Food Security Early Warning System

Agromet Update

2017/2018 Agricultural Season

Issue 03 Month: December/January Season: 2017-2018 23-01-2018

Highlights

- **Dry conditions intensified in the southern half of the region, threatening production prospects in several areas. Abnormally high temperatures accompanied these dry conditions. Short term rainfall forecasts suggest little respite in the near-term.**
- **Good rains were received in the northern half of the region, promoting good crop conditions.**
- **A cyclone made landfall in Madagascar, causing fatalities, displacement of populations, damage to infrastructure and flooding of thousands of hectares planted to rice.**

Regional Summary

Dry conditions in the southern half of the region intensified in December through to mid-January. Figure 1 shows the total rainfall from October 2017 to mid-January 2018 as a percent of average, with brown colours showing areas where the seasonal rainfall to date is well below average. Figure 2 shows rainfall for the 3-week period up to 17 January, with brown areas again showing areas where very little rainfall was received during that period. The dry conditions were accompanied by above normal temperatures, thereby increasing the rate of evapotranspiration, and subsequent loss of the soil moisture which crops rely on for development. Rainfall forecasts for the next 1 to 2 weeks indicate a high likelihood that the hot dry conditions will continue in many areas, particularly southern and central Mozambique, southern Zambia, and Zimbabwe. Reports indicate that farmers in some of the affected areas had not yet managed to plant by mid-January, as insufficient rain for planting and germination was received. In many areas where planting did take place, maize crops are reported to be experiencing moderate to high levels of moisture stress, with some crops close to permanent wilting point. The combination of these factors implies that there is a high likelihood that rain-fed crop production in the southern half of the region will be negatively impacted this season by the ongoing hot, dry conditions.

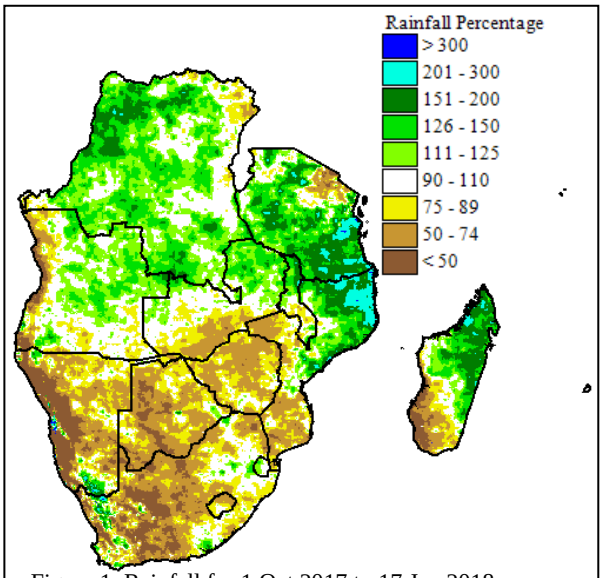

Figure 1. Rainfall for 1 Oct 2017 to 17 Jan 2018 as percentage of average rainfall for the same period.

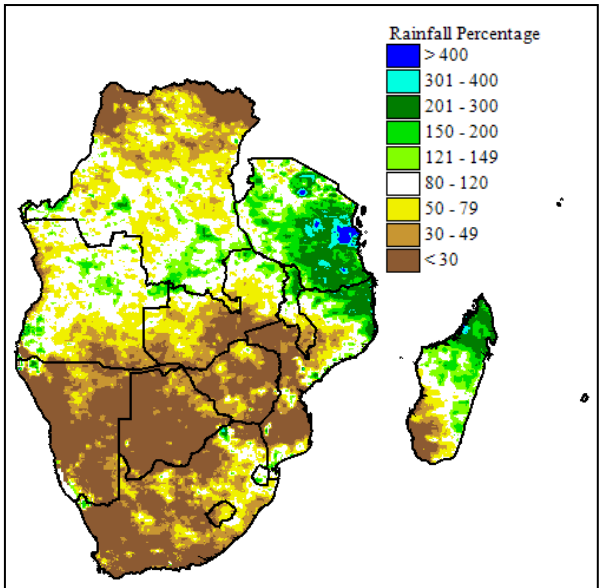

Figure 2. Rainfall for 28 Dec 2017 to 17 Jan 2018 (3 weeks) as percent of average rainfall

According to satellite rainfall estimates (Figures 1 and 2), areas that are currently being impacted by the dry conditions include southern Angola, Botswana, Lesotho, south-western Madagascar, southern Malawi, southern and central Mozambique, Namibia, most of South Africa (excluding some north-eastern areas), southern and central Zambia, and Zimbabwe.

In contrast, the northern half of the region has generally received above average rainfall since the beginning of the

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season (green colours, Figure 1). The rains have positively supported crop development in many of these areas. The rainfall was near average between late-December and mid-January (light colours, figure 2) in the central areas, though the north-east, including northern Malawi, northern Mozambique, Tanzania, and northern Madagascar continued receiving high rainfall. In early January, Cyclone Ava made landfall in northern Madagascar and traversed the eastern side of the country, bringing with it heavy rainfall of over 300 mm in some areas, in just a few days. These copious rainfall amounts resulted in fatalities, displacement of populations, damage to infrastructure and flooding of thousands of hectares planted to rice. In some regions, 80% of rice fields were reportedly affected. Heavy rains have also persisted in northern Mozambique, and a tropical depression has been affecting the country since mid-January, causing fatalities, infrastructural damage, and displacement. Cyclone Berguitta brought heavy rainfall and strong winds to Mauritius in mid-January.

The hot dry conditions in the southern parts of the region have negatively affected crop conditions. Figure 3 shows a soil moisture index map based on a crop water balance model for cereals, particularly maize. The orange and pink colours in many central and southern parts of Figure 3 indicate areas where the soil moisture has reduced to the extent that crops could potentially be experiencing water stress or even wilting, according to the model. These conditions of moisture stress were confirmed by reports received from parts of southern Zambia, southern and central Malawi, and much of Zimbabwe. Figure 4a shows one maize field in southern Malawi affected by moisture stress and starting to wilt. Malawi is in the transition zone between areas experiencing the hot dry conditions in the south, and those receiving high rainfall in the north. Close examination of the satellite vegetation index map (Figure 5) reveals some areas with below average vegetation conditions in southern and central Malawi. In Zimbabwe, reports indicate that rain-fed crops in some southern parts of the country have reached permanent wilting point, and in some areas, farmers failed to plant due to the insufficient rains. Figures 4b and 4c show photos of some fields in southern Zimbabwe which were experiencing moisture stress and wilting respectively. The dry conditions have also affected the western part of the main maize growing areas in South Africa, with estimates indicating that only 70 to 75% of the intended area in the western parts had been planted by early January due to insufficient rainfall for planting. The hot dry conditions are also causing moisture stress on planted crops. On 22 January, the South Africa Weather Service however forecast rainfall for some of these western areas in late

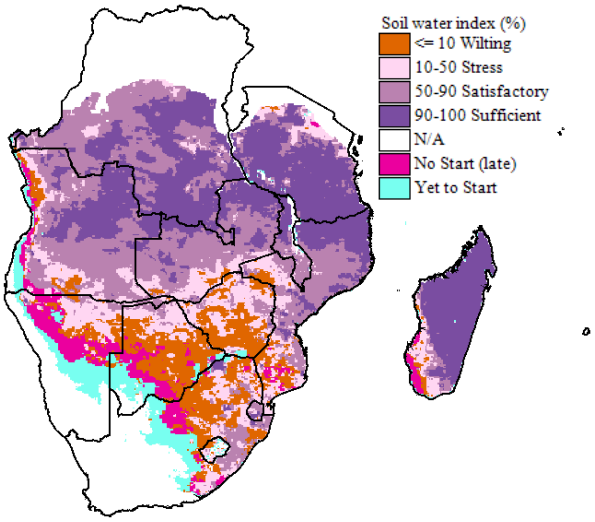

Figure 3. Soil water index for 1-10 January 2018.
Source: USGS/FEWSNET

Figure 4a: A maize field in southern Malawi affected by the hot, dry conditions *Credit: FEWS NET Malawi*

Figure 4b: A maize field in southern Zimbabwe experiencing moisture stress. *Credit: FEWS NET Zimbabwe*

Figure 4c: A maize field in southern Zimbabwe undergoing wilting. *Credit: FEWS NET Zimbabwe*

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January. Reports from Namibia indicate that the extended dry conditions have also delayed planting in crop growing areas.

The low rains in the south have also negatively affected grazing conditions. Figure 5 is a satellite based vegetation index, NDVI, that gives an indication of the status of vegetation conditions, compared to normal. Orange and brown colours show areas where vegetation conditions are below average. December reports from South Africa indicate that pasture conditions were mixed: poor pasture conditions were reported in at least some parts of most provinces, and were more widespread in the northern and western areas.

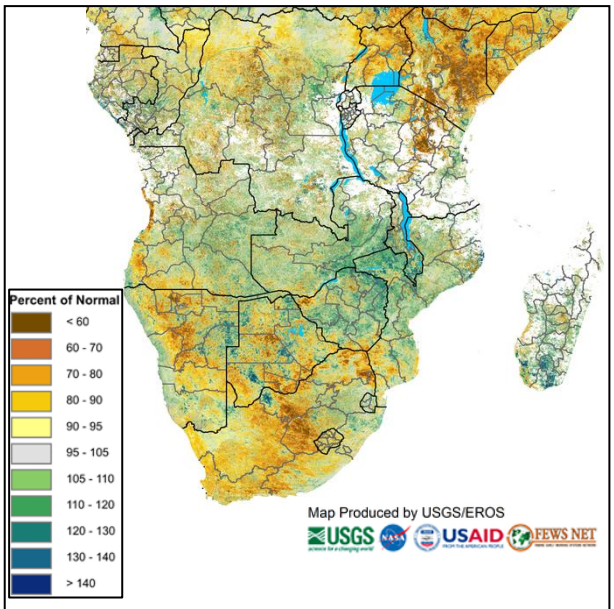

Figure 5. Vegetation Index (NDVI) compared to average conditions for 1-10 January 2018. *Source: USGS/FEWSNET*

Several countries continued to report the presence of the fall armyworm (FAW), after the Malawi FAW outbreak that was reported in December 2017 and is affecting close to 140,000 farming households. In Zambia, the infestation was reported to have affected all ten provinces, with 120,445 households affected over approximately 73,100 ha. Among other measures, 1080 monitoring traps have been distributed around the country, over 160 staff have been trained in the monitoring and management of FAW, sensitization of farmers on the outbreak has been done, access to chemicals has been facilitated, and a call centre for farmers has been opened in Zambia. In Namibia, preliminary reports indicate that infestations are also present in the maize growing areas, but the impact of the damage is low. In Mozambique, there were also reports of occurrence of FAW on maize grain crops in localized areas throughout the country, with minor impact. South Africa reported on the presence of the FAW in a December 2017 agrometeorology report. The presence of FAW was also reported in northern Swaziland since November 2017. Last season, experts suggested that the heavy rainfall in the 2016/17 season contributed to the suppression of the pest. The dry conditions to date this season however preclude rainfall as a mitigating factor, and the moisture stress can actually worsen the FAW impacts on crop yield, according to entomologists. Some Member States indicated that they now have more trained personnel able to monitor and manage the FAW, and control measures in place including the use of chemicals and traditional methods.

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