



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

**Dated: 1 April, 2021**

**Subject: Current Weather Status and Outlook for next two weeks (01 to 14 April, 2021)**

**Significant weather features observed for week ending on 31 March 2021**

- **Formation of Season's 1<sup>st</sup> low pressure area over Bay of Bengal:** A cyclonic circulation extending upto mid tropospheric levels lay over Southeast Bay of Bengal & adjoining South Andaman Sea on 29<sup>th</sup> March 2021 and it persisted over the same area on 30<sup>th</sup> ; Under its influence, a Low Pressure Area has formed over Southeast Bay of Bengal & adjoining South Andaman Sea in the early morning hours of 31<sup>st</sup> which lay over South Andaman Sea and adjoining Southeast Bay of Bengal by the evening of the same day. This system has caused scattered to fairly widespread rainfall/thunderstorm activity over Andaman & Nicobar islands during the second half of the week.
- **Under the influence of strong lower level south-westerly from the Bay of Bengal and other favourable meteorological conditions,** scattered to widespread rainfall occurred over northeastern states during 29 March to 1 April, 2021. Isolated heavy rainfall also occurred over the region on 31 March 2021.
- **Under the influence of a Western Disturbance during 28-30 March,** scattered to fairly widespread rainfall/thunderstorm activity over Jammu Kashmir & Ladakh and isolated to scattered rainfall/thunderstorm activity over remaining parts of Western Himalayan Region.
- **Dust raising Strong Surface Winds (speed reaching 30-40 kmph) prevailed over**

parts of Punjab, Rajasthan, Haryana, Chandigarh & Delhi, Uttar Pradesh, Madhya Pradesh and Strong Surface Winds (speed reaching 30-40 kmph) prevailed over Jharkhand & Gangetic West Bengal 2-days both on 30 and 31 March.

- **First Heat wave to severe heat wave spell of the season occurred over larger part of India during 2<sup>nd</sup> half of the week:** Heat wave conditions at most places with Severe Heat wave conditions at isolated places occurred over West Rajasthan during 29-31 March, Heat wave conditions at a few places over east Rajasthan during 30-31 March, over Odisha and adjoining parts of Gangetic west Bengal, Coastal Andhra Pradesh, Tamil Nadu on 31 March, at some parts over Saurashtra & Kutch during 26-29 March and at isolated places over Konkan during 25-28 March 2021. **The highest maximum temperature of 44.6°C had been recorded at Baripada (Odisha) on 30<sup>th</sup> March 2021.**

#### Weekly Rainfall Scenario (25-31 March, 2021)

During the week, rainfall for the country as a whole was below Long Period Average (LPA) by 59%. Details are given below:

| Regions                | Actual Rainfall (mm) | Normal Rainfall (mm) | % Departure from LPA |
|------------------------|----------------------|----------------------|----------------------|
| Country as a whole     | 3.0                  | 7.4                  | -59%                 |
| Northwest India        | 2.7                  | 9.2                  | -70%                 |
| Central India          | 0.2                  | 1.9                  | -92%                 |
| South Peninsula        | 2.7                  | 3.5                  | -22%                 |
| East & northeast India | 9.9                  | 20.2                 | -51%                 |

The Meteorological sub-division-wise rainfall for the week is given in **Annexure I**.

#### Pre-monsoon Rainfall Scenario (01 to 31 March, 2021)

For the country as a whole, cumulative rainfall during this year's pre-monsoon season till 31 March, 2021 was below LPA by 45%. This was consecutively 4<sup>th</sup> week in the season when rainfall over the country as whole was deficient in both weekly and cumulative terms(refer Fig 1). Details of the rainfall distribution over the four broad geographical regions of India are given below:

| Regions                | Actual Rainfall (mm) | Normal Rainfall (mm) | % Departure from LPA |
|------------------------|----------------------|----------------------|----------------------|
| Country as a whole     | 16.7                 | 30.4                 | -45%                 |
| Northwest India        | 27.0                 | 47.5                 | -43%                 |
| Central India          | 5.2                  | 8.4                  | -38%                 |
| South Peninsula        | 6.3                  | 14.4                 | -56%                 |
| East & northeast India | 33.8                 | 63.5                 | -47%                 |

Cumulative seasonal rainfall is given in **Annexure II**.

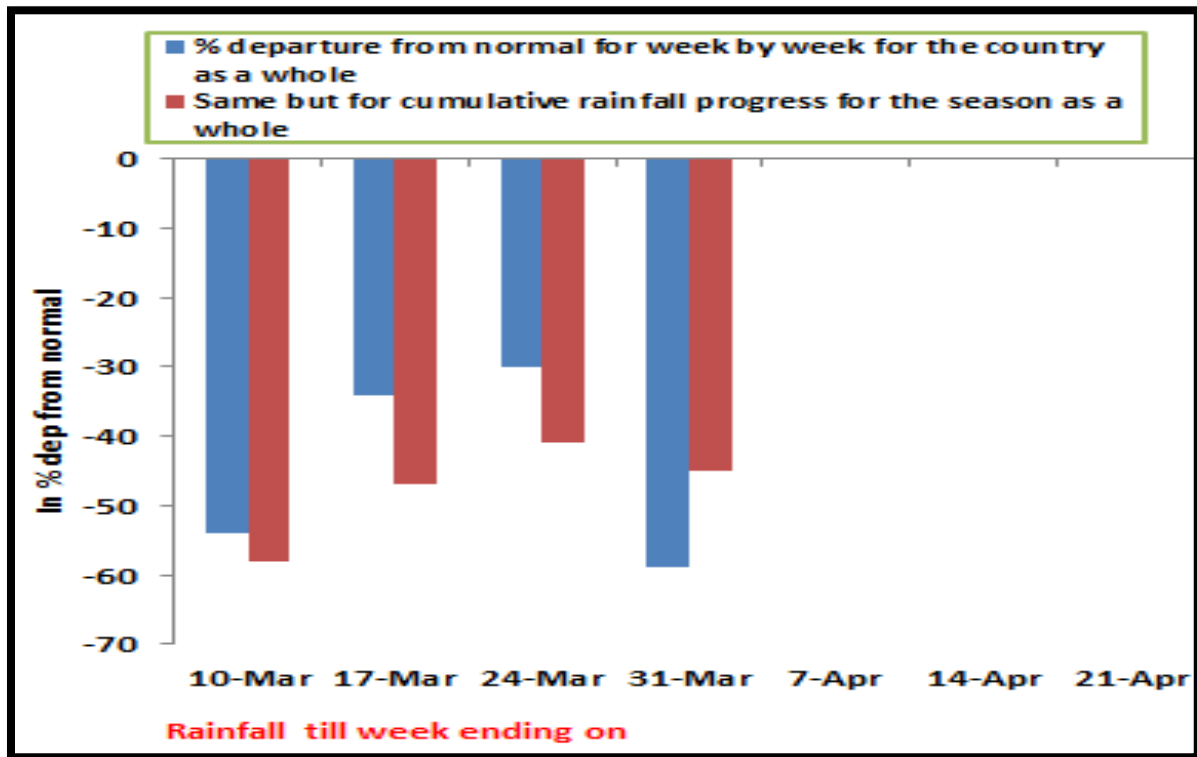


Fig 1: Rainfall progress during pre-monsoon season 2021

**Weekly maximum temperature Scenario (25 to 31 March, 2021)**

- The maximum temperatures were above normal by 2 to 4°C over most parts of northwest and some parts of central parts of the country & northeastern states (**Annexure III**).

**Chief synoptic conditions as on 1 April, 2021**

- ◆ A well marked Low Pressure Area lies over central parts of Andaman Sea & neighbourhood. The associated cyclonic circulation extending upto mid-tropospheric

level. It is likely to concentrate into a Depression over the same region during next 24 hours. It is likely to move northeastwards towards Myanmar coast.

◆ A Western Disturbance lies as a trough now runs roughly along Long. 84°E to the north of Lat. 25°N between 3.1 & 3.6 km above mean sea level.

◆ A cyclonic circulation lies over Sri Lanka and adjoining Comorin area between 1.5 km & 3.6 km above mean sea level.

◆ A cyclonic circulation lies over South Assam & neighbourhood at 0.9 km above mean sea level.

◆ A north-south trough runs from North Interior Karnataka to South Tamilnadu and extends upto 1.5 km above mean sea level.

◆ The east-west trough at mean sea level runs from East Uttar Pradesh to Mizoram.

◆ A fresh active Western Disturbance is likely to affect Western Himalayan Region from the 4<sup>th</sup> April

### Large scale features as on 25 March, 2021

➤ Currently, moderate La Niña conditions are prevailing over equatorial Pacific and Sea Surface Temperatures (SSTs) are below normal over central & eastern equatorial Pacific Ocean. The latest Monsoon Mission Climate Forecasting System (MMCFS) forecast indicates warming of SSTs over Nino 3.4 region during the coming season and there is a possibility of transition of La Niña conditions to ENSO neutral conditions during the forthcoming season. However, model skill during this period is supposed to be limited because of the spring barrier.

➤ At present, neutral Indian Ocean Dipole (IOD) conditions are observed over Indian Ocean and the latest MMCFS forecast indicates neutral IOD conditions are likely to continue up to May, June & July (MJJ) months and negative IOD conditions likely to develop thereafter.

- The Madden Julian Oscillation (MJO) index lies currently in phase 5 with amplitude more than 1. It will continue in same phase till 2<sup>nd</sup> April. Thereafter, it will move to phase 6 with amplitude remaining more than 1 from the latter half of week 1 and further into phase 7 from the beginning of week 2 with amplitude more than 1. Thus, MJO phase and amplitude will support enhancement of convective activity over the Andaman sea

and adjoining areas till the beginning of week 1 and will become unfavourable thereafter. Hence the MJO will support convection over the Indian Seas (Bay of Bengal & Arabian Sea) only for the next couple of days.

### Forecast for next two week

### Weather systems & associated Precipitation during Week 1 (01 to 07 April, 2021) and Week 2 (08 to 14 April, 2021)

#### Rainfall for week 1: (01 to 07 April, 2021)

- A Well Marked Low Pressure Area lies over Central parts of Andaman Sea & neighbourhood. It is likely to concentrate into a Depression over the same region during next 24 hours. It is likely to move northeastwards towards Myanmar coast. Under its influence:
  - (i) Fairly widespread to widespread rainfall with isolated heavy rainfall accompanied with thunderstorm & lightning very likely over Andaman & Nicobar Islands during next 2 days and isolated light to moderate rainfall thereafter for subsequent 3 days.
  - (ii) Squally wind speed reaches 45-55 gusting to 65 kmph very likely over Andaman & Nicobar Islands on 1<sup>st</sup> & 2<sup>nd</sup> April, 2021 and decrease thereafter.
  - (iii) Fishermen are advised not to venture into Andaman Sea & adjoining Southeast Bay of Bengal on today, the 01<sup>st</sup> April and into Andaman Sea on 02<sup>nd</sup> April, 2021.
- Under the influence of cyclonic circulation over South Assam & neighbourhood in lower tropospheric levels and trough in westerlies roughly along Long. 84°E to the north of Lat. 25°N between 3.1 & 3.6 km above mean sea level, scattered to widespread rainfall with isolated thunderstorm/lightning & gusty winds very likely over Northeast India during 1<sup>st</sup> half of the week 1. **Heavy rainfall** at isolated places also likely over Assam & Meghalaya and Arunachal Pradesh on today, the 1<sup>st</sup> April, 2021.
- Under the influence of fresh Western Disturbance, light/moderate fairly widespread to widespread rain/snow very likely over Western Himalayan Region during 4<sup>th</sup> to 7<sup>th</sup> April and light isolated rainfall over Punjab and Haryana & Chandigarh on 5<sup>th</sup> & 6<sup>th</sup> April, 2021. Thunderstorm with lightning & hail likely at isolated places over Jammu & Kashmir, Ladakh, Gilgit-Baltistan & Muzaffarabad on 4<sup>th</sup> and over Himachal Pradesh & Uttarakhand on 5<sup>th</sup> April, 2021.

- Due to trough and/or wind confluence over south Peninsular India, light thundershower is very likely over Kerala & Mahe, Tamilnadu, Puducherry & Karaikal and Coastal Andhra Pradesh during many days of the week 1 (**Annexure IV**).

#### Rainfall for week 2: (08 to 14 April, 2021)

- **Due to lower level southwesterly winds from the Bay of Bengal to northeastern states and West Bengal, fairly widespread to widespread rainfall with heavy falls at isolated places are likely over this region during 1<sup>st</sup> half of the week 2. As a result above normal rainfall activity likely over this region.**
- Due to trough over southwest Peninsular India, light thundershower is very likely over Kerala & Mahe, Coastal & south Karnataka during many days of the week 2.
- Due to absence of any active Western Disturbance, rainfall activity is likely to be below normal over northwest India. It is likely to be below normal to normal over remaining parts of the country (**Annexure V**).

#### Temperature for week 1: (01 to 07 April, 2021)

- Yesterday's maximum temperatures were markedly above normal (5.1°C or more) at a few places over Gangetic West Bengal and Coastal Andhra Pradesh & Yanam and at isolated places over Odisha and Telangana; appreciably above normal (3.1°C to 5.0°C) at many places over Uttarakhand and West Uttar Pradesh; at a few places over Himachal Pradesh, Haryana, Chandigarh & Delhi, Saurashtra & Kutch, South Interior Karnataka and Rayalaseema.
- No significant change in maximum temperatures over most parts of Northwest & adjoining central India during 1<sup>st</sup> half of the week 1 and very likely to fall by 2-4°C during its 2<sup>nd</sup> half. Maximum temperatures very likely to fall by 2-3°C over most parts of East India during 1<sup>st</sup> half of the week 1 and very likely to fall by 2-4°C during its 2<sup>nd</sup> half. No significant change in maximum temperatures over rest parts of the country during next one week.
- Hence no major heat wave spell is likely over any part of the country during next one week. **However heat wave at isolated places very likely over Gujarat on 2<sup>nd</sup> & 3<sup>rd</sup>; Southwest Rajasthan on 3<sup>rd</sup> & 4<sup>th</sup>; Vidharbha on 4<sup>th</sup> & 5<sup>th</sup>; south Andhra Pradesh on 2<sup>nd</sup> and over Tamilnadu till 4<sup>th</sup> April, 2021.** No heat wave likely over

remaining parts of the country during week 1.

### Temperature for week 2: (08 to 14 April, 2021)

- During week 2, maximum temperatures are very likely to rise gradually over northern parts of the country and along the east coast. Hence, normal to above normal maximum temperatures likely along East Coast including Odisha and near normal over northern parts of the country and Saurashtra & Kutch (**Annexure V**). **Hence, there is moderate probability of getting heat wave at isolated places over Odisha, Andhra Pradesh and Saurashtra & Kutch and south Rajasthan during week 2.**

### Impact of heat wave and action suggested

- **Heat wave could be moderate health concern for vulnerable people e.g. infants, elderly, people with chronic diseases over the heat wave areas specifically over coastal Tamilnadu & Andhra Pradesh due to availability of high humidity over these regions. Hence public of these regions should avoid heat exposure, wear lightweight, light-coloured, loose, cotton clothes and cover the head by use of cloth, hat or umbrella etc.**

### Cyclogenesis:

- A well-marked low pressure area lay over central parts of Andaman Sea and neighbourhood. It is currently lying in a favourable environment of 90-100 kJ/cm<sup>2</sup> Tropical Cyclone heat Potential, moderate vertical wind shear and positive low cyclonic vorticity (80-90 X10<sup>-6</sup>S).
- The Madden Julian Oscillation (MJO) index lies currently in phase 5 with amplitude more than 1. Hence the MJO will support convection over the Indian Seas (Bay of Bengal & Arabian Sea) only for the next couple of days.
- A few of the ensemble model products like GEFS, ECMWF & CGEPS (MME) are indicating varied probability for Cyclogenesis over Andaman Sea on a lower range during week 1. CGEPS (MME) shows 50-60% probability over Andaman Sea. ECMWF cyclogenesis probability product shows a very low likelihood of 10-30% over south BoB during the beginning of week 1. Genesis Potential parameter (GPP)

shows potential for cyclogenesis over Andaman Sea on 1<sup>st</sup> & 2<sup>nd</sup> April. IMD GFS & GEFS indicates likely formation of a low pressure area over Andaman Sea without any further intensification during the same period. NCUM and its ensemble & regional models are not indicating any probability of genesis over NIO. Thus a few models are indicating intensification of the system into a depression around 2nd April with north-northeastwards movement towards Myanmar coast and weakening over the coastal waters of Myanmar.

Considering all these, the well marked low pressure area is likely to concentrate into a depression with low probability by 2nd April and gradually weaken thereafter. It would move north-eastwards towards Myanmar coast.

#### **Impact of low pressure system over Andaman Sea**

- (a) Area likely to be affected: Andaman Sea, Andaman & Nicobar Islands, along & off Myanmar & adjoining Thailand coasts
- (b) Impact expected: Rough to very rough Seas and squally weather with wind speed 45-55 kmph gusting to 65 kmph, affecting small vessels and fishing operations.
- (c) Warnings / Advisory:
  - Fishermen are advised not to venture into Andaman Sea on 1<sup>st</sup> & 2<sup>nd</sup> April 2021
  - Small ships are advised to avoid the area
  - Ports along the Andaman & Nicobar Islands may take necessary pre-cautions.
  - Naval base operations may maintain necessary pre-cautions
  - Tourism activities may be restricted briefly over the area specified for squally weather & rough Sea warning

For more pls refer:

[http://www.rsmcnewdelhi.imd.gov.in/uploads/archive/24/24\\_a4196a\\_EROC\\_25032021.pdf](http://www.rsmcnewdelhi.imd.gov.in/uploads/archive/24/24_a4196a_EROC_25032021.pdf)

**Next weekly update will be issued on next Thursday i.e. 08 April, 2021**



# Annexure I

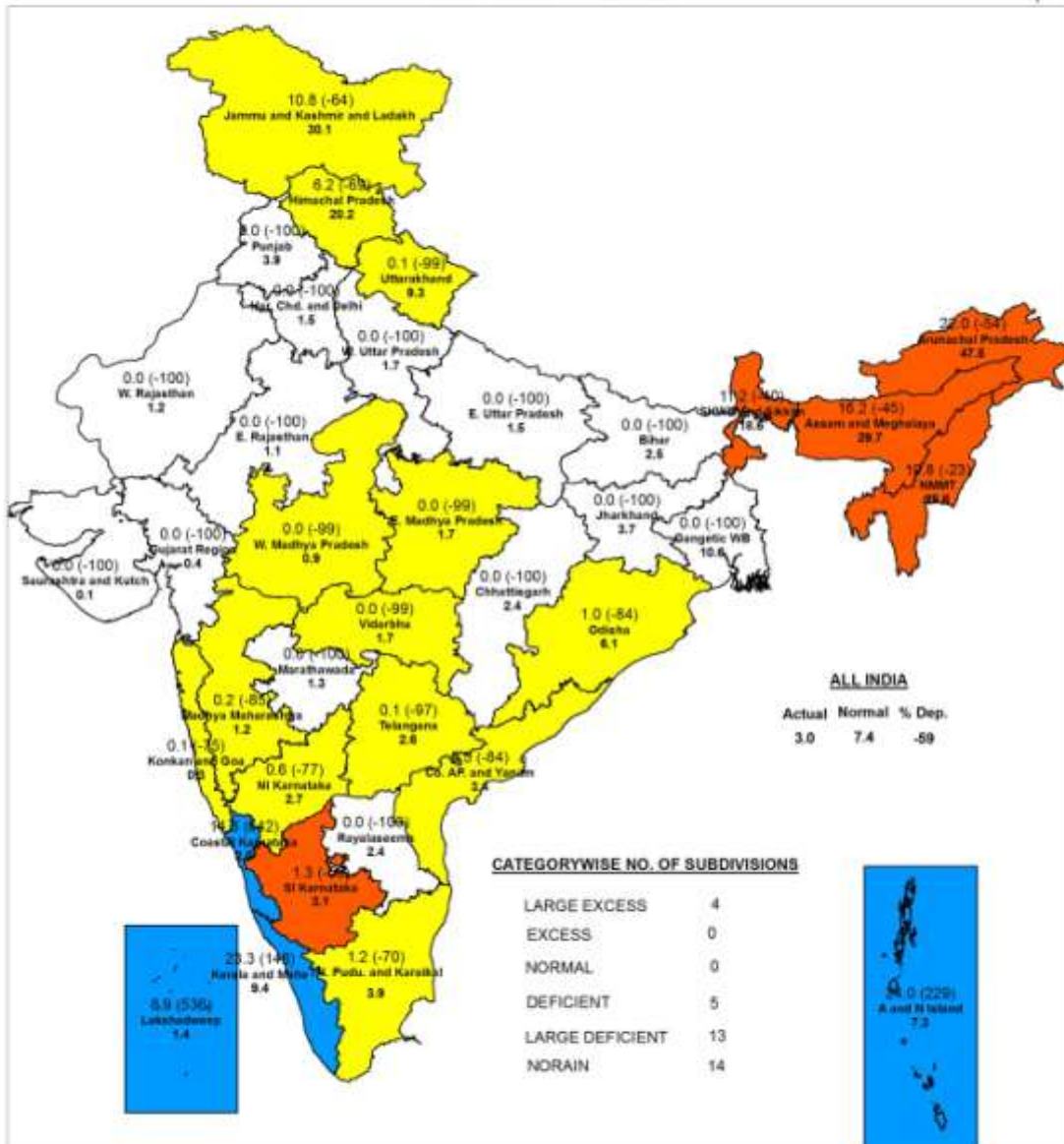


भारत मौसम विज्ञान विभाग  
INDIA METEOROLOGICAL DEPARTMENT

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

## SUBDIVISION RAINFALL MAP

Week : 25-03-2021 To 31-03-2021



### 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.

# Annexure II

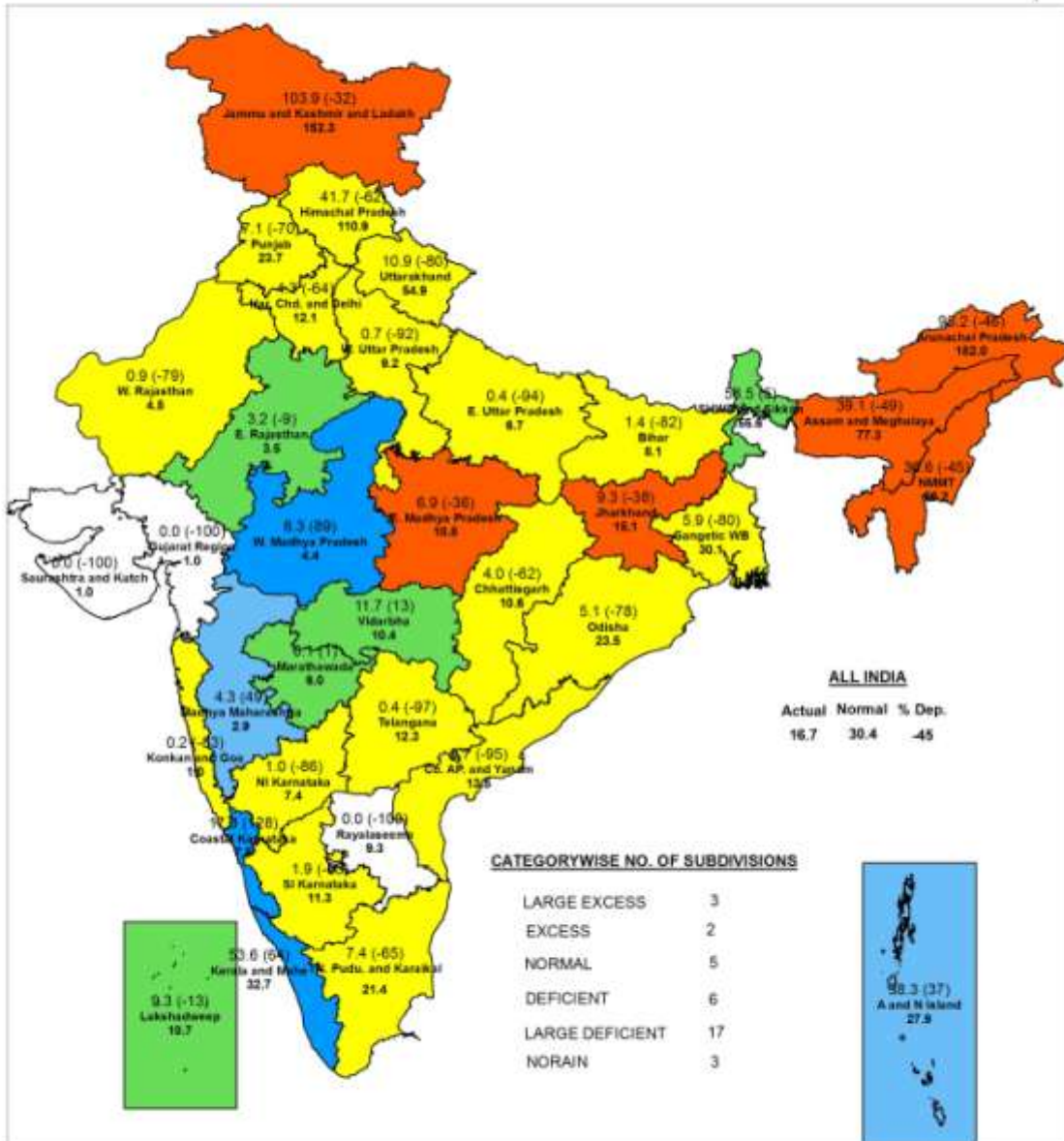


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INDIA METEOROLOGICAL DEPARTMENT

जल मौसम विज्ञान प्रभाग, नई दिल्ली  
HYDROMET DIVISION, NEW DELHI

## SUBDIVISION RAINFALL MAP

Period : 01-03-2021 To 31-03-2021



**Legend**

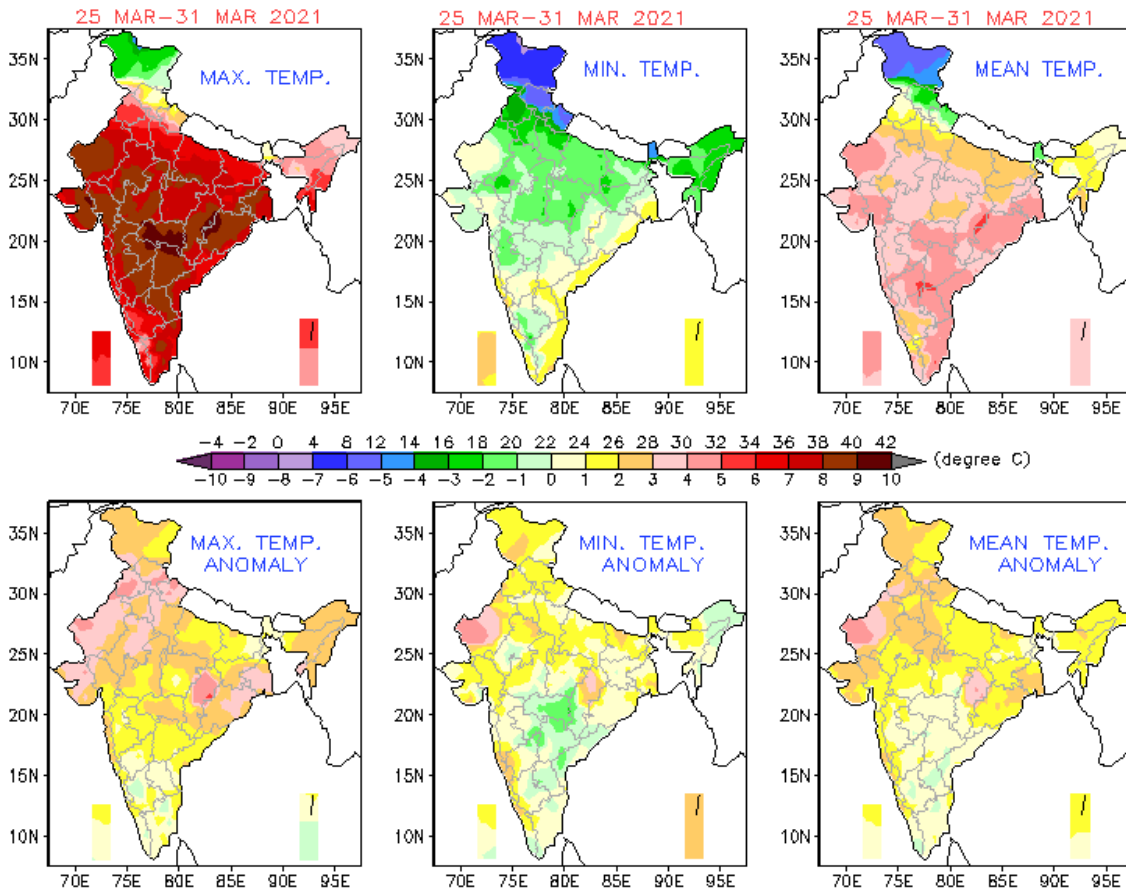
Large Excess [ >60% or more] | Excess [ 20% to 59%] | Normal [-19% to 19%] | Deficient [-59% to -20%] | Large Deficient [-99% to -60%] | No Rain [-100%] | No Data

**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.

Annexure III

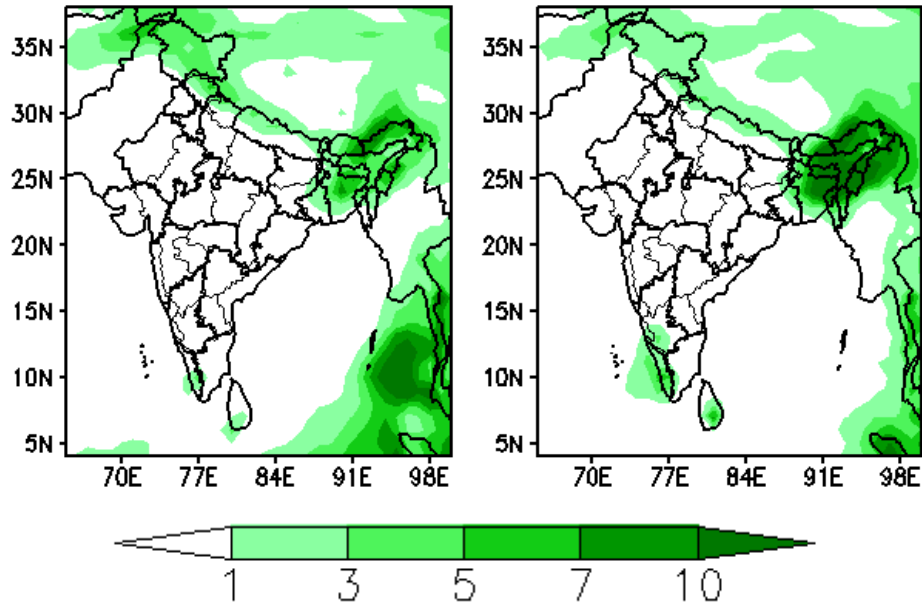
TEMPERATURE FOR WEEK ENDING 31 MAR & ITS ANOMALY



### Forecast Rainfall (mm/day)

(Week1: 02Apr-08Apr)

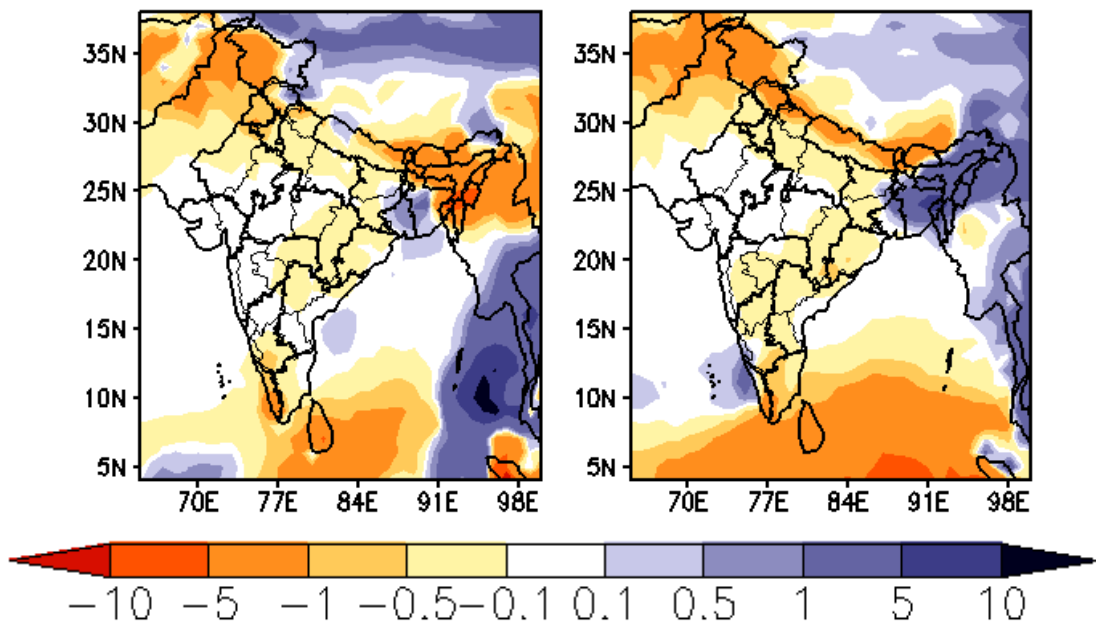
(Week2: 09Apr-15Apr)



### Forecast Rainfall Anomaly (mm/day)

(Week1: 02Apr-08Apr)

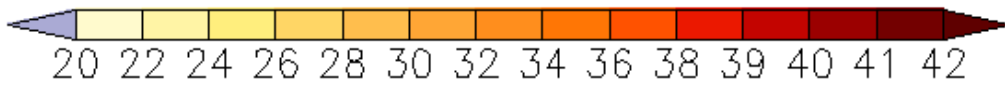
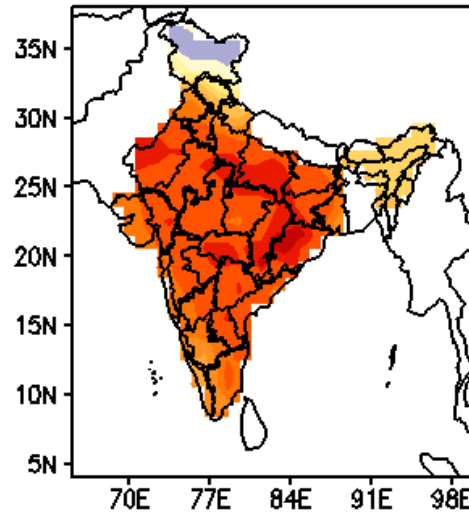
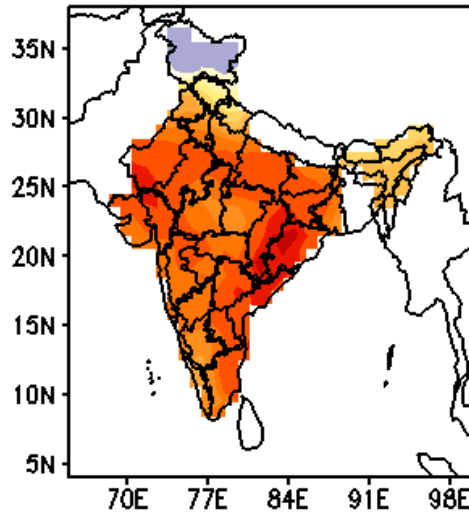
(Week2: 09Apr-15Apr)



**MME Bias corrected forecast Tmax (Deg)**

(Week1: 02Apr-08Apr)

(Week2: 09Apr-15Apr)



**MME forecast Tmax anomaly (Deg C)**

(Week1: 02Apr-08Apr)

(Week2: 09Apr-15Apr)

