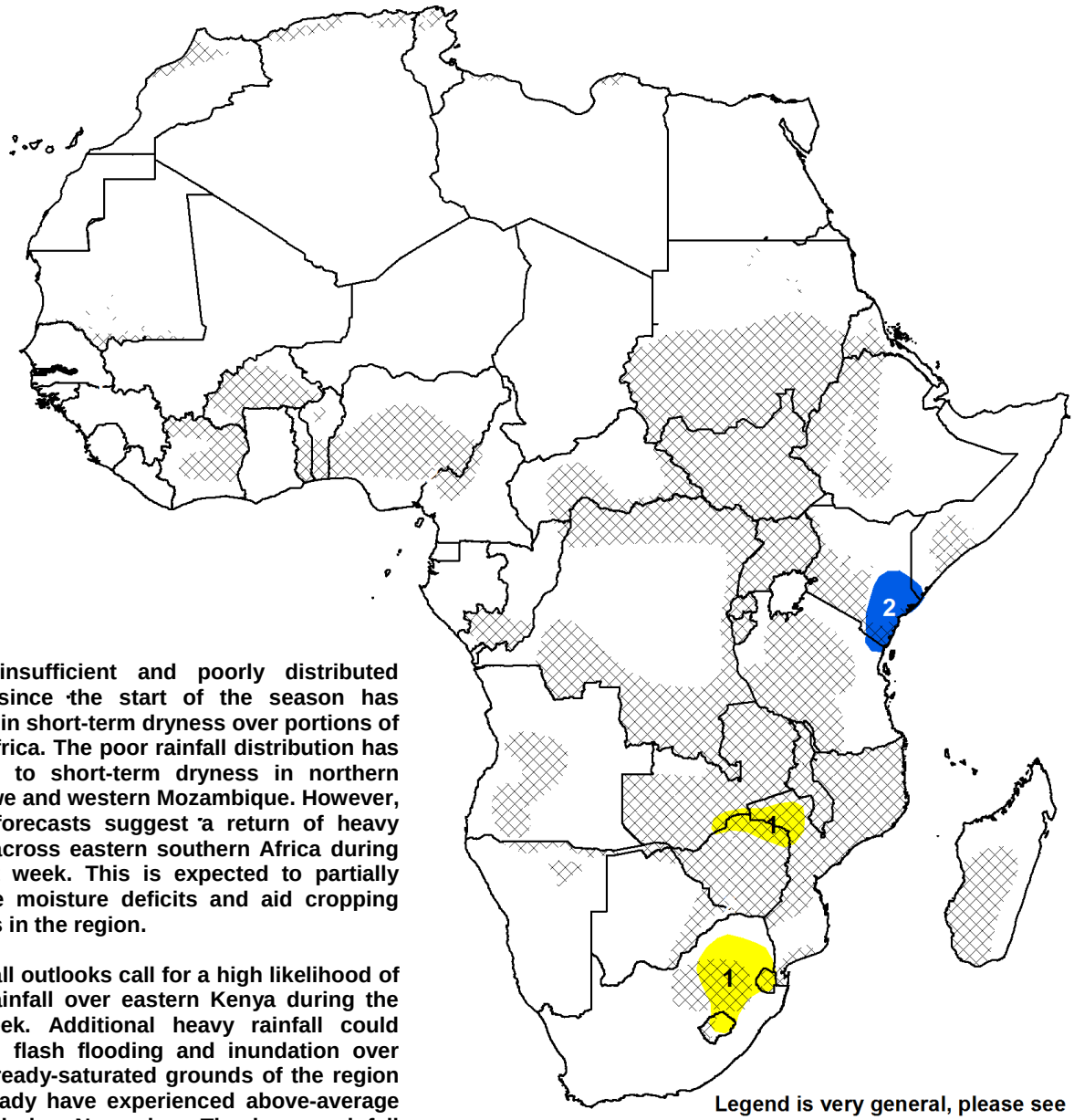
Climate Prediction Center's Africa Hazards Outlook
For USAID / FEWS-NET
December 15 – December 21, 2011

- **Heavy rainfall is forecast and is expected to bring relief to the dryness across eastern southern Africa.**
- **Eastern Kenya could experience heavy rainfall, raising concerns for flash flooding over local areas.**



1) An insufficient and poorly distributed rainfall since the start of the season has resulted in short-term dryness over portions of South Africa. The poor rainfall distribution has also led to short-term dryness in northern Zimbabwe and western Mozambique. However, rainfall forecasts suggest a return of heavy rainfall across eastern southern Africa during the next week. This is expected to partially eliminate moisture deficits and aid cropping activities in the region.

2) Rainfall outlooks call for a high likelihood of heavy rainfall over eastern Kenya during the next week. Additional heavy rainfall could result in flash flooding and inundation over many already-saturated grounds of the region that already have experienced above-average rainfall during November. The heavy rainfall forecast during the next week could also exacerbate conditions that are conducive to water-borne disease outbreaks in the region.

Persisting rainfall deficits observed in eastern southern Africa.

During the past week, the western portions of southern Africa received heavy (> 50 mm) rainfall, while the eastern portions experienced only little to no (< 5 mm) rainfall (**Figure 1**). Heavy downpours were observed over Angola, northern Namibia, western Zambia, and northern Botswana. Meanwhile, heavy rainfall was also recorded across the highlands of Madagascar during the past week. In contrast, little to no rainfall was observed across southern and central Mozambique, northern Zimbabwe, and portions of northern South Africa. The reduced rainfall amounts have maintained rainfall deficits in many local areas of the region. Localized heavy rainfall was recorded over the dry portions of South Africa, including the Free State region and parts of central and northern Mozambique. This has helped to partially reduce the negative rainfall anomalies and the spatial extent of dryness over parts of South Africa.

An analysis of the cumulative rainfall during the past thirty days reveals strong (rainfall anomaly < -100 mm) rainfall deficits over portions of South Africa, southern Zambia, northern Zimbabwe, western Mozambique, and western Madagascar (**Figure 2**). The insufficient rainfall has already delayed planting and negatively impacted cropping activities in many local areas of the region. For instance, below-average rainfall has been reported with delayed planting in southern Zambia during the third dekad of November. Conversely, above-average rainfall was observed over Angola, northern Namibia, western Zambia, and northern Botswana during the past thirty days.

As for the upcoming week, heavy rainfall is forecast over much of eastern southern Africa. From Zambia, eastern Botswana, Zimbabwe and parts of the maize triangle region to Mozambique, heavy rainfall is expected across the region during next week. The return of widespread, heavy rainfall is expected to bring relief to the dryness and benefit cropping activities over many areas of southern Africa.

Above-average rainfall frequency observed in eastern Africa.

An analysis of the number of rain days anomaly during the past thirty days indicates more frequent than average (5 – 10 more rain days) rain days over Kenya, southern Ethiopia, southern Somalia, and parts of Tanzania (**Figure 3**). The positive number of rain days anomalies were associated with a wet spell over eastern Africa during the third dekad of November. The frequent rainfall has led to positive rainfall anomalies and resulted in flooding, infrastructure damage, and population displacement in many local areas of eastern Africa. During the next observation period, rainfall forecasts suggest a return of isolated heavy showers over Kenya, with the highest chance for heavy rainfall in the east. This return of heavy rainfall could damage crops given saturated ground conditions. The heavy rainfall could also exacerbate or trigger water-borne disease outbreaks. Further north, in Somalia, light (< 20 mm) rainfall is expected over the southern and central portions of the country, with the highest (20 – 40 mm) rainfall forecast along the coastlines. Although, the forecast light rainfall could help to increase the level of the Juba and Shabelle Rivers along their respective basins, the risk for flooding is expected to be minimal.

Satellite Estimated Rainfall (mm)
Valid: December 6th – December 12th, 2011

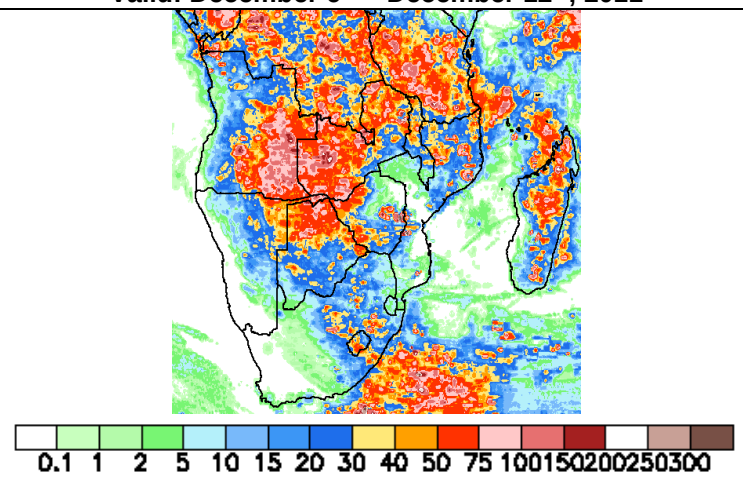


Figure 1: NOAA/CPC

Satellite Estimated Rainfall Anomaly (mm)
Valid: November 13th – December 12th, 2011

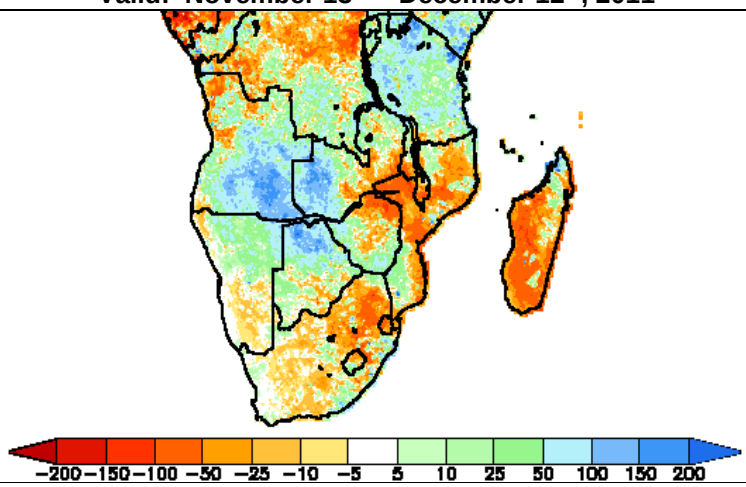


Figure 2: NOAA/CPC

Number of Rain Days Anomaly
Valid: In past 30 Days as of 12 December, 2011

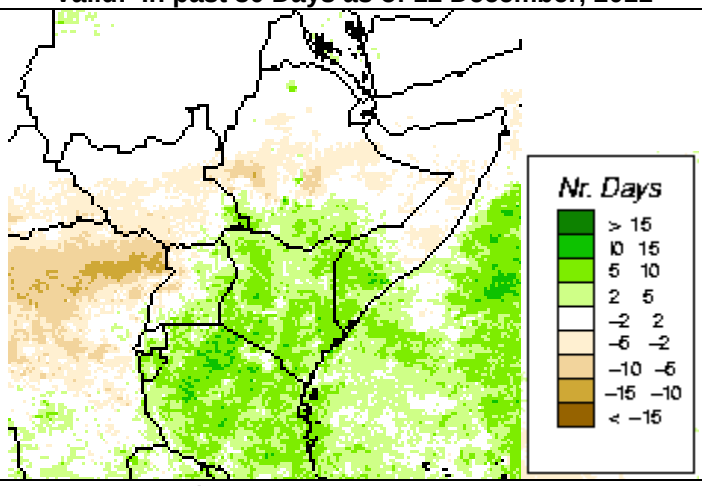


Figure 3: USGS/EROS

Note: The hazards outlook map on page 1 is based on current weather/climate information and short and medium range weather forecasts (up to 1 week). It assesses their potential impact on crop and pasture conditions. Shaded polygons are added in areas where anomalous conditions have been observed. The boundaries of these polygons are only approximate at this continental scale. This product does not reflect long range seasonal climate forecasts or indicate current or projected food security conditions.