



ICPAC

A satellite image of the Earth showing a large-scale weather system, likely a cyclone or hurricane, over the Indian Ocean. The image is in grayscale, highlighting the swirling cloud patterns and the dark ocean surface. The text is overlaid on this image.

EARTH OBSERVATIONS FOR CLIMATE SERVICES IN EAST AFRICA

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ICPAC: CLIMATE SERVICES FOR EASTERN AFRICA

- Established in **1988** as the Drought Monitoring Centre (DMC) for Eastern Africa
- ICPAC serves 11 East African countries.

OUR SERVICES



Climate Forecasting



Disaster Risk Management



Water Resources



Climate Information Dissemination



Agriculture and Food Security



Environmental Monitoring



Capacity Development

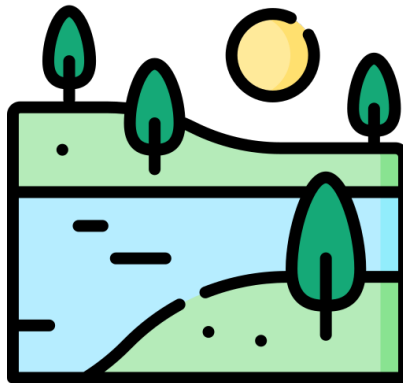


Climate Change

ICPAC: WEATHER, HYDROLOGICAL, AND CLIMATE SERVICES



Weather and
climate forecast



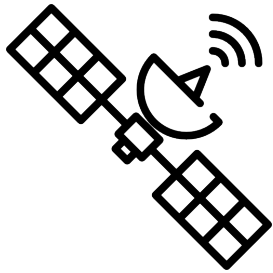
Hydrological
forecast



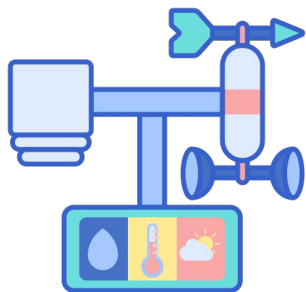
Disaster Risk
management

EARTH OBSERVATION FOR WEATHER FORECASTING

Satellite Observations



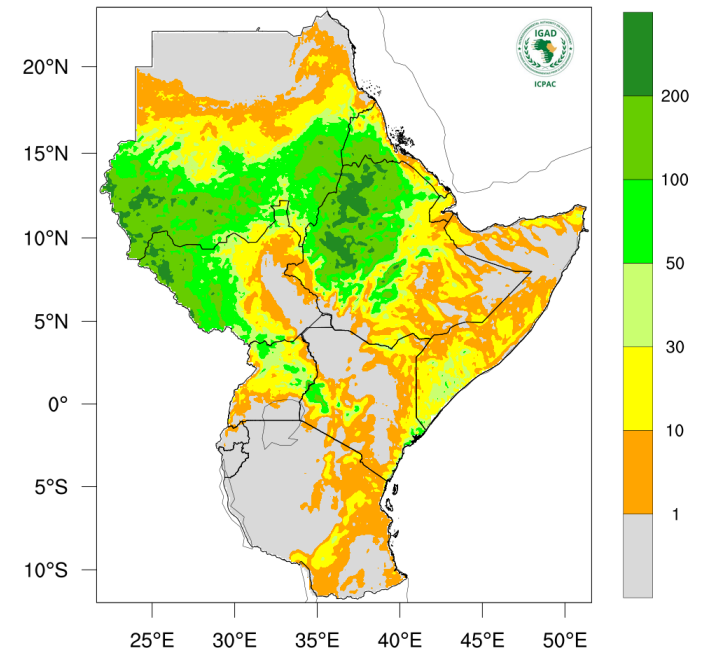
Ground Observations



Model

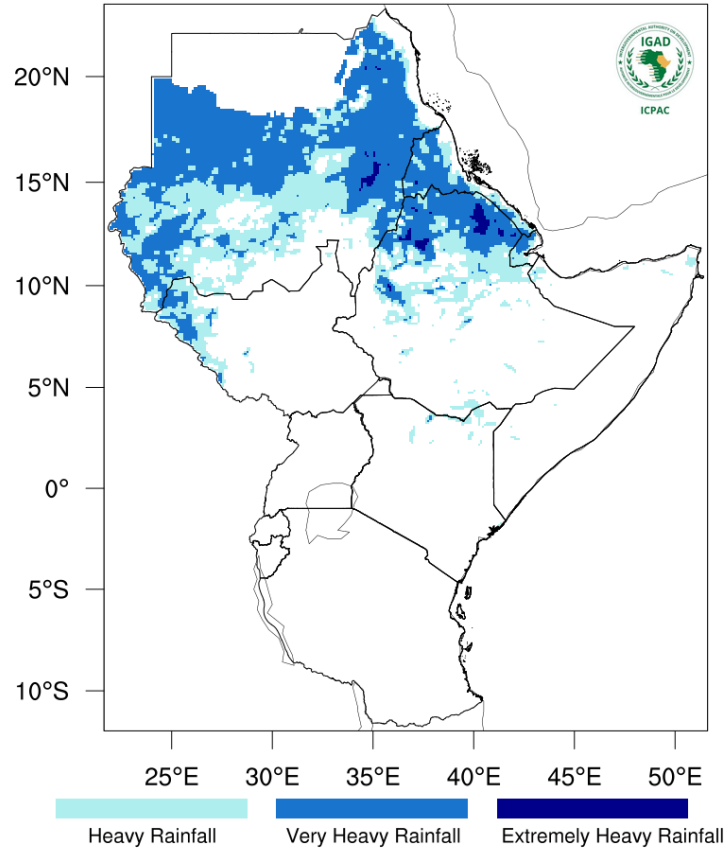
A large green arrow pointing from the observation icons towards the rainfall map.

Total Rainfall (mm) for 18-24 Aug 2020

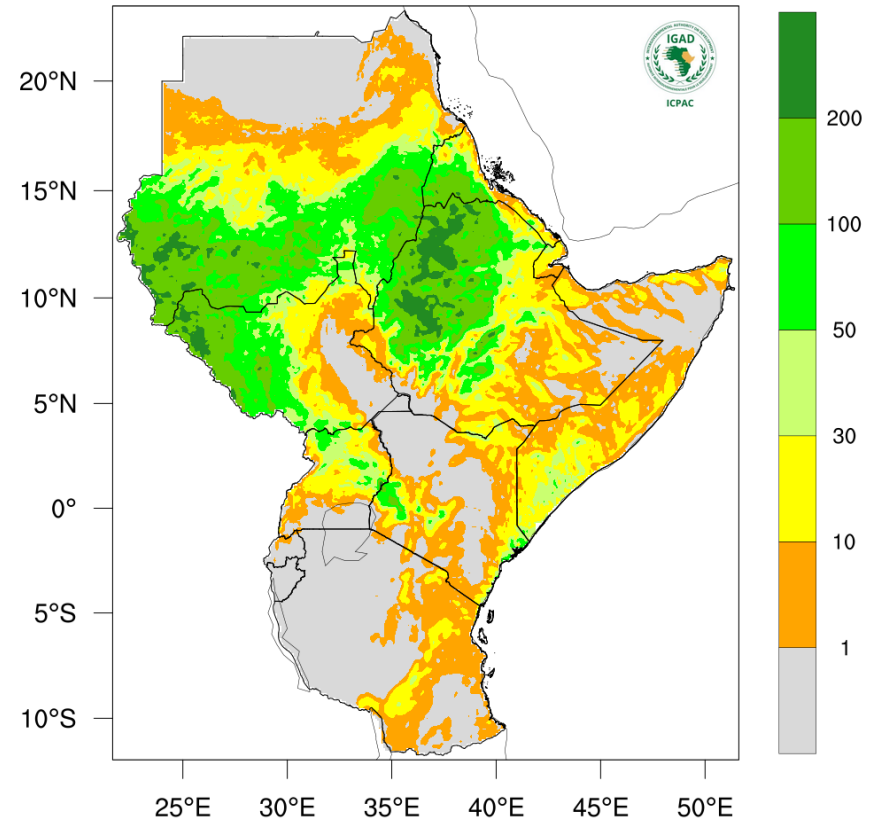


EARTH OBSERVATION FOR WEATHER FORECASTING

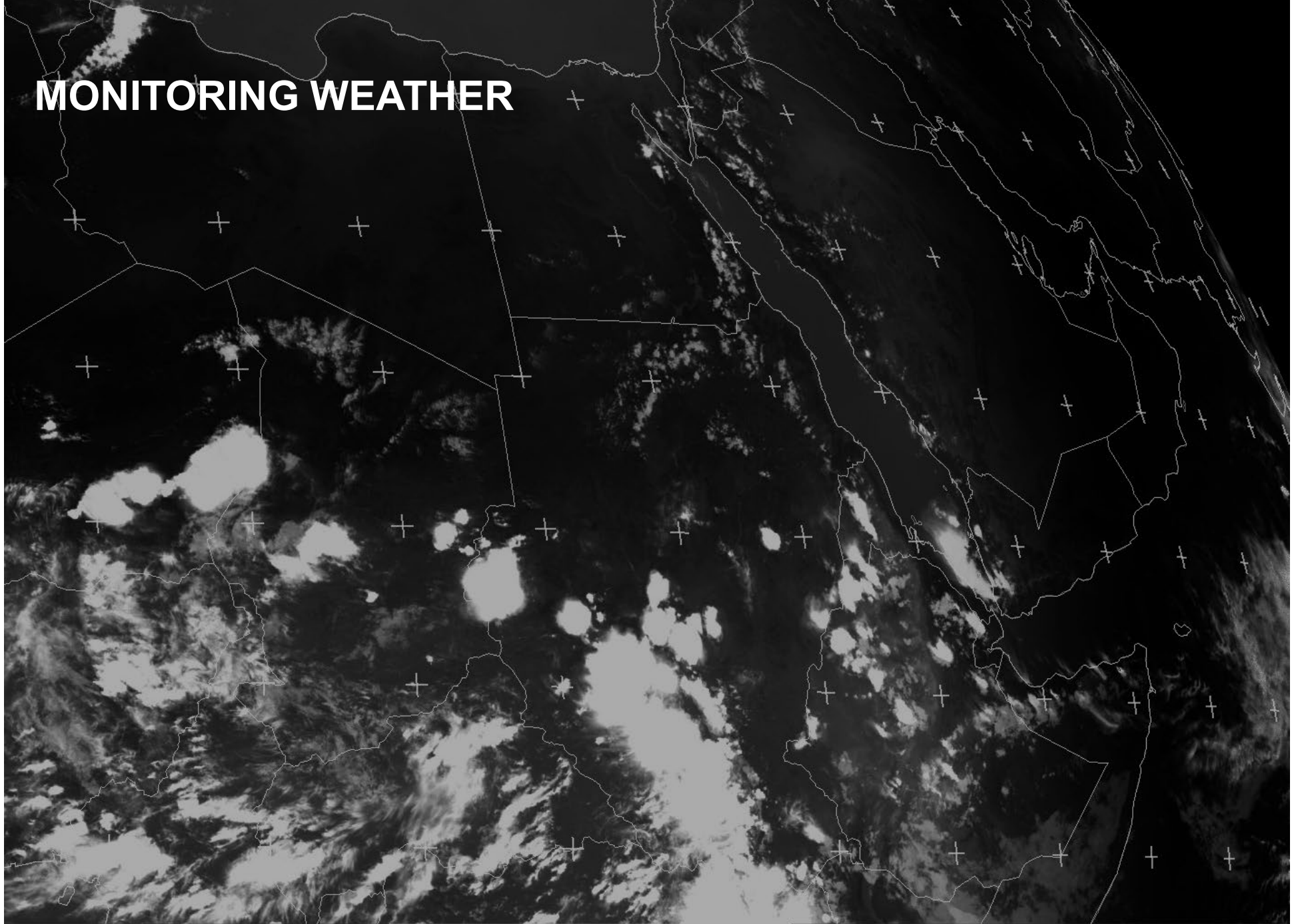
Exceptional Rainfall for 18-24 Aug 2020



Total Rainfall (mm) for 18-24 Aug 2020

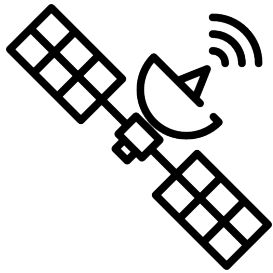


MONITORING WEATHER

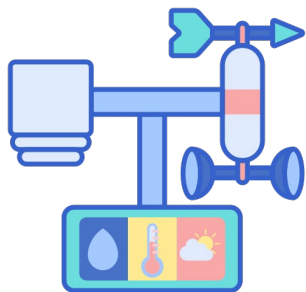


MONITORING THE CLIMATE

Satellite Observations



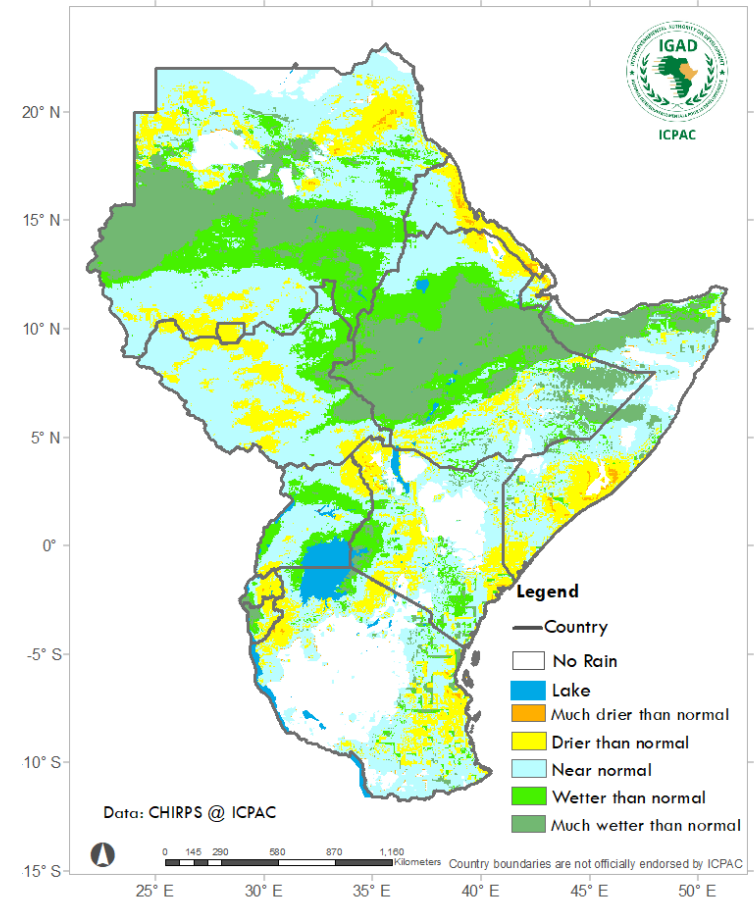
Ground Observations



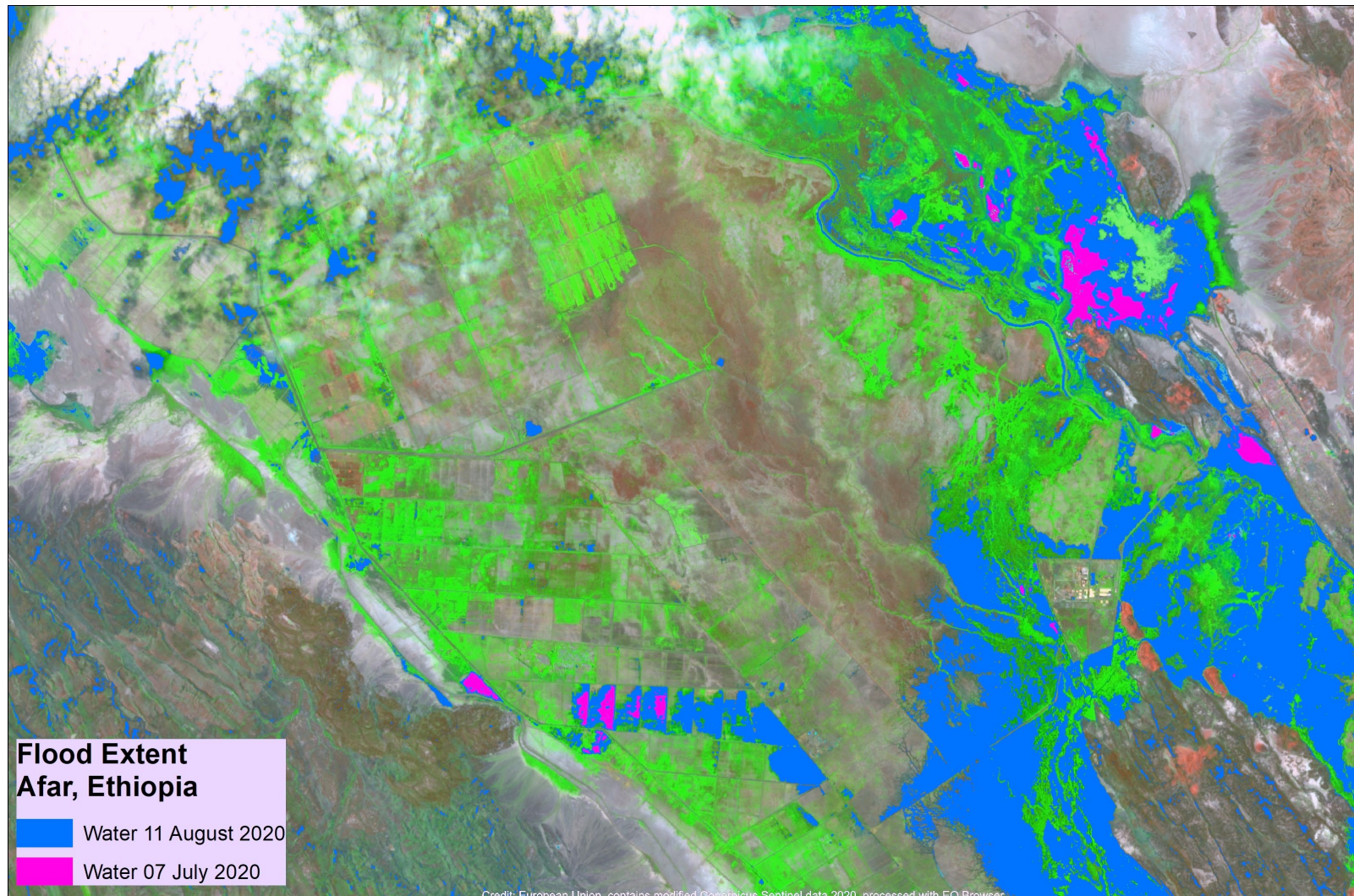
Analysis



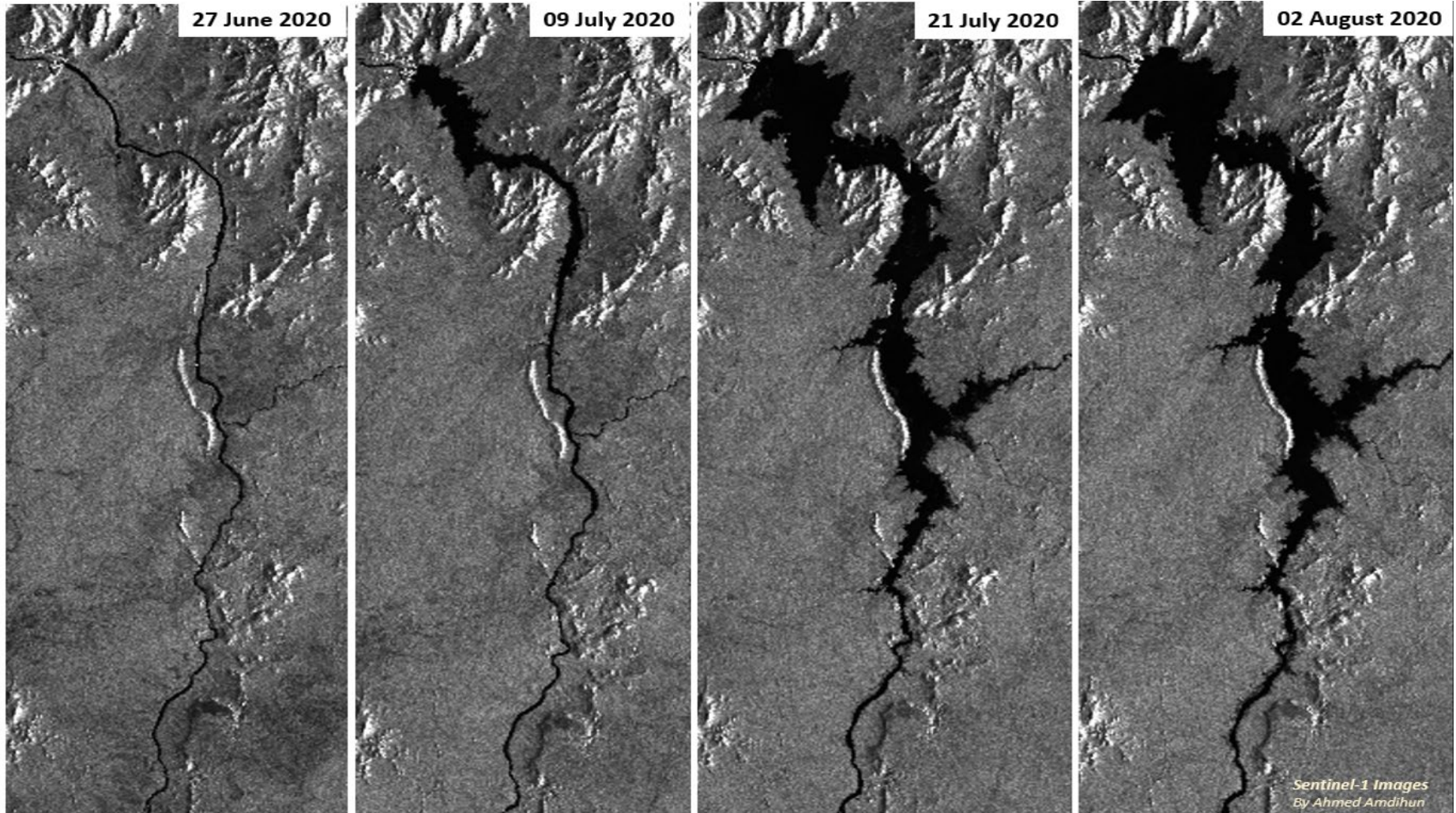
% LTM for third dekad(21-31) of August 2020



EARTH OBSERVATION FOR FLOOD FORECASTING AND FLOOD IMPACT ASSESSMENT

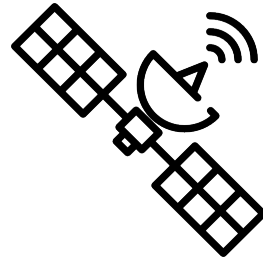


EARTH OBSERVATION FOR FLOOD FORECASTING AND FLOOD IMPACT ASSESSMENT

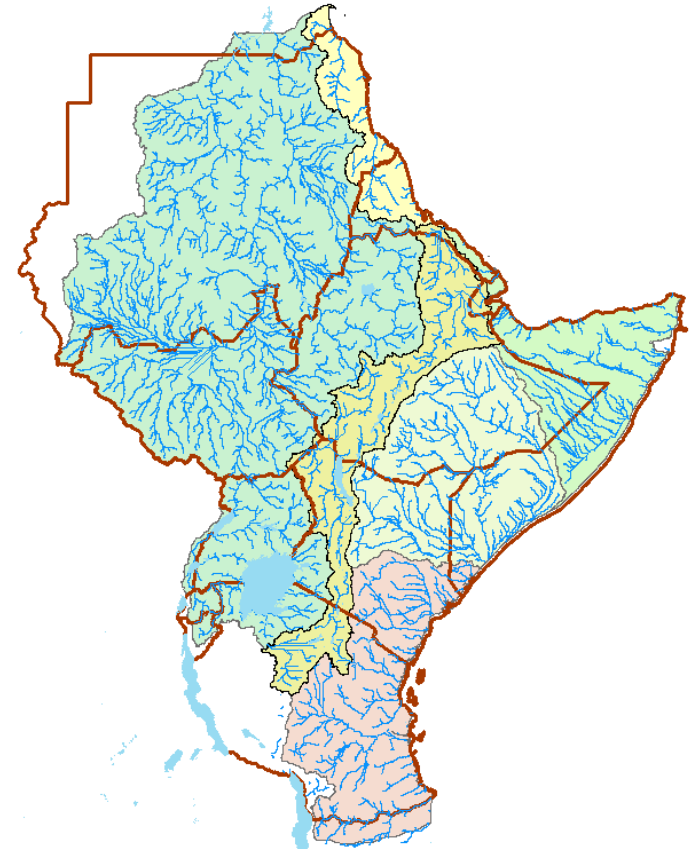
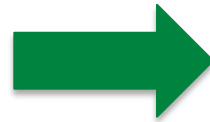
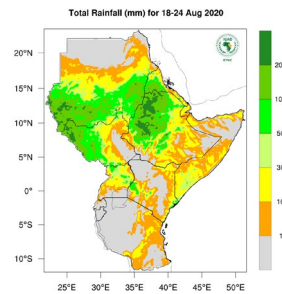


EARTH OBSERVATION FOR HYDROLOGICAL FORECASTING

Satellite
Observations

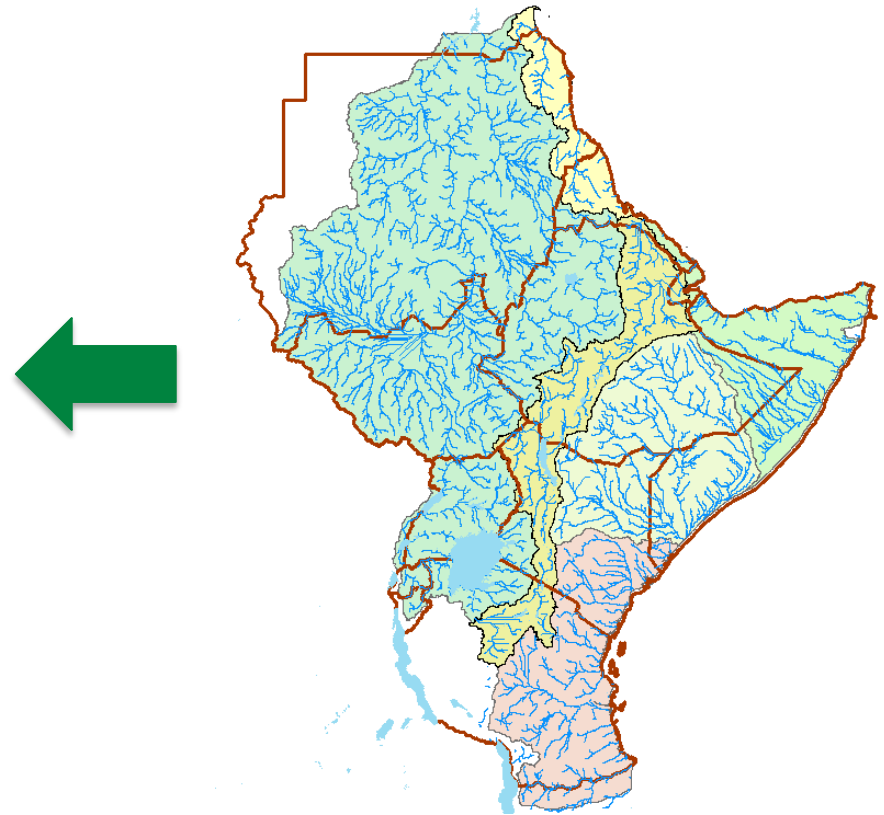
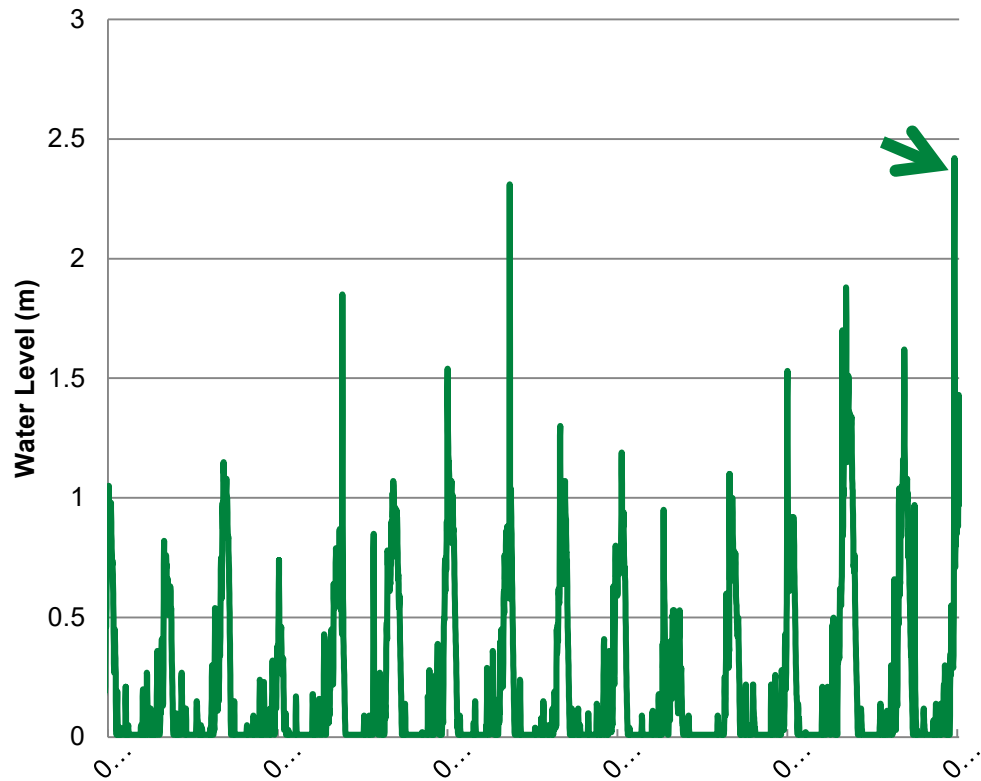


Weather
forecast data



ICPAC WEATHER, HYDROLOGICAL, AND CLIMATE SERVICES

Water level in the Gash river in eastern Sudan

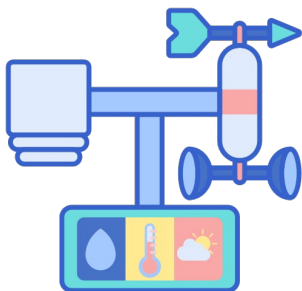


ICPAC WEATHER, HYDROLOGICAL, AND CLIMATE SERVICES

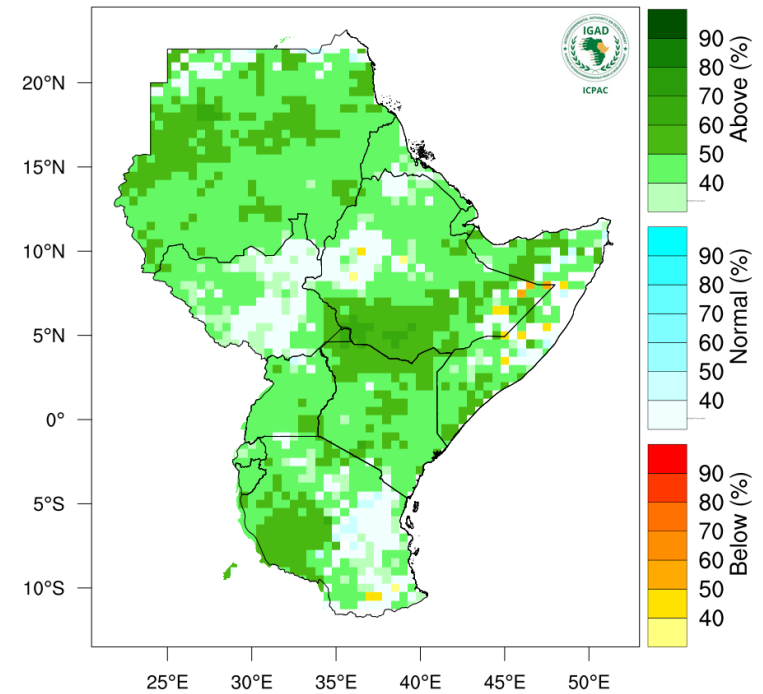
Satellite Observations



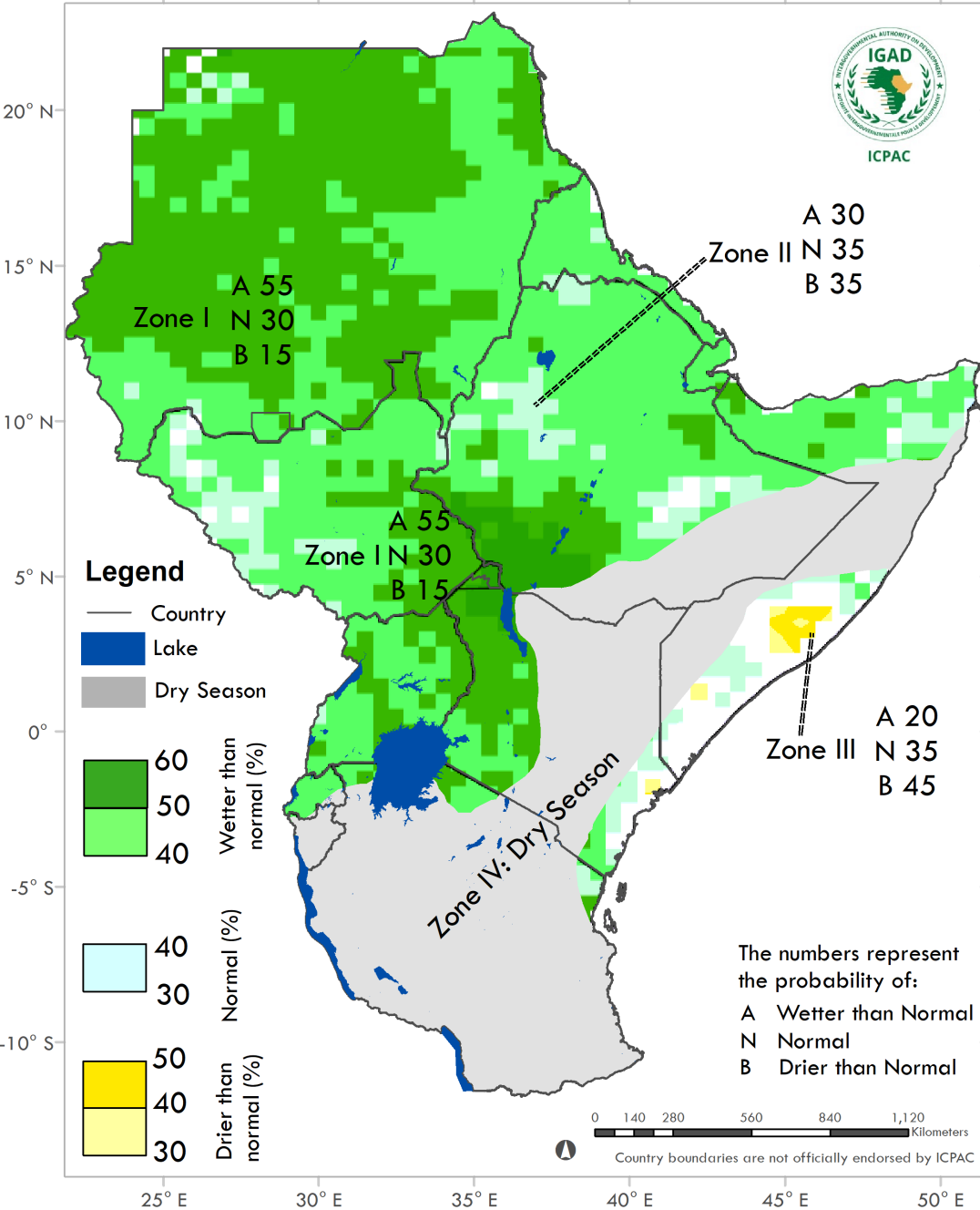
Ground Observations



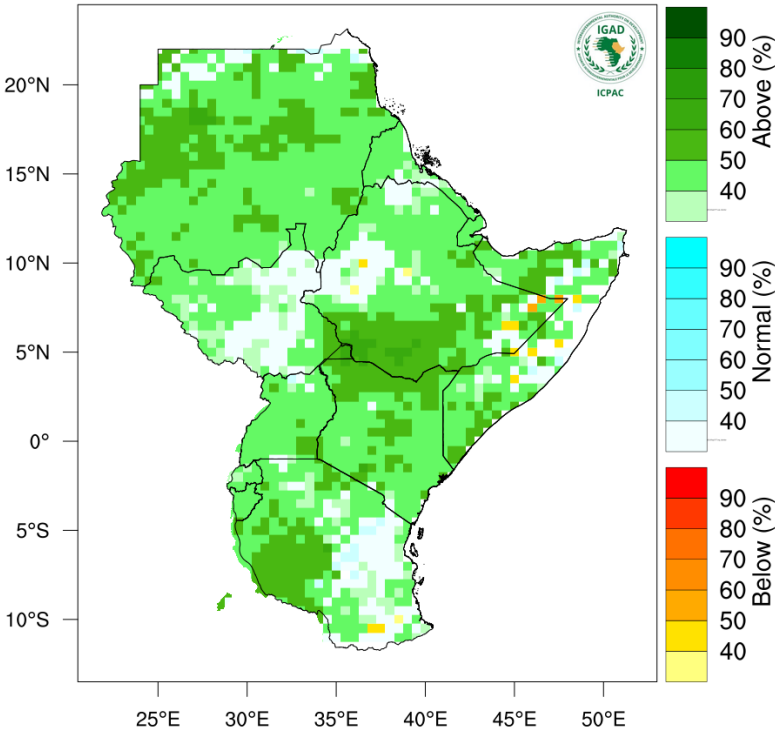
Rainfall Probabilistic Forecast for August



ND CLIMATE SERVICES

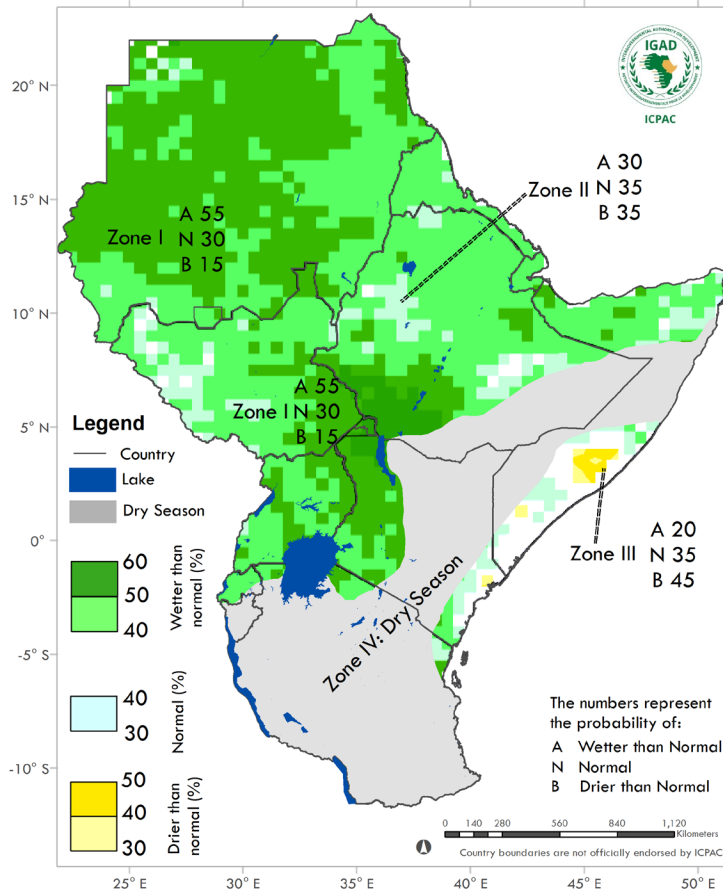
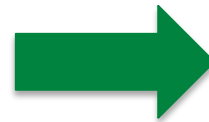


Rainfall Probabilistic Forecast for August



EARTH OBSERVATION FOR USER ADVISORIES

Analysis of impacts and advisories



Disaster Risk Management

Deficient water and pastures might affect crops and pasture availability. Resource based conflicts could be expected. COVID-19 and associated impacts.

Advisory

- Prepare a contingency plan. Consider all sectors in the response plan
- Closely monitor the season and take action in providing water and pasture

Agriculture and Food Security

Drier than usual conditions, late onset and long dry spell might lead to agricultural drought, presenting poor prospects for the season. The impacts of COVID-19, desert locust, past climatic and non-climatic shocks might escalate food insecurity. In the pastoral communities scarcity of grazing resources until May 2021 might occur. Across Pastoral and Agro-pastoral livelihood areas, early depletion of water and pasture may lead to scarcity of milk and other products, negatively impacting food security and nutrition. This may trigger resource-based conflicts, atypical pastoral migration, declined calving and kidding rates.

Advisory

- Immediately disseminate this (early warning) information to decision makers
- Early land preparation for the short rains cultivation. Promote early maturing crops and varieties
- Expand irrigated areas, rehabilitate irrigation infrastructure and subsidise irrigation equipment
- Expand and promote value chain inputs subsidy and crop insurance cover to cushion farmers
- Mitigate impacts of COVID-19 on agriculture across the country, intensify desert locust control measures
- Develop contingency plans and prepare to act early in response to the imminent humanitarian crisis
- Provide adequate kitchen garden kits to vulnerable Households to take care of their nutritional needs
- Utilise the delayed onset (and forecasted dry conditions) to harvest maturing crops in the field
- Repair/rehabilitate irrigation and water harvesting infrastructure across irrigated areas such as Kano, Bunyala and Ahero, and other parts of the country that are currently experiencing flooding
- In areas that might receive over 300 mm (L. Victoria region and central highlands), maximise cultivation of high yielding varieties of all important seasonal crops such as maize, sorghum, potatoes, beans, millet, rice, cassava, etc.
- Closely monitor pasture and water across all pastoral and agro-pastoral areas until May 2021 – and plan for feed/water assistance (water trucking, fodder supplementations for the breeding stock, etc.)
- Use the available grazing resources sparingly. Harvest and keep water, dry herbage and standing hay
- Promote livestock insurance cover to cushion farmers against impacts of climate variability

Water and Energy

Water shortages are expected for both urban and energy production especially towards the end of the season. There is also a low risk of flooding in a few areas.

Advisory

- Water conservation measures, repair and desilting of water storage and conveyance systems
- Increase water users awareness of possible water supply shortages to improve water use efficiency
- Conduct flood risk awareness campaigns
- Coordinate with Disaster Risk Management agencies

Livestock

Expected deterioration of pasture in quality and quantity and drying of water pans, increased trekking distance to water sources impacting on body condition and productivity. Outward migration to dry season fall back areas including out of the counties. Weakening price trends, declining body condition, effects of COVID-19

Advisory

- Intensify DI control both aerial and on the ground
- Karamoja area: Close monitoring and activation of peace committees in various parts of the country
- Disease surveillance, vaccinations and treatments to continue. Conduct vaccinations before movements begin.
- Coastal strip expected to receive animals from North East, monitoring water and pastures for conflict prevention
- Monitor stocks for offtake. Supplemental feeds and water may be necessary

Health

Increased Malaria transmission in the western part of Kenya. Malnutrition due to inadequate food supply. Due to below normal rains, scarcity of water may lead to water related and water washed diseases, cholera, typhoid, scabies, trachoma and including COVID 19. Dryness and winds may lead to dust and lead to respiratory allergies

Advisory

- Expediting distribution and Promotion of ITN use

SUMMARY AND CONCLUSIONS

- **Earth observation is key to deliver quality weather, climate and hydrological services**
- In regions such as East Africa, prone to recurrent disasters, having timely warning information and climate services can help build resilience, especially under a changing climate.

THANK YOU!
www.icpac.net

