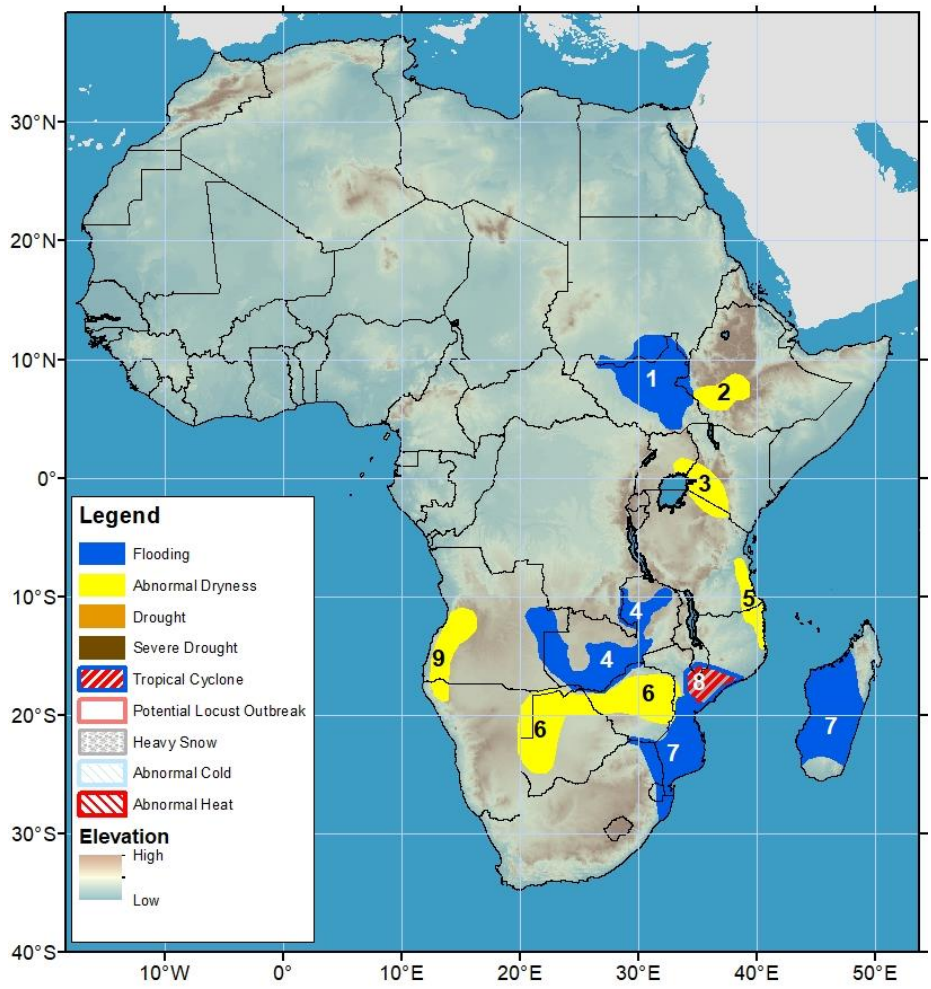
Climate Prediction Center's Africa Hazards Outlook
For USAID / FEWS-NET
9 – 15 March, 2023

- **It has been a dry start to 2023 in East Africa so far, with abnormal dryness appearing already.**
- **Tropical Cyclone Freddy has re-formed as a tropical storm and is forecast to strengthen and continue to track northwestward toward central-northern Mozambique.**



1) The extent of Inundation remained unchanged in South Sudan.

2) Lack of substantial rainfall since the start of 2023 has grown moisture deficits leading to abnormal dryness in southwestern Ethiopia. Recent rainfall events have slightly reduced the dryness over the southern Rift Valley.

3) Little rain since 1 January has led to growing deficits of more than 50mm and abnormal dryness in western Kenya and Uganda.

4) Flooding is present along the Zambezi River in eastern Angola and western Zambia and around Lusaka along the Kafue River. Elevated flows in rivers in southern Malawi and central Mozambique are leading to additional flooding in those areas.

5) Suppressed rainfall since November last year and corresponding soil moisture ranking less than the 30th percentile have led to abnormal dryness in southeastern Tanzania and northeastern Mozambique.

6) An uneven rainfall distribution since November has resulted in abnormal dryness in much of Botswana, central parts of Zimbabwe, central Mozambique, and north-central parts of South Africa.

7, 8) Tropical Cyclone Freddy has re-formed as a tropical storm. It is forecast to continue toward central-northern Mozambique, brining strong winds and torrential flooding rains again.

9) Lack of rainfall and extended dry spells since the beginning of 2023 have led to abnormal dryness in southwestern Angola

Note: The Hazards outlook map is based on current weather/climate information, short and medium-range weather forecasts (up to 1 week), sub-seasonal forecasts up to 4 weeks, and assesses the potential impact of extreme events on crop and pasture conditions. Shaded polygons are added in areas where anomalous conditions have been observed and predicted to continue during the outlook period. The boundaries of these polygons are only approximate at the spatial scale of the map. This product considers long-range seasonal climate forecasts but does not reflect current or projected food security conditions. FEWS NET is a USAID-funded activity whose purpose is to provide objective information about food security conditions. Its views are not necessarily reflective of those of USAID or the U.S. Government. The FEWS NET weather hazards outlook process and products include participation by FEWS NET field and home offices, NOAA-CPC, USGS, USDA, NASA, and several other national and regional organizations in the countries concerned.

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Flooding conditions are present in Mozambique and Madagascar as a result of TC Freddy taht re-formed as a tropical storm.

Since early December, the accumulated rain in many parts of southern Africa's northern sectors has been below average. Large negative 3-month anomalies ranging between 100-300 mm still persisted over Zimbabwe, northern Botswana, southern Zambia, and southern and western Angola (**Figure 2**). On the other hand, torrential rains and flooding have dominated over Mozambique, Madagascar, northern Zambia, Malawi and few places over Tanzania. Weekly rainfall totals exceeded 500 mm over southern Mozambique in association with tropical cyclone Freddy's remnants.

During the next week, the remnants of Tropical Cyclone Freddy has re-formed into a Tropical Storm. Models predicted a further strengthening of the Tropical Storm with maximum sustained wind speeds of up to 145 km per hour. It is predicted to move northwestward toward central-northern Mozambique. With already saturated soil moisture, the re-emergence of TC Freddie as a strong tropical storm may cause havoc in the region. Weekly rainfall totals are predicted to be more than 150 mm in central/northern Mozambique, while 50-100 mm rainfall totals are forecast over central Angola, southern DRC, northern and Central Zambia, Malawi, and southern and western Tanzania.

7-Day Satellite Estimated Total Rainfall (mm)
Valid: 28 February – 6 March 2023

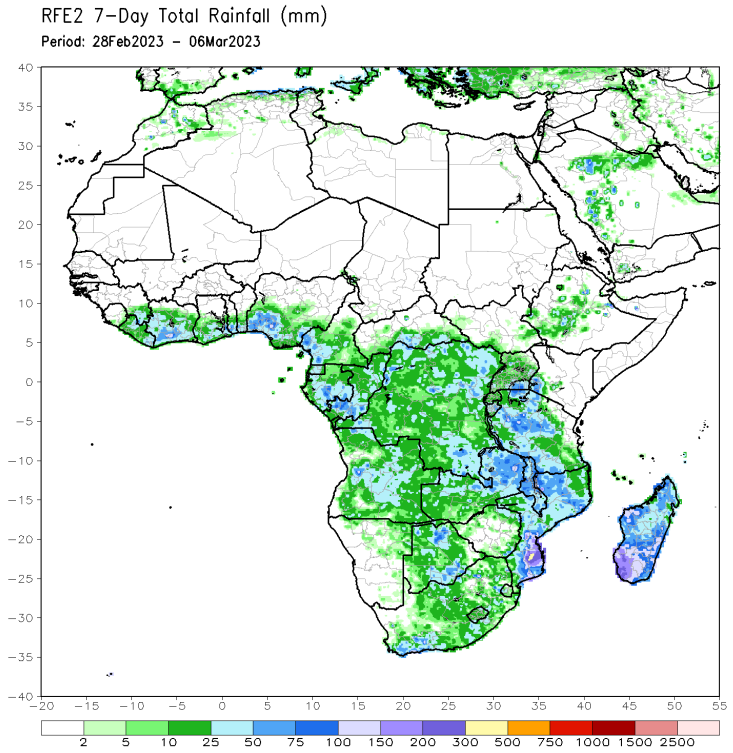


Figure 1: NOAA/CPC

Expanding coverage of light rains in East Africa.

An extended rainfall covered much of the Rift Valley from southern to northeastern Ethiopia and produced a weekly rainfall total of up to 50 mm, thereby moderately reducing the rainfall deficits that had been observed in southwestern and southern Ethiopia (**Figure 1**). Light rains between 10-25 mm fell across Uganda and southwestern Kenya. Over the past 30 days, below average rain, with deficits ranging between 10-50mm persisted at some locations in southern and southwestern Ethiopia, southern Kenya, Uganda, and eastern Tanzania. As dry spells are present since the start of the year and deficits are increasing above 50mm, abnormal dryness is placed in eastern Tanzania, southwestern Kenya, neighboring Uganda, and southwestern Ethiopia. Last year's OND rainfall season was very poor in the region. This trend continues as the area remains moisture starved as the 'Belg' rainfall season begins. This will likely worsen the already negatively impacted vegetation conditions and water availability that has persisted through the dry season over the Horn.

For next week, a gradual increase in rainfall activities is predicted. As a result, some light rain showers are predicted along the rift valley regions of Ethiopia, including southern Ethiopia which had been severely dry since the last OND season.

3-Month Satellite Estimated Rainfall Anomaly (mm)
Valid: 01 January 2022 – 6 March 2023

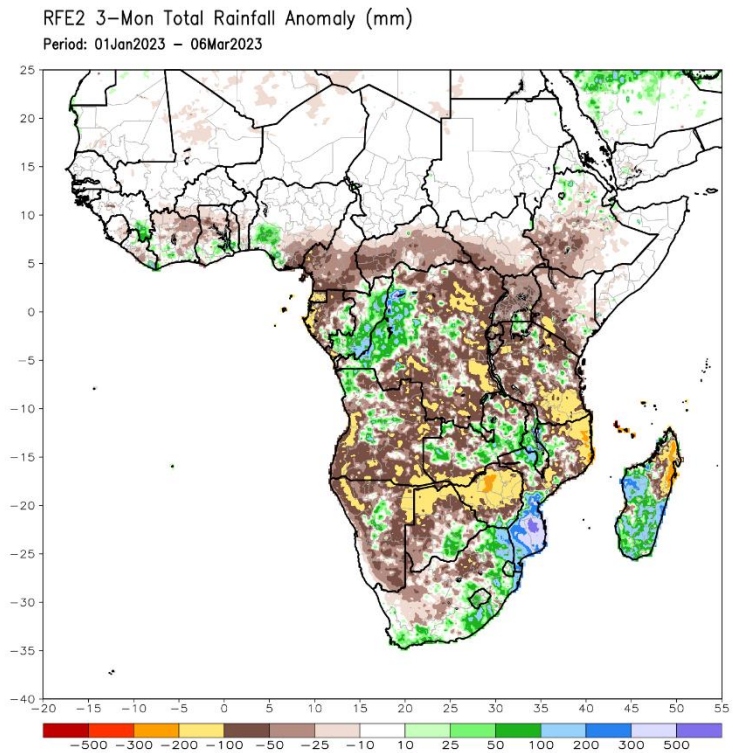
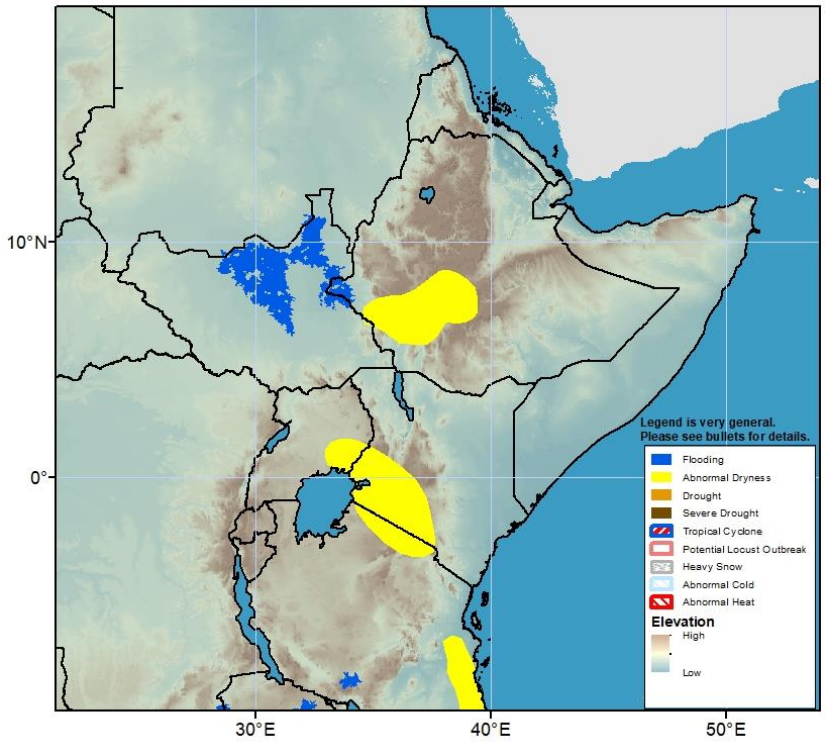
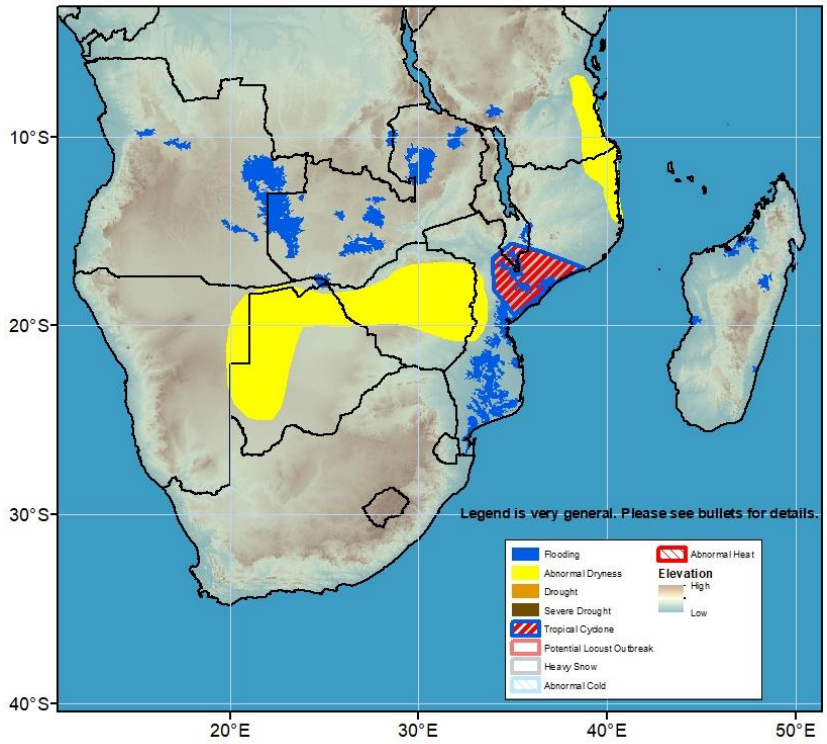


Figure 2: NOAA/CPC



Inundation extent remained unchanged in South Sudan.

Figure 3: Hazards, focused over Eastern Africa



Flooding along the Kafue River with rising water levels has resulted in floods in Zambia. Flooding in areas of southern Angola and across the border in Namibia have led to fatalities in the municipality of Cuvelai and the city of Ondjiva. Extreme rainfall in Maputo, Mazambique has led to deadly river flooding. Continuing rains starting with Tropical Storm Cheneso on the northeastern coast of Madagascar is flooding areas including Sambava, Nosy Boraha, and Antsohihy. Tropical Cyclone Freddy is bringing further rain and wind to Madagascar.

Figure 4: Hazards, focused over southern Africa