ICPAC

Statement on the ongoing extreme temperatures in the IGAD region

March 2025

1. Introduction

The IGAD Climate Prediction and Applications Centre (ICPAC) is a specialised institution of the Intergovernmental Authority on Development (IGAD), mandated to foster climate services and knowledge to enhance community resilience for prosperity in the Greater Horn of Africa. As a WMO-designated Regional Climate Centre of Excellence, ICPAC provides services in climate monitoring, forecasting disaster risk management across IGAD member states.

ICPAC provides seasonal climate outlooks, monthly and weekly forecasts, flash floods updates and early warning information to help policy makers, institutions, and communities mitigate climate risks and enhance preparedness which is critical for agriculture, water resources, health, and disaster risk management, enabling governments and partners to take proactive measures against droughts, floods, heatwaves, and other climate extremes**.**

For more details about ICPAC

2. Overview of the Current Extreme Temperatures in the GHA

During the 69th Greater Horn of Africa Climate Outlook Forum (GHACOF 69), ICPAC released the March-May (MAM) 2025 seasonal forecast, which projected a higher likelihood of warmer-than-normal conditions across most parts of the IGAD region. During the release of the seasonal forecast, it was emphasised that the region should follow up with forecast updates, especially on the sub-seasonal timescale when most climate hazards manifest.

Weekly forecasts generated throughout February indicated persistence of warmer than usual temperature anomalies across most parts of the Greater Horn of Africa (GHA), putting the region at a likelihood of extreme temperature hazards. Further, analysis of the observed temperatures in February indicated that most areas in South Sudan, Uganda, northern and western Kenya experienced persistence of extreme temperatures (Figure 1 left). The analysis of the average daily maximum temperatures from February 1 to 28 also indicates that much of South Sudan, parts of southeastern Sudan, northern Kenya, and southern Somalia experienced temperatures exceeding 38°C (Figure 1 right). With daily maximum temperatures hitting 40

degrees Celsius in parts of South Sudan and Kenya, recent observations indicate a growing risk of negative impacts on human well-being, livestock and socio-economic activities.
A heatwave is generally understood as a hot period of at least three consecutive days when temperatures exceed the normal range, usually reaching the highest 10 percent on record.

This prolonged heatwave is an emerging climate hazard that all stakeholders should take note of, to protect the vulnerable, especially the elderly, infants and children, those with medical ailments, expectant mothers and outdoor workers. It should, however, be noted that with climate change exacerbating global temperatures, extreme heatwave events are expected to occur more frequently in the future. Early warning should, therefore, be integrated into all national to community level structures, with sensitive sectors such as health, education, livestock, among others, taking relevant initiatives to translate early warning to early action.

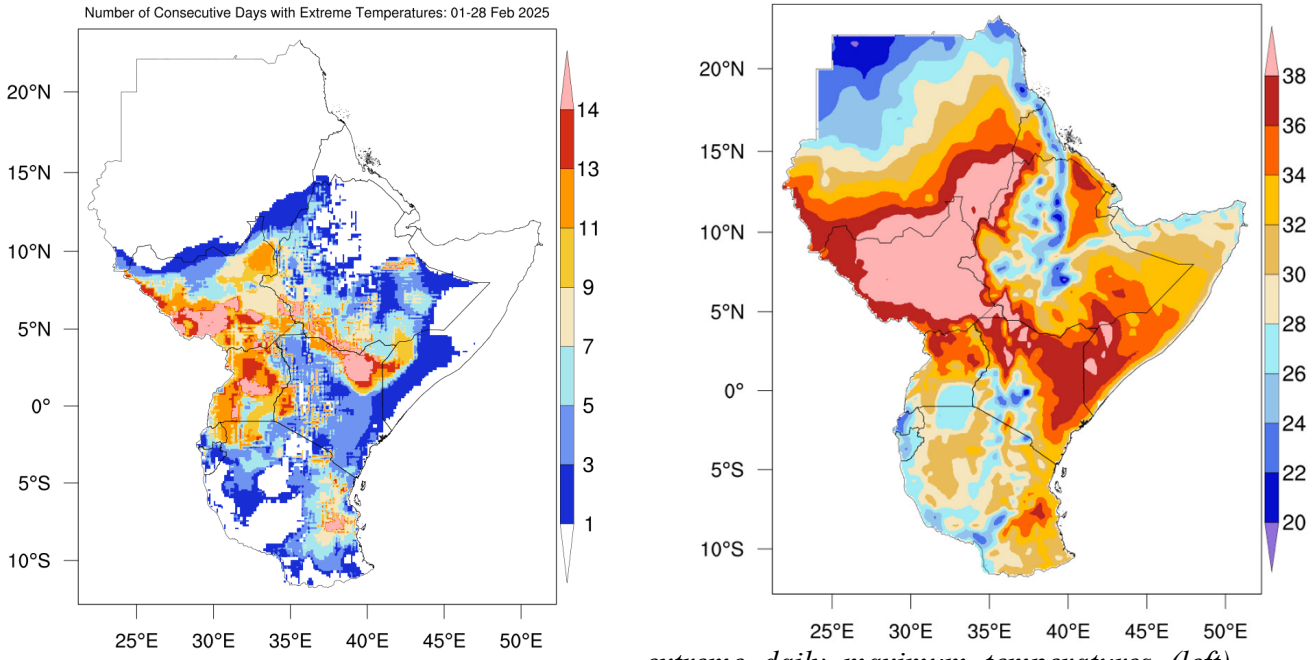

Figure 1. *Number of consecutive days with extreme daily maximum temperatures (left) and average daily maximum temperatures (right) from February 1 to 28, derived from ERA5 reanalysis data.*

The temperature forecast for the next 10 days (6th - 15th March, 2025) indicates persistence of extreme temperatures, especially over South Sudan, coastal regions of Tanzania, Kenya, Somalia, central to southern Uganda, and southwestern regions of Ethiopia (Figure 2).

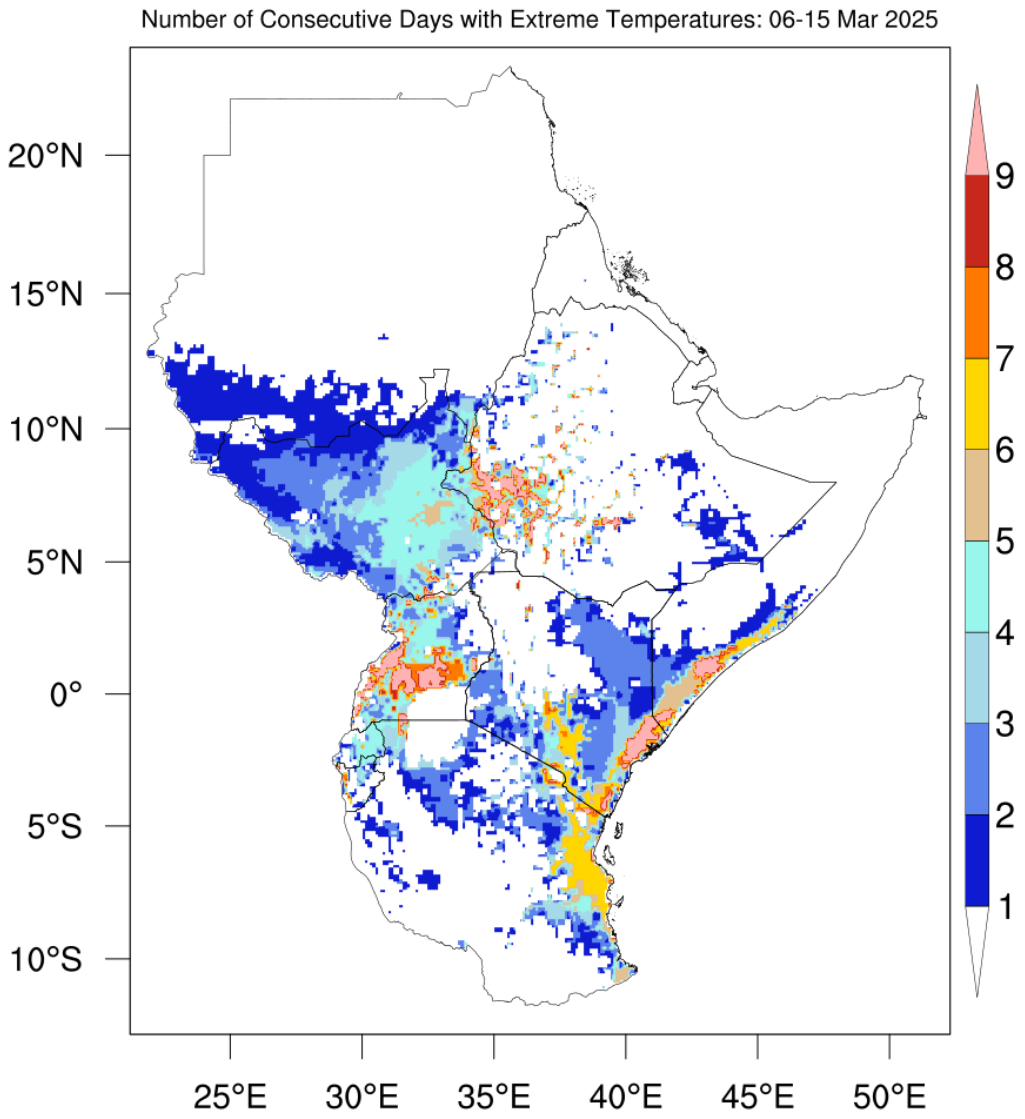

Figure 2. *Number of consecutive days when temperatures are forecasted to reach heatwave threshold between the 6th and 15th March 2025.*

The ongoing heatwave in the region, although expected to subside in the coming days as rain sets in, in parts of the region, could have far-reaching impacts on various aspects of our society, environment, and economy. Stakeholders are advised to take note of the impacts expected and advisories below.

3. General possible impacts and advisories

Impacts:

- Increased heat stress to outdoor workers, including those preparing farms for the next cropping season, negatively impacting productivity and health.
- Increased likelihood of wildfires as high temperatures and dry conditions sustain conducive environmental conditions for wildfires.
- Elevated levels of heat stress are likely to cause dehydration, exhaustion, fainting, and in extreme cases, heat stroke in humans.
- Worsening of respiratory diseases such as Asthma.
- Mental illness, including anxiety and sleep loss.
- Reduced livestock productivity especially in terms of milk.
- Reduced grazing time for animals due to excess thermal heat comfort.

Advisories

- Pause/minimise intensive activities, especially for outdoor workers, including sportsmen, women, and farmers, are advised to avoid exposure to peak sunshine hours, and focus activities to early morning or late evening.
- The vulnerable groups, including the elderly, infants and expectant mothers, should take extra precautions in terms of sufficient cooling, hydration and reduced physical activity.
- Hydrate frequently and seek medical attention in case dehydration symptoms worsen.
- Closely monitor livestock behavior, provide sufficient water to avoid stress.
- Withdraw the young livestock from grazing fields and provide enough shading and water.

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4. Annex

Historical and Projected Temperature Trends

The IGAD region has experienced a consistent warming trend in mean annual temperatures over the past 120 years, with a significant increase observed since the early 1980s (Figure 3). Historical temperature analysis shows a steady rise, with an estimated warming rate of approximately 0.7°C per decade. This trend aligns with global temperature increases and serves as a clear indicator of climate change in the region. In recent years, it is almost likely that the subsequent year will be hotter than the previous one, and therefore there is a need to prioritise and accelerate adaptation to a constantly warming planet.

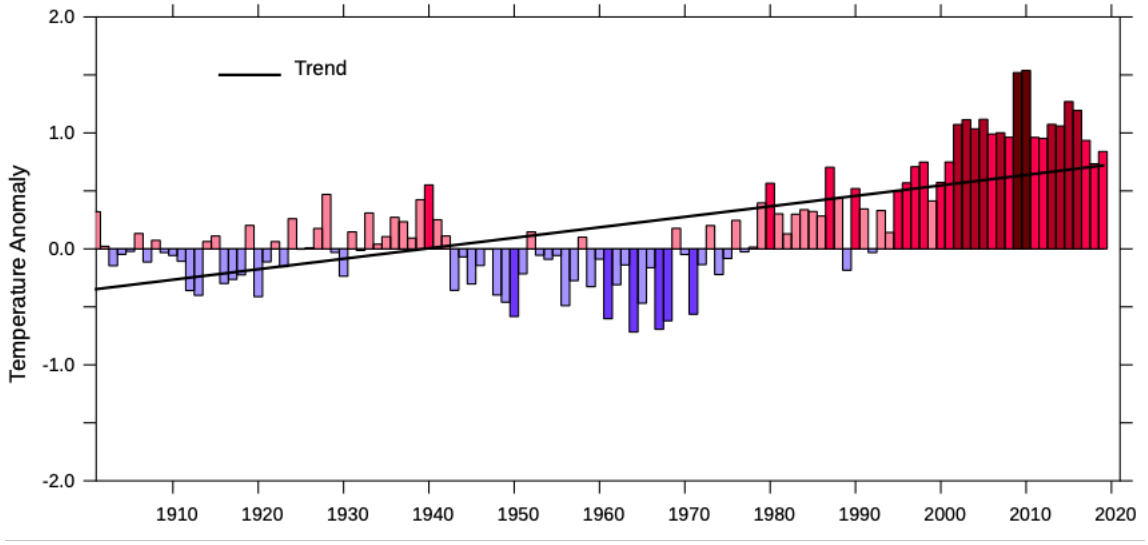

Figure 3: *Timeseries of annual surface temperature anomalies (°C) for the IGAD region from CRU data for the period from 1900 to 2020 relative to 1961 to 1990 average. Blue bars indicate cooler-than-average years; red bars show warmer-than-average years.*

Future projections from dynamically downscaled simulations suggest that both mean temperatures and extreme heat events will continue to rise. The increase in temperature could lead to more frequent and intense heatwaves and increased evapotranspiration affecting water availability, and heightened risks of heat-related illnesses and extreme weather events.

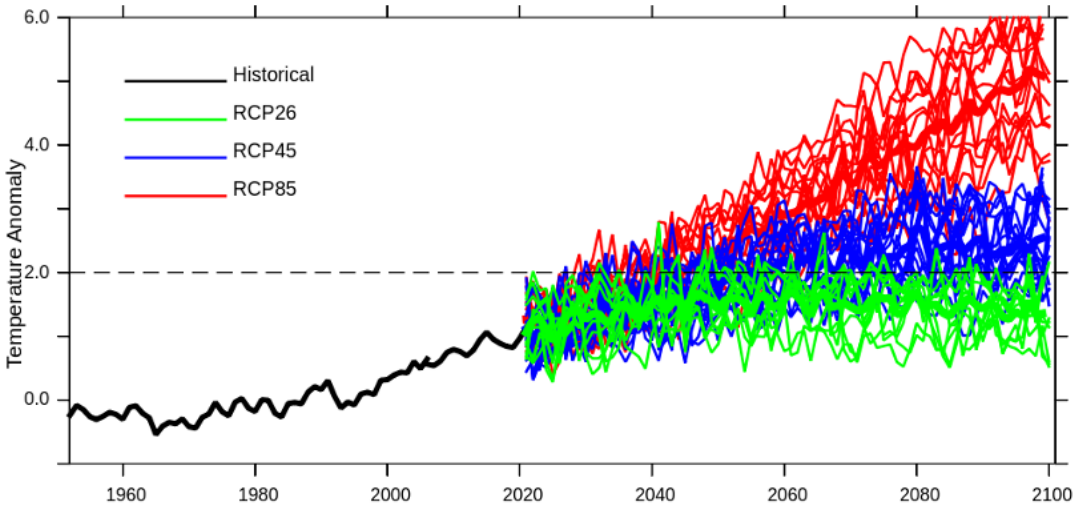

Figure 4: *Projected annual temperature anomalies over the IGAD region for the different future scenarios.*

For media interviews and requests, kindly contact:

ICPAC WhatsApp: +254 112 862 395

Email: paula.machio@igad.int / emebet.jigssa@igad.int / edwin.kiplagat@igad.int