



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

Press: Dated: 23 Nov, 2023

Subject: Current Weather Status and Extended range Forecast for next two weeks (23 Nov-06 Dec 2023)

1. Salient Observed Features for week ending 22 Nov 2023

- **Cyclonic Storm “Midhili” during 14-19 Nov 2023 over Bay of Bengal:** Last week’s **Depression over westcentral Bay of Bengal** moved nearly northwards till the midnight (2330 hours IST) of 15th November and thereafter gradually recurved north-northeastwards and intensified into a deep depression in the morning (0530 hours IST) of 16th November. It continued to move further north-northeastwards and lay centered at 1130 hours IST, the 16th November over Westcentral Bay of Bengal near latitude 17.9°N and longitude 87.3°E, about 420 km east of Visakhapatnam (Andhra Pradesh), 270 km south-southeast of Paradip (Odisha), 410 km south of Digha (West Bengal) and 540 km south-southwest of Khepupara (Bangladesh). It then moved north-northeastwards and intensified into the Cyclonic Storm “Midhili” (pronounced as “Midhili”) over Northwest Bay of Bengal in the morning (0530 hours IST) of the 17th November, 2023. Then it continued to move further north-northeastwards and lay centered at 0830 hours IST, the 17th November over Northwest and adjoining Northeast Bay of Bengal near latitude 20.8°N and longitude 89.0°E, about 250 km east-northeast of Paradip (Odisha), 180 km east-southeast of Digha (West Bengal) and 180 km southwest of Khepupara (Bangladesh). Thereafter, it moved north-northeastwards and crossed Bangladesh coast near Khepupara during 1430-1530 hrs IST of 17th November and moved across the Islands of Bangladesh as a cyclonic storm with maximum sustained wind speed of 65-75 kmph gusting to 85 kmph and lay over coastal Bangladesh at 1730 hours IST of 17th November. Thereafter, it moved northeastwards and weakened gradually into a deep depression over Tripura and adjoining

Bangladesh in the same midnight (2330 hours IST). Further moving northeastwards, it weakened into a depression over Tripura and adjoining Bangladesh & Mizoram in the early morning (0530 hours IST) and into a low pressure area over North Tripura and neighbourhood in the forenoon (0830 hours IST) on 18th November Tripura and neighbourhood and then it became less marked on 19th Nov .

- Last week's upper air cyclonic circulation lay over Southwest Bay of Bengal & adjoining Sri Lanka and extended upto 3.1 km above mean sea level on 16th & 17th Nov 2023. It lay over the same area and extended upto 1.5 km above mean sea level on 18th; lay over Comorin area and extended upto 1.5 km above mean sea level on 19th and also on 20th and merge with a trough ran from Comorin area to Westcentral Bay of Bengal off Andhra Pradesh coast on 21st Nov.
- Last week's trough ran from the cyclonic circulation over Southwest Bay of Bengal & adjoining Sri Lanka to the cyclonic circulation associated with the Deep Depression over Westcentral Bay of Bengal and extended upto 3.1 km above mean sea level on 16th November 2023. It ran from the cyclonic circulation over Southwest Bay of Bengal & adjoining Sri Lanka to the cyclonic circulation associated with cyclonic storm "Midhili" over Northwest & Northeast Bay of Bengal and extended upto 1.5 km above mean sea level on 17th; ran from the Cyclonic Circulation over Southwest Bay of Bengal & adjoining Sri Lanka to the cyclonic circulation associated with the Low Pressure area over North Tripura & neighbourhood with same height on 18th and became less marked on 19th Nov.
- Due to impact from above weather systems, isolated Heavy rainfall observed mainly over Tamil Nadu during most dates in the week and due to remnant of Cyclone "Midhili" moved as low pressure area to Tripura, heavy to very heavy rainfall observed at isolated places over Mizoram, Tripura and heavy rainfall at isolated places over Assam on 18th Nov.
- **Analysis of Weekly overall Rainfall distribution during the week ending on 22 Nov 2023 and monsoon Season's Rainfall Scenario (1 Oct-22 Nov 2023):** 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 22 Nov 2023 was -38%, over south Peninsula, it was -45%, central India as -97% while over northwest India had -99% and east & northeast India had got +205%. All India Seasonal cumulative rainfall % departure during this year's **Post monsoon Season's Rainfall** during **1 Oct to 22 Nov 2023** is -27%, over northwest India it is +36% and -62% & -38% over Central and South Peninsular India respectively. 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 II and III respectively.

Table 1: Rainfall status (Week and season)

Region	WEEK			SEASON		
	16.11.2023 TO 22.11.2023			01.10.2023 TO 22.11.2023		
	Actual	Normal	% Dep	Actual	Normal	% Dep
EAST & NORTH-EAST INDIA	11.6	3.8	+205%	148.3	141.5	+5%
NORTH-WEST INDIA	0	2.7	-99%	40.6	29.9	+36%
CENTRAL INDIA	0.1	3.8	-97%	25.9	68.4	-62%
SOUTH PENINSULA	10.3	18.6	-45%	139.2	225.5	-38%
Country as a whole	3.9	6.3	-38%	72.2	99.1	-27%

2. Large scale features

- Sea surface temperature (SST) is 29-30°C over South & adjoining Central BoB. SST is 27-28°C over Central & North Bay of Bengal (BoB). SST is 30-31°C over Lakshadweep & Southeastern Arabian Sea (AS) is 30-31°C over Southeast & Eastcentral AS & 29-30°C over Western part of AS.
- Madden Julian Oscillation (MJO) index is currently in phase 2 with amplitude greater than 1. It would move across phases 2, 3 & 4 during the forecast period with amplitude remaining greater than 1. Thus, MJO would support cyclogenesis (formation of Depression) over the Bay of Bengal (BoB) during the entire forecast period and the Arabian Sea (AS) during first half of week 1.

3. Forecast for next two week

Forecast for next two week

Weather systems & associated Precipitation during Week 1 (23 to 29 November, 2023) and Week 2 (30 November to 06 December, 2023)

Weather Systems and Forecast & Warnings during week 1 (23 to 29 November, 2023) (graphics in Annexure II)

- ❖ A trough in easterlies runs from Maldives to south Maharashtra coast in lower tropospheric levels. It is very likely to cause:
 - Light to moderate rainfall at most places accompanied with thunderstorm & lightning at isolated places and **isolated heavy rainfall** over Kerala & Mahe during 23rd-25th; over Tamil Nadu, Puducherry & Karaikal during 23rd-24th and over South Interior Karnataka on 23rd November, 2023.
 - **Isolated very heavy rainfall also likely over ghat areas of Tamil Nadu and north Kerala on 23rd November, 2023.**

- ❖ A fresh Western Disturbance will approach northwest India as an upper level trough extending upto Eastcentral Arabian Sea off Gujarat-Maharashtra-Goa coasts on 25th& 26th November. As a result, the above trough in in mid-latitude westerlies in middle & upper tropospheric levels will interact with lower level trough in easterlies. Due to this interaction:
 - Light to moderate rainfall at many places accompanied with isolated thunderstorm & lightning is likely over Madhya Maharashtra, Konkan & Goa, Marathwada, Madhya Pradesh during 24th-27th; over Gujarat State on 25th& 26th November with maximum activity on 26th November, 2023.
 - **Thunderstorm & lightning accompanied with Hail** at isolated places over south Rajasthan, southwest Madhya Pradesh, north Madhya Maharashtra and north Marathwada on 26th November. **Isolated heavy rainfall likely over southwest Madhya Pradesh, north Madhya Maharashtra & Gujarat Region on 26th November, 2023.**
 - Light rainfall at isolated places also likely over Western Himalayan Region and plains of Northwest India during 26th-28th November. **Thunderstorm & lightning accompanied with Hail** at isolated places over Uttarakhand on 27th November.

- ❖ A upper air Cyclonic Circulation is likely to emerge over South Andaman Sea & neighbourhood around 25th November. Under its influence, a Low Pressure Area is likely to form over South Andaman Sea & neighbourhood around 26th November. It is likely to move west-northwestwards and intensify into a Depression over Southeast Bay of Bengal & adjoining Andaman Sea around 27th November.

- Light to moderate rainfall at many places accompanied with isolated thunderstorm & lightning is likely over Andaman & Nicobar Islands during 26th–27th November, 2023. **Isolated heavy rainfall** also likely over Andaman & Nicobar Islands during the same period.
- **Squally weather (wind speed reaching 40-45 kmph gusting to 55 kmph)** likely over south Andaman Sea during 26th-27th November; **Squally weather (wind speed reaching 45-55 kmph gusting to 65 kmph)** over Southeast Bay of Bengal during 27th-28th and over south adjoining central Bay of Bengal during 28th-29th November, 2023.
- **Fishermen are advised not to venture into South Andaman Sea on 26th & 27th; Southeast Bay of Bengal on 27th & 28th and South adjoining Central Bay of Bengal on 28th & 29th November. (graphics in Annexure III)**

❖ **No significant weather likely over rest parts of the country.**

Rainfall for week 2 (30 November to 06 December, 2023):

- ✓ No active easterly wave is likely to affect South Peninsular India during the week.
- ✓ No active Western Disturbance likely to affect northwest India during the week.
- ✓ Overall, rainfall activity is likely to be near normal over most parts of the country except over coastal Odisha, coastal Gangetic West Bengal and parts of Northeastern states where it is likely to be normal to above normal.

Minimum temperature forecast for Week 1 (23 to 29 November, 2023) and Week 2 (30 November to 06 December, 2023)

❖ **Minimum Temperature Departures (as on 23-11-2023):** Minimum temperatures are **appreciably above normal (3.1°C to 5.0°C)** at many places over Coastal Andhra Pradesh & Yanam and Telangana; at a few places over North Interior Karnataka; **above normal (1.6°C to 3.0°C)** at most places over Coastal & South Interior Karnataka; at many places over Konkan & Goa, East Madhya Pradesh, Rayalaseema and Odisha; at a few places over Jharkhand, Chhattisgarh, Vidarbha, Madhya Maharashtra, Tamil Nadu, Puducherry & Karaikal and at isolated places over Uttarakhand, Punjab, Assam & Meghalaya, Saurashtra & Kutch, Bihar. They are **below normal (-1.6°C to -3.0°C)** at isolated places over West Uttar Pradesh, Rajasthan, Haryana-Chandigarh-Delhi and **near normal** over rest parts of the country. Today, **the lowest minimum temperature of 7.0°C** is reported at **Sikar (East Rajasthan)** over the plains of the country.

Week 1:

- ✓ Minimum temperatures are likely to be either normal or above normal by 1-2°C over Northwest India except over West Rajasthan where it is likely to be below normal by 1-

2°C.

- ✓ Minimum temperatures are likely to be either normal or above normal by 1-2°C over Central & East India except over Odisha.
- ✓ Minimum temperatures are likely to be either normal or above normal by 1-2°C over Peninsular India.

Week 2:

- ✓ Minimum temperatures are likely to be either normal or above normal by 1-2°C over Northwest India except over West Rajasthan where it is likely to be below normal by 1-2°C.
- ✓ Minimum temperatures are likely to be either normal or below normal by 1-2°C over Central & East India.
- ✓ Minimum temperatures are likely to be either normal or above normal by 1-2°C over Peninsular India.

Cyclogenesis: 1. There is likelihood of emergence of a cyclonic circulation over south Andaman Sea and neighbourhood around 25th November. Under its influence, a low pressure area is likely to form over south Andaman Sea around 26th November. It is likely to move west-northwestwards and intensify into a depression over southeast & adjoining Andaman Sea during middle of week 1 (around 27th November). Hence high probability is assigned to cyclogenesis over southeast BoB and adjoining Andaman Sea during week 1.

2. There is a low probability of formation of a cyclonic circulation/low pressure area over southeast and adjoining southwest Arabian Sea during later part of week 1.

3. There is a low probability of cyclogenesis over southeast Bay of Bengal during first half of week 2.

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

Annex: I

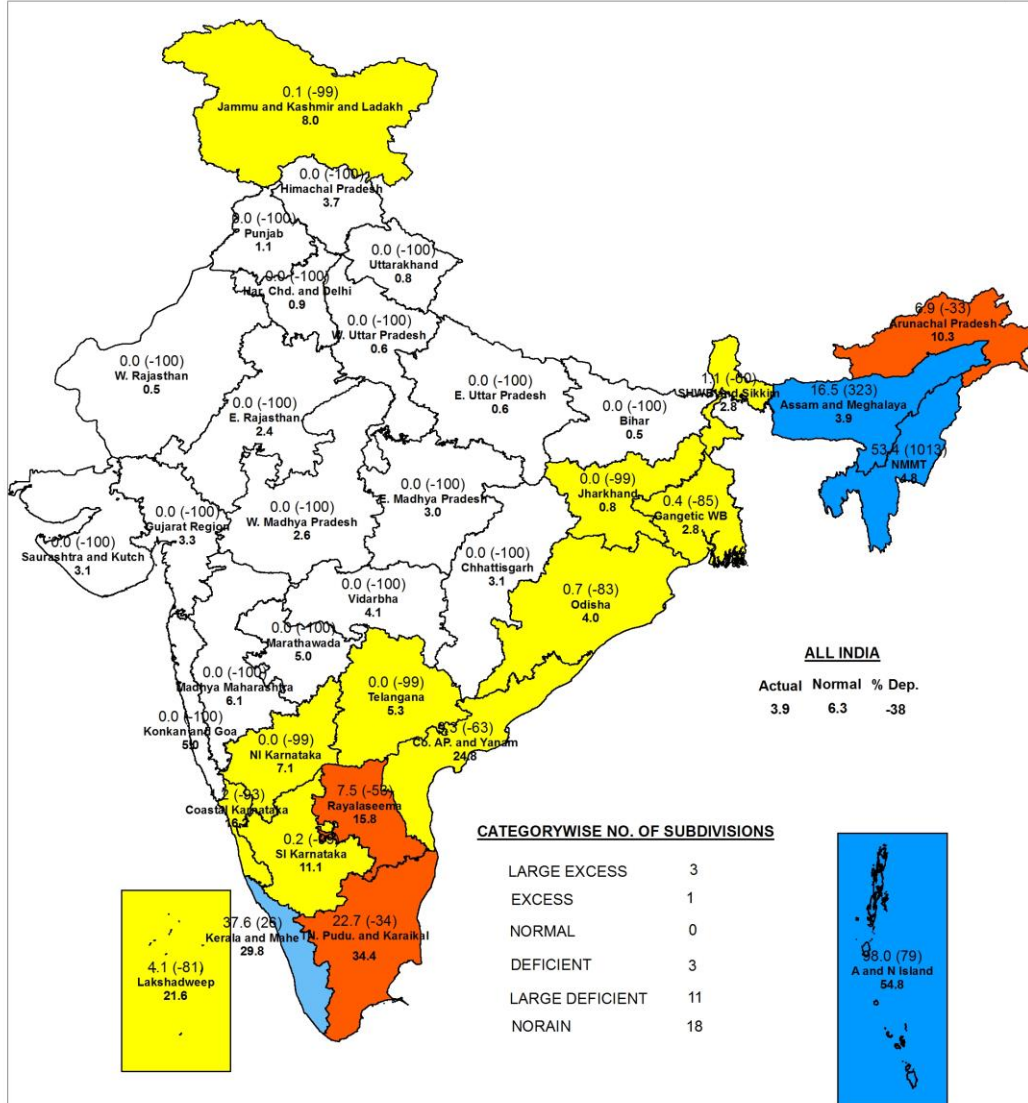


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SUBDIVISION RAINFALL MAP

Week : 16-11-2023 To 22-11-2023



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 :

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

Annex II

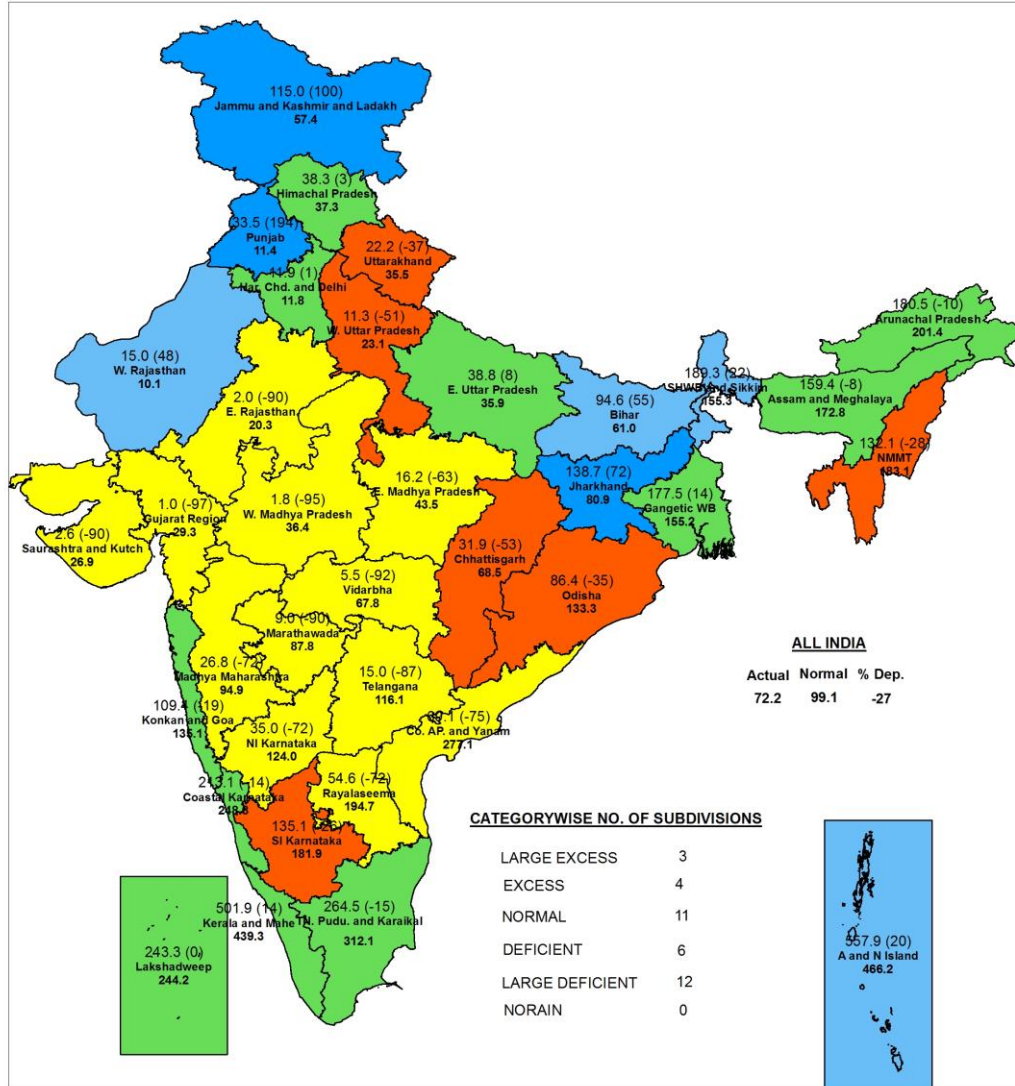


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SUBDIVISION RAINFALL MAP

Period : 01-10-2023 To 22-11-2023

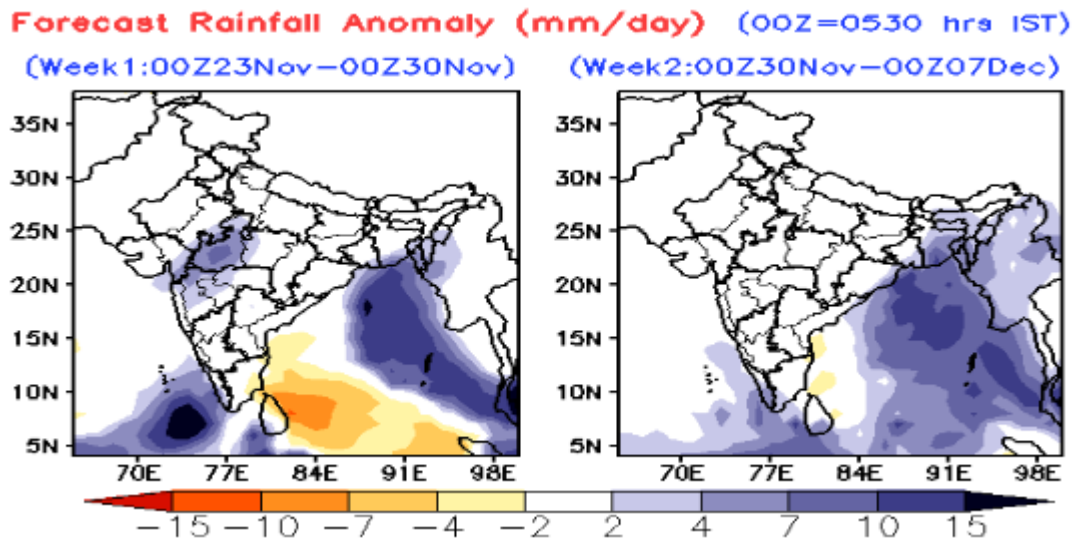
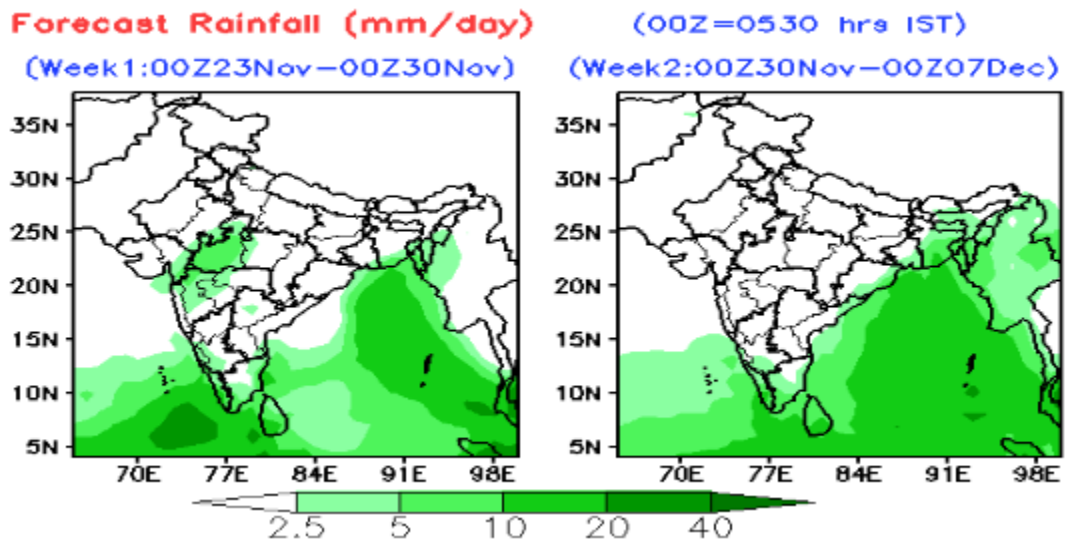


Legend

■ 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.

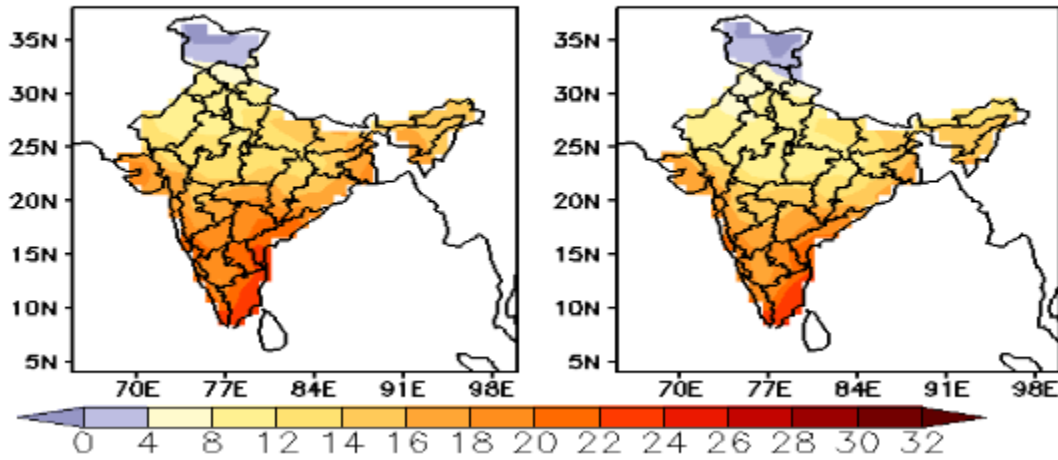


Extended range forecast of weekly distribution of rainfall in mm per day (top panel) and anomalies (lower panels) from IMD MME

MME Bias corrected forecast Tmin (Deg C)

(Week1: 24Nov-30Nov)

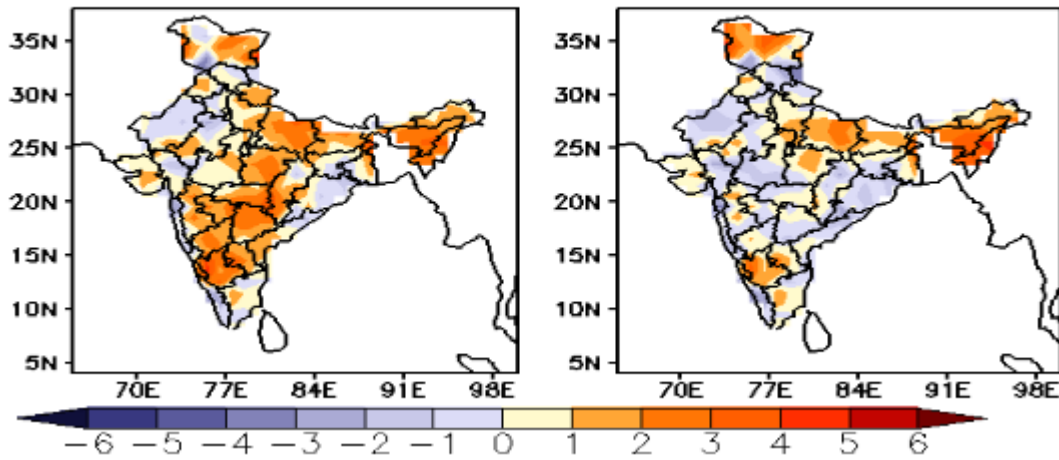
(Week2: 01Dec-07Dec)



MME forecast Tmin anomaly (Deg C)

(Week1: 24Nov-30Nov)

(Week2: 01Dec-07Dec)



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