**STATEMENT FROM THE FIFTY SIXTH GREATER HORN OF AFRICA CLIMATE OUTLOOK FORUM (GHACOF56) FOR OCTOBER TO DECEMBER 2020 RAINFALL SEASON: 26 AUGUST 2020; ICPAC, NAIROBI METROPOLITAN AREA, KENYA**

**INTERNET-BASED LIVE FORUM**

# Consolidated Objective Climate Outlook for October to December 2020

October to December (OND) constitutes an important rainfall season over the southern and equatorial sectors of the Greater Horn of Africa (GHA). The consolidated objective climate forecast from 9 Global Producing Centres (GPCs) indicates higher chance of drier conditions during October to December 2020 season. Probabilities for below normal rainfall are 40-50% over most parts of the region including Tanzania, Burundi, Rwanda, most of Uganda, southern, central, and north-western Somalia, and southern and south-eastern Ethiopia. In contrast, enhanced chances for above normal rainfall are predicted for parts of the northern Red Sea region that usually benefit from winter rainfall in November and December. Weakly enhanced chances of the average and above normal rainfall categories are predicted for parts of western Uganda and northern Somalia.

Consistent with the raised likelihood of depressed rainfall totals, the rains are expected to start late compared to 1981-2010 average onset over Tanzania, Burundi, eastern half of Kenya, southern and central Somalia, and south-eastern Ethiopia. On the other hand, the rains are likely to start earlier than normal over southern Uganda, Rwanda, western Kenya, and the area centred around the border intersections of Uganda, South Sudan, Ethiopia, and Kenya.

The regional objective climate temperature outlook for the OND 2020 season indicates increased likelihood of warmer than normal temperatures over most of the GHA with pronounced probabilities for warmer than average temperatures across western Uganda, central South Sudan, north-eastern Sudan, parts of southern Kenya and coastal Tanzania. Probabilities weakly favour cooler than average temperatures for western Tanzania and a few places 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 OND 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 information on the state of the global climate. 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 Sixth Greater Horn of Africa Climate Outlook Forum (GHACOF56) was convened on 26 August 2020 by the IGAD Climate Prediction and Applications Centre (ICPAC) in collaboration with the National Meteorological and Hydrological Services (NMHSs) of GHA region, 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 OND 2020 rainfall season over the GHA. GHACOF56 was preceded by PreCOF56 Capacity Building workshop from 17-21 August 2020 and sectoral co-production meetings from 24-25 August 2020. During the PreCOF56 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. On 24 August 2020 the water and energy sector expert team carried out a co-production workshop in which impacts of a seasonal streamflow forecast results were discussed. The Agriculture/Food Security sector expert team also held a co-production in which detailed interpretation of seasonal forecast was done.

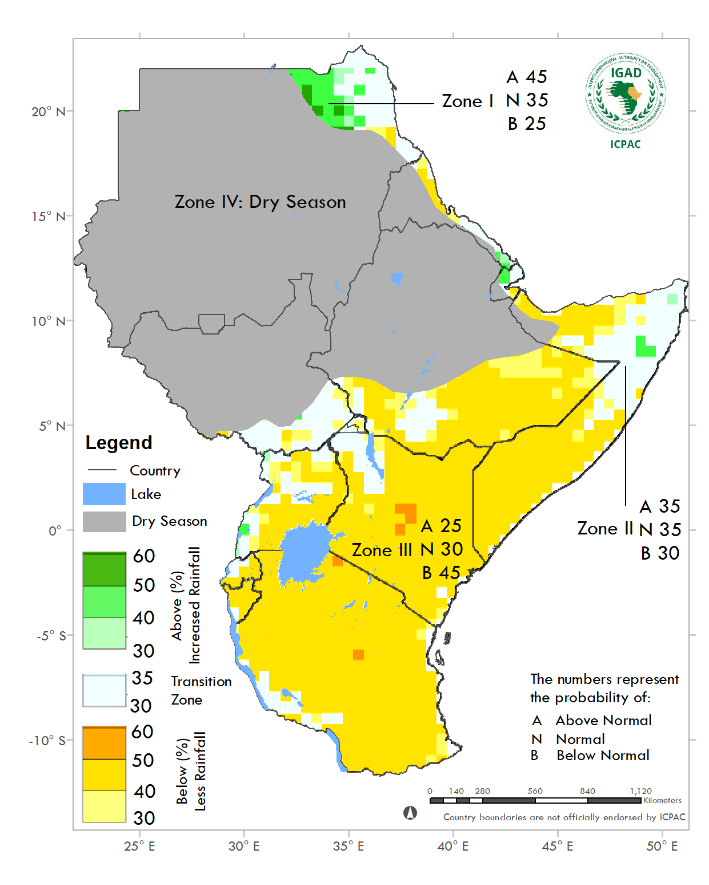
The GHACOF56 virtual forum brought together climate information providers and users from key socio-economic sectors, governmental and non-governmental organisations, decision-makers, climate scientists, and civil society stakeholders among others. It reviewed the implications of the factors expected to influence the evolution of the regional climate during the OND 2020 rainfall season including Sea Surface Temperature (SST) anomalies over the tropical Oceans and considered 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 October to December 2020. Key among these processes were current and evolving SST anomalies over global oceans, specifically the increased cooling of central and east tropical Pacific SSTs with a relatively high chance of a La Niña event becoming established during the season, and raised chances of a negative Indian Ocean Dipole Index. Implications of these on regional rainfall were integrated during the Pre-COF56 Workshop. The Pre-COF56 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 October to December 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 October to December 2020**

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

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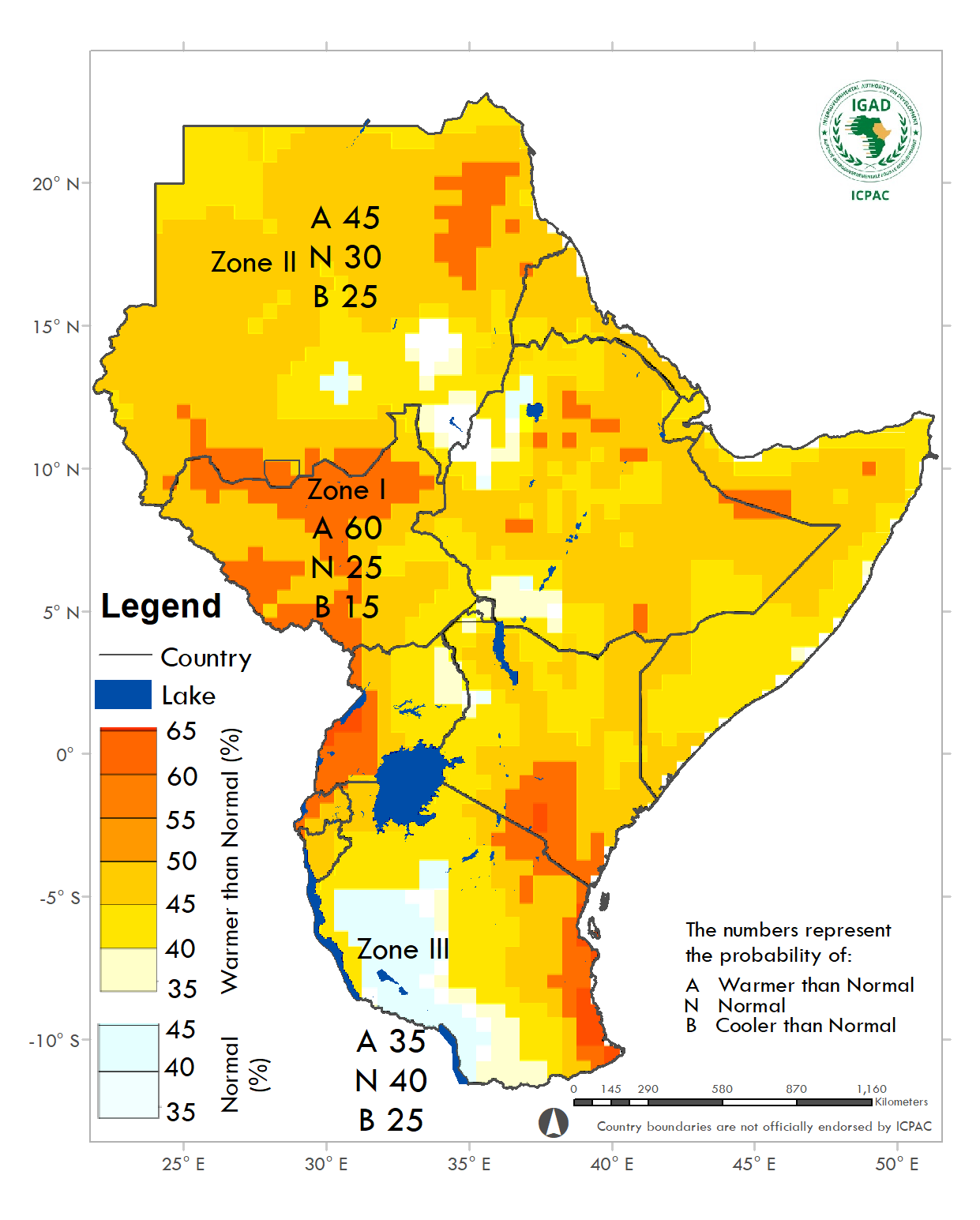
**Figure 1: Greater Horn of Africa Objective rainfall Outlook for the October to December 2020 rainfall season**

**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 the most widespread green shade (40-50%, central value 45%) the probabilities for all three categories are provided.

**Zone II:** In this Zone (light blue), the probabilities of normal and above are equally favoured (35%). The probability of below is 30%. This zone is also considered a transition zone.

**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 the most widespread yellow shade (40-50%, central value 45%) the probabilities for all three categories are provided.

**Zone IV:** Usually dry during October to December.

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***Figure 2: GHA Mean Surface Temperature Outlook for October to December 2020***

**Zone I**: In this Zone (all dark orange shading) the above normal (i.e. warmer than normal) temperature category has the highest probability. For the most widespread dark orange shade (55-65%, central value 60%) the probabilities for all three categories are provided.

**Zone II**: In this Zone (light yellow to light orange) probabilities for the above normal temperature category are 40-50% and exceed those of the average and below categories. Representative probabilities for all three categories are provided.

**Zone III**: 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.

**Note:** *The boundaries between zones should be considered as transition areas. White shading areas 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 Sixth Greater Horn of Africa Climate Outlook Forum (GHACOF 56) was implemented by ICPAC and supported by the following projects: WISER Support to ICPAC, Intra-ACP Climate Services and Related Applications, Global Climate Change Alliance Plus, and SAWIDREA. Contributors to the GHACOF 56 regional climate outlook included representatives of the National Meteorological and Hydrological Services from the GHA countries (Insititut Geographique du Burundi; Agence Meteorologique Nationale de Djibouti; National Meteorological Agency of Ethiopia; Kenya Meteorological Department; Rwanda Meteorological Agency; South Sudan Meteorological Service; Sudan Meteorological Authority; Somalia Meteorological Service, Tanzania Meteorological Authority and Uganda National Meteorological Authority) and climate scientists as well as other experts from national, regional and international institutions, organizations and projects, including UK Met Office, WMO Global Producing Centres (GPCs), African SWIFT, and SHEAR-ForPAc.