



All India Impact Based Weather Warning Bulletin

Wednesday 13 January 2021
Time of Issue: 2000 hours IST

(NIGHT)

13 January (Day 1): ♦ Heavy to very heavy rainfall at isolated places very likely over south Tamil Nadu, south Kerala and Lakshadweep area.

♦ **Thunderstorm accompanied with lightning** at isolated places very likely over Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe and Lakshadweep.

♦ **Dense to Very Dense Fog conditions** at a few places very likely over Uttarakhand, Punjab, Haryana, Chandigarh & Delhi and Uttar Pradesh; at isolated places over Assam & Meghalaya and **Dense Fog** at isolated places over Sub-Himalayan West Bengal & Sikkim, Odisha and Nagaland, Manipur, Mizoram & Tripura.

♦ **Cold Wave to Severe Cold Wave conditions** in many pockets very likely over Punjab and Haryana, Chandigarh & Delhi; in some pockets over East Rajasthan; in isolated pockets over West Rajasthan and **Cold Wave conditions** in some pockets over Uttar Pradesh; in isolated pockets over Madhya Pradesh.

♦ **Ground Frost** very likely in isolated pockets over Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh and north Rajasthan.

♦ **Squally Weather** (wind speed reaching 45-55 kmph) very likely over Southeast Arabian Sea, Lakshadweep-Maldives area, Comorin and Kerala coast. Fishermen are advised not to venture into these areas.

14 January (Day 2): ♦ Thunderstorm accompanied with lightning at isolated places very likely over Lakshadweep.

♦ **Dense to Very Dense Fog conditions** at a few places very likely over Uttarakhand, Punjab, Haryana, Chandigarh & Delhi and Uttar Pradesh and **Dense Fog** at isolated places over Assam & Meghalaya, Sub-Himalayan West Bengal & Sikkim and Nagaland, Manipur, Mizoram & Tripura.

♦ **Cold Wave to Severe Cold Wave conditions** in some pockets very likely over Punjab, Haryana, Chandigarh & Delhi and East Rajasthan; in isolated pockets over West Rajasthan and **Cold Wave conditions** in some pockets over Uttar Pradesh.

♦ **Cold Day to Severe Cold Day conditions** in many pockets very likely over Punjab and Haryana, Chandigarh & Delhi; in some pockets over Uttarakhand and Uttar Pradesh.

♦ **Ground Frost** very likely in isolated pockets over Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, West Uttar Pradesh and north Rajasthan.

♦ **Squally Weather** (wind speed reaching 45-55 kmph) very likely over Southeast Arabian Sea, Lakshadweep-Maldives area. Fishermen are advised not to venture into these areas.

* Red color warning does not mean "Red Alert" Red color warning means "Take Action".

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15 January (Day 3): ♦ Thunderstorm accompanied with lightning at isolated places very likely over Lakshadweep.

♦ **Dense to Very Dense Fog conditions** at a few places very likely over Uttarakhand, Punjab, Haryana, Chandigarh & Delhi and Uttar Pradesh and **Dense Fog** at isolated places over north Rajasthan, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.

♦ **Cold Wave to Severe Cold Wave conditions** in some pockets very likely over Punjab, Haryana, Chandigarh & Delhi and East Rajasthan; in isolated pockets over West Rajasthan and **Cold Wave conditions** in some pockets over Uttar Pradesh.

♦ **Cold Day to Severe Cold Day conditions** in many pockets very likely over Punjab and Haryana, Chandigarh & Delhi; in some pockets over Uttarakhand and Uttar Pradesh.

16 January (Day 4): ♦ Dense to Very Dense Fog conditions at isolated places likely over Punjab, Haryana, Chandigarh & Delhi and Uttar Pradesh and **Dense Fog** at isolated places over north Rajasthan, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.

♦ **Cold Wave to Severe Cold Wave conditions** in some pockets likely over Punjab and Haryana, Chandigarh & Delhi; in isolated pockets over Rajasthan and **Cold Wave conditions** in isolated pockets over Uttar Pradesh.

♦ **Cold Day conditions** in isolated pockets likely over Punjab, Haryana, Chandigarh & Delhi and Uttar Pradesh.

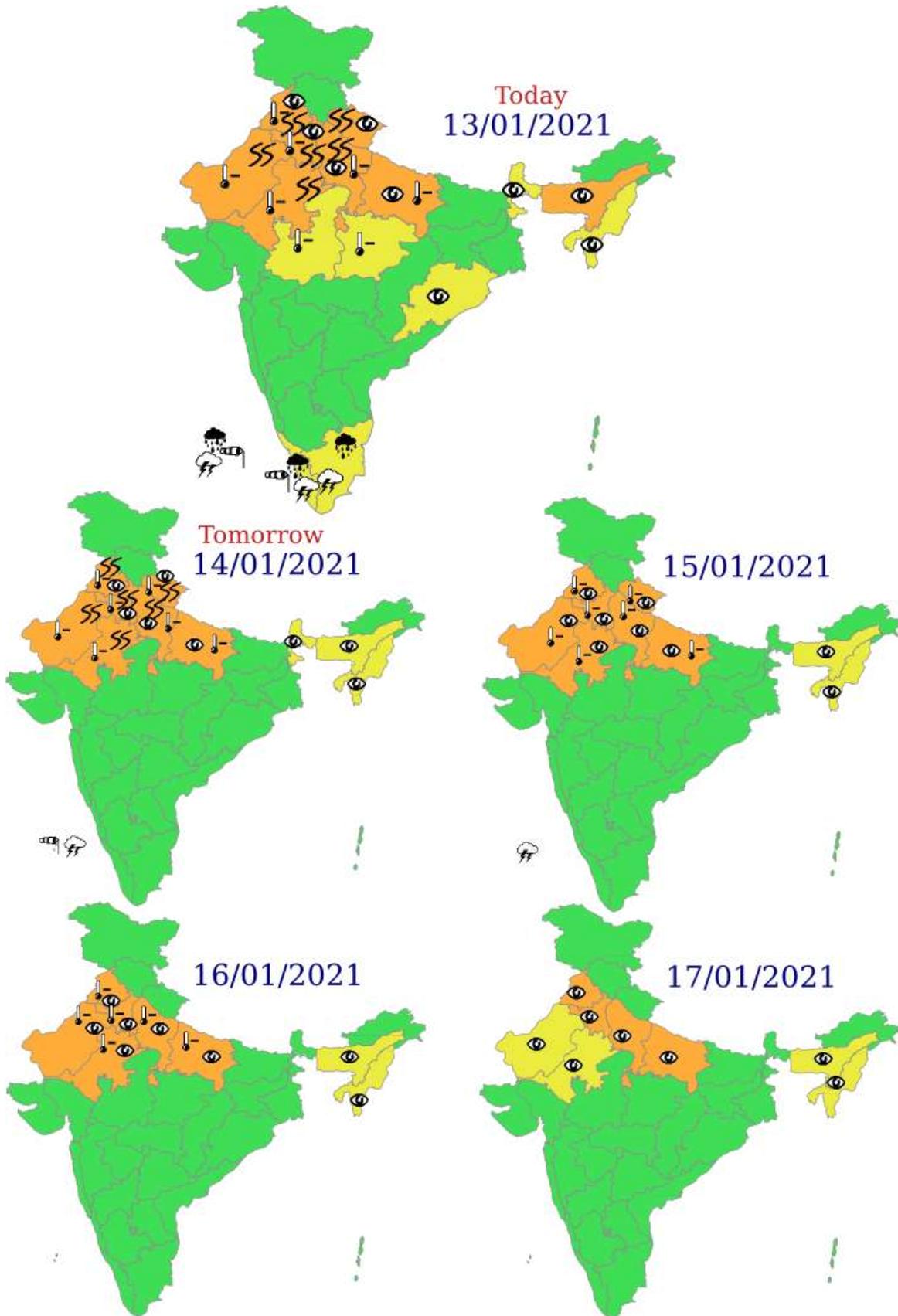
17 January (Day 5): ♦ Dense to Very Dense Fog conditions at isolated places likely over Punjab, Haryana, Chandigarh & Delhi and Uttar Pradesh and **Dense Fog** at isolated places over north Rajasthan, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.

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Impact expected and action suggested due to cold day/severe cold day conditions over Uttarakhand, Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh during next 3 days; due to cold wave/severe cold wave conditions over Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh and Rajasthan during next 3-4 days.

Impact expected:

- An increased likelihood of various illnesses like flu, running/ stuffy nose or nosebleed, which usually set in or get aggravated due to prolonged exposure to cold.
- Do not ignore shivering. It is the first sign that the body is losing heat. Get Indoors.
- Frostbite can occur due to prolonged exposure to cold. The skin turns pale, hard and numb and eventually black blisters appear on exposed body parts such as fingers, toes, nose and or earlobes. Severe frostbite needs immediate medical attention and treatment.
- Impact on agriculture, crop, livestock, water supply, transport and power sector at some places.

Action suggested:

- Wear several layers of loose fitting, light weight; warm woolen clothing.
- Cover your head, neck, hands and toes adequately as majority of heat loss occurs through these body parts. Wear several layers of loose fitting, light weight; warm woolen clothing rather than one layer of heavy cloth.
- Eat vitamin-C rich fruits & vegetable and drink sufficient fluids preferably warm fluids to maintain adequate immunity.
- Avoid or limit outdoor activities.
- Keep dry, if wet, change cloths immediately to prevent loss of body heat. Wear insulated/waterproof shoes.
- Warm the affected area of the body slowly with lukewarm water; do not rub the skin vigorously.
- If the affected skin area turns black, immediately consult a doctor.
- Maintain ventilation while using Heaters to avoid inhaling toxic fumes.
- Take safety measures while using electrical and gas heating devices.
- Extreme care needed for vulnerable people.
- Seek medical attention as soon as possible for someone suffering from frostbite/ Hypothermia.
- Protect livestock from cold weather.
- (For details kindly refer NDMA guidelines:
https://ndma.gov.in/Resources/awareness/Cold_Wave)

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Impact expected and action suggested due to Dense to Very Dense Fog over Punjab, Haryana, Chandigarh & Delhi, Uttar Pradesh and parts of Northeast India during next 5 days; over Uttarakhand during next 3 days; over Sub-Himalayan West Bengal & Sikkim during next 2 days and over Odisha during next 24 hours.

Impact expected:

➤ **Transport and Aviation:**

- May affect some airports, highways and railway routes in the areas of met- sub-division.
- Ferry services also to be affected.
- Difficult driving conditions with slower journey times.
- 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.
- Causes 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:**

- Careful while driving or outing through any transport.
- Use fog lights during driving.
- Be touch with airlines and Railway and State transport for scheduled of your journey.

➤ **Power Sector:**

- Keep Maintenance Team ready.

- **Human Health:** Avoid outing until unless emergency and cover the face.

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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 $\geq -6.5^{\circ}\text{C}$

(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 $\leq -4.5^{\circ}\text{C}$ or 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 Strom: Wind speed >220 kmph (>119 knots)

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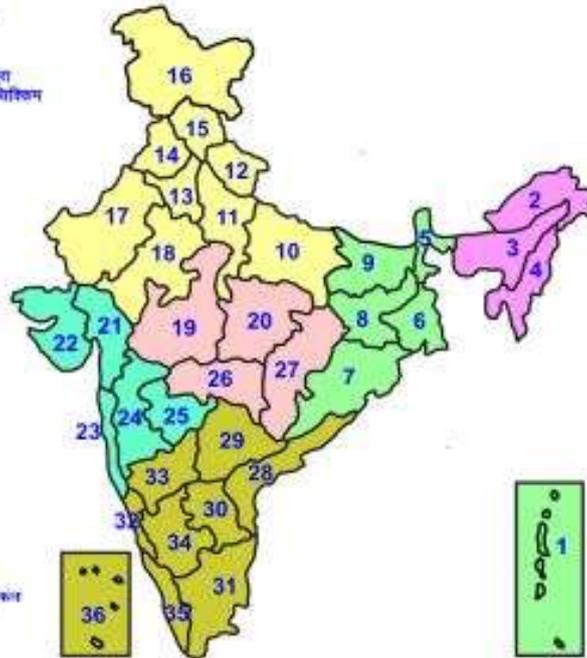
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LEGENDS

- 1 अंडमान और निकोबार द्वीप समूह
- 2 अरुणाचल प्रदेश
- 3 असम और मेघालय
- 4 नागालैंड, मणिपुर, मिजोरम 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 उत्तराखण्ड
- 13 हरियाणा, चंडीदाह 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
- 22 मध्य प्रदेश
- 23 गुजरात द्वीप
- 24 वीरगढ़ एवं कच्छ
- 25 कोकण एवं गोवा
- 26 मध्य महाराष्ट्र
- 27 महाराष्ट्र
- 28 पश्चिम आंध्र प्रदेश एवं यानम
- 29 तेलंगाना
- 30 आंध्रप्रदेश
- 31 तमिलनाडु, पुदुचेरी एवं केरल
- 32 उत्तर कर्नाटक
- 33 आन्ध्र कर्नाटक
- 34 उत्तर 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. Orissa
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. Maharashtra
26. Vidharbha
27. Chhattisgarh
28. Coastal Andhra Pradesh & Yanam
29. Telangana
30. Rayalaseema
31. Tamilnada, Puducherry & Karakal
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

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Heavy Rain



Heavy Snow



Thunderstorm



Dust Storm



Strong Winds



Visibility



Cyclone



Squall/ Hail



Frost



Cold Wave



Heat Wave



Sea State

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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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