

# **STATEMENT FROM THE FORTY THIRD GREATER HORN OF AFRICA CLIMATE OUTLOOK FORUM (GHACOF 43): 30-31 MAY 2016, ENASHIPAI RESORT, NAIVASHA, KENYA**

## **1. Summary**

June to September constitutes an important rainfall season over the northern sector as well as 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 2016 rainfall season indicates increased likelihood of above normal rainfall over most of the northern parts of the GHA and increased likelihood of near normal to below normal rainfall over coastal and the western areas of the equatorial sector. Over the rest of the GHA areas, June to September period is a dry season and these areas are expected to remain generally dry during the forecast period. Cool and cloudy conditions are likely over the highlands of the equatorial and southern sectors during June to September 2016. There is likelihood of early to timely onset of the seasonal JJAS 2016 rains over the region, based on the identified analogue years. Further, there is increased likelihood of flood risk during the rainfall peak months of August and September over Ethiopia, South Sudan and Sudan.

The World Meteorological Organisation (WMO) and the major global climate centres have indicated a heightened likelihood of La Niña to start developing during the second half of 2016 with a 75% chance of at least a weak La Niña by the end of the year that calls for close monitoring. The Indian Ocean Dipole (IOD) that has significant influence on regional climate is also predicted to be in the negative phase during the second half of 2016.

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 Third Greater Horn of Africa Climate Outlook Forum (GHACOF43) was convened from 30 to 31 May 2016 at Enashipai Resort, Naivasha, Kenya by the IGAD Climate Prediction and Applications Centre (ICPAC), and partners to formulate a consensus regional climate outlook for the June to September 2016 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, the likelihood for the development of La Niña conditions as well as the likelihood of negative phase of Indian Ocean Dipole (IOD).

Guidance and valuable forecast information was drawn from a wide range of sources including the World Meteorological Organisation's Global Producing Centres (WMO GPCs), US Geological Survey (USGS), the Met Office, and 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 2016.

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

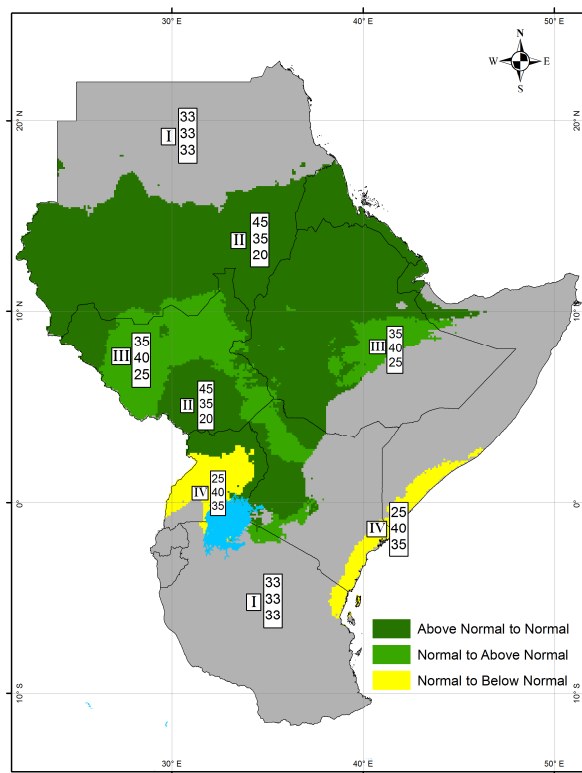
## **3. Methodology**

The forum examined 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 rainfall evolution 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 43 capacity building workshop that was jointly organised by ICPAC, USGS and the Met Office, UK, at the Great Rift Valley Lodge

from 23 to 28 May 2016. Additional inputs were obtained from various global climate Centres including the World Meteorological Organization’s Global Producing Centres (WMO GPCs), Met Office, UK and the International Research Centre 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 temperature were also established. The rainfall and temperature outlooks for June to September 2016 season for various zones within the GHA region are given in Figure 1 and Figure 2 respectively.

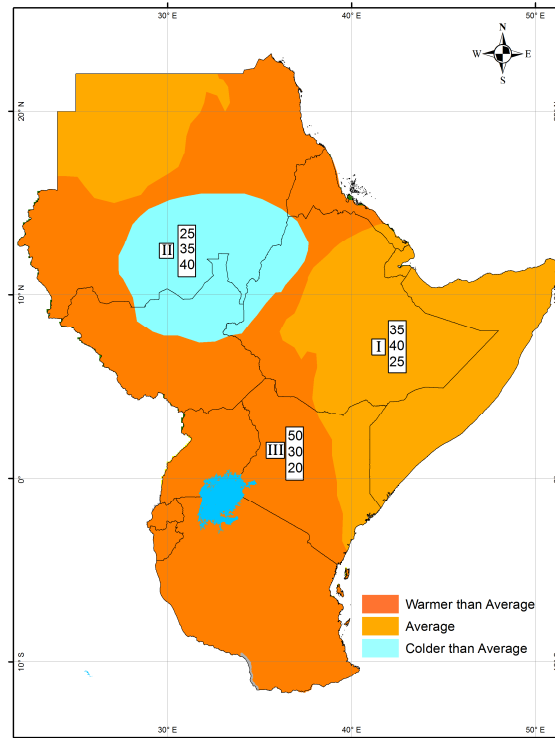
#### 4. Rainfall Outlook for June to September 2016

The rainfall outlook for various zones within the GHA region is given in Figure 1 below.



**Figure 1: Greater Horn of Africa Consensus rainfall Outlook for the June to September 2016 rainfall season**

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



**Figure 2: Greater Horn of Africa Consensus Mean Temperature Outlook for June to September 2016 season**

**Zone I:** Increased likelihood of average to warmer than average mean temperatures.

**Zone II:** Increased likelihood of colder than average mean temperatures.

**Zone III:** Increased likelihood of warmer than average 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. In Zone III, Figure 2, there is a 50% probability of mean temperature occurring in the above-normal category; a 30% probability of mean temperature occurring in the near-normal category; and a 20% probability of mean temperature occurring in the below-normal category. The boundaries between zones should be considered as transition areas.

**5. Contributors**

The Forty Third Greater Horn of Africa Climate Outlook Forum (GHACOF 43) was supported by the World Bank, USAID, UNDP, UNISDR and Met Office. Contributors to the GHACOF 43 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: ICPAC; USGS; Met Office; WMO Global Producing Centres (GPCs); Korea Meteorological Administration (KMA) and the International Research Centre for Climate and Society (IRI).