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Report Name: Patchy Northeast Monsoon Impacts Rabi Planting

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Report Category: Agricultural Situation, Cotton and Products, Grain and Feed, Oilseeds and Products, Climate Change/Global Warming/Food Security

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Report Highlights:

Cumulative rainfall during India's 2023 northeast monsoon was nine percent lower than the fifty-year average, according to India's Meteorological Department (IMD), spurred by a delay in onset of nearly 20 days. As a result, reservoir storage levels are observed below the ten-year average at sixty percent capacity, and the pace of planting for rabi 2023/24 season is three percent lower than the five-year average, with significant reduction in acreage for pulses.

***DISCLAIMER**: The information contained in this report was retrieved from the Ministry of Earth Sciences/India's Meteorological Department (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]*

South Asia experiences two monsoons, the southwest monsoon or summer monsoon from June to September, and the northeast monsoon or post monsoon from October to December. The southwest monsoon season is the primary rainy season, in which approximately 75 percent of India's annual rainfall is accumulated. The northeast monsoon is a small-scale monsoon that contributes approximately 11 percent of national annual rainfall, and 48 percent of subdivisional annual rainfall to parts of south India including Tamil Nadu, Puducherry, Rayalaseema, and parts of Karnataka and Kerala.

Patchy Northeast Monsoon Impacts Rabi Planting

The southwest monsoon withdrew from India on October 19, surpassing the typical date of September 30, and the northeast monsoon commenced on October 21. The delayed onset of the northeast monsoon impacted harvesting of kharif crops in southern India, and shortened the planting window for rabi crops. According to IMD, India received deficient rainfall from October 1 through December 31, with a nine percent reduction from the long-period average (LPA) for the northeast monsoon. Rainfall data reported by IMD as of December 31, 2023, indicates that 47 percent of the 717 districts across India have received deficit rains. Nearly 60 percent deficient October rains were observed in central and southern India, followed by excess rains in November and December. Timely October rains are important during the sowing of the primary rabi crops, and deficit rains negatively affected the pace of planting and production estimates.

IMD Forecasts Above Normal Rains For 2024 Winter Season

On January 1, 2024, IMD forecasted above normal rainfall during the winter season for most of the country. Above normal rainfall is calculated at greater than 112 percent of the LPA of 69.7 mm and based on data from 1971-2020. Normal to above normal seasonal rainfall is likely over most parts of the country except for some parts of the south peninsular, northwest, and northeast, where below normal rainfall is likely (refer figure 2). For more details, please to this press release.

Table 1. Northeast Monsoon Actual/Normal Rainfall and Onset/Withdrawal Date

Year	Actual	Normal	Departure (in %)	Onset Date	Withdrawal Date
2017	112.3	127.2	-12	Oct 30	Jan 15
2018	71.4	127.2	-44	Nov 02	Jan 02
2019	161.1	123.8	+30	Oct 20	Jan 10
2020	125.1	123.8	+1	Nov 13	Jan 19
2021	177.9	123.8	+44	Oct 25	Jan 22
2022	144.1	121.0	+19	Oct 29	Jan 12
2023	110.7	121.0	-9	Oct 21	-

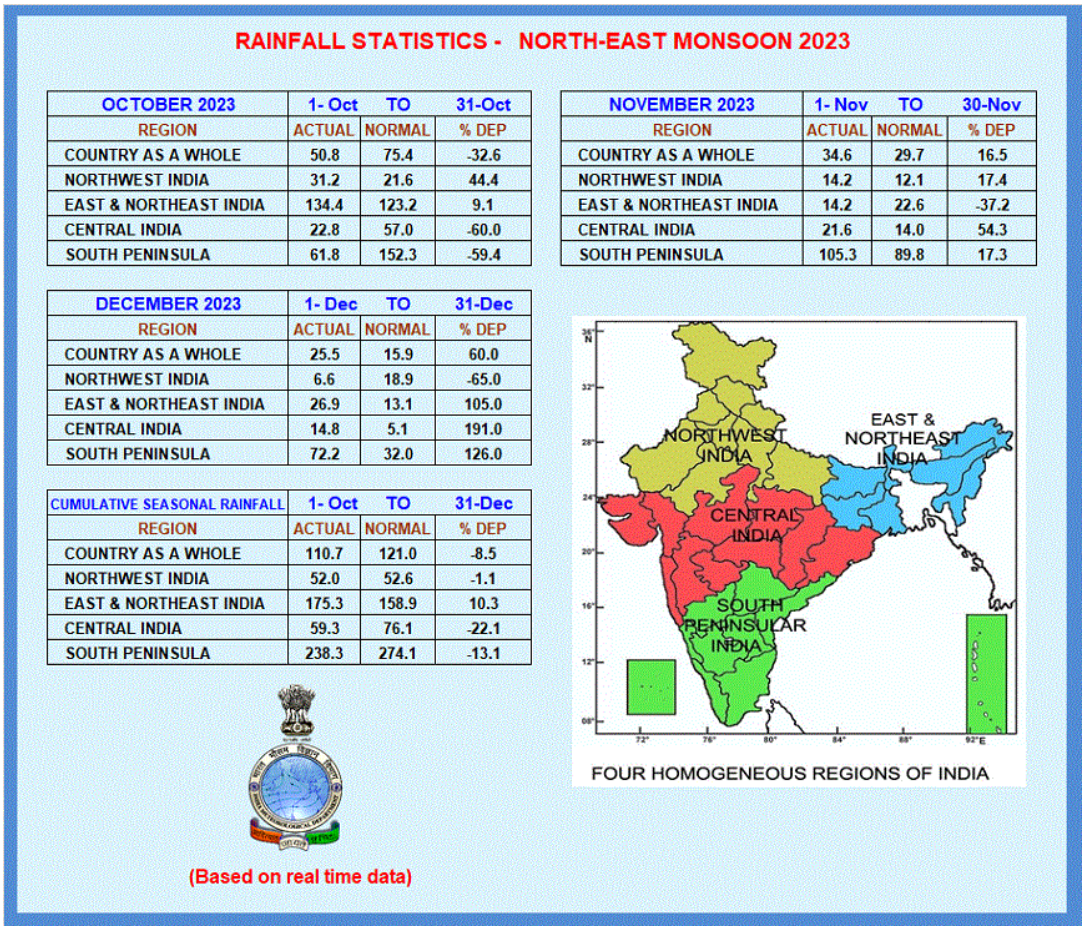
Source: Indian Meteorological Department, Ministry of Earth Sciences

Table 2. Northeast Monsoon Regional Rainfall Distribution

Regions	2023 Actual (mm)	Normal (mm)*	2023 Percentage Departure from Normal
Northwest India	52.0	52.6	-1%
Central India	59.3	76.1	-22%
Southern Peninsula	238.3	274.1	-13%
East and Northeast India	175.3	158.9	10%
All India	**110.7**	**121.0**	**-9%**

*Normal rainfall is the fifty-year average from 1971-2020
Source: India Meteorological Department, Ministry of Earth Sciences

Figure 1. Rainfall Statistics for Northeast Monsoon 2023



Source: India Meteorological Department

Rabi Sowing Falls Below Five-Year Average

The delayed onset of the northeast monsoon and the subsequent delayed onset of the southwest monsoon impacted planting windows for major rabi crops, especially pulses (gram and moong), and lead to reduced planted area in the states of Karnataka, Maharashtra, and Rajasthan.

According to the Ministry of Agriculture and Farmers Welfare, rabi sowing as of December 29 is three percent slower than last year and the five-year average (refer table 3). Reduction in planted area is largely attributable to pulses (seven percent lower) and paddy rice after late harvesting of kharif crops reduced the planting window, and farmers decision to divert to other crops due to a deficit of soil moisture.

IMD has forecasted below-normal cold wave days over most parts of central India during the month of January. A sudden increase in forecasted temperatures could harm the standing rabi crops, particularly wheat and mustard.

Table 3. Rabi 2023 Crops Sowing Progress (in million hectares)

Crop	Area Sown as of December 29, 2023	Area Sown as of December 29, 2022	Normal Area	Y-o-Y Change	Change from Normal	Absolute Change
Wheat	32.054	32.458	30.732	-1%	4%	-0.40
Rice	1.436	1.657	5.25	-13%	-73%	-0.22
Pulses	14.249	15.322	15.274	-7%	-7%	-1.07
Coarse Cereals	4.729	4.664	5.132	1%	-8%	0.07
Oilseeds	10.496	10.515	8.445	0%	24%	-0.02
Total	**62.964**	**64.616**	**64.833**	**-3%**	**-3%**	**-1.65**

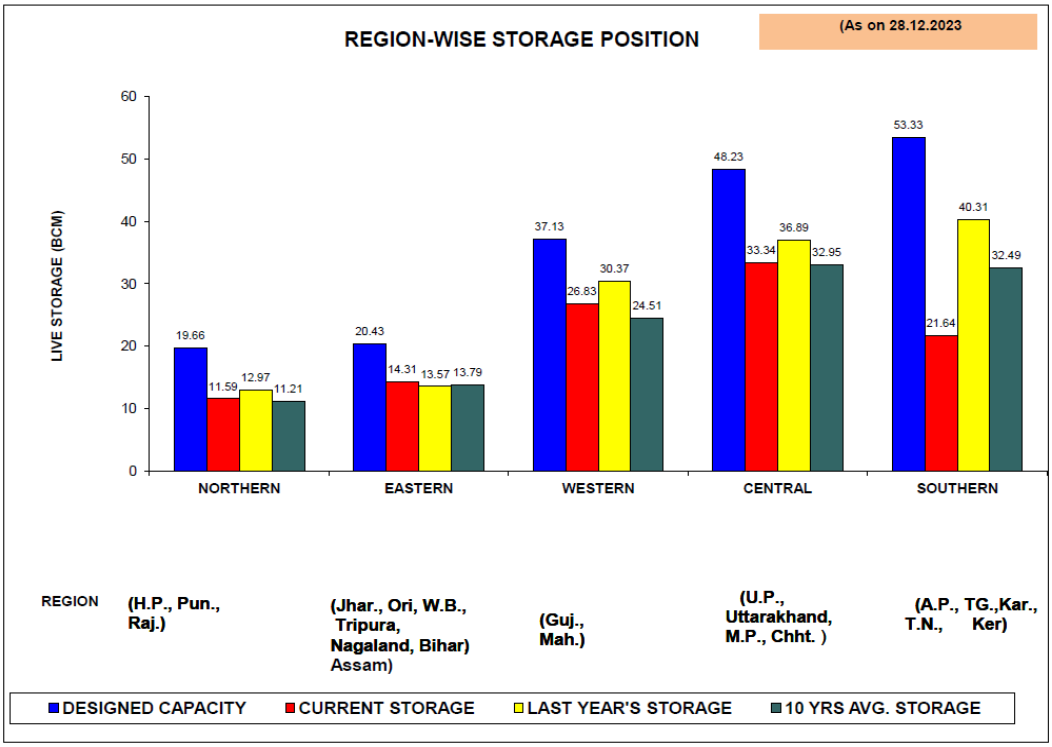
Source: Ministry of Agriculture and Farmers Welfare

Reservoir Levels Below Ten-Year Average

India's Central Water Commission monitors the storage status of 150 reservoirs around the country on a weekly basis, with the latest reservoir storage bulletin of December 28 showing current levels at 107.71 billion cubic meters (BCM), 60 percent of total live storage capacity. The live storage level in the corresponding period last year was 134.12 BCM (75 percent), and the 10-year average is 114.96 BCM (64 percent).

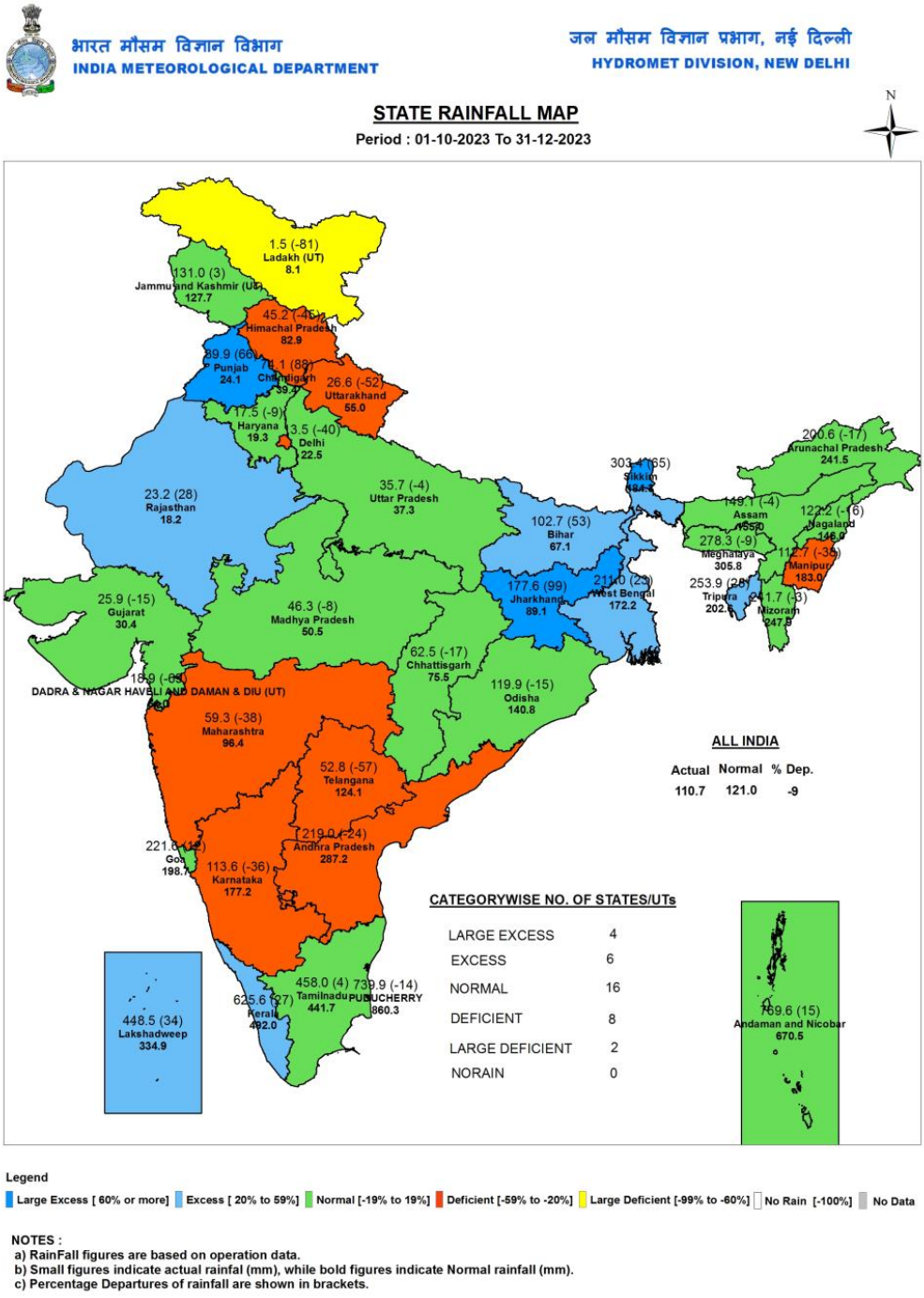
States with a higher percentage of reservoir levels as compared to last year are Assam, Odisha, West Bengal, and Gujarat. Out of 150 reservoirs, 109 reported more than 80 percent of normal (average level of the previous ten years) storage levels, and 41 reported 80 percent or below of normal storage. Out of these 41 reservoirs, 29 have storage between 51 percent and 80 percent of normal storage, and 12 have stored up to 50 percent of normal storage.

Figure 2. Regional Reservoir Storage (billion cubic meters - BCM) – December 28



Source: Ministry of Jal Shakti/Central Water Commission

Figure 3. India Northeast Monsoon State Rainfall Map



Attachments:

No Attachments.