



LAKE VICTORIA BASIN WATER BOARD

HYDROLOGICAL BULLETIN LAKE VICTORIA BASIN JUNE - JULY 2021

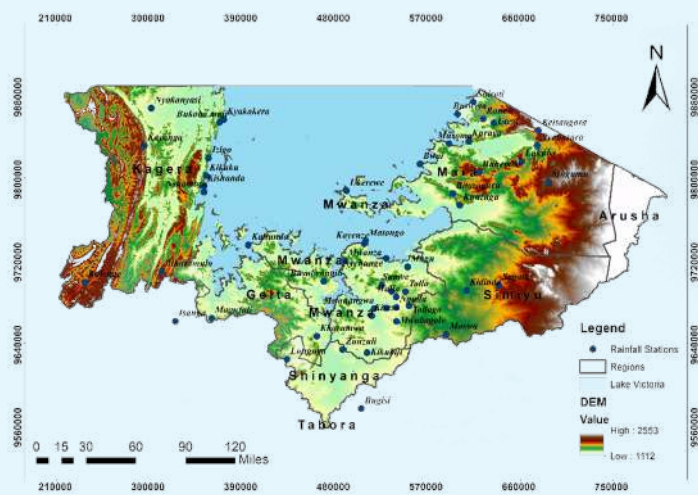


Introduction

Lake Victoria Basin covers an area of about 115,400 square kilometers. The Basin is located in the Northern side of Tanzania and lies between 1° 00' S, 3° 45' S and 30° 15' E 35° 45' E. The Basin is divided into three catchments known as Kagera, Mara and Central.

The Lake Victoria Basin Tanzania has 35 rain stations, 18 weather stations, 21 river gauging stations, 6 gauged lakes as well as 4 reservoirs. However, it should be clear that not all stations are working and thus, only 42 stations are used for rainfall analysis (Fig 1), 4 gauges for flow analysis and two for both lakes and reservoirs.

Generally, June to July, rainfall trends depict a decreasing pattern. This implies a similar trend to both river flows, and lake levels/volume. Most of the areas in the basin received less amount of rainfall compared to the year 2020. Moreover, the rainfall received is still below the long-term average for the period (2010-2020).



Rainfall Trends in the Basin

Rainfall trends in June and July 2021 showed a decreasing pattern. This is expected in many areas in the basin.

The north west and north east part of the basin received high amount of rainfall compared to other parts of the basin as they are close to Equator and receive rainfall influenced by Inter Tropical Convergence Zone (ITCZ). These include areas of Kyerwa, Karagwe, Muleba, Ukerewe, Rorya and Tarime with an average rainfall of 35mm. Less rainfall was recorded in the south of the basin which include areas of Ilmela, Sengerema, Busega, Bariadi, Itima, Meatu, Maswa, Misungwi, Kwimba, Magu, Kishapu, Kahama.

In the Lake itself represented by Ukerewe Station recorded rainfall were above average (Fig.2a&2b).

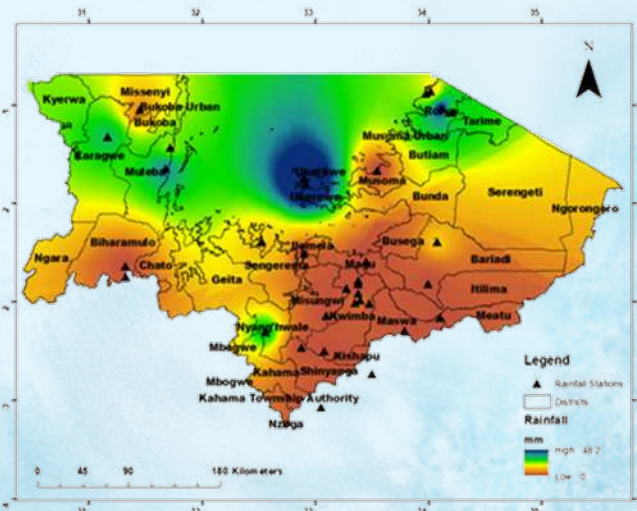


Fig 2a: Rainfall variation in June 2021

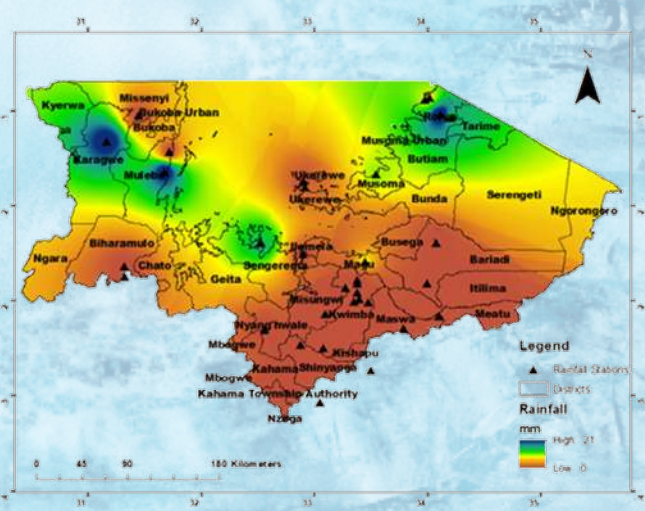
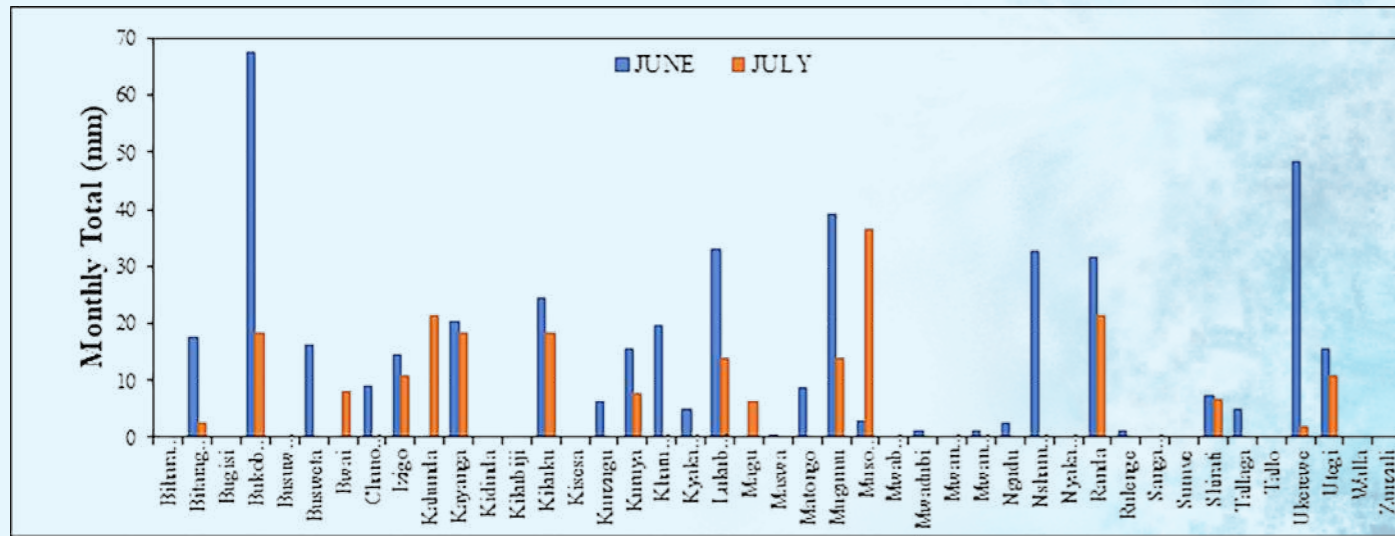


Fig 2b: Rainfall variation in July 2021



Flow in Rivers

Kagera catchment is represented by Kagera/Kyaka Ferry and Ngoni/Kyaka Road stations. While Mori/Utegi and Mbalageti/Mwanza – Musoma Road bridge stations represent Mara catchment.

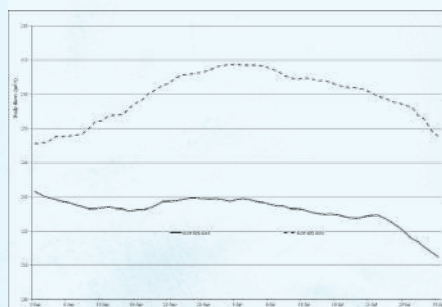
In June & July 2021, all river gauge stations depict a decreasing trend, this was expected due to lack/significant decrease in rainfall in these months. In comparison to the year 2020, less volumes were recorded in this year (2021).

Water Level in Lakes

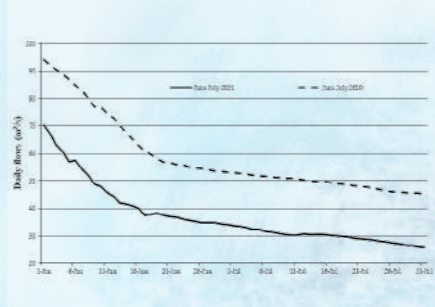
Water level in the Lake Victoria and other satellite lakes are decreasing in these two months. From June to July 31, the water level in Lake Victoria dropped by 0.29m, from elevation of 1134.71 m.a.m.s.l to 1134.42 m.a.m.s.l.

Similar trend was observed in satellite lakes, (Lake Rwakajunju and Lake Ikimba) showed a dropped average of 0.15m and 0.4m respectively.

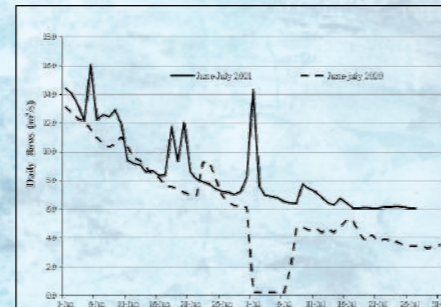
Station	Average Flow 2021 (m ³ /s)	Average Flow 2020 (m ³ /s)
Kagera river	225.98	259.46
Ngoni river	37.10	58.59
Mori river	8.552	6.1
Mbalageti river	1.4	1.97



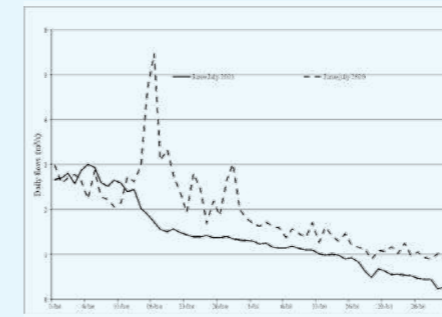
Kagera River



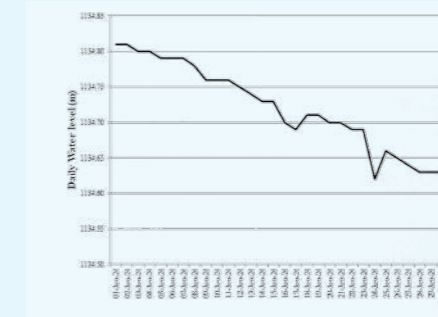
Ngoni River



Mori River



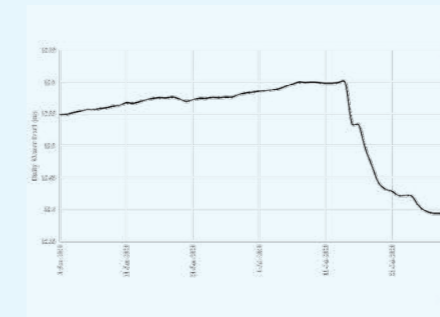
Mbalageti River



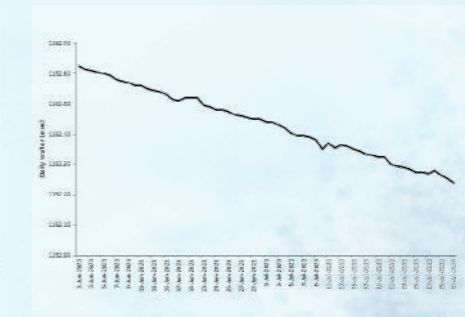
Lake Victoria - Bukoba Port



Lake Victoria - Mwanza Port



Lake Rwakajunju

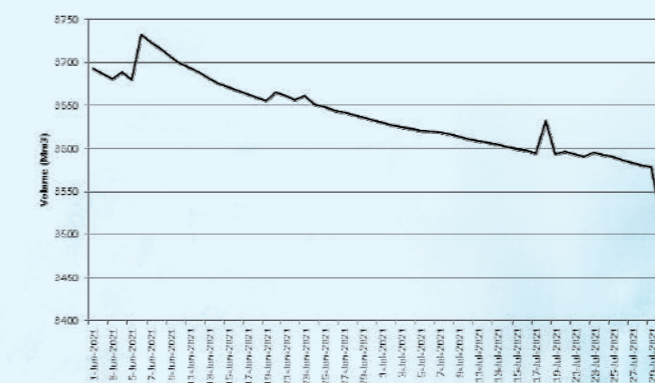


Lake Ikimba

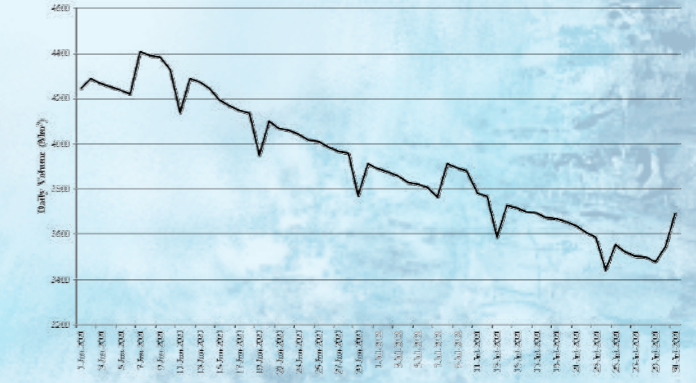
Volume in Reservoirs

At Manchira and New Sola reservoirs, the water level showed a decreasing trend which is expected due to lack of rainfall. The average volume recorded at both reservoirs for June and July 2021 was 3,633.4 Mm³ and 3904.8 Mm³ respectively. Stepping trend observed in the New Sola reservoirs is linked to pumping effect occurring close/nearby the gauge station.

The water level in the reservoirs dropped by 0.2m and 0.3m in Manchira and New Sola reservoirs respectively.



Manchira Dam



New Sola Dam

Conclusion

Overall trend observed in June and July is a decreasing in rainfall. Similar trend is observed in lake water levels and river discharges. A comparison with last year values concluded a less amount received (observed) this year (2021).