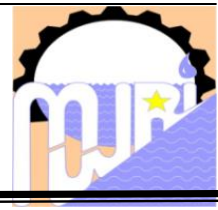
The Republic of South Sudan

Ministry of Water Resources and Irrigation

Juba

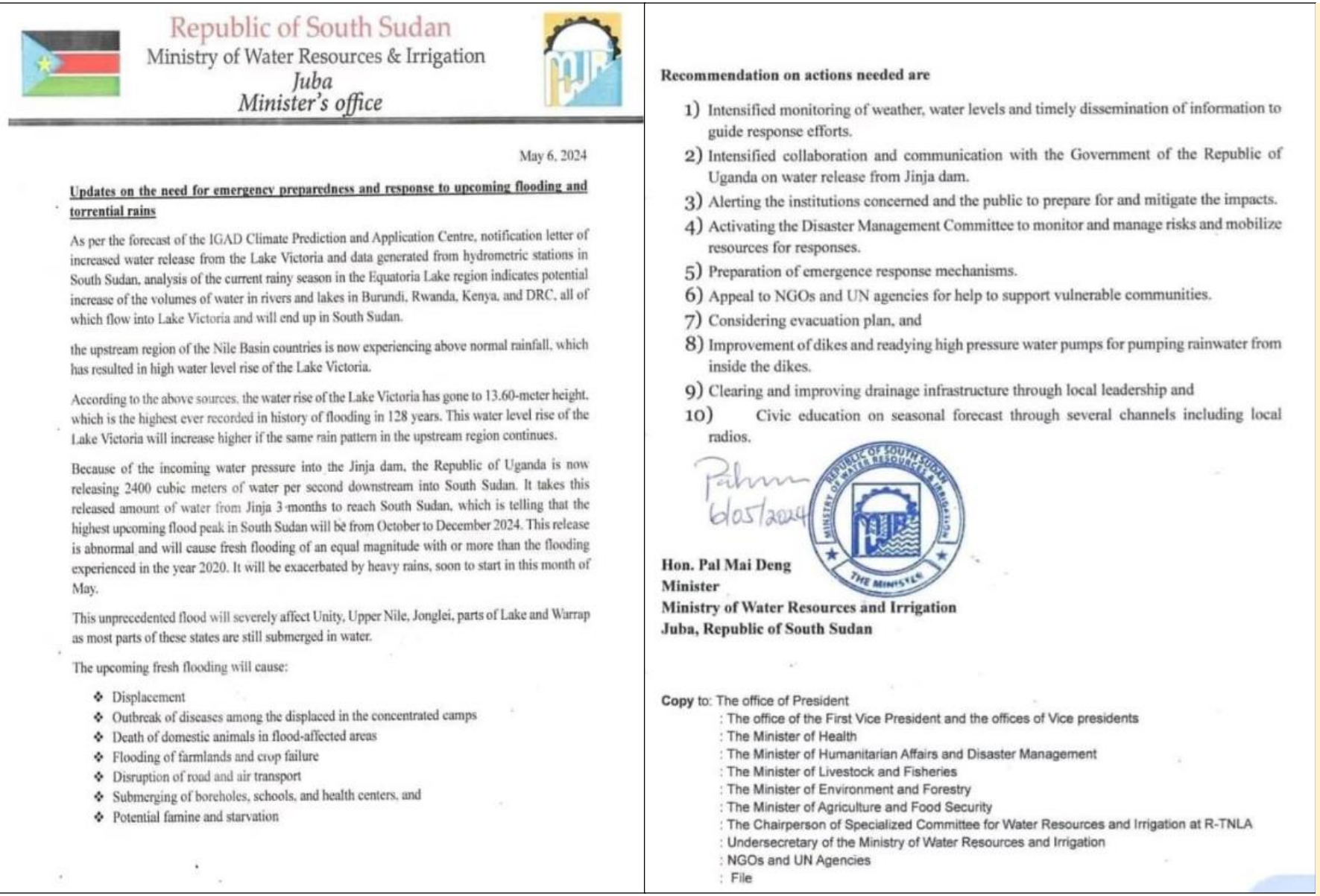


Briefing on Unprecedented Rising Water Levels in Equatorial Lakes region

Date: 16th May 2024

Venue: MWRI Premises

1-Background



Republic of South Sudan
Ministry of Water Resources & Irrigation
Juba
Minister's office

May 6, 2024

Updates on the need for emergency preparedness and response to upcoming flooding and torrential rains

As per the forecast of the IGAD Climate Prediction and Application Centre, notification letter of increased water release from the Lake Victoria and data generated from hydrometric stations in South Sudan, analysis of the current rainy season in the Equatoria Lake region indicates potential increase of the volumes of water in rivers and lakes in Burundi, Rwanda, Kenya, and DRC, all of which flow into Lake Victoria and will end up in South Sudan.

the upstream region of the Nile Basin countries is now experiencing above normal rainfall, which has resulted in high water level rise of the Lake Victoria.

According to the above sources, the water rise of the Lake Victoria has gone to 13.60-meter height, which is the highest ever recorded in history of flooding in 128 years. This water level rise of the Lake Victoria will increase higher if the same rain pattern in the upstream region continues.

Because of the incoming water pressure into the Jinja dam, the Republic of Uganda is now releasing 2400 cubic meters of water per second downstream into South Sudan. It takes this released amount of water from Jinja 3 months to reach South Sudan, which is telling that the highest upcoming flood peak in South Sudan will be from October to December 2024. This release is abnormal and will cause fresh flooding of an equal magnitude with or more than the flooding experienced in the year 2020. It will be exacerbated by heavy rains, soon to start in this month of May.

This unprecedented flood will severely affect Unity, Upper Nile, Jonglei, parts of Lake and Warrap as most parts of these states are still submerged in water.

The upcoming fresh flooding will cause:

- Displacement
- Outbreak of diseases among the displaced in the concentrated camps
- Death of domestic animals in flood-affected areas
- Flooding of farmlands and crop failure
- Disruption of road and air transport
- Submerging of boreholes, schools, and health centers, and
- Potential famine and starvation

Recommendation on actions needed are

1) Intensified monitoring of weather, water levels and timely dissemination of information to guide response efforts.
2) Intensified collaboration and communication with the Government of the Republic of Uganda on water release from Jinja dam.
3) Alerting the institutions concerned and the public to prepare for and mitigate the impacts.
4) Activating the Disaster Management Committee to monitor and manage risks and mobilize resources for responses.
5) Preparation of emergence response mechanisms.
6) Appeal to NGOs and UN agencies for help to support vulnerable communities.
7) Considering evacuation plan, and
8) Improvement of dikes and readying high pressure water pumps for pumping rainwater from inside the dikes.
9) Clearing and improving drainage infrastructure through local leadership and
10) Civic education on seasonal forecast through several channels including local radios.

6/05/2024

Hon. Pal Mai Deng
Minister
Ministry of Water Resources and Irrigation
Juba, Republic of South Sudan

Copy to: The office of President
: The office of the First Vice President and the offices of Vice presidents
: The Minister of Health
: The Minister of Humanitarian Affairs and Disaster Management
: The Minister of Livestock and Fisheries
: The Minister of Environment and Forestry
: The Minister of Agriculture and Food Security
: The Chairperson of Specialized Committee for Water Resources and Irrigation at R-TNLA
: Undersecretary of the Ministry of Water Resources and Irrigation
: NGOs and UN Agencies
: File

- Lake Victoria water levels have been rising
- Uganda government notified MWRI that they were releasing 2,400m^3/s of water downstream into the Nile
- Currently release increased 2,600m^3/s(verbal communication)

2-Introduction

The Nile Equatorial Lakes (NEL) region is compost parts of South Sudan , Burundi, Kenya, Rwanda , DR Congo, Tanzania and Uganda that drain into Nile Basin.

The March- April –May (MAM) season is major rainy season in the NEL region of the Nile basin

Annual rainfall range between 400 mm to 2000 mm .

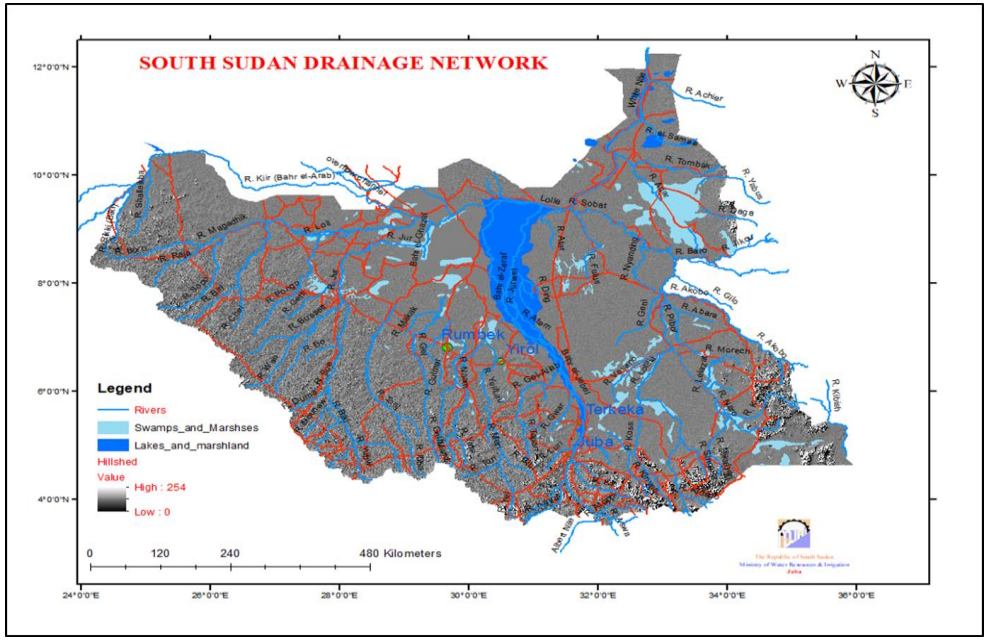
3. Floods and Drought Risk Knowledge

a. Hydro-geographical location and the Shape of South Sudan

- ✓ **Over 95%** of South Sudan lies in the Nile Basin (**map to the right**).
  - ❖ All flood water from the upper catchments passes through South Sudan
  - ❖ Nile system in South Sudan is a **"Conduit"-No control structures**

b. "Spade-like-Shape" map of South Sudan:

- ✓ depressed central part of South Sudan is an "accumulation pan" for flood waters



4-Regional Flood out look - Meteorology

Climate outlook March-April-May(MAM) 2024

The region was experienced a heavy rainfall as forecasted in February, 2024 by the IGAD Climate Prediction and Application Center CPAC).

Where probability of above normal rainfall in upper catchment of region was above 50% .

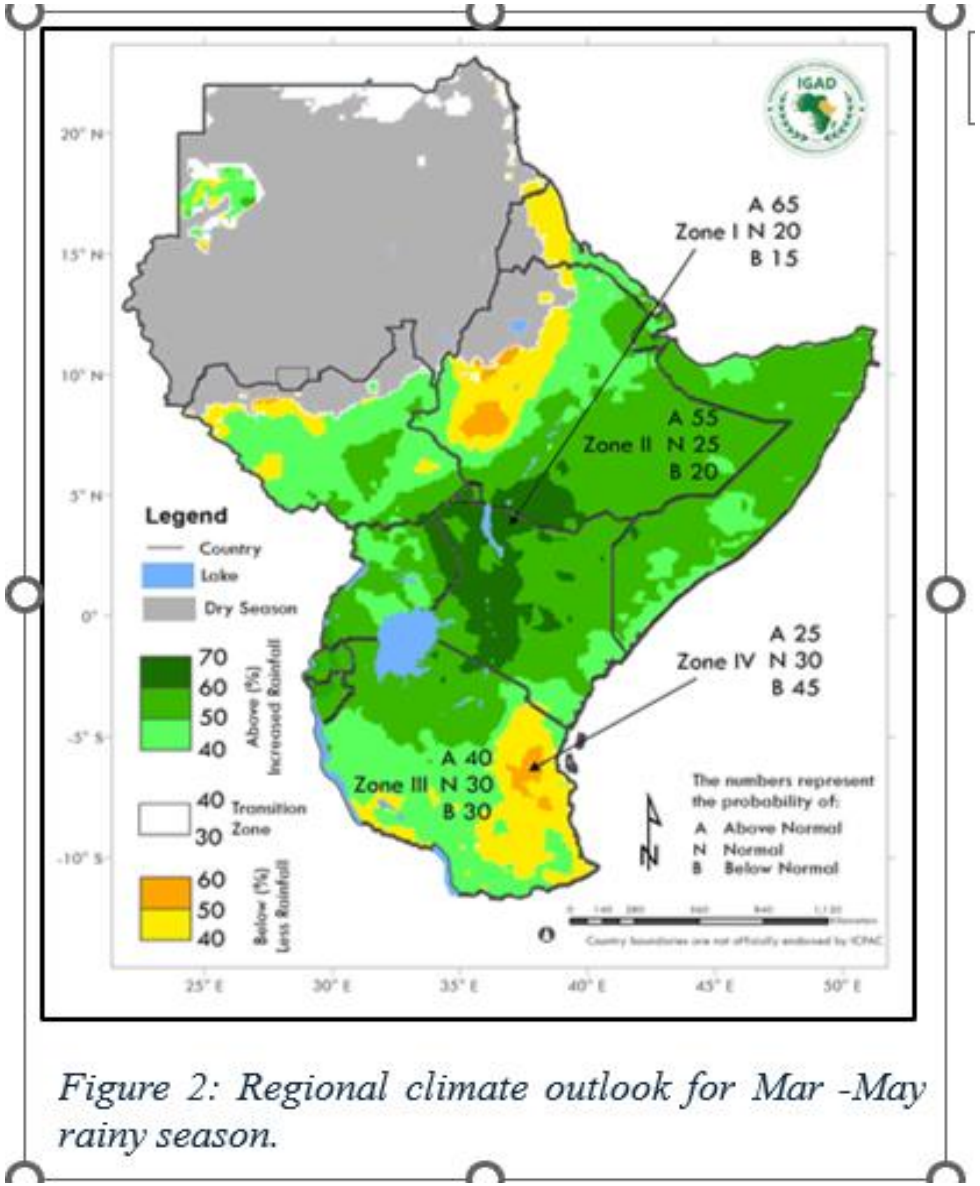
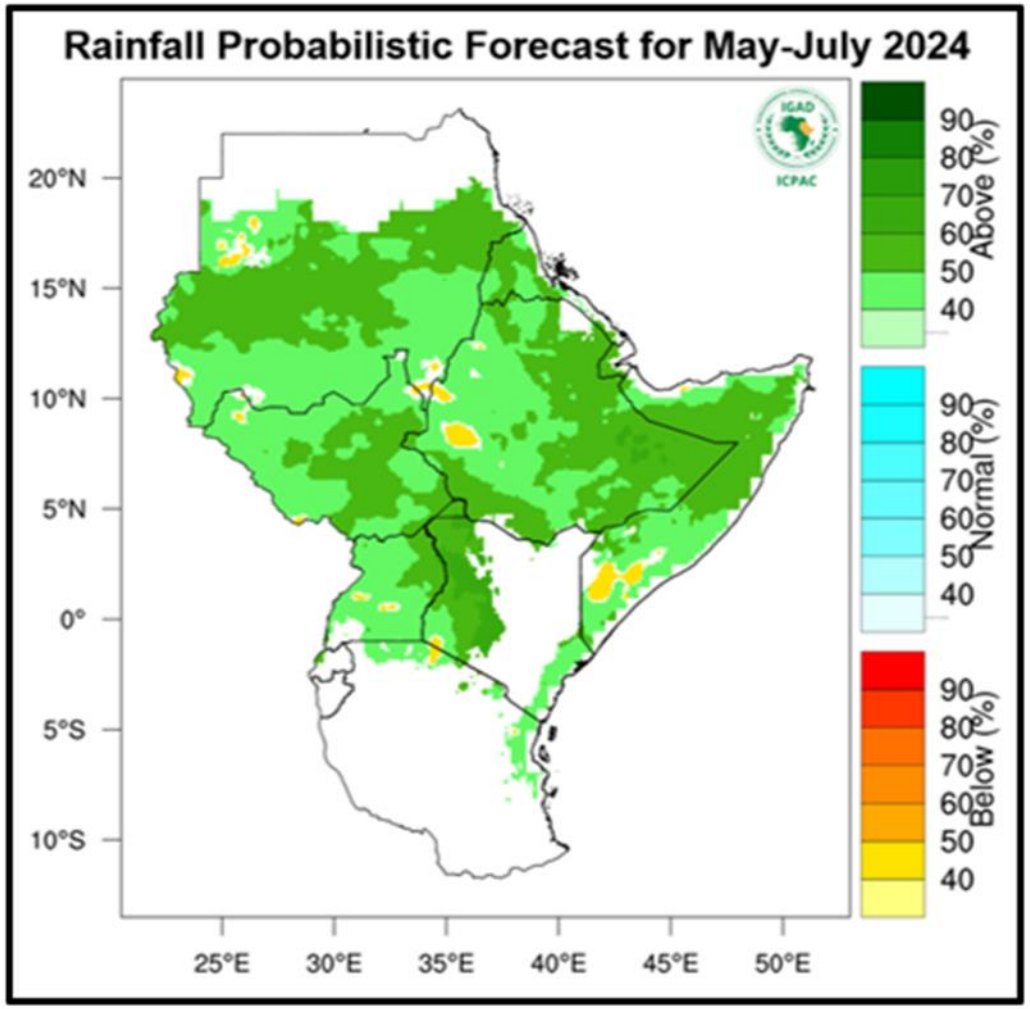


Figure 2: Regional climate outlook for Mar -May rainy season.

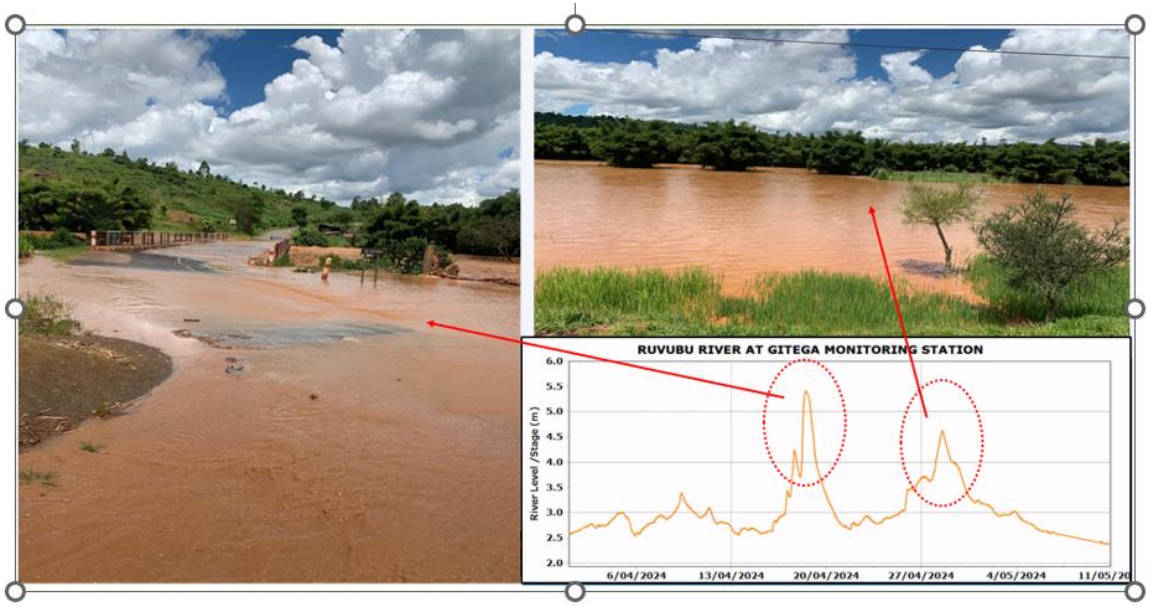
4-Regional Flood out look-Meteorology, Cont'd

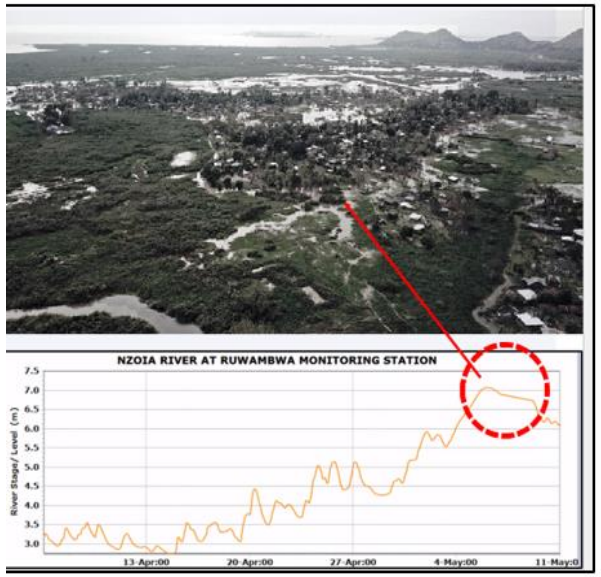
- **Climate outlook May-July 2024**
- The upper part of the region is transitioning to the dray season which occur from June to August. However, the rainfall forecast form IGAD_ICPAC shows will receive above normal rainfall (South Sudan and Uganda),
- The rainy season in Northen part of the region (north Uganda and South Sudan) run from April to October.



5-Regional outlook- *Current Hydrological Situation in Nile Equatorial lakes(NEL) Region*

- **NEL Rivers:** In This current season most of the NEL Region were experienced a devastated flooding due to heavy rain and unprecedented raising of water level in rivers and lakes, resulted into massive destruction of infrastructures, lost of lives and livelihoods.





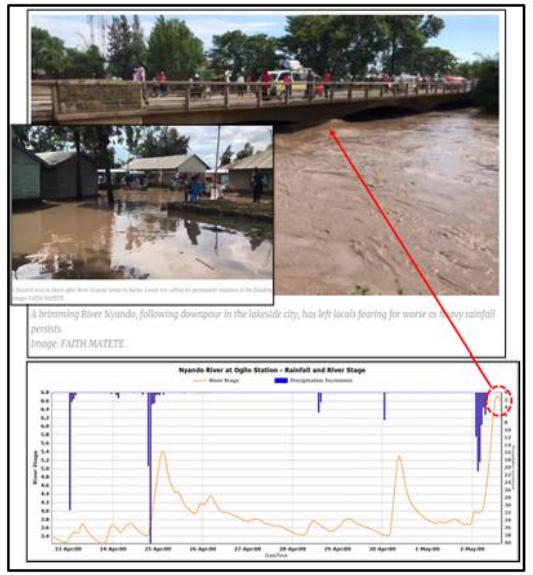


Figure 6: Overtopping bridge on Ruvubu River at Gitaga regional station on 18th and 28th April 2024.

5-Regional outlook- *Current Hydrological Situation in Nile Equatorial lakes(NEL) Region-Cont'd*

- **NEL Lakes:** Water level in Lake Victoria shows Lake Victoria is at its highest level ever surpassing the historical 1964 and 2021 highs.
- Measurement from the Nile Bain Regional Monitoring System indicates that Lake Victoria, Lake Edward and Lake Kyoga water levels have risen significantly between 0.4m to 1.3m
- Lake Victoria water levels increased by 0.17m i.e. from 13.27m to 13.44m within the month of April only. The current water level is 13.44m (21st April 2024) which is only 0.06m below the historical maximum level recorded in 2021

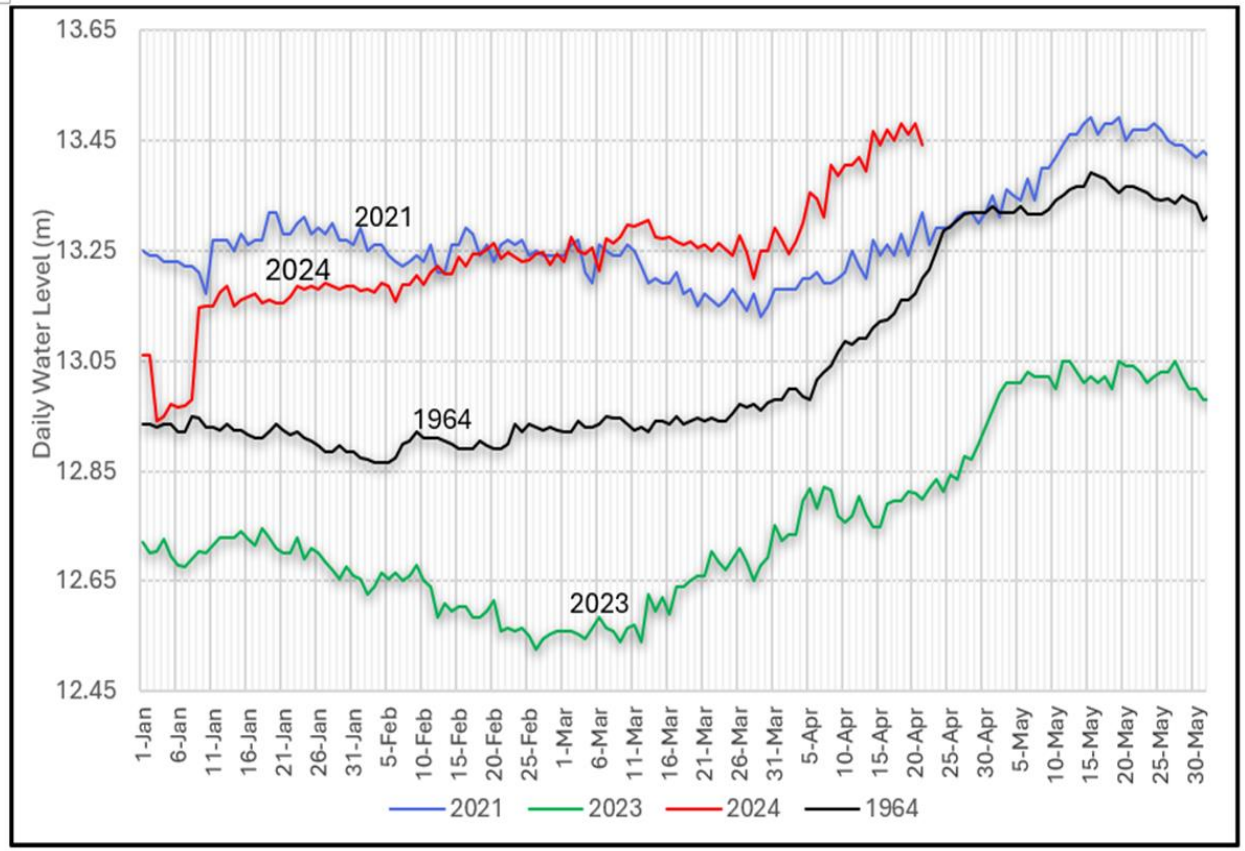


Figure 12: Variations of Lake Victoria water levels in 2024 compared with historical variations

5-Regional outlook- *Current Hydrological Situation in Nile Equatorial lakes(NEL) Region-Cont'd*

NEL Lakes:

- Other lake levels(L. Albert and Kyoga) are also rising
- Areas around Lake Victoria are being flooded

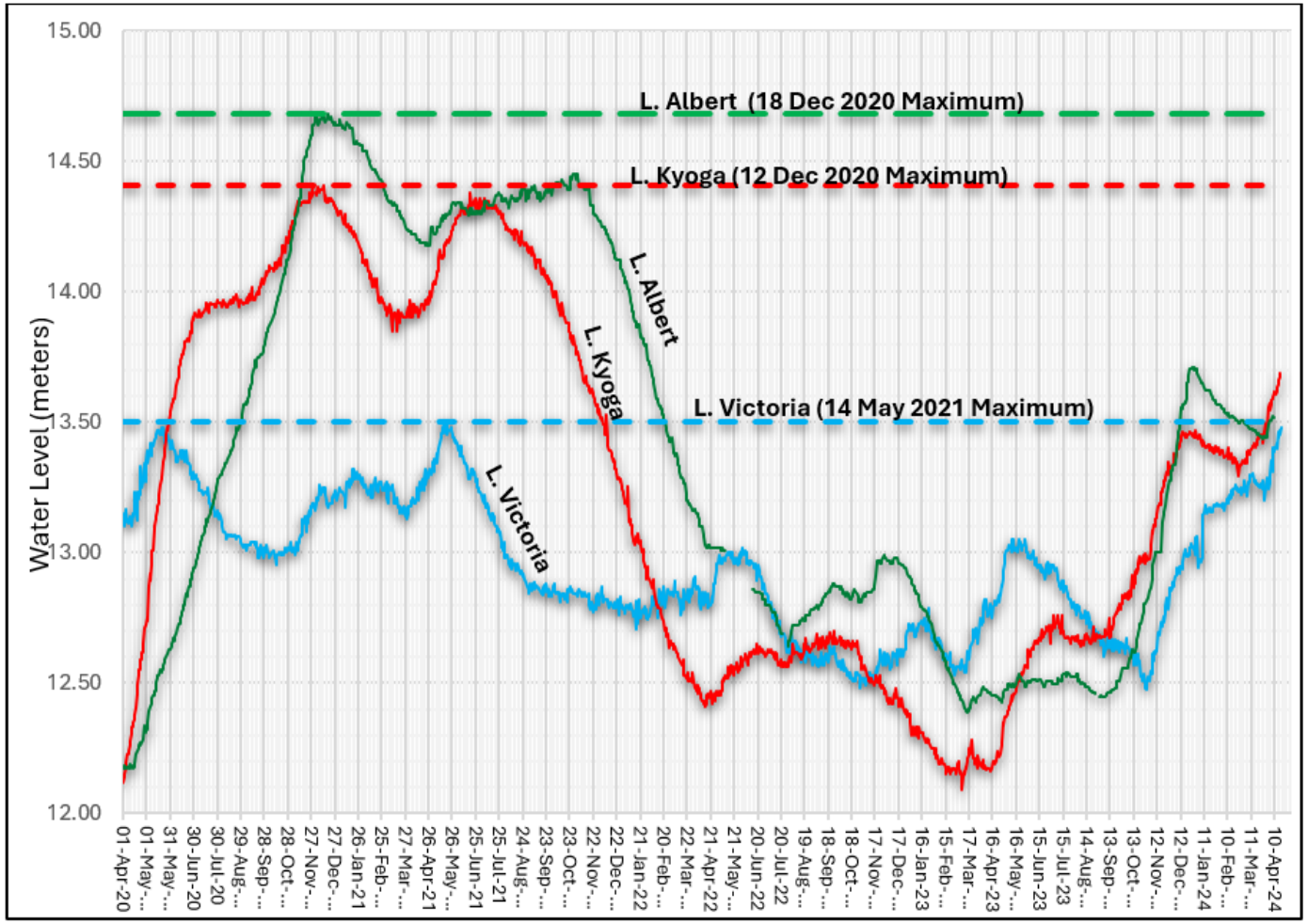
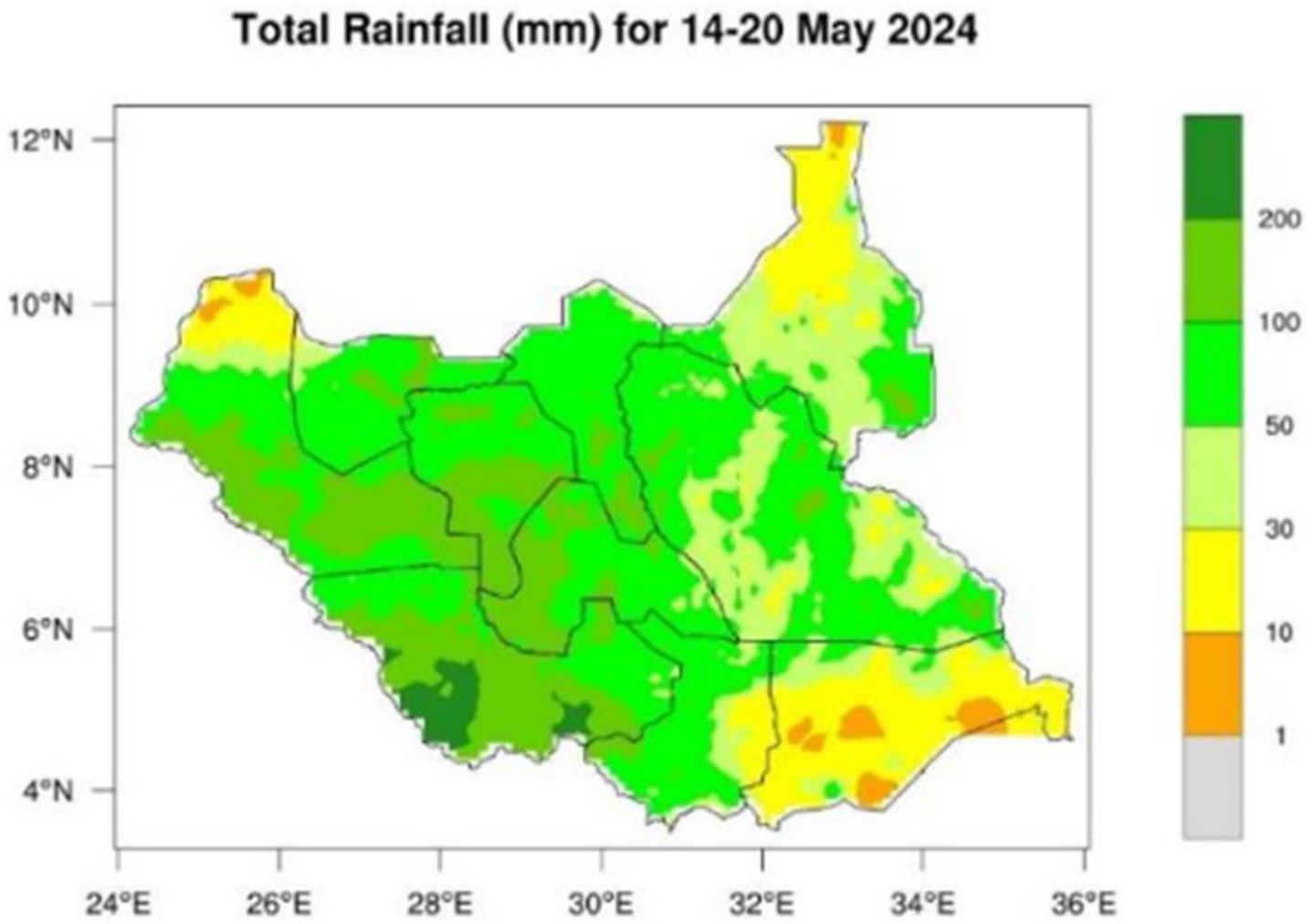


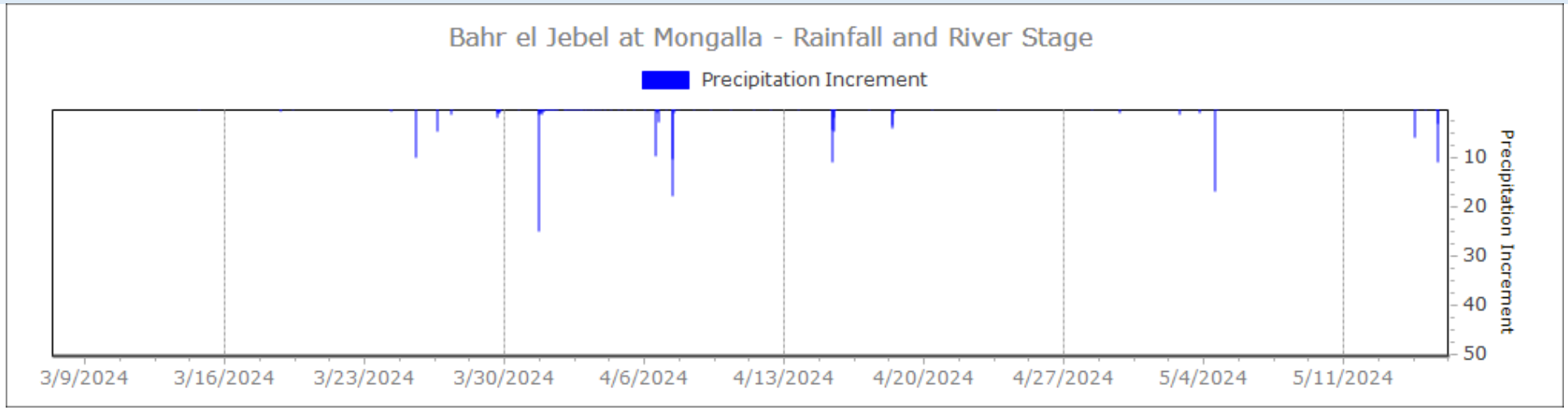
Figure 11: Historical water level variations in Lake Victoria, Lake Kyoga and Lake Albert

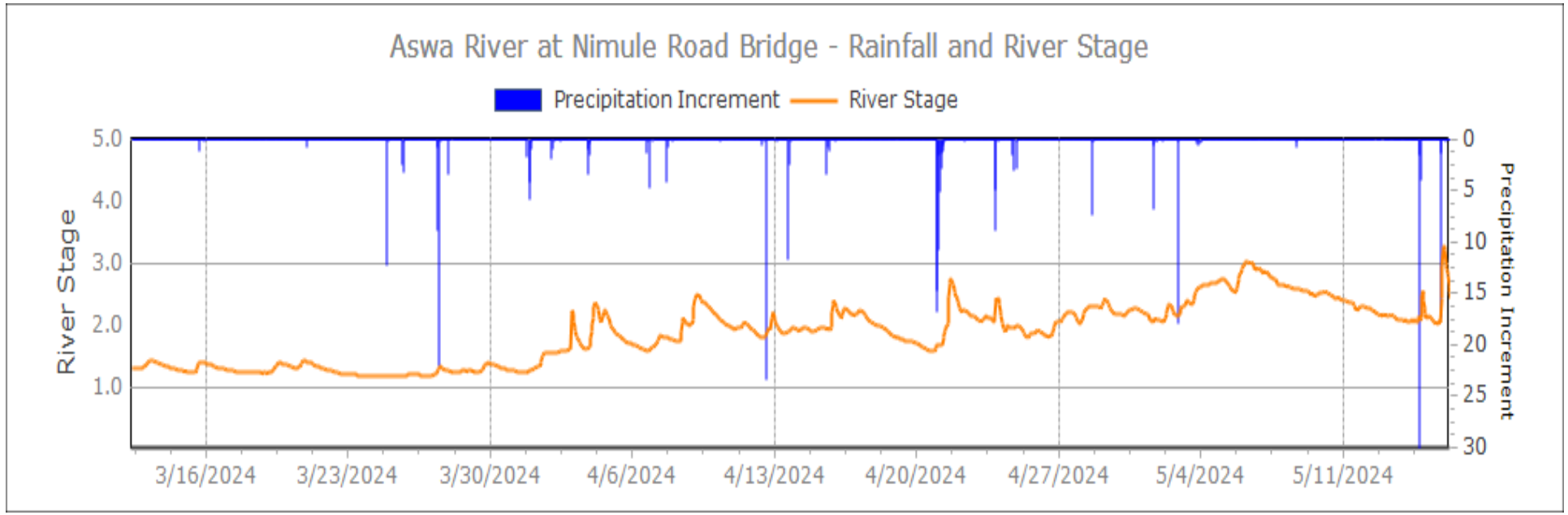
6-National flood outlook- Meteorology forecast

- SSMS issues monthly and weekly rainfall forecast over South Sudan
- Heavy rainfall is expected over the southern western equatorial.
- Moderate rainfall is expected over most parts of states in the country, while Light rainfall is expected over the eastern equatorial state, Jonglei state, upper Nile state and northern part of western Bahar el Ghazal State



6-National flood outlook- Meteorology Observation

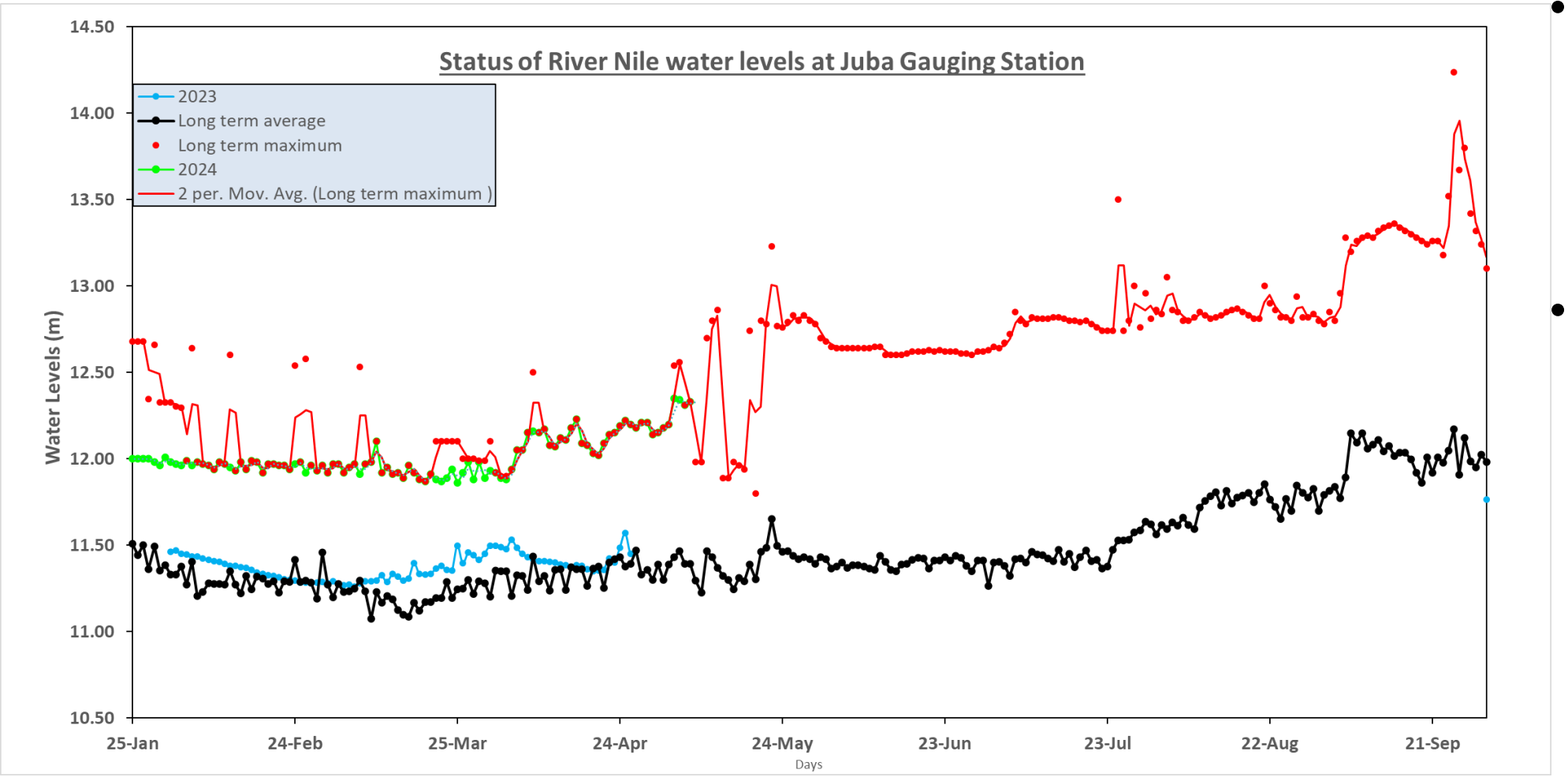




- Rainfall observations show continuous rainfall over the last three months (MAM 2024)
- More rainfall observed at border areas with Uganda (Aswa station)
- Moderate rainfall observed in Mangala, closer to Juba

6-National Flooding outlook: Hydrology

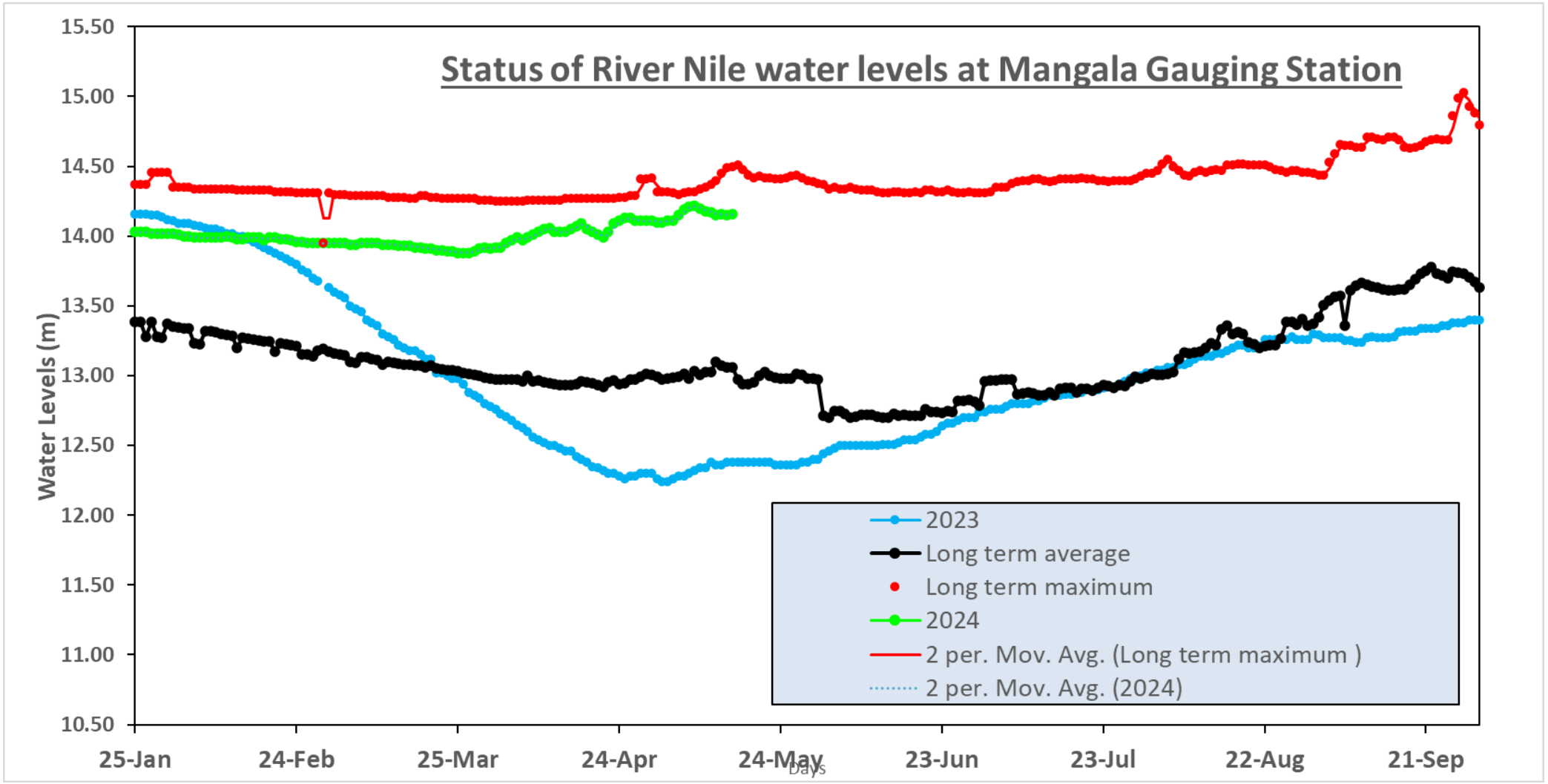
- River Water levels: **Juba Gauge Station**



- Current water levels in the Nile are almost equal to maximum ever recorded
- This shows that any additional runoff will likely increase water levels that can outburst river banks leading to flooding

6-National Flooding outlook: Hydrology Cont'd

- River Water levels: **Mangala**



7-Concluding remarks

- Record high outflows from Lake Victoria will persist resulting in increased water levels in Lake Kyoga and Lake Albert causing flooding around their shorelines and downstream especially in Elegu-Nimule border posts.
- Above normal rainfalls predicted over the region. Also it coincides with rainy season(April-October) in South Sudan
- Rivers water levels are already higher than long term average.
- The combination of highwater levels in the rivers and above normal rainfalls will likelihood cause flood occurrence in the country
- States likely to be affected include: Jonglei, Unity, Upper Nile, parts of Central Equatoria, Lakes and GPAA

Thank you

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