

STATEMENT FROM THE TWENTY SIXTH GREATER HORN OF AFRICA CLIMATE OUTLOOK FORUM (GHACOF 26) 2 – 3 SEPTEMBER 2010, IMPERIAL HOTEL, KISUMU KENYA

Summary

September to December constitutes an important rainfall season over the equatorial parts of the Greater Horn of Africa (GHA) sub-region. La Niña conditions (Cooling of surface ocean waters in large parts of the eastern and central equatorial Pacific Ocean) will be a major feature influencing tropical climate during September to December 2010. For the GHA climate, regional systems that include cooling of western sector of equatorial Indian Ocean and additional influence from the Atlantic Ocean will, however, determine how climate over the Greater Horn of Africa will evolve during this season.

The regional consensus climate outlook for the September to December 2010 rainfall season indicates increased likelihood of near normal to above normal rainfall over the western and northern parts of the Greater Horn of Africa (GHA) covering Uganda, western Kenya, southern and central Sudan, western Ethiopia, Eritrea, Lake Victoria basin of Tanzania, Rwanda and much of Burundi. Increased likelihood of below to near normal rainfall is indicated over the eastern parts covering southern and southeastern Ethiopia, eastern half of Kenya, Somalia, and much of Tanzania.

It should be noted that rainfall received during September to December months is relatively small in many parts of the sub-region relative to the annual totals. 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 below normal rainfall and poor rainfall distribution might be experienced in areas expected to receive above normal rainfall. Forecast updates for the whole sub-region will be provided every ten days by ICPAC, while updates from the National Meteorological and Hydrological Services (NMHSs) will include time scales less than ten days. 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 2 to 3 September 2010, the Twenty Sixth Greater Horn of Africa Climate Outlook Forum (GHACOF 26) was convened at the Imperial Hotel, Kisumu, Kenya by the IGAD Climate Prediction and Applications Centre (ICPAC) and other partners to formulate consensus guidance for the September to December 2010 rainfall season over the GHA sub-region comprising of Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, Sudan, Tanzania and Uganda. Users from disaster risk management and 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. The forum reviewed the state of the global climate system and its implications for the GHA sub-region. Among the principal factors considered are the La Niña conditions that have become established over the tropical Pacific, and are likely to continue at least through September to December 2010; the cooling Sea Surface Temperatures (SSTs) observed over the tropical western Indian ocean and additional influence from the Atlantic Ocean and how these are likely to control moist atmospheric processes causing rainfall in the region during the season.

Methodology

The forum examined the evolving La Niña conditions that have become established over the tropical Pacific Ocean during June and July; 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 sub-region including the

cooling of western equatorial Indian Ocean sea surface temperatures that is likely to sustain negative Indian Ocean Dipole, and weaken atmospheric circulation processes that bring moisture into the GHA sub-region, as well as the potential modifications by the regional and local features. Implications of these factors on September to December 2010 rainfall performance were assessed using coupled ocean-atmosphere model forecasts provided by eleven 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 sub-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. Climatology refers to a situation where any of the three categories have equal chances of occurring.

Rainfall Outlook for September to December 2010

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

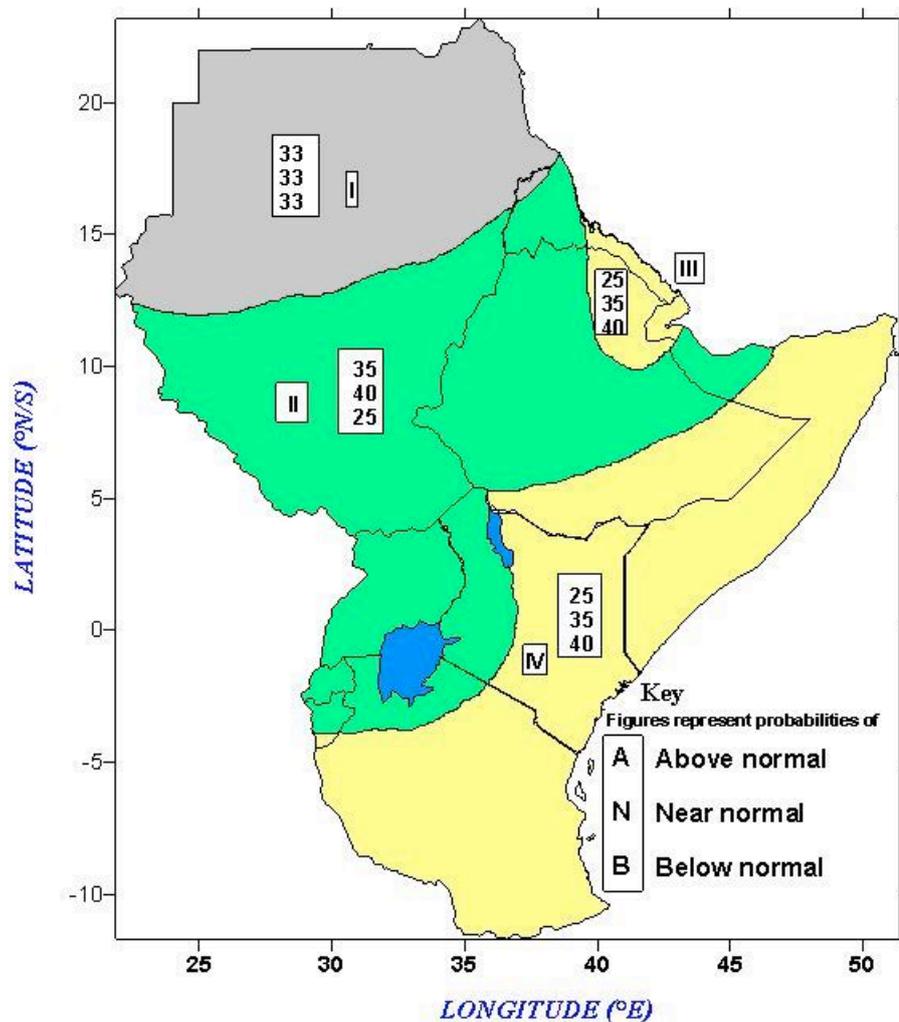


Figure 1: Greater Horn of Africa Consensus Climate Outlook for the September to December 2010

- Zone I:** This zone is generally dry during the season and covers northern parts of Sudan and northwestern Eritrea.
- Zone II:** Increased likelihood of near normal to above normal rainfall over central and southern Sudan, western, central and northern Ethiopia, much of Uganda, Rwanda, Burundi, western Kenya, and Lake Victoria basin of Tanzania.
- Zone III:** Increased likelihood of below to near normal rainfall over southern Eritrea, northeastern Ethiopia, and Djibouti.
- Zone IV:** Increased likelihood of below normal to near normal rainfall over much of Kenya, southern and southeastern Ethiopia, much of Somalia, Tanzania and southern Burundi.

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 southern Eritrea, northeastern Ethiopia, and Djibouti (zone III), there is 25% probability of rainfall occurring in the above-normal category; 35% probability of rainfall occurring in the near-normal category; and 40% 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 (Institut Geographique du Burundi; Meteorologie Nationale de Djibouti; Eritrea Meteorological Services; National Meteorological Services Agency of Ethiopia; Kenya Meteorological Department; Rwanda Meteorological Services; Sudan Meteorological Authority; 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); International Research Institute for climate and society (IRI); United Kingdom Met Office and Hadley Centre (MOH); World Meteorological Organization (WMO); Korea Meteorological Administration; National Oceanic and Atmospheric Administration (NOAA) and University of Nairobi. Additional input was supplied by European Centre for Medium Range Weather Forecasts (ECMRWF) and African Centre of Meteorological Applications for Development (ACMAD).