



ICPAC

Summary for Decision Makers

# SEASONAL FORECAST

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March to May 2021

# Rainfall and Temperatures

March to May is an important season for Kenya, Tanzania, Burundi, Rwanda, Uganda, Somalia, and parts of Ethiopia. A wetter than usual season is expected over western Kenya, eastern Uganda, western Ethiopia, eastern South Sudan, Tanzania, parts of Burundi and Rwanda, and limited areas of northern Somalia. While drier than usual conditions are expected over eastern Eritrea, north-eastern Ethiopia, limited areas of western South Sudan, and a few places over eastern Kenya.

The season is expected to start 1-2 weeks early in northern Tanzania, northern Uganda, western and eastern Kenya, most of South Sudan, south-western Ethiopia, and southern Somalia. On the other hand, a late onset is expected over north-eastern Ethiopia, in line with the expected drier than usual conditions in this part of the region.

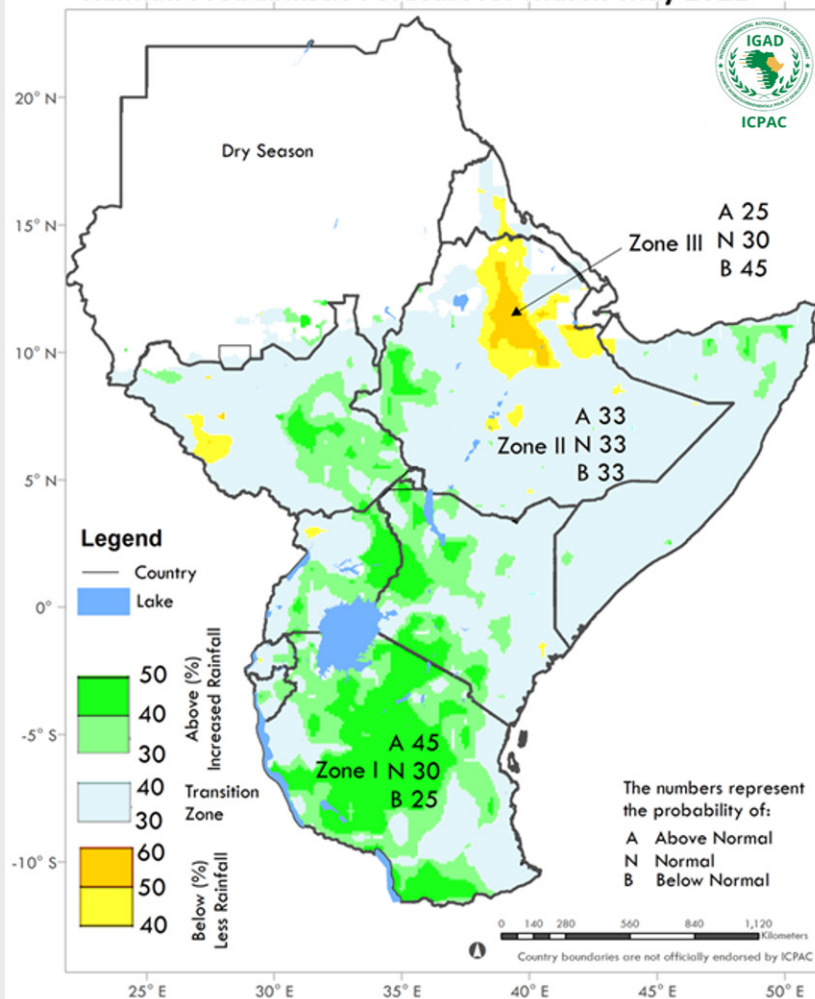
The season is also expected to be warmer than usual in north-eastern Somalia, Djibouti, Eritrea, Sudan, north-eastern and north-western South Sudan, Rwanda, and eastern and central Ethiopia. While the temperature is expected to be cooler than usual over most of Tanzania, Uganda, Burundi, and the cross-border region between Ethiopia and South Sudan.

**How should I use seasonal forecasts?** *Seasonal forecasts need to be used with caution for planning purposes because of the uncertainty inherent in seasonal forecasting. It is crucial to update and adjust plans with weekly and monthly forecasts as well as climate monitoring products issued by ICPAC and NMHSs.*



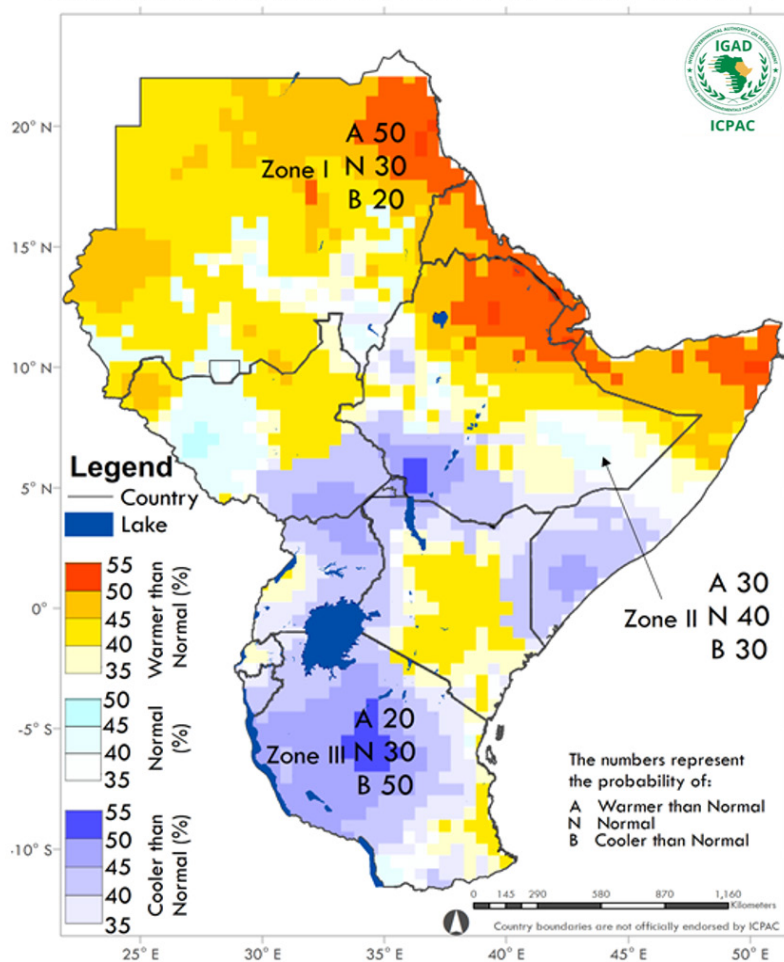
## Rainfall Probabilistic Forecast for March-May 2021

Seasonal forecast for March to May 2021



Rainfall

## Temperature Probabilistic Forecast for March-May 2021

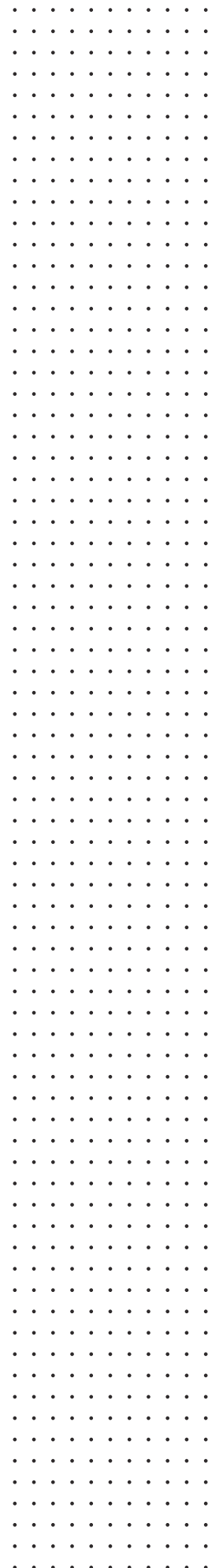


Temperature

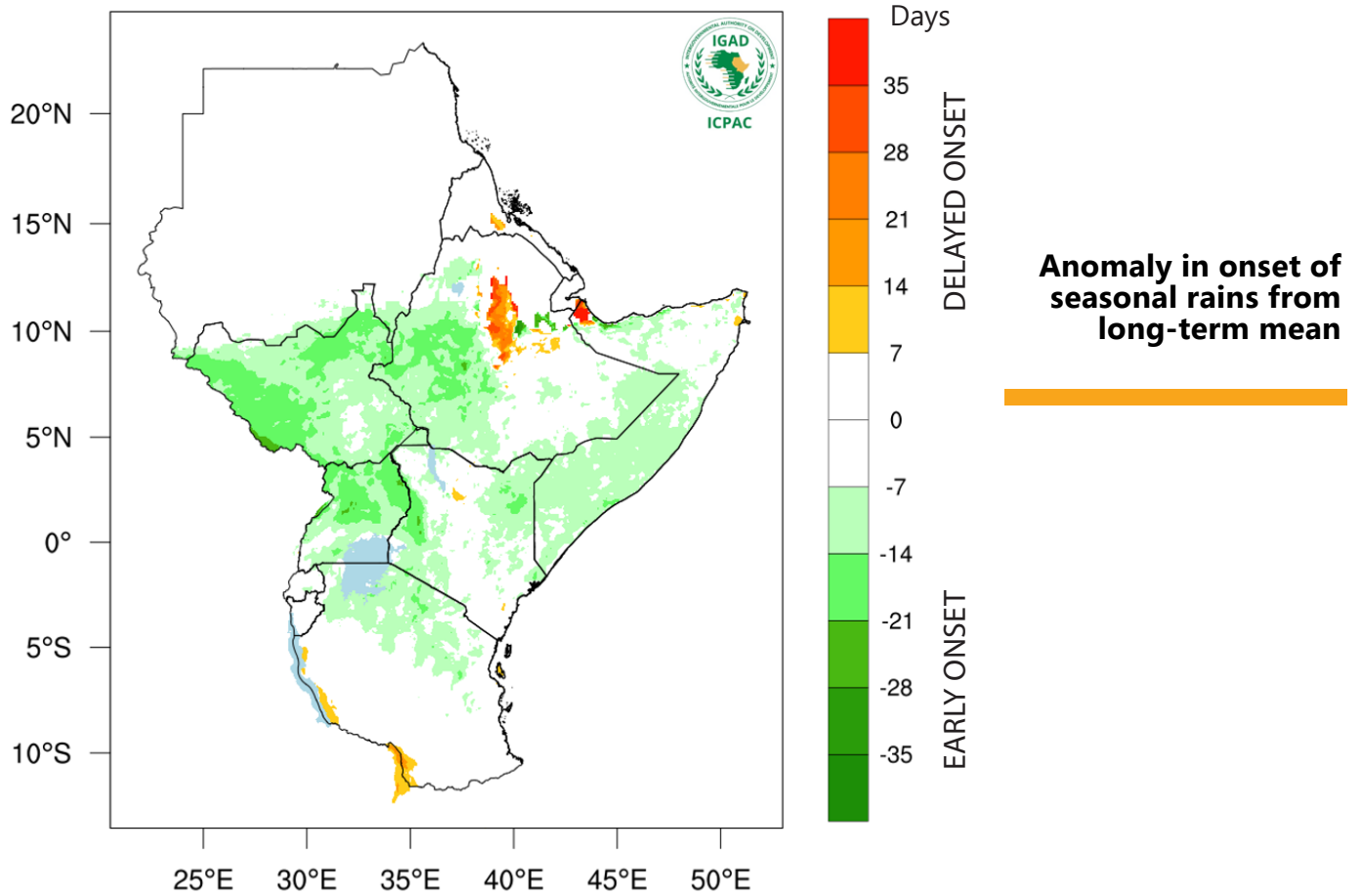
**FIGURE 1 and 2:**  
Seasonal forecast for  
March to May 2021

**A late onset is  
expected over  
north-eastern  
Ethiopia**

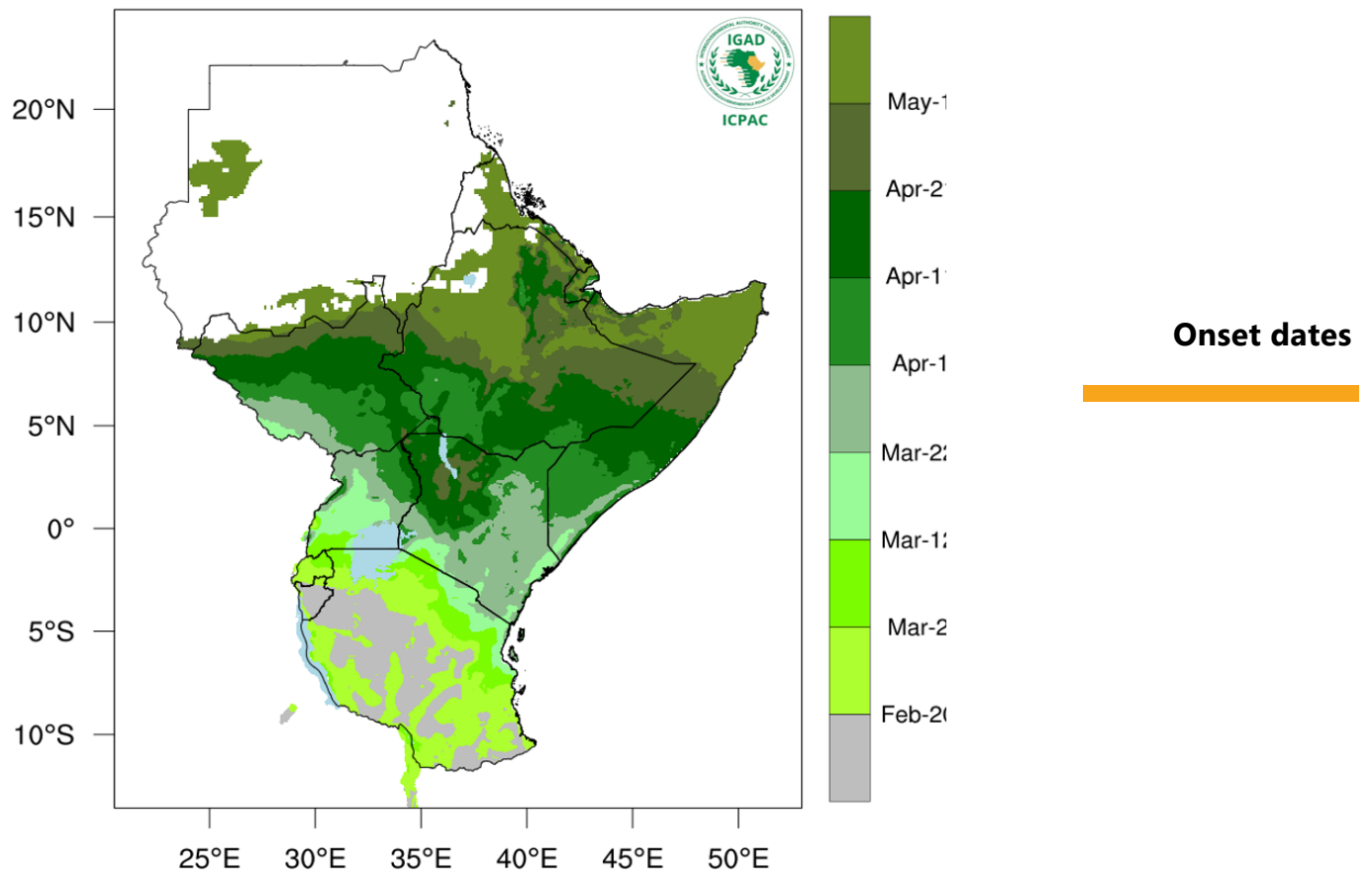
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## MAM 2021: Onset anomaly

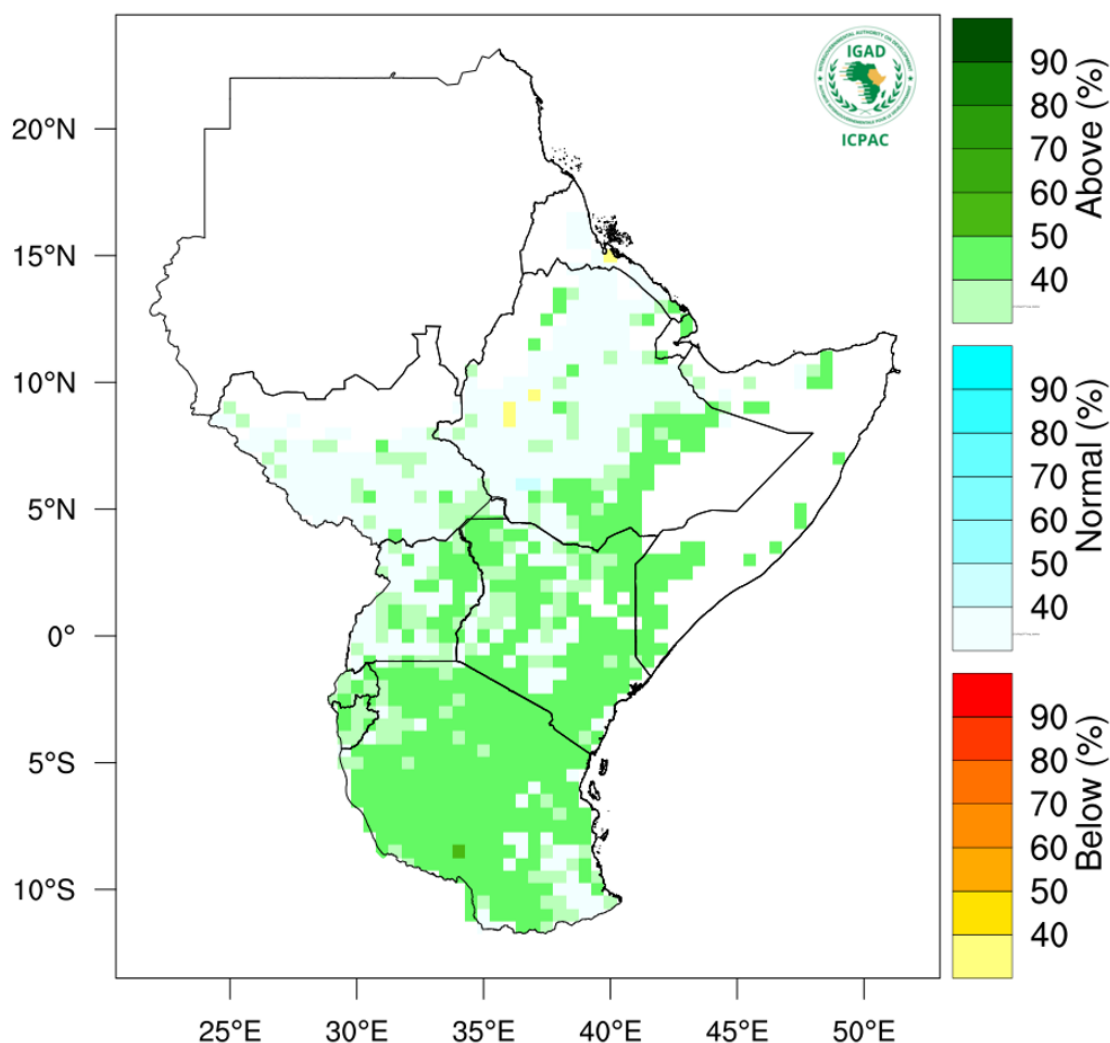


## MAM 2021: Onset dates



# March forecast

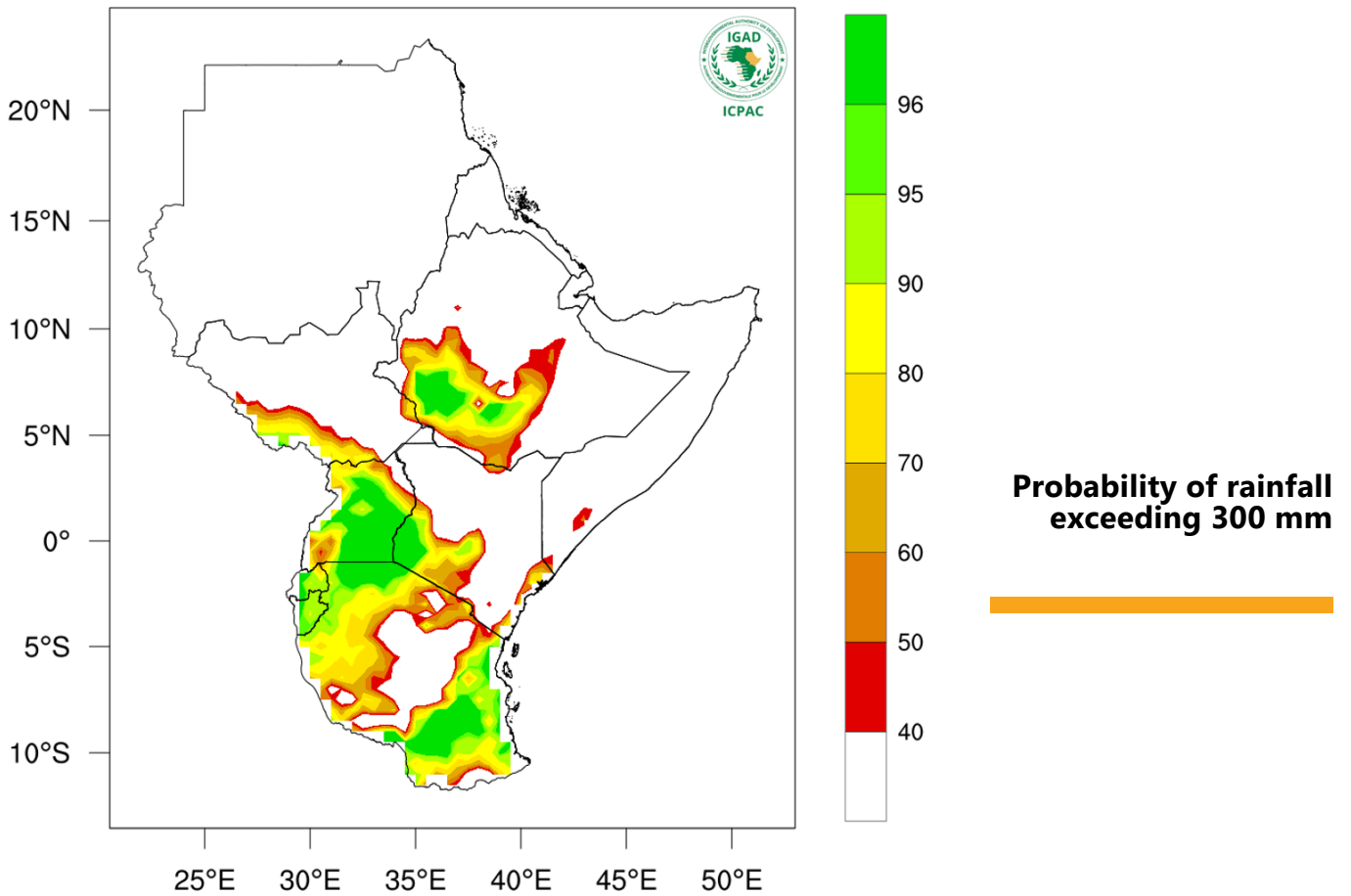
**Rainfall Probabilistic Forecast for March 2021**



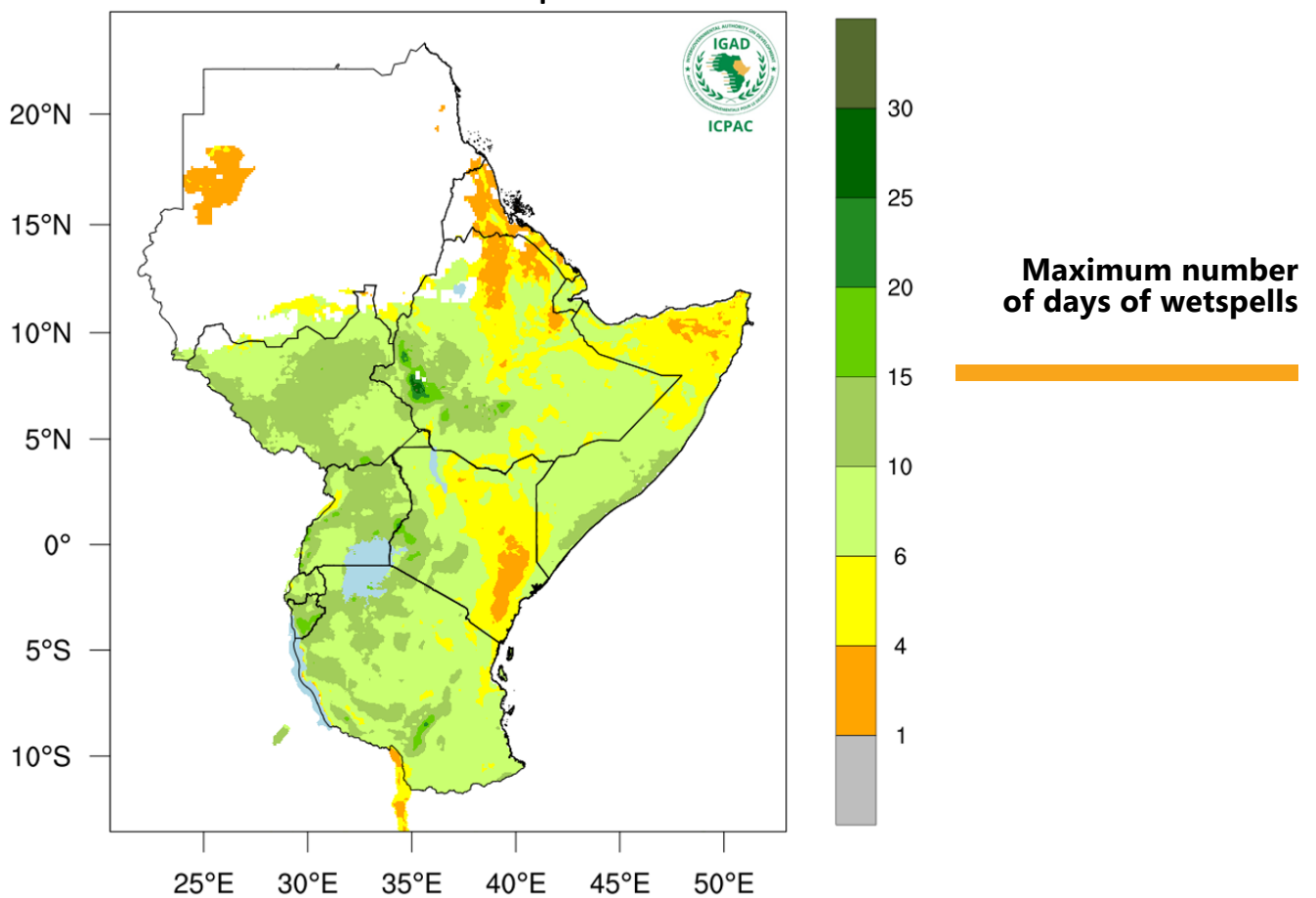
*Wetter than usual conditions are expected over Tanzania, Rwanda, Burundi, Kenya, eastern Uganda, parts of southern and south-eastern Ethiopia, and isolated areas in Somalia and South Sudan.*

*Usual conditions likely over much of South Sudan, Ethiopia, and areas in western Uganda.*

### MAM 2021: Probability of Rainfall Exceeding 300 mm



### MAM 2021: Number of days of wet spells





## Disaster Risk Management

Warmer than usual temperatures are expected during the dry months of March - May 2021, which increases the risk of heat waves.

### Advisory

- Conduct close monitoring and forecasting of dry conditions in urban and rural areas



## Water and Energy

Enhanced evaporation may lead to faster depletion of water resources and soil moisture.

### Advisory

- Disseminate early warning information
- Conduct water trucking and clean boreholes in the areas of limited water resources



## Livestock

Dry and warmer than usual conditions across the country. Deterioration of pasture and water resources in rural areas may lead to migration towards the coast. The risk of desert locust and animal diseases is still present during this season.

### Advisory

- Disseminate weather and climate information
- Vaccinate animals to avoid spread of disease among herds and provide veterinary care
- Train community animal health workers to be able to response to these risks
- Monitor and control desert locust movement including in neighbouring countries
- Enhance traditional pasture management
- Provide supplemental feeding for livestock



## Health

Warmer than usual temperature are expected during the dry months of March - May 2021, which increase the risk of heat waves and heat-related diseases.

### Advisory

- Conduct close monitoring of the dry conditions in border areas



## Conflict Early Warning

Dry and warmer than usual condition could lead to conflicts between pastoral communities over limited water and pasture resouces.

### Advisory

- Downscale and disseminate the forecast at the local level
- Coordinate with security agencies, local authorities and other organizations for conflict prevention

# DJIBOUTI





# ETHIOPIA



## Disaster Risk Management

Risk of flash floods in western and south-western parts of the country. The forecast for below usual rains in parts of the country might bring the risk of: Shortage of water and pasture (north and north-eastern Ethiopia), Aggravated food insecurity due to favorable conditions for breeding and movement of desert locust.

### Advisory:

- Conduct close monitoring for heavy rains and activate flood task force as needed
- Provide early Alerts for dry conditions and timely provision of water and fodder
- Conduct close surveillance of desert locust movements and breeding grounds
- Preposition items for pest control



## Agriculture and Food Security

Likelihood of floods and mudslides in flood prone areas of western Ethiopia which could lead to the destruction of infrastructure and water logging incidences. Good crop prospects in central and south-western Ethiopia, like maize, sorghum and beans. High temperatures may affect water availability for crops and livestock in the lowland areas. The delay of rains in the northern half and central parts of the country may impact negatively planting of long cycle crops like maize and sorghum and belg crops.

### Advisory

- Immediately disseminate the early warning information to decision makers
- Conduct proper moisture conservation and water harvesting for use during times of water scarcity in the northern half and central parts of Ethiopia
- Farmers and concerned agricultural bodies should give proper attention to crop selection on short length of growing period, varieties that are drought tolerant and early maturing for the areas forecasted to receive depressed rains
- Conduct continuous desert locust surveillance and control



## Water and Energy

Pastoral water shortages may occur in the north-eastern parts of the country. Good water availability is expected in the rest of the country. Stable hydropower production.

### Advisory

- Disseminate Early Warning information
- Inform population of flood risks in the downstream of the Eastern Basins



## Livestock

Dry conditions in the north-eastern parts of the country may cause water and pasture shortages, leading to migration of animals. Possible spread of disease and conflicts. Better conditions are expected in the southern part of the country. Flood control may be necessary.

### Advisory

- Distribute supportive treatments, destocking, produce and utilise fodder from Afar
- Monitor and control desert locust movement within and the neighbouring countries to improve coordination



## Health

The season might lead to a rise in Malaria incidence in wetter localities and Dengue fever outbreaks in north-eastern parts of the country. Risk of Severe and Acute Malnutrition (SAM). Risk of rise in respiratory infections associated to cold conditions in older age group.

### Advisory

- Plan for each region according to the potential risk
- Disseminate information to the public and health personnel
- Conduct community mobilization to prepare for the season
- Better support and care to older age categories



## Conflict Early Warning

Potential increase in domestic violence.

### Advisory

- Downscale and disseminate the forecast at the local level



## Disaster Risk Management

Increased risk of floods and landslides in western Kenya. Risk of damage to roads and bridges, which might hinder travel, mobility and increase the risk of traffic accidents.

### Advisory

- Alert communities in flood prone areas and relocate people in hazard prone areas (areas prone to floods, landslides and rise in water level)
- Preposition food and non-food items to nearby disaster operation facilities
- Manage abundant water and prepare for good crop and pasture production
- Review the contingency plan in view of the forecast



## Agriculture and Food Security

Good crop prospects in western parts of the country. The time before the onset of rains is adequate for stocking and acquisition of farm inputs, to prepare the land and to distribute inputs (e.g. through e-voucher). The likely relaxation of COVID-19 restrictions may allow easier flow and access of farm inputs. Risk of crop failure and poor germination that would require crop re-planting in areas forecasted to receive poor rainfall.

### Advisory

- Immediately disseminate the early warning information to decision makers
- Conduct continuous monitoring and control of desert locust and other seasonal pests
- The food security war room to use early warning information to tailor messages across the country and ensure farmers are prepared
- Conduct continuous training of desert locust response team on effective monitoring and control
- Farmers and concerned agricultural bodies should give proper attention to crop selection, for instance, on high yielding varieties for western parts that are forecasted to receive higher than usual rainfall.



## Water and Energy

The expected wetter than usual condition may increase hydropower production. Likelihood of increased water storage and hence stable water supply. Risk of flooding due to spillage from dams. Increase displacement due to high Lake water levels.

### Advisory

- Raise awareness and inform people about the risks
- Improve communication between operators of reservoirs and downstream stakeholders



## Livestock

Great improvement in terms of fodder and water. Increase in fodder production. Upsurge of Vector Borne Diseases. Good body conditions and good prices. Areas such as Wajir and Mandera affected by Desert Locust may persist, devouring any regenerating pastures. Likely outward movements, leading to possible conflicts.

### Advisory

- More efforts on Desert Locust control
- Continue ongoing vaccinations for Foot and Mouth Disease, Pneumonia and Rift Valley Fever
- Increase surveillance for Rift Valley Fever



## Health

Increase risk of Malaria transmission in the Lake Victoria Basin and the coastal zone. Risk of spikes of acute watery diarrhea in western parts of Kenya and coastal areas.

### Advisory

- Strengthen health surveillance
- Enhance public awareness on Insecticide-treated mosquito nets and promote hygiene and sanitation measures
- Closely monitor short term weather forecasts to update seasonal prediction

KENYA



# SOMALIA



## Disaster Risk Management

Good opportunity for pasture regeneration and availability of water in some areas in northern areas. Conditions might be conducive for desert locust breeding and invasion.

### Advisory

- Early planting and water harvesting in the northern parts
- Monitor continuously floods and tropical cyclone with regional and global centers
- Review the contingency plan in view of the forecast



## Water and Energy

Water shortage in the north may persist. Possibility of floods in downstream areas.

### Advisory

- Disseminate early warning information
- Raise awareness and inform population about risks
- Water trucking and cleaning of boreholes



## Livestock

The spread of desert locust and animal diseases are the major threats during this season.

### Advisory

- Continuous monitoring of the season
- Continue animal vaccination campaigns
- Conduct animal treatments
- Train Community Animal Health Workers
- Control tick borne diseases
- Conduct support to pastoralists and awareness raising campaigns



## Health

Risk of malnutrition among internally displaced populations and the poorest households. Increased risk of cholera outbreaks associated to water shortage.

### Advisory

- Conduct surveillance to continuously monitor food security and malnutrition rates
- Conduct supplementary feeding, strengthen stabilization centres for severely malnourished children
- Increase cash vouchers to vulnerable households
- Strengthen case management and promote community social mobilization activities on Cholera prevention



## Conflict Early Warning

Climate-based resource conflicts are likely to decrease.

### Advisory

- Disseminate early warning information



# SOUTH SUDAN



## Disaster Risk Management

Risk of flooding and displacement in Jonglei, Pibor and upper Nile states. Lower than usual rains in the western parts of the country might result in shortages of water and pasture that might also give rise to resource based communal conflicts.

### Advisory

- Sensitize communities on risks and disseminate Early Warnings
- Open water channels
- Coordinate with other sectors for planning and intervention



## Agriculture and Food Security

The time before the onset of the season is adequate for stocking and acquisition of farm inputs, land preparation, and distribution of inputs to farmers. Likelihood of relaxation of COVID-19 restrictions may allow easier flow and access of farm inputs. Increase in fish productivity in south-eastern parts of the country. Risk of invasion of desert locust in areas forecast to receive higher than usual rains. Likelihood of floods, mudslides, and soil erosion in areas forecast to receive enhanced rainfall (south-eastern part of the country). Risk of destruction of infrastructure and water logging incidences.

### Advisory

- Immediately disseminate the early warning information to decision makers
- Government team of agronomists and extension officers to offer farmers agro-advisories
- Farmers, Government, agro-dealers and other stakeholders urged to undertake early land preparation, distribute agricultural inputs (eg. improved seeds, fertilizers, herbicides and pesticides) to take advantage of the expected early to normal onset of rains
- Prepare and provide advise on flood mitigation measures (eg. construction of gullies, rehabilitation of drainage facilities)



## Water and Energy

Risk of flooding in the eastern part of the country and along the White Nile. Increase in the risk of infrastructure destruction (eg. Roads, bridges).

### Advisory

- Disseminate Early Warning information
- Raise Awareness and inform population about risks



## Health

Increased risk of water-related diseases such as Malaria, Acute Watery Diarrhea (AWD) and Rift Valley Fever, Cholera, Hepatitis and E Virus in eastern parts of the country.

### Advisory

- Adopt preventive tools and services targeting potential diseases
- Conduct surveillance for early detection and treatment of cases
- Promote Chlorine-based treatment of domestic water
- Conduct health education and hygiene promotion for prevention
- Implement safe fecal disposal campaigns



## Conflict Early Warning

Good pasture regeneration is expected resulting in minimal resource based conflict.

### Advisory

- Activate state early warning groups
- Continuously update contingency plan with weekly and monthly climate forecasts





# SUDAN



## Disaster Risk Management

Alternate wet and dry conditions might favour breeding of desert locust. Warmer than usual temperatures might affect soil moisture content. Heat waves might affect north and western parts of Sudan. Transboundary risks due to higher than usual rainfall in neighbouring countries.

### Advisory

- Close monitoring and dissemination of early warning information



## Agriculture and Food Security

This is mainly a dry season in Sudan. High temperatures in coastal areas might lead to unfavorable conditions for Desert Locust control operations. Dry conditions are favorable for harvesting previous season crops. Increased water prices and risk of migration in search of water. Reduced water availability for livestock.

### Advisory

- Use available water sparingly
- Farmers are advised to undertake land preparation for the upcoming season



## Water and Energy

Enhanced evaporation due to higher than usual temperatures and dry the conditions. Risk of shortage in water availability in urban and rural areas.

### Advisory

- Disseminate early warning information
- Water trucking and cleaning of boreholes and better management of Hafeers



## Livestock

The dry and warm season in the country is arsh on pastoralists since neighbouring countries like Ethiopia and South Sudan are also dry. Expected conflicts due to forage and water scarcity. Tick borne diseases are expected in Darfur, Kordofan, Blue and White Niles. Increased temperature may lead to drying of harvested water.

### Advisory

- Supplemental feeds to be produced in irrigation schemes for local consumption
- Monitor and increase supply of water to pastoralists to reduce the risk of conflicts over limited water resources



## Health

Increased risk of heat related diseases such as: Meningitis, heat stroke, skin diseases due to lack of water. Malaria outbreak, Dengue fever are also expected.

### Advisory

- Plan for the season and allocate resources.
- Disseminate climate information and raise awareness to use the mosquito net.
- Provide vaccination against meningitis
- Increase surveillance and early detection of cases and treatment
- Maintain and ensure supply of safe water to urban and rural areas



## Conflict Early Warning

The dry and hot conditions, and the limited water resources increase the risk of conflicts over water and pasture between pastoralists.

### Advisory

- Improve water supply in areas far from the Nile river (maintain Hafeers and boreholes)
- Improve coordination with security departments and other concerned agencies



UGANDA



## Disaster Risk Management

Risk of continuation of flooding, landslides (Bugisu area) and rising water levels in Lakes Victoria, Albert and Kayoga. Risk of further displacement and disruption to social services like schools. Likelihood of damage to roads and bridges and other key infrastructure.

### Advisory

- Review contingency plans and disseminate early warning information
- Closely monitor the situation and call for early action
- Encourage population not to return back to localities identified as high risk



## Agriculture and Food Security

Good crop prospects in eastern and central parts of the country. Risks of Crop failure in case of flooding and waterlogging incidences. Increase in pest diseases, Increased weeds.

### Advisory

- Immediately disseminate the early warning information to decision makers
- Conduct Desert locust surveillance and control
- Supply pesticides to control fall armyworm and other pests and provide training to farmers to conduct prevention in the fields that are not affected
- Prepare and provide advise on flood mitigation measures (eg. construction of gullies, rehabilitation of drainage facilities)



## Water and Energy

Likelihood of increased and stable hydropower production. Risk of displacement due to high Lake water level. Risk of landslides in the East. Increased water storage and hence stable water supply.

### Advisory

- Disseminate risk information to population



## Health

Risk of malaria incidence (Eg. around the regions of Teso, Lake Victoria, Lake Kyoga, Bulisa and lower lands below Mount Elgon). Risk of cholera outbreaks (Eg. Districts of Bulisa, Busia, Bulambuli, Karamoja and Namayingo).

### Advisory

- Conduct community awareness campaigns
- Increase surveillance of climate-sensitive diseases
- Improve alert system and preparedness plans



## Conflict Early Warning

Likelihood of more pastures and water opportunistic crime incidents. Potential conflicts in socio-cultural events, including marriages. Response to interventions is expected to be low, with poor meeting attendance.

### Advisory

- Strengthen and support of community dialogues, peace committees, Conflict Prevention, Management and Resolution (CPMR) platforms
- Conduct cross-border meetings and programmes
- Conduct rapid assessment of vulnerable and isolated areas



## Agriculture and Food Security

Likelihood of good crop performance especially beans. Increased fodder availability for livestock. Risk of soil erosion and flash flooding in highland areas which might damage irrigation infrastructure.

### Advisory

- Immediately disseminate the early warning information to decision makers
- Promote planting of crop varieties that are rain resistant in areas likely to receive higher than usual rains (Central and eastern parts) Eg. Climbing bean
- Prepare and provide advice on flood mitigation measures (Eg. construction of gullies, rehabilitation of drainage facilities)



## Water and Energy

Likelihood of enhanced and stable hydropower production. Increased sediments in river. Risk of flooding and infrastructure damage.

### Advisory

- Promote water harvesting activities
- Disseminate climate and weather information and highlight flood risk



## Health

Likely increase in Malaria cases. Expected diarrhoeal diseases like Cholera.

### Advisory

- Ensure diagnostic supplies, Long lasting insecticidal nets (LLINs) and antimalarial are in place
- Promote health education on the use of Mosquito nets
- Conduct health promotion campaigns on WASH and proper sanitation
- Strengthen surveillance and case detection
- Ensure availability of supplies of cholera treatment

# BURUNDI



# RWANDA



## Agriculture and Food Security

Likelihood of good crop prospects due to the favorable conditions in most parts of the country on upland level (Eg. maize, beans). Risk of floods and mudslide which could lead to water logging incidences.

### Advisory

- Immediately disseminate the early warning information to decision makers
- Enhance post-harvest strategies in areas that will likely get a bumper harvest (Eg. construct temporal silos in areas with good harvest)
- Expand and promote value chain input subsidies and crop insurance schemes to cushion farmers
- Supply pesticide to control fall armyworm and other pests and provide training to farmers to undertake prevention in the fields which are not affected
- Prepare and provide advise on flood mitigation measures (Eg. construction of gullies, rehabilitation of drainage facilities)



## Water and Energy

Possibility of increased sediment in river. Risk of flooding and infrastructure damage and landslides.

### Advisory

- Promote water harvesting practices
- Disseminate climate and weather information to alert against the risks of floods and landslides



## Health

High risk of malaria in areas with no spray operations and adjacent to Lake Kivu. Increased risk of Schistosomiasis (Eg. Marshlands and around lakes). Risk of injuries associated to heavy rainfall.

### Advisory

- Conduct large-scale larvicide operation using drone technology
- Continue early treatment of malaria
- Screen for Schistosomiasis
- Relocate households from high-risk zones



## Conflict Early Warning

Potential conflicts during socio-cultural events, including marriages.

### Advisory

- Strengthen and support community dialogues and peace committees





## Disaster Risk Management

Wetter than usual season might lead to flooding, especially in the northern and central parts of the country.

### Advisory

- Review contingency plans in view of the forecast
- Engage relevant sectoral ministries for joint preparedness plans
- Monitor and disseminate early warning information to all stakeholders



## Water and Energy

The season is expected to bring good water supply and be favourable for Hydropower production. It is also expected to increase sediments in rivers and increase the risk of urban flooding.

### Advisory

- Promote water harvesting practices
- Disseminate weather and climate information to alert against flood risks
- Clear stormwater and drainage system to avoid blockage of flood water

TANZANIA






# ICPAC

#### Contacts:

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