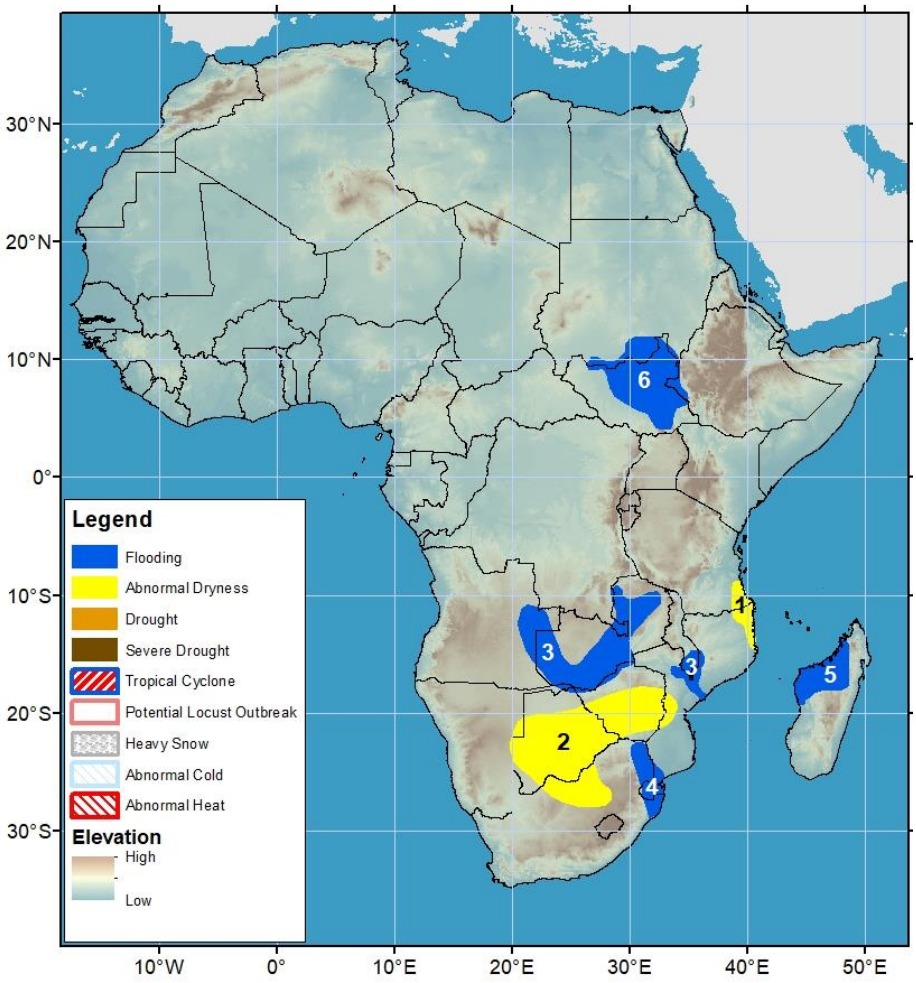
Climate Prediction Center's Africa Hazards Outlook
For USAID / FEWS-NET
16 February – 22 February, 2023

- **A couple months of suppressed rainfall has led to abnormal dryness in portions of Southern Africa.**
- **Flooding hazards have spread into southeastern Africa, after heavy rains in South Africa and Mozambique.**



1) 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.

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

3) Flooding is intensifying upstream of the Zambezi River in western Zambia and around Lusaka along the Kafue River, resulting in floods in Zambia. Elevated flows in rivers in southern Malawi and central Mozambique are expected to lead to additional flooding in those areas, with return periods possibly exceeding 20 years.

4) Heavy rains, more than 400mm according to the Gauge in Maputo, caused deadly river flooding. 6 fatalities have been reported.

5) Saturated ground conditions after Tropical Storm Cheneso impacted Madagascar 3 weeks ago plus ongoing heavy rains, has led to persistent flooding in the northwest.

6) Inundation extent remained unchanged in South Sudan.

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 Angola, Zambia, Mozambique, and Madagascar.

Since early December, the accumulated rain in many parts of southern Africa's northern sectors has been below average. Seasonal rainfall deficits were between 100-300mm over southeastern Angola, northeastern Namibia, northern Botswana, Zimbabwe, and central Mozambique (**Figure 2**). The drier conditions were attributable to an uneven spatial and temporal distribution in rainfall since the beginning of the season and the ongoing *La Niña* event, which also tends to bring above - average rain over southeastern portions of the sub-region. More recently, rains have increased over southeastern Zambia, Malawi, and northern Mozambique. Malawi and Zambia exhibit 50-100mm or larger 30-day surpluses, but deficits have not disappeared in northern Mozambique. It is reported that flooding is identified along the rivers in eastern Angola and in Zambia. In Zambia, wide areas of southern and central provinces are reportedly underwater after long-term rainfall caused rivers to overflow. According to the report, some rivers are expected to experience a second peak well into February, including the Luapala River in the Milenge district, the Kafue River in the Kitwe district, and the Zambezi River in Lukulu and Senanga districts. Heavy rainfall persisted this past week in northwestern Madagascar maintaining flooding hazards. Very heavy rain is also causing flooding in eastern South Africa (a national state of disaster was declared), Eswatini, and Maputo in Mozambique

During the next week, more enhanced rainfall is expected over eastern portions of Southern Africa. 7-day totals are likely to be larger than 100mm in many places and be well-above normal values. Conversely, rain is expected to be well-suppressed in western Angola and Namibia where little rainfall will accumulate.

7-Day Satellite Estimated Total Rainfall (mm)
Valid: 8 February – 14 February 2023

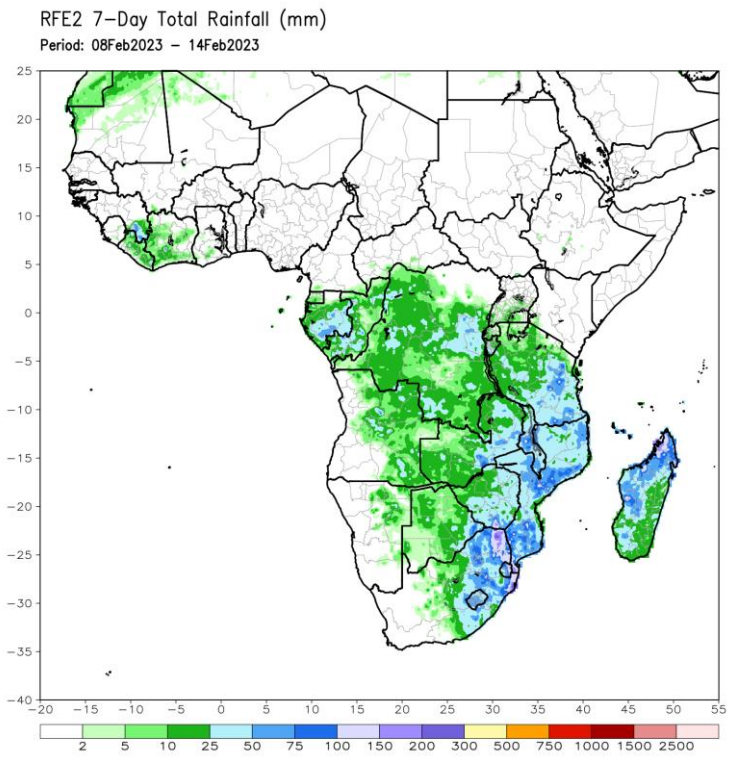


Figure 1: NOAA/CPC

Most of Eastern Africa remained dry.

For the second week of February, most places remain dry, especially southern Ethiopia, Kenya, and northern portions of Uganda (**Figure 1**). However, besides the border region with Kenya, Tanzania received at least light rainfall with heavier amounts of 10-50-100mm in the Southeast. Over the past 30 days, below average rain, with deficits ranging between 10-100mm persisted across southwestern Ethiopia, Kenya, Uganda, and northern and southeastern Tanzania, maintaining abnormal dryness over climatologically still-active portions of the sub-region in southeastern Tanzania. Since November, large (up to 200mm) seasonal rainfall deficits were observed across southern Ethiopia, much of Kenya and Somalia, and southeastern Tanzania. These negatively impacted vegetation conditions and water availability during the dry season over much of the Horn of Africa. Conversely, above-average rain with surpluses up to 100mm was depicted over parts of central Tanzania.

For next week, moderate rain (10-50mm) is expected over Burundi, and southwestern Tanzania, with little to no rain expected elsewhere.

3-Month Satellite Estimated Rainfall Anomaly (mm)
Valid: 01 December 2022 – 14 February 2023

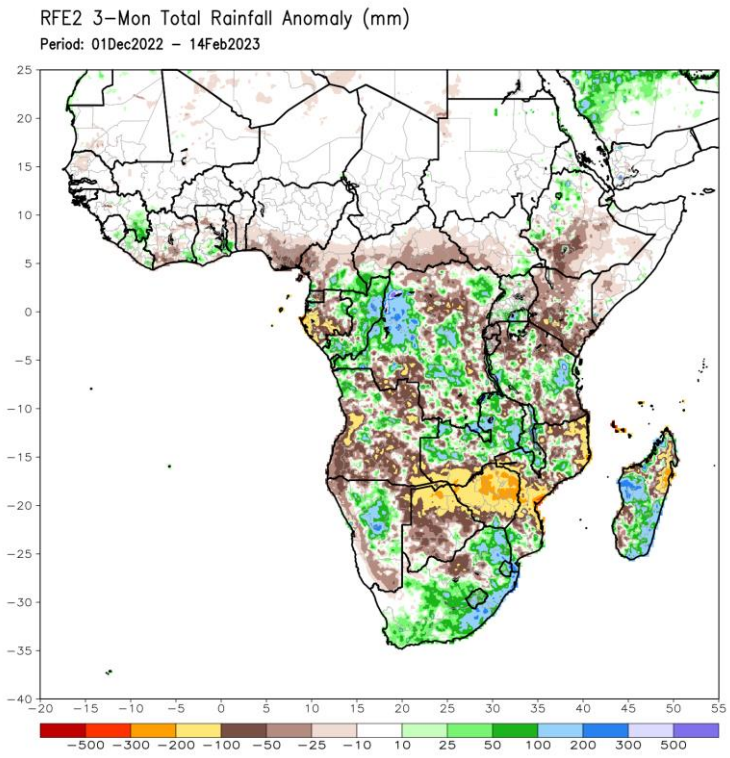
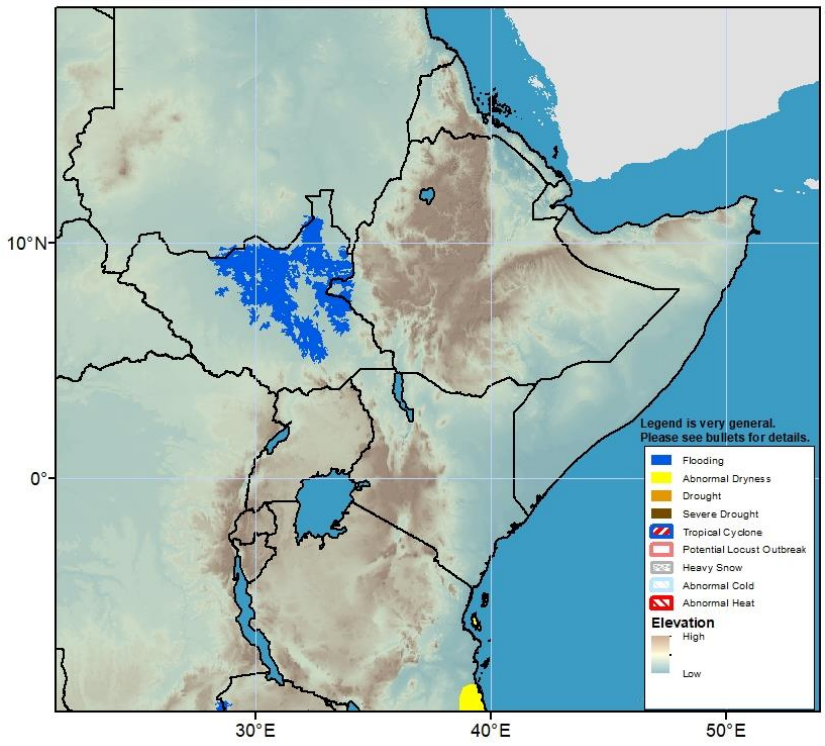
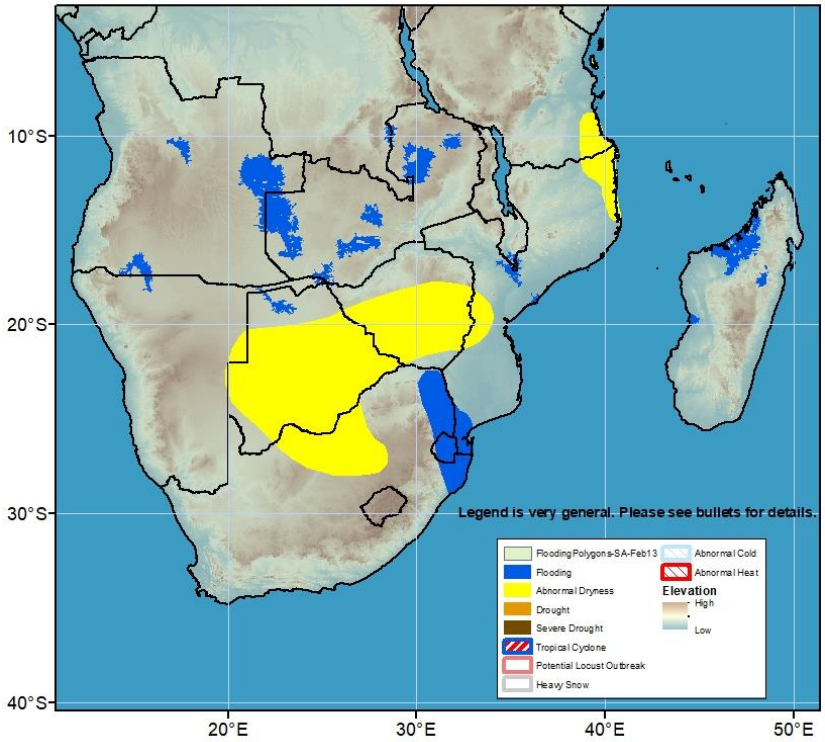


Figure 2: NOAA/CPC



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 after Tropical Storm Cheneso made landfall 2 weeks ago on the northeastern coast of Madagascar is flooding areas including Sambava, Nosy Boraha, and Antsohihy.

Figure 4: Hazards, focused over southern Africa