

# **STATEMENT FROM THE FIFTY FIFTH GREATER HORN OF AFRICA CLIMATE OUTLOOK FORUM (GHACOF55) FOR JUNE TO SEPTEMBER 2020 RAINFALL SEASON: 18 MAY 2020; ICPAC, NAIROBI METROPOLITAN AREA, KENYA**

## **INTERNET-BASED LIVE FORUM**

### **Consolidated Objective Climate Outlook for June to September 2020**

June to September (JJAS) constitutes an important rainfall season over the northern and equatorial sectors of the Greater Horn of Africa (GHA). The consolidated objective climate forecast from nine Global Producing Centres (GPCs) for Long-Range forecasts indicates higher chance of wetter conditions over most of this region during June to September 2020. Probabilities for above normal rainfall are most enhanced over much of Sudan and a region encompassing south western Ethiopia, western Kenya, eastern Uganda and south eastern South Sudan. In contrast, slightly enhanced chances for the average and below normal rainfall categories are predicted for small areas of western and eastern Ethiopia as well as western South Sudan. Enhanced chances of below normal rainfall are also predicted for coastal parts of Kenya and southern Somalia.

Compared to 1981-2010 averages, earlier than normal start of the rains is indicated across much of northern GHA from western Ethiopia to South Sudan. On the other hand, regions close to the northern-most rainfall boundaries, as well as much of Uganda, are indicated to have delayed rainfall, however in these regions uncertainty in forecast onset is larger because of lack of consistency in model predictions. Longer than average wet-days with daily rainfall exceeding 20 mm are predicted over parts of western Ethiopia and southern Sudan.

The regional objective climate temperature outlook for JJAS 2020 season indicates increased likelihood of warmer than normal temperatures over northern and central southern Sudan, much of the eastern GHA including central and southern Ethiopia. Increased likelihood of warmer than normal temperatures is also predicted for extreme southern and western parts of GHA. Cooler than average temperatures are likely over the central parts of GHA.

*The outlook is relevant for seasonal time scales and relatively large areas. Local and month-to-month variations might occur as the JJAS 2020 season progresses. It is likely that episodic rainfall events leading to flash floods might occur even in areas with increased likelihood of near and below normal rainfall. Also, dry spells may occur in areas with increased likelihood of above and near normal rainfall. WMO in collaboration with Global Climate Centres will continue to provide status of global climate including global climate updates. ICPAC will also provide regular regional climate updates while the National Meteorological and Hydrological Services (NMHSs) will provide downscaled and detailed national and sub-national climate updates.*

### **The Climate Outlook Forum**

The Fifty Fifth Greater Horn of Africa Climate Outlook Forum (GHACOF55) was convened on 18 May 2020 by the IGAD Climate Prediction and Applications Centre (ICPAC) in collaboration with the National Meteorological and Hydrological Services (NMHSs) of IGAD Member States, World Meteorological Organization (WMO) and other partners to share and document climate impacts across the region and to formulate responses to the regional climate outlook for the JJAS 2020 rainfall season over the GHA. The forum was preceded by an internet-based online workshop (Pre-COF55) led by ICPAC held from 11 to 14 May 2020. During the PreCOF55 workshop, regional and national climate and agricultural experts employed ICPAC's DFID-funded High-Performance Computing cluster through remote connection and co-developed regional and national-level climate outlooks.

The GHACOF55 virtually brought together climate information providers and users from key socio-economic sectors, governmental and non-governmental organisations, decision-makers, climate scientists, and civil society stakeholders among others. It reviewed the implications of the factors expected to influence the evolution of the regional climate during the JJAS 2020 rainfall season including Sea Surface Temperature (SST) anomalies over the tropical Oceans and considered the outputs from the WMO Global Producing Centres for Long-Range forecasts.

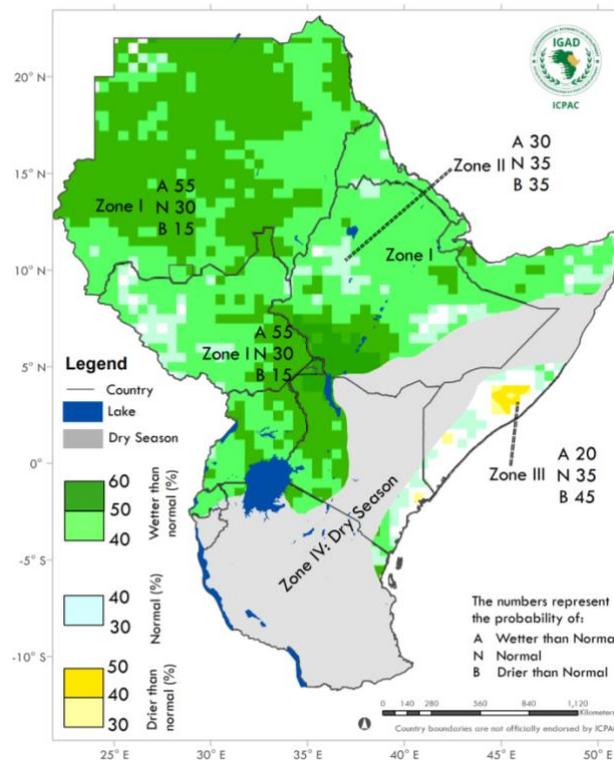
### **Methodology**

The virtual forum examined the prevailing and expected ocean-atmosphere processes as well as the evolving large scale and

regional scale circulation systems that have significant implications on GHA climate during June to September 2020. Key among these processes were current and evolving SST anomalies over global oceans, specifically the increased probability of the current near-neutral ENSO phase continuing and reaching the threshold for La Niña by the end of the JJAS 2020 season. Implications of these on regional rainfall were integrated during the Pre-COF55 Workshop. The Pre-COF55 virtual workshop also considered the global forecasts from WMO Global Producing Centres (GPCs) for Long-Range forecasts as inputs to the objective regional climate outlook for the June to September 2020 season. While probability forecasts for seasonal rainfall were generated from outputs of 9 GPC systems, prospects for season onset timing and early season dry spells were characterised by processing output from the single GPC system for which 6-hourly global data are freely available. Specifically, downscaling was conducted using ensemble integrations of the Weather Research and Forecasting (WRF) model configured for the GHA and run at ICPAC with boundary forcing from the GPC Washington global seasonal system.

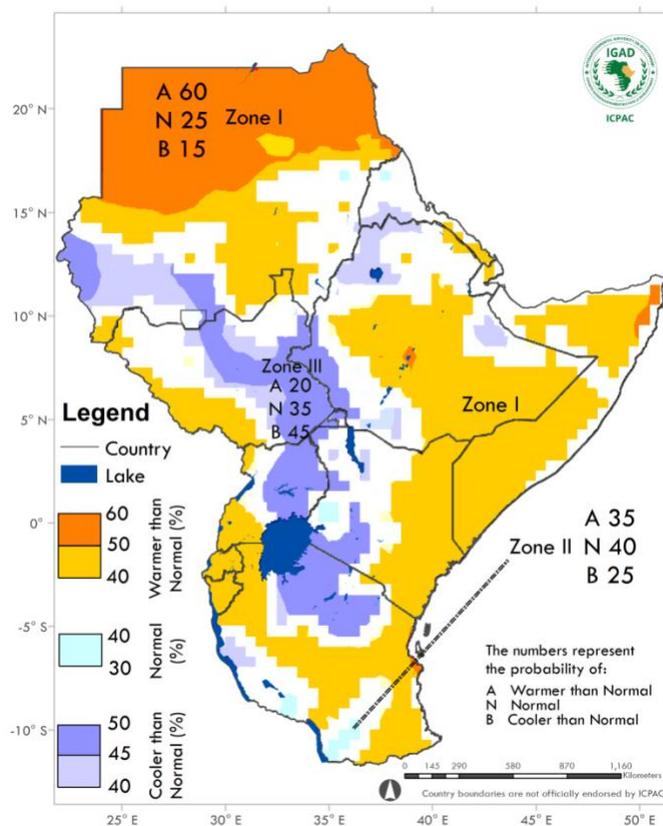
### Climate Outlook for June to September 2020

The objective rainfall and temperature outlooks for the GHA region are given below in Figure 1 and Figure 2, respectively.



**Figure 1: Greater Horn of Africa Objective rainfall Outlook for the June to September 2020 rainfall season**

- Zone I:** In this Zone (all green shading) the above normal rainfall category has the highest probability. The probability varies with location and can be read from the legend. For regions where the probability is highest (55%, dark green) the probabilities for all three categories are provided.
- Zone II:** In this Zone (light blue), the probabilities of normal and below are equally favoured (35%). The probability of above is 30%.
- Zone III:** In this Zone (all yellow shading) the below normal rainfall category has the highest probability. The probability varies with location and can be read from the legend. For regions where the probability is highest (45%, darker yellow) the probabilities for all three categories are provided.
- Zone IV:** Usually dry during June September.



**Figure 2: GHA Mean Surface Temperature Outlook for June to September 2020**

**Zone I:** In this Zone (all orange shading) the above normal (i.e. warmer than normal) temperature category has the highest probability. The probability varies with location and can be read from the legend. For regions where the probability is highest (60%, dark orange) the probabilities for all three categories are provided.

**Zone II:** In this Zone (light blue), the normal category is slightly favoured (40%). The probabilities for the above and below categories are 35% and 25%, respectively.

**Zone III:** In this Zone (all purple shading) the below normal (i.e. cooler than normal) temperature category has the highest probability. The probability varies with location and can be read from the legend. For regions where the probability is highest (45%, darker purple) the probabilities for all three categories are provided.

**Note:** The boundaries between zones should be considered as transition areas. White shading in Figures 1 and 2 indicate regions where the predicted probabilities for the above-, near- and below-normal categories are approximately equal at 33% (i.e. no single category is favoured over the other two).

### Contributors

The Fifty Fifth Greater Horn of Africa Climate Outlook Forum (GHACOF 55) was implemented by ICPAC and supported by WISER Support to ICPAC, SAWIDREA, Intra-ACP Climate Services and Related Applications, and Global Climate Change Alliance Plus Projects. Contributors to the GHACOF 55 regional climate outlook included representatives of the National Meteorological and Hydrological Services from the IGAD countries (Agence Meteorologique Nationale de Djibouti; National Meteorological Agency of Ethiopia; Kenya Meteorological Department; South Sudan Meteorological Service; Sudan Meteorological Authority; Somalia Meteorological Service, and Uganda National Meteorological Authority) and climate scientists as well as other experts from national, regional and international institutions and organizations, including UK Met Office, African SWIFT, SHEAR-ForPac and WMO Global Producing Centres (GPCs).