

Government of India
Ministry of Earth Sciences
India Meteorological Department



Press Release

Date: 29th December, 2024

Time of Issue: 1315 hours IST

**Subject: i) Dense to very dense fog over northwest India during next 2-3 days.
ii) Cold wave conditions likely to commence over parts of Northwest India from 30th December, 2024.**

i. Realised weather during past 24 hours till 0830 hours IST of today (Annexure I)

- ❖ **Dense (50-200 m) to very Dense fog (< 50 m)** reported in some pockets of Punjab, Haryana, Rajasthan, East Uttar Pradesh.
- ❖ **Visibility reported (< 50 m)** (in meter): Rajasthan: Ganganagar, Bikaner & Ajmer-0; Punjab: Patiala-0; Haryana: Ambala-0; East Uttar Pradesh: Varanasi, Prayagraj, Ballia & Fursatganj-0 each;
- ❖ **Heavy rainfall** recorded at isolated places over Uttarakhand.

Weather Systems, Forecast and warning (Annexure II & III):

- ❖ A Western disturbance seen as a trough in middle tropospheric westerlies roughly along Long. 53°E to the north of Lat. 32°N. it is very likely to cause light isolated to scattered rainfall/snowfall over Western Himalayan region from 1st to 4th January 2025.
- ❖ A fresh **Western Disturbance** in quick succession likely to affect Northwest India from 06th January, 2025.

ii. Temperature, Cold Wave and Fog Forecast:

Temperature Conditions during past 24 hours till 0830 hours IST of today (Annexure IV):

- ❖ Minimum temperatures were **below 0°C** over many parts of Jammu, Kashmir & Ladakh; **6-12°C** over many parts of Northwest India; **12-18°C** over many parts of Central, West & East India. Today, the lowest minimum temperature of 5.7°C is reported at Sikar (Rajasthan) over the plains of the country.
- ❖ There has been a fall in minimum temperature by 1-3°C over many parts of Uttar Pradesh, East Madhya Pradesh, Chhattisgarh and in some parts of Himachal Pradesh, Uttarakhand, Haryana-Chandigarh-Delhi and West Rajasthan; by 3-6°C over many parts of East Rajasthan and in isolated parts of Jammu-Kashmir-Ladakh and Punjab during past 24 hours and rise in minimum temperature by 1-2°C over some parts of East India.
- ❖ Minimum temperatures are **markedly above normal (5°C or more)** at many places over Bihar, Jharkhand, East Uttar Pradesh, Madhya Maharashtra, Vidarbha; at a few places over West Madhya Pradesh; at isolated places over East Madhya Pradesh, East Uttar Pradesh, Punjab, Chhattisgarh, East Madhya Pradesh, Marathwada; **appreciably above normal (3°C to 5°C)** at many places over Haryana-Chandigarh-Delhi, West Bengal & Sikkim, Odisha, Telangana, North Interior Karnataka, Konkan & Goa, Andaman & Nicobar Islands; at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; at isolated places over East Rajasthan, Himachal Pradesh, Gujarat Region; **above normal (1°C to 3°C)** at most places over South Interior Karnataka; at many places over Nagaland, Manipur, Mizoram & Tripura, Coastal Andhra Pradesh & Yanam, Rayalaseema, Coastal Karnataka, Tamil Nadu, Puducherry & Karaikal, Kerala & Mahe; at isolated places over West Rajasthan, Assam & Meghalaya. These are **below normal (-1°C to -3°C)** at isolated places over Saurashtra & Kutch and near normal over rest parts of the country. Today, **the lowest minimum temperature** of 5.7°C is reported at **Sikar (Rajasthan)** over the plains of the country.

Forecast of temperature:

- ❖ Fall in minimum temperatures by 4-6°C likely over Uttar Pradesh during next 5 days and by 3-4°C over Punjab, Haryana-Chandigarh-Delhi and Rajasthan during next 3 days & no significant change thereafter.

- ❖ No significant change in minimum temperatures during next 24 hours and fall by 3-5°C likely over Central India during Subsequent 5 days.
- ❖ No significant change in minimum temperatures during next 24 hours and fall by 3-4°C likely over East India during Subsequent 3 days.
- ❖ Fall in minimum temperatures by 2-4°C likely over Maharashtra during next 5 days.

Cold Wave Warnings:

Cold wave conditions very likely in isolated pockets of Punjab and Haryana-Chandigarh during 31st December-02nd January and over Rajasthan during 30th December-02nd January.

Cold Day Warnings:

Cold Day conditions very likely in isolated pockets of Himachal Pradesh and Rajasthan on 29th and Punjab and Haryana-Chandigarh on 29th & 30th December.

Dense Fog Warnings:

Dense to Very dense fog conditions very likely to prevail during late night/early morning hours in isolated pockets of Punjab, Haryana-Chandigarh during 29th-30th December and over Rajasthan on 29th December;

Dense fog conditions very likely to prevail during late night/early morning hours in isolated pockets of Himachal Pradesh during 29th December-01st January; Uttar Pradesh during 29th-30th; Rajasthan on 30th & 31st December and over Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura till 02nd January.

iii. Weather conditions and forecast over Delhi/NCR during 29th Dec. 2024 to 01st Jan. 2025 (Annexure V)

For more details, kindly refer National Weather Bulletin:

https://mausam.imd.gov.in/responsive/all_india_forecast_bulletin.php

For District wise warnings refer: <https://mausam.imd.gov.in/responsive/districtWiseWarningGIS.php>

ANNEXURE I

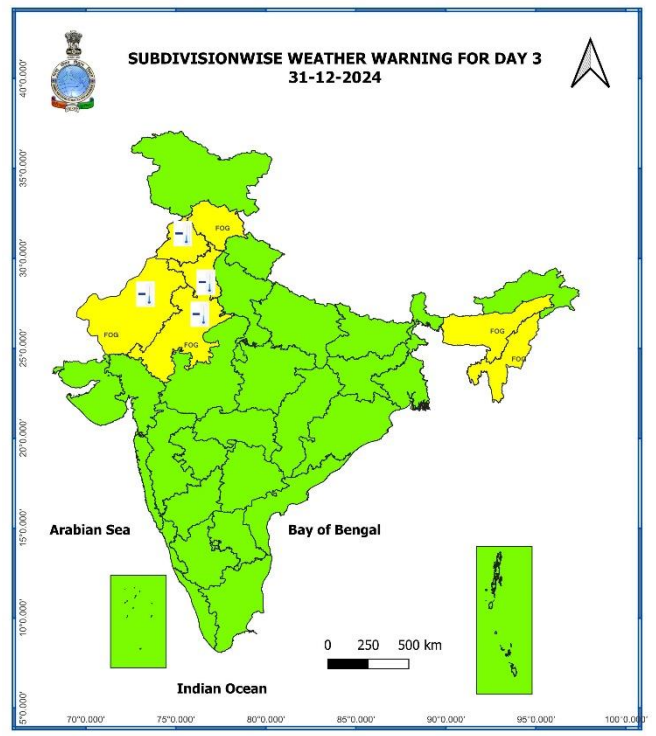
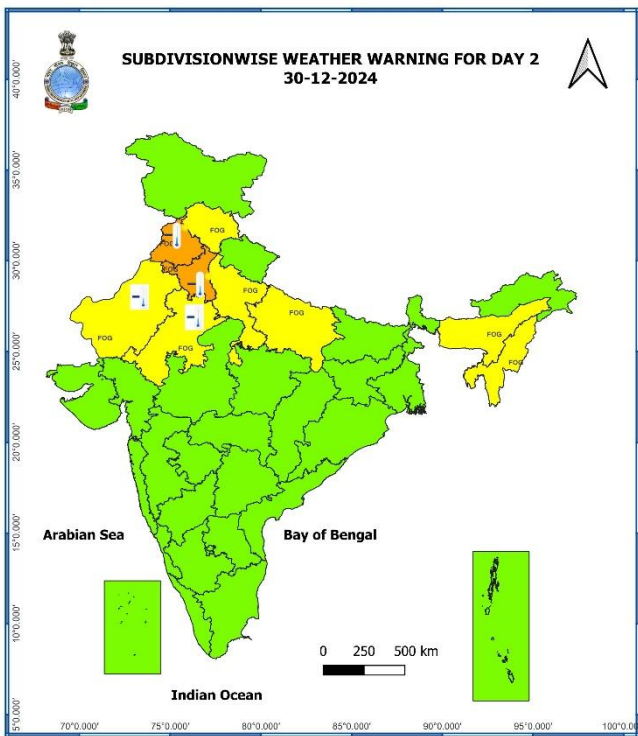
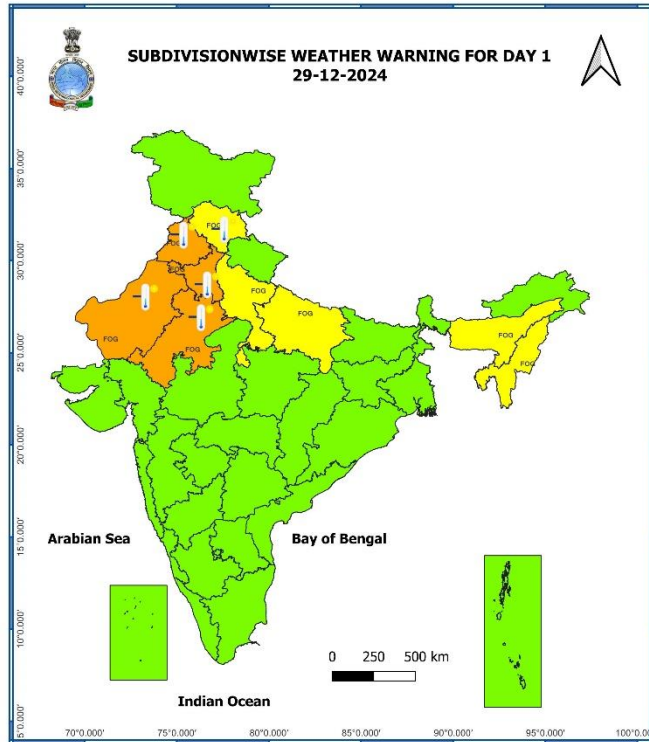
Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 29.12.2024 (in cm):

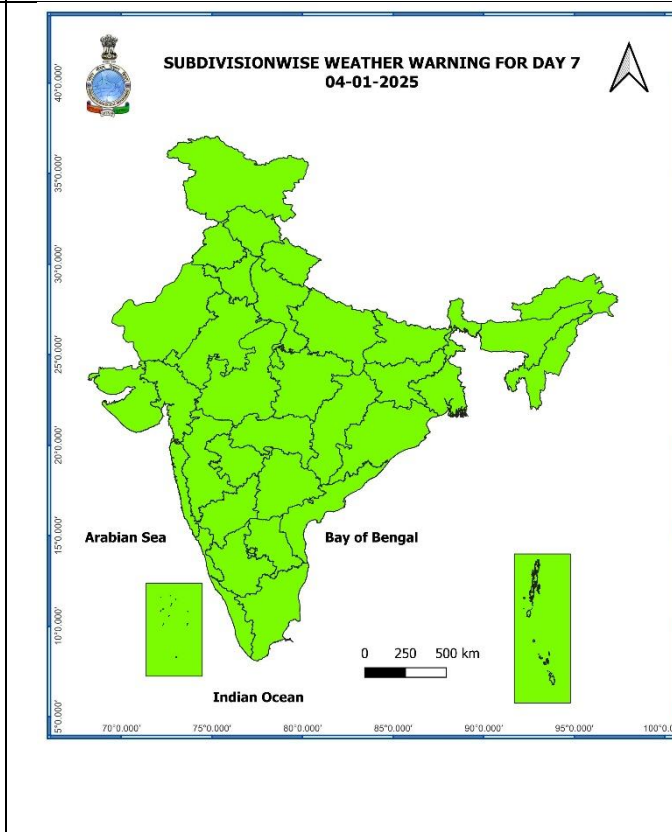
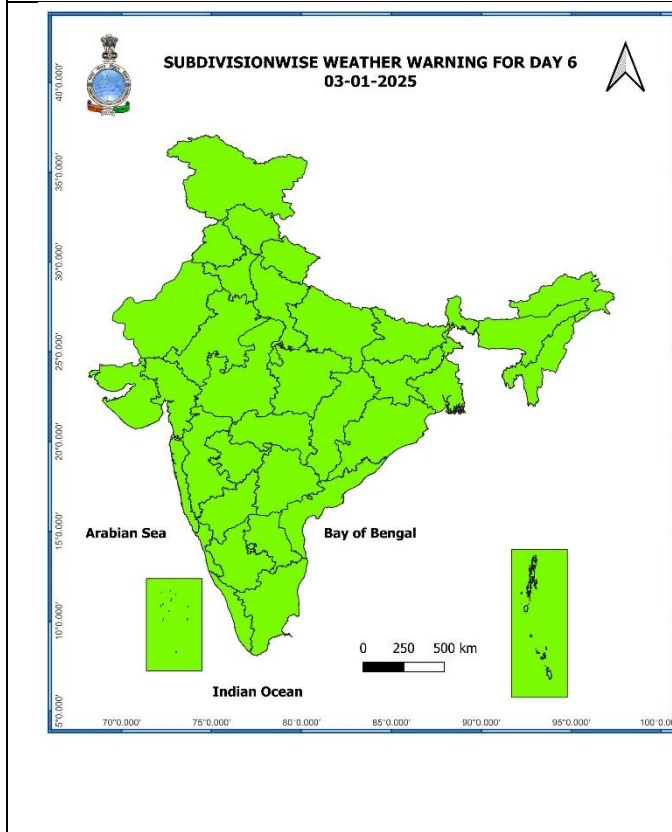
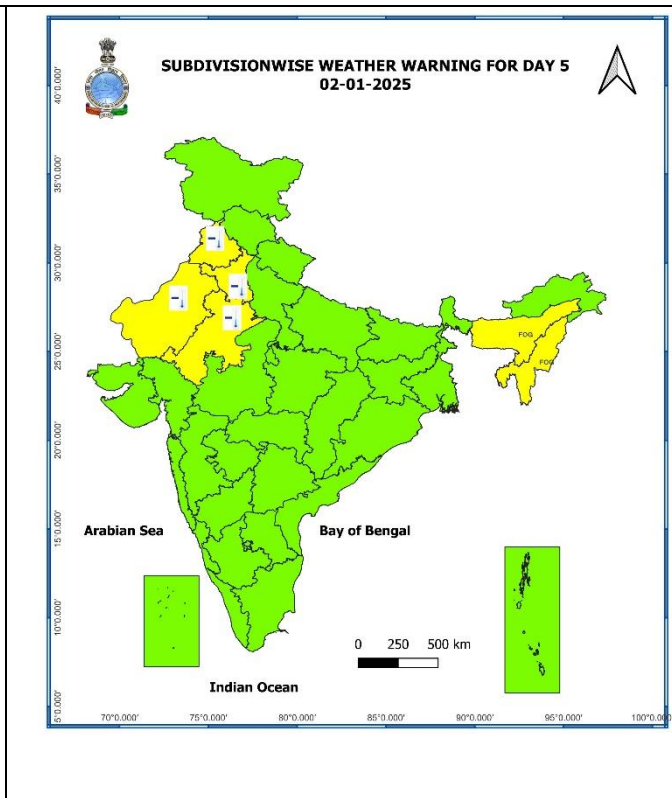
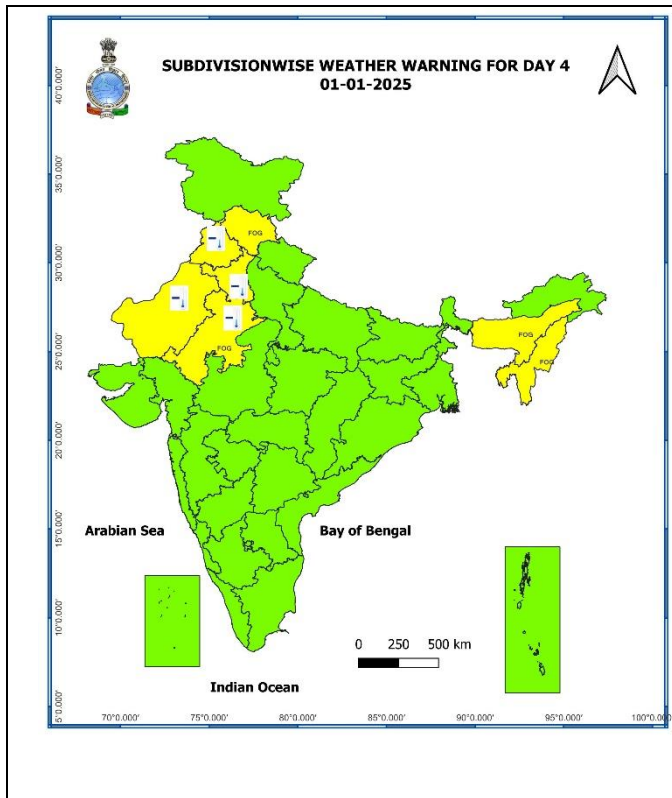
- ❖ **Uttarakhand:** Koti-9, Haripur-6, Dhanolti & Narendra Nagar-4 each,
- ❖ **Himachal Pradesh:** Bharari (dist Hamirpur) 4, Mehre (barsar) (dist Hamirpur) 4, Palampur (dist Kangra) 3, Chamba Aws (dist Chamba) 3, Dharmsala (dist Kangra) 3, Dharmshala Aws (dist Kangra) 3, Kangra Aero (dist Kangra) 3, Jogindarnagar (dist Mandi) 3, Sujampur Tira (dist Hamirpur) 3.

7 Days Rainfall Forecast

S. No.	Subdivision	29-Dec	30-Dec	31-Dec	01-Jan	02-Jan	03-Jan	04-Jan
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
1	ANDAMAN & NICOBAR ISLANDS	FWS	SCT	SCT	ISOL	ISOL	ISOL	SCT
2	ARUNACHAL PRADESH	ISOL	ISOL	ISOL	DRY	DRY	DRY	DRY
3	ASSAM & MEGHALAYA	ISOL	ISOL	DRY	DRY	DRY	DRY	DRY
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	DRY	ISOL	DRY	DRY	DRY	DRY	DRY
5	SUB-HIMALAYAN WEST BENGAL & SIKKIM	ISOL	ISOL	DRY	DRY	DRY	DRY	DRY
6	GANGETIC WEST BENGAL	DRY	DRY	DRY	DRY	DRY	DRY	DRY
7	ODISHA	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
8	JHARKHAND	DRY	DRY	DRY	DRY	DRY	DRY	DRY
9	BIHAR	DRY	DRY	DRY	DRY	DRY	DRY	DRY
10	EAST UTTAR PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
11	WEST UTTAR PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
12	UTTARAKHAND	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
13	HARYANA CHANDIGARH & DELHI	DRY	DRY	DRY	DRY	DRY	DRY	DRY
14	PUNJAB	DRY	DRY	DRY	DRY	DRY	DRY	SCT
15	HIMACHAL PRADESH	ISOL	DRY	DRY	DRY	ISOL	ISOL	SCT
16	JAMMU & KASHMIR AND LADAKH	DRY	DRY	DRY	ISOL	SCT	SCT	SCT
17	WEST RAJASTHAN	DRY	DRY	DRY	DRY	DRY	DRY	DRY
18	EAST RAJASTHAN	DRY	DRY	DRY	DRY	DRY	DRY	DRY
19	WEST MADHYA PRADESH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
20	EAST MADHYA PRADESH	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
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	DRY
24	MADHYA MAHARASHTRA	ISOL	DRY	DRY	DRY	DRY	DRY	DRY
25	MARATHAWADA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
26	VIDARBHA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
27	CHHATTISGARH	DRY	DRY	DRY	DRY	DRY	DRY	DRY
28	COASTAL ANDHRA PRADESH & YANAM	DRY	DRY	DRY	DRY	DRY	DRY	DRY
29	TELANGANA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
30	RAYALASEEMA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
31	TAMILNADU PUDUCHERRY & KARAIKAL	ISOL	SCT	ISOL	ISOL	ISOL	ISOL	ISOL
32	COASTAL KARNATAKA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
33	NORTH INTERIOR KARNATAKA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
34	SOUTH INTERIOR KARNATAKA	DRY	DRY	DRY	DRY	DRY	DRY	DRY
35	KERALA & MAHE	ISOL	ISOL	ISOL	ISOL	DRY	DRY	DRY
36	LAKSHADWEEP	DRY	DRY	SCT	SCT	DRY	DRY	DRY

- As the lead period increases forecast accuracy decreases





- 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.

Fig. 1: Maximum Temperatures

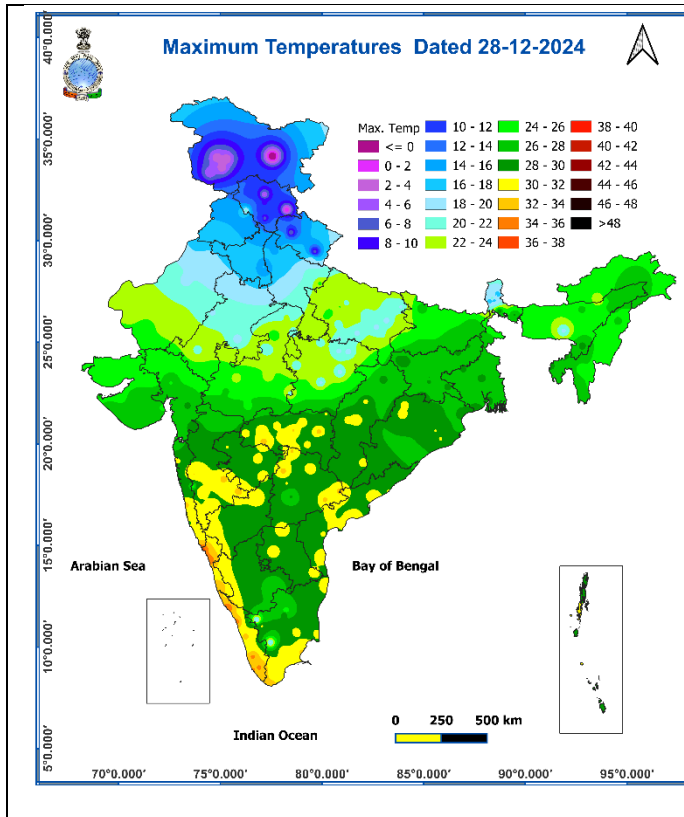


Fig. 2: Departure of Maximum Temperatures

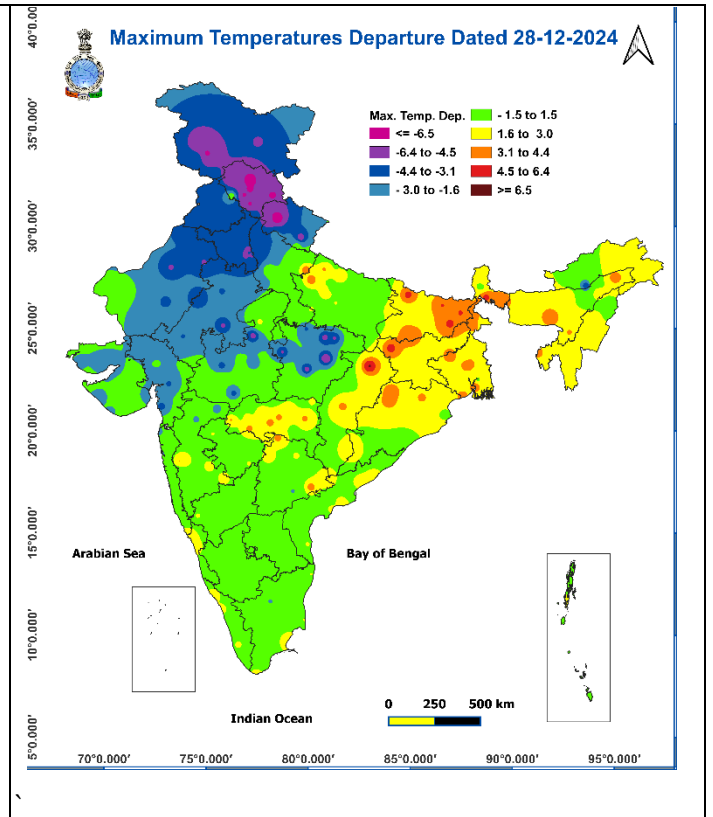


Fig. 3: Minimum Temperatures

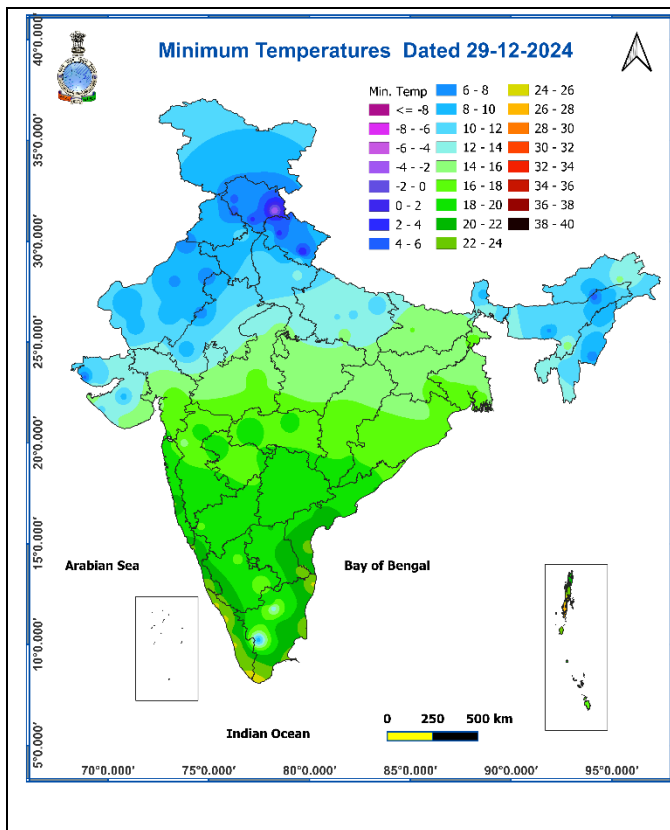
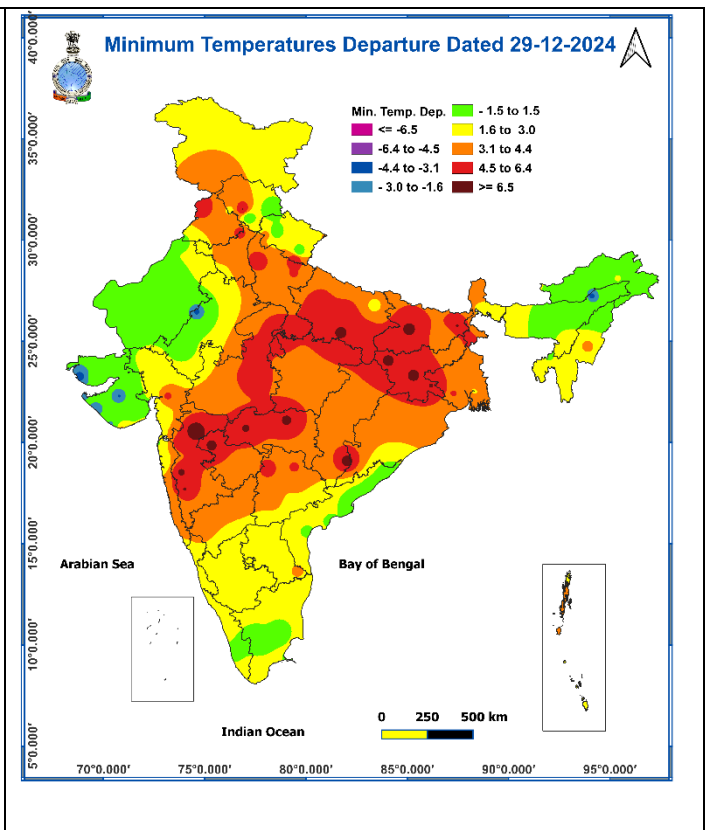


Fig. 4: Departure of Minimum Temperatures



Weather forecast over Delhi/NCR during 29th Dec. 2024 to 01st Jan. 2025**Past Weather:**

There has been a slight rise in minimum temperature over Delhi/NCR during past 24hr. The Maximum and Minimum temperature over Delhi is in the range of 15 to 16°C and 11 to 13°C respectively. The minimum temperature was above normal upto 04 to 06°C and maximum temperature was below normal upto 04 to 05°C over most places. Shallow fog reported at Safdarjung airport. Safdarjung airport recorded lowest visibility 600 m during 0700 hours to 0730 hours IST. Moderate fog reported at Palam airport. Palam airport recorded lowest visibility 350 m at 0900 hours IST which improved thereafter becoming 500m at 0930 hours IST. Mainly shallow fog condition with predominant surface wind from west direction with wind speed reaching 06 to 10 kmph prevailed past 24hr. Mainly mist condition with wind speed less than 08 kmph northwest direction prevailed over the region in the forenoon today.

Weather Forecast:

29.12.2024: Mainly clear sky. The predominant surface wind is likely to be northwest direction with wind speed less than 10 kmph till evening. It would decrease thereafter becoming less than 06 kmph from northwest direction during night. Smog/shallow fog is likely in the evening/night.

30.12.2024: Mainly clear sky. The predominant surface wind is likely to be from northwest direction with speed less than 06 kmph during morning hours. Smog/ dense fog in most of the places and very dense fog in isolated places is likely in the morning. The wind speed will gradually increase becoming 08-10 kmph from northwest direction during afternoon. It will decrease thereafter becoming less than 06 kmph from northwest direction during evening and night. Smog/shallow fog is likely in the evening/night.

31.12.2024: Mainly clear sky. The predominant surface wind is likely to be from northwest direction with wind speed less than 06 kmph during morning hours. Smog/ moderate fog in most of the places and dense fog in isolated places is likely in the morning. The wind speed will increase thereafter becoming 08-10 kmph from northwest direction during afternoon. It will gradually decrease becoming less than 06 kmph from northwest direction during evening and night. Smog/shallow to moderate fog is likely in the evening/night.

01.01.2025: Mainly clear sky. The predominant surface wind is likely to be from northwest direction with wind speed less than 06 kmph during morning hours. Smog/moderate to dense fog is likely in the morning. The wind speed will increase thereafter becoming 14-16 kmph from northwest direction during afternoon. It will gradually decrease becoming less than 08 kmph from northwest direction during evening and night. Smog/shallow fog is likely in the evening/night.

Impact expected due to dense/very 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 woollen 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 woollen 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

- Keep the harvested produce in safer places or cover the produce with tarpaulin sheets in the fields.
- Drain out excess water from standing crop fields & vegetables in **Himachal Pradesh, Uttarakhand** and **Madhya Pradesh**.
- Shake the fruit bearing trees to immediately remove snow from the branches in **Himachal Pradesh** and **Uttarakhand**.
- In **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.

Livestock

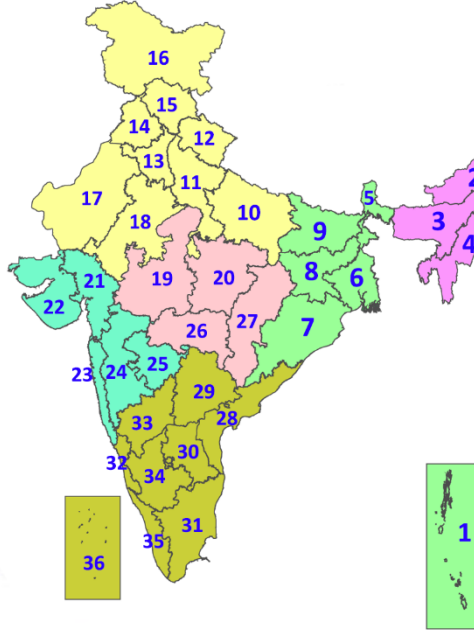
- Keep the animals inside the shed and provide them with balanced feed.
- Check and disinfect poultry houses to prevent disease outbreaks due to dampness.
- Check the huts and other weaker structures before relocation of the animals.
- To protect from cold, keep cattle inside the sheds during night and 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. रायलसेमा
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)

* 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.
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