

June

2021

Ministry of Water
Wami/Ruvu Basin Water Board

Monthly Hydrological Bulletin

SUMMARY

The month of June, 2021 is a continuation of a recession flow regime that commonly begins from May to October/November each year. Always, June is dominated by cold weather. Although in most stations, no rainfalls were recorded, little rains were observed in some few places in the basin. The monthly mean flow for Wami and Ruvu were Normal and Below Normal respectively when compared to the LTA (1950-2010). In addition, the river flow prediction for Wami and Ruvu indicates that there will be continuation of flow decreases that will probably lead water use deficient to fulfil the demand required (water abstraction). The trends of groundwater levels vary widely across the basin. Based on the analysed data collected on June 2021, the middle part of the basin shows higher rise of water levels than the remaining parts. Furthermore, the water levels trends in Mindu Reservoir, the stocks for Morogoro Urban Water Supply Authority (MORUWASA) decreased slightly and the levels were Below Normal compared to the long-term average (1997-2019).

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1. RAINFALL TRENDS

In general, for the month of June, 2021, no rainfalls were recorded in most rainfall stations in the basin. However; little rains were observed in some few places especially in the middle part of the basin with the highest record of 86.4 mm recorded at Murad Saddiq station located at Ukaguru Mountains in Wami Catchment (**Figure 1**).



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Rainfall Trends

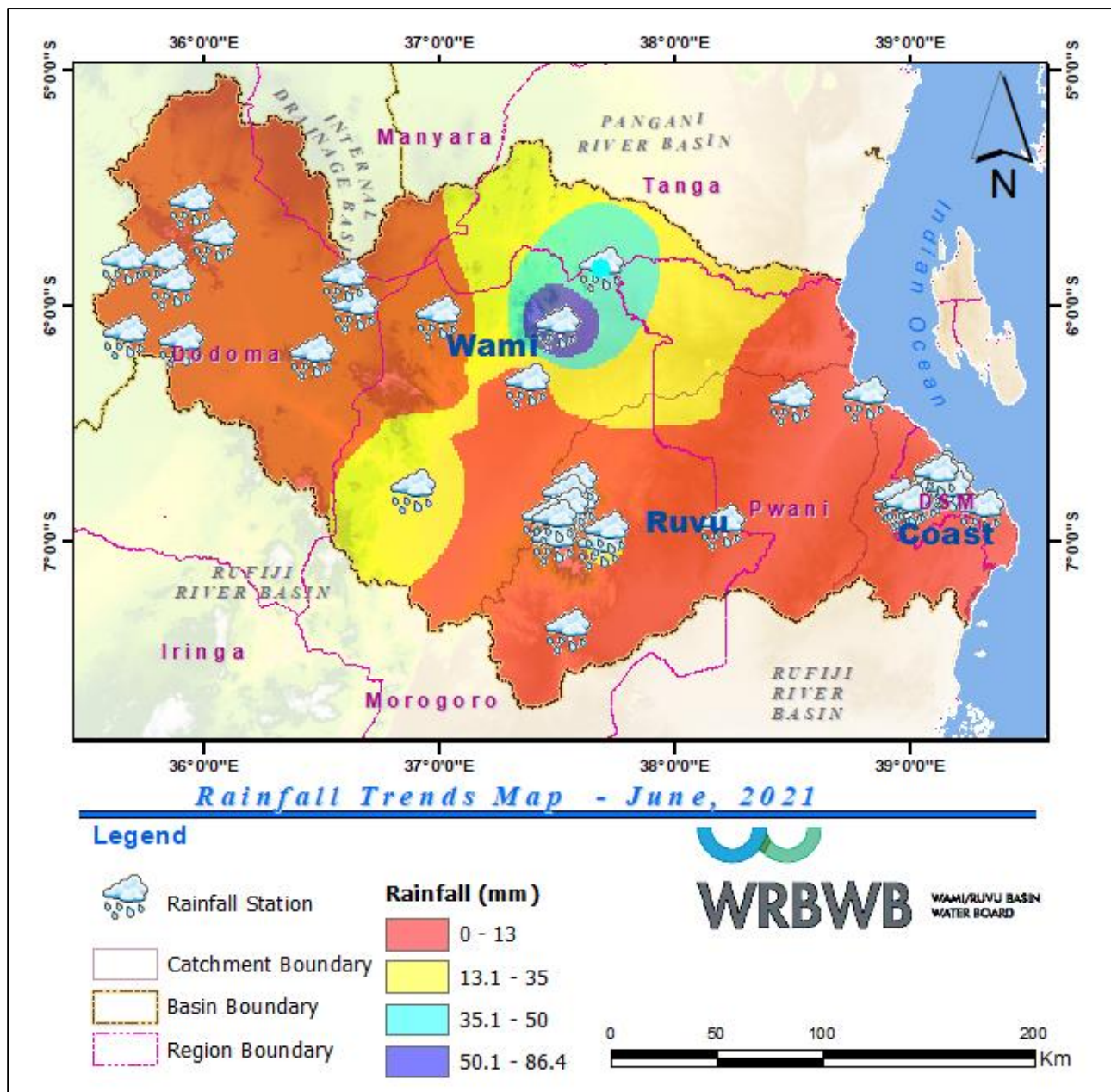


Figure 1: Rainfall Trends Map for the month of June, 2021

2. FLOW VARIATIONS

The monthly mean flow for Wami river was $42.904\text{m}^3/\text{s}$ and Ruvu was $33.725\text{m}^3/\text{s}$ for the month of June, 2021. This indicates that the flow situations were Normal in Wami river and Below Normal in Ruvu river and its tributaries when compared to LTA and a year of 2020 (**Figure 2**).

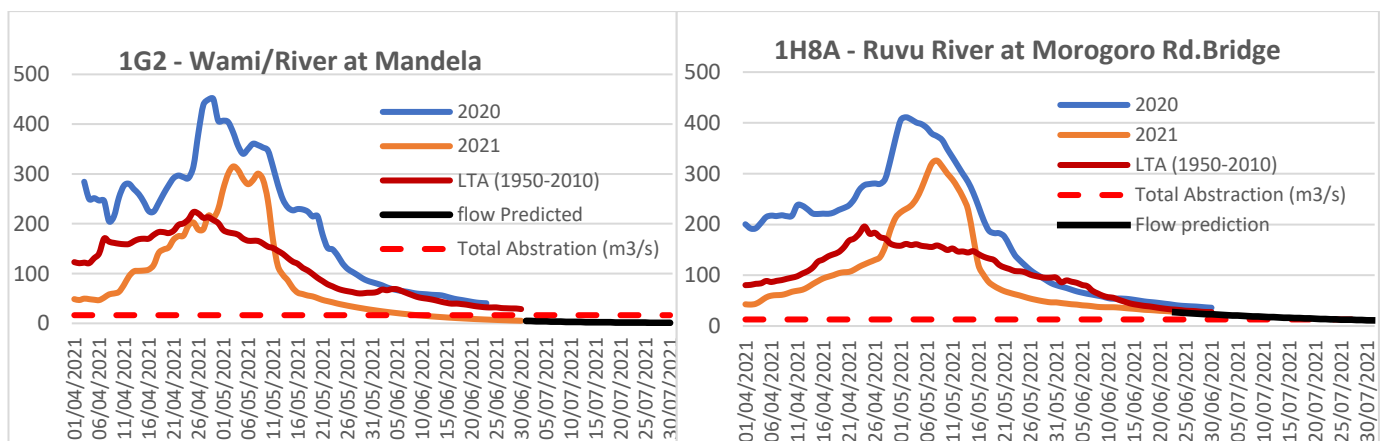


NB: The river flow prediction indicates that in the next month of July, 2021 there will be a water use deficient for both rivers when compared to total abstraction.

Flow variations...



Figure 2: Rivers Flow Analysis Map for the month of June, 2021



3. GROUNDWATER TRENDS

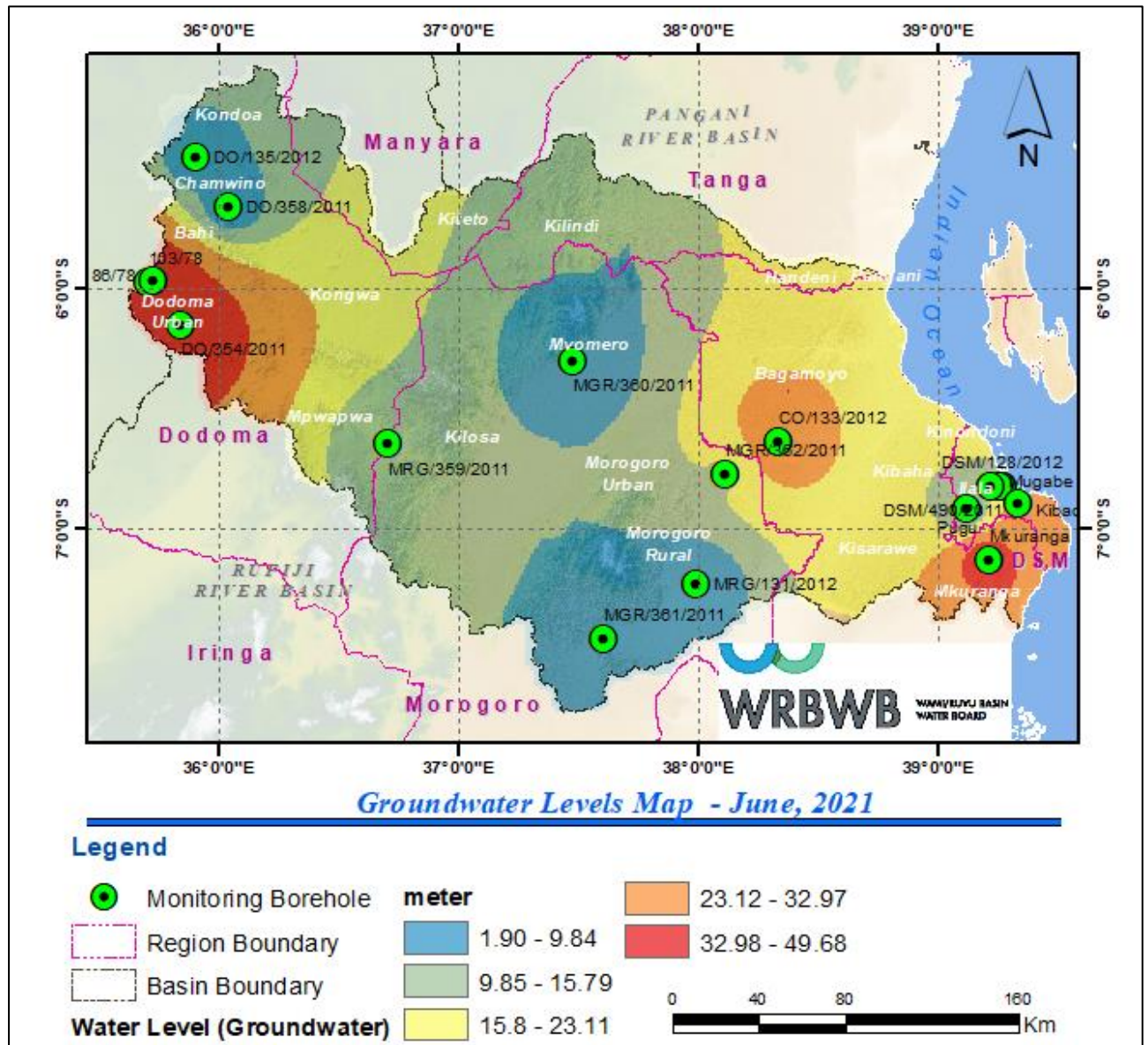


Figure 3: Groundwater Levels Map for the month of June, 2021

The trends of groundwater levels vary widely across the basin. As indicated by **Figure 3** (Groundwater levels Map for the month of June 2021), the middle part of the basin shows the rise of water levels compared to the rest. The maximum water level was 49.68 m recorded at Mzakwe, Dodoma (borehole no. 103/78) followed by Mkuranga borehole (45.84 m). On the other hand, the minimum water level was 1.9 m recorded at Chamwino borehole (DO/136/2012) followed by 2.66 m observed at Kisaki borehole, Morogoro DC with an ID number MGR/361/2011. The observed difference of water levels in the basin are attributed by different geology, geomorphology, climate, etc. The data used for this analysis was obtained from Wami/Ruvu Basin Groundwater Monitoring Boreholes.

Mindu Reservoir

4. WATER LEVELS IN THE MINDU DAM

The monthly mean water levels observed in Mindu reservoir was 507.020 masl which is below normal compared to LTA (1997-2019) for the month of June, 2021 (**Figure 4**).

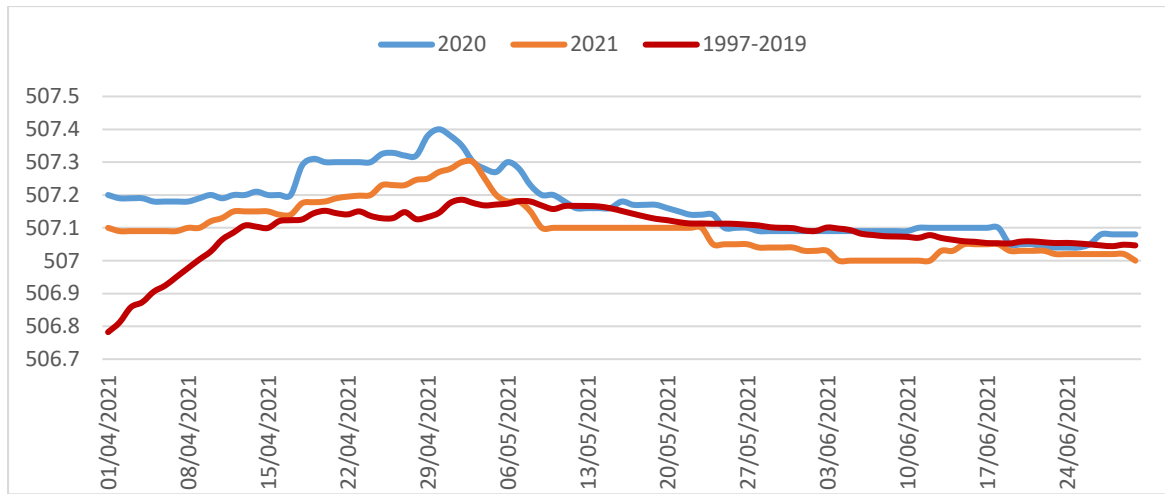


Figure 4: Comparison of daily water level (masl) in 2020 and LTA (1997-2019) with 2021 in Mindu Reservoir

RECOMMENDATION:

Based on the **River Flow Prediction**, for the coming month (July, 2021), the Wami/Ruvu Basin Communities are advised to engage on the activities that require low water use and if possible, apply the use of high technology such as **drip water**, that will help efficiency water use at the minimum requirement for large production.