

# STATEMENT FROM THE TWENTY NINTH GREATER HORN OF AFRICA CLIMATE OUTLOOK FORUM (GHACOF 29)

1 – 3 SEPTEMBER 2011, IMPERIAL RESORT BEACH HOTEL, ENTEBBE, UGANDA

## Summary

September to December constitutes an important rainfall season over the equatorial parts of the Greater Horn of Africa (GHA) region. The neutral El Niño/southern Oscillation (ENSO) conditions in the tropical Pacific Oceanic, positive sea surface temperatures (SSTs) in the western Indian Ocean, and the associated monsoonal winds are the major processes that will influence evolution rainfall over GHA region during September to December 2011 season. Regional and local scale features may also exert additional influences that may modulate rainfall in some parts of the GHA during the forecast period.

The regional consensus climate outlook for the September to December 2011 rainfall season indicates increased likelihood of above normal to near normal rainfall over the eastern equatorial parts covering southern Somalia; coastal, eastern and central Kenya as well as northeastern Tanzania. Increased likelihood of near normal to above normal rainfall is indicated over parts of Tanzania; northern Burundi; Rwanda; southern and central Uganda; western Kenya; Much of South Sudan; western, central and northern Ethiopia; Djibouti; extreme southeastern Eritrea and extreme northwestern Somalia. Northern Somalia; eastern and southern Ethiopia; northwestern Kenya; northern Uganda; southwestern Rwanda; southern Burundi and western Tanzania have increased likelihood of near normal to below normal rainfall. Generally dry conditions are indicated over Sudan; much of Eritrea and extreme northern Ethiopia.

It should be noted that rainfall received during September to December months is relatively small in many parts of the region relative to the annual totals. Thus above normal rainfall predicted in some of these areas during September to December 2011 many not be able to wipe out the drought impacts that have persisted in some of these areas for several months. The outlook is relevant only for seasonal time scales and relatively large areas. Local and month-to-month variations might occur as the season progresses. For example episodic flash floods might be experienced in parts of areas that are predicted to receive near to below normal rainfall and poor rainfall distribution might be experienced in areas expected to receive above to near normal rainfall. Regional forecast updates will be provided by ICPAC and national forecasts by National Meteorological and Hydrological Services (NMHSs). The users are therefore strongly advised to contact their National Meteorological Services for interpretation of this outlook, finer details, and additional guidance.

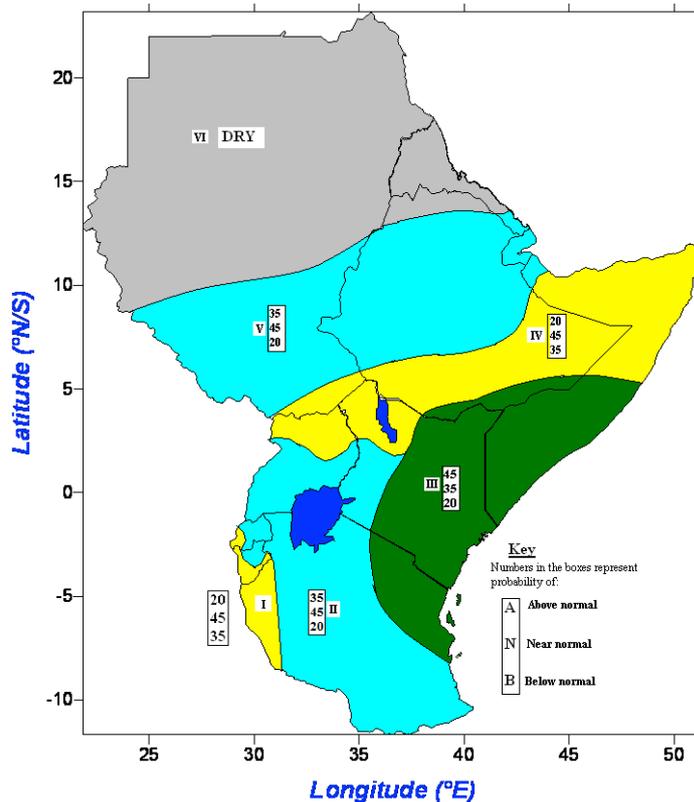
## The Climate Outlook Forum

From 1<sup>st</sup> to 3<sup>rd</sup> September 2011, the Twenty Ninth Greater Horn of Africa Climate Outlook Forum (GHACOF 29) was convened at the Imperial Resort Beach Hotel, Entebbe, Uganda by the IGAD Climate Prediction and Applications Centre (ICPAC) and other partners to formulate consensus guidance for the September to December 2011 rainfall season over the GHA region comprising of Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, Sudan, South Sudan, Tanzania and Uganda. The forum reviewed the state of the global climate system and its implications for the GHA region. Among the principal factors considered are currently neutral ENSO conditions over the tropical Pacific with predictions indicating continuing neutral or weak La Niña as most likely scenarios and the warmer than average Sea Surface Temperatures (SSTs) in the tropical western Indian Ocean. Users from disaster risk management, water resources, agriculture and food security, health and media sectors as well as Non Governmental Organisations and development partners among others were active participants in the forum. They participated in the formulation of the potential impacts of the climate outlook on their respective sectors.

## Methodology

The forum examined the neutral ENSO conditions over the tropical Pacific Ocean; the prevailing and expected Sea Surface Temperature (SST) anomalies over Indian and Atlantic Oceans as well as other factors that affect the climate of the GHA region including atmospheric circulation processes that bring moisture into the region, as well as the potential modifications by the regional and local features. Implications of these factors on September to December 2011 rainfall performance were assessed using model forecasts provided by the Global Producing Centres (GPCs), statistical modelling, expert analysis and interpretation. The current status of seasonal to inter-annual climate forecasting allows prediction of rainfall at large spatial and temporal averages relative to the long term mean conditions. This is the state of the art-climate modelling and prediction science and it might not fully account for all the physical and dynamical processes that influence the succession of wet and dry events at particular local areas of the region.

The experts established probability distributions to indicate the likelihood of above-, near-, or below-normal rainfall for each zone (see figure 1). Above-normal rainfall is defined as within the wettest third of long term 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 as within the driest third of the recorded rainfall amounts. Dry refers to a situation where rainfall season is not significant.



**Figure 1: Consensus GHA Climate Outlook for September to December 2011**

The rainfall outlook for various zones within the sub-region is given below.

**Zone I:** Increased likelihood of near to below normal rainfall over western Tanzania; southern Burundi and southwestern Rwanda.

**Zone II:** Increased likelihood of near normal to above normal rainfall over much of Tanzania; northern Burundi; much of Rwanda; western Kenya as well as southern and central Uganda.

- Zone III:** Increased likelihood of above to near normal over northeastern and northern coast of Tanzania; coastal, central and northeastern Kenya; extreme southern Ethiopia as well as southern and central Somalia.
- Zone IV:** Increased likelihood of to near normal to below normal rainfall over northern Somalia; eastern and southern Ethiopia; northwestern Kenya and northern Uganda.
- Zone V:** Increased likelihood of near normal to above normal rainfall over much of South Sudan; western, central and northern Ethiopia and Djibouti.
- Zone VI:** Increased likelihood of generally dry conditions over Sudan; northern Ethiopia and much of Eritrea

**Note:** *The numbers for each zone indicate the probabilities of rainfall in each of the three categories, above-, near-, and below-normal. The top number indicates the probability of rainfall occurring in the above-normal category; the middle number is for near-normal and the bottom number for the below-normal category. For example, in case of western Tanzania; southern Burundi and southwestern Rwanda (zone I), there is 20% probability of rainfall occurring in the above-normal category; 45% probability of rainfall occurring in the near-normal category; and 35% probability of rainfall occurring in the below-normal category. It is emphasised that boundaries between zones should be considered as transition areas.*

### **Contributors**

Contributors to this regional consensus climate outlook included representatives of the Meteorological Services from GHA countries (Insitut Geographique du Burundi; Meteorologie Nationale de Djibouti; National Meteorological Services Agency of Ethiopia; Kenya Meteorological Department; Rwanda Meteorological Services; Somalia; Sudan Meteorological Authority; South Sudan Meteorological Services; Tanzania Meteorological Agency and Uganda Department of Meteorology and climate scientists as well as other experts from national, regional and international institutions and organizations (IGAD Climate Prediction and Applications Centre (ICPAC); United Kingdom Met Office and Hadley Centre (MOH); World Meteorological Organization (WMO); and University of Nairobi. Additional input was supplied by Korea Meteorological Administration (KMA); National Oceanic and Atmospheric Administration (NOAA)/National Centers for Environmental Prediction/Climate Prediction Centre (NCEP/CPC) and International Research Institute for climate and society (IRI).