



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

Press: Dated: 30 Dec, 2021

**Subject: Current Weather Status and Extended range Forecast for next two weeks
(30 Dec 2021-12 Jan 2022)**

1. Salient Features for week ending on 29 Dec 2021

- **Movement of two consecutive Western Disturbances across north India has affected weather over north, central and eastern parts of the country during the week.**
- During the 1st half of the week (23-26 Dec), the 1st Western Disturbance and its induced cyclonic circulation, which were relatively of weaker intensity, had caused isolated to scattered light to moderate rainfall/snowfall/thunderstorm activity over Western Himalayan Region and adjoining areas of plains.
- The 2nd Western Disturbance and its induced cyclonic circulation were of intense systems especially during 2nd half of the week (27-29 Dec) over northwest India and then successively over central and eastern India which caused wet spell over these areas. **During further eastward movement of this WD, there was further in-situ amplification of the trough in mid-tropospheric westerly and its interaction with easterly/southeasterly at lower-tropospheric levels during 28-29 Dec, associated with high moisture incursion, from the Bay of Bengal, to areas mainly covering Madhya Pradesh, Chhattisgarh, Jharkhand, Odisha, Vidarbha and Marathwada, which had caused Hail storm at a few locations over these areas and also heavy rains in some states during 28-30 Dec.**
- The above mentioned weather scenario has caused significant increase in minimum temperature leading to the abatement of severe cold wave conditions which were prevailing over Northwest, central and eastern parts of India during previous week.
- **Heavy rain:** Heavy rainfall at isolated places had occurred over Odisha, Jharkhand and Chhattisgarh on one day each during the week.

- **Fog: Dense to very dense fog** at isolated places had occurred over Punjab, West Rajasthan on two days, Haryana and Vidarbha on one day during the week. **Dense fog** at isolated places had occurred Saurashtra & Kutch on two days; West Rajasthan, Haryana a Punjab, East Uttar Pradesh, Odisha, Himachal Pradesh and Uttarakhand one days each during the week.
- **Temperature Scenario: No significant cold wave/cold day prevailed over any state during the week.**
- Consecutively for 3rd week, no major heavy rainfall event was observed during the week over south Peninsular India due to absence of major weather systems affecting the region. Northeast monsoon also continues to be weak during this week.
- Weekly overall Rainfall distribution during the current week of 23-29 Dec 2021 and Post-monsoon Rainfall Scenario (01 Oct to 29 Dec, 2021): During the week ending on 22 Dec 2021, for the country as a whole, the weekly cumulative All India Rainfall departure from its long period average (LPA) during the week was **+2%** with weekly cumulative over south Peninsular India reported above normal of **-97%**, while all India cumulative rainfall during this year's post-monsoon season till 22 Dec, 2021 is above LPA by **+44%** and over south Peninsular India, it is above LPA by **+63%**. 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		
	16.12.2021 TO 22.12.2021			01.10.2021 TO 22.12.2021		
	Actual	Normal	% Dep	Actual	Normal	% Dep
EAST & NORTH-EAST INDIA	5.6	04	+40	182.7	166.3	+10
NORTH-WEST INDIA	4.4	8.4	-47	80.2	53.9	+49
CENTRAL INDIA	6.8	1.2	+468	103.2	75.8	+36

SOUTH PENINSULA	0.1	4.5	-97	442.0	276.2	+60
country as a whole	4.6	4.5	+2	175.4	122.8	+43

2. Large scale features

- Currently La Niña conditions are prevailing over the Equatorial Pacific Ocean and neutral Indian Ocean Dipole (IOD) conditions are prevailing over the Indian Ocean. The latest global model forecasts indicate that the La Niña conditions are likely to prevail until March 2022 and neutral IOD conditions are likely to continue during the upcoming seasons.
- The Madden Julian Oscillation (MJO) index currently lies in Phase 7 with amplitude close to 1. It is likely to continue in same phase during next 2 weeks. Thus, MJO phase is not conducive for enhancement of convective activity and hence cyclogenesis over the Bay of Bengal (BoB) and the Arabian Sea (AS) during the entire forecast period

3. Forecast for next two week

[Weather systems & associated Precipitation during Week 1 \(30 December 2021-5 January, 2022\) and Week 2 \(06-12 January, 2022\)](#)

Weather System and Rainfall for week 1 (30 December 2021-5 January, 2022):

- A Western Disturbance lay as a cyclonic circulation over northeast over East Uttar Pradesh & adjoining Bihar extending upto 3.1 km above mean sea level with the trough aloft with its axis at 5.8 km above mean sea level roughly along Long. 85°E to the north of Lat. 20°N.
- A fresh feeble Western Disturbance likely to affect parts of Western Himalayan Region from night of 01st January, 2022.
- Another Western Disturbance seen as a trough roughly along Long. 57 ° E and to the north of Lat. 27 ° N at 3.1 km above mean sea level.
- Strong north-easterly wind convergence prevailing over southeast Peninsular coasts of India mainly covering areas of north coastal Tamil Nadu and South Coastal Andhra Pradesh

Under the influence of above systems:

- ✓ Light to moderate isolated to scattered rainfall very likely over Arunachal Pradesh, Assam & Meghalaya, West Bengal & Sikkim, Odisha, Jharkhand, Bihar and Chhattisgarh during next 24 hours and dry weather over the region thereafter. Isolated thunderstorm also likely over Arunachal Pradesh and Assam & Meghalaya during next 24 hours.

- ✓ **Scattered to fairly widespread rainfall very likely over Tamilnadu, Puducherry & Karaikal and adjoining south Andhra Pradesh during next 3 days. Isolated Heavy to very Heavy Rainfall over north coastal Tamilnadu on 30th and Isolated Heavy Rainfall over coastal Tamilnadu, Puducherry & Karaikal 31st December, 2021 & 01st January, 2022 and over south Coastal Andhra Pradesh during 30th December to 01st January, 2022.**
- **An intense Western Disturbance is likely to affect Western Himalayan Region from 04th and over plains of northwest India from 5th January, 2022**
Under its influence (weather forecast and warning till 5 Jan 2022)
- ✓ Fairly widespread rainfall/snowfall on 4th and 5th Jan with possibility of isolated heavy falls on 05th over Jammu & Kashmir and Himachal Pradesh. Light/moderate scattered to fairly widespread rainfall over Punjab, Haryana, Chandigarh & Delhi, north Rajasthan & West Uttar Pradesh on 05th Jan.
- ✓ Dry weather very likely over remaining parts of the country during most days of the week.

Rainfall for week 2 (30 December, 2021 to 05 January, 2022):

Under the influence of further east-ward movement of the above active Western Disturbances across northwest, central and adjoining eastern part of India during 1st half of the week and interaction with lower level easterly, wind and moisture confluence likely over plains of these areas, during the period of 1st half of the week 2. Under its influence:

- Fairly widespread rainfall/snowfall likely to continue till 07th with possibility of isolated heavy falls on 6th Jan over Jammu & Kashmir and Himachal Pradesh.
- Light/moderate scattered to fairly widespread rainfall over Punjab, Haryana, Chandigarh & Delhi, north Rajasthan & West Uttar Pradesh during 6th to 07th and light isolated rainfall is also likely over west Madhya Pradesh, south Rajasthan & Gujarat on 06th & 07th January, 2022.
- **Isolated to scattered rainfall also likely over west Madhya Pradesh, Uttar Pradesh, Vidarbha, Marathwada, Jharkhand, Bihar and Chattisgarh on 8th and 9th Jan 2021**

Precipitation activity is likely to be normal to above normal over northwest, central, east & northeast India. It is likely to be below normal over south Peninsular India.

Minimum Temperatures for during Week 1 (30 December 2021-5 January, 2022) and Week 2 (06-12 January, 2022)

For Week 1 (30 December 2021-5 January, 2022): Cold Wave to Severe Cold Wave Conditions likely to prevail over Northwest India & Madhya Pradesh during next 4 days till 2 Jan 2022.

- ✓ Minimum temperatures are in the range of 2-6°C over Punjab, north Rajasthan, Haryana and

adjoining West UP and **3 to 5°C fall in Minimum Temperatures** occurred **over Haryana, north Rajasthan, UP and MP during past 24 hours.** old Wave to Severe Cold Wave Conditions over Northwest India & Madhya Pradesh during next 3-4 days. No significant change in minimum temperatures over Northwest India during next 3 days and gradual rise by 2-4°C during subsequent 3 days.

- ✓ Fall in minimum temperatures by 2-4°C over Central India during next 3 days and rise by 2-3°C during subsequent 2 days.
- ✓ Fall in minimum temperatures by 3-5°C over East India during next 3 days and no significant change thereafter.
- ✓ No significant change in minimum temperatures over rest parts of the country during next 5 days.
- ✓ **Cold Wave/Severe Cold Wave** conditions in some/many parts of Punjab during 31st December to 03rd January and in isolated/some parts over Haryana, Chandigarh & Delhi and Rajasthan during 31st December to 03rd January; over Madhya Pradesh during 31st December to 02nd January and over Uttar Pradesh during next 3 days.
- ✓ **Dense fog** in isolated pockets in night/morning hours very likely over Uttar Pradesh during next 5 days and over East & Northeast India during next 2-3 days.

Minimum Temperatures for week 2 (6-12 January, 2022): Due to likely influence of Western Disturbances, minimum temperatures likely to be above normal by 2-4°C over most parts of northwest and central India in the 1st half of the week 2 while minimum temperatures likely to fall by 3-5°C over most parts of these areas during 2nd half of the week 2. It is likely to be normal to above normal over Peninsular India and over parts of northeastern states during week 2 with normal likely over rest parts of the country during the same period. (Refer Annex IV)

3. Cyclogenesis forecast for North Indian Ocean during next 2 weeks

In view of the above broad scale features and model guidance, no cyclogenesis is likely over the north Indian Ocean during the ensuing 2 weeks. However, possible genesis of a low pressure area/cyclonic circulation over the Western Equatorial Indian Ocean to the south of India & Sri Lanka latitude during 2nd half of week 1 needs to be watched

Next weekly update will be issued on next Thursday i.e. 6 Jan 2022

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

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)

Probabilistic Forecast

Terms	Probability of Occurrence (%)
Unlikely	< 25
Likely	25 - 50
Very Likely	50 - 75
Most Likely	> 75

Annex I

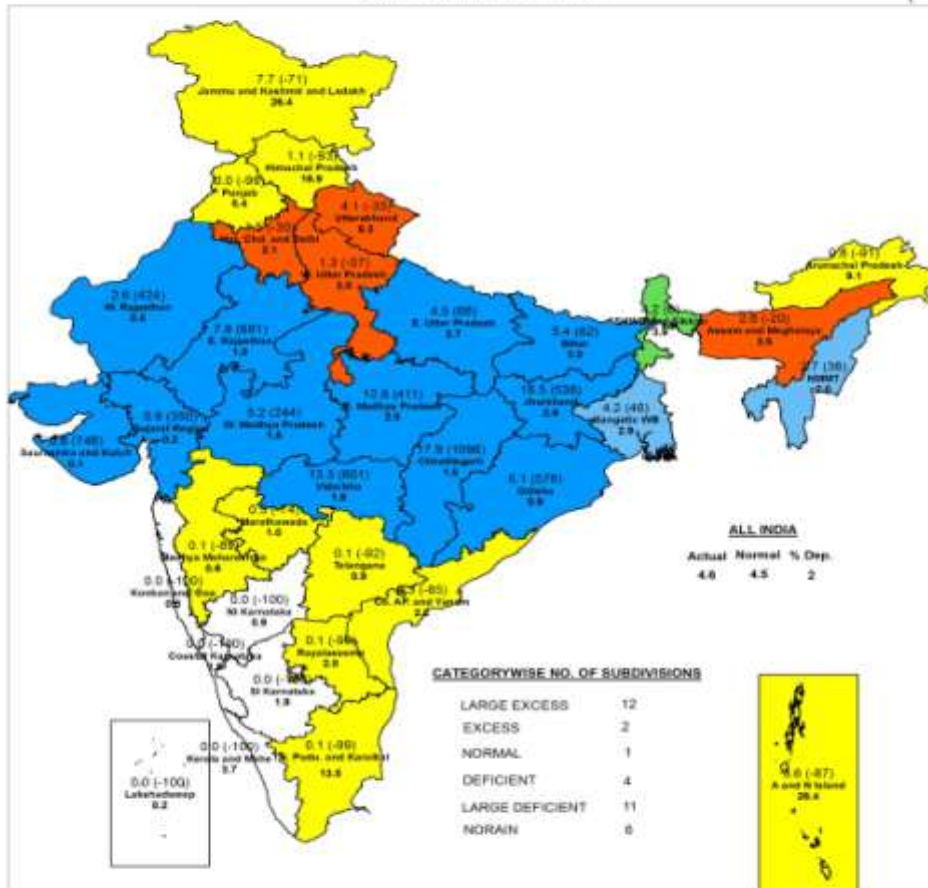


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SUBDIVISION RAINFALL MAP

Week : 23-12-2021 To 29-12-2021



Legend

Large Excess (80% or more)
 Excess (30% to 80%)
 Normal (-10% to 10%)
 Deficient (-40% to -20%)
 Large Deficient (-80% 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.

Annexure II

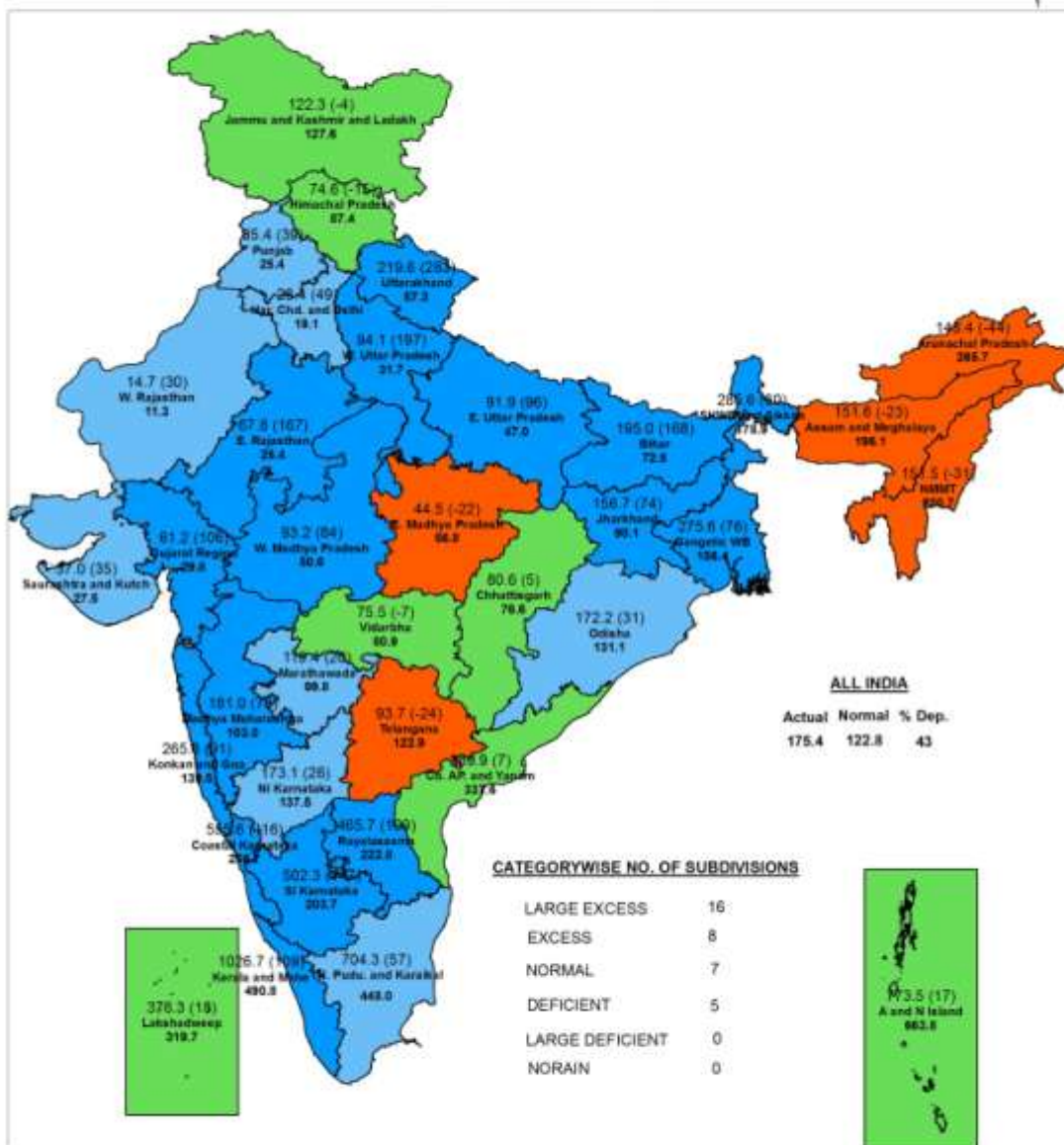


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INDIA METEOROLOGICAL DEPARTMENT

जन मौसम विज्ञान पभाग, नई दिल्ली
HYDROMET DIVISION, NEW DELHI

SUBDIVISION RAINFALL MAP

Period : 01-10-2021 To 29-12-2021

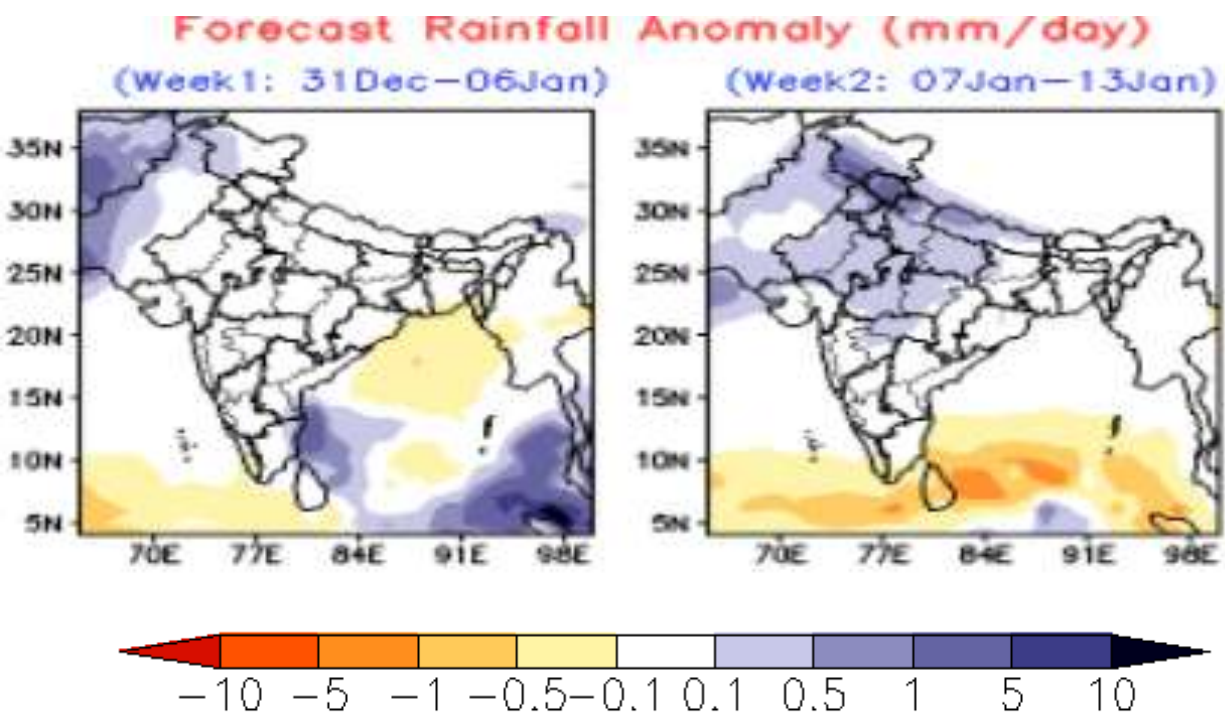
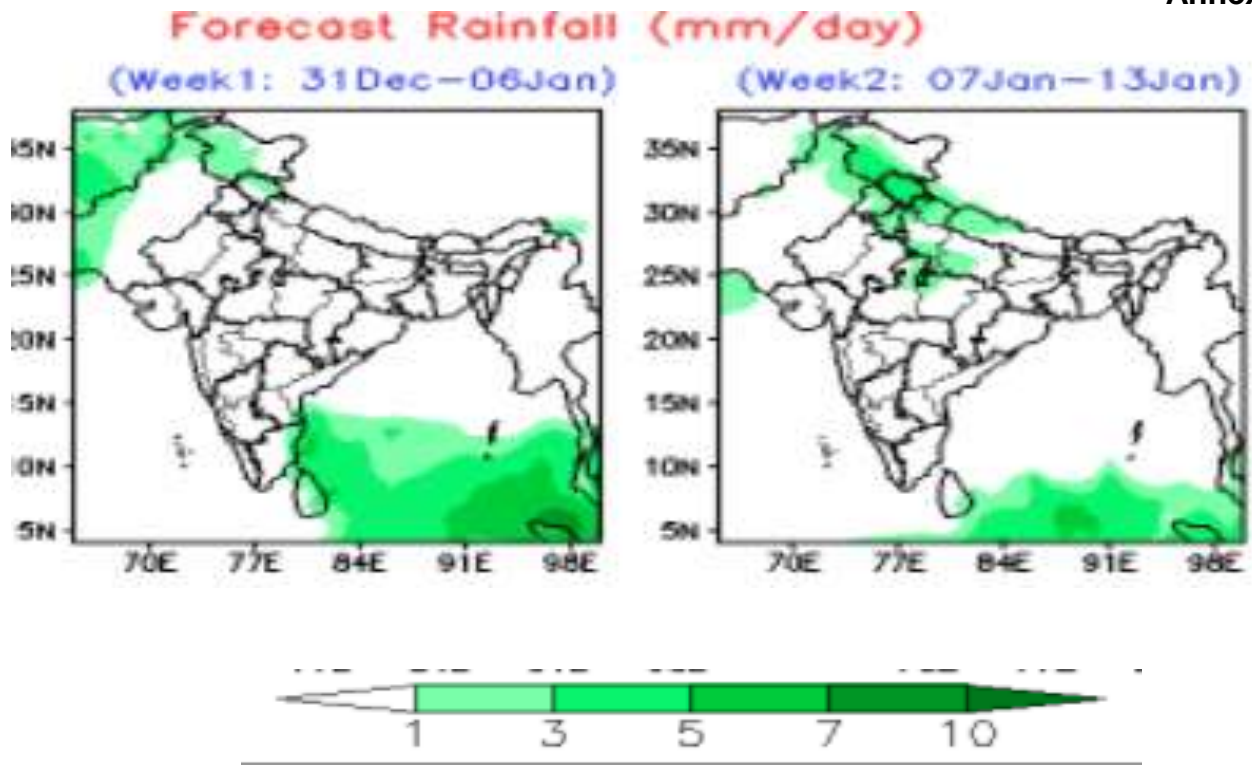


Legend

Large Excess [>60% or more] Excess [20% to 59%] Normal [-19% to 19%] Deficient [-49% to -20%] Large Deficient [-99% to -60%] No Rain [-100%] No Data

NOTES :

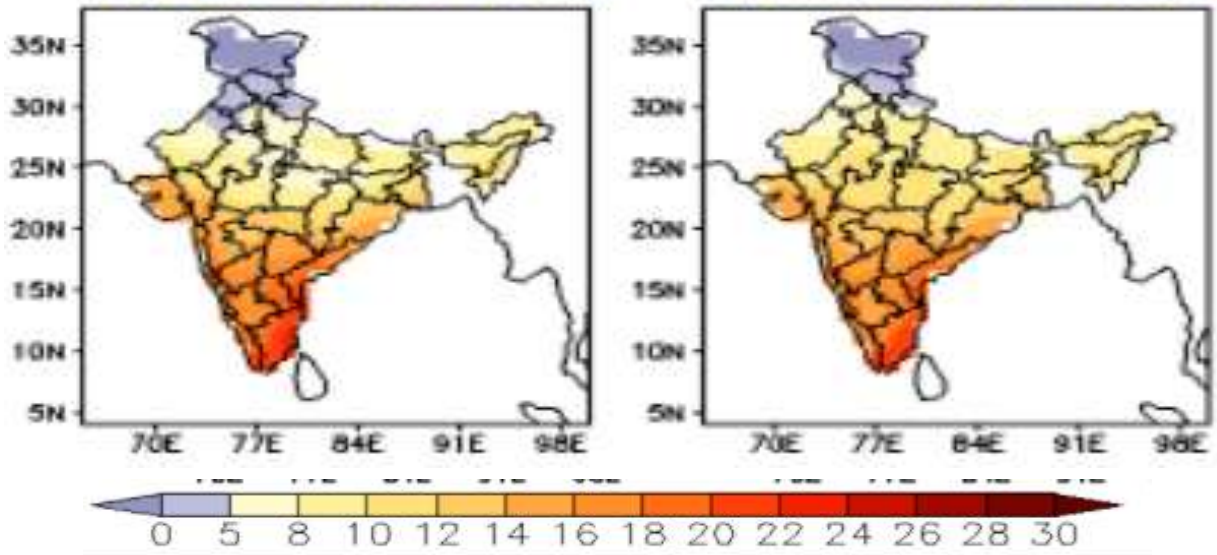
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- c) Percentage Departures of rainfall are shown in brackets.



MME Bias corrected forecast Tmin (Deg)

(Week1: 31Dec-06Jan)

(Week2: 07Jan-13Jan)



MME forecast Tmin anomaly (Deg C)

(Week1: 31Dec-06Jan)

(Week2: 07Jan-13Jan)

