

**REPORT OF THE SIXTY FIFTH GREATER HORN OF AFRICA CLIMATE
OUTLOOK FORUM (GHACOF 65) FOR THE OCTOBER-DECEMBER
(OND) 2023 RAINFALL SEASON
21-22, AUGUST 2023**

**THEME: "CLIMATE SERVICES FOR SCENARIO PLANNING AND
RESILIENCE BUILDING"**

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PREFACE

The sixty-fifth Greater Horn of Africa Climate Outlook Forum (GHACOF65) was organized virtually and in person from 21-22 August 2023 at Trade Mark Hotel in Nairobi, Kenya. The main objectives of the forum were to provide feedback on the performance and impacts of the June to September 2023 season so far, present a consolidated objective regional climate outlook for the October to December (OND) 2023 season, and then deliberate and provide implications of the OND 2023 outlook to climate sensitive socioeconomic sectors in the region.

The forum brought together climate scientists, researchers, decision-makers, and users from vital socioeconomic sectors, governmental and non-governmental organizations, development partners, and civil society, among other stakeholders. The main GHACOF65 event which was held on 22nd was preceded by sector-specific workshops that focused on the co-production and co-design of climate services, feedback on impacts and measures taken during JJA, lessons learned, and co-design of forecast-based interventions and mitigation measures for the coming season. GHACOF is preceded by a 1-week climate scientists' workshop that bring together forecasters from RCCs, National Meteorological and Hydrological Services (NMHSs), GPCs among other invited participants. The scientists' workshop commonly referred to as Pre-GHACOF was held from 14th to 18th August 2023 at ICPAC, Nairobi. The regional as well as the national objective seasonal forecasts were produced during this workshop, and the regional forecast was the main input for GHACOF65.

The forum was organized by IGAD Climate Prediction and Applications Centre (ICPAC) in collaboration with the National Meteorological and Hydrological Services (NMHSs) of ICPAC's participating member countries and was supported by partners. The forum was held within the framework of the IGAD regional strategy for mainstreaming climate information in vital socioeconomic sectors for disaster risk reduction and sustainable development under the theme: "Climate Services for Scenario Planning and Resilience Building" Anticipatory Action"

The two-day event attracted online and in-person participants, with 191 online participants and 183 physical participants at the Trade Mark hotel in Nairobi.

ICPAC will continue to organize GHACOFs as one of the most effective ways to strengthen the dialogue between producers, users, and all climate services value chain actors and proactively innovate and improve efforts to deliver better services to build resilience in the region.

Guleid Artan (PhD)

ICPAC Director

EXECUTIVE SUMMARY

ICPAC organizes GHACOFs 3 times a year to provide climate outlook for the 3 main rainfall seasons (MAM, JJAS, OND) in the region. COVID-19 pandemic brought about the shift in how these workshops are held with current formats being hybrid. The workshop adopted different formats of interaction including presentations in plenary and group discussions. The GHACOF65 workshop held in Nairobi comprised of fully in-person participation during the first day and a hybrid format on the second day. The forum was supported by the European Union funded Climate Services and related applications (ClimSA), Coproduction of Climate Services for Eastern Africa (CONFER), projects funded by the European Union, the AICCRA project financed by the World Bank, DRM, SCII, and the Government of Kenya.

The forum was held within the framework of the IGAD regional strategy for mainstreaming climate information into key socioeconomic sectors for resilience and sustainable development. It brought together representatives from National Meteorological and Hydrological Services (NMHSs), global climate centers, regional partners, decision-makers, and users from critical socioeconomic sectors. The government of Kenya was represented by the director Kenya Meteorological department. The forum provided a structured means for users, researchers, and climate services providers to interact at the regional level to ensure that user needs for the seasonal prediction are met.

1. COPRODUCTION OF CLIMATE SERVICES OVER EASTERN AFRICA

1.1. Opening Remarks and Setting the Scene

The GHACOF (Greater Horn of Africa Climate Outlook Forum) event began with opening remarks from distinguished speakers. The session aimed to highlight the objectives of the forum under the theme "Climate Services for Scenario Planning and Resilience," focusing on building resilience based on probabilistic forecasts and recognizing the importance of climate information in decision-making.

Opening Remarks by Mr. Zachary Atheru - Programme Manager, ICPAC

Mr. Zachary Atheru, the Programme Manager of ICPAC, extended a warm welcome to all the guests and participants in attendance. He emphasized that the primary goal of the forum was to underscore the importance of scenario planning in the context of climate services. The conventional deterministic approaches were being replaced by probabilistic strategies to enhance resilience.

He highlighted that GHACOF, a User Interface Platform (UIP) within the global framework for climate services, aimed to facilitate interactions between producers, users, researchers, and decision-makers. The objective was to collect feedback on the utilization of climate information from the previous season and plan for the upcoming season, including the release of the OND outlook. Workshops had been conducted virtually over the past week, encompassing climate forecasting co-production and sectoral co-production.

Opening Remarks by Dr. Guleid Artan - Director, ICPAC

Dr. Guleid Artan, the Director of ICPAC, expressed his gratitude to all the participants, including the Chief Guest Dr. David Gikungu. He acknowledged the host country, Kenya, for accommodating this significant event. Dr. Artan addressed the severe threat posed by climate change to the region's development, especially considering the vulnerability and limited capacity of local communities to cope with climate change effects. He pointed out that about 51 million people in seven countries were in need of humanitarian assistance, primarily due to consecutive failed seasons, exacerbated by factors such as conflicts and economic challenges.

Dr. Artan emphasized the role of IGAD, a regional economic community established in 1996 to coordinate member states in combating and mitigating the effects of drought and climate change. This forum provided a platform for collaboration and resilience-building, with a specific focus on benefiting rainfed agriculture. He noted that the current season was characterized by El Niño, with implications for rainfall patterns in different countries. While this presented opportunities, it also raised the probability of disasters like flooding.

Remarks by Dr. David Gikungu on behalf of Ms. Soipan Tuiya

Dr. David Gikungu, speaking on behalf of Soipan Tuiya, underscored the importance of educating the public about El Niño and the need for collaboration among participants to enhance the understanding of products generated during the event. The forum served as a vital tool for planning and comprehending shifts in climate patterns. Ms. Tuiya expressed her appreciation to meteorologists, climate scientists, and researchers for their tireless efforts in contributing to the region's resilience. In a world marked by uncertainties, their expertise played a pivotal role in assisting governments, communities, and businesses in making informed decisions. Tuiya highlighted the climate challenges faced by the East African region, including dependence on rainfed agriculture and shifting ecosystems. She stressed the importance of fostering collaboration between governments and the private sector to enhance resilience. The provision of timely climate information was emphasized as a cornerstone of climate adaptation strategies. Challenges related to climate change, such as conflict and food insecurity, have global implications, making climate change a pressing global issue. Tuiya expressed her gratitude for the commitment made and celebrated the development of regional frameworks and the support provided to Kenya and Uganda for the development of climate, weather, and water services.

Vote of Thanks by Mr. David from Kenya Meteorological department

The session concluded with a vote of thanks by Mr. David from Kenya Meteorological Department, who expressed appreciation to guest speakers, meteorologists, media representatives, and all participants for their invaluable contributions to the event. The opening remarks set a positive tone for the GHACOF event, emphasizing the significance of climate services and collaboration in addressing climate-related challenges.

1.2 Building resilience in the energy sector

Dr. Willis Ochieng delivered a keynote presentation on building resilience through climate services and anticipatory scenario planning in the energy sector. He highlighted how climate and weather information are crucial for planning energy dispatch in Kenya. Details of the key note presentation are highlighted in the next sub-sections.

Energy Sector Overview

Dr. Ochieng began by providing an overview of the energy sector in Kenya, which encompasses various sources of power generation, including hydropower, wind, solar, geothermal, bioenergy, and thermal energy, totaling 3,321 MW. Notably, over 86 percent of this capacity comes from renewable energy sources, with non-renewable energy contributing less than 14 percent.

Role of Renewable Energy Technologies

The presentation emphasized the roles of different renewable energy technologies within the electricity mix system:

Geothermal: Baseload

Hydropower: Baseload and load balancing

Wind: Baseload (intermittent)

Solar: Baseload (intermittent)

Biomass: Baseload

Dr. Ochieng highlighted the partnership between Kengen, the National Meteorological Services, and ICPAC that started during GHACOF 43. This partnership aims to mitigate the impact of weather fluctuations on power supply to Kenyans.

Hydropower Scenario Planning

The presentation discussed that hydropower scenario planning is based on forecasts from the Kenya Meteorological Department (KMD) and ICPAC. These forecasts, along with monthly updates, play a crucial role in scheduling power uptakes, particularly through 7-day and 10-day updates. The operational rule curve for hydropower reservoirs is applied in conjunction with the forecast to optimize power generation.

The steps in hydropower scenario planning included:

- i. Climate outlook forums
- ii. Understanding forecast probabilities
- iii. Creating planning scenarios based on best and worst-case scenarios
- iv. Preparing projected scenarios and recommending the highest probabilities
- v. performance
- vi. Updating projections to preserve water resources

The importance of scenario planning in the energy sector was emphasized, as it enabled effective water resource management, minimization of hydropower dam overflows, and the provision of early warnings to downstream occupants to reduce losses.

Case Study and Impacts

Dr. Ochieng shared a case study of the Masinga dam in 2006, which was closed for three weeks due to prolonged drought. However, since the 2019 partnership and the adoption of scenario planning, the dam has experienced consistent power production. He also highlighted Kenya's expansion plans for renewable energy and the need to enhance skills and tools to manage renewable energy sources effectively in response to climate change and variability.

Question and Answer

During the Q&A session, one participant sought clarification on energy terms, particularly "baseload." Dr. Ochieng provided a concise explanation, stating that baseload power refers to the minimum power required, while "load following" refers to plants that adjust power output to accommodate fluctuations. He offered to provide further explanations during available free time.

2. LOOKING BACK: EASTERN AFRICA MAM AND JJA 2023 SEASON

2.1 March-May and June- August Performance

The MAM season forecast showed high chances for below-normal rainfall, but observations show that wetter-than-normal conditions were observed in most parts of the eregion. The rainfall received during this season is attributed partly to MJO which was active during the season. The JJAS forecast indicated a normal to below-average season in northern countries where season is crucial. The onset ranged from late May to July 29, with similarities observed between forecasted and observed onset days in South Sudan and parts of Ethiopia. Rainfall onset anomalies revealed normal to early onset in southern Sudan, South Sudan, central to northern Ethiopia, and Eritrea.

2.2 Sectoral impact assessment

2.2.1 Water Resources and Energy

The JJAS season yielded positive impacts, including the absence of floods in Burundi, Sudan, Tanzania, and Uganda. Hydropower generation remained stable in Sudan due to water level conservation. Rainfall was observed in Djibouti, enhancing water availability for hydropower, water supply, and irrigation dams in Ethiopia. Rainfall and groundwater recharge were also enhanced. The Sondu Miriu hydropower plant in Kenya experienced near-normal inflows and full capacity output. Infrastructure and construction activities continued in Tanzania and Uganda. Coastal and nearby regions in Somalia received dispersed rains, leading to surface water and groundwater recharge.

Negative impacts included floods and flash floods in Ethiopia, low inflow into rivers and reservoirs in Sudan, and low rainfall across the country, affecting flood and mechanized rainfed farming. Water shortages for human and domestic use were observed, as well as a decrease in hydropower output in Kenya. Crop wilting and reduced soil moisture increased irrigation activities in Tanzania, while Uganda faced interruptions in catchment restoration due to reduced rainfall. Drier conditions and slightly decreased river water levels were noted in Somalia. Over exploitation of groundwater due to low rainfall occurred in Djibouti, with decreased recharge levels in Sudan, Somalia, and Tanzania. Strong winds on Lake Victoria caused fatalities in Uganda.

Seasonal Changes

The JJAS season experienced delayed rainfall onset in Sudan, with low water levels in all rivers. Floods and landslides occurred in Ethiopia. The MAM rainfall season prolonged in Uganda, and Somalia had poor rainfall distribution and increased temperatures.

Implementation and Impact of Climate Services and Advisories

Various countries took measures to address climate impacts. Kenya and Burundi conducted maintenance of damaged water pipes and rehabilitation of hydrological stations. Proper dam management was carried out in Burundi, Kenya, Sudan, and Uganda. Awareness campaigns on water conservation were conducted in Djibouti, Kenya, and Somalia. Advisories on strong winds and large ocean waves, as well as the possibility of El Niño in the Pacific Ocean, were issued in Tanzania. Fact sheets and basin monthly bulletins regarding water availability were provided. In response to declining river water levels in Somalia, water quality advisories were issued to riverine communities. Kenya saw an increase in electricity generation from thermal power plants and desilting of earth dams. Solar energy was employed for boreholes.

2.2.2 Agriculture and Food Security

The agriculture and food security sector reported high levels of acute food insecurity, largely attributed to climate-related extremes, conflict, macroeconomic challenges, and forced displacement. The region continued to face acute malnutrition issues, and food prices soared, affecting household costs. Cereal prices across markets in several countries were 50% higher compared to the recent five-year average. Climate-related impacts, conflict, macroeconomic challenges, and global shocks were contributing factors.

Positive Impacts

Early crop harvests slightly improved household food security in Kenya and Uganda. Dry conditions in Tanzania facilitated good post-harvest management. On-time rainfall onset in Ethiopia created favorable conditions for sowing.

Negative Impacts

The region witnessed high pressure on agrifood systems due to consecutive droughts and floods, along with economic impacts of the pandemic and global market shocks. Stunted crop growth due to waterlogging and dry spells occurred in Ethiopia, and fertilizer shortages led to delayed planting. Some areas experienced heavy rain, leading to stunted crop growth and a risk of insufficient seasonal rainfall.

Response Strategies and Good Practices

NMHSs convened stakeholder meetings to discuss climate impacts. Subsidized fertilizer distribution in Kenya and Tanzania aimed to maximize application. Duty-free windows for non-GMO maize imports were extended in response to production shortfalls in Kenya. Measures included the removal of value-added tax (VAT) in Rwanda, operationalization of the Warehouse Receipt System (WRS) Act in Kenya, and crop insurance programs expansion. Technologies were transferred to communities, post-harvest handling infrastructure was improved, and comprehensive agromet bulletins were implemented. Affordability and accessibility of technologies and knowledge for farmers were prioritized.

2.2.3 Livestock and Rangelands

The JJA season brought about a range of both positive impacts and challenges in the livestock and rangeland sector across East Africa.

In Djibouti, despite it being the primary rain season, poor rainfall was observed. However, this led to positive outcomes, such as reduced displacement of livestock due to floods, improved road accessibility, and a decrease in biting flies and mosquitoes. In South Sudan, below-average rainfall was experienced, except in parts of the Upper Nile region, which saw above-normal rainfall. This resulted in reduced displacement due to floods, increased road accessibility, and reduced insect-related issues.

Ethiopia received good rainfall in many regions, resulting in improved pastures and increased animal feed availability in areas that had previously been affected by drought. This led to favorable livestock body conditions, better prices, and increased milk and meat production. In Kenya, various regions received variable rainfall, with some areas experiencing near to below-average rainfall, while the Coastal Strip received near to above-average rainfall. These conditions had a positive impact on the livestock sector, with good pasture and browse availability, improved livestock body conditions, and increased milk and meat production.

Somalia witnessed good pasture and fodder in many parts of the country, leading to increased animal production and favorable prices. Additionally, the emergence of new markets and reduced pastoral mobility in search of pasture and water contributed to these positive impacts. Uganda experienced reduced food prices due to the harvesting season, along with reduced fuel and transport costs, leading to a more stable economy.

Despite these positive impacts, the sector faced several challenges. Kenya reported cases of diseases among livestock, increased livestock trekking distances, and continued water stress. In Ethiopia, flooding in some areas and desert locust infestations posed challenges. Djibouti faced outbreaks of diseases and livestock mobility issues. Somalia experienced displacement of pastoral and agro-pastoral communities due to food shortages. In South Sudan, the late start to crop farming and reduced fishing negatively impacted food security. Uganda faced below-average rainfall in many parts and increased incidences of livestock and crop pests and diseases.

2.2.4 Health Sector

In the East African region, the JJA 2023 season was marked by both long-term observed seasonal changes and various impacts on the health sector.

Long-Term Observed Seasonal Changes

Ethiopia experienced a summer season with heavy and well-distributed rainfall, leading to localized flooding and waterlogging in some areas. Kenya saw positive outcomes from the successful MAM 2023 long rains season, with improved pasture conditions, excellent livestock body conditions, and greater access to water for livestock. Somalia's rainfall distribution was mixed, with some regions receiving sufficient rain while others faced shortages.

The health sector reported several positive and negative impacts during the JJA 2023 season in East Africa.

Positive Impacts

In Kenya and Tanzania, there were low numbers of vector-borne diseases in most regions. Adequate water levels in the Shabelle and Juba rivers for irrigation contributed to a decrease in malnutrition cases. Burundi noted reduced instances of malaria and pneumonia. Ethiopia maintained stable health service delivery due to uninterrupted hydroelectric power. South Sudan experienced thermal comfort brought by unusual cold winds and daytime cloud cover.

Negative Impacts:

The season witnessed an increase in upper respiratory diseases, attributed to cold conditions in some regions. Kenya reported outbreaks of malaria in several areas, along with cholera outbreaks in some parts of the country. Acute diarrhea cases were noted in regions bordering Lake Tanganyika, with an ongoing cholera outbreak in parts of Burundi.

Long-Term Seasonal Changes Observed

Kenya observed cooler conditions in several areas, including the Western highlands and the central region, including Nairobi. Somalia, while not experiencing a malaria outbreak, reported increased conflict and internally displaced persons (IDPs) due to drought in urban centers. In Rwanda, diseases such as schistosomiasis and Soil Transmitted Helminth continued to be reported in health facilities. South Sudan experienced thermal comfort owing to unusual cold winds and daytime cloudiness.

Implementation and Impact of Climate Services and Advisories

Across East African countries, a range of actions and responses were observed in the health sector during the JJA 2023 season.

Kenya implemented initiatives to provide safe and clean water and conducted a campaign distributing long-lasting insecticide mosquito nets (LLINs). Somalia focused on surveillance, detection, and supportive treatment, along with capacity building for health workers on acute watery diarrhea (AWD) and cholera prevention. Burundi introduced nutrition interventions, including cash vouchers and the establishment of nutrition stabilization centers for severely malnourished children. Ethiopia engaged in social behavior change communication campaigns for prevention and treatment. South Sudan carried out vaccinations against cholera in affected hot spots. Uganda coordinated health activities through regular virtual meetings with various regions.

2.2.5 Disaster Risk Management

In the JJA 2023 season, the East African region experienced a range of identified disasters, impacting various countries within the area. These disasters encompassed several categories:

Floods: Sudan, Ethiopia, and Uganda faced flooding, potentially causing damage and displacement.

Drought: Kenya encountered drought conditions, which could significantly affect agriculture and water resources.

Landslides: Uganda experienced landslides, posing a threat to lives and property in affected regions.

Epidemics: Sudan and South Sudan reported epidemics, which could strain health services and resources in these nations.

Hailstorms: Uganda witnessed hailstorms, potentially damaging crops and infrastructure.

Strong Winds: Somalia faced strong winds that might lead to structural damage and disruptions.

Pest and Diseases: Ethiopia dealt with pests and diseases that could harm crops and livestock, impacting food security.

No countries declared a disaster emergency in response to these incidents. Government and partner efforts were implemented to address these challenges:

- Early warnings were issued, providing communities with critical information.
- Drought contingency plans were activated in affected regions to manage water and food resources.
- Unconditional cash transfers supported the relocation of vulnerable communities from high-risk areas.
- Distribution of food aid, such as sorghum, millet, groundnuts, and sesame seeds, aided affected farmers.
- Village health teams conducted house-to-house campaigns, raising awareness of health and medical services.
- Inter-ministerial emergency committees were established to coordinate humanitarian operations.
- Over 20,000 metric tons of food aid were distributed across eight states in Sudan.

Key lessons learned from this disaster risk management included the importance of inter-ministerial emergency committees for coordinated efforts and the effectiveness of house-to-house campaigns in raising awareness. Although the presentation was deemed informative, some participants inquired about mental health reports and requested more information on the positive impacts of mitigation measures.

3. LOOKING AHEAD: THE OCTOBER TO DECEMBER RAINFALL SEASON

3.1 The current state of global climate systems

In this session, the focus was on the current state of global climate systems and their anticipated impacts in the upcoming season. Dr. Stefan Lines presented key findings, highlighting that July 2023 marked the warmest July ever recorded globally, indicative of a broader trend of rising temperatures associated with global warming. The active El Niño, known for storing heat, is manifesting conditions reminiscent of past El Niño periods. Notably, the Sea Surface Temperature in the upper Pacific Ocean has undergone changes in the last month, presenting a distinctive El Niño pattern. Dr. Lines emphasized the interplay between the atmosphere, altering pressure, and causing variations in sea surface temperatures during October to December. Historical data indicates a high probability of increased rainfall during El Niño events, though not universally associated with heavy precipitation. The consistently positive Indian Ocean Dipole (IOD) and its correlation with El Niño Southern Oscillation (ENSO) were underlined as factors influencing regional rainfall patterns.

3.2 October to December 2023 Season Outlook

Climate Forecast Overview: ENSO has developed over the Pacific Ocean and is expected to persist into the OND season. The Indian Ocean Dipole (IOD) is also expected to have a significant impact, with a high probability of enhanced rainfall for Kenya, Uganda, and Ethiopia. However, southwestern Uganda and South Sudan may experience drier conditions.

Onset of OND 2023: According to climatology, rainfall migrates from northern to southern regions. The onset is expected in the second week of September for northern parts of Rwanda, while it will reach the southern parts of Tanzania in November. The forecast suggests an earlier onset in eastern regions and a delayed onset in the west.

Maximum Wet Spells and Dry Spells: Wetter conditions are anticipated in most regions after onset, with maximum wet spells lasting 4-6 days. Eastern parts may experience longer spells. Dry spells are expected to be later and shorter in Somalia and Kenya. **Probability of Exceedance and SPI:** High chances of rainfall exceeding 200mm are projected for most regions, with some areas having over 300mm. Both 3-month and 1-month Standardized Precipitation Index (SPI) indicate moderately wet to semi-arid wet conditions. **Temperature:** Warmer than usual temperatures are predicted across most of the region, with higher probabilities in Ethiopia, Tanzania, Somalia, and Kenya. However, cooler conditions may be experienced in parts of Kenya.

3.3 Sector implications and management strategies for OND 2023 season

3.3.1 Water and Energy Sector

Dr. Khalid discussed the expectations for the water and energy sector in the region. The forecast indicates that a significant part of the region is expecting wetter than usual conditions, with southern parts of Uganda and isolated areas of Southern Sudan anticipating drier than usual conditions.

Impacts

1. Adequate water availability for various sectors.
2. Anticipated high water levels and outflow for Lake Victoria.
3. Good hydropower production.
4. High risk of flooding in lowland areas.
5. Risk of waterborne diseases.
6. Near or above normal stream and lake levels.

Key advisories and response measures

1. Water conservation measures.
2. Careful monitoring and management of water levels in areas anticipating above-average rainfall.
3. Provision of early warning and awareness in flood-prone areas.
4. Provision of water treatment chemicals.
5. Efficient planning of hydropower operations.
6. Continuous monitoring of dam levels.
7. Clearance of drainage systems to prevent urban flooding.

3.3.2 Agriculture and Food Security Sector

The presenter highlighted the impacts for the agriculture and food security sector.

Impacts

Positive outcomes from the forecast include an early onset, which is effective for planting, a good prospect on crop production that could lead to improved food security and decreased food prices, and reduced conflicts among farmers and pastoralists.

Negative sectoral impacts for the season include potential flooding, which could lead to waterlogging in farmlands without proper farm management technologies, an increase in crop pests and diseases due to enhanced rain and warmer temperatures, potential landslides in highlands and areas without proper soil control structures, a high rate of weed growth increasing

the cost of farm management, potential post-harvest losses, and the likelihood of destruction of irrigation infrastructure and roads.

Key advisories and response measures

1. Farmers increasing acreage under crop production.
2. Early dissemination of Climate Information Services (CIS) through existing platforms.
3. Attention to crop and seed selection.
4. Facilitation of timely distribution of recommended/appropriate seed by governments.
5. Continued humanitarian support for regions facing food insecurity due to various shocks, including conflict.

3.3.3 Health and Nutrition Sector

According to the Health and Nutrition Sector, the region is likely to experience both positive and negative impacts

Impacts

Expected positive sectoral impacts for the OND season include: Improved food availability resulting in nutritional status of the population (Ethiopia, Kenya, Uganda, Djibouti, & Rwanda). Availability of Water for domestic use and livestock (Djibouti and Kenya). Decrease in some diseases like trachoma and scabies (TZ); and malaria, Oncho, Schisto, AWD (SSD). The expected negative impacts include, potential flooding that could lead to drowning, deaths, and injuries, as well as physical damage to health facilities. Flooding could also lead to displacement of people and increase in water-borne infections.

Advisories and response measures

Establishing strategic food reserves, promotion and support post-harvest storage at household level, strengthening water treatment and purification, promotion of water harvesting for domestic use and livestock, risk communication and preparedness plan, active surveillance and reporting, promotion of WASH practices, improved waste disposal at individual and institutional levels., strengthening of diagnostic and treatment services and commodities, mobilization of resources to implement response activities to impacts and awareness creation in communities on health and wellbeing in relation to extreme weather events e.g consider health academy for media to improve on reporting.

3.3.4 Disaster Risk Management

During the session on Disaster and Risk Management, Dr. Banak Joshua outlined the various hazards anticipated for the OND season in the region, including floods, landslides, mudslides, waterborne diseases, desert locusts, hailstorms, resource-based conflicts, disaster displacements, tropical cyclones, drought, heat stress, and food insecurity. To address these hazards, a range of actions were proposed. These actions involved multiple responsible institutions and included timely dissemination of early warning information, implementation of

anticipatory actions, community education programs, prepositioning of essential supplies, establishment of effective coordination mechanisms, disease surveillance, positioning of food and non-food items, provision of medical supplies and mobile clinic services, psychosocial support services, promotion of positive behavioral changes, and preparation of an El Niño contingency plan.

Q&A

Mr. Bernard Gitau from Media Max wanted clarification on how the highest temperature of a given month arrived at and Mr. *Paulino (ICPAC) responded that the month's temperature is compared to the long term mean and the anomalies derived.*

Mr. Peter Johnson (CONFER Project) inquired on how much information is lost in translation and communication and it was noted that media engage scientists to ensure the breakdown of jargon. This ensures that no information is lost during translation.

Mr. Phillip (Water Sector-Kenya) asked whether there are negative impacts to the water sources when managing the desert locusts, Are there any assessments done on the impacts of the chemical used to control the desert locust on water resources? *Mr. Kenneth clarifies that there are regulatory authorities that control the pesticides used in the affected member states in the region. IGAD has brought on board other stakeholders such as ICIPE to advise on the best pesticides to use in the region as well as come up with regional policies on pesticides.*

A gender expert inquired if there a needs assessment conducted before giving advisories (to enable gender equality and social inclusion) and it was noted that *mechanisms are in place to factor in gender equality and social inclusion when coming up with advisories.*

Dr. Pamala commented that Mental health issues should be included in the disaster response plans.

4. CROSS-LEARNING: CLIMATE SERVICES DIALOGUE I

This panel discussion hosted Professor Daniel Olago, Dr. Richard Muita, Dr. Khadar Mohammed, and Dr. Odingo Alice. The panel discussed climate services, anticipatory action, challenges experienced, and the way forward for disaster risk management. Some of the key topics and points from the discussion include:

4.1 Challenges in Climate Services and Disaster Risk Management (DRM)

- Understanding climate information remains a challenge, especially for those working at the community level in DRM.
- The coordination among different sectors is insufficient, primarily at the seasonal level, with limited discussions at the national and subnational levels.
- Climate information provided at forums can be difficult to change to suit monthly and weekly forecasts.

- Climate drivers are not always well understood at the community level, and the information must be communicated in simpler terms for effective action.

4.2 Using Research to Fill Gaps in Climate Services

- There is a need for more research, particularly on the continued effects of climate change.
- Research findings should be tailored to speak to different sectors and communities for long-term sustainable planning.
- Effective collaboration between researchers and experts is essential for better implementation of climate information.

4.3 Mental Health and Climate Change

- The impact of weather and climate on mental health is an emerging concern.
- Policymakers need to be informed about the realities of climate change and its effects on mental health.
- As more populations are exposed to climate change impacts, there is a growing need to address mental health issues associated with climate change.

4.4 Integrating Indigenous Knowledge

- Indigenous or local knowledge varies among different communities.
- Indigenous knowledge plays a crucial role in creating a sense of ownership, trust, and consensus in climate services.
- It is important to integrate indigenous knowledge into formal climate services and use it in consensus building and formulating consensus forecasts.

4.5 Gender and Climate Change

- Gender representation in climate forums remains low.
- Gender inequalities exist in various sectors, including agriculture, food security, and climate adaptation.
- The future of food, transboundary risks, and climate information all have gender implications that should be considered.
- Equal access to climate information is essential, and new technologies and increased food production should be introduced to empower youth.

The session concluded with a Q&A session, where various questions were raised about empowering community champions, increasing the value of climate forecasts at the community level, breaking sector silos, addressing the effects of increased temperatures in slum areas, integrating local knowledge into science, and building trust between local knowledge holders and

scientists. The answers and comments highlighted the need for effective collaboration, integration of indigenous knowledge, and user engagement at the community level.

5 DIALOGUE ON STRENGTHENING RESILIENCE II

This was a poll session and the questions posed has the responses below

Question One: Are member states integrating gender into Climate Services?

69 % of the respondents said that there is minimum (not enough) integration while 19% said that it is being integrated. 12 % indicated that no efforts in integration have been made

- The gender issues have to be addressed to represent even the vulnerable people including the youth and all other communities.
- ICPACs effort on having a gender preconf webinar to mainstream gender into climate services was recommended as a good initiative to integrate gender and for better understanding of gender issues

Question two: Should mental health be added into GHACOFs

70 % of the respondents said it should be added while 30 % said that it is a minor issue

- It is important to have mental health conversation even in terms of economic losses brought about by climate change
- Climate change brings the conflict of experiences, trauma and responsibilities that can trigger the mental health issues that need to be addressed
- Metal health is becoming an issue to all ages including the youths and therefore the need to address this and not term it as a minor issue.
- The changing of rural to urban like sometimes characterized by climate change makes it necessary to have community networks that deal with mental health.
- The mental health issue needs to be handled with care since it is more of a long-term effect therefore long-term mitigation strategies and not short term

Question Three: What are the highest regional priorities for increasing resilience in the region?

- 1. Capacity development**
- 2. peace and security**
- 3. governance**
- 4. education**

- Education is the main priority because when you empower the technical people then there is sustainability
- Governance is an important issue that deals with resource allocation and to enforce important laws and policies
- Dr. Tesfaye mentioned that from an experience on the pastoralist communities that peace and security is the priority using bottom-up approach.

6 RELEASE OF THE SEASONAL FORECAST

In his concluding remarks, Dr. Guleid Artan, the Director of ICPAC, began by expressing gratitude to all forum participants. He highlighted the critical role of forums like GHACOF in addressing recurrent climate shocks as a result of climate change. According to Dr. Artan, these forums serve as essential platforms that bring together diverse stakeholders to discuss forecasts and formulate advisories for various sectors.

Dr. Artan stressed on the importance of tackling climate extremes and advocated for effective strategies, including the widespread dissemination of seasonal forecasts to different stakeholders. His emphasis was on ensuring that vital information reaches even the last mile users. He concluded by extending thanks to everyone for their dedication and efforts, encouraging them to actively share the forecast with stakeholders at various levels.

Dr. Gikungu, the Director of the Kenya Meteorological Department, presented the OND forecast statement issued by ICPAC. The forecast indicated a high likelihood of wetter-than-usual conditions across the Greater Horn of Africa. Specifically, with an 80% probability of increased rainfall in southern Ethiopia, eastern Kenya, and southern Somalia. Dr. Gikungu also noted the expectation of drier-than-usual conditions in isolated areas of southwestern Uganda and southwestern South Sudan. He cautioned that heightened precipitation might contribute to flooding in the region. The forum was then closed by Dr. Gikungu.

The technical statement and press release, encompassing the forecast details, were disseminated to the media and through ICPAC's social media channels. The press release was issued in five languages—English, Kiswahili, Arabic, French, and Somali—and is accessible on the ICPAC website.

Press release

IGAD Climate Prediction and Applications Centre (ICPAC) announced that the October to December 2023 climate forecast shows high chances of wetter-than-usual conditions across

most parts of the Greater Horn of Africa. Notably, there is an exceptionally high probability (>80%) of experiencing wetter-than-usual rainfall in southern Ethiopia, eastern Kenya, and southern Somalia. On the other hand, probabilities indicate drier-than-usual conditions for isolated areas of south-western Uganda and south-western South Sudan.

As a result of the heavy rainfall experienced across much of the region from March to May (MAM) 2023, increased precipitation from October to December (OND) 2023 may contribute to flooding. Dr Guleid Artan, ICPAC Director, noted: *"We have now entered El Niño conditions which, for Eastern Africa, are synonymous with wetter conditions during OND. After three years of devastating drought, this may be seen as a blessing for farmers. Still, it can quickly become a curse. Desert locusts are already proliferating to alarming levels in parts of the region*. The risk of deadly incidents also increases significantly. We all remember the last El Niño in 2015/16 when downpours of torrential rains caused landslides, flash floods, and buildings to collapse. Governments and disaster management agencies are advised to take all necessary measures to save lives and livelihoods."*

Dr Hussen Seid, Climate Modelling Expert at ICPAC, added: *"El Niño is a climate phenomenon characterised by the periodic warming of sea surface temperatures in the central and eastern equatorial Pacific Ocean. Its effects can influence weather patterns worldwide. Another significant phenomenon known as the Indian Ocean Dipole is developing over the Indian Ocean and will reinforce the El Niño impacts."*

October to December constitutes a vital rainfall season, particularly in the equatorial parts of the Greater Horn of Africa, contributing 20-70% of the annual total rainfall. The start of the season will likely occur early in parts of the region where elevated rainfall is anticipated (eastern Kenya, southern Somalia, and eastern Tanzania). In contrast, probabilities favour an average or delayed onset over parts of northern Somalia, western Kenya, Uganda, southern South Sudan, Rwanda, Burundi, and north-western Tanzania.

ICPAC is a designated Regional Climate Centre for Eastern Africa by the World Meteorological Organization. Its seasonal forecast is based on rigorous analysis of historical data, prevailing climate signals, and advanced modelling techniques. For OND 2023, the consolidated objective temperature forecast from nine Global Producing Centres (GPCs) indicates an increased likelihood of warmer-than-usual surface temperatures for almost all parts of the Greater Horn of Africa, particularly over Djibouti, Eritrea, northern Ethiopia, northern Somalia, and parts of coastal Tanzania.

-End-

This press release is available in:

[Kiswahili](#)

[French](#)

[Arabic](#)

[Somali](#)

Note to editors:

The 65th Greater Horn of Africa Climate Outlook Forum (GHACOF65) was convened as a hybrid event on 22nd August 2023 by ICPAC (IGAD Climate Prediction and Applications Centre) in collaboration with the National Meteorological and Hydrological Services in the region and other partners to issue the October - December 2023 seasonal forecast. The forum brought together climate services providers and users from key socio-economic sectors, governmental and non-governmental organisations, decision-makers, climate scientists, and civil society stakeholders, among others, to discuss impacts and mitigation measures for the upcoming season.

We encourage media and climate information users to consult our weekly and monthly updates of the forecasted season: www.icpac.net

For downscaled information, please get in touch with National Meteorological and Hydrological Services.

[ICPAC technical report for the OND season 2023](#)

[*IGAD communiqué on risk transfer and transboundary pest management \(August 2023\)](#)