Monthly Hydrological Bulletin Report

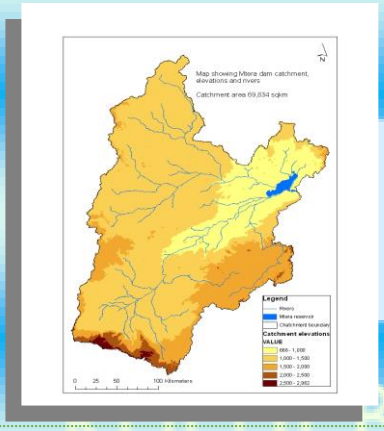
RUFIJI BASIN WATER BOARD

December (2025)

1 Summary of water status

The **Rufiji Basin** is a key hydrological system, supporting hydropower generation, irrigation, domestic water supply, and ecosystem services. It includes major catchments such as the **Upper Kilombero, Lower Kilombero, Little Ruaha, Usangu, Lower Rufiji, Luwegu and Kizigo**, supporting **hydropower generation, irrigation, domestic water supply, and ecosystems**. This report focuses on the **upper catchments**, particularly **Usangu, Little Ruaha, and Kizigo**, to assess rainfall, river flows, and reservoir conditions at the start of the 2026 wet season.

According to the **Tanzania Meteorological Authority (TMA)**, rainfall in the basin started in late **December 2025** and is expected to continue into **January 2026**, with many areas forecasted to receive **average to above-average rainfall**. The observations and forecasted of data indicate that catchments such as **Little Ruaha and Kizigo** are experiencing improved river flows and stable reservoir levels.



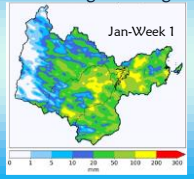
2 Weather Situation

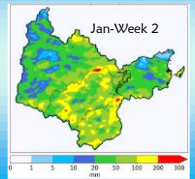
Weather Summary – December 2025:

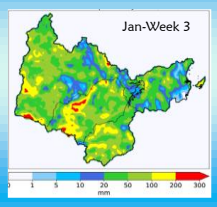
Forecasts from the Tanzania Meteorological Authority (TMA) indicate Below Average rainfall in the Rufiji Basin during December 2025. This weather pattern has substantial impact on river flows within the basin, affecting water levels and contributing to changes in the overall water situation.

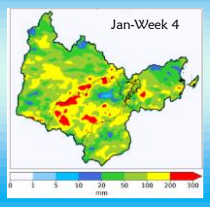
Weather Outlook – January 2026:

According to forecasts from the TMA, Throughout the entire month of January 2026, many areas of the Rufiji Basin are expected to receive average to above rainfall pattern. This forecast has significant implications for water resources management affecting water levels and contributing to changes in the overall water situation.









3 River flow Situation

River flows across selected catchments of the Rufiji Basin in **December 2025** showed notable improvement when compared to **November 2025**. The improvement was mainly driven by increased rainfall within the upstream and mid-catchment areas during December, which enhanced surface runoff and contributed to early-season hydrological recovery. In November, inflows to rivers and dams were **lower due to limited rainfall** and weak catchment response.

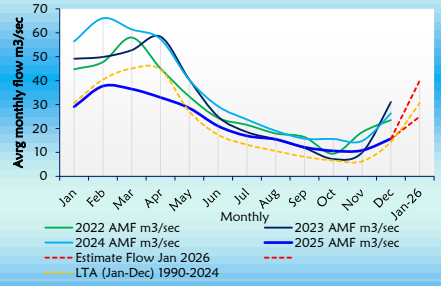
Despite the improved of rainfall in December, flow performance varied across the basin when compared to **long-term averages (LTA) for the period 2000–2024**. Some rivers demonstrated hydrological stability while others continued to reflect depressed conditions.

Hydrological Implications

Early-season flows from the Little Ruaha and Kizigo catchments are supporting downstream hydropower operations and wetland systems. The December conditions indicate the onset of hydrological recovery, which is expected to strengthen with continued rainfall during January–March.

S/N	Stations Code	River	Avg Flow Cumecs (Dec) 2025	LTA Cumecs 2000-2024 (Dec)	Remarks
1	1KA59	Great Ruaha at Msembe	0.1	5.4	Notable lower
2	1KA31	Little Ruaha at Mawande	16	15	Average
3	1KA42 A	Kizigo at Chinugulu	93	51	Notable Higher

Little Ruaha River at Mawande (Monthly Flow trend)



4 Reservoir Water Levels

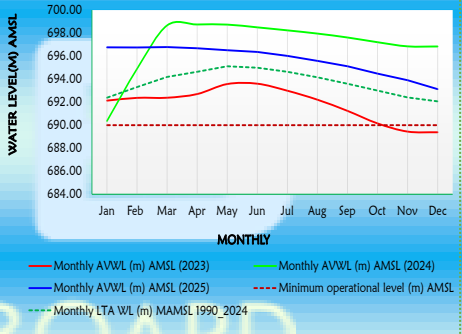
In December 2025, the reservoir water level at Mtera Dam recorded an increase compared to the long-term average (LTA) for the period 2000–2024.

- **Monthly Average Level (Dec 2025):** 693.10 m a.m.s.l
- **Long-Term Average (Dec):** 692.06 m a.m.s.l

This represents a positive deviation of approximately **+1.40 m**, indicating stable reservoir storage conditions despite below-average rainfall observed across much of the basin during the month. Reservoir response reflects early-season inflows linked to improved rainfall within contributing sub-catchments.

Conditions at other major reservoirs within the Rufiji Basin also remained above their respective long-term December averages, suggesting regionally stable storage status heading into the core wet season.

Water Level Trend (Mtera Reservoir 2023 - 2025)



5 Recommendations

i. Continue monitoring rainfall, river flows, and reservoir levels, especially in Usangu, Little Ruaha, and Kizigo catchments.

ii. Promote efficient water use in areas with below-average flows, particularly Great Ruaha and Kizigo.

iii. Optimal reservoir operation is recommended for sustainable water resources management.

iv. Protect upstream catchments to sustain baseflow contributions and improve river resilience during dry periods.