

Monthly Hydrological Bulletin



SUMMARY

Hydrological situation in the Basin during the month of June was characterized by decrease of surface runoff compared to the month of May. The sharp decrease of surface runoff was due to low rainfall observed across the Basin over the last month. Most rainfall stations recorded 0 mm in June, with the highest record of 41.7 mm at Uluguru mountain areas. Similarly, in comparison with the Long-Term Average (LTA), River flows on the key stations in Ruvu and Wami Catchments show the **Normal** flow; except for few stations which classified as **Below Normal** flows. The flow analysis situation was carried out based on rainfall trends, flow variations in rivers and water level in reservoir.

1. FLOW VARIATIONS IN RIVERS

2.1. WAMI CATCHMENT

In comparison with monthly mean river flow of May, 2020 (237.3m³/s), the monthly mean flows of June (50.0 m³/s) were decreased by 75%. This is proved by a downstream river station flow data at 1G2¹ which also indicates that the observed flows were Below Normal compared to LTA values except for the 1G1, 1GA2, and 1GA1A stations which show Normal flow. The flow trends in June are summarized in **Table 1** and **Figure 1**.

2.2. RUVU CATCHMENT

Likewise, the monthly flow trends in the most Ruvu tributaries such as 1H3², 1HA9A, 1HA16, 1HB2, 1HC2A, 1H3 were considered as Normal compared to LTA except for the 1H5 and 1H8A stations which indicate that the flows were Below Normal (**Figure 1**).

Table 1: River Flows summary

Station	Average m ³ /s (June)	LTA (1950-2010)	Min	Max
1G1	34.209	21.981	22.298	49.950
1G2	50.000	46.471	40.398	79.657
1GA2	1.233	0.380	0.813	1.873

¹ 1G1- Wami river at Dakawa; 1G2 - Wami river at Mandera
1GA2 - Mziha river at Mziha; 1GB1A - Diwale river at Kimamba

² 1H3 – Ruvu at Kidunda; 1HA9A – Ngerengere at Konga
1HA8 – Ruvu at Morogoro Road Bridge; 1H5 – Ruvu at Kibungo

June, 2020

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Flow variations...

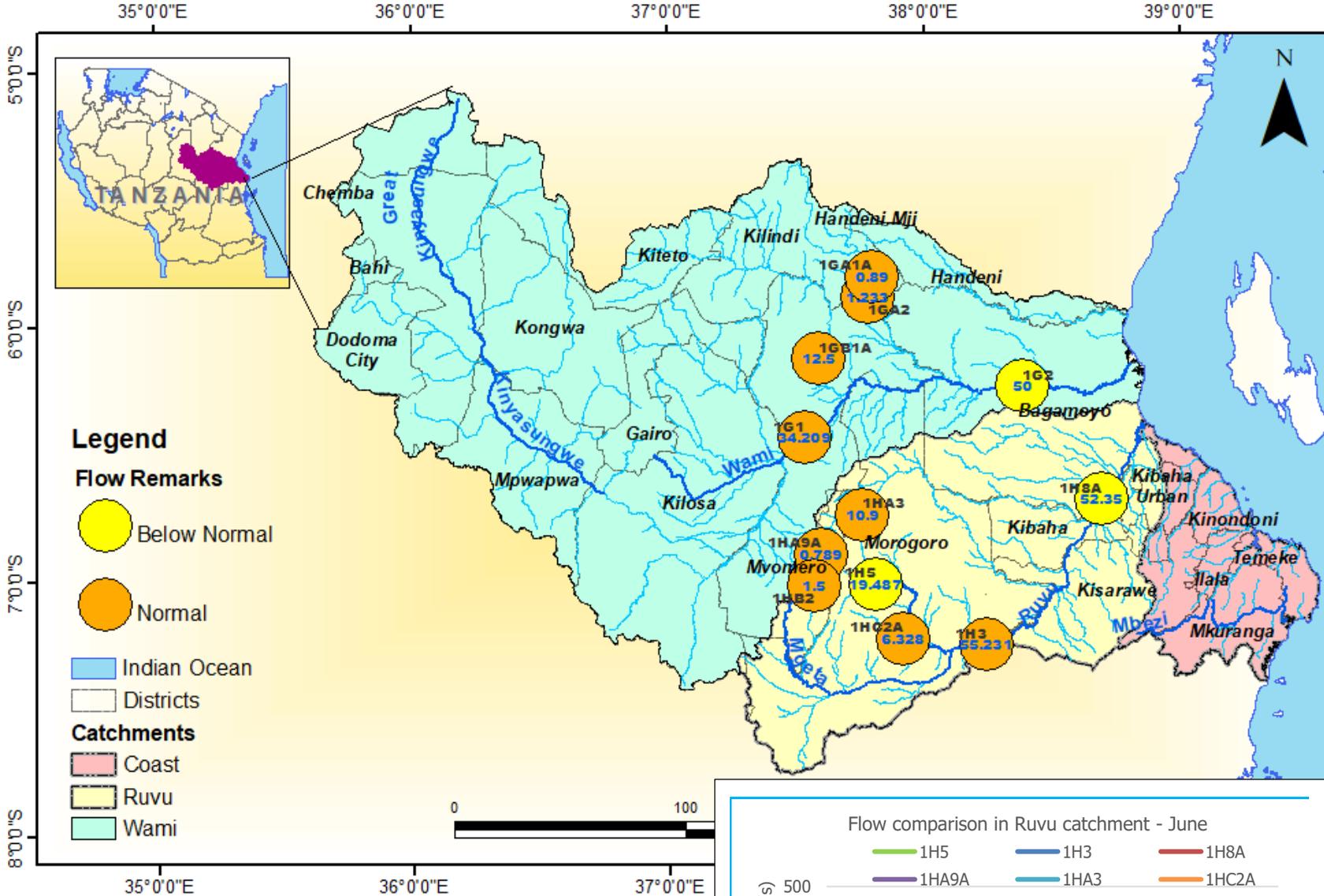
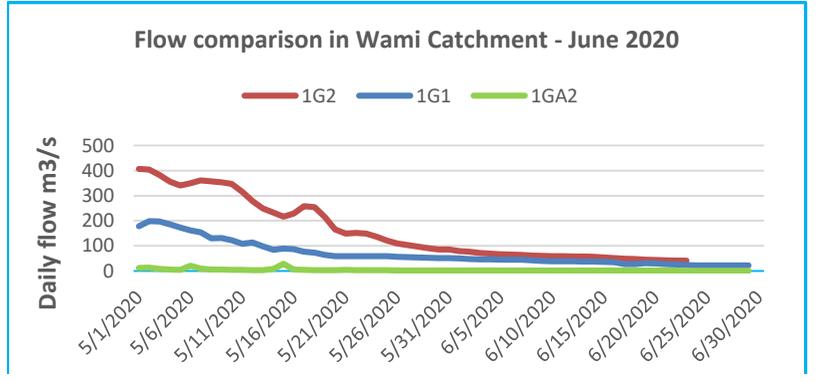
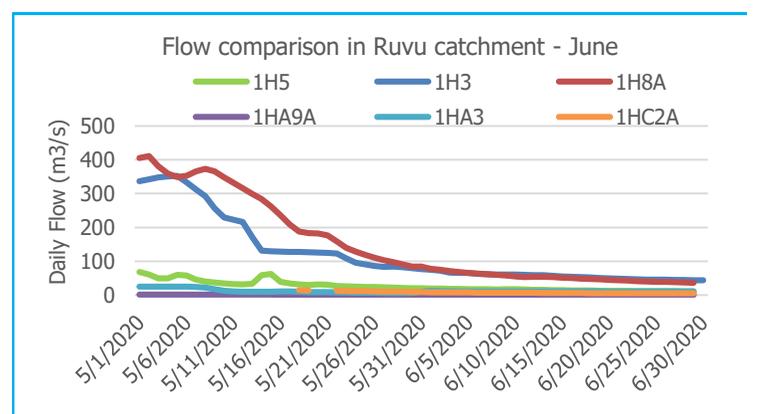
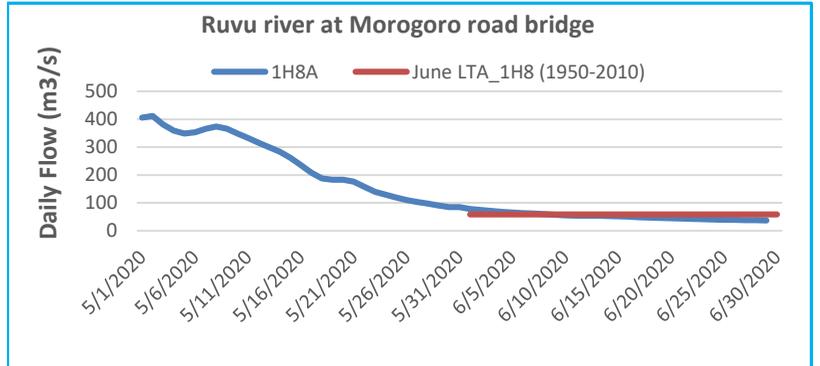
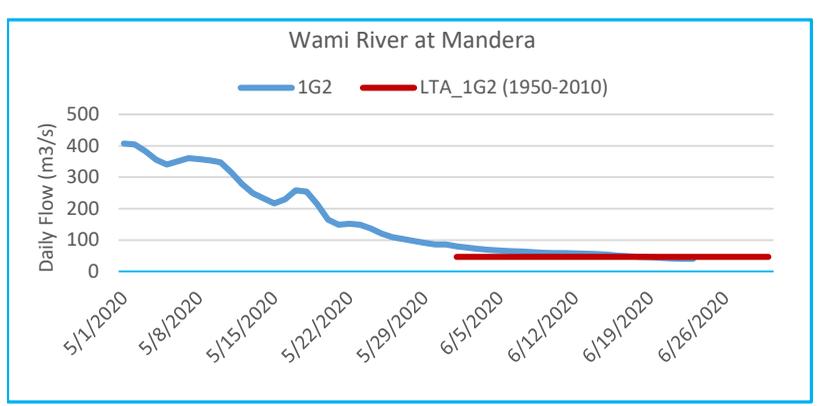


Figure 1: Basin Location, and River Flows Analysis in the basin for the month of June, 2020



Rainfall trends

2. RAINFALL TRENDS AT SELECTED STATION

Spatial distribution of rainfalls in June 2020 are shown in **Figure 2**. Rainfall trends decreased towards the north-western direction and south-eastern parts of the basin; But in some parts such as Bagamoyo and Uluguru Mountains areas, little rainfalls were recorded compared to the other part of the basin. The highest rainfall recorded was 41.7 mm in Kibungo at Kibangile station (Morogoro DC) and the lowest was 0 mm (**Figure 3**).

In general, the rainfalls recorded in most of the stations within the basin for the month of June 2020 were below average in comparison to LTA. This might reduce flows in streams and rivers as well as recharge of the

groundwater aquifer within the basin.

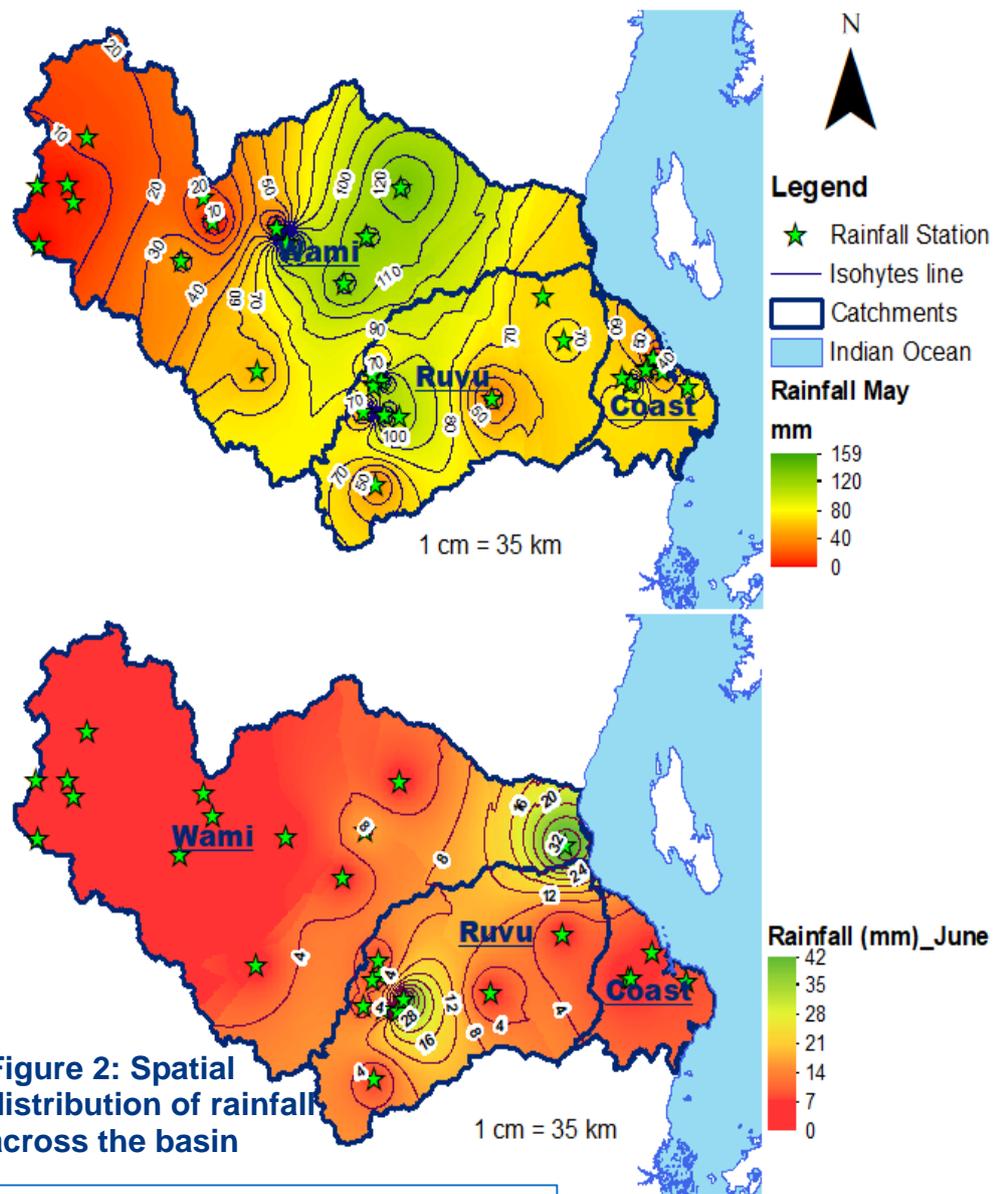


Figure 2: Spatial distribution of rainfall across the basin

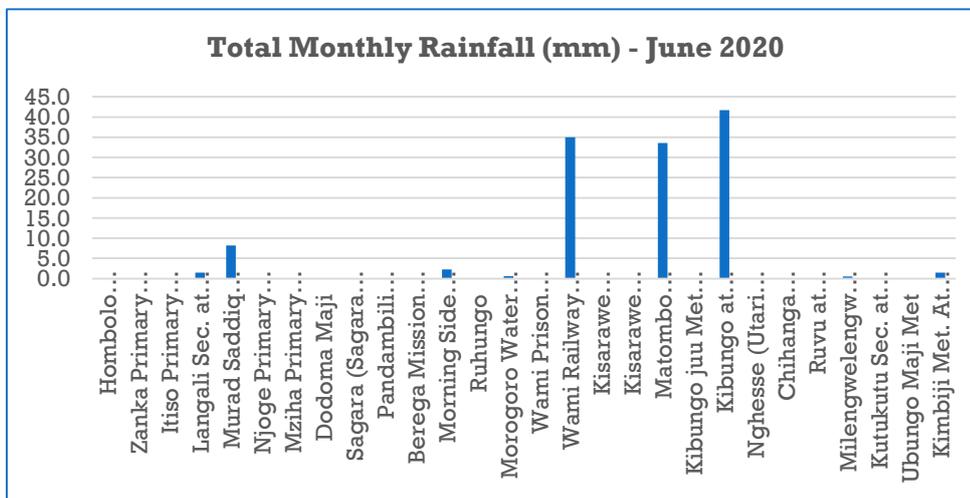


Figure 3: Total rainfall recorded in most stations in the basin – June, 2020

3. MINDU RESERVOIR

Despite the decrease of water level in the reservoir during the Mid of Month (**Figure 4**), the water level trends observed in Mindu reservoir in June were Normal compared to LTA (1997-2019). However; in the last five days of June, the reservoir indicated the rise of water level that was due to intervention made upstream of the catchment. The Monthly average recorded was 507.079 masl while the maximum water level recorded on 11th June, was 507.100 masl and the minimum level was 507.040 masl on 22nd June, 2020.

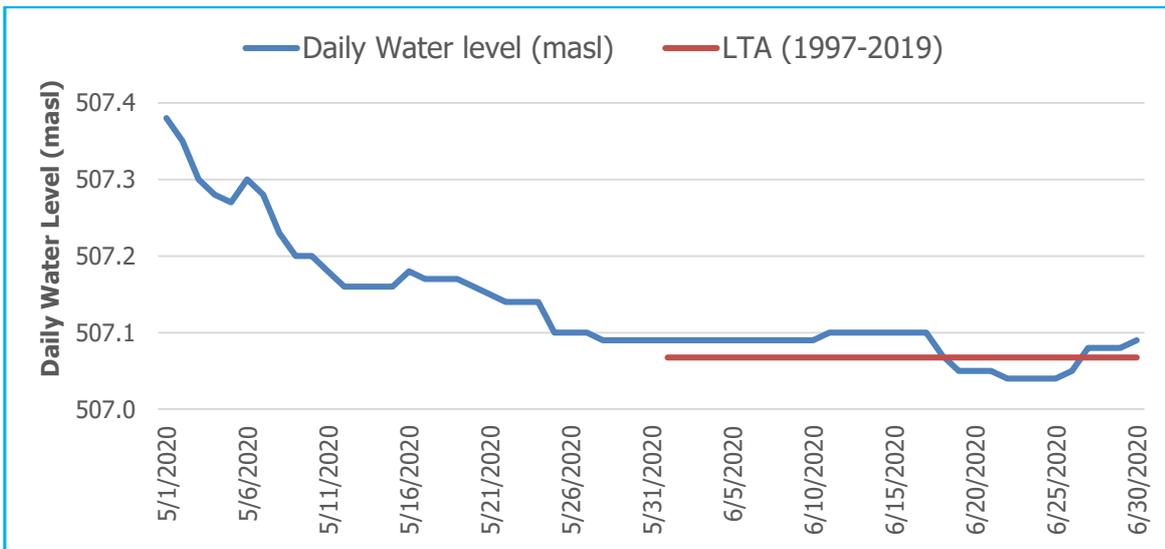


Figure 4: Mindu reservoir water level

4. REFERENCE

Source of data: Wami/Ruvu Basin Water Board

Front cover images: Top image – Mvuha ta Tulo Gauge station; Bottom image – Wami river satellite image.

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Mito yetu, Maendeleo yetu Tuitunze

