

**Voluntary Report** – Voluntary - Public Distribution

**Date:** October 18, 2021

**Report Number:** IN2021-0123

**Report Name:** Monsoon Ends with Record Rains in September

**Country:** India

**Post:** Mumbai

**Report Category:** Agricultural Situation, Agriculture in the News, Climate Change/Global Warming/Food Security, Cotton and Products, Grain and Feed, Oilseeds and Products, Market Development Reports

**Prepared By:** Dhruv Sood

**Approved By:** Lazaro Sandoval

**Report Highlights:**

Excess rains in September helped offset delayed, erratic monsoon rains of the previous months. The monsoon came to an end with an extended withdrawal in early October. Cumulatively, Southwest Monsoon rainfall was 99 percent of its long period average. Heavy rains in September coupled with improved reservoir storage have increased prospects for higher rabi crop yields. The Indian Meteorological Department has forecast normal rains during the Northeast Monsoon in southern India.







**DISCLAIMER:** The information contained in this report was retrieved from the Ministry of Earth Sciences/Indian Meteorological Department's (IMD) website <https://mausam.imd.gov.in/>. The U.S. Consulate General Mumbai – Foreign Agricultural Service (FAS) Office of Agricultural Affairs (OAA), USDA and/or the U.S. government make no claim of accuracy or authenticity. The Government of India has not officially endorsed this report. [Note: Use Google Chrome to access the links if they do not open in Internet Explorer].

## General Information:

### PROGRESS OF MONSOON 2021 WEEK BY WEEK

S.NO	MET.SUBDIVISION	WEEK ENDINGS													
		2-Jun	9-Jun	16-Jun	23-Jun	30-Jun	7-Jul	14-Jul	21-Jul	28-Jul	4-Aug	11-Aug	18-Aug	25-Aug	1-Sep
1	A & N ISLANDS														
2	ARUNACHAL PRADESH														
3	ASSAM & MEGHALAYA														
4	NAG.,MANI.,MIZO.& TRIPURA														
5	S.H.W.B. & SIKKIM														
6	GANGATIC W.B.														
7	ODISHA														
8	JHARKHAND														
9	BIHAR														
10	EAST U.P.														
11	WEST U.P.														
12	UTTARAKHAND														
13	HAR., CHANDI.& DELHI														
14	PUNJAB														
15	HIMACHAL PRADESH														
16	JAMMU & KASHMIR														
17	WEST RAJASTHAN														
18	EAST RAJASTHAN														
19	WEST M.P.														
20	EAST M.P.														
21	GUJARAT REGION														
22	SAURASHTRA & KUTCH														
23	KONKAN & GOA														
24	MADHYA M'RASHTRA														
25	MARATHAWADA														
26	VIDARBHA														
27	CHATTISGARH														
28	COASTAL A. P. & YANAM														
29	TELANGANA														
30	RAYALASEEMA														
31	TAMIL., PUDU. & KARAIKAL														
32	COASTAL KARNATAKA														
33	N.I.KARNATAKA														
34	S.I.KARNATAKA														
35	KERALA & MAHE														
36	LAKSHADWEEP														

#### LEGEND:

 LARGE EXCESS +60%OR MORE	 EXCESS +20% TO +59%	 NORMAL +19% TO -19%
 DEFICIENT -20%TO-59%	 LARGE DEFICIENT -60% OR LESS	 NO RAIN

(वास्तविक समय के आंकड़ों पर आधारित)

Source: Indian Meteorological Department, Ministry of Earth Sciences

### Heavy Rains in September Conclude the Third Consecutive Normal Monsoon

Southwest Monsoon season rainfall for the country during (June-September) 2021 was normal (96 -104 percent of LPA). More specifically, during June 1 to September 30 was 87 centimeters (cm), one cm below the long period average (LPA) of 88 cm based on 1961- 2010 rainfall data. However, there was wide rainfall variation over the country with monthly rainfall reaching 110 percent, 93 percent, 76 percent and 135 percent of LPA during June, July, August and September, respectively. Southwest Monsoon seasonal (June-September) rainfall was normal over northwest India (96 percent) and central India (104 percent), but below normal over East and northeast India (88 percent) and above normal over south peninsula India (111 percent). Out of India's 36 meteorological subdivisions, 20 subdivisions (58 percent of total area) received normal seasonal rainfall, 10 subdivisions (25 percent of total area) received excess rainfall, and 6 subdivisions (17 percent of total area) received deficient seasonal rainfall.

**Table 1: India, Southwest Monsoon Seasonal Rainfall Departure between 2016-2021**

YEAR	ACTUAL (mm)	NORMAL (mm)	% DEPARTURE FROM LONG PERIOD AVERAGE
2021	874.6	880.6	-1%
2020	957.6	880.6	+9%
2019	968.3	880.6	+10%
2018	804.0	887.5	-9%
2017	841.3	887.5	-5%
2016	862.0	887.5	-3%

Source: Indian Meteorological Department, Ministry of Earth Sciences

**Table 2. India: Southwest Monsoon Regional Rainfall Distribution  
from June 1, 2021, to September 30, 2021**

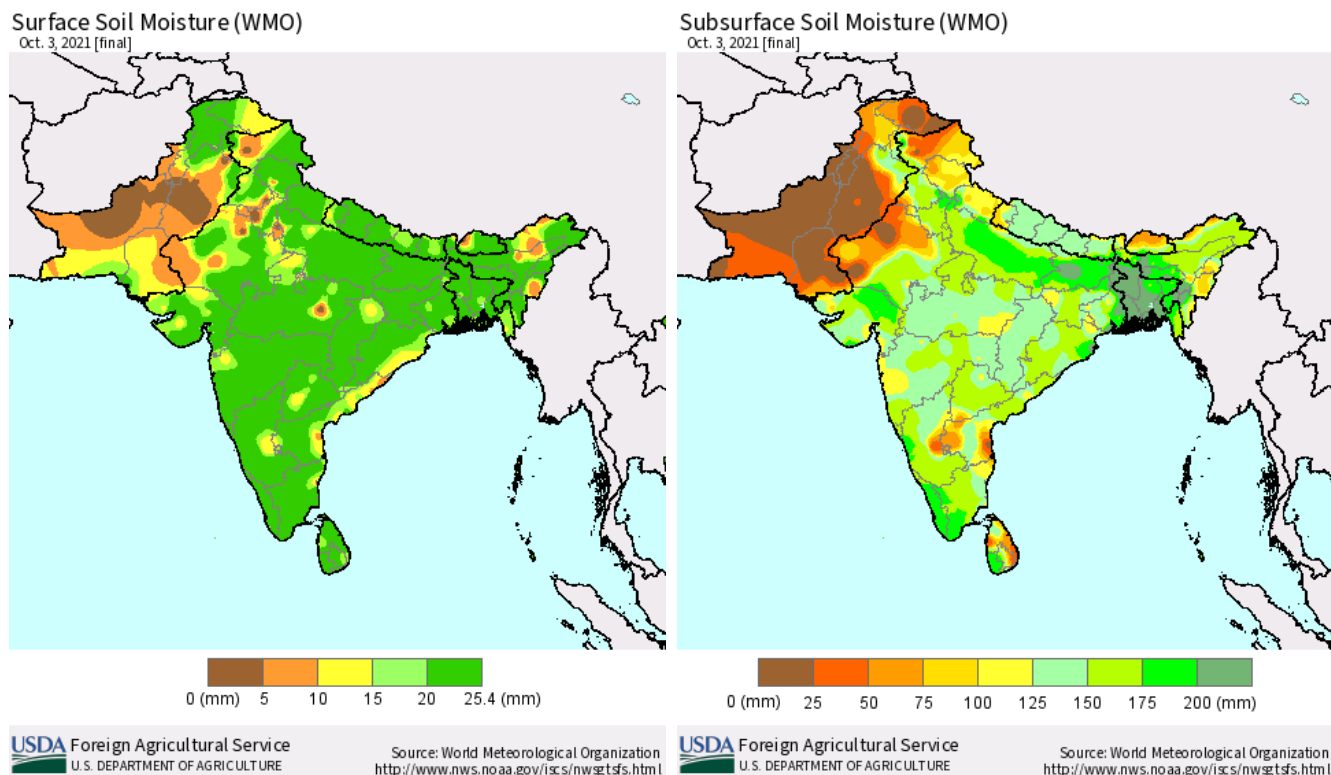
Regions	2021 Actual (mm)	Normal (mm)*	2021 Percentage Departure from Normal
Northwest India	575.9	599.5	-3.9%
Central India	1012.5	976.6	3.7%
Southern Peninsula	804.2	726.2	10.7%
East and Northeast India	1246.2	1410.4	-11.6%
<b>All India</b>	<b>874.6</b>	<b>880.6</b>	<b>-0.7%</b>

\*Normal Rainfall is the fifty-year average from 1951-2000

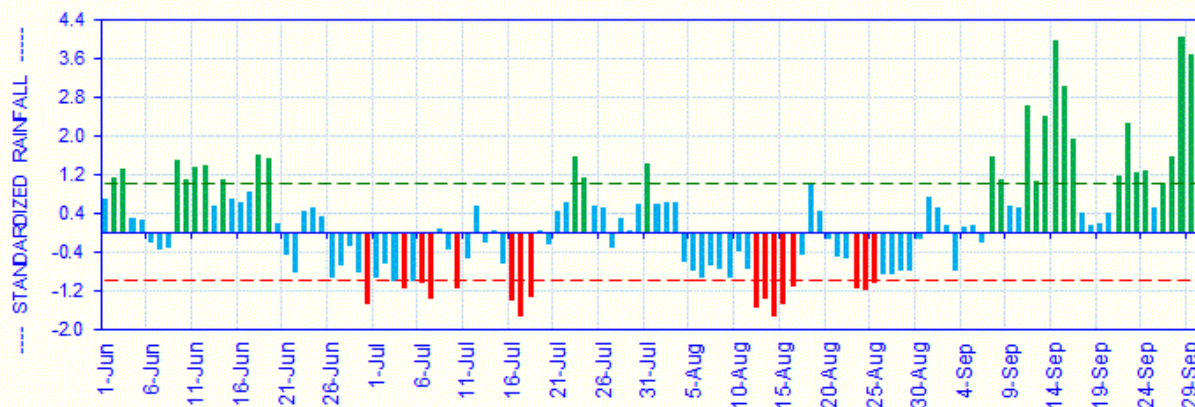
Source: Indian Meteorological Department, Ministry of Earth Sciences

## Late Rains have Improved Prospects of Higher *Rabi* Crop

Southwest Monsoon rains (June/September) over the Monsoon Core Region (MCR) was above normal (104 percent above LPA). The MCR consists of most of the rainfed agriculture regions in the country. According to the Indian Meteorological Department's (IMD) Agricultural Meteorology division, the agricultural vigor is very good in MCR and sowing of rabi crop is underway various states. According to the October 16 report from the Ministry of Agriculture and Farmers' Welfare, the sowing of rabi crops is two percent higher than last year with greater area under coarse cereals (jowar) and oilseeds (rapeseed and mustard).



**Figure 1. India, Standardized Rainfall over Core Monsoon Region (2021)**



Source: Indian Meteorological Department, Ministry of Earth Sciences

**Table 3: India, Rabi 2021 Sown Area (in million hectares)**

<b>Crop</b>	<b>Area Sown in 2021 (Oct 16)</b>	<b>Area Sown in 2020 (Oct 16)</b>	<b>Normal Area</b>	<b>Y-o-Y Change</b>	<b>Change from Normal</b>	<b>Absolute Change</b>
<b>Wheat</b>	-	0.002	30.306	-100%	-100%	-0.002
<b>Rice</b>	0.087	0.099	4.251	-12%	-98%	-0.012
<b>Pulses</b>	0.025	0.118	14.614	-79%	-100%	-0.093
<b>Coarse Cereals</b>	0.038	0.022	5.605	73%	-99%	0.016
<b>Oilseeds</b>	0.281	0.182	7.738	54%	-96%	0.099
<b>Total Crops</b>	<b>0.431</b>	<b>0.423</b>	<b>62.514</b>	<b>2%</b>	<b>-99%</b>	<b>0.008</b>

Source: Ministry of Agriculture and Farmers' Welfare

#### **Weather Outlook for the Next Week (October 21-27, 2021)**

During the week of October 21-27, IMD forecasts light/moderate scattered to fairly widespread rainfall activity is likely over most parts of south Peninsular India and northeastern states. Due to Western Disturbances, light/moderate isolated to scattered rain/snow is likely over Western Himalaya during many days of the week. Overall rainfall activity is likely to be normal to above normal over the country outside northeast and East India, where it is likely to be below normal. For more details, please refer to [IMD Press Release](#).

#### **Late Southwest Monsoon Withdrawal Extends Monsoon Period**

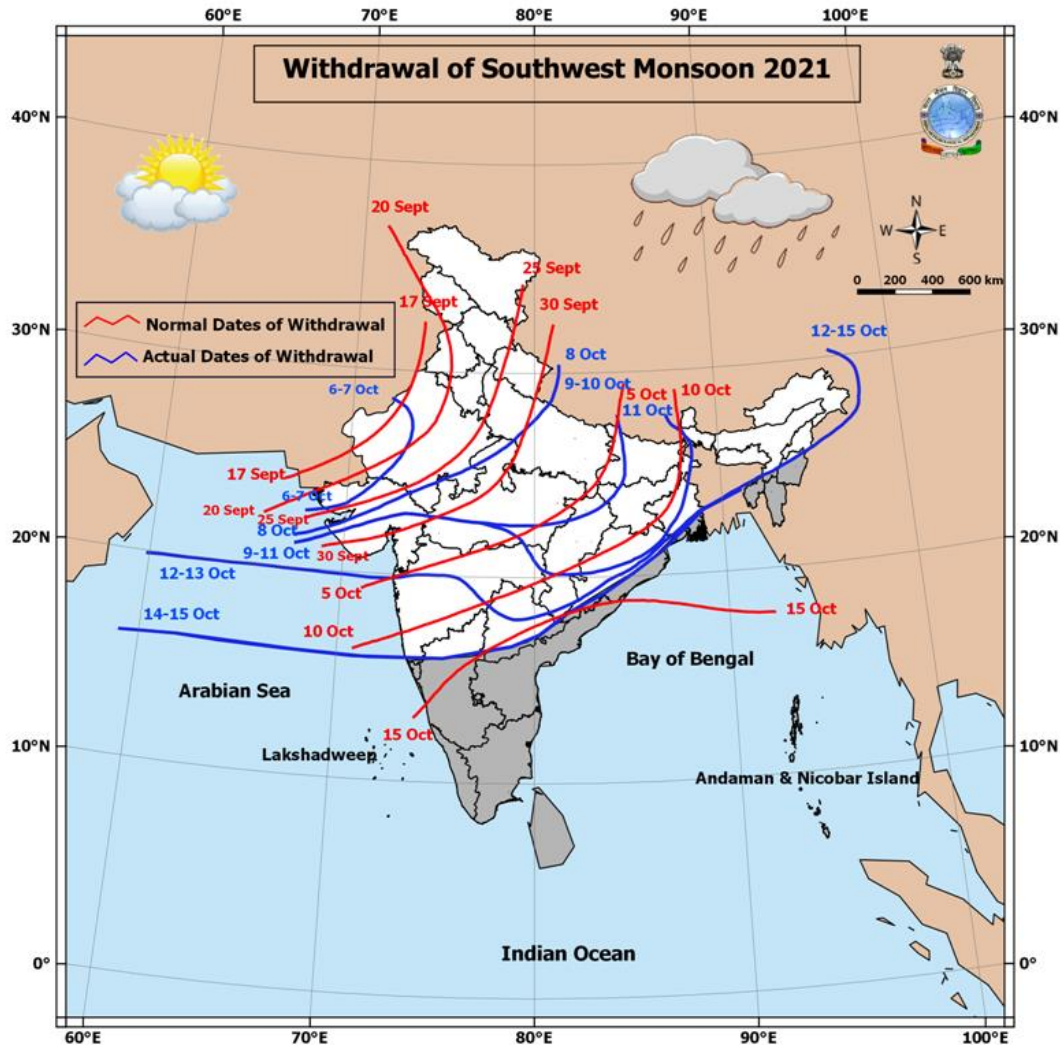
According to the IMD, the withdrawal of the 2021 Southwest Monsoon commenced on October 6, some weeks after the normal date of September 17. The monsoon has withdrawn from some parts of Western Rajasthan and adjoining Gujarat on October 6, 2021. Based on IMD data, the current withdrawal of the monsoon is late, prolonging the monsoon period. The monsoon withdrawal dates of the past five years are listed below:

**Table 4: India, Southwest Monsoon Withdrawal Dates for Past Five Years**

<b>Year</b>	<b>Date</b>
2020	September 28
2019	October 9
2018	September 29
2017	September 27
2016	September 15

Source: Indian Meteorological Department, Ministry of Earth Sciences





Source: Indian Meteorological Department, Ministry of Earth Sciences

### Long Range Forecast for Northeast Monsoon

On September 30, 2021, IMD forecasted a normal 2021 Northeast Monsoon (October-December) with rainfall at 89-111 percent of the LPA. The LPA of rainfall over south Peninsular India during October to December based on data from 1961-2010 is about 338 mm. IMD has forecast October 2021 rains in Southern Peninsula to be between 87-113 percent of the LPA. The LPA of rainfall south Peninsular India during October based on data of 1961-2010 is about 176 mm.

South Peninsular India consists of five meteorological subdivisions (Tamil Nadu, Coastal Andhra Pradesh, Rayalaseema, Kerala and South Interior Karnataka), which receives about 30 percent of its annual rainfall during the Northeast Monsoon season (October to December). Tamil Nadu receives about 48 percent of its annual rainfall during this season. For more details, please refer to this press release - [https://internal.imd.gov.in/press\\_release/20210930\\_pr\\_1275.pdf](https://internal.imd.gov.in/press_release/20210930_pr_1275.pdf)

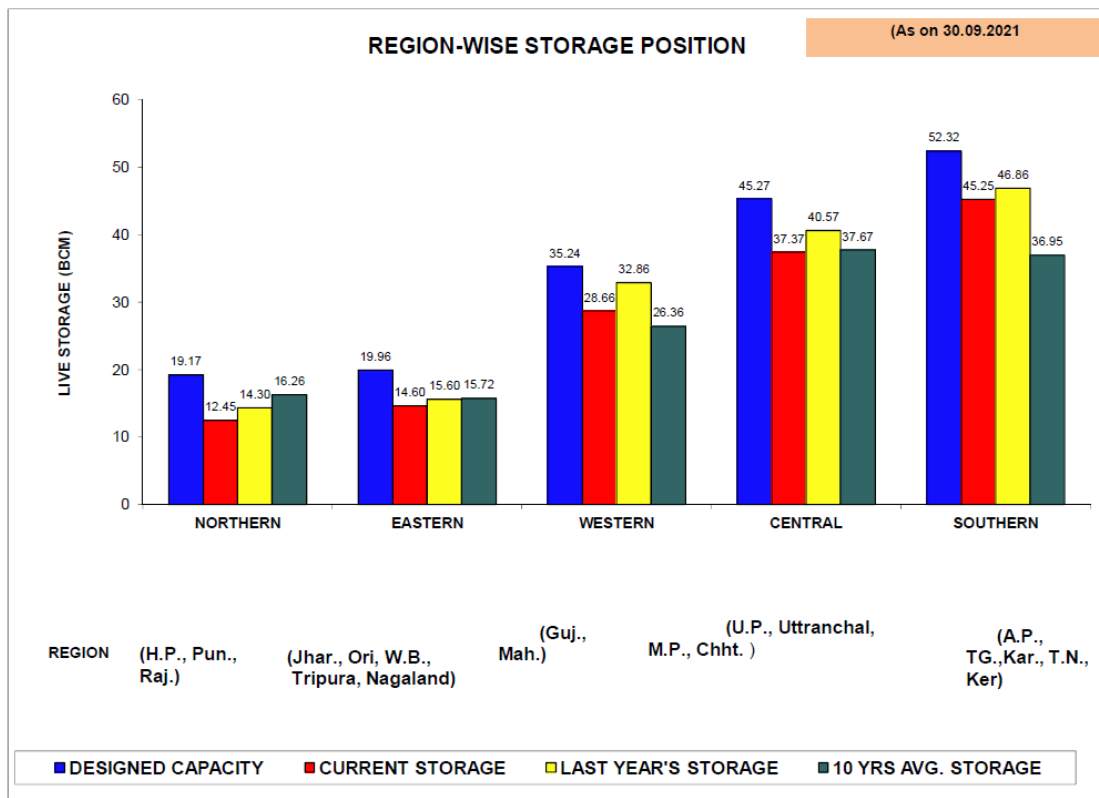
## Reservoir Storage

India's Central Water Commission monitors the live storage status of 130 reservoirs around the country on a weekly basis. The latest [reservoir storage bulletin \(September 30, 2021\)](#) puts live storage in these reservoirs at 138.327 billion cubic meters (BCM) - 80 percent of total live storage capacity. The live storage level in these reservoirs for the corresponding period last year was 150.189 BCM (87 percent), and the average of the last ten years was 132.962 BCM (77 percent). As such, the current storage position is less than the same period last year, but higher than the average storage level of the last ten years during the same period (Figure 2).

States with better storage levels (in percent) than last year for the corresponding period are Jharkhand, West Bengal, Nagaland, Uttar Pradesh, Uttarakhand, Chhattisgarh, Andhra Pradesh and Telangana. Out of 130 reservoirs, 109 reservoirs reported more than 80 percent of normal storage levels and 21 reservoirs reported 80 percent or below of normal storage. Out of these 21 reservoirs, 16 reservoirs have storage between 51 percent and 80 percent of normal storage, and 5 reservoirs have stored up to 50 percent of normal storage.

According to the Central Water Commission, normal storage represents the average storage level of the last ten years. Close to normal storage represents a shortfall of up to 20 percent of normal. While deficient storage indicates that the shortfall is greater than 20 percent of the normal and up to 60 percent of the normal. Highly deficient means shortfall is more than 60 percent of normal.

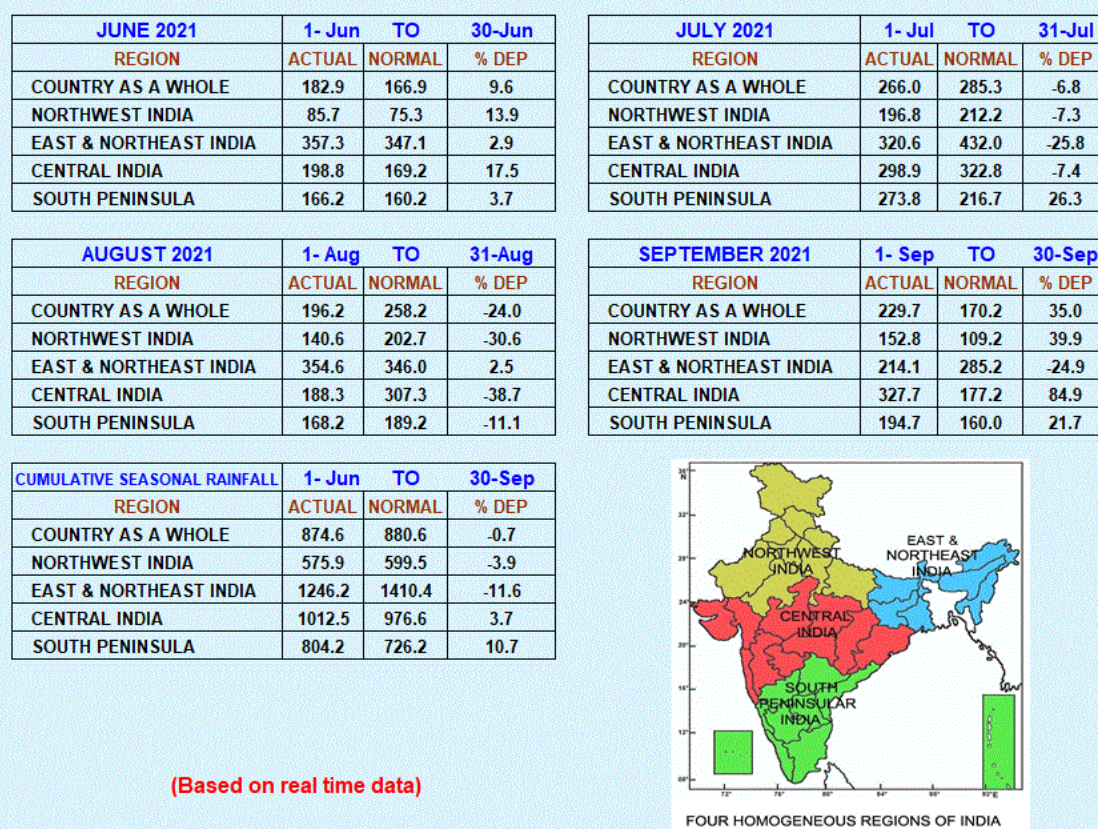
**Figure 2. India, Regional Reservoir Storage (billion cubic meters - BCM) - September 30, 2021**



Source: Ministry of Jal Shakti/Central Water Commission

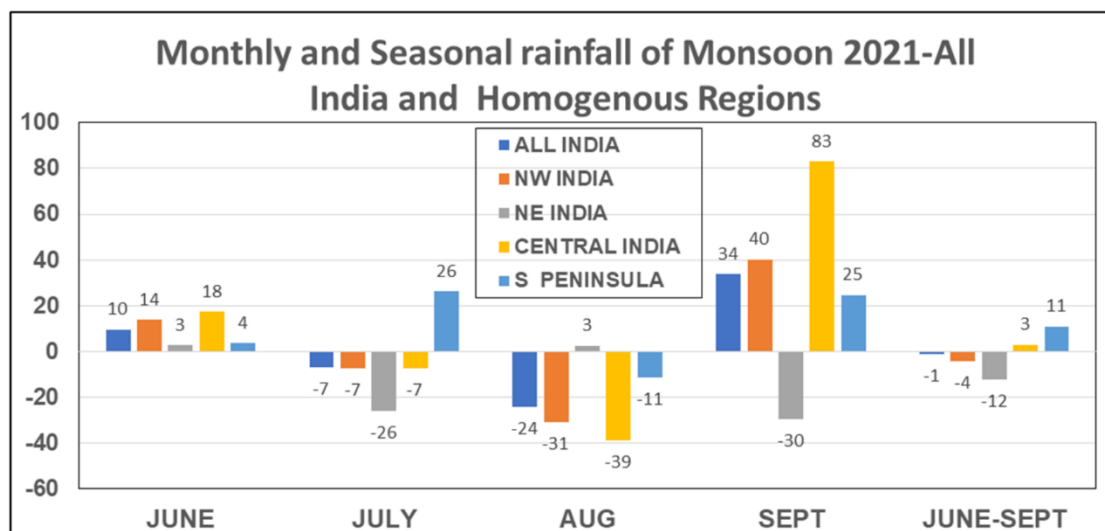


**Figure 3. India, Rainfall Statistics - Monsoon 2021**



Source: Indian Meteorological Department, Ministry of Earth Sciences

**Figure 4. India Monthly and Seasonal Monsoon Rainfall over Homogenous Regions and Country (in percentage)**

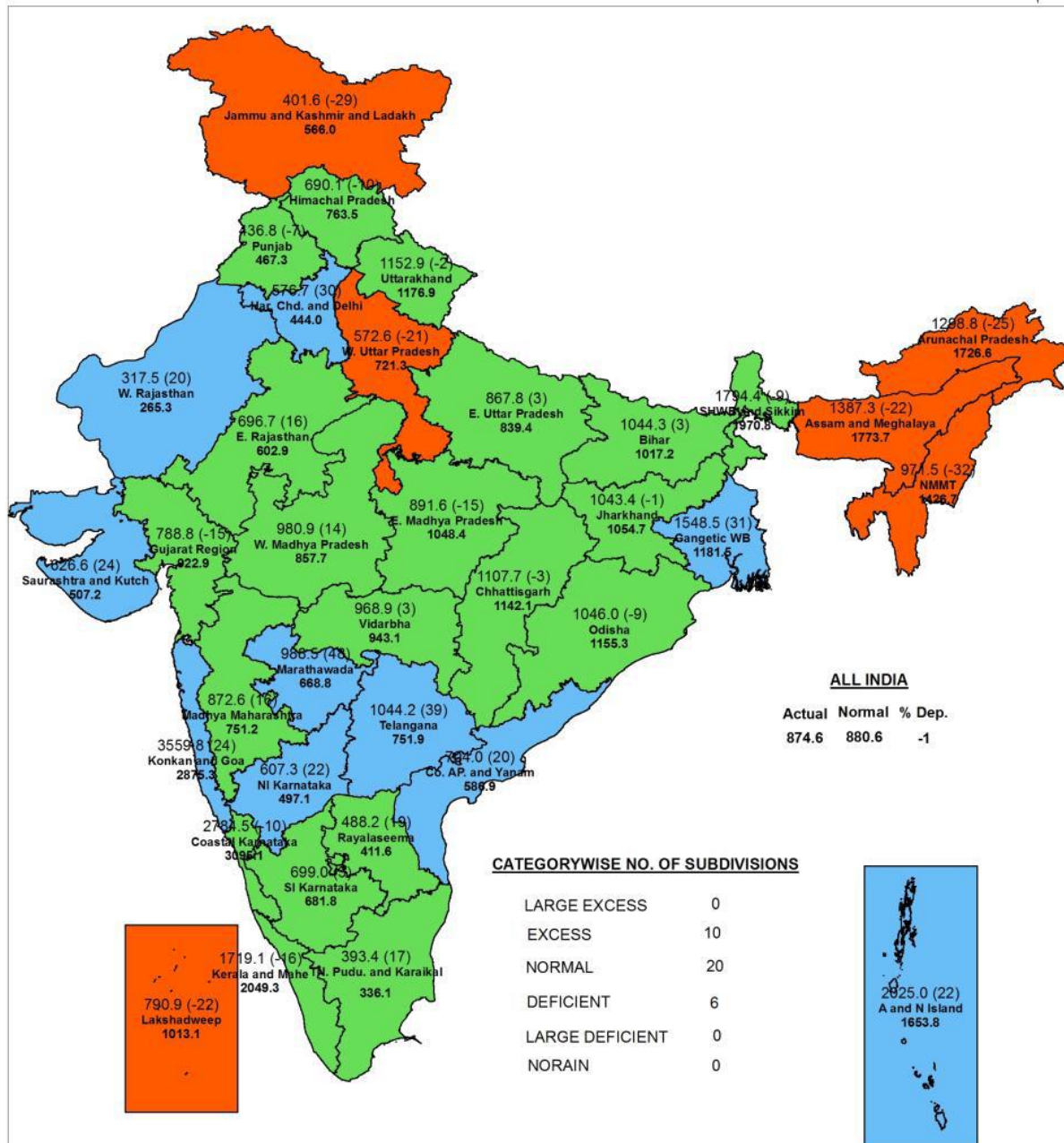


Source: Indian Meteorological Department, Ministry of Earth Sciences



**SUBDIVISION RAINFALL MAP**

Period : 01-06-2021 To 30-09-2021





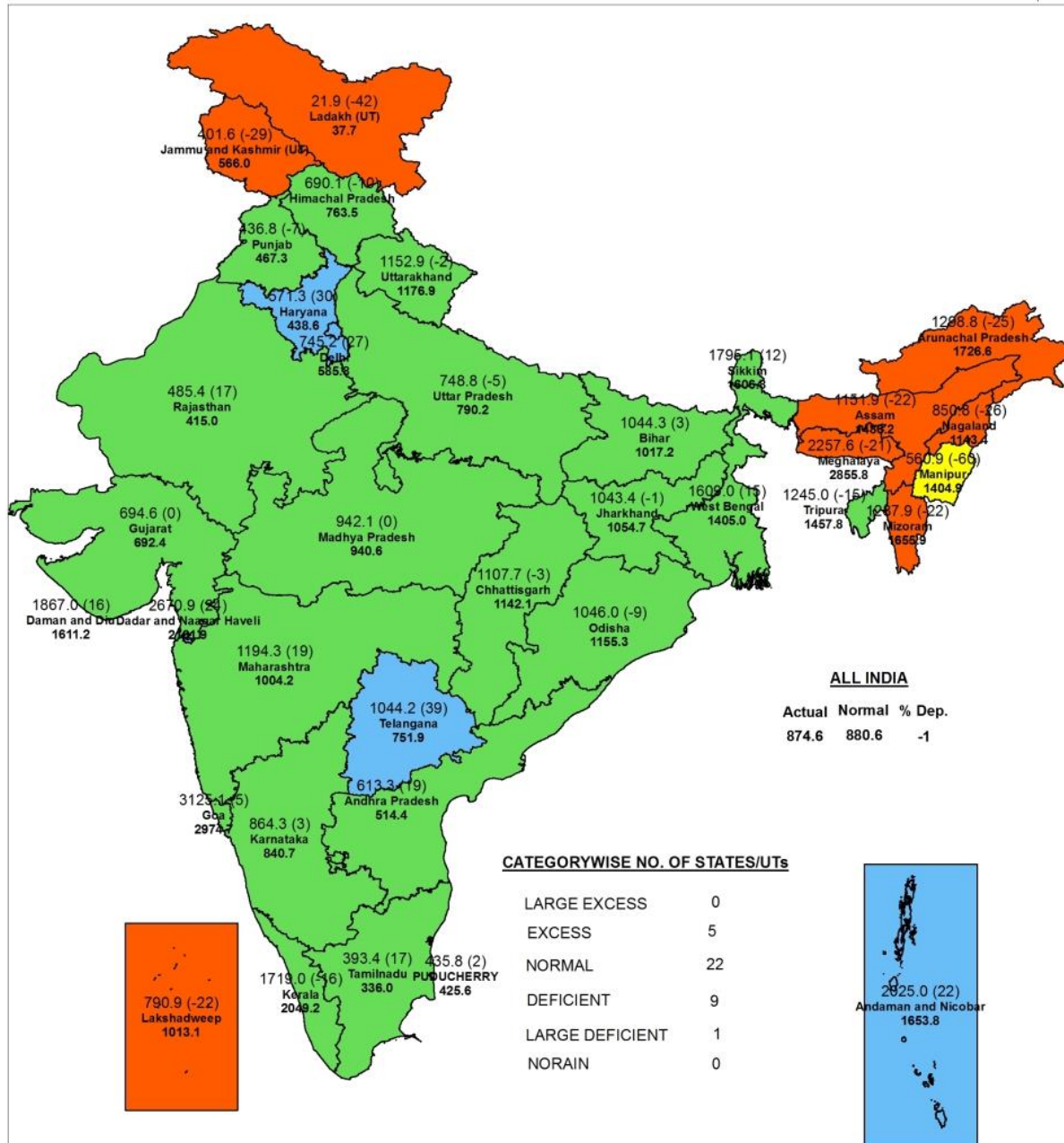


भारत मौसम विज्ञान विभाग  
INDIA METEOROLOGICAL DEPARTMENT

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

### STATE RAINFALL MAP

Period : 01-06-2021 To 30-09-2021

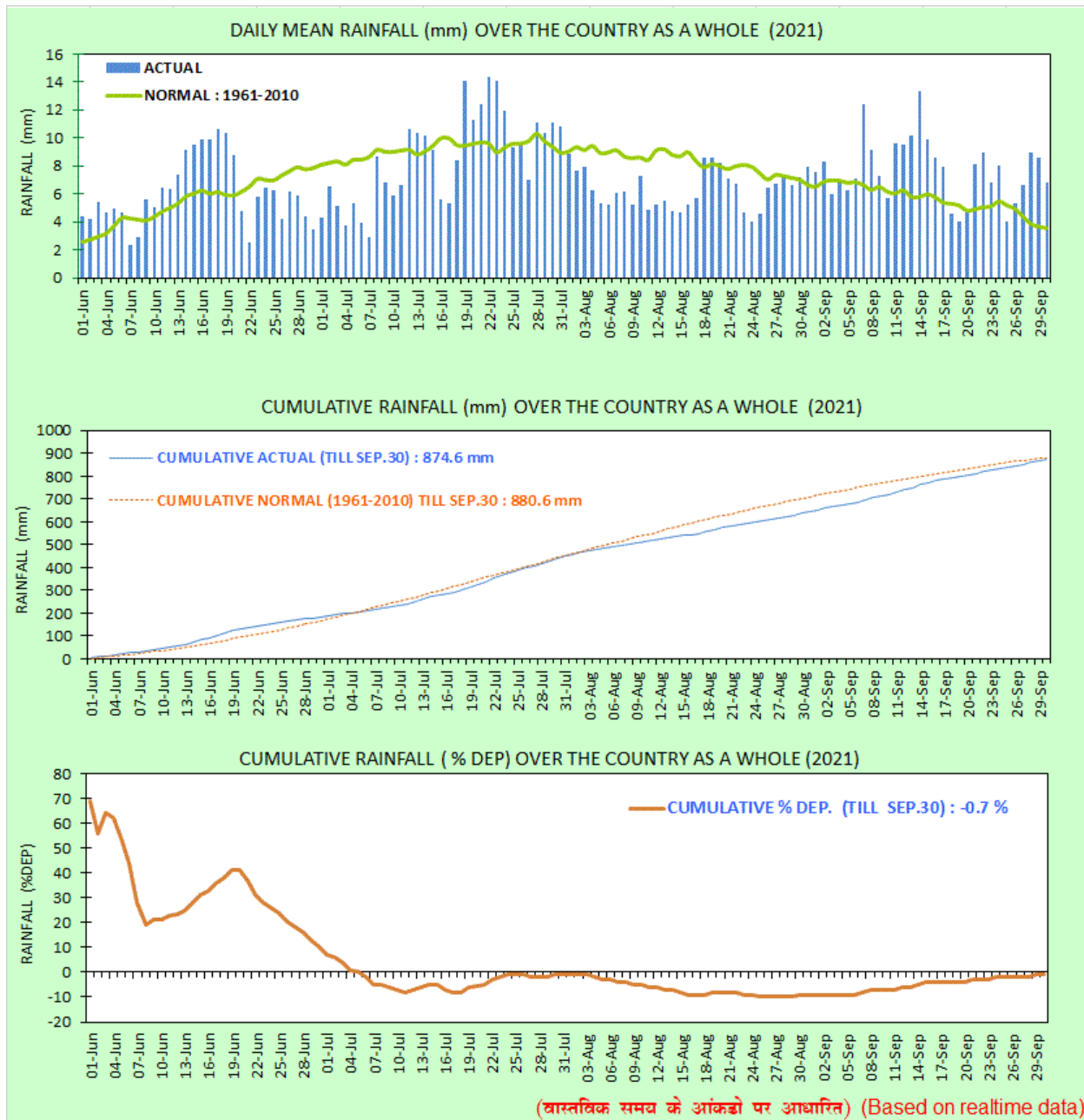


#### Legend

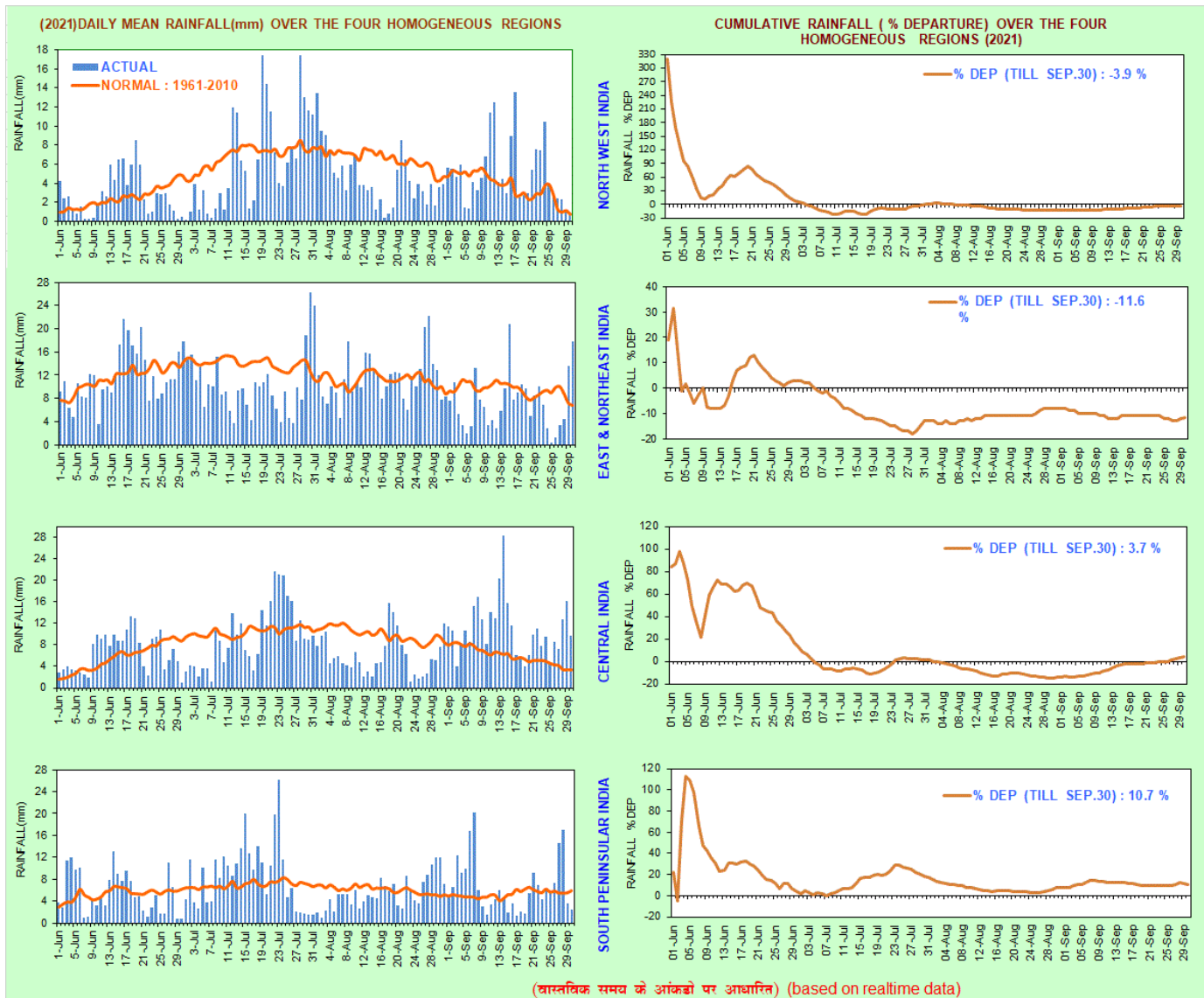
Large Excess [ 60% or more] Excess [ 20% to 59%] Normal [-19% to 19%] Deficient [-59% to -20%] Large Deficient [-99% to -60%] No Rain [-100%] No Data

#### 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.



Source: Indian Meteorological Department, Ministry of Earth Sciences



Source: Indian Meteorological Department, Ministry of Earth Sciences

## Attachments:

No Attachments.