



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

Press Release: Dated: 22 Feb 2024

Subject: Current Weather Status and Extended range Forecast for next two weeks (22 Feb-06 March)

1. Salient Observed Features for week ending 22 Feb 2024

- **Active Western Disturbance (WD)** and its induced **Cyclonic circulation** caused **heavy to very heavy** rainfall/snowfall at isolated places over Jammu-Kashmir-Ladakh-Gilgit-Baltistan-Muzaffarabad on 20th and **Heavy rainfall** at isolated places over Himachal Pradesh on 20th February, 2024. It caused light to moderate rainfall and thunderstorms over adjoining plains of northwest India during 19-21 Feb. It also caused **Hailstorm** at isolated places over Himachal Pradesh, Uttarakhand, Punjab, Haryana and north Rajasthan on 20 Feb and over Uttar Pradesh, Uttarakhand, Himachal Pradesh on 21 Feb.
- **Hailstorm** was reported at isolated places over Jharkhand and Chhattisgarh on 15 Feb; Madhya Pradesh and Vidarbha on 16 Feb; Gangetic West Bengal, West Madhya Pradesh and over Madhya Pradesh on 22 Feb.
- **Dense to Very Dense** Fog observed in isolated pockets of Jharkhand and Chhattisgarh, Odisha, East Madhya Pradesh, **East Uttar Pradesh and Bihar** on 15 Feb; in some parts of **East Uttar Pradesh** and in isolated pockets of Bihar on 16 Feb; in isolated pockets of Odisha on 17 Feb; Sub-Himalayan West Bengal & Sikkim and Coastal Andhra Pradesh & Yanam on 18 Feb; in some pockets of Punjab and in isolated pockets of Haryana on 21 Feb.
- **Temperature Scenario:** The highest maximum temperature of 38.5°C had been recorded at Kannur (Kerala & Mahe) on 16th February 2024 and the lowest minimum temperature of 3.2°C had been recorded at Hissar (Haryana) on 16th February 2024 over the plains of the country during the week.

- **Analysis of Weekly overall Rainfall distribution during the week ending on 21 Feb 2024 and Winter Season's Rainfall Scenario (1 Jan- 21 Feb 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 21 Feb 2024 was 0%. All India Seasonal cumulative rainfall % departure during this year's **Winter's Rainfall** during **1 Jan to 21 Feb 2024** is -33% and over northwest India, it is -39%. 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		
	15.02.2024 TO 21.02.2024			01.01.2024 TO 21.02.2024		
	Actual	Normal	% Dep	Actual	Normal	% Dep
EAST & NORTH-EAST INDIA	5.8	9.3	-38%	24.3	38.1	-36%
NORTH-WEST INDIA	17.8	12.9	+38%	40.9	66.6	-39%
CENTRAL INDIA	0.3	1.9	-84%	7.8	13.2	-41%
SOUTH PENINSULA	0	2.2	-99%	18.6	13.9	+34%
Country as a whole	6.5	6.5	0%	22.7	33.7	-33%

2. Large scale features

Madden Julian Oscillation (MJO) index in the phase diagram, with a fast diagonal movement during past 3-4 days moved eastward from phase 8 to phase 4 across phases 1, 2 and 3 with very low amplitude less than 1. MJO index currently in phase 4 is likely to be in the same phase during next 2 weeks as illustrated by different forecasts. The GEFS model predicts a MJO signal meandering within phase 4 with a gradual increase in amplitude reaching out of the unit circle. On the other hand, ECMWF model indicates a stagnated/looping MJO signal within phase 4 with amplitude near to 1. The ensemble members of both the models favour an incoherent MJO with within phase 4 during the entire forecast period.

3. Forecast for next two week

Weather systems & associated Precipitation during Week 1 (22 to 28 February, 2024) and Week 2 (29 February to 06 March, 2024)

Weather systems & associated Precipitation during Week 1 (22 to 28 February, 2024)

- ❖ A fresh **Western Disturbance** as a trough in middle tropospheric westerlies runs roughly along Long. 70°E to the north of Lat. 32°N and likely trough/cyclonic circulation over central parts of the country in lower levels:
 - Isolated light rainfall/snowfall very likely over Western Himalayan Region on 22nd February, 2024.
 - Isolated light rainfall very likely over Uttar Pradesh, East Rajasthan and Madhya Pradesh on 22nd February, 2024.
 - Thereafter, light to moderate isolated/scattered rainfall activity likely over Madhya Pradesh, Vidharbha and Chhattisgarh during 2nd half of the week.
- ❖ A fresh Western Disturbance is likely to affect Western Himalayan Region from 24th February night and under its influence scattered to fairly light/moderate rainfall/snowfall very likely over Western Himalayan Region during 24th-27th February, 2024.
- ❖ **Jet Stream Winds** with maximum speed upto 165 knots prevail over northeast India at 12.6 km above mean sea level. There is high moisture feeding likely from Bay of Bengal over Northeast India during next 2 days. Under their influence:
 - Fairly widespread to widespread light/moderate rainfall/snowfall with thunderstorms, lightning very likely over Arunachal Pradesh, Assam & Meghalaya and Nagaland, Manipur, Mizoram & Tripura on 22nd & 23rd and isolated to scattered light/moderate rainfall over the region on 24th & 25th February, 2024.
 - **Isolated heavy rainfall/snowfall** also very likely over Arunachal Pradesh on 22nd & 23rd and over Assam and Nagaland on 22nd February, 2024.
 - Isolated to scattered light/moderate rainfall very likely over Jharkhand, West Bengal & Sikkim and Odisha during many days of the week.
 - Isolated **heavy rainfall/snowfall** very likely over Sikkim on 22nd February, 2024.
 - **Hailstorm activity** also very likely at isolated places over Gangetic West Bengal on 22nd February, 2024.
- ❖ Light isolated rainfall is likely over Tamilnadu & Kerala during 1st half of the week.

Rainfall for week 2 (29 February to 06 March, 2024):

- ✓ Under the influence of active Western Disturbances, light/moderate scattered to fairly widespread rainfall/snowfall likely over Western Himalayan Region and isolated to scattered rainfall likely over plains of northwest India and adjoining central & east India during many days of the week.

- ✓ Due to trough/cyclonic circulation over peninsular India, light isolated to scattered rainfall activity likely over Peninsular India during many days of the week.
- ✓ Overall, rainfall activity is likely to be **normal to above normal** over entire country except northeast India, where it is likely to be below normal.

Minimum temperature, Cold Wave and Fog forecast & warning for Week 1 (22 to 28 February, 2024) and Week 2 (29 February to 06 March, 2024)

Minimum temperature, Cold Wave and Fog forecast & warning for Week 1 (22 to 28 February, 2024):

Minimum temperature and Cold Wave warning:

- **Minimum temperatures:** Minimum temperatures are above normal by 2-4°C over many parts of east & northeast India and Gujarat and some parts of south Peninsular India. These are near normal over rest parts of the country.
- **No Cold wave conditions** likely over any part of the country during next one week.

Dense fog and Cold day warning:

- **No Dense Fog and Cold day conditions** likely over any part of the country during next one week.

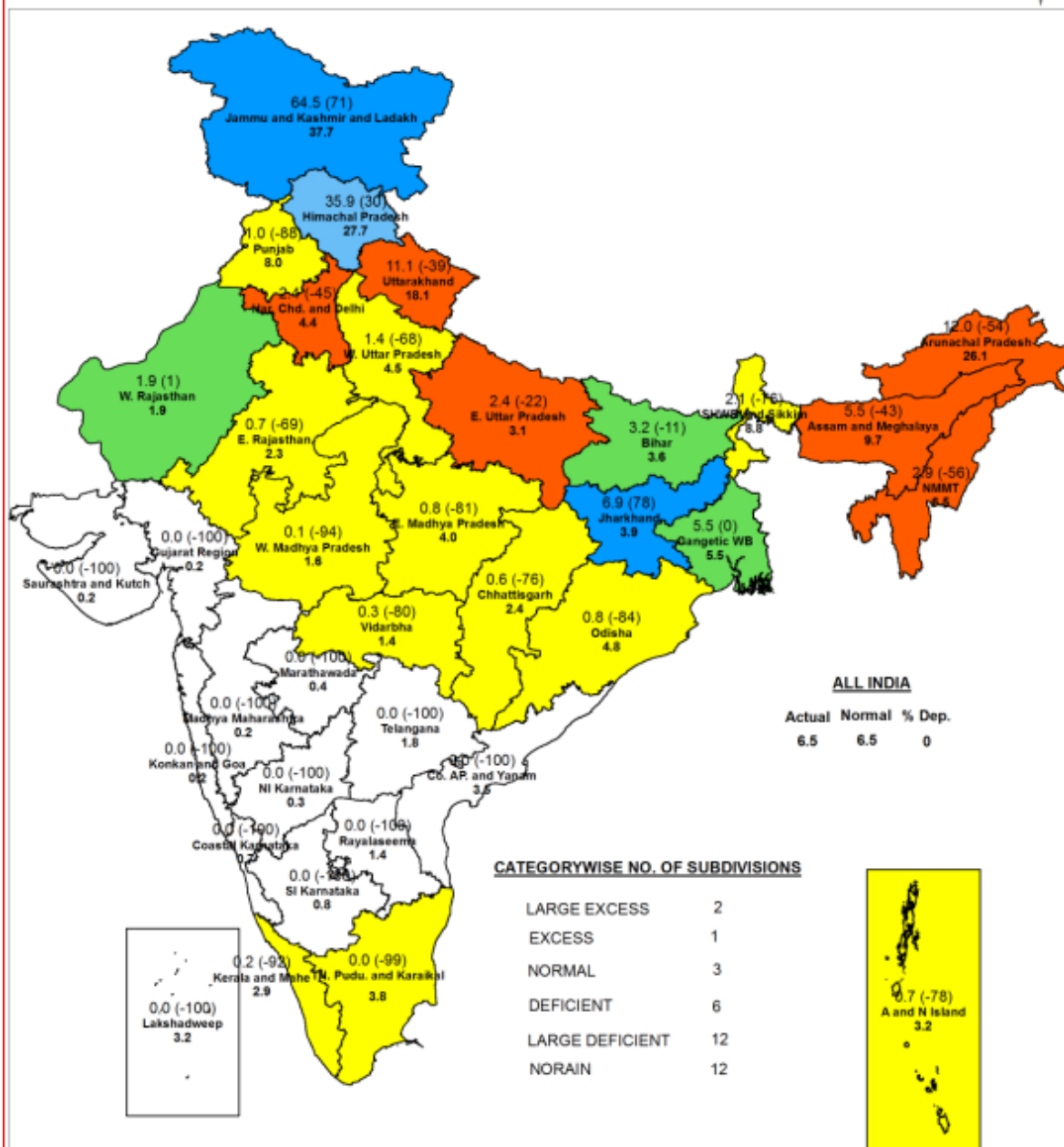
Minimum temperature, Cold Wave and Fog forecast & warning for Week 2 (29 February to 06 March, 2024):

- **Minimum temperatures:** The Minimum temperatures are likely to rise gradually by 2-4°C as compared to week 1. However, these are likely to be near normal over most parts of the country except parts of Western Himalayan Region and Karnataka, where these are likely to be above normal by 1-3°C.
- **No Dense Fog and Cold day conditions** likely over any part of the country during the week.
- **There is no possibility of cold wave in any parts of the country (Annexure 3).**



SUBDIVISION RAINFALL MAP

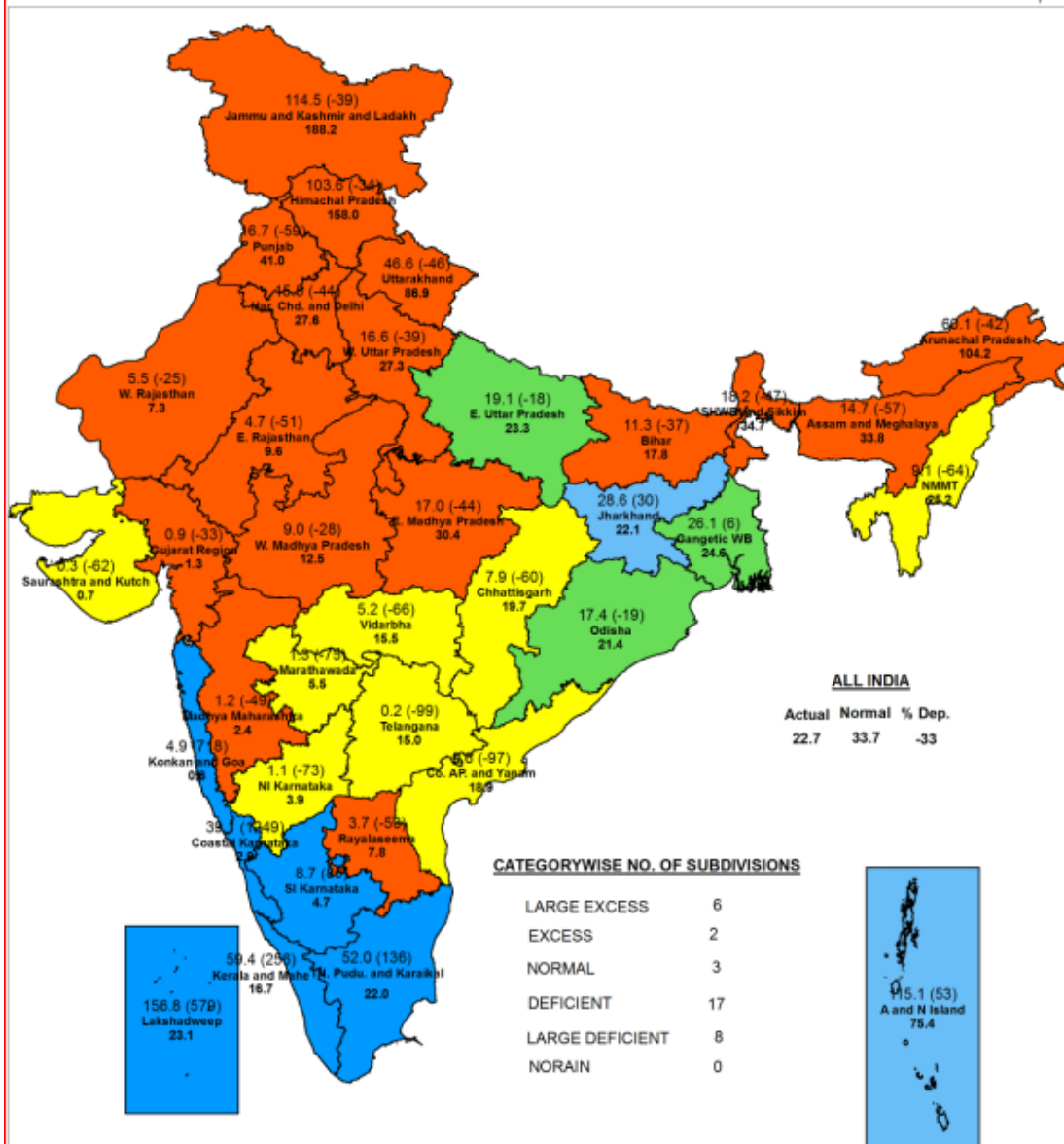
Week : 15-02-2024 To 21-02-2024





SUBDIVISION RAINFALL MAP

Period : 01-01-2024 To 21-02-2024

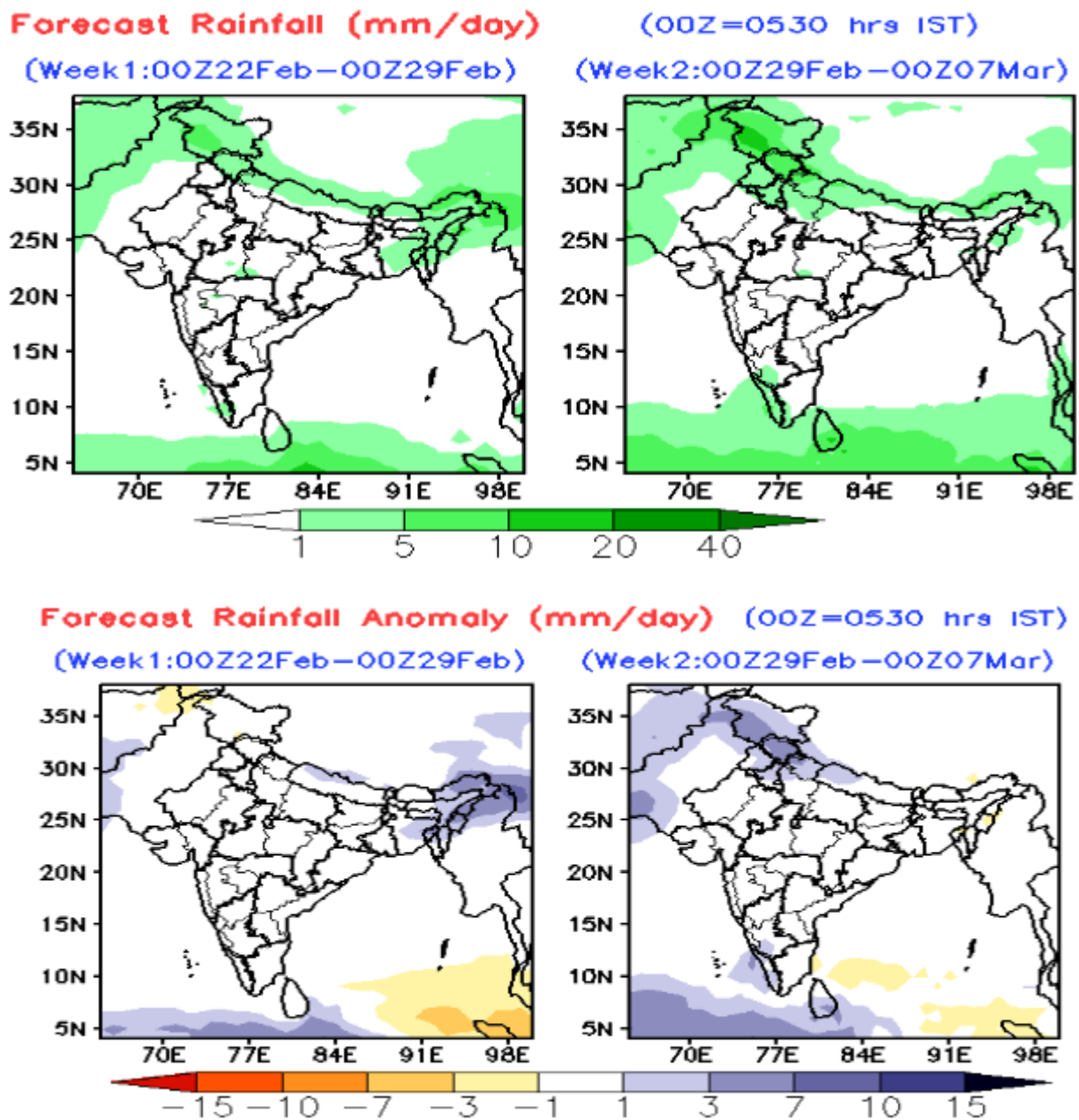


Legend

Large Excess [60% or more] Excess [20% to 59%] Normal [-19% to 19%] Deficient [-59% to -20%] Large Deficient [-99% to -60%] No Rain [-100%] No Data

NOTES :

- a) Rainfall figures are based on operation data.
- b) Small figures indicate actual rainfall (mm), while bold figures indicate Normal rainfall (mm).
- c) Percentage Departures of rainfall are shown in brackets.

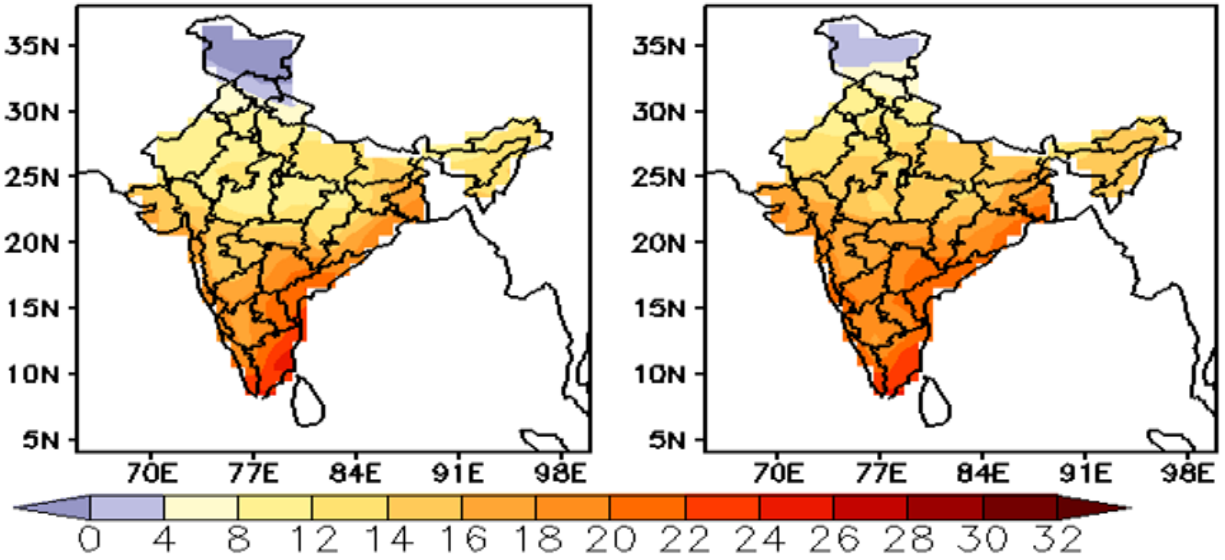


Extended range forecast of weekly distribution of rainfall in mm per day (top panel) and anomalies (lower panels) from IMD MME

MME Bias corrected forecast Tmin (Deg C)

(Week1: 23Feb–29Feb)

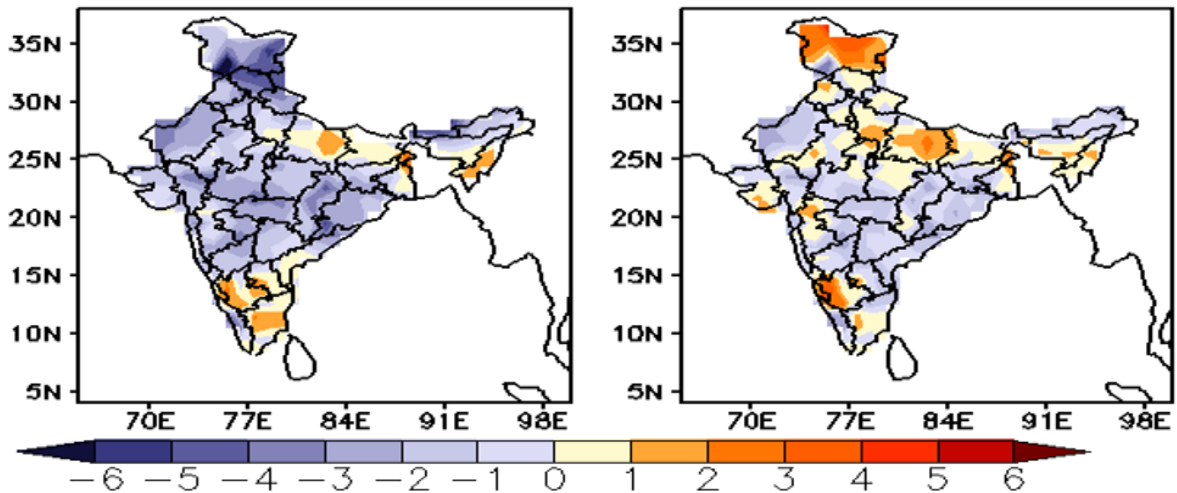
(Week2: 01Mar–07Mar)



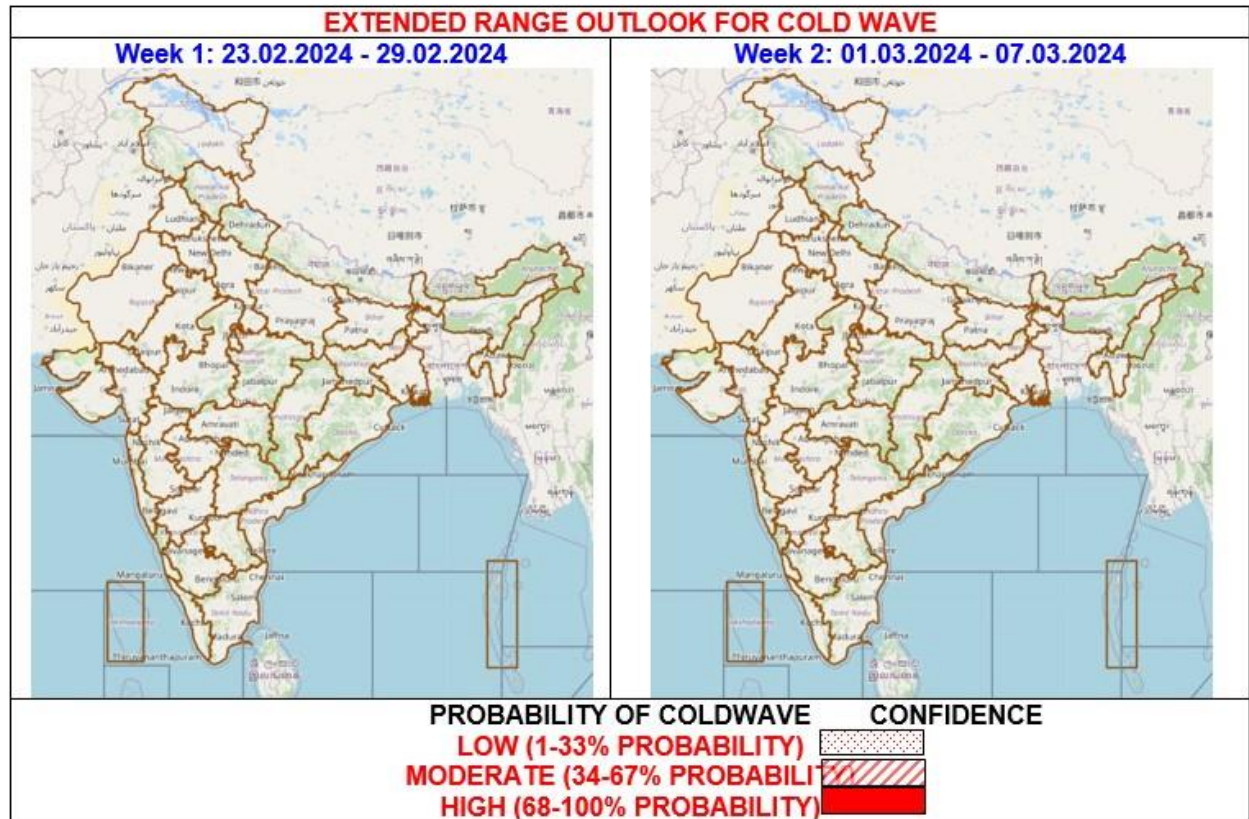
MME forecast Tmin anomaly (Deg C)

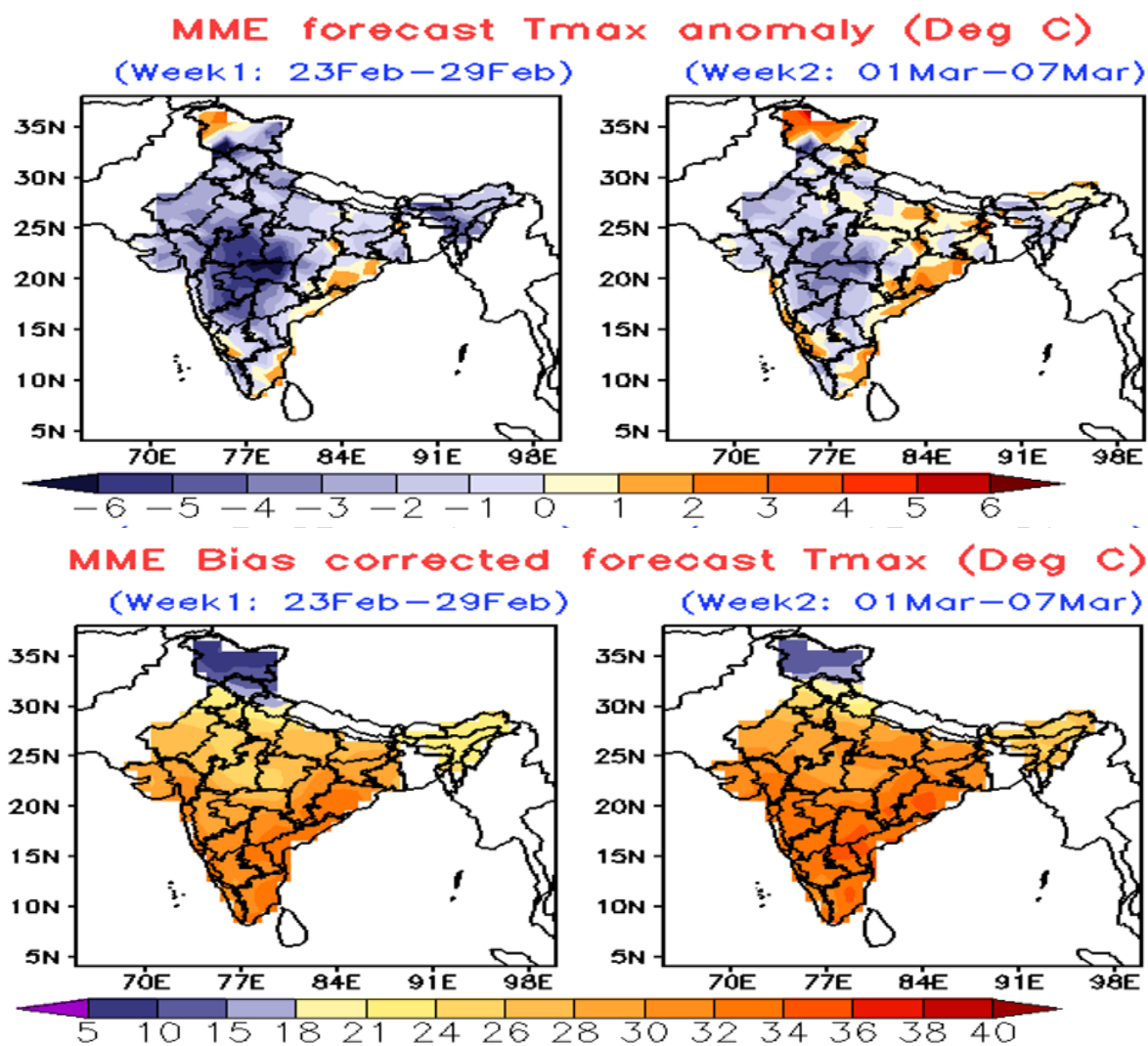
(Week1: 23Feb–29Feb)

(Week2: 01Mar–07Mar)



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





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