





ALL INDIA WEATHER SUMMARY AND FORECAST BULLETIN

Significant Weather Features:

Weather Systems and Forecast & Warnings during next 5 days:

- ❖ Conditions are becoming favourable for cessation of Northeast Monsoon rains over Tamilnadu, Puducherry & Karaikal, Kerala & Mahe and adjoining areas of Coastal Andhra Pradesh & Yanam, Ravalaseema and South Interior Karnataka around 15th January, 2024.
- ❖ A Western Disturbance seen as a trough in middle tropospheric westerlies roughly along Long. 56°E to the north of Lat. 32°N. Under its influence; Light rainfall/snowfall at isolated places very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 13th. January.
- ❖ A fresh Western Disturbance is likely to affect Western Himalayan Region from 16th January, 2024. Under its influence; Light rainfall/snowfall at isolated places very likely over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh on 16th & 17th and Uttarakhand on 17th & 18th January.

Dense fog and Cold day warning:

- ❖ **Dense to very dense fog** conditions very likely to prevail for a few hours in night/morning in many parts of Punjab and Haryana, Chandigarh & Delhi on 13th and in some pockets for subsequent 3-4 days.
- ❖ Dense to very dense fog conditions very likely to prevail for a few hours in night/morning in some parts of Uttar Pradesh on 13th and in isolated pockets for subsequent 3 -4 days.
- **Dense fog** conditions very likely to prevail for a few hours in morning in isolated pockets of Uttarakhand during 13th-17th; Himachal Pradesh, Sub-Himalayan West Bengal & Sikkim, north Madhya Pradesh on 13th; West Rajasthan, Bihar, Odisha, East Rajasthan on 13th & 14th and Assam & Meghalaya, Mizoram & Tripura during 13th-15th January.
- ❖ Cold Day to Severe Cold Day conditions very likely to continue in many parts of Punjab, Haryana-Chandigarh-Delhi on 13th and **cold day conditions** in isolated pockets for subsequent 3 -4 days.
- ❖ Cold Day conditions very likely to continue in isolated pockets of Uttarakhand and Uttar Pradesh on 13th January, 2024.

Temperatures Forecast and Cold wave warning:

- ❖ Gradual fall by 2-3°C in minimum temperatures likely over many parts of Central and East India during next 2 days and no significant change thereafter.
- ❖ No significant change in minimum temperatures very likely over Northwest India during next 4-5 days.
- **Cold wave to Severe Cold wave** conditions very likely to continue in isolated pockets of Punjab, Haryana, Chandigarh & Delhi on 13th and cold wave conditions in isolated pockets on 14th January, 2024.
- ❖ Cold wave conditions very likely in isolated pockets of Rajasthan, Uttar Pradesh on 13th and over Bihar during 13th-14th January.
- **Ground frost conditions in isolated pockets** very likely over Uttarakhand, Punjab, Rajasthan and Haryana on 13th January, 2024.



National Weather Forecasting Centre India Meteorological Department Ministry of Earth Sciences

Main Weather Observations:

- ❖ Rainfall distribution (from 0830 hours IST to 1730 hours IST of yesterday): at isolated places over Andaman & Nicobar Islands and Tamil Nadu.
- ❖ **Significant rainfall amount recorded** (from 0830 hours IST to 1730 hours IST of yesterday): (1 cm or more): **NIL**.
- ❖ Yesterday, **Cold wave to severe cold wave conditions** prevailed in isolated pockets of East Rajasthan, Punjab and **cold wave condition** in isolated pockets of Haryana and West Rajasthan.
- ❖ Fog conditions observed (at 0530 hours IST of today, 13.01.2024): Dense to Very Dense fog reported in isolated pockets of Punjab and East Uttar Pradesh; Dense fog in isolated pockets over Haryana, Delhi, Madhya Pradesh, Bihar, Assam, Gangetic West Bengal and Andra Pradesh; Moderate fog in isolated pockets over Rajasthan, West Uttar Pradesh.
- ❖ Visibility recorded (at 0530 hours IST of today, 13.01.2024) (≤500metres): Punjab: Amritsar-25, Patiala-500; Haryana-Delhi: Hissar-50, Palam (Delhi) & Safdarjung (Delhi)-200 each; Uttar Pradesh: Lucknow & Varanasi(Babatpur)-25 each, Gorakhpur & Bahraich-200 each, Bareilly, Varanasi & Sultanpur-500 each; Bihar- Purnea & Gaya -50 each, Patna & Bhagalpur- 500 each; Madhya Pradesh: Gwalior-200; Gangetic West Bengal: Diamond Harbour- 50, Malda-500; Assam: Tezpur, North Lakhimpur & Dibrugarh-50 each, Guwahati-500; Andhra Pradesh: Vijayawada- 200, Rajasthan: Ganganagar & Kota-500 each.
- Yesterday, cold day conditions prevailed in many parts of Punjab, Haryana & Chandigarh; in some parts of East Uttar Pradesh and in isolated pockets of Uttarakhand, northwest Uttar Pradesh & northwest Rajasthan. Severe cold day conditions also observed in some parts of Punjab and in isolated pockets of Haryana, northwest Uttar Pradesh & northwest Rajasthan.
- ❖ Minimum Temperature Departures (as on 12-01-2024): Minimum temperatures were markedly above normal (5.1°C or more) at isolated places over Konkan & Goa; appreciably above normal (3.1°C to 5.0°C) at isolated places over Madhya Maharashtra, Vidarbha, Gujarat Region, Chhattisgarh and Odisha; above normal (1.6°C to 3.0°C) at many places over Coastal & South Interior Karnataka, Telangana, Coastal Andhra Pradesh & Yanam; at a few places over Madhya Pradesh, Sub-Himalayan West Bengal & Sikkim and Tamil Nadu, Puducherry & Karaikal; at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Uttarakhand, Assam & Meghalaya and Kerala & Mahe. They were below normal (-1.6°C to -3.0°C) at a few places over Haryana-Chandigarh-Delhi, at isolated places over Himachal Pradesh, Uttar Pradesh, Punjab, Rajasthan, Bihar, Gangetic West Bengal and near normal over rest parts of the country. Yesterday, the lowest minimum temperature of 1.4°C was reported at Amritsar (Punjab) over the plains of the country.
- ❖ Maximum Temperature Departures (as on 12-01-2024): Maximum temperatures were markedly above normal (5.1°C or more) at a few places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad; appreciably above normal (3.1°C to 5.0°C) at many places over Saurashtra & Kutch and Konkan & Goa; at isolated places over Telangana; above normal (1.6°C to 3.0°C) at most places over Gujarat Region; at many places over Rajasthan and Chhattisgarh; at a few places over Madhya Pradesh, Madhya Maharashtra, North Interior Karnataka and Lakshadweep; at isolated places over Odisha, Coastal Andhra Pradesh & Yanam, Tamil Nadu, Puducherry & Karaikal and Kerala & Mahe. They were markedly below normal (-5.1°C or less) at many places over Punjab and Haryana & Chandigarh; at a few places over Uttarakhand; at isolated places over West Uttar Pradesh, Bihar and Sub-Himalayan West Bengal & Sikkim; appreciably below normal (-3.1°C to -5.0°C) at most places over East Uttar Pradesh; below normal (-1.6°C to -3.0°C) at a few places over Gangetic West Bengal; at isolated places over Assam & Meghalaya and near normal over rest parts of the country. Yesterday, the highest maximum temperature of 36.2°C was reported at Karwar (Coastal Karnataka).





Meteorological Analysis (Based on 0530 hours IST)

- Conditions are becoming favourable for cessation of Northeast Monsoon rains over Tamilnadu, Puducherry & Karaikal, Kerala & Mahe and adjoining areas of Coastal Andhra Pradesh & Yanam, Rayalaseema and South Interior Karnataka around 15th January, 2024.
- ❖ The **Western Disturbance** as a trough in middle tropospheric westerlies with its axis at 5.8 km above mean sea level now runs roughly along Long. 56°E to the north of Lat. 32°N.
- ❖ The Cyclonic circulation over Comorin area & adjoining Maldives area between 4.5 & 5.8 km above mean sea level persists.
- ❖ A fresh Western Disturbance is likely to affect Western Himalayan Region from 16th January, 2024.

Weather Forecast for next 7 days (Upto 0830 hours IST of 20th January, 2024)

- Shallow to Moderate fog very likely in isolated pockets over Gangetic West Bengal during next 2 days.
- ❖ Gradual fall by 2-3°C in minimum temperatures likely over many parts of Central and East India during next 2-3 days and no significant change thereafter.
- ❖ No significant change in minimum temperatures very likely over Northwest India during next 5 days.

Weather Outlook for subsequent 2 days

- ❖ Light to moderate rainfall at isolated places over East Madhya Pradesh and Odisha.
- ❖ Mainly dry weather likely to prevail over rest parts of the country.

राष्ट्रीय मौसम पूर्वानुमान केन्द्र भारत मौसम विज्ञान विभाग पृथ्वी विज्ञान मंत्रालय

National Weather Forecasting Centre India Meteorological Department Ministry of Earth Sciences



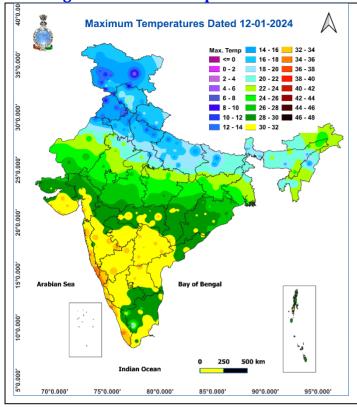
Table-1

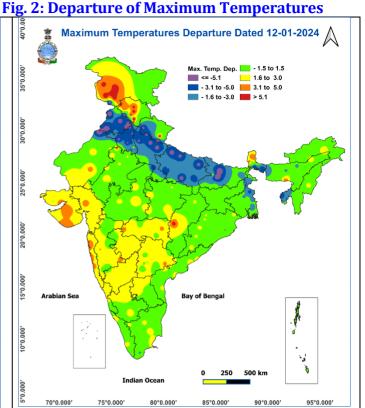
	7 Days Rainfall Forecast							
S.	Code divisions	13-	14-	15-	16-	17-	18-	19-
No.	Subdivision	Jan Day 1	Jan Day 2	Jan Day 3	Jan Day 4	Jan Day 5	Jan Day 6	Jan Day 7
1	ANDAMAN & NICOBAR ISLANDS	ISOL						
2	ARUNACHAL PRADESH	DRY	DRY	ISOL	SCT	SCT	SCT	SCT
3	ASSAM & MEGHALAYA	DRY	DRY	DRY	ISOL	ISOL	ISOL	ISOL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

Legend	Legend Category	
WS	Widespread/Most Places	76-100
FWS	Fairly Widespread/Many Places	51-75
SCT	Scattered/ A Few Places	26-50
ISOL	Isolated Places	1-25
DRY	No Rain	0



Fig. 1: Maximum Temperatures







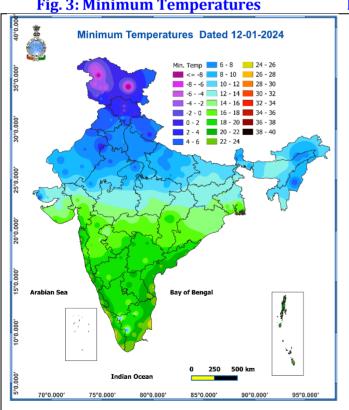
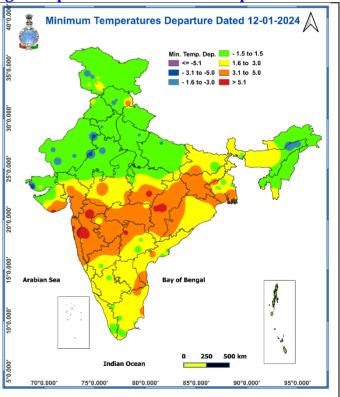


Fig. 4: Departure of Minimum Temperatures



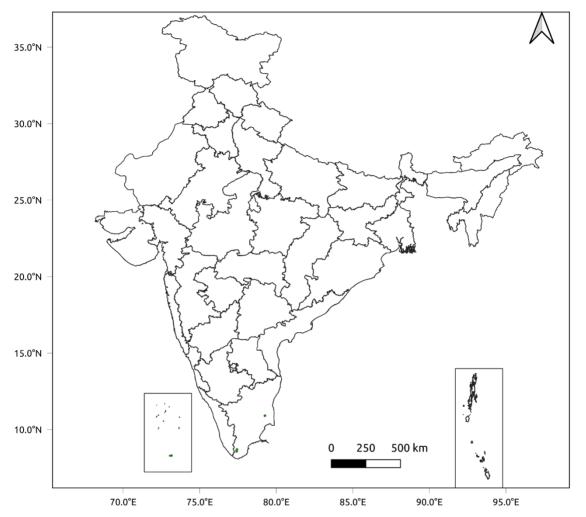








24 Hr cumulative rainfall recorded over different stations during 0830 IST of 11-1-2024 to 0830 IST of 12-1-2024

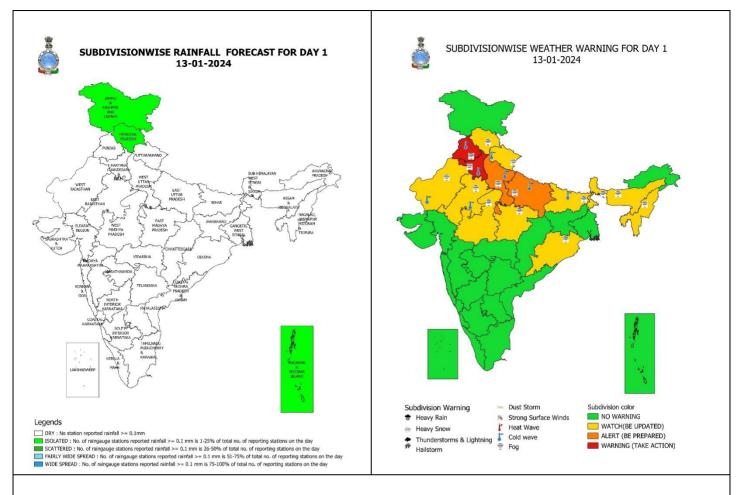


Legends

- Very Light to Light Rainfall (0.1 15.5 mm)
- Moderate Rainfall (15.6 64.4 mm)
- Heavy Rainfall (64.5 115.5 mm)
- Very Heavy Rainfall (115.6 204.4 mm)
- Extremely Heavy Rainfall (>=204.5 mm)





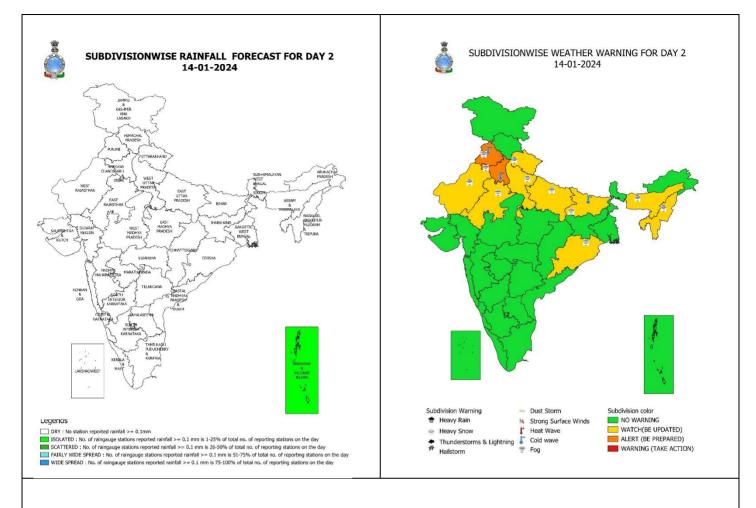


13 January (Day 1):

- ❖ Dense to very dense fog very likely in many parts over Punjab; in some parts over Haryana-Chandigarh-Delhi, Uttar Pradesh; Dense fog in isolated pockets over Himachal Pradesh, Uttarakhand, Northwest Rajasthan, north Madhya Pradesh, Bihar, Sub-Himalayan West Bengal & Sikkim, Odisha, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- ❖ Cold day to severe cold day conditions very likely in many parts over Punjab, Haryana and Chandigarh; Cold day conditions in isolated pockets over Uttarakhand, Uttar Pradesh and Bihar.
- ❖ Cold wave to severe cold wave conditions very likely in some parts over Punjab and Haryana-Chandigarh-Delhi and cold wave conditions in isolated pockets over Uttar Pradesh, Rajasthan and Bihar.
- ❖ **Ground frost** conditions very likely in isolated pockets over Uttarakhand, Punjab, Haryana-Chandigarh and Rajasthan.
- **❖ Squally weather with wind speed 40-45 kmph gusting to 55 kmph** very likely to prevail over southern parts of Southwest and adjoining Southeast Arabian Sea. Fishermen are advised not to venture into these areas.





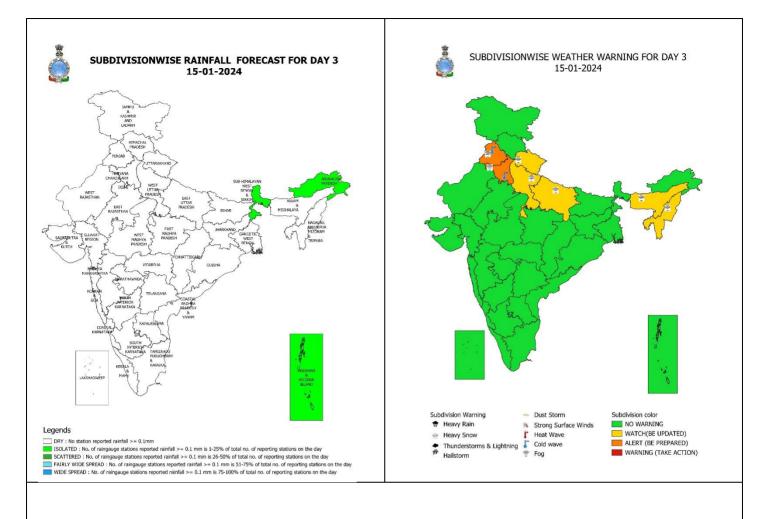


14 January (Day 2):

- ❖ Dense to very dense fog very likely in some parts over Punjab, Haryana-Chandigarh-Delhi, in isolated pockets over Uttar Pradesh; dense fog in isolated pockets over Uttarakhand, northwest Rajasthan, Bihar, Odisha, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- ❖ Cold day conditions very likely in some parts over Punjab, Haryana and Chandigarh.
- ❖ **Cold wave** conditions very likely in isolated pockets over Punjab, Haryana-Chandigarh-Delhi and Bihar.





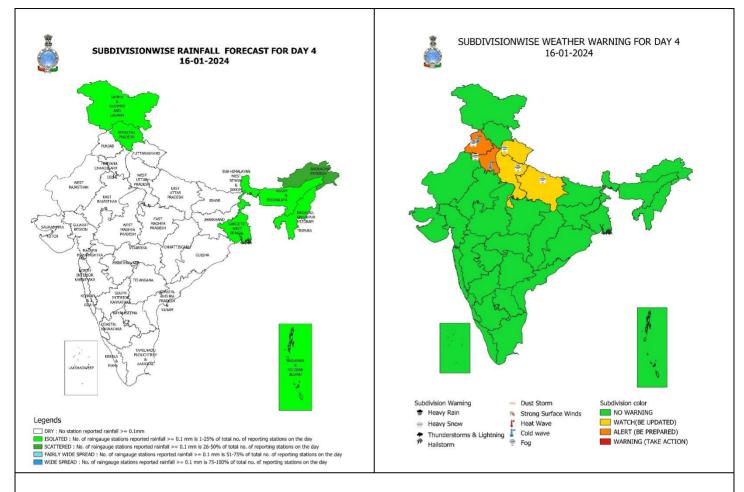


15 January (Day 3):

- ❖ Dense to very dense fog likely in some parts over Punjab, Haryana-Chandigarh-Delhi; in isolated pockets over Uttar Pradesh; dense fog in isolated pockets over Uttarakhand, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura.
- ❖ Cold day conditions likely in some parts over Punjab, Haryana and Chandigarh.





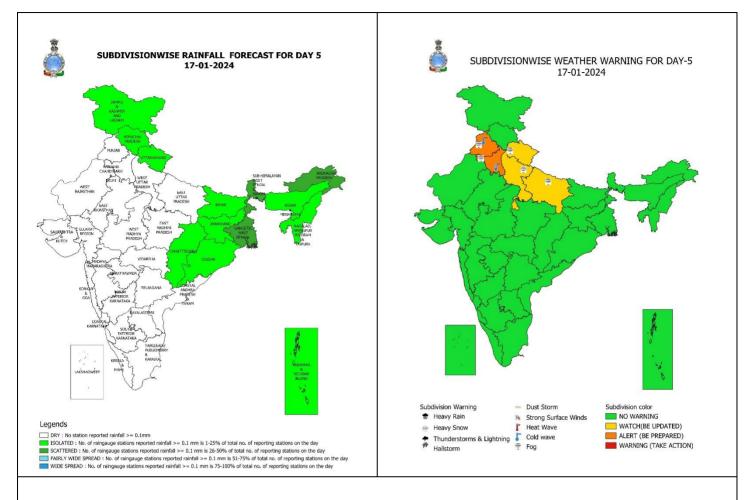


16 January (Day 4):

- ❖ Dense to very dense fog likely in some parts over Punjab, Haryana-Chandigarh-Delhi; in isolated pockets over Uttar Pradesh; dense fog in isolated pockets over Uttarakhand
- ❖ Cold day conditions likely in isolated pockets over Punjab, Haryana and Chandigarh.







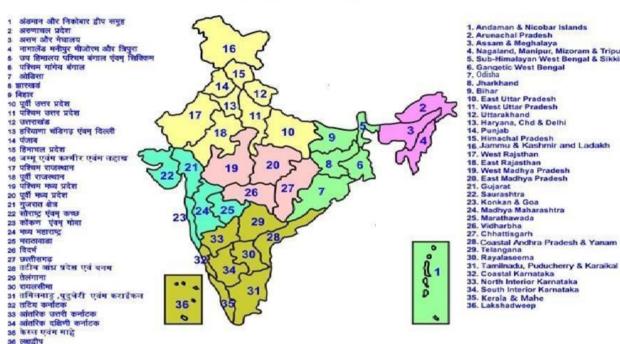
17 January (Day 5):

- ❖ Dense to very dense fog likely in some parts over Punjab, Haryana-Chandigarh-Delhi; in isolated pockets over Uttar Pradesh; dense fog in isolated pockets over Uttarakhand
- ❖ Cold day conditions likely in isolated pockets over Punjab, Haryana and Chandigarh.





LEGENDS



- Andaman & Nicobar Islands
 Arunachal Pradesh
 Assam & Meghalaya
 Nagaland, Mahlaya Mizoram & Tripura
 Sub-Himalayan West Bengal & Sikkim
 Gangetic West Bengal
 Odisha

- 8. Jharkhand 9. Bihar

- 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 Widespred (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



Heavy Rain



Heavy Snow



5 Thunderstorm



Dust Storm



Strong Winds



Visibility



Cyclone



Squall/ Hail



Frost



Cold Wave



Heat Wave



Sea State





LEGENDS Probabilistic Forecast WARNING Probability of Occurrence (%) WARNING (TAKE ACTION) Terms ALERT (BE PREPARED) Likely WATCH (BE UPDATED) Very Likely Most Likely > 75 Heavy: 64.5 to 115.5 mm/cm * Very Heavy: 115.6 to 204.4 mm/cm* Extremely Heavy: > 204.4 mm/cm Rain/ Snow When maximum temperature of a station reaches ≥40° C for plains and ≥30° 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 ≥6.5° C (b). Based on Actual maximum temperature **Heat Wave** Heat Wave: When actual maximum temperature ≥45°C Severe Heat Wave: When actual maximum temperature ≥47°C (c). Criteria for heat wave for coastal stations When maximum temperature departure is >4.5°C from normal. Heat Wave may be described provided maximum temperature ≥37°C When maximum temperature remains 40°C **J+**Warm Night Warm Night: When minimum temperature departure 4.5 °C to 6.4 °C Severe Warm Night: When minimum temperature departure >6.4 °C. When minimum temperature of a station ≤10°C for plains and ≤0°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 ≤ -6.5 °C (b) Based on actual Minimum Temperature (for Plains only) Cold Wave Cold Wave : When Minimum Temperature is ≤ 4.0 °C Severe Cold Wave: When Minimum Temperature is ≤ 2.0 °C When Minimum Temperature departure is ≤-4.5 °C & actual Minimum Temperature is ≤ 15 °C When minimum temperature of a station ≤10°C for plains and ≤0°C for hilly regions Based on departure Cold Day: Maximum Temperature Departure from normal -4.5 °C to -6.4 °C. **Cold Day** Severe Cold Day: Maximum Temperature Departure from normal ≤ -6.5 °C Phenomenon of small droplets suspended in air and the horizontal visibility < 1km Moderate Fog: When the visibility between 500-200 metres 0 Dense Fog: when the visibility between 50-200 metres Fog Very Dense Fog: when the visibility < 50 metres 44 Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder) Thunderstorm An ensemble of particles of dust or sand energetically lifted to great heights by a strong and **Dust/Sand** turbulent wind. Storm Ice deposits on ground 55 Air temperature ≤4°C (over Plains) Frost A strong wind that rises suddenly, lasts for atleast 1 minute. Moderate: Wind speed 52-61 kmph 4 Severe: Wind speed 62-87 kmph Squall Very Severe: Wind speed >87 kmph 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 Sea State Phenomenal: Wind speed >117 kmph (>63 knots) & Wave height >14 metre Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots) Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots) 9 Very Severe Cyclonic Storm: Wind speed 118-165 kmph (64 - 89 knots) Extremely Severe Cyclonic Storm: Wind speed 166-220 kmph (90 -119 knots) Cyclone Super Cyclone Strom: Wind speed >220 kmph (>119 knots)