्थान
- 18 पूर्वी राजस्थान
- 19 पश्चिम मध्य प्रदेश
- 20 पूर्वी मध्य प्रदेश
- 21 गुजरात क्षेत्र
- 22 सौराष्ट्र एवं कच्छ
- 23 कोंकण एवं गोवा
- 24 मध्य महाराष्ट्र
- 25 महाराष्ट्र
- 26 विदर्भ
- 27 छत्तीसगढ़
- 28 तटीय आंध्र प्रदेश एवं यानम
- 29 तेलंगाना
- 30 रायलसीमा
- 31 तमिलनाडु, पुदुचेरी एवं काराईकल
- 32 तटिय कर्नाटक
- 33 आंतरिक उत्तरी कर्नाटक
- 34 आंतरिक दक्षिणी कर्नाटक
- 35 केरल एवं माहे
- 36 लक्षद्वीप



1. Andaman & Nicobar Islands
2. Arunachal Pradesh
3. Assam & Meghalaya
4. Nagaland, Manipur, Mizoram & Tripura
5. Sub-Himalayan West Bengal & Sikkim
6. Gangetic West Bengal
7. Odisha
8. Jharkhand
9. Bihar
10. East Uttar Pradesh
11. West Uttar Pradesh
12. Uttarakhand
13. Haryana, Chd & Delhi
14. Punjab
15. Himachal Pradesh
16. Jammu & Kashmir and Ladakh
17. West Rajasthan
18. East Rajasthan
19. West Madhya Pradesh
20. East Madhya Pradesh
21. Gujarat
22. Saurashtra
23. Konkan & Goa
24. Madhya Maharashtra
25. Marathwada
26. Vidharbha
27. Chhattisgarh
28. Coastal Andhra Pradesh & Yanam
29. Telangana
30. Rayalaseema
31. Tamilnadu, Puducherry & Karaikal
32. Coastal Karnataka
33. North Interior Karnataka
34. South Interior Karnataka
35. Kerala & Mahe
36. 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)

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

LEGENDS

WARNING

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Probabilistic Forecast

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Unlikely	< 25
Likely	25 - 50
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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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