

Lake Rukwa Basin Water Board

Hydrological Bulletin

March 2023

1. Overview

The hydrological situation in the Rukwa Basin during March 2023 was characterized by an increase of flow in all catchments as the Basin received more rainfall in the reporting period as indicated in **Figure 2**.

Figure 2 indicates that 85% of the area located in the Basin received more rainfall compared to the long-term average (**Figure 3**)

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), Myovizi at Great North Road (Mbozi) and Ruanda River at Great North Road (Mbozi).

Figures 4 show the comparative hydrographs for the month of March 2023 with previous years.

Figure 5 shows Lake level fluctuations in March 2023 compared to previous years.

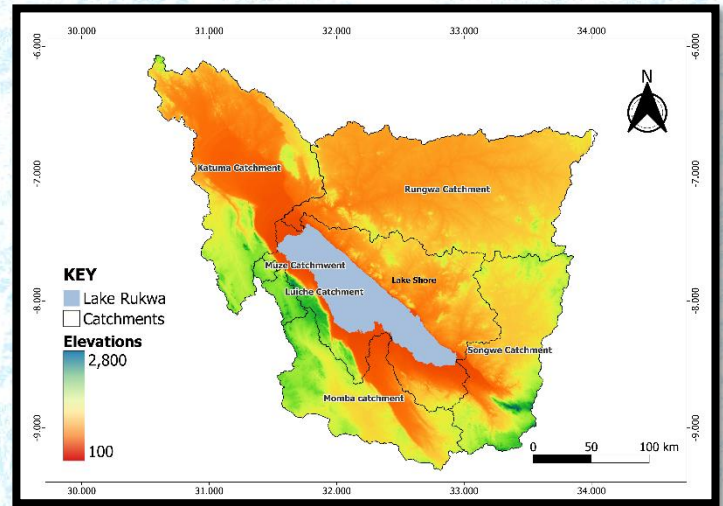
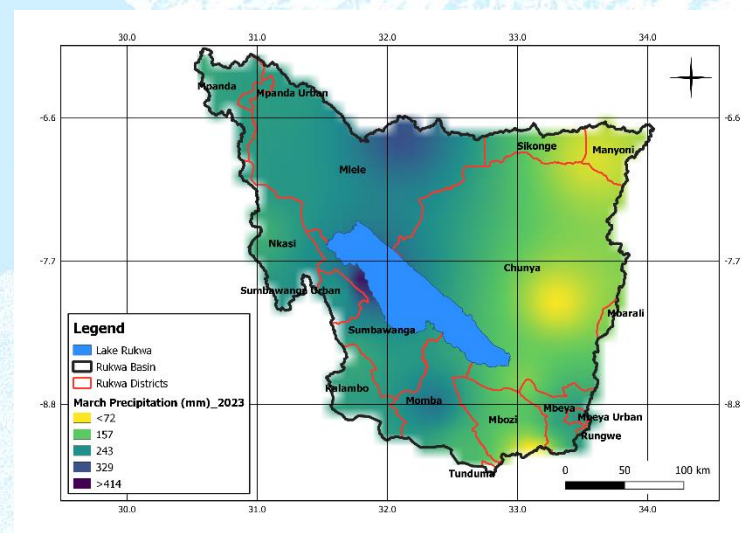


Figure 1: Catchments of Lake Rukwa Basin

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 March 2023, most parts of the basin received more rainfall (**Figure 2**) with an increase of 32% compared with the long-term average (**Figure 3**).



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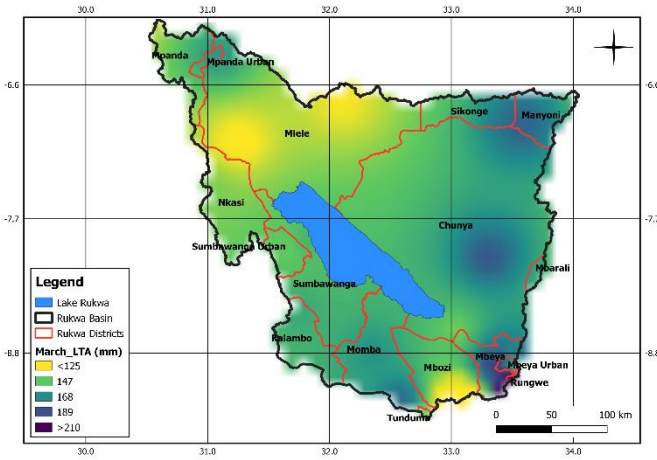


Figure 3: Long-term average rainfall distribution for March

3. Flows in Rivers

At all stations representing the mentioned catchments above, the hydrological situation during the month of March 2023 was characterized by an increase in river levels due to high rainfall in the reporting period for most parts of the Basin.

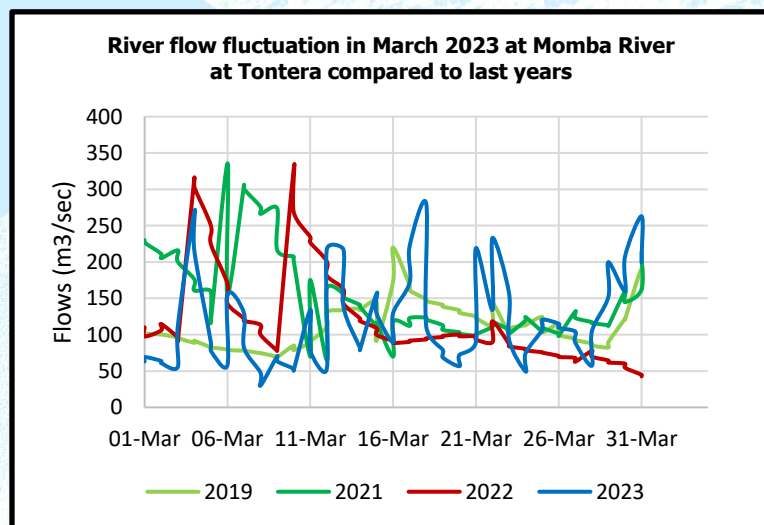
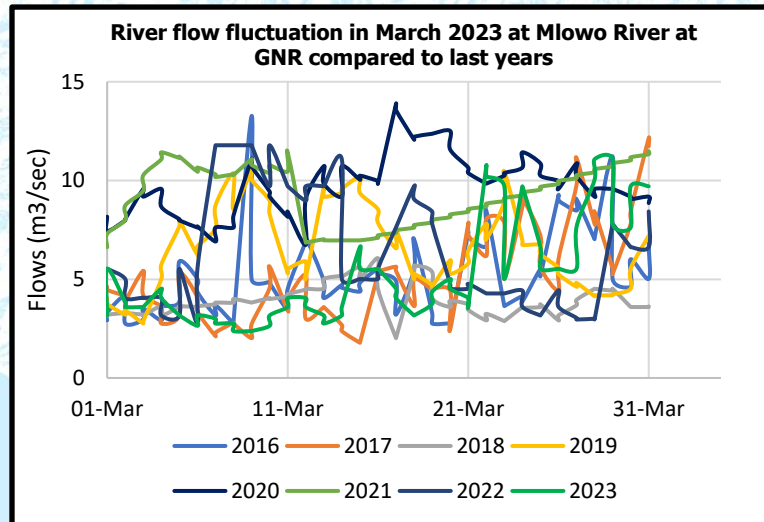
At Mlowo station, the maximum and minimum daily flow observed was 11.073m³/s and 2.375m³/s respectively in March 2023. The monthly mean flow which passed across the station was 5.241m³/s.

At Momba station, the maximum and minimum daily flow observed was 280.604m³/s and 30.075m³/s respectively in March 2023. The monthly mean flow which passed across the station was 120.648m³/s.

Figure 2: Rainfall variation in March 2023

At Ruanda station, the maximum and minimum daily flow observed was 3.982m³/s and 0.394m³/s respectively in March 2023. The monthly mean flow which passed across the station was 0.978m³/s.

At Myovizi station, the maximum and minimum daily flow observed was 25.114m³/s and 2.005m³/s respectively in March 2023. The monthly mean flow which passed across the station was 5.165m³/s.





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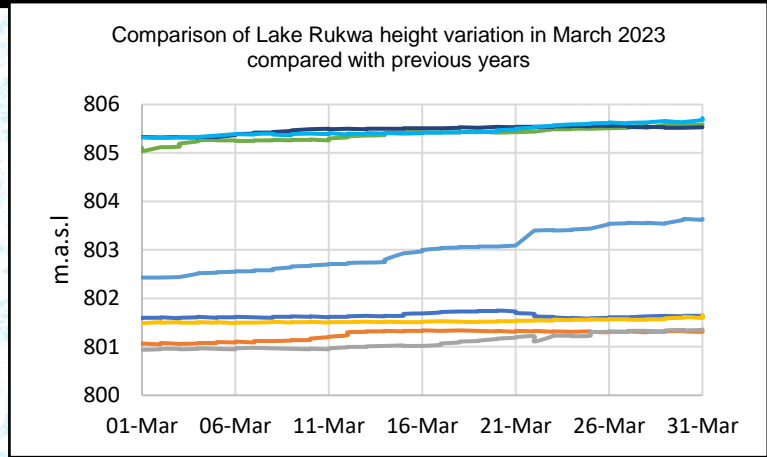
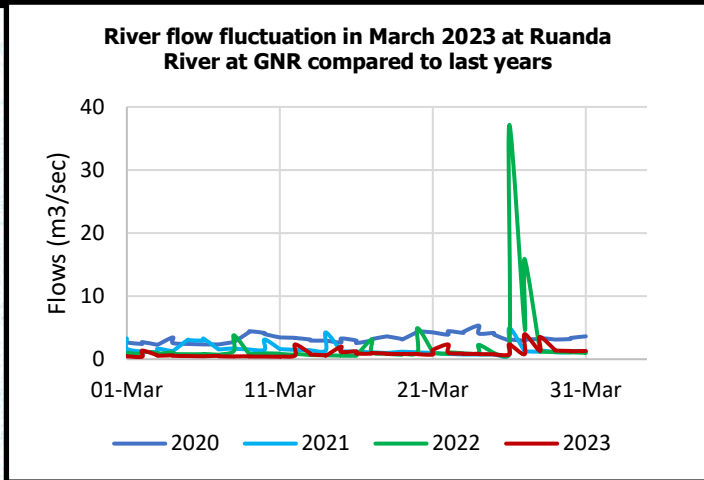


Figure 5: Water level in Lake Rukwa at Mbangala

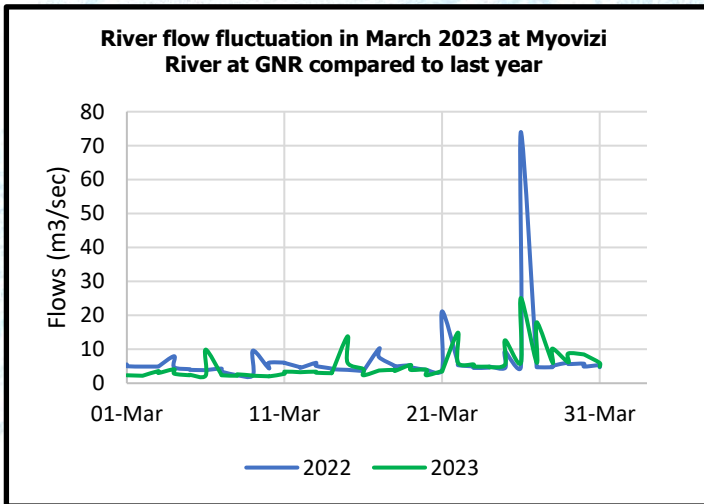


Figure 4: River flows fluctuation

4. Water level in Lake Rukwa

The main source of water for Lake Rukwa is the main rivers that depend on rainfall for its survival, the lake height for March 2023 is seen to be higher compared to previous years as indicated in **Figure 5**.

Conclusion

The reporting month has received more rain since the beginning of the rainy season of this hydrological year compared to previous months. For the coming month (April), it is expected that the rain will decrease for the most part of the Basin.