

Lake Rukwa Basin Water Board

Hydrological Bulletin

November 2022

1. Overview

The hydrological situation in the Rukwa Basin during November 2022 was characterized by the ongoing low flow in all catchments though the Basin received rainfall in the reporting period as indicated in Figure 2.

Figure 2 indicates that the regions located in the Northern part of the Basin received more rainfall compared to those in the Southern.

The flow analysis situation was carried out on the two catchments (Songwe and Momba) using the data recorded from the reference gauging stations which are Momba River at Tontera (Momba), Mlowo River at Great North Road (Mbozi), and Ruanda River at Great North Road (Mbozi).

Figures 4 show the comparative hydrographs for the month of November 2022 with previous years.

Figure 5 shows Lake level fluctuations in November 2022 compared to previous years.

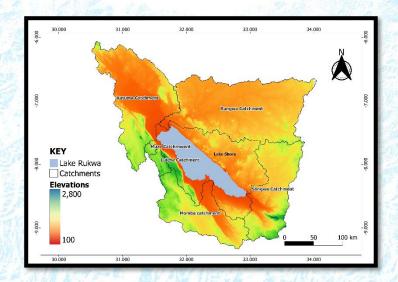


Figure 1: Catchments of Lake Rukwa Basin

2. Rainfall Trend in the Basin

The monthly distribution of rainfall over the basin is characterized by unimodal rainfall patterns (End of October to Mid of May).

In November 2022, most parts of the basin received rainfall (Figure 2) but with a decrease of 15.9% compared with the long-term average (Figure 3).

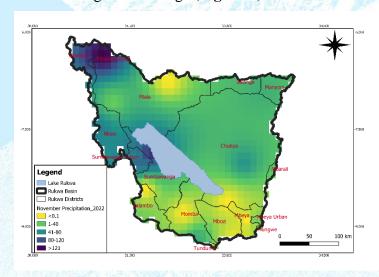


Figure 2: Rainfall variation in November 2022



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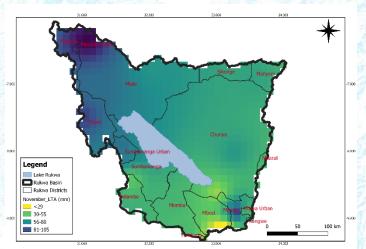


Figure 3: Long-term average rainfall distribution for November

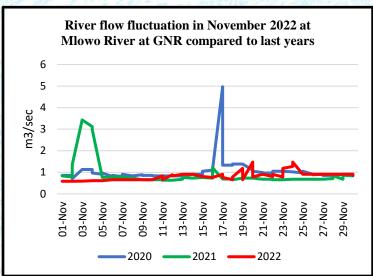
3. Flows in Rivers

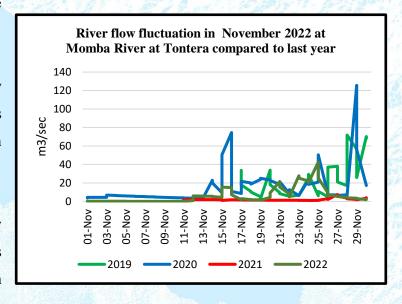
At all stations representing the mentioned catchments above, the hydrological situation during the month of November 2022 was characterized by the ongoing slight increase in river levels due to starting of the rainfall season.

At Mlowo station, the maximum and minimum daily flow observed was 1.476m3/s and 0.585m3/s respectively in November 2022. The monthly mean flow which passed across the station was 0.815m3/s.

At Momba station, the maximum and minimum daily flow observed was 42.607m3/s and 0.138m3/s respectively in November 2022. The monthly mean flow which passed across the station was 6.011m3/s.

At Ruanda station, the maximum and minimum daily flow observed was 0.466m3/s and 0.002m3/s respectively in November 2022. The monthly mean flow which passed across the station was 0.061m3/s.







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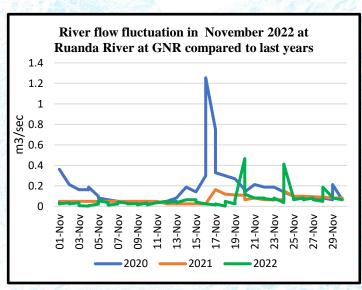


Figure 4: River flows fluctuation

4. Water level in Lake Rukwa

The main source of water for Lake Rukwa is the main rivers that depend on rainfall for their survival, the lake height for November 2022 is seen to be lower by 0.45 meters as compared to 2021 as indicated in **Figure 5**.

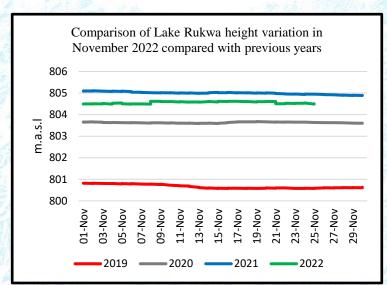


Figure 5: Water level in Lake Rukwa at Mbangala

Conclusion

The hydrological situation from November 1st to 30th, 2022 is characterized by a slight increase in the water level in all compartments of the Momba, Songwe, and other Catchments, leading to a moderate increase in flows on the main course of the rivers and its tributaries.