

Saturday, December 21, 2024
Time of Issue: 2030 hours IST
(NIGHT)

All India Impact Based Weather Warning Bulletin

Weather Warnings for next 7 days is given below:

(Graphics for warnings & rainfall distribution (Table 1) are given below the text:

21 December (Day 1):

- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Arunachal Pradesh, Nagaland, Manipur, Mizoram & Tripura.
- ❖ **Dense fog** very likely in isolated pockets of Punjab, Haryana-Chandigarh, Rajasthan, West Bengal & Sikkim, Jharkhand, Odisha in night/morning hours.
- ❖ **Cold Wave to severe cold wave Conditions** very likely at a few places over Himachal Pradesh; **Cold Wave Conditions** in isolated pockets of Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Punjab, Rajasthan.
- ❖ **Ground Frost condition** very likely at isolated places over Himachal Pradesh, Uttarakhand.
- ❖ **Squally weather with wind speed reaching 35-45 kmph gusting to 55 kmph** is likely to prevail over westcentral & adjoining central parts of South Bay of Bengal and along & off Andhra Pradesh-north Tamil Nadu coasts. Fishermen are advised not to venture into these areas.

22 December (Day 2):

- ❖ **Dense fog** very likely in isolated pockets of Punjab, Haryana-Chandigarh, Sub-Himalayan West Bengal & Sikkim, Jharkhand, Odisha, Assam & Meghalaya in night/morning hours.
- ❖ **Cold Wave to severe cold wave Conditions** very likely at a few places over Himachal Pradesh; **Cold Wave Conditions** in isolated pockets of Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad.
- ❖ **Ground Frost condition** very likely at isolated places over Himachal Pradesh, Uttarakhand.
- ❖ **Squally weather with wind speed reaching 35-45 kmph gusting to 55 kmph** is likely to prevail over westcentral & adjoining central parts of South Bay of Bengal and along & off Andhra Pradesh-north Tamil Nadu coasts. Fishermen are advised not to venture into these areas.

23 December (Day 3):

- ❖ **Thunderstorm accompanied with lightning** very likely at isolated places over Coastal Andhra Pradesh & Yanam.
- ❖ **Dense fog** very likely in isolated pockets of Punjab, Haryana-Chandigarh, Sub-Himalayan West Bengal & Sikkim, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura in night/morning hours.
- ❖ **Cold Wave to severe cold wave Conditions** very likely at a few places over Himachal Pradesh; **Cold Wave Conditions** likely in isolated pockets of Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad.
- ❖ **Ground Frost condition** very likely at isolated places over Himachal Pradesh.
- ❖ **Squally weather with wind speed 40 kmph to 50 kmph gusting to 60 kmph** is likely to prevail over many parts of westcentral Bay of Bengal and adjoining parts of southwest Bay of Bengal. Fishermen are advised not to venture into these areas.

24 December (Day 4):

- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Coastal Andhra Pradesh & Yanam, Rayalaseema.
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Coastal Andhra Pradesh & Yanam, Rayalaseema.
- ❖ **Dense fog** likely in isolated pockets of Himachal Pradesh, Punjab, Haryana-Chandigarh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura in night/morning hours.
- ❖ **Ground Frost condition** likely at isolated places over Himachal Pradesh.
- ❖ **Squally weather with wind speed 40 kmph to 50 kmph gusting to 60 kmph** is likely to prevail over southwestern parts of westcentral Bay of Bengal and adjoining parts of southwest Bay of Bengal. Fishermen are advised not to venture into these areas.

25 December (Day 5):

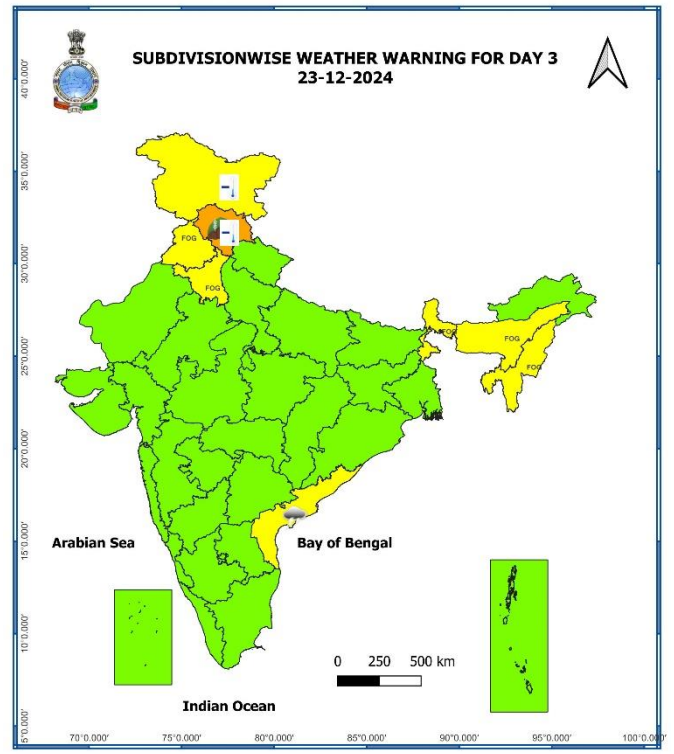
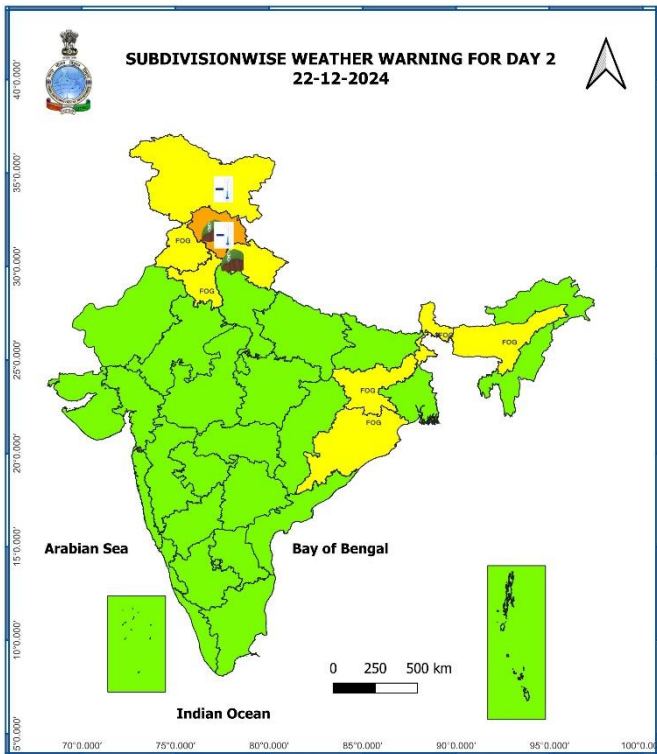
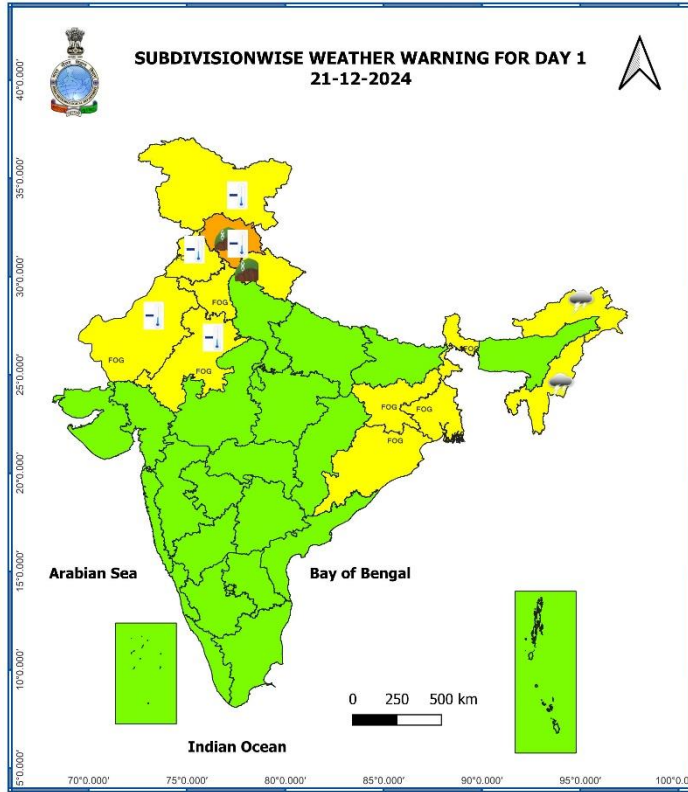
- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Coastal Andhra Pradesh & Yanam, Rayalaseema.
- ❖ **Thunderstorm accompanied with lightning** likely at isolated places over Coastal Andhra Pradesh & Yanam, Rayalaseema, Tamil Nadu, Puducherry & Karaikal.
- ❖ **Dense fog** likely in isolated pockets of Himachal Pradesh, Punjab, Haryana-Chandigarh, Assam & Meghalaya, Nagaland, Manipur, Mizoram & Tripura in night/morning hours.
- ❖ **Ground Frost condition** likely at isolated places over Himachal Pradesh.

26 December (Day 6):

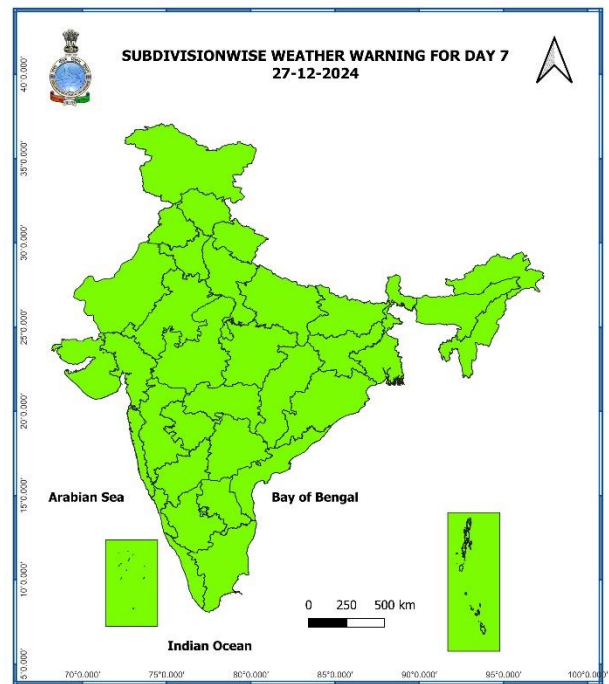
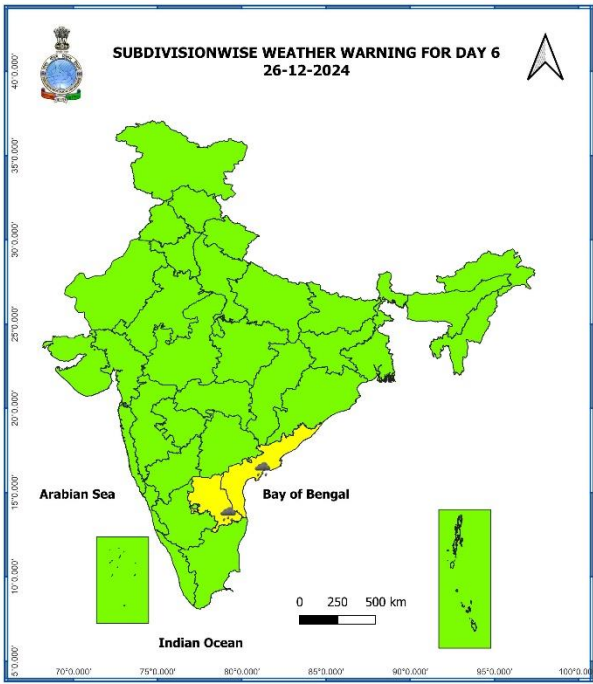
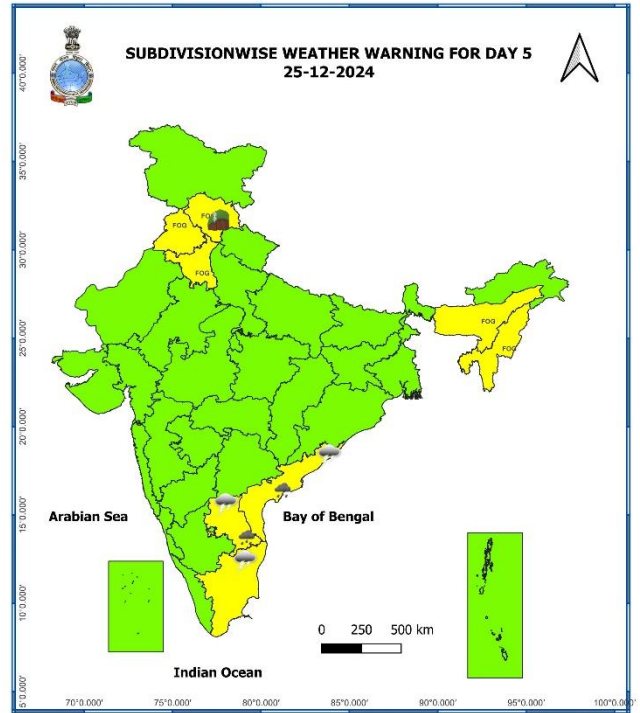
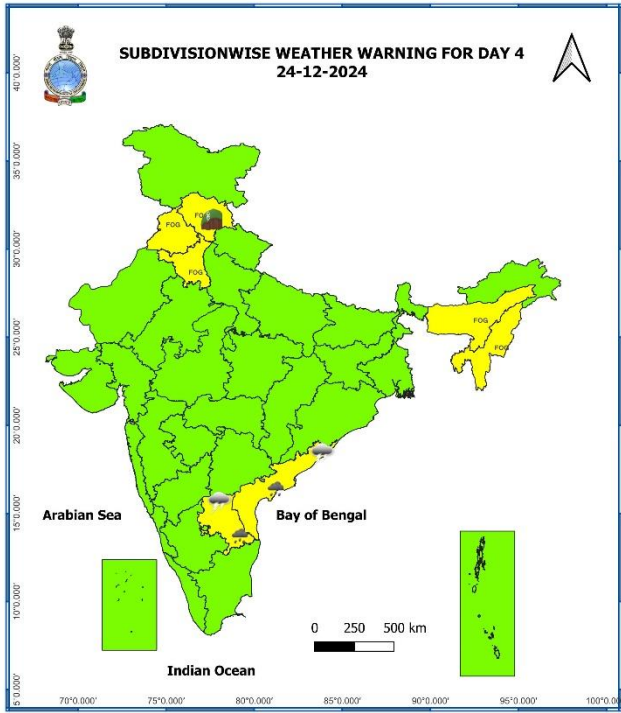
- ❖ **Heavy rainfall (≥ 7 cm)** likely at isolated places over Coastal Andhra Pradesh & Yanam, Rayalaseema.

27 December (Day 7):

- ❖ **No warning.**



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- Action may be taken based on **ORANGE AND RED** COLOUR warnings.
- Vulnerable regions likely urban and hilly areas action may be initiated for heavy rainfall warning.
- As the lead period increases forecast accuracy decreases.

Table-1

7 Days Rainfall Forecast								
S. No.	Subdivision	21- Dec	22- Dec	23- Dec	24- Dec	25- Dec	26- Dec	27- Dec
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	FWS	FWS	SCT	ISOL	ISOL	ISOL	SCT
2	ARUNACHAL PRADESH	SCT	ISOL	DRY	ISOL	ISOL	DRY	DRY
3	ASSAM & MEGHALAYA	ISOL	ISOL	DRY	DRY	DRY	DRY	DRY
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	SCT	ISOL	ISOL	DRY	DRY	DRY	DRY
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	ISOL	ISOL	DRY	DRY	DRY	DRY	ISOL
6	GANGETIC WEST BENGAL	SCT	DRY	DRY	DRY	DRY	DRY	DRY
7	ODISHA	SCT	ISOL	DRY	DRY	DRY	DRY	DRY
8	JHARKHAND	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
9	BIHAR	DRY	DRY	DRY	DRY	DRY	DRY	ISOL
10	EAST UTTAR PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	SCT
11	WEST UTTAR PRADESH	DRY	DRY	ISOL	DRY	DRY	ISOL	FWS
12	UTTARAKHAND	DRY	DRY	ISOL	ISOL	DRY	ISOL	FWS
13	HARYANA CHANDIGARH & DELHI	DRY	DRY	ISOL	DRY	DRY	ISOL	FWS
14	PUNJAB	DRY	DRY	DRY	DRY	DRY	ISOL	FWS
15	HIMACHAL PRADESH	DRY	DRY	ISOL	ISOL	DRY	DRY	FWS
16	JAMMU & KASHMIR AND LADAKH	DRY	ISOL	DRY	DRY	DRY	DRY	ISOL
17	WEST RAJASTHAN	DRY	DRY	ISOL	DRY	ISOL	ISOL	ISOL
18	EAST RAJASTHAN	DRY	DRY	ISOL	ISOL	ISOL	SCT	SCT
19	WEST MADHYA PRADESH	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
20	EAST MADHYA PRADESH	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
21	GUJARAT REGION	DRY	DRY	DRY	DRY	DRY	DRY	DRY
22	SAURASHTRA & KUTCH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
23	KONKAN & GOA	DRY	DRY	DRY	DRY	DRY	DRY	ISOL
24	MADHYA MAHARASHTRA	DRY	DRY	DRY	DRY	DRY	ISOL	ISOL
25	MARATHAWADA	DRY	DRY	DRY	DRY	DRY	ISOL	ISOL
26	VIDARBHA	DRY	DRY	DRY	ISOL	ISOL	ISOL	ISOL
27	CHHATTISGARH	ISOL	DRY	DRY	DRY	ISOL	ISOL	ISOL
28	COASTAL ANDHRA PRADESH & YANAM	SCT	ISOL	ISOL	SCT	SCT	SCT	ISOL
29	TELANGANA	DRY	DRY	ISOL	ISOL	ISOL	ISOL	ISOL
30	RAYALASEEMA	ISOL	ISOL	ISOL	SCT	SCT	SCT	ISOL
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	ISOL	ISOL	ISOL	SCT	SCT	ISOL
32	COASTAL KARNATAKA	DRY	DRY	DRY	DRY	DRY	ISOL	ISOL
33	NORTH INTERIOR KARNATAKA	DRY	DRY	DRY	DRY	DRY	ISOL	ISOL
34	SOUTH INTERIOR KARNATAKA	DRY	DRY	DRY	DRY	DRY	ISOL	ISOL
35	KERALA & MAHE	ISOL	ISOL	ISOL	ISOL	ISOL	SCT	SCT
36	LAKSHADWEEP	SCT	DRY	DRY	DRY	DRY	DRY	SCT

• As the lead period increases forecast accuracy decreases.

Impact expected due to dense fog in the night /morning hour:

❖ 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.

Impact expected due to cold wave/severe cold wave conditions:

- 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.

Agromet advisories for Heavy Rainfall / Cold Wave likely over various parts of the country

- In **Jammu & Kashmir, Himachal Pradesh, Uttarakhand, Punjab and Rajasthan**, apply light and frequent irrigation to the standing crops in the evening to protect them from low-temperature stress or cold injuries. Use mulching and cover vegetable nurseries and young fruit plants with straw/polythene sheets to maintain optimum soil temperature.
- Drain out excess water from standing crop fields and vegetables in Odisha, Coastal Andhra Pradesh and Tamil Nadu.

Livestock

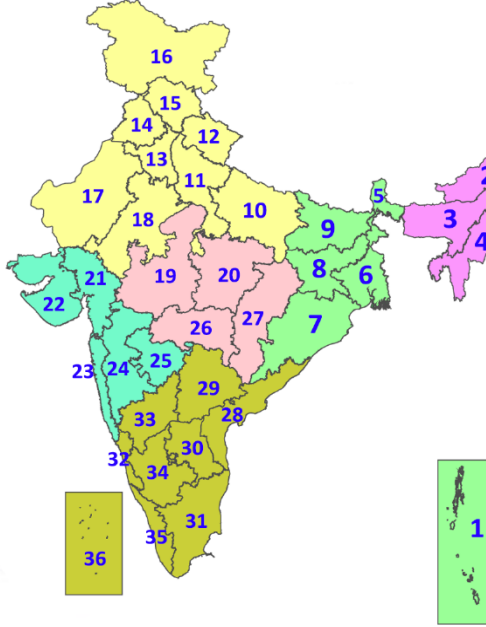
- To protect from cold, keep cattle inside the sheds during night and provide dry bedding. Also keep the chicks warm by providing artificial light in the poultry sheds.

Legends & abbreviations:

- ❖ **Heavy Rain:**64.5-115.5mm; **Very Heavy Rain:**115.6-204.4mm; **Extremely Heavy Rain:** >204.4mm.
- ❖ **Obsy.:** Observatory; **AWS:** Automatic Weather Station; **ARG:** Automatic Rain Gauge; **dist.:** District; **NH:** National Highway; **KVK:** Krishi Vigyan Kendra; **DVC:** Damodar Valley Corporation; **PTO:** Part Time Office, **Aero:** Aerodrome, **IAF:** Indian Air Force.
- ❖ **Region wise classification of meteorological Sub-Divisions:**
 - **Northwest India:** Western Himalayan Region (Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh and Uttarakhand); Punjab, Haryana-Chandigarh-Delhi; West Uttar Pradesh, East Uttar Pradesh, West Rajasthan and East Rajasthan.
 - **Central India:** West Madhya Pradesh, East Madhya Pradesh, Vidarbha and Chhattisgarh.
 - **East India:** Bihar, Jharkhand, Sub-Himalayan West Bengal & Sikkim; Gangetic West Bengal, Odisha and Andaman & Nicobar Islands.
 - **Northeast India:** Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
 - **West India:** Gujarat Region, Saurashtra & Kutch, Konkan & Goa, Madhya Maharashtra and Marathawada.
 - **South India:** Coastal Andhra Pradesh & Yanam, Telangana, Rayalaseema, Coastal Karnataka, North Interior Karnataka, South Interior Karnataka, Kerala & Mahe, Tamil Nadu, Puducherry & Karaikal and Lakshadweep.

LEGENDS

1. अंडमान और निकोबार द्वीपसमूह
2. अरुणाचल प्रदेश
3. असम और मेघालय
4. नागालैंड, मणिपुर, मिजोरम और त्रिपुरा
5. उप-हिमालयी पश्चिम बंगाल और सिक्किम
6. गंगीय पश्चिम बंगाल
7. ओडिशा
8. झारखंड
9. बिहार
10. पूर्वी उत्तर प्रदेश
11. पश्चिम उत्तर प्रदेश
12. उत्तराखंड
13. हरियाणा, चंडीगढ़ और दिल्ली
14. पंजाब
15. हिमाचल प्रदेश
16. जम्मू और कश्मीर और लद्दाख
17. पश्चिम राजस्थान
18. पूर्वी राजस्थान
19. पश्चिम मध्य प्रदेश
20. पूर्वी मध्य प्रदेश
21. गुजरात
22. सौराष्ट्र
23. कोंकण और गोवा
24. मध्य महाराष्ट्र
25. मराठवाड़ा
26. विदर्भ
27. छत्तीसगढ़
28. तटीय आंध्र प्रदेश और यनम
29. तेलंगाना
30. रायलसीमा
31. तमिलनाडु, पुडुचेरी और कराईकल
32. तटीय कर्नाटक
33. आंतरिक उत्तरी कर्नाटक
34. आंतरिक दक्षिणी कर्नाटक
35. केरल और 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, Chandigarh & 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. Vidarbha
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)

- | | | |
|----------------------|----------------------|--------------|
| Fog | Heavy Snow | Cold Wave |
| Heavy Rain | Dust Storm | Cold Day |
| Very Heavy Rain | Heat Wave | Ground Frost |
| Extremely Heavy Rain | Warm Night | |
| Thunder & Lightning | Hot Day | |
| Hailstorm | Hot & Humid | |
| Dust Raising Winds | Strong Surface Winds | |

COLOUR CODED WARNING

No Warning (No Action)
Watch (Be Aware)
Alert (Be Prepared To Take Action)
Warning (Take Action)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

* 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)

DEFINITION/CRITERIA

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 Strom: Wind speed >220 kmph (>119 knots)