



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

**Press: Dated: 21 Oct, 2021**

**Subject: Current Weather Status and Extended range Forecast for next two weeks  
(21 Oct-3 Nov 2021)**

**1. Salient Features**

- **Formation and movement of three low pressure areas during the week have caused three major extreme rainfall spells, landslides and flooding over different parts of the country:**

**a) Extreme rain spell and flooding over Uttarakhand and West Uttar Pradesh during 17-19 Oct and heavy to very heavy rainfall over adjoining northwest India during 17-19 Oct:** A Low Pressure Area has formed over Eastcentral Bay of Bengal in the early hours of 14<sup>th</sup> October 2021. It moved west-northwestwards and lay over Westcentral & adjoining Northwest Bay of Bengal off north Andhra Pradesh-south Odisha coasts on 15<sup>th</sup> and over north Coastal Andhra Pradesh & adjoining Westcentral Bay of Bengal on 16<sup>th</sup>. While moving northwestwards further, it moved across north Coastal Andhra Pradesh, Telengana, Vidarbha and South Madhya Pradesh during 16<sup>th</sup> to 18<sup>th</sup> October 2021. Simultaneously, an active Western Disturbance approached northwest India during the same period. Interaction of this Western Disturbance and the Low pressure area over South Madhya Pradesh led to extremely heavy rainfall activity over Uttarakhand and over West Uttar Pradesh on 17<sup>th</sup> and 18<sup>th</sup> October 2021. With the eastward movement of the Western Disturbance and the Low pressure area getting less marked on 19<sup>th</sup> October, the rainfall activity had reduced over Uttarakhand since 19<sup>th</sup> October onwards with isolated heavy rainfall over Uttarakhand on 19<sup>th</sup> Oct. **It led to landslides and flooding over**

**Uttarakhand during the period.** This low pressure during its initial period of movement across north Coastal Andhra Pradesh, Telengana, Vidarbha and Southeast Madhya Pradesh also caused heavy rainfall spells in these areas during 15-17 Oct, but thereafter during its further northwestward movement and northward movement and intense interaction with the above WD, rainfall further enhanced and was of isolated extreme rainfall over west Madhya Pradesh and then heavy to very heavy rainfall over east Rajasthan, Haryana and Delhi during 17-18 Oct.

**b)Extreme rainfall spell, landslides and flooding over Kerala during 14-16 Oct 2021:** Formation of low pressure areas (**2<sup>nd</sup> low pressure during the week**) over Eastcentral & adjoining Southeast Arabian Sea off Lakshadweep area and its east-southeastwards movement to Southeast Arabian Sea off Kerala coast during 14-16 Oct 2021 caused widespread rainfall with isolated heavy to very heavy rainfall at a few places and extremely heavy rainfall at isolated places over Kerala during 14-16 Oct 2021. **It led to flash floods and landslide over Kerala.**

**c) Extremely heavy rainfall spell over sub-Himalayan West Bengal and Sikkim and Bihar and heavy to very heavy rainfall spell over north Odisha and Gangetic West Bengal during 18-20 Oct 2021:** Due to formation and movement of another low pressure area (**3<sup>rd</sup> low pressure area during the week**) from West Bengal & adjoining north Odisha to Bihar during 18-20 Oct, heavy to very heavy rainfall spell over north Odisha and Gangetic West Bengal during 18-19 Oct 2021 **and then extremely heavy rainfall spell was observed over sub-Himalayan West Bengal and Sikkim and Bihar towards end of the week during 19-20 Oct, due to its interaction with the previously mention, east ward movement of the western Disturbances to this region.**

➤ **Status of withdrawal of Southwest Monsoon during the week:** The Southwest Monsoon has further withdrawn from some more parts of Telangana; remaining parts of Marathwada, Madhya Maharashtra & Konkan; some parts of North Interior Karnataka and most parts of Central Arabian Sea on 14<sup>th</sup>October 2021; There had been no further withdrawal of Southwest Monsoon during the remaining part of the week. The withdrawal line passed through Lat. 27.0°N/Long. 92.0°E, Kohima, Silchar, Krishnanagar, Baripada, Malkangiri, Nalgonda, Bagalkote, Vengurla, Lat. 16.0°N/Long. 65.0°E and Lat.

16.0°N/Long. 60.0°E on 14<sup>th</sup> Oct 2021 and remained the same till the end of the week. (Refer Annex 1).

- **Rainfall during the week:** During the week ending on 20 Oct 2021, above rainfall activity was reported over India and weekly cumulative All India Monsoon Rainfall departure from its long period average (LPA) during the week was +109%.

## 2. Rainfall distribution during the current week of 14-20 Oct 2021 and Post-monsoon Rainfall Scenario (01 to 20 October, 2021)

During the week ending on 20 Oct 2021, for the country as a whole, the weekly cumulative monsoon rainfall departure from its LPA was +109% while cumulative rainfall during this year's post-monsoon season till 20 October, 2021 is above LPA by +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 II and III respectively.

**Table 1: Rainfall status (Week and season)**

Region	WEEK			SEASON		
	14.10.2021 TO 20.10.2021			01.10.2021 TO 20.10.2021		
	Actual	Normal	% Dep	Actual	Normal	% Dep
EAST & NORTH-EAST INDIA	63.3	25.8	145%	125.6	106.1	18%
NORTH-WEST INDIA	29.9	6.2	382%	46.9	19.6	139%
CENTRAL INDIA	23.8	10.2	133%	58.9	43.8	34%
SOUTH PENINSULA	32.7	33.7	-3%	136.1	104.7	30%
country as a whole	33.7	16.1	+109%	81.0	58.3	+39%

## 3. Large scale features

- Neutral El-Nino Southern Oscillation (ENSO) conditions were observed over the equatorial Pacific. In the month, Equatorial sea surface temperatures (SSTs) are continued to be below average across the central and east-central Pacific Ocean. The tropical Pacific atmosphere is showing a consistent with La Niña conditions.
- Negative Indian Ocean Dipole (IOD) conditions prevailed over the Indian Ocean.
- The Madden Julian Oscillation (MJO) index currently lies in Phase 1 with amplitude nearly 1. It will meander in same phase during the entire forecast period. Thus, MJO phase will not contribute towards enhancement of convective activity over the north Indian Ocean (NIO) during the entire forecast period.

#### 4. Forecast for next two week

##### Forecast for next two week

##### Weather systems & associated Precipitation during Week 1 (21 to 27 October, 2021) and Week 2 (28 October to 03 November, 2021)

##### Forecast of rainfall for Week 1 (21 to 27 October, 2021):

- A cyclonic circulation lies over Comorin area & neighbourhood and a trough runs from the cyclonic circulation to Eastcentral Arabian Sea off Karnataka coast in Lower tropospheric levels. It is likely to persists and move westwards during next 4-5 days. Under its influence, fairly widespread to wide spread rainfall with **isolated heavy falls** with thunderstorm & lightning very likely over Kerala & Mahe and Tamilnadu, Puducherry & Karaikal during 1<sup>st</sup> half of the week and over Coastal & South Interior Karnataka on 21<sup>st</sup> October. **Isolated very heavy falls** also very likely over Kerala & Mahe on 21st October.
- Thereafter, with likely setting in of northeasterly winds in the lower tropospheric levels over Bay of Bengal and extreme south Peninsular India, the Southwest Monsoon is likely to withdraw from entire country around 26<sup>th</sup> October, 2021. Simultaneously, the Northeast Monsoon rains are also likely to commence over Southeast Peninsular India from around 26th October, 2021. As a result rainfall activity is very likely to increase over south Peninsular India with **isolated heavy falls** over Kerala & Mahe and Tamilnadu, Puducherry & Karaikal.

- Isolated to scattered light/moderate rainfall is likely over remaining parts of south Peninsular India including Andaman & Nicobar Islands during the week.
- A fresh Western Disturbance and its induced system is very likely to affect Western Himalayan Region. It is very likely to cause scattered to fairly widespread light/moderate rainfall/snowfall over Jammu, Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad and Himachal Pradesh and isolated to scattered over Uttarakhand during 22<sup>nd</sup> to 24<sup>th</sup> October; Isolated to scattered light/moderate rainfall very likely over Punjab, Haryana, Chandigarh, north Rajasthan and northwest Uttar Pradesh and light rainfall over Delhi on 23<sup>rd</sup> & 24<sup>th</sup> October, 2021.
- **Isolated heavy rainfall with thunderstorm, lightning, gusty wind & hailstorm likely over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad, Himachal Pradesh and Punjab on 23<sup>rd</sup> October, 2021.**
- Light to moderate isolated/scattered rainfall activity likely over northeastern states and Sub-Himalayan West Bengal & Sikkim during most days of the week.
- Weather is very likely to be dry over remaining parts of India during most days of the week.
- Overall, rainfall activity is likely to be above normal over northwest & south Peninsular India and below normal over rest parts of the country.(refer Annex IV)

#### **Forecast of rainfall for week 2 (28 October to 03 November, 2021):**

- Due to easterly wave, light/moderate scattered to fairly widespread rainfall activity is likely over most parts of south Peninsular India.
- No active Western Disturbance is likely to affect northwest India during the week.
- Overall rainfall activity is likely to be near normal over south Peninsular India and below normal over rest parts of the country. (refer Annex IV)

#### **Forecast of Minimum Temperatures for week 1(21 to 27 October, 2021) and week 2(28 October to 03 November, 2021)**

##### **Minimum Temperatures for Week 1(21 to 27 October, 2021):**

- Minimum temperatures are appreciably above normal (3.1°C to 5.0°C) at isolated places over Uttarakhand, West Rajasthan, Coastal Andhra Pradesh & Yanam and

Assam & Meghalaya; above normal (1.6°C to 3.0°C) at many places over South Interior Karnataka and Nagaland, Manipur, Mizoram & Tripura; at a few places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan Muzaffarabad, Himachal Pradesh, Sub-Himalayan West Bengal & Sikkim and Andaman & Nicobar Islands and at isolated places over Punjab, East Rajasthan, East Uttar Pradesh, East Madhya Pradesh, Madhya Maharashtra, Chhattisgarh, Odisha, Gangetic West Bengal and Tamilnadu, Puducherry & Karaikal. They are below normal (-1.6°C to -3.0°C) at a few places over Haryana, Chandigarh & Delhi and at isolated places over Saurashtra & Kutch, West Madhya Pradesh, Vidarbha and Marathwada and near normal over rest parts of the country.

- After the passage of Western Disturbance, there is likely fall in minimum temperatures by 2-4° C over northwest India during week 1. However these are very likely to be normal to above normal over northwest & adjoining central India, northeastern states and south Peninsular India.
- These are likely to be below normal by 1 to 3° C over most parts of the remaining parts of the country. (Refer Annex V)

#### **Minimum Temperatures for week 2 (28 October to 03 November, 2021):**

- There is likely gradual fall in minimum temperatures over most parts of the country during week 2.
- These are likely to be normal to below normal over most parts of the country. (Refer Annex V)

#### **5. Cyclogenesis forecast for North Indian Ocean during next 2 weeks**

Most of the numerical models including IMD GFS, NCEP-GFS, GEFS, NCUM, NEPS, ECMWF are indicating no cyclogenesis over the region during entire forecast period. IMD GPP index is also not indicating any significant zone for cyclogenesis over the region. ECMWF Multi Model Ensemble is indicating 20-30% probability of cyclogenesis over south Bay of Bengal (BoB) and southeast BoB. MME CFSV<sub>2</sub> Model is indicating 30-40% probability of cyclogenesis over south BoB and southeast Arabian Sea (AS). In view of above, no cyclogenesis is predicted over the north Indian Ocean during the forecast period.

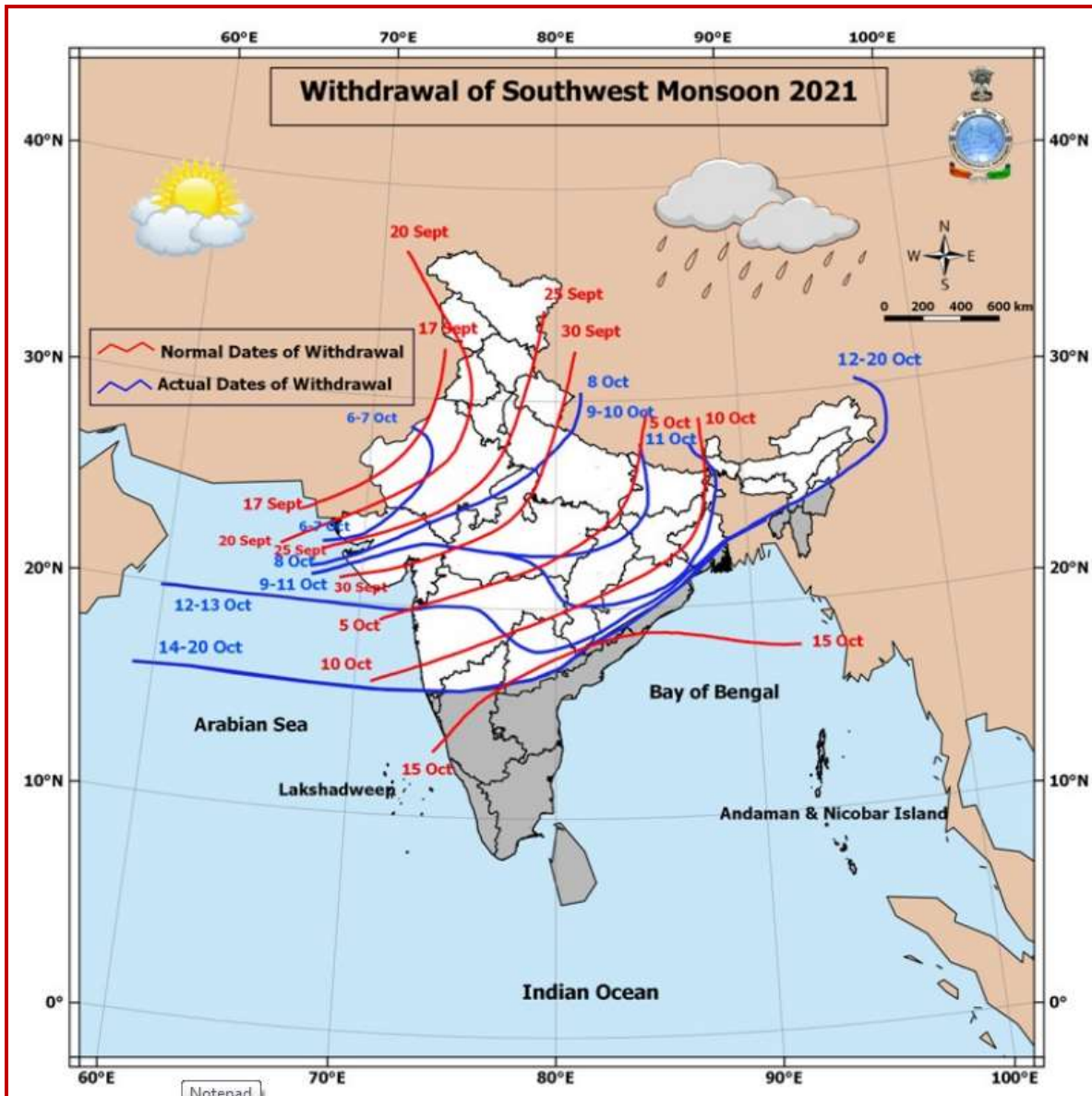
Next weekly update will be issued on next Thursday i.e. 28 Oct 2021

**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







## Annexure II

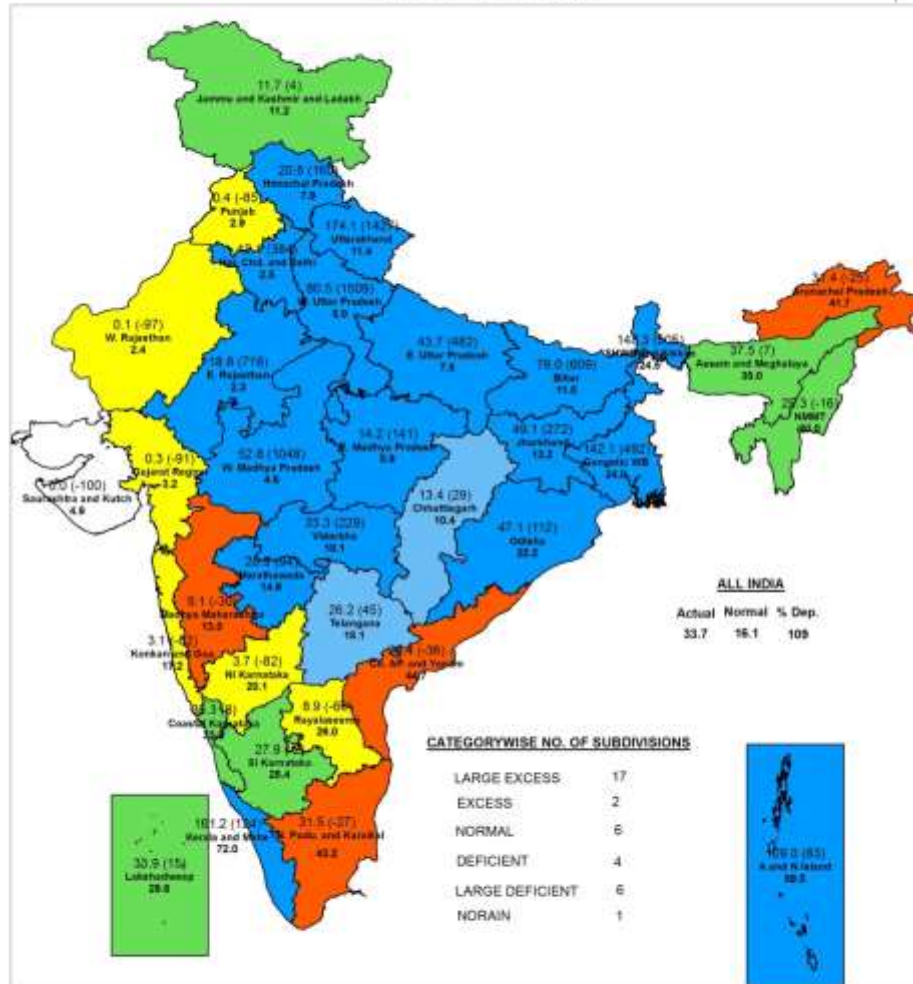


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INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग, नई दिल्ली  
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### SUBDIVISION RAINFALL MAP

Week : 14-10-2021 To 20-10-2021



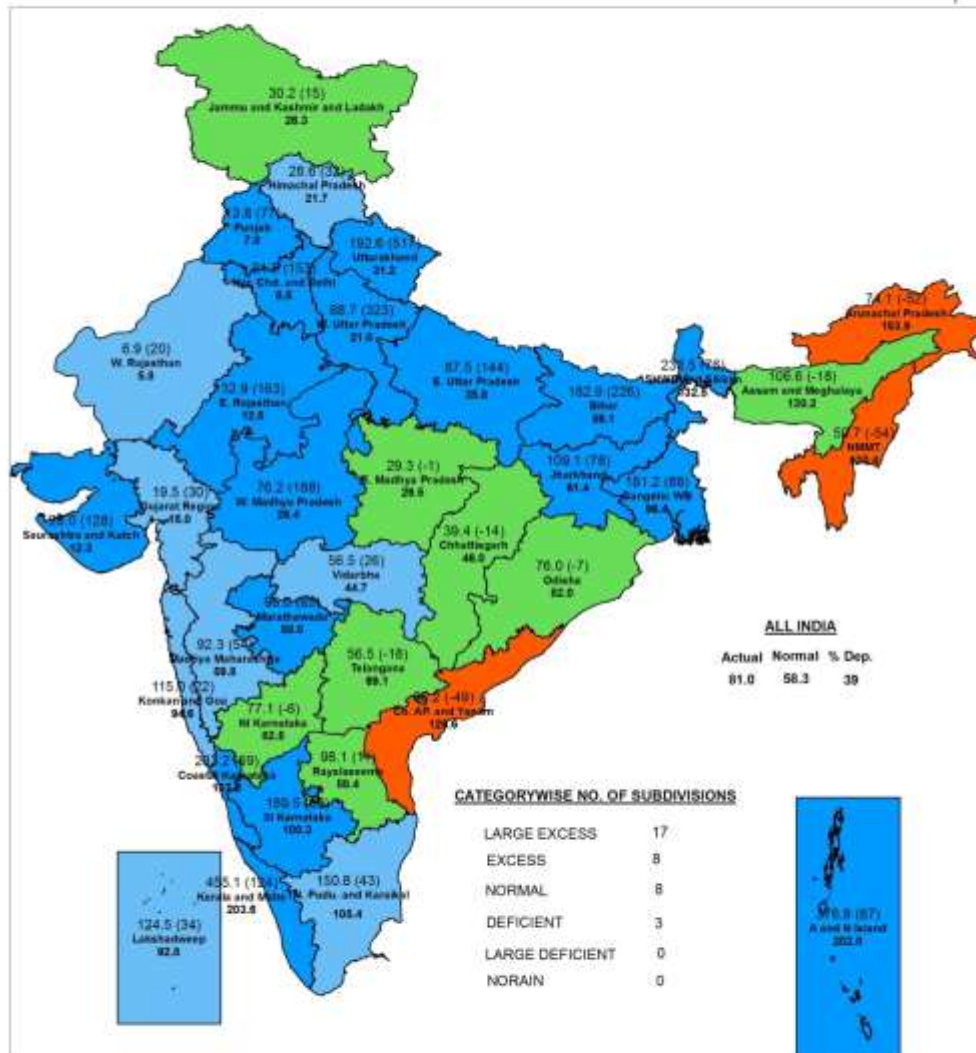


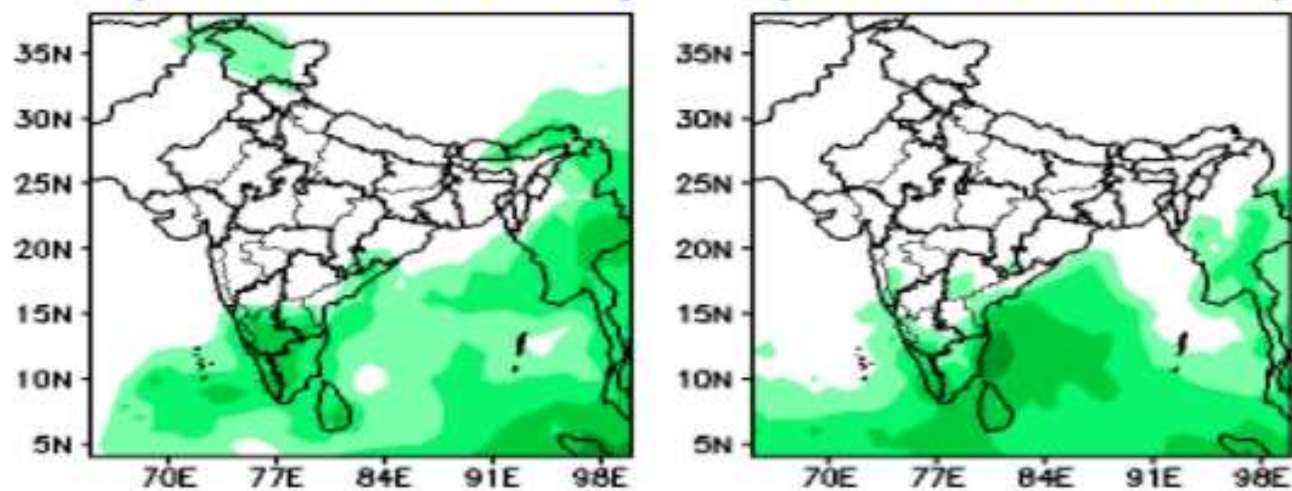
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जन मौसम विज्ञान पभाग, नई दिल्ली  
HYDROMET DIVISION, NEW DELHI

### SUBDIVISION RAINFALL MAP

Period : 01-10-2021 To 20-10-2021



**Forecast Rainfall (mm/day)****(Week1: 22Oct–28Oct)****(Week2: 29Oct–04Nov)****Forecast Rainfall Anomaly (mm/day)****(Week1: 22Oct–28Oct)****(Week2: 29Oct–04Nov)**