

Government of India Ministry of Earth Sciences India Meteorological Department



Press Release Date: 15th November, 2024 Time of Issue: 1300 hours IST

Subject: (i) Minimum temperature is likely to fall by 2-3°C over most places of northwest, central, east and west India during next 5 days.

(ii) Dense to very dense fog conditions likely to continue in night/morning hours over Punjab, Haryana, northwest Rajasthan, East Uttar Pradesh and Bihar during next 2 days.

Rainfall Forecast and warning over the country: Realised weather during past 24 hours till 0830 hours IST of today (Annexure I)

- ❖ Heavy rainfall occurred at isolated places over Kerala and Tamil Nadu.
- **Fog conditions observed** (at 0530 & 0830 hours IST of today): **Very dense fog** reported in isolated pockets of Punjab and Haryana and **Dense fog** in isolated pockets of Chandigarh, east Bihar and East Uttar Pradesh. Following stations reported visibility (≤200metres): **Punjab**: Amritsar, Ludhiana & Patiala-0 each; **Haryana-Chandigarh**: Ambala, Bhiwani & Hissar-0 each, Chandigarh-200; **East Uttar Pradesh**: Lucknow-0, Prayagraj-200; **Bihar**: Purnea-200.

Weather Systems:

- ❖ A cyclonic circulation lies over Gulf of Mannar & adjoining Sri Lanka coast in lower tropospheric levels.
- ❖ A Western Disturbance as a trough aloft in middle tropospheric westerlies runs roughly along Long. 65°E to the north of Lat. 30°N.

Forecast & Warnings (upto 7 days) (Annexure II & III):

- ✓ Light to moderate rainfall at a few places accompanied with isolated thunderstorm and lightning very likely over south Peninsular India during 15th-17th November, 2024.
- ✓ Light rainfall at many places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad and at isolated places over north Punjab today.
- ✓ **Isolated heavy rainfall** very likely over Tamil Nadu, Puducherry & Karaikal, Coastal Andhra Pradesh, Rayalaseema on 15th; & Kerala & Mahe on 15th & November, 2024.
- ✓ **Dense to very dense fog** conditions very likely to prevail in night/early morning hours in some pockets of Punjab, Haryana, Bihar till 17th morning hours; East Uttar Pradesh till 16th morning hours. **Dense fog conditions** very likely to prevail in night/early morning hours in isolated pockets over West Rajasthan, Bihar till 18th morning hours; Himachal Pradesh during 17th-19th morning hours; Uttar Pradesh, Sub-Himalayan West Bengal & Sikkim during 17th morning hours.

ii. Temperature conditions and Forecast:

Temperature Conditions during past 24 hours till 0830 hours IST of today

No significant change in minimum temperature observed over most parts of the country during past 24 hours. Minimum temperatures are **appreciably above normal by 3°C-5°C** at isolated places over northwest Rajasthan, Punjab, Haryana, south Telangana, Madhya Maharashtra, West Uttar Pradesh; **above normal by**

2°C - 3°C at many places over Coastal Andhra Pradesh & Yanam, Rayalaseema, southwest Rajasthan. These are **below normal by 2°C-3°C** at isolated places over central Madhya Pradesh, north Chhattisgarh and near normal over rest parts of the country. Today, **the lowest minimum temperature** of **10.4°C** is reported at **Ambikapur (Chhattisgarh)** over the plains of the country.

Forecast of temperature:

- ❖ Gradual fall in minimum temperatures by 2-3°C very likely over Northwest & Central India during next 5 days.
- ❖ No significant change in minimum temperatures over West India during next 2 days and gradual fall by 2-3°C during subsequent 2-3 days.
- ❖ Gradual fall in minimum temperatures by 2-3°C very likely over East India during next 2-3 days.

iii. Weather forecast over Delhi/NCR during 15th Nov. to 18th Nov. 2024

Past Weather:

There has been a slight fall in minimum temperatures over Delhi/NCR during past 24hr. The Maximum and Minimum temperature over Delhi is in the range of 28 to 30°C and 11 to 17°C respectively. The maximum temperature was above normal by 1 to 2°C and the minimum temperature was above normal by 2 to 4°C over most places. Mainly smog condition with predominant surface wind from variable direction with wind speed reaching 04 to 08 kmph prevailed during past 24hr. Moderate fog reported at Palam airport. Palam airport recorded lowest visibility 500 m during 0630 to 0830 hours IST which improved thereafter becoming 600m at 0900 hours IST. Safdarjung airport recorded lowest visibility 400m during 0700 hours to 0800 IST which improved thereafter becoming 500m at 0830 hours IST. Mainly smog condition with wind speed less than 06 kmph variable direction prevailed over the region in the forenoon today.

Weather Forecast:

15.11.2024: Mainly clear sky. The predominant surface wind is likely to be northwest with wind speed upto 04-08 kmph till evening. It would decrease thereafter becoming less than 06 kmph from variable direction during night. Smog/shallow fog is likely in the evening/night.

16.11.2024: Mainly clear sky. The predominant surface wind is likely to be from northwest direction with speed less than 06 kmph during morning hours. Smog/moderate fog is likely in the morning. The wind speed will increase thereafter becoming less than 12 kmph from northwest direction during afternoon. It will decrease thereafter becoming less than 10 kmph from northwest direction during evening and night. Smog/ shallow fog is likely in the evening/night.

17.11.2024: Mainly clear sky. The predominant surface wind is likely to be from north direction with speed less than 08 kmph during morning hours. Smog/moderate fog is likely in the morning. The wind speed will gradually increase becoming 10-12 kmph from northwest direction during afternoon. It will decrease thereafter becoming less than 08 kmph from north direction during evening and night. Smog/ shallow fog is likely in the evening/night.

18.11.2024: Mainly clear sky. The predominant surface wind is likely to be from northwest direction with wind speed less than 08 kmph during morning hours. Smog/shallow to moderate fog in the morning. The wind speed will increase thereafter becoming 10-12 kmph from northwest direction during afternoon. It will gradually decrease becoming less than 08 kmph from northwest directions during evening and night. Smog/ shallow fog is likely in the evening/night.

For more details, kindly refer National Weather Bulletin:

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

For District wise warnings refer: https://mausam.imd.gov.in/responsive/districtWiseWarningGIS.php
For Fishermen warnings, kindly refer:

https://rsmcnewdelhi.imd.gov.in/uploads/archive/51/51 bdf575 GRAPHIC.png

ANNEXURE I

Significant Rainfall recorded during past 24 hours till 0830 hours IST of today 15.11.2024 (in cm):

Tamil Nadu, Puducherry & Karaikal: Oothu (dist Tirunelveli), Nalumukku (dist Tirunelveli) 10 each, Kakkachi (dist Tirunelveli) 9, Vadakuthu (dist Cuddalore), Manjolai (dist Tirunelveli) 8 each, Neyyoor AWS (dist Kanyakumari), Kollidam (dist Mayiladuthurai) 7 each, Gummidipoondi (dist Tiruvallur), Tiruchendur (dist Thoothukudi), Cuddalore Collector Office(dist Cuddalore) 6 each, Zone 02 D15 Manali (dist Chennai), Kulasekarapattinam (dist Thoothukudi), Nagapattinam(dist Nagapattinam), Vilupuram (dist Villupuram), Gandarvakottai (dist Pudukkottai), Chittar-I (dist Kanyakumari), Karaikal (dist Karaikal), Perambur (dist Chennai), Bahour (distPuducherry), Zone 01 Kathivakkam (dist Chennai), Cuddalore (dist Cuddalore) 5 each, Thalaignayer

Kerala & Mahe: Kuppady (dist Wynad) 7, Thodupuzha (dist Idukki) 5, Kuppadi (dist Wynad) 5, Ranni (dist Pathanamthitta) 4, Neyyattinkara (dist Thiruvananthapuram) 4, Kayamkulam_ (distAlapuzha) 4, Kudulu (dist Kasargod) 4, Mavelikara (dist Alapuzha) 4, Kottarakkara (dist Kollam) 3, Nilambur (dist Malappuram) 3, Anakayam (dist Malappuram) 3, Panathur (dist Kasargod) 3, Kunnathanam (dist Pathanamthitta) 3,

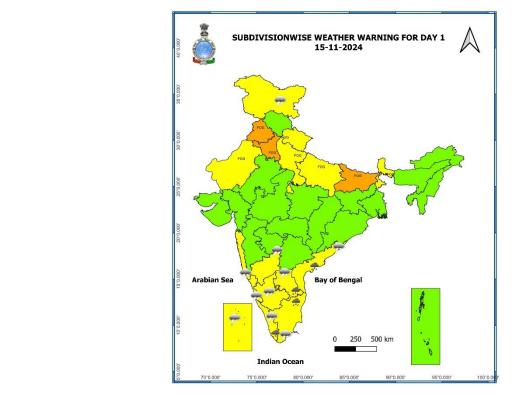
Rayalaseema: Srikalahasti (dist Tirupati) 6, Thottambedu (dist Tirupati) 6, Tirupati Aero (dist Tirupati) 5, Sullurpeta (dist Tirupati) 4, Badvel (dist Ysr District) 4, Porumamilla (dist Ysr District) 3, Aspari (dist Kurnool) 3, Venkatagiri (dist Tirupati) 3, Puttur (dist Tirupati) 3, Penu Konda (dist Sri Sathyasai District) 3; Coastal Karnataka: Dharmasthala (dist Dakshina Kannada) 5, Puttur Hms (dist Dakshina Kannada) 5, Gokarna (dist Uttara Kannada) 3, Uppinangadi (dist Dakshina Kannada) 3, Mani (dist DakshinaKannada) 3; South Interior Karnataka: Kalasa (dist Chikkamagaluru) 5, Bellur (dist Mandya) 3, Sringeri Hms (distChikkamagaluru) 3, Thondebhavi (dist Chikaballapura) 3, Kammardi (dist Chikkamagaluru) 3,Gowribidanur (dist Chikaballapura) 3, Gubbi (dist Tumakuru) 3, Hagaribommanahalli (distVijayanagara) 3;

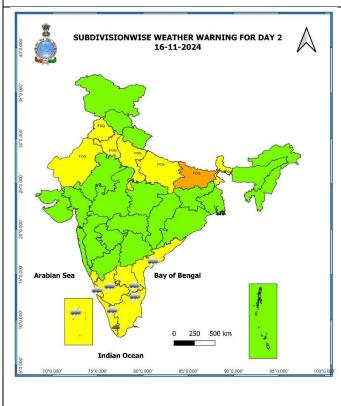
Coastal Andhra Pradesh & Yanam: Kandukur (dist Spsr Nellore) 5, Kavali (dist Spsr Nellore) 4, Veligandla (dist Prakasam) 4, Seetharamapuram (dist Spsr Nellore) 3;

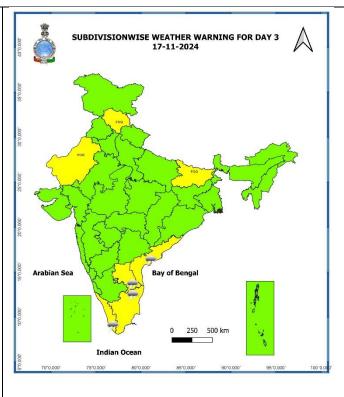
7 Days Rainfall Forecast									
S.		15-	16-	17-	18-	19-	20-	21-	
No.	Subdivision	Nov							
		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	
1	ANDAMAN & NICOBAR ISLANDS	ISOL	SCT	SCT	SCT	SCT	FWS	FWS	
2	ARUNACHAL PRADESH	DRY							
3	ASSAM & MEGHALAYA	DRY							
4	NAGALAND, MANIPUR, MIZORAM & TRIPURA	DRY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

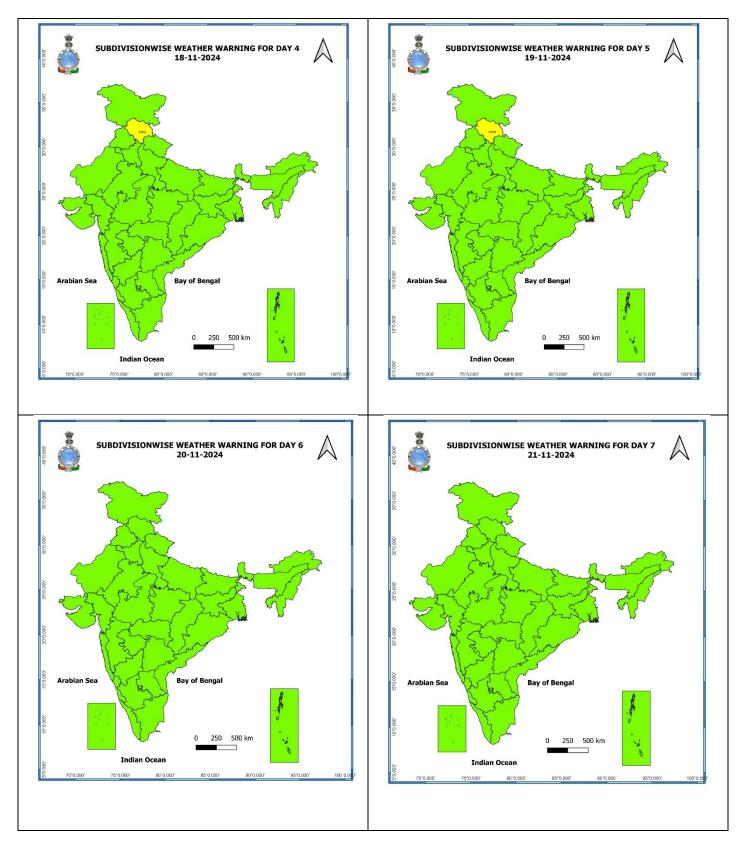
• As the lead period increases forecast accuracy decreases.

ANNEXURE III









- 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.

Impact expected due to dense to very dense fog in the late night /morning hours over.

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.

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

- Make arrangements to drain out excess water from the standing crop fields and fruit orchards in Tamil Nadu, Kerala, Coastal Andhra Pradesh and Rayalaseema.
- ➤ Keep the harvested produce at safer places.
- > Provide mechanical support to horticultural crops and staking to vegetables.

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.



35. केरल और माहे

36. लक्षद्वीप

राष्ट्रीय मौसम पूर्वानुमान केन्द्र भारत मौसम विज्ञान विभाग पृथ्वी विज्ञान मंत्रालय

National Weather Forecasting Centre India Meteorological Department Ministry of Earth Sciences

35. Kerala & Mahe

36. Lakshadweep

LEGENDS



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)





Sea State

Cyclone



DEFINITION/CRITERIA Heavy: 64.5 to 115.5 mm/cm * Very Heavy: 115.6 to 204.4 mm/cm Rain/ Snow * Extremely Heavy: > 204.4 mm/cm 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 Warm Night: When minimum temperature departure 4.5 °C to 6.4 °C Warm Night 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 \leq -6.5 °C **Cold Wave** (b) Based on actual Minimum Temperature (for Plains only) Cold Wave : When Minimum Temperature is ≤ 4.0 °C Severe Cold Wave: When Minimum Temperature is ≤ 2.0 °C (c) For Coastal Stations 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** 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 °C Phenomenon of small droplets suspended in air and the horizontal visibility < 1km Moderate Fog: When the visibility between 500-200 metres Fog when the visibility between 50- 200 metres Dense Fog: v Very Dense Fog: when the visibility < 50 metres Sudden electrical discharges manifested by a flash of light (Lightning) and a sharp rumbling sound (thunder) Thunderstorm Dust/Sand An ensemble of particles of dust or sand energetically lifted to great heights by a strong and turbulent wind. Ice deposits on ground Frost Air temperature ≤4°C (over Plains) A strong wind that rises suddenly, lasts for atleast 1 minute. Moderate: Wind speed 52-61 kmph Squall Severe: Wind speed 62-87 kmph 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 Phenomenal: Wind speed >117 kmph (>63 knots) & Wave height >14 metre

Very Severe Cyclonic Storm: Wind speed 118-165 kmph (64 - 89 knots)

Extremely Severe Cyclonic Storm: Wind speed 166-220 kmph (90 -119 knots)

Cyclonic Storm: Wind speed 62-87 kmph (34-47 knots)
Severe Cyclonic Storm: Wind speed 88-117 kmph (48-63 knots)

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