



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

Press Release: Dated: 11 January 2024

Subject: Current Weather Status and Extended range Forecast for next two weeks (11-24 January, 2024)

1. Salient Observed Features for week ending 10 Jan 2024

- Due to absence of significant winds at surface across northern Plains of India and adjoining central part of India, the dense to very dense fog (visibility <200 m) conditions along with low cloud cover, continued to prevail, across many parts of Indo-Gangetic plains throughout the week (04-10 Jan). It was also extended upto north-eastern states during 7-10 Jan. It was mainly observed across Punjab, Haryana, Chandigarh & Delhi, north Rajasthan, Uttar Pradesh, north Bihar, Assam, Tripura and northern parts of Madhya Pradesh in most dates in the week, though partial weakening of the main fog layer was observed due to rainfall and convective cloud formation over parts of east central India and south Bihar during 4-6 Jan 2024. Persistent Fog and low cloud layer caused continuous absence of sunlight in these regions and hence Cold day to Severe Cold day conditions prevailed over Punjab, Haryana, Chandigarh & Delhi, north Rajasthan and Uttar Pradesh during most dates in the week. It may be noted that this fog and low clouds cover started since 25 Dec in the region and was also persisted last week.
- Like earlier weeks of this season so far, No Significant cold wave was also reported over any part of the country during the week.
- **Temperature Scenario:** The highest maximum temperature of 35.8°C was reported at Hut Bay (Andaman & Nicobar Islands) on the 09.01.2024, and the lowest minimum temperature of 1.0°C is reported at Sikar (East Rajasthan) on the 04.01.2024, over the plains of the country during the week.

- **Analysis of Weekly overall Rainfall distribution during the week ending on 10 Jan 2024 and Winter Season's Rainfall Scenario (1-10 Jan 2024):** It shows for the country as a whole, the weekly cumulative All India Rainfall in % departure from its long period average (LPA) till week ending on 10 Jan 2024 was 31%. All India Seasonal cumulative rainfall % departure during this year's **Winter's Rainfall** during **1-10 Jan 2024** is -10% and over northwest India, it is -91%. 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 Annex I and II respectively.

Table 1: Rainfall status (Week and season)

Region	WEEK			SEASON		
	04.01.2024 TO 10.01.2024			01.01.2024 TO 10.01.2024		
	Actual	Normal	% Dep	Actual	Normal	% Dep
EAST & NORTH-EAST INDIA	0.6	3.5	-84%	0.6	5	-88%
NORTH-WEST INDIA	0.6	5.8	-89%	0.7	8	-91%
CENTRAL INDIA	2.3	1.4	+63%	2.4	2.5	-4%
SOUTH PENINSULA	15.9	2.1	+658%	16.2	3.4	+377%
Country as a whole	4.2	3.2	31%	4.3	4.8	-10%

2. Large scale features

- Currently, the moderate to strong El Niño conditions are prevailing over equatorial Pacific and the sea surface temperatures (SSTs) are above average over most parts of the central and eastern equatorial Pacific Ocean. The latest MMCFS forecast indicates that moderate to strong El Niño conditions are likely to continue during the upcoming season. In addition to El Nino-Southern Oscillation (ENSO) conditions over the Pacific, other factors such as the Indian Ocean SSTs also influence on Indian climate. At present, strong positive Indian Ocean Dipole (IOD) conditions are observed over the Indian Ocean and the latest MMCFS forecast indicates positive IOD conditions are likely to weaken and turn to neutral condition by early part the next year.
- Madden Julian Oscillation (MJO) index is currently in phase 3 with amplitude greater than 1. It would

move into phase 4 around 15 Jan and phase 5 around 20 January, 2024 with amplitude remaining more than 1.

3. Forecast for next two week

Forecast for next two week

Weather systems & associated Precipitation during Week 1 (11 to 17 January, 2024) and Week 2 (18 to 24 January, 2024)

Weather systems & associated Precipitation during Week 1 (11 to 17 January, 2024)

- 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.
- A fresh Western Disturbance seen as a trough in middle tropospheric westerlies roughly along Long. 55°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 and Himachal Pradesh on 12th & 13th January.
- Another 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 and Uttarakhand on 16th & 17th January
- Light to moderate rainfall at isolated places very likely over Tamil Nadu, Kerala and Lakshadweep during next 24 hours and dry weather thereafter. Isolated **heavy rainfall** likely over south Tamil Nadu today.
- Light rainfall at isolated places is also likely over northeast India during 2nd half of the week and over Andaman & Nicobar Islands during the week.

Rainfall for week 2 (18 to 24 January, 2024):

- ✓ No active Western Disturbance likely to affect northwest India during the week.

- ✓ Light/moderate isolated to scattered rainfall activity is likely over central, east & northeast India during many days of the week.
- ✓ Overall, rainfall activity is likely to be **above normal** over central, east & northeast India and below normal over northwest & south Peninsular India during the week.

Minimum temperature, Cold Wave and Fog forecast & warning for Week 1 (11 to 17 January, 2024) and Week 2 (18 to 24 January, 2024)

Minimum temperature, Cold Wave and Fog forecast & warning for Week 1 (11 to 17 January, 2024):

Minimum temperature and Cold Wave warning:

- **Minimum temperatures:** Minimum temperatures are in the range of 5-8°C over Punjab, Haryana-Chandigarh-Delhi, Rajasthan, Uttar Pradesh and Madhya Pradesh. These are normal -1.0°C to +1.0°C at many places over Punjab, Haryana, Delhi and Uttar Pradesh and below normal by -1.0°C to -3.0°C at many places over Rajasthan; in some parts of Madhya Pradesh. **Today, the lowest minimum temperature of -0.5°C reported at Sikar (East Rajasthan).**
- Gradual fall by 2-3°C in minimum temperatures likely over many parts of Central and East India during 1st half of the week and no significant change thereafter.
- **Cold wave to Severe Cold wave** conditions very likely to continue in isolated pockets of Rajasthan on 11th&12th and cold wave conditions in isolated pockets on 13th January, 2024.
- **Cold wave** conditions very likely in isolated pockets of Punjab and Haryana on 11th& 12th January, 2024.
- **Ground frost conditions** very likely over Uttarakhand and Rajasthan on 11th&12th January, 2024.

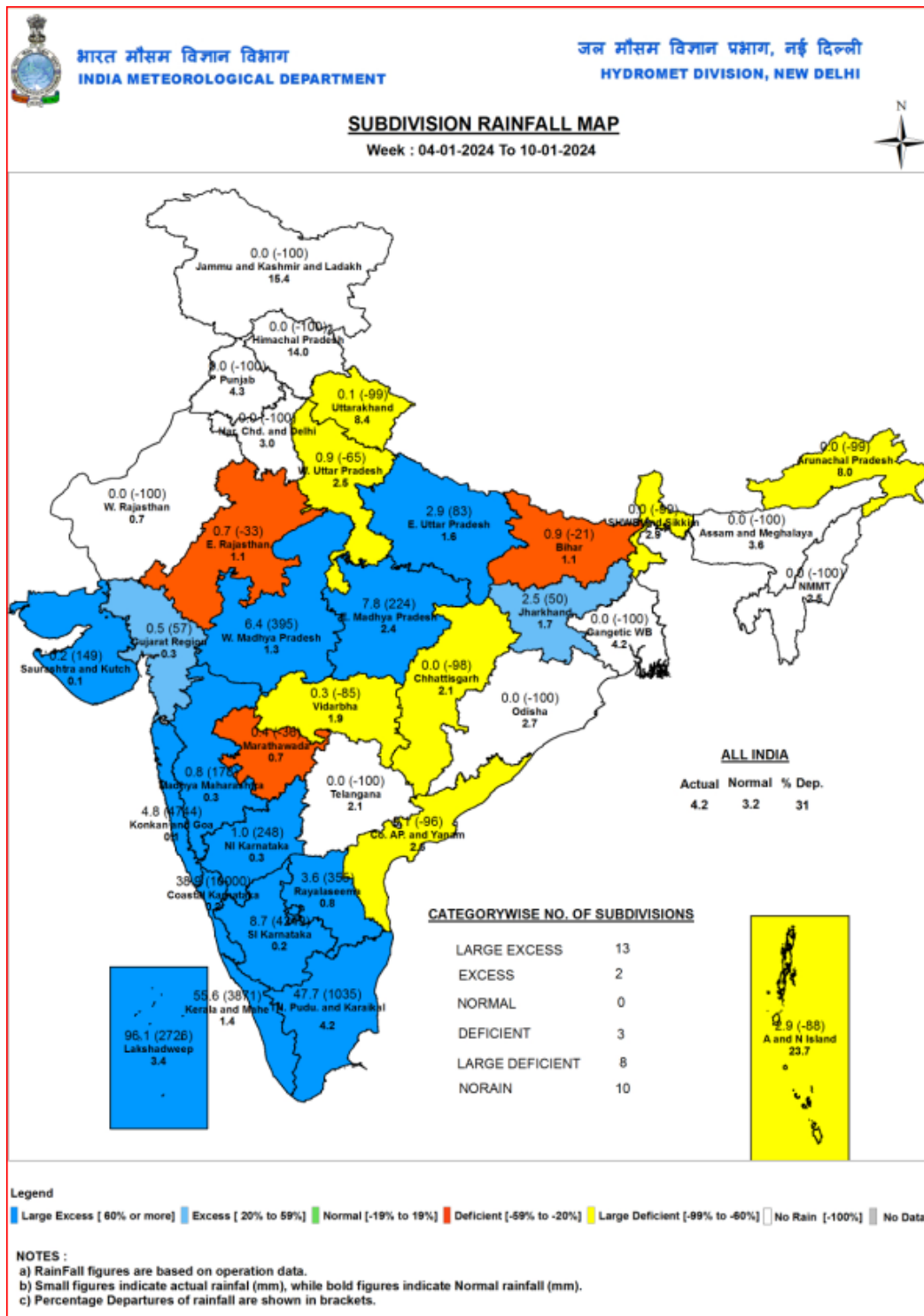
Dense fog and Cold day warning:

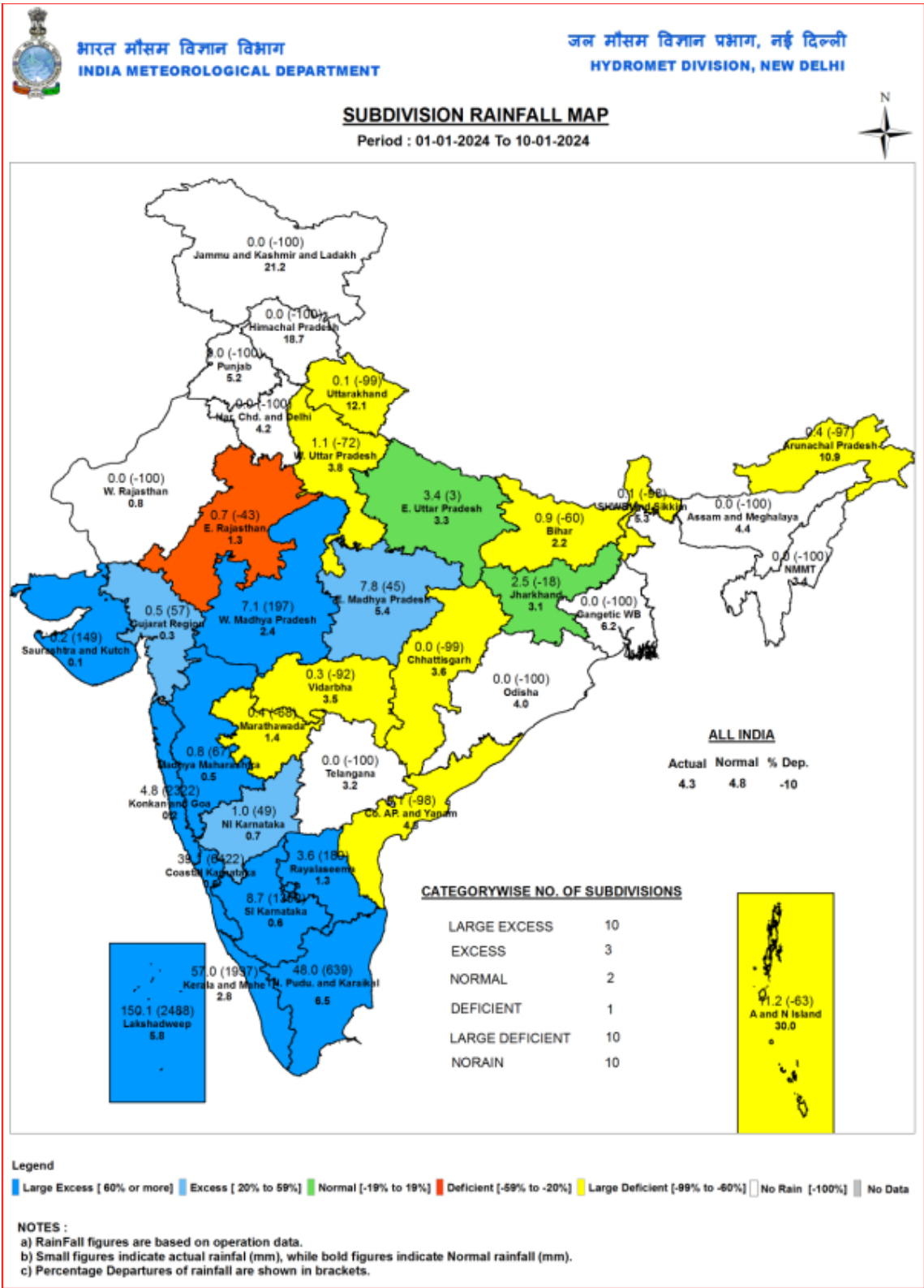
- **Dense to very dense fog** conditions very likely to prevail for a few hours in morning in some parts of Punjab and in isolated pockets over Haryana, Chandigarh during most days of the week..
- **Dense to very dense fog** conditions very likely to prevail for a few hours in morning in some parts of East Uttar Pradesh and in isolated pockets over West Uttar Pradesh on 11th& 12th and dense fog for subsequent days of the week.
- **Dense fog** conditions very likely to prevail for a few hours in morning in isolated pockets of Gangetic West Bengal, Odisha, Jammu division on 11th; over Himachal Pradesh, Uttarakhand, Bihar, Sub-Himalayan West Bengal & Sikkim, north Madhya Pradesh on 11th& 12th and Assam & Meghalaya, Mizoram & Tripura during the week.
- **Cold Day to Severe Cold Day** conditions very likely to continue in some parts of Punjab, Haryana-Chandigarh on 11th& 12th and in isolated pockets of Punjab during 13th–15th January, 2024.
- **Cold Day** conditions very likely to continue in isolated pockets of Uttarakhand on 11th& 12th; over West Rajasthan and Uttar Pradesh on 11th January, 2024 and abate thereafter.

Minimum temperature, Cold Wave and Fog forecast & warning for Week 2 (18 to 24 January, 2024):

- **Minimum temperatures:** The Minimum temperatures are likely to be near normal or slightly below normal by 1-2°C over most parts of the country.
- **Dense Fog in isolated pockets is also likely over Punjab, Haryana, Chandigarh & Delhi and Uttar Pradesh during some Days of the week.**
- ✓ **There is moderate possibility of cold wave in isolated pockets of Punjab, Haryana, Chandigarh & Delhi and north Rajasthan (Annexure V).**

Legends: Heavy Rain: 64.5 to 115.5 mm Very Heavy Rain: 115.6 to 204.4 mm, Extremely Heavy Rain> 204.4 mm



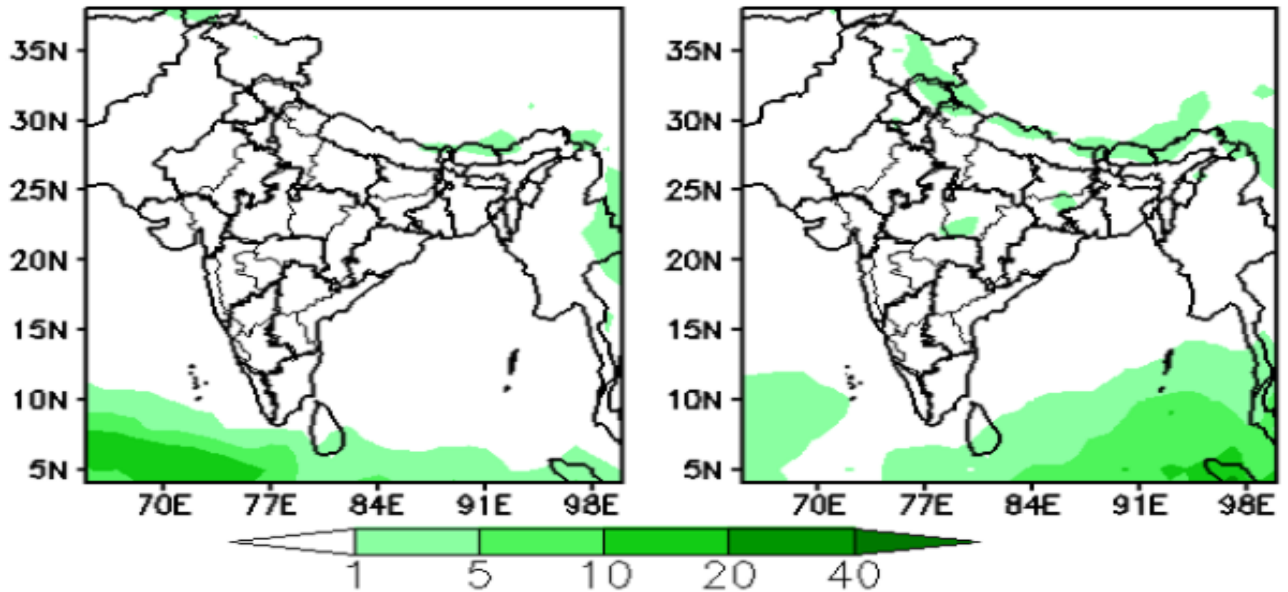


Forecast Rainfall (mm/day)

(00Z=0530 hrs IST)

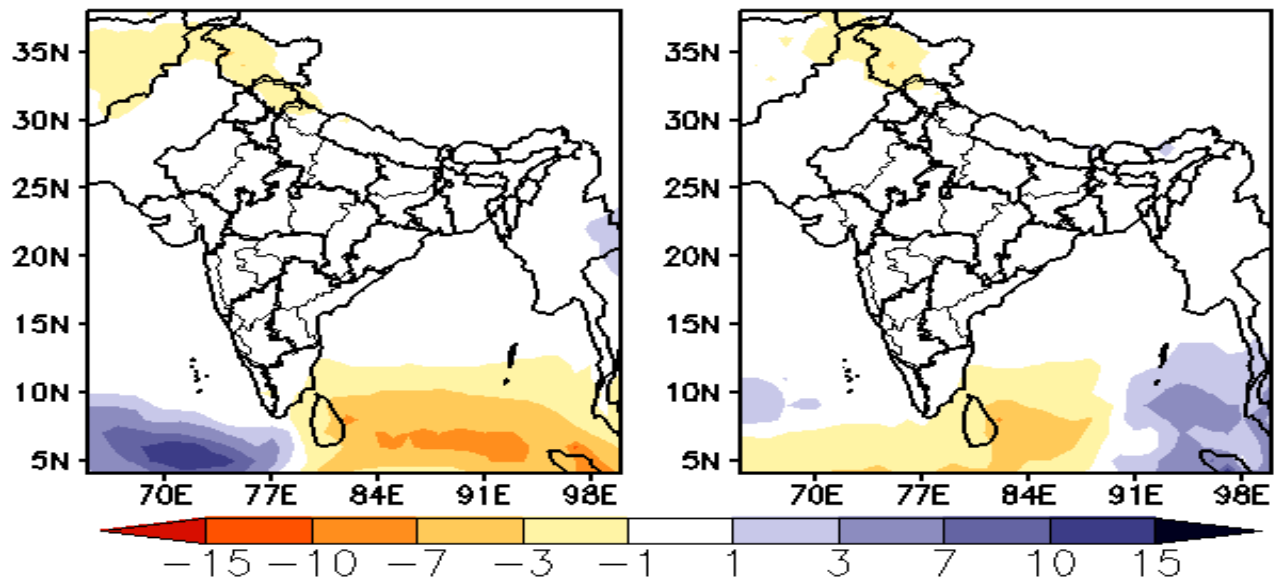
(Week1:00Z11Jan–00Z18Jan)

(Week2:00Z18Jan–00Z25Jan)

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

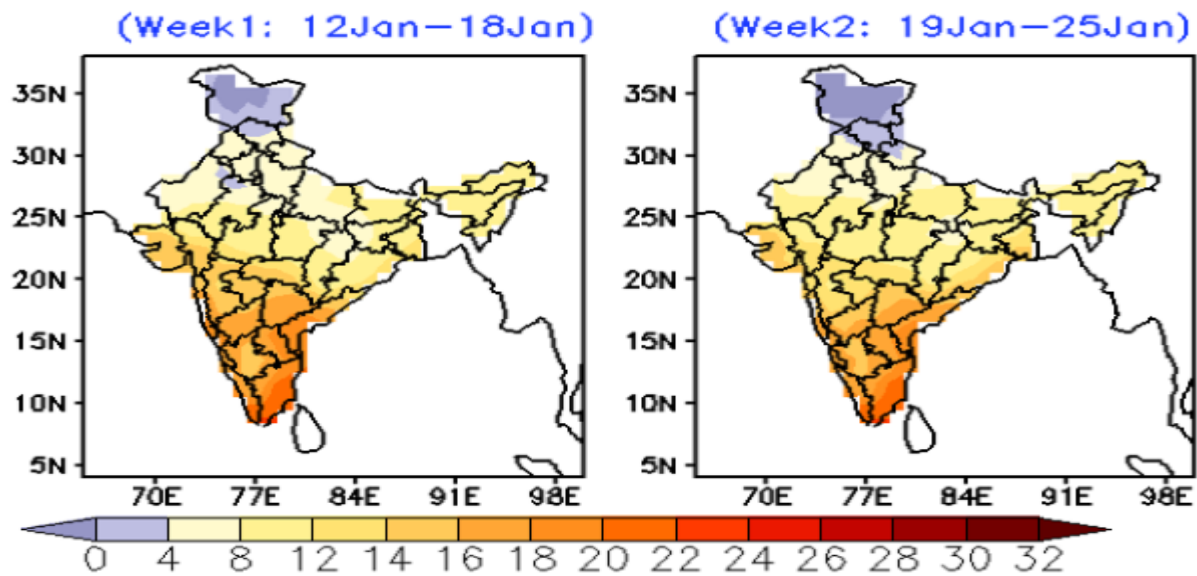
(Week1:00Z11Jan–00Z18Jan)

(Week2:00Z18Jan–00Z25Jan)

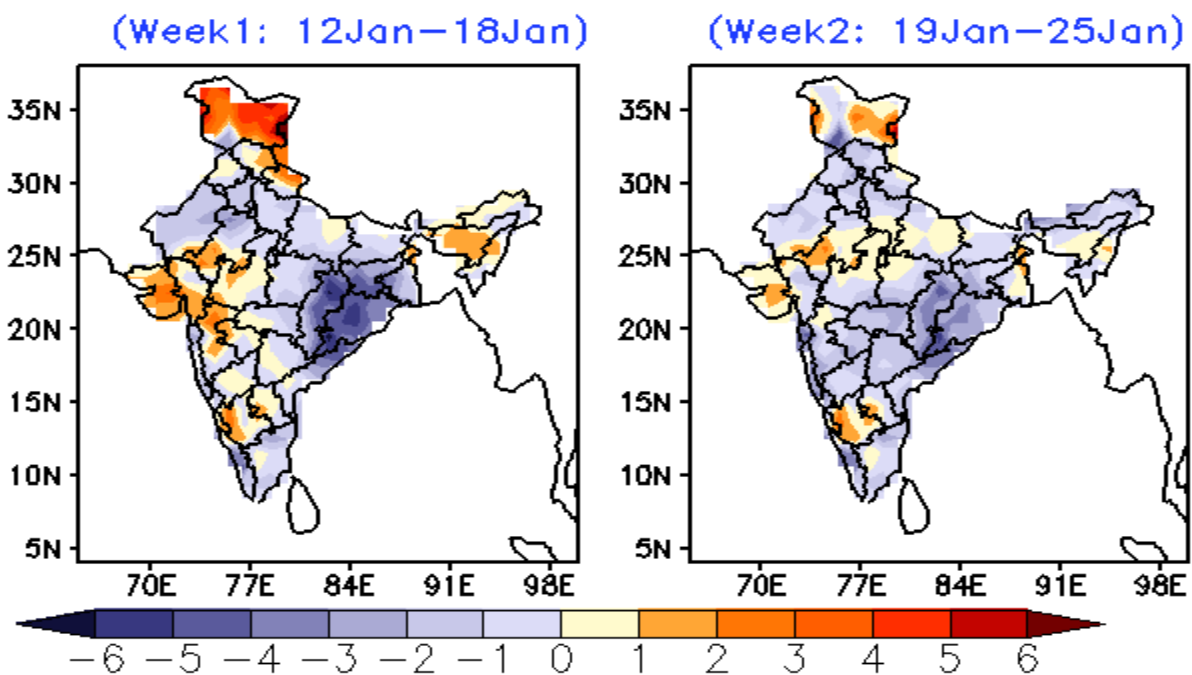


Extended range forecast of weekly distribution of rainfall in mm per day (top panel) and anomalies (lower panels) from IMD MME

MME Bias corrected forecast Tmin (Deg C)



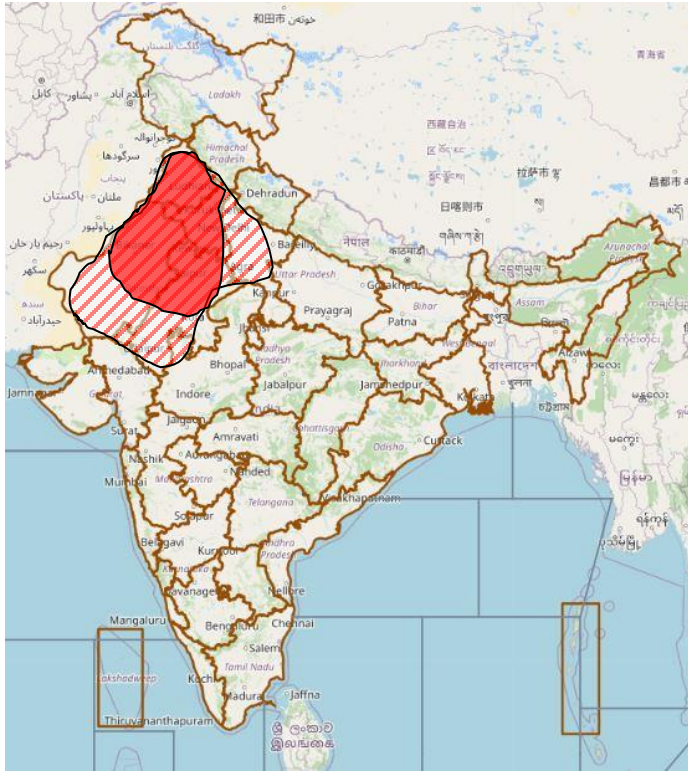
MME forecast Tmin anomaly (Deg C)



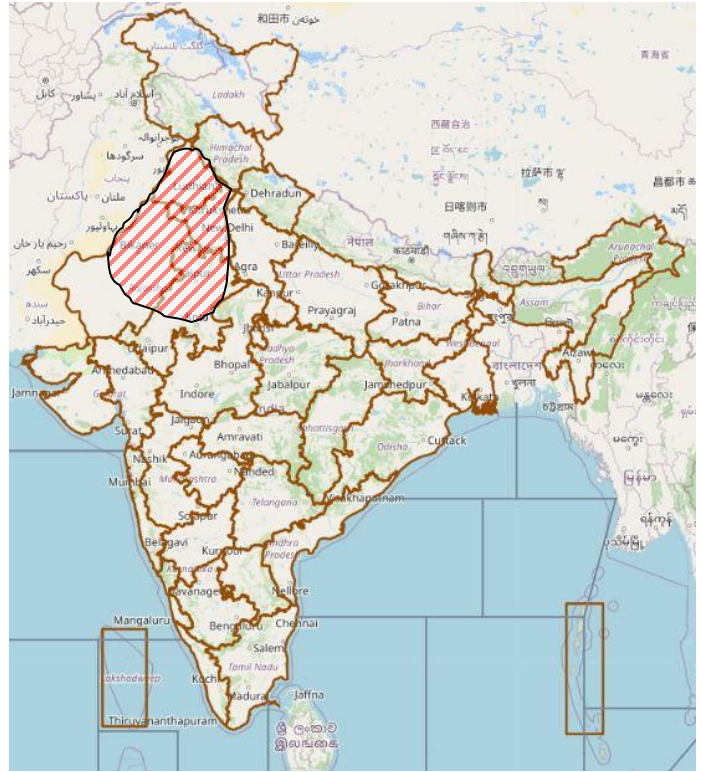
Extended range forecast of Minimum Temperature (top panel) and anomalies (lower panels) from IMD MME

EXTENDED RANGE OUTLOOK FOR COLDWAVE

Week 1: 12.01.2024 - 18.01.2024



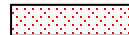
Week 2: 19.01.2024 - 25.01.2024



PROBABILITY OF COLDWAVE

CONFIDENCE

LOW (1-33% PROBABILITY)



MODERATE (34-67% PROBABILITY)



HIGH (68-100% PROBABILITY)

