

STATEMENT FROM THE FORTY SIXTH GREATER HORN OF AFRICA CLIMATE OUTLOOK FORUM (GHACOF 46): 15 - 16 MAY 2017, CORINTHIA HOTEL, KHARTOUM, SUDAN

1. Summary

June to September constitutes an important rainfall season over the northern sector as well as parts of the coastal and the western areas of the equatorial sector of the Greater Horn of Africa (GHA) region. The regional consensus climate outlook for the June to September (JJAS) 2017 rainfall season indicates increased likelihood of near normal rainfall over most parts of the northern sector of the GHA, with some areas including northern Ethiopia, parts of the Sudan, South Sudan, parts of Uganda and western Kenya having increased likelihood of above normal rainfall. Although the consensus temperature outlook indicates enhanced likelihood of above normal temperatures over many parts of GHA, cool and cloudy conditions are anticipated over the highlands of the equatorial and southern sectors during JJAS 2017. The outlook indicates increased likelihood of early to timely onset of the JJAS 2017 rains over much of the northern sector and delayed onset and early withdrawal at the northern edge of the monsoon rain-belt and in the lowlands of extreme north-eastern Ethiopia.

The World Meteorological Organisation (WMO) and the major global climate centres have indicated persistence of ENSO – neutral conditions during April to June 2017, and a 60% chance of a shift towards El Niño near the end of 2017. The major factors deriving the current forecast are the neutral ENSO conditions over the equatorial Pacific Ocean, warmer than average sea surface temperatures over western Indian Ocean with cooler conditions over the central and eastern Indian Ocean implying a weak Indian Ocean Dipole (IOD). Over the Atlantic Ocean, warmer than average sea surface temperatures dominated over the Gulf of Guinea. These factors when considered alongside the likely source and distribution of regional rainfall during June to September 2017 favour near normal over most of the northern sector. ICPAC and the NMHSs will provide regular updates on El Niño and IOD evolutions and the likely regional impacts.

The outlook is relevant for a seasonal timescale and covers relatively large areas. Local and month-to-month variations might occur as the season progresses. It is likely that dry spells may occur in areas with an increased likelihood of near normal to above normal rainfall. Episodic heavy rainfall events leading to flash floods might also occur even in areas with an increased likelihood of near normal to below normal rainfall. ICPAC will provide regional updates on a regular basis while the National Meteorological and Hydrological Services (NMHSs) will provide detailed national and sub national updates.

2. The Climate Outlook Forum

The Forty Sixth Greater Horn of Africa Climate Outlook Forum (GHACOF46) was convened from 15 to 16 May 2017 at Corinthia Hotel, Khartoum by the IGAD Climate Prediction and Applications Centre (ICPAC), the UNDP and other partners to formulate a consensus regional climate outlook for the June to September 2017 rainfall season over the GHA region. The GHA region comprises Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan, Tanzania and Uganda. The forum reviewed the state of the global climate system including sea surface temperatures (SSTs) over the Pacific, Atlantic and Indian Oceans and the implications of prevailing neutral ENSO conditions.

Guidance and valuable forecast information was drawn from a wide range of sources including the World Meteorological Organisation's Global Producing Centres of Long-Range Forecasts (WMO GPC-LRFs), US Geological Survey, the SCIP EA model interpretation hub and the UK Met Office; and the National Meteorological and Hydrological Services. These inputs were combined using climate models coupled with expert analysis and interpretation to obtain the regional rainfall forecast for the period June to September 2017.

Users from disaster risk management, agriculture and food security, water resources, health and media as well as non-governmental organisations and development partners actively participated in the formulation of mitigation strategies guided by the implications of the consensus regional climate forecast in their specific sectors.

3. Methodology

The forum examined regionally downscaled rainfall forecasts from 7 GCMs, the prevailing and predicted sea surface temperatures (SSTs) over the Pacific, Indian and Atlantic Oceans as well as other global, regional and local climate

factors that affect the GHA rainfall during the season. These factors were assessed using dynamical and statistical models as well as expert interpretation. The regional consensus climate outlook also included inputs from National Climate Scientists who participated in the pre-COF 46 capacity building workshop that was jointly organised by ICPAC, USGS and the Met Office, UK, at ICPAC from 8 to 13 May 2017. Additional inputs were obtained from various global climate Centres including the World Meteorological Organization’s Global Producing Centres of Long-Range Forecasts (WMO GPCLRFs), SCIPCA model Interpretation hub and UK Met Office, and the International Research Institute for Climate and Society (IRI). The current capability of seasonal to inter-annual climate forecasting allows the prediction of departures from mean conditions on a large scale basis, bearing in mind scales of processes which contribute to regional and sub-regional climate extremes with most significant impacts. The experts established probability distributions to indicate the likelihood of above-, near-, or below-normal rainfall for each zone (Figure 1). Above-normal rainfall is defined as within the wettest third of recorded rainfall amounts in each zone; near-normal is defined as the third of the recorded rainfall amounts centred around the climatological median; below-normal rainfall is defined as within the driest third of the rainfall amounts. Climatology refers to a situation where any of the three categories have equal chances of occurring. Probabilities for above-, near- and below-normal temperatures were also established.

4. Consensus Climate Outlook for June to September 2017

The consensus regional rainfall outlook for June to September 2017 season for various zones within the GHA region is given in Figure 1 and consensus regional temperature outlook in Figure 2 below.

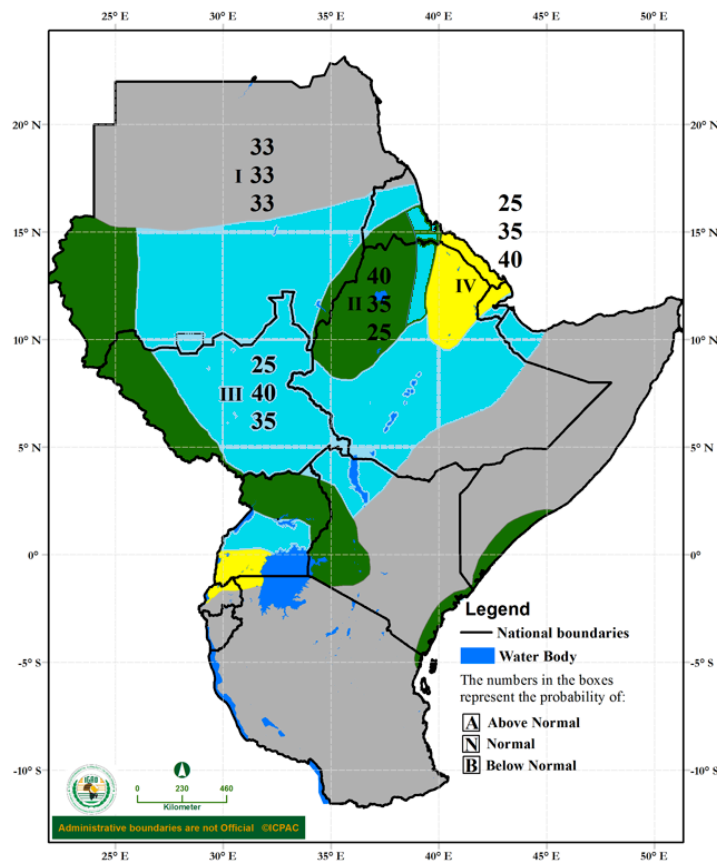


Figure 1: Greater Horn of Africa Consensus rainfall Outlook for the June to September 2017

- Zones I:** Usually dry during June to September
- Zones II:** Increased likelihood of above normal rainfall
- Zones III:** Increased likelihood for near normal rainfall
- Zones IV:** Increased likelihood of below normal rainfall

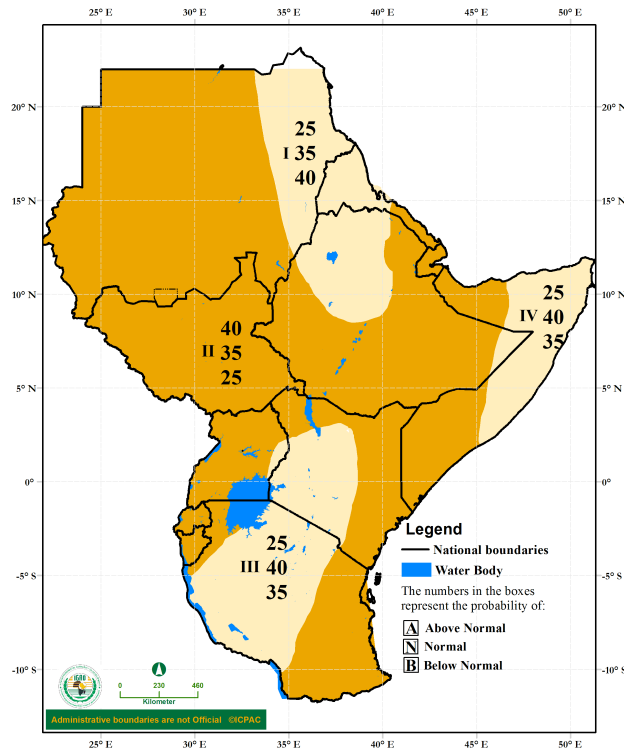


Figure 2: Greater Horn of Africa Consensus mean temperature outlook for the June to September 2017

Zone I: Increased likelihood of below normal mean temperatures

Zone II: Increased likelihood of above normal mean temperatures

Zone III: Increased likelihood of near normal mean temperatures

Zone IV: Increased likelihood of near normal mean temperatures

Note:

The numbers for each zone indicate the probabilities of rainfall and mean temperature in each of the three categories, above-, near-, and below-normal. For example in Zone III, Figure 1, there is a 35% probability of rainfall occurring in the above-normal category; a 40% probability of rainfall occurring in the near-normal category; and a 25% probability of rainfall occurring in the below-normal category. The boundaries between zones should be considered as transition areas.

5. Contributors

The Forty Six Greater Horn of Africa Climate Outlook Forum (GHACOF 46) was supported by UNDP and USAID. Contributors to the GHACOF 46 consensus regional climate outlook included representatives of the National Meteorological Services from the GHA countries (Insitut Geographique du Burundi; Meteorologie Nationale de Djibouti; National Meteorological Agency of Ethiopia; Kenya Meteorological Department; Rwanda Meteorological Agency; 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 ICPAC, USGS, University of Nairobi, and UK Met Office. Project initiatives and organizations whose climate science information resources provided valuable contributions included HELIX project, SCIPEA, WMO Global Producing Centres of Long-Range Forecasts (GPC-LRFs), and the International Research Institute for Climate and Society (IRI) and NOAA/CPC.