



ICPAC
IGAD Climate Prediction & Applications Centre

Statement from the Forty Eighth Greater Horn of Africa Climate Outlook Forum (GHACOF 48) for March to May 2018 season held at the Sarova Whitesands Spa and Beach Resort, Mombasa, Kenya from 12-13 February 2018

Summary

The March to May period constitutes an important rainfall season over the equatorial parts of the Greater Horn of Africa (GHA) region. The regional consensus rainfall outlook for March to May 2018 season indicates increased likelihood of normal to above normal rainfall over much of the region. However, there are higher chances of above normal to normal rainfall over parts of South Sudan, western Ethiopia, southwestern Uganda, northeastern Rwanda and Southern Tanzania, and increased likelihood of normal to below normal rainfall over much of Somalia, southeastern Ethiopia and eastern Kenya. The consensus mean temperature outlook for March to May 2018 season indicates an increased likelihood of warmer to normal temperatures over much of the eastern parts, normal to cooler than normal temperatures over central parts and cooler to normal temperatures in the western areas of the GHA region. The major processes considered are the evolutions of the global Sea Surface Temperatures (SSTs) including the neutral phase of the Indian Ocean Dipole and the anticipated transition in the Central Equatorial Pacific from La Niña to ENSO-Neutral conditions during the forecast period. Regional circulation systems that predominantly influence climate over the region during this season were also taken into consideration. This outlook is relevant only for the March-May 2018 season for relatively large areas of the region. Local and month-to-month variations might occur as the season progresses. It is likely that episodic heavy rainfall events leading to flash floods might occur even in areas with an increased likelihood of near to below normal rainfall and dry spells may occur in areas with increased likelihood of above normal to normal rainfall. It should be noted that parts of the region that have been experiencing drought conditions, and persistence of depressed rainfall would have far reaching implications. The IGAD Climate Prediction and Applications Centre (ICPAC) will provide regional updates on regular basis while the National Meteorological and Hydrological Services (NMHSs), that are expected to downscale this forecast to country level, will provide detailed national and sub-national updates.

The Climate Outlook Forum

The Forty Eighth Greater Horn of Africa Climate Outlook Forum (GHACOF 48) was convened from 12 to 13 February 2018 at the Sarova Whitesands Spa and Beach Resort, Mombasa, Kenya by the IGAD Climate Prediction and Applications Centre (ICPAC), the Kenya Meteorological Department (KMD) and other partners to develop this regional consensus climate outlook. The GHA region comprises of Burundi, Djibouti, Eritrea, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Sudan, Tanzania and Uganda.

The forum reviewed the state of the global and regional climate systems and their implications on the March to May seasonal rainfall over the region. Among the principal factors taken into account were the observed and predicted sea surface temperatures (SSTs) in the global oceans. Users from Agriculture and Food Security, Livestock, Water Resources, Disaster Risk Management, Health, Conflict Early Warning, Non-Governmental Organizations and development partners discussed the potential implications of the consensus climate outlook, and developed mitigation strategies for their respective countries and sectors.

Methodology

The forum examined the prevailing and predicted SSTs over the Pacific, Indian and Atlantic Oceans and other global, regional and local climate factors that influence the GHA rainfall during the March to May season. These factors were assessed using dynamical and statistical models as well as expert interpretation. The regional consensus climate outlook included inputs from National Climate Scientists who participated in the pre-COF 48 capacity building workshop that was hosted by ICPAC from 5 to 9 February 2018. Additional inputs were obtained from various Global Climate Centres including the World Meteorological Organization's Global Producing Centres (WMO GPCs), and the International Research Institute for Climate and Society (IRI). The current capability of seasonal to inter-annual climate forecasting allows prediction of departures from mean conditions. The climate experts established probability distributions to indicate the likelihood of above-, near-, or below-normal rainfall and grouped areas with similar outlook into zones. 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. Probability distributions for temperature were also established. The rainfall and temperature outlooks for March to May 2018 for various zones within the GHA region are given in Figure 1 and Figure 2 respectively.

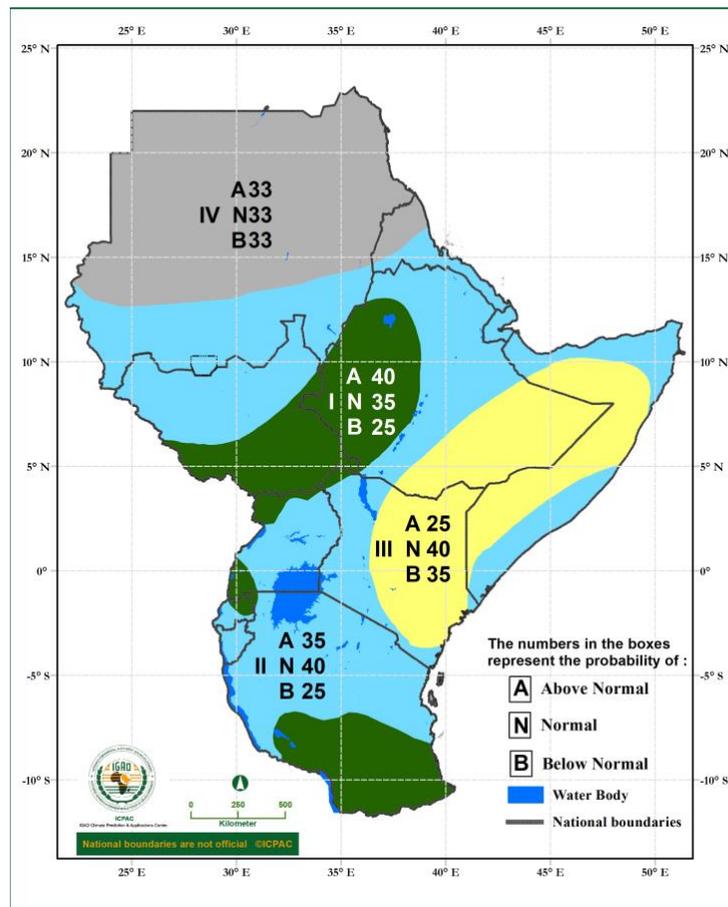


Figure 1: Greater Horn of Africa Consensus Rainfall Outlook for the March to May 2018 season

- Zone I:** Increased likelihood of above normal to normal rainfall.
- Zone II:** Increased likelihood of normal to above normal rainfall.
- Zone III:** Increased likelihood of normal to below normal rainfall.
- Zone IV:** Usually dry during March to May.

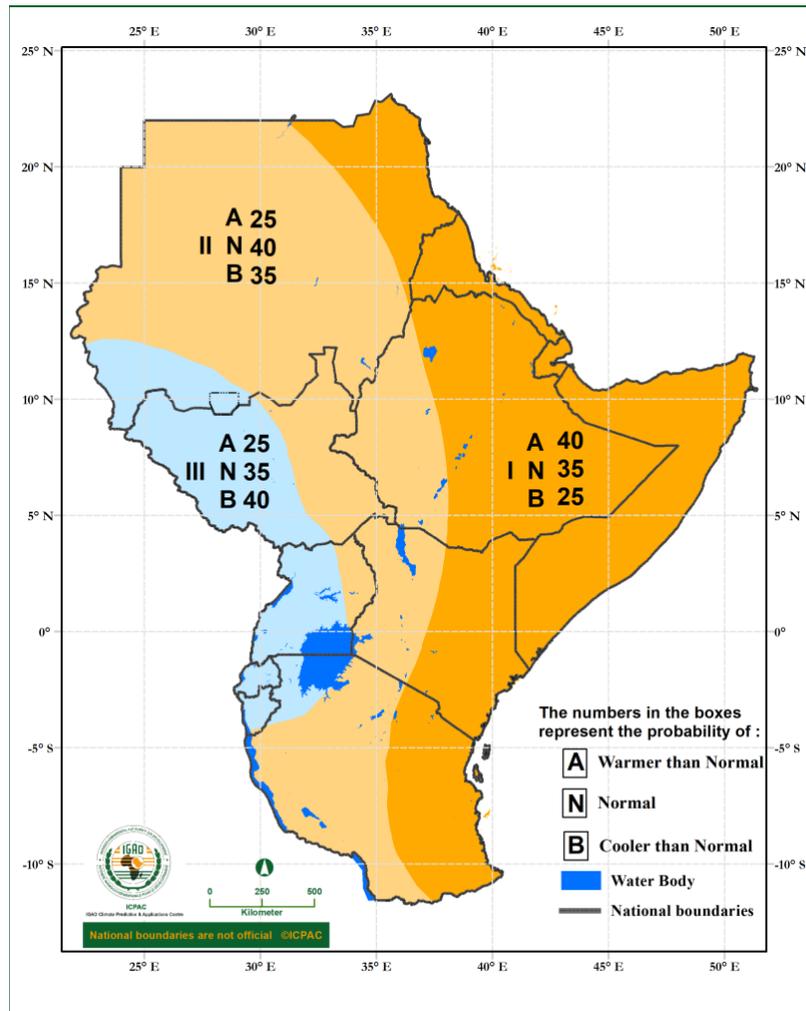


Figure 2: GHA Consensus Mean Temperature Outlook for March to May 2018 season

Zone I: Increased likelihood of above normal (warmer) to normal mean temperatures.

Zone II: Increased likelihood of Normal to below normal (cooler) mean temperatures.

Zone III: Increased likelihood of below normal (cooler) to 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. The top number indicates the probability of rainfall and mean temperature 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 zone II, Figure 1, there is 35% probability of rainfall occurring in the above-normal category; 40% probability of rainfall occurring in the near-normal category; and 25% probability of rainfall occurring in the below-normal category. In zone I, Figure 2, there is 40% probability of mean temperature occurring in the above-normal category; 35% probability of mean temperature occurring in the near-normal category; and 25% probability of mean temperature occurring in the below-normal category. The boundaries between zones should be considered as transition areas.

Contributors

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to the GHACOF 48 regional consensus climate outlook included representatives of the National Meteorological Services from GHA countries (Institut Geographique du Burundi; Agence Nationale de la Meteorologie de Djibouti; National Meteorological Agency of Ethiopia; Kenya Meteorological Department; Rwanda Meteorology Agency; South Sudan Meteorological Service; Sudan Meteorological Authority; Somalia Meteorological Service; Tanzania Meteorological Agency and Uganda National Meteorological Authority) and climate scientists as well as other experts from national, regional and international institutions and organizations: ICPAC; Met Office; IRI; NOAA, KMA, University of Nairobi, NORCAP; ForPAC Project and WMO GPCs and US Geological Surveys.