Technical Statement from the 72nd Greater Horn of Africa Climate Outlook Forum (GHACOF72)

26 - 27 January 2026 Nairobi, Kenya

1. Consolidated Objective Climate Outlook for the March to May 2026 Rainfall Season

March to May (MAM) constitutes an important rainfall season, particularly in the equatorial parts of the Greater Horn of Africa (GHA), where MAM rainfall contributes up to 60% of the total annual rainfall. The performance of the MAM season is therefore critical for rain-fed socio-economic sectors in the region, including agriculture, livestock production, water resources, and other livelihoods. Analysis of global climate model predictions from nine Global Producing Centres (GPCs) customised for the Greater Horn of Africa (GHA) region indicates slightly raised probabilities (40%) for near normal conditions over much of Somalia, northern and eastern Kenya, coastal and parts of northern Tanzania, eastern and western South Sudan, a few regions in western Ethiopia and parts of Uganda. However, in these regions, the probabilities for below-normal and above-normal are not markedly lower, with both equal at 30% (Figure 1) and therefore these outcomes should be considered in contingency planning. In contrast, the forecast indicates enhanced probabilities for above-normal rainfall over Burundi, Rwanda, most of Tanzania, western Kenya, much of Uganda, South Sudan, and Ethiopia. Forecast probabilities favour drier-than-usual conditions, specifically for parts of the coastal areas of Kenya.

The forecast probability of seasonal rainfall exceeding user-relevant thresholds indicates that there is over 70 % chance of exceeding the 300mm threshold over southwestern Ethiopia, western Kenya, southern South Sudan, much of Uganda, Rwanda, Burundi and Tanzania. Comparison of the forecast probabilities with the climatological probabilities for this threshold indicates that the predicted probability of exceeding 300mm is higher than the climatological chance over much of the western parts of the region. In contrast, probabilities of exceeding 300mm are lower or similar to climatological chances over the eastern sector.

The predicted start of the MAM 2026 season, based on 6 Global Climate Model forecasts that provided daily outputs, is shown in Figure 3. Forecast probabilities favour an early or normal onset timing over most parts of the GHA region, except for a few localised areas. Raised chances of an early onset are indicated over much of Rwanda, Burundi, and the cross-border areas of Ethiopia and Somalia. On the other hand, higher chances for a delayed onset are indicated over localised areas in South Sudan as well as in parts of western Ethiopia and central Somalia.

The combined temperature forecast from nine Global Producing Centres (GPCs) shows a high probability of above-normal temperatures across most of the region (Figure 4). This likelihood exceeds 60% over most parts of Sudan, Tanzania, eastern Burundi and Rwanda, parts of Ethiopia, Eritrea, Djibouti, central Somalia, and northern, western, and eastern Kenya. In contrast, below-normal temperatures are anticipated for the northern highlands of Ethiopia.

Whilst the MAM season, compared to other seasons, contributes a larger fraction to the annual rainfall total for much of the GHA, seasonal anomalies are generally less predictable compared to other seasons. The low MAM predictability is reflected in the forecast probabilities - which are generally less shifted from the climatological probabilities for terciles (33%), compared to typical forecasts for more predictable seasons such as OND This is largely a consequence of the weak linkage between rainfall and global large-scale modes of variability such as El Nino Southern Oscillation (ENSO) and the Indian Ocean Dipole (IOD).

The outlook is relevant for seasonal timescales and for relatively large geographical areas. Local and month-to-month variations might occur as the season progresses. While near normal to wetter than usual conditions are most probable over much of the GHA region, usually receiving rain in the MAM season, dry spells may occur in areas with an increased likelihood of near normal or above normal rainfall and vice versa. ICPAC will provide regional updates regularly, while the National Meteorological and Hydrological Services (NMHSs) will provide detailed national and sub-national climate updates.

2. The Climate Outlook Forum

The 72nd Greater Horn of Africa Climate Outlook Forum (GHACOF 72) was convened from 26th to 27th of January 2026 by the IGAD Climate Prediction and Applications Centre (ICPAC) in collaboration with the National Meteorological and Hydrological Services (NMHSs) of IGAD Member States, the World Meteorological Organisation (WMO), and partners. The objective of the forum was to document and share the climate impacts across the region and formulate responses to the regional climate outlook for the March to May 2026 rainfall season over the GHA. 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 the ENSO conditions, IOD, and SSTs over the Pacific and Indian Oceans, and considered their expected impacts on the GHA during the March to May 2026 rainfall season. The consolidated objective climate outlooks for precipitation and temperature, based on the outputs of 9 Global Producing Centre (GPC) models was presented and discussed. Climate information users from all relevant sectors (disaster risk management, agriculture and food security, livestock, health, water resources, and media), as well as NGOs and development partners, actively participated in the formulation of mitigation strategies.

3. Methodology

In line with the recommendation of the World Meteorological Organisation (WMO), ICPAC has implemented an objective seasonal forecast procedure to generate climate forecasts for the Greater Horn of Africa (GHA). January 2026 initialised seasonal forecasts from 9 Global Producing Centres (GPCs) were utilised and processed using three calibration techniques (canonical correlation analysis, linear regression, and logistic regression) to develop the MAM 2026 seasonal climate outlook. The final consolidated forecast is obtained by averaging the forecasts generated by the three different approaches.

Forecast probability distributions are established objectively to indicate the likelihood of above-, normal, or below-normal rainfall for each zone. Above-normal rainfall is defined as the upper third of historical MAM rainfall totals, below-normal as the lower third and normal as the range between the upper and the lower third of the rainfall totals. Climatology here refers to the historical series of observed weather conditions over the 30 years (1991-2020). Forecast probability distributions for temperature are also established. The rainfall and temperature outlooks for MAM 2026 for various zones within the GHA region are given in Figure 1 and Figure 4, respectively.

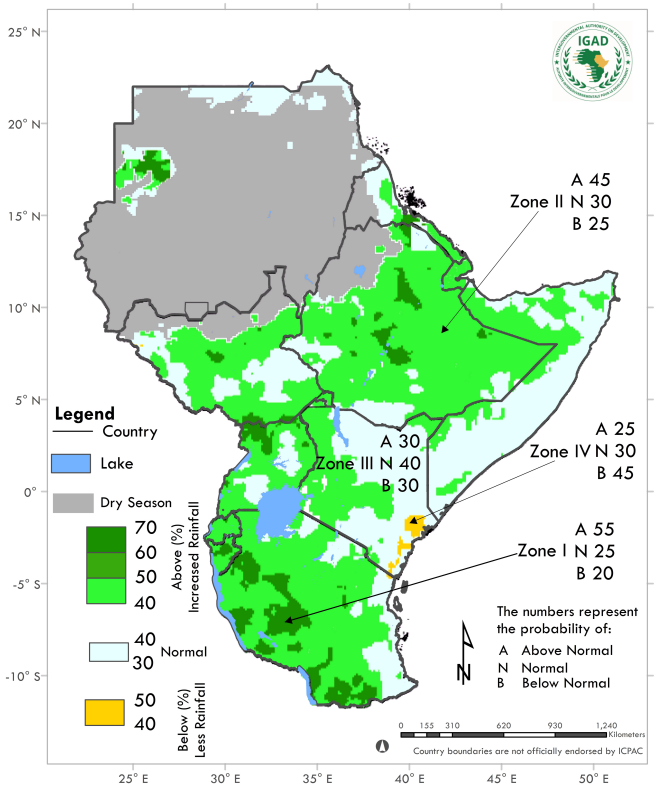
Experts also examined the prevailing and predicted SSTs over the Pacific, Indian, and Atlantic Oceans, as well as other global and regional climate factors that affect the rainfall evolution during the MAM season. These factors were assessed using dynamical and statistical models. La Niña conditions are currently present, characterised by below-

average equatorial sea surface temperatures across the east-central and eastern Pacific Ocean. The World Meteorological Organisation (WMO) and major global producing centres have indicated that there is a 75% probability of a transition to ENSO-neutral conditions during January–March 2026, with ENSO-neutral likely to persist throughout the March to May season. The IOD is currently in the neutral phase and is expected to remain neutral throughout the MAM season. The MAM rainfall interannual variability is weakly linked with the SST conditions in the tropical Oceans and the known large-scale modes such as ENSO, IOD and gradients in Pacific SST. ENSO and IOD are ocean-atmosphere phenomena associated with global atmospheric and oceanic circulation changes that influence regional climate conditions by modulating regional circulation patterns, especially monsoonal winds, upper-level and low-level winds. Their effects are modulated by topography and large inland water bodies. Updates on the ENSO and IOD conditions will be provided regularly by WMO and the major climate centres.

The seasonal forecast was developed during the pre-COF72 climate capacity building workshop held from 19th to 23rd January 2026 at ICPAC in Nairobi, Kenya. During this workshop, regional scientists and national forecasters from ICPAC Member States used ICPAC's High-Performance Computing (HPC) cluster and developed regional and national-level climate outlooks.

4. Rainfall Outlook for March to May 2026

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



Zone I: In this zone (dark green), the above normal (wetter) category has the highest probability (55%), Probabilities for the normal and below normal categories are 25% and 20%, respectively. The zone is formed of several separate pockets, distributed within, and across much of, Zone II.

Zone II: In this zone (light green), the above normal rainfall (wetter) category also has the highest probability. The probability for the above normal category is 45%; the probabilities for the normal and below normal categories are 30% and 25%, respectively.

Zone III: In this zone (light blue), the near normal rainfall category has the highest probability (40%). The probabilities of the below normal and above normal categories are each 30%.

Zone IV: In this zone (yellow), the below normal rainfall (drier) category has the highest probability (45%). The probabilities for the normal and above normal categories are 30% and 25%, respectively.

Figure 1. The rainfall outlook for various zones within the GHA region for March to May 2026.

Note: In Fig 1, numbers (next to A, N and B) for each zone indicate the probabilities of rainfall in each of the three categories, above-, near, and below-normal. For example, for Fig. 1, the top number (A) indicates the probability of rainfall occurring in the above-normal category; the middle number (N) is for near-normal and the bottom number (B) for the below-normal category. In the case of Zone-I (Fig. 1), for instance, there is 55% probability of rainfall occurring in the above-normal category; 25% probability of rainfall occurring in the near-normal category; and 20% probability of rainfall occurring in the below-normal category. It is emphasised that boundaries between zones should be considered as transition areas.

5. Probability of Exceedance

The probability of seasonal rainfall exceeding 300mm and the probability anomalies relative to historical climatological probabilities are shown in Figure 2.

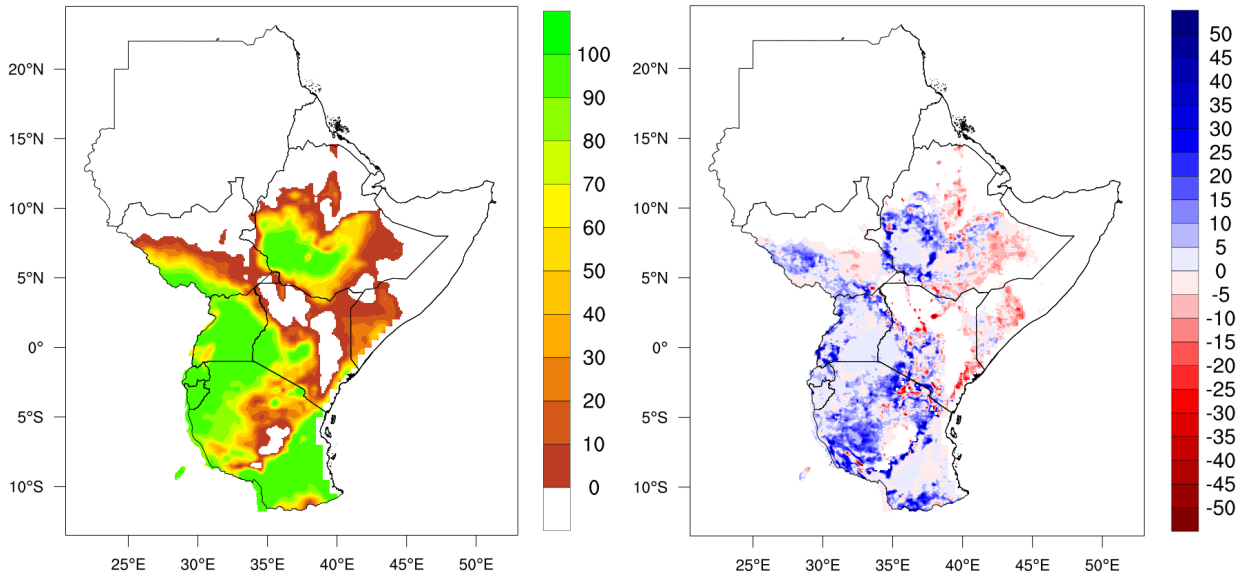


Figure 2: The map on the left indicates the probability of seasonal rainfall exceeding 300mm. The map on the right indicates probability anomalies relative to historical climatological probabilities, based on the period 1991-2020.

6. Probability Forecasts of the Start of MAM 2026 Season and the Expected Average Onset Dates

The predicted most likely start dates of the March to May 2026 season, as well as forecast probabilities for three categories of onset time (early/normal/late) are provided in Figure 3. The forecast was generated by utilising daily rainfall forecasts derived from six Global Climate Models (ECMWF, Météo-France, CMCC-Italy, DWD-Germany, ECCC-Canada, BOM-Australia) from the C3S Climate Data Store, incorporating a collective of 232 ensemble members.

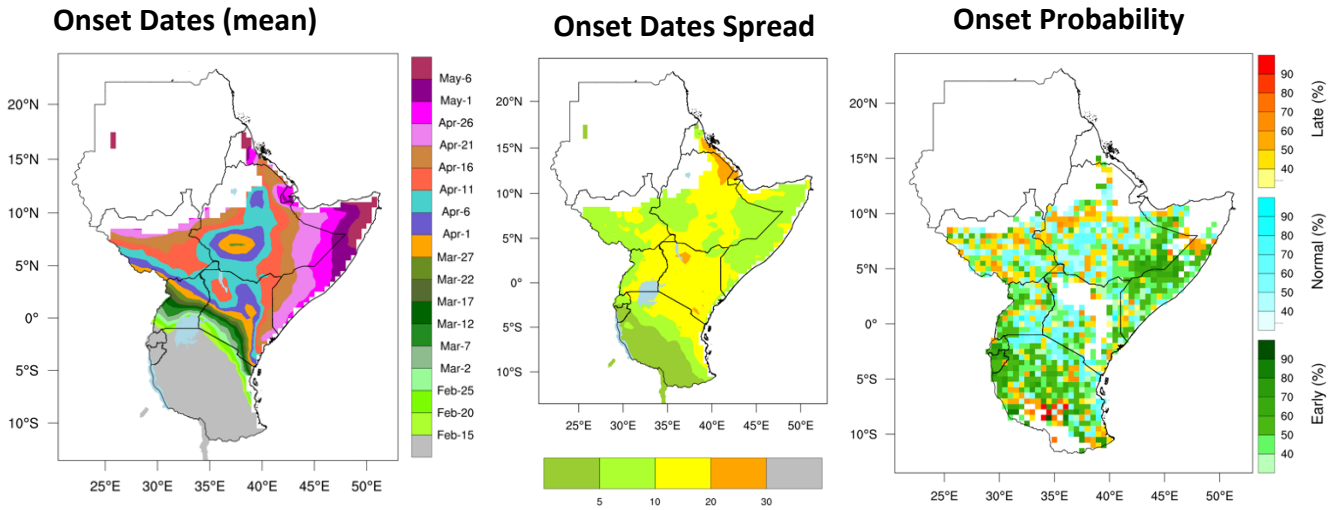
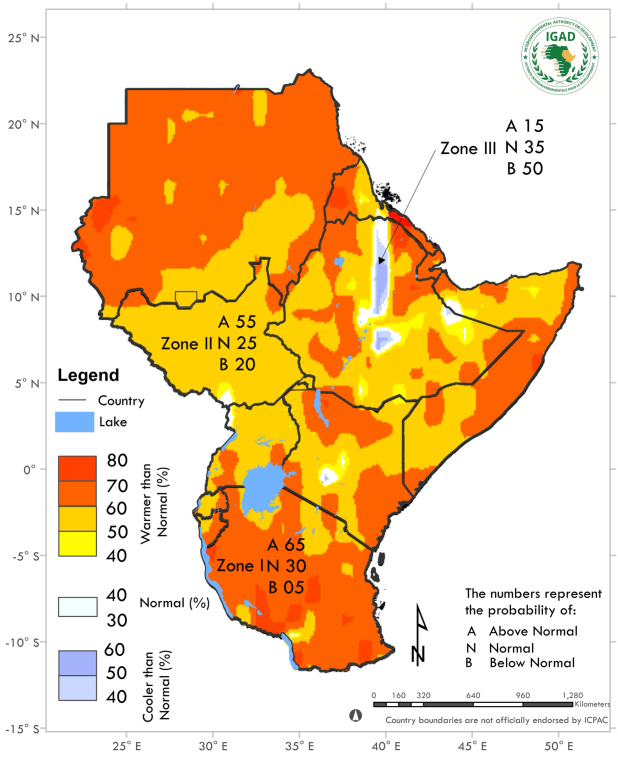


Figure 3: The map on the left indicates the most likely rainfall onset dates for the MAM 2026 season from model ensemble mean values. The middle map shows the standard deviation of predicted onset dates from the different ensemble members (days) and is a measure of uncertainty in the ensemble mean values. The map on the right indicates the forecast probabilities for three (tercile) categories of onset timing (early/normal/late).

7. Temperature Outlook for March to May 2026

The temperature outlook for various zones within the GHA region is given in Figure 4 below.



Zone I: In this Zone (dark orange), the above normal seasonal-mean temperature (i.e., warmer) category is most likely at 65%. The probabilities for the near normal and below normal categories are 30% and 5% each.

Zones II: In this Zone (yellow) also, the above normal seasonal-mean temperature category has the highest probability (at 55%). The probabilities of the normal and below normal categories are 25% and 20%, respectively.

Zones III: In this Zone (light blue), the below normal seasonal-mean temperature category has the highest probability (at 50%). The probabilities of the normal and above normal categories are 35% and 15%, respectively.

Figure 4: Probability forecast of mean surface temperatures for the March to May 2026 season.

Partners and Funders

GHACOF 72 was organised by the IGAD Climate Prediction and Applications Centre (ICPAC) in collaboration with the National Meteorological and Hydrological Services (NMHSs) of the Greater Horn of Africa (GHA), specialised institutions of IGAD (ICPALD, CEWARN), as well as other regional and international institutions and organisations: UK Met Office, NOAA CPC-International Desk and WMO Global Producing Centres (GPCs). The Kenya Meteorological Department hosted the event.