

Government of India
Earth System Science Organization
Ministry of Earth Sciences
India Meteorological Department

Press Release: Dated: 12th December, 2024

Subject: Current Weather Status and Extended range Forecast for the next two weeks (12th to 25th December 2024)

1. Salient Observed Features for the week ending 11th December 2024:

- **Sub-dued rainfall** continued during the week in most parts of the country except it occurred over parts of Peninsular India and eastern India.
- **Heavy to very heavy rainfall** was observed at isolated places over Tamil Nadu, Puducherry & Karaikal on 5th December; Telangana on 8th December.
- **Dense to very Dense Fog** was observed in isolated pockets of East Uttar Pradesh, Bihar, Meghalaya, Manipur on 8th December; West Bengal on 10th December; Bihar on 10th & 11th December. **Dense Fog** was observed in isolated pockets of Meghalaya on 5th December; Sub-Himalayan West Bengal & Sikkim, and Odisha on 6th December; Sub-Himalayan West Bengal, Meghalaya, Manipur on 7th December; Tripura and Sub-Himalayan West Bengal & Sikkim on 8th December; East Uttar Pradesh, Tripura and Manipur on 9th December; Himachal Pradesh and Nagaland, Manipur, Mizoram & Tripura on 10th December; Sub-Himalayan West Bengal & Sikkim, Tripura, Manipur and Meghalaya on 11th December.
- **Season's 1st Cold Wave spell prevailed from 10 Dec over northwest India including over Delhi:** conditions observed in isolated pockets of Jammu-Kashmir on 10th December; Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad, Himachal Pradesh, Punjab and Madhya Pradesh on 11th December. **Cold day** conditions observed in isolated pockets of Rajasthan on 11th December. **Ground frost** conditions recorded in isolated pockets over Uttarakhand on 11th December.
- **Temperature Scenario:** The lowest minimum temperature of **1.5°C** had been recorded at **Sikar (East Rajasthan)** on **11th December 2024**
- **Analysis of weekly overall rainfall distribution during the week ending on 11th December and Post-monsoon Season's Rainfall Scenario (1st October – 11th December, 2024):** The country as a whole, the weekly cumulative All India Rainfall (for 5th to 11th December 2024) in % departure from its long period average (LPA) is -44%. All India Seasonal cumulative rainfall % departure during this year's post-

monsoon Season Rainfall (01st October – 11th December 2024) is -10%. Details of the rainfall distribution over the four broad geographical regions of India are given in Table 1 and Meteorological sub-division-wise rainfall both for week and season are given in **Annexure I & II** respectively.

Table 1: Rainfall status (Week and season)

Region	Week			Season		
	05.12.2024 TO 11.12.2024			01.10.2024 TO 11.12.2024		
	Actual (mm)	Normal (mm)	Departure (%)	Actual (mm)	Normal (mm)	Departure (%)
East & Northeast India	1.6	3.0	-48%	150.7	150.0	0%
Northwest India	0.2	2.7	-93%	7.9	37.0	-79%
Central India	0.8	1.6	-48%	57.3	73.3	-22%
South Peninsula	7.9	10.1	-22%	274.4	258.4	+6%
Country as a whole	2.1	3.8	-44%	99.7	110.7	-10%

2. Large scale features:

- Currently, neutral El Nino-Southern Oscillation (ENSO) conditions are observed over the equatorial Pacific. The probability forecast indicates highest probability of La Niña conditions during the NDJ and DJF seasons.
- Above-average sea surface temperatures (SSTs) are currently seen across most of the Indian Ocean. Currently, neutral Indian Ocean Dipole (IOD) conditions are observed over the Indian Ocean. The latest MMCFS forecast indicates that the neutral IOD conditions are likely to continue for the next several months.
- The Madden Julian Oscillation (MJO) index is currently in Phase 5 with an amplitude > 1. It is likely to continue to move in phase 5 during the first half of week 1 with amplitude > 1. Thereafter, it is likely to propagate across phase 6 with amplitude becoming < 1 during the latter part of week 1. It is likely to continue to move across Phase 6 with amplitude < 1 for week 2.

3. Forecast for next two week

Weather systems & associated Precipitation during Week 1 (12 to 18 December, 2024) and Week 2 (19 to 25 December, 2024)

Weather systems & associated Precipitation during Week 1 (12 to 18 December, 2024):

Weather Systems:

- ❖ A **well marked low pressure area** lies over Gulf of Mannar & neighbourhood. The system is very likely to continue to move west-northwestwards towards South Tamil Nadu and weaken gradually during the next 12 hours.
- ❖ A **Western disturbance** seen as a cyclonic circulation over north Pakistan & neighbourhood with the trough aloft in middle tropospheric westerlies with its axis at 5.8 km above mean sea level runs roughly along Long. 73°E to the north of Lat. 30°N.

Forecast & Warnings (upto 7 days):

- ❖ **Tamil Nadu, Puducherry & Karaikal: Heavy to very heavy rainfall with extremely heavy falls** at isolated places very likely on 12th, **heavy to very heavy rainfall** at isolated places on 17thDecember. Isolated **heavy rainfall** is also very likely on 13th, 16th & 18th December.
- ❖ **Kerala: Heavy to very heavy rainfall with extremely heavy falls** at isolated places very likely on 12th, **heavy to very heavy rainfall** at isolated places on 13thDecember. Isolated **heavy rainfall** is also very likely on 17th & 18th December.
- ❖ **Coastal Andhra Pradesh & Rayalaseema: Heavy rainfall** at isolated places very likely on 12th, 17th & 18thDecember.
- ❖ **South Interior Karnataka: Heavy rainfall** at isolated places very likely on 12th & 17th December.
- ❖ **Lakshadweep: Heavy rainfall** at isolated places very likely on 13thDecember.
- ❖ **Andaman & Nicobar Islands: Heavy rainfall** at isolated places very likely during 13th-15th December.
- ❖ Light to moderate rainfall at isolated places accompanied with isolated thunderstorm & lightning very likely over Coastal Andhra Pradesh & Yanam & Rayalaseema on 12th December.

Fisherman Warning: Fishermen are advised not to venture into along and off Sri Lanka coast on 12th; Comorin area on 12th & 13th; Southwest Bay of Bengal on 12th & 16th; Tamil Nadu coasts on 12th & 13th; along and off Kerala coasts during 12th-14th; Gulf of Mannar on 13th & 14th; Southeast Bay of Bengal on 15th & 16th; south Andaman Sea during 14th-16th December.

Precipitation for week 2 (19 to 25 December, 2024):

- ❖ No active western disturbance is likely to affect northwest India during the week.
- ❖ Under the influence of easterly wave, scattered to fairly widespread with isolated heavy falls likely over South Peninsular India during some days of the week.
- ❖ Overall, rainfall is likely to be normal to above normal over south Peninsular India; below normal over northwest, central, east & northeast India during the week (**Annexure III**).

Minimum temperature and Fog forecast & warning for Week 1 (12 to 18 December, 2024) and Week 2 (19 to 25 December, 2024)

Minimum temperature and Fog forecast & warning for Week 1 (12 to 18 December, 2024):

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

Minimum temperatures are markedly below normal (-5°C or less) at isolated places over Rajasthan; appreciably below normal (-3°C to -5°C) at a few places over East Uttar Pradesh, Madhya Pradesh; at isolated places over Punjab, Haryana, Chandigarh, Delhi, Gangetic West Bengal, Assam & Meghalaya; below normal (-1°C to -3°C) at a few places over Chhattisgarh, Vidarbha, Marathwada, Telangana, Jharkhand; at isolated places over Saurashtra & Kutch, Bihar. These are appreciably above normal (3°C to 5°C) at a few places over Coastal Andhra Pradesh & Yanam and Rayalaseema; at isolated places over Tamil Nadu, Puducherry & Karaikal.

Minimum temperatures are in the range of $4-8^{\circ}\text{C}$ in the plains of Northwest India, in many parts of Central India; and in the range of $9-15^{\circ}\text{C}$ in many parts of Odisha, Gangetic West Bengal and Western India. Today, **the lowest minimum temperature of 1.0°C** is reported at **Sikar (East Rajasthan)** over the plains of the country.

Forecast of temperature:

- ❖ No significant change in minimum temperatures likely over Northwest & Central India during next 4-5 days and slight rise by 2°C thereafter.
- ❖ Gradual fall in minimum temperatures by $2-3^{\circ}\text{C}$ likely over East India during 1st half of the week and no significant change thereafter.
- ❖ Gradual rise in minimum temperatures by $2-3^{\circ}\text{C}$ likely over West India(except Gujarat State) during next 4-5 days and no significant change thereafter.

Cold Wave Warnings:

Cold wave conditions very likely in;

- ✓ some parts of Punjab and Uttar Pradesh during 1st half of the week.

- ✓ in isolated pockets over Haryana, Chandigarh, Madhya Pradesh, Bihar, Jharkhand and West Bengal during 1st half of the week.,
- ✓ Rajasthan, Chhattisgarh on 12th & 13th, Delhi on 13th& 14th, Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad during 13th-16th December, 2024.

Cold Day Warnings: **Cold Day** conditions very likely in isolated pockets over Madhya Pradesh during 12th -14th December.

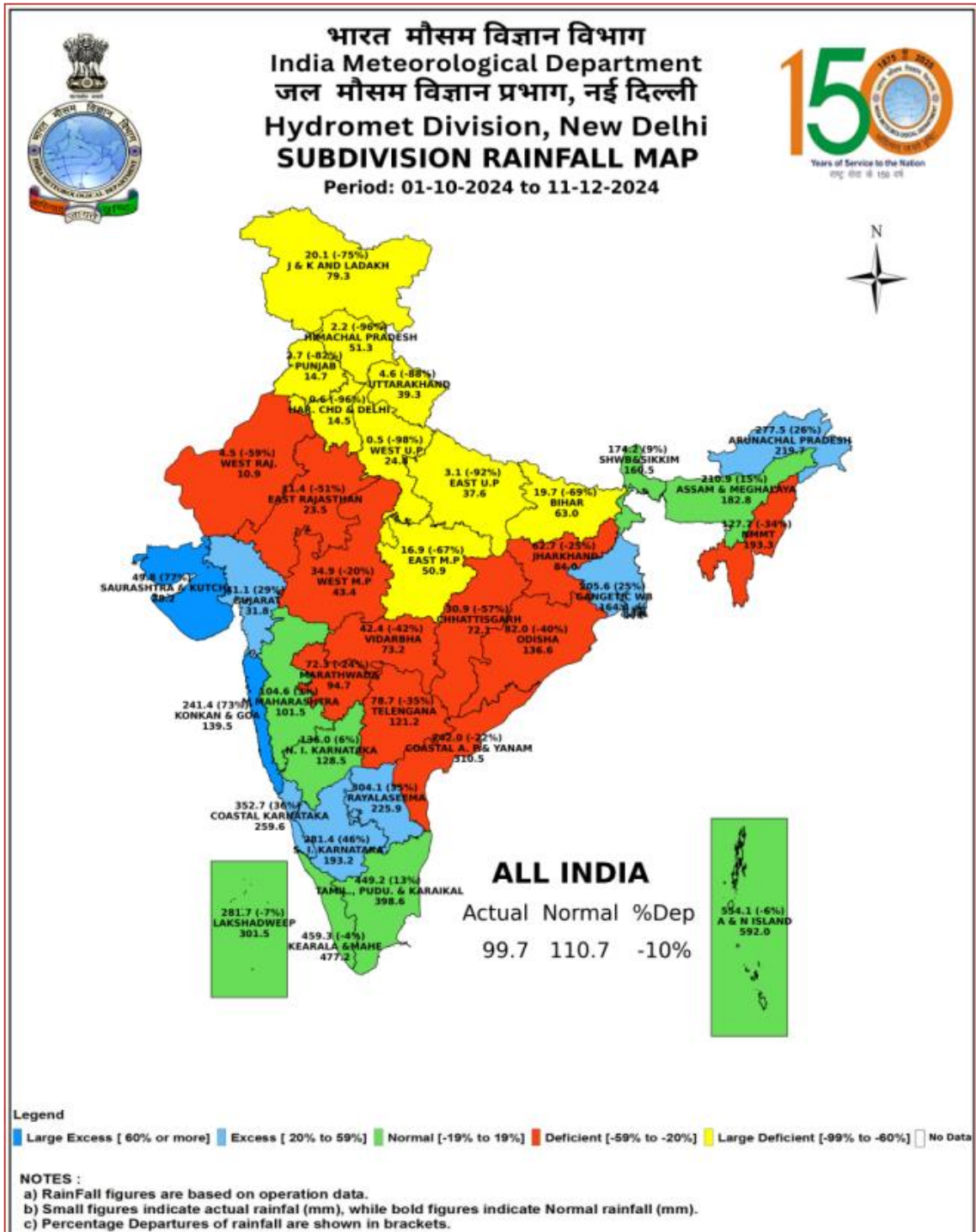
Dense Fog Warnings:

Dense fog conditions very likely to prevail during late night/early morning hours in isolated pockets of Sub-Himalayan West Bengal & Sikkim, Bihar till 13th, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura during most days of the week.

Minimum temperature forecast and dense fog warning for Week 2 (19 to 25 December, 2024):

- ❖ No significant change in the minimum temperatures are likely over most parts of the country as compared to week 1, however, these are likely to be less than 10°C over most parts of northwest, central & east India during the week.
- ❖ Minimum temperatures are likely to be below normal by 2-4°C over most parts of northwest, central & east India; near normal are above normal by 1-2°C over parts of Western Himalayan Region, northeastern states and south Peninsular India during the week (**Annexure IV**).
- ❖ **There is low to moderate probability of isolated cold wave conditions over Punjab, Haryana, Uttar Pradesh, Rajasthan, Madhya Pradesh, Bihar, Jharkhand and West Bengal during some days of the week (Annexure V).**
- ❖ **No significant dense to very dense fog is likely over Indo Gangetic plains during the week.**





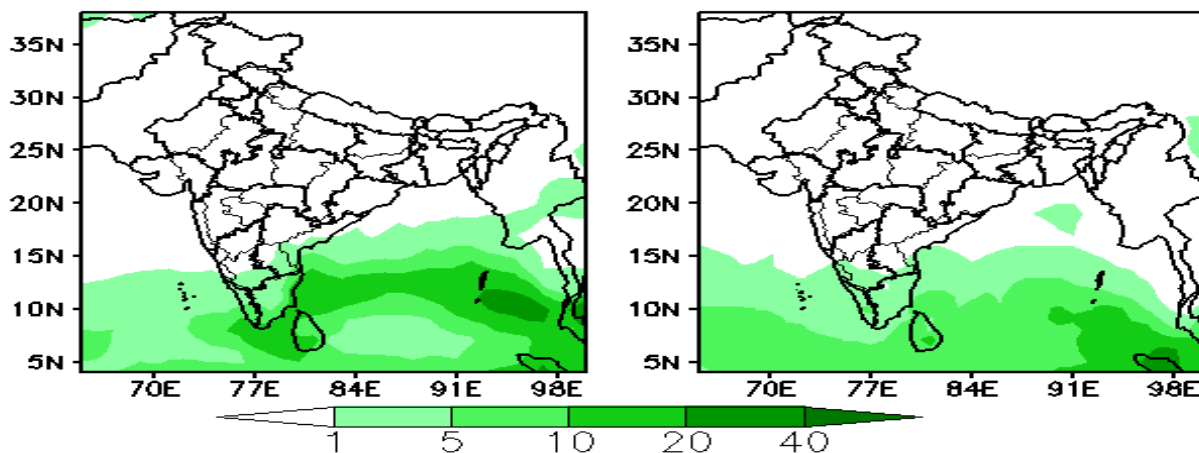
Annexure III

Forecast Rainfall (mm/day)

(00Z=0530 hrs IST)

(Week1:00Z12Dec-00Z19Dec)

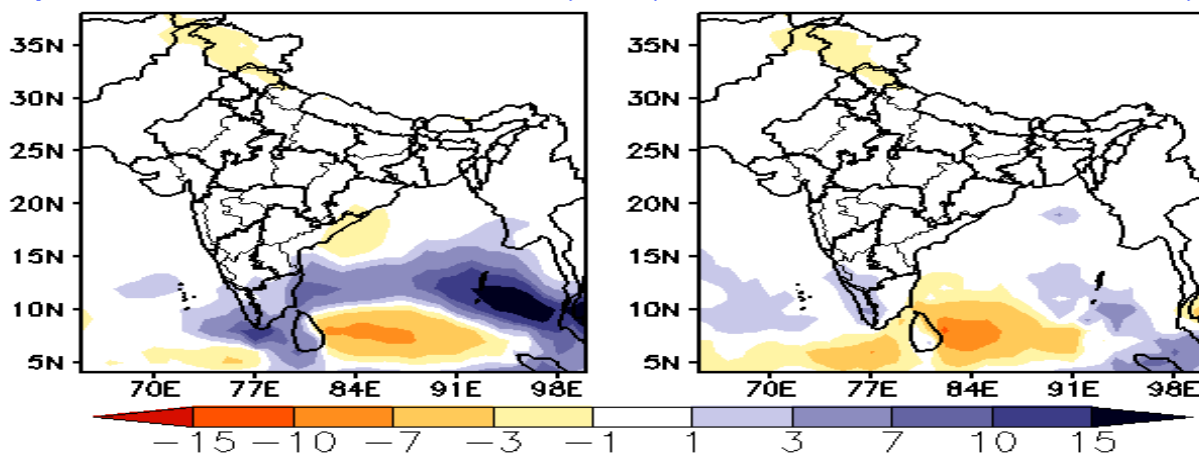
(Week2:00Z19Dec-00Z26Dec)



Forecast Rainfall Anomaly (mm/day) (00Z=0530 hrs IST)

(Week1:00Z12Dec-00Z19Dec)

(Week2:00Z19Dec-00Z26Dec)



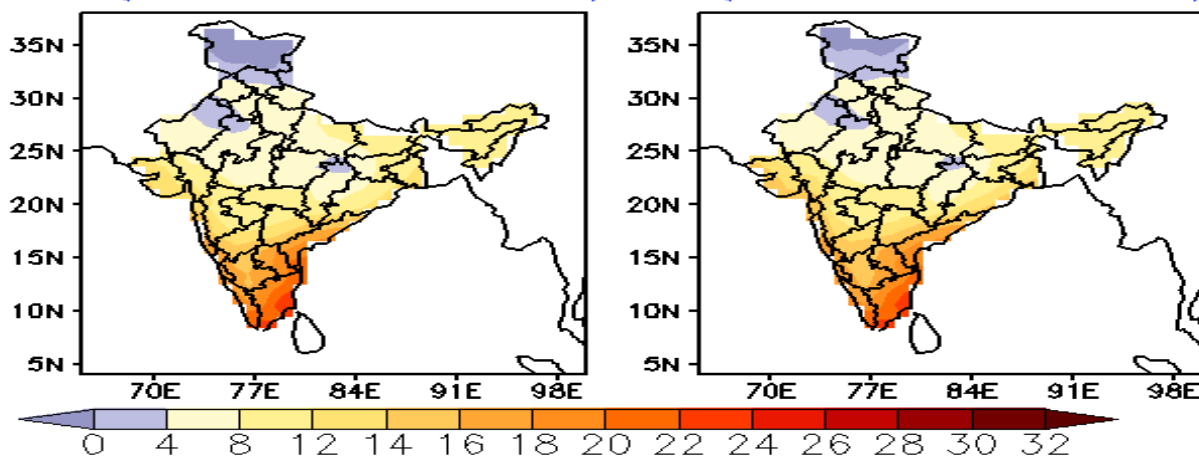
Extended range forecast of weekly distribution of rainfall in mm per day (top panel) and anomalies (lower panel) from IMD MME

Annexure IV

MME Bias corrected forecast Tmin (Deg C)

(Week1: 13Dec-19Dec)

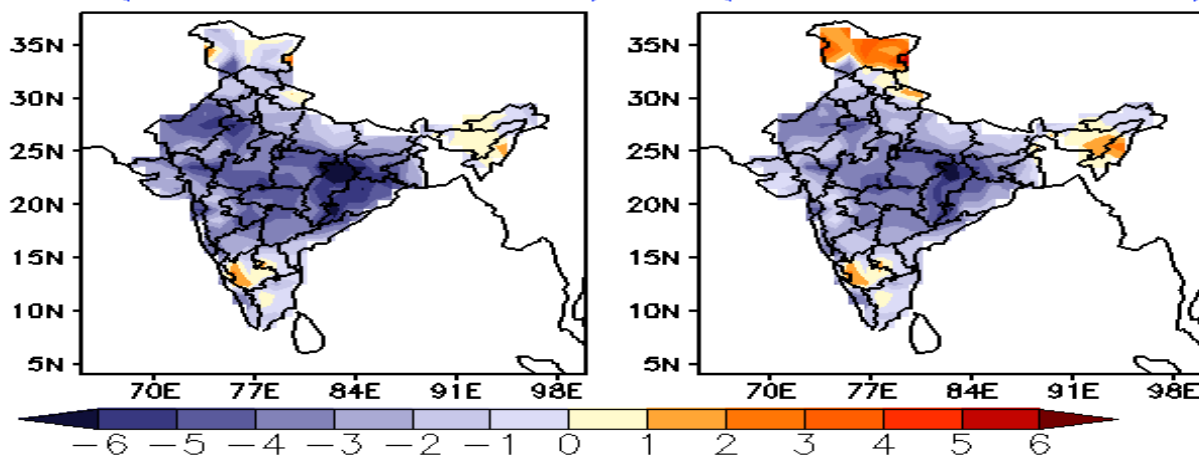
(Week2: 20Dec-26Dec)



MME forecast Tmin anomaly (Deg C)

(Week1: 13Dec-19Dec)

(Week2: 20Dec-26Dec)

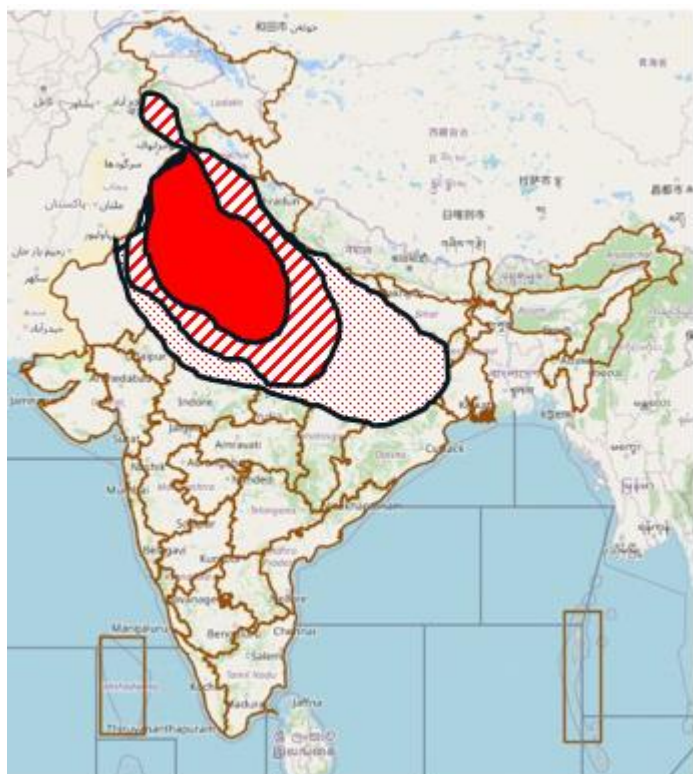


Extended range forecast of weekly distribution of Minimum Temperature in °C (top panel) and anomalies (lower panel) from IMD Bias Corrected Forecast

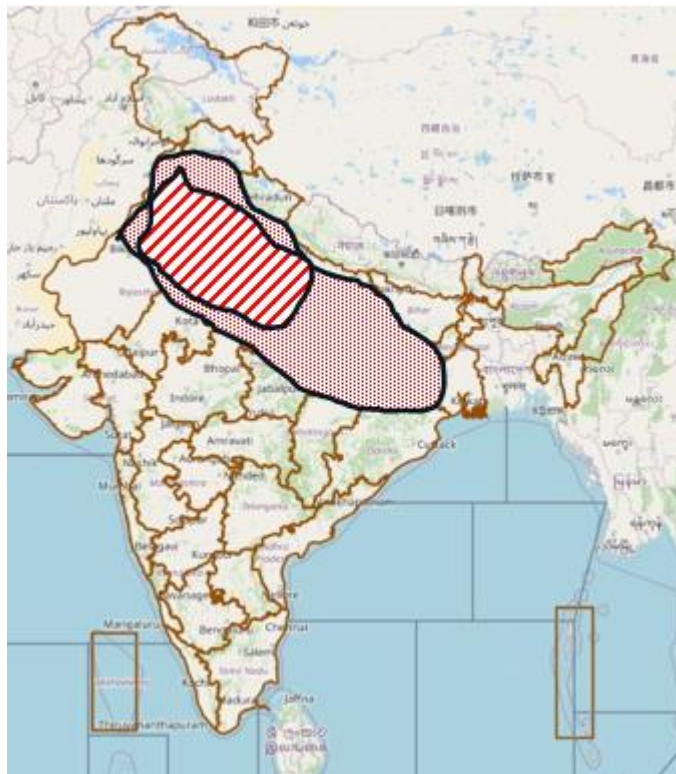
Cold Wave forecast during next 2 weeks

EXTENDED RANGE OUTLOOK FOR COLDWAVE



Week 1: 13.12.2024- 19.12.2024



Week2: 20.12.2024- 26.12.2024



PROBABILITY OF COLD WAVE CONFIDENCE

- LOW (1-33% PROBABILITY)** 
- MODERATE (34-67% PROBABILITY)** 
- HIGH (68-100% PROBABILITY)** 