Food Security Early Warning System

Agromet Update

2015/2016 Agricultural Season

Issue 06 **January/February update** **Season: 2015-2016** **19-02-2016**

Highlights

- **Significant January rains were received in drought-stricken areas in the southern half of the region, helping to reduce rainfall deficits. The overall benefit was however diminished by very high temperatures which increased evapotranspiration, as well as low early-February rainfall**
- **January rains following a long dry spell led to very late planting and replanting in parts of South Africa and Zimbabwe. Chances of the late-planted crops reaching maturity are low**
- **October 2015 to January 2016 was the driest in 35 years in many southern parts of the region.**
- **Large decreases in planted area occurred in several countries in the southern half of the region, as farmers failed to plant due to persistent dry conditions. In many southern areas where planting did occur, crops are facing varying levels of moisture stress.**
- **Grazing conditions remained poor in most of the southern half of the region. Combined with critical water shortages, tens of thousands of cattle have succumbed to drought-related deaths**
- **High rainfall in the northern parts of the region facilitated good crop performance. However, excessive rains led to flooding in parts of eastern Tanzania and northern Malawi**

Regional Summary

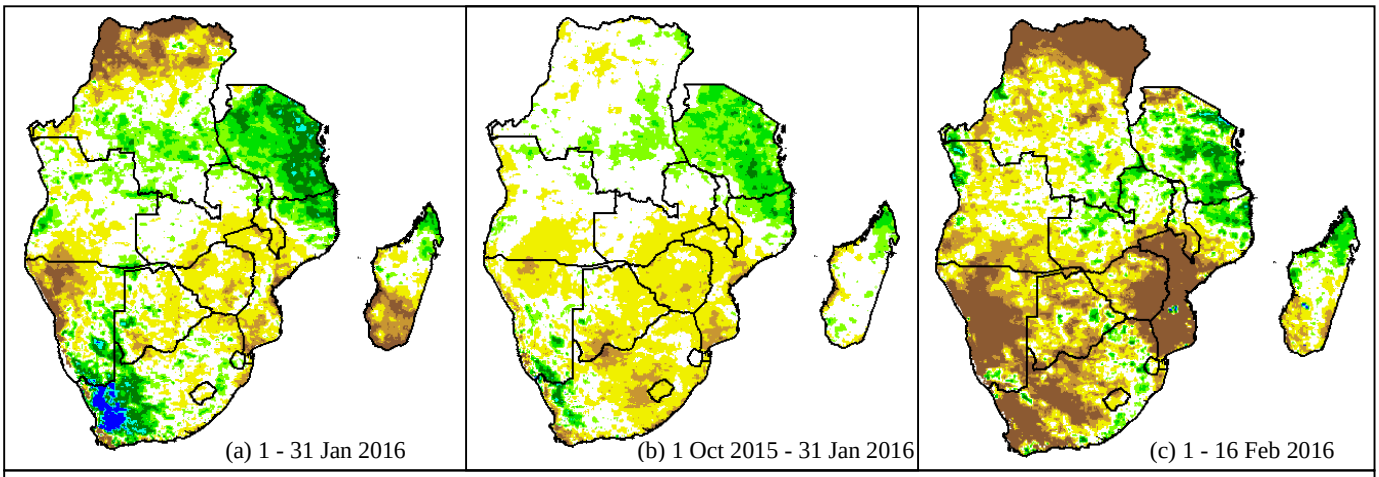

Figure 1. Rainfall expressed as percentage of average for (a) January 2016, (b) October 2015 to January 2016 and (c) 1-16 February 2016
Source: USGS/FEWSNET

The regional drought associated with the El Niño eased slightly in January, but re-strengthened through to mid-February. In January, rainfall improved in southern parts of the region including much of South Africa, Lesotho and southern Zimbabwe, but was still generally below normal in many areas (Figure 1a). Many central areas also received slightly below normal January rainfall including parts of Zimbabwe, southern and eastern Zambia, southern half of Malawi, southern and central Mozambique, and much of Botswana. Some areas received well below average rainfall during the month, including southern Madagascar, parts of southern Mozambique, parts of southern Zimbabwe, north-western Namibia, south-western Angola and northern DRC. In Tanzania and northern Mozambique, well-above normal rainfall was received, over twice the normal amount in many areas. This resulted in some areas experiencing flooding. Western South Africa, southern Namibia, southern DRC and some parts of Angola also received above-normal rainfall.

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The result of the significant January rains was a slight reduction in the overall rainfall deficits in some of the worse affected parts of the region, but seasonal rainfall totals up to the end of January are still showing below average totals for most areas in the southern half of the region (Figure 1b). In a few areas, the decreased deficits contributed to slightly improved water supply. According to the Zambezi River Authority, recent near-normal rains in the upper-Zambezi catchment are expected to raise water levels in the Kariba dam over the coming months. The January rains also allowed very late planting of crops in some parts of Mozambique, South Africa, and Zimbabwe. These late-planted crops have a limited chance of successfully reaching maturity due to the reduced period of rainfall available until the cessation of rains. Rainfall reduced considerably in the first half of February (Figure 1c), causing further moisture stress on crops. Short-term forecasts through to late-February suggest the continuation of below normal rainfall and above normal temperatures in southern Angola, Botswana, Namibia, southern and central Mozambique, northern South Africa, southern Zambia and Zimbabwe. Seasonal forecasts also depict increased chances of below normal rains in much of the southern half of the region. In all, current conditions, short term forecasts, and seasonal forecasts all point to a near-certain poor cropping season in most parts of the region.

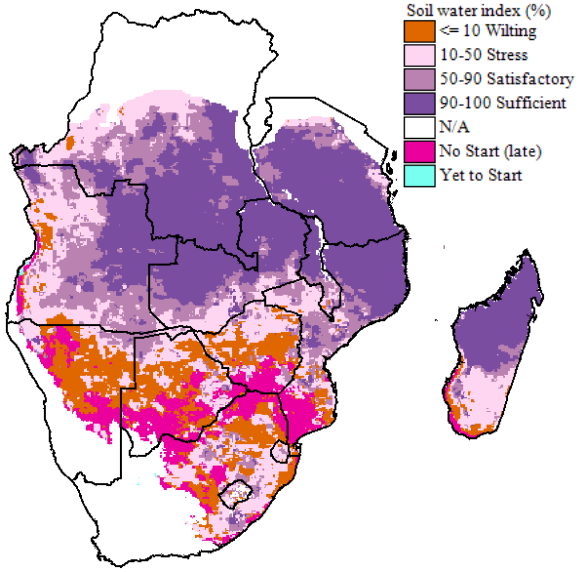

Figure 2. Soil water index as of 10 February 2016.
Source: USGS/FEWSNET

The January rainfall was generally too late to save the early planted crops in parts of Mozambique and Zimbabwe, which had already wilted beyond recovery. Crop models also indicate that the rainfall distribution likely led to permanently wilted crops in parts of Botswana, Mozambique, Namibia, South Africa and Zimbabwe. In general, many farmers in several countries failed to plant due to the erratic early season rains, which has resulted in reduced cropped area in many places. These include parts of South Africa, Mozambique, Botswana, Lesotho, Namibia, and Zimbabwe. Of the areas that have been planted, crop water balance models suggest that crops in many areas were likely experiencing moisture stress by early February (Figure 2). These include most parts of Botswana, Namibia, South Africa, Swaziland, Lesotho and Zimbabwe, as well as southern Angola, southern Madagascar, southern Mozambique, and southern Zambia. The very high temperatures being experienced in the southern half of the region have also increased heat and moisture stress affecting crops, vegetation and livestock. In contrast to the poor rainfall performance in the south, northern parts of SADC have received above normal rains, leading to good crop conditions in parts of northern Malawi, northern Mozambique, Tanzania, and northern Zambia. Reports of flooding in some of these areas may however reduce overall crop production.

Due to the low seasonal rainfall accumulation, combined with the poor rains received last season, vegetation in many parts of the region is faring poorly. Satellite-based vegetation indices suggest that vegetation is at its poorest since 2001 for this time of year in most parts of Botswana, Lesotho, South Africa, Swaziland and Zimbabwe, as well as southern and parts of central Mozambique, southern Zambia, southern-most Madagascar, and northern DRC (Figure 3). Poor pasture conditions and limited water availability have resulted in cattle deaths that were reported in Botswana, Lesotho, Mozambique, Namibia, South Africa, Swaziland, and Zimbabwe. The net impact of the low rainfall and resultant poor pasture conditions is that pasture will fail to fully regenerate this season, and pasture availability is likely to continue to be a challenge into at least the early parts of the 2016/2017 season.

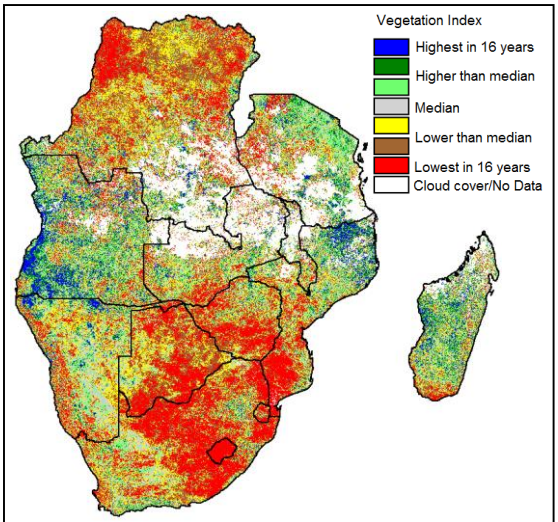

Figure 3. Vegetation Index (NDVI) for 26 Jan-5 Feb 2016 expressed in context of past 16 years
Source: USGS/FEWSNET

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In early February, Zimbabwe was added to the list of countries in the region that have declared a drought disaster, after Lesotho and South Africa. Mozambique also declared a national Orange Alert, which is the country's second-highest state of disaster readiness. Several countries in the region are being negatively impacted by the dry conditions in the region in the last 2 seasons.

Seasonal climate forecasts predict El Niño conditions to weaken going further into 2016, with a shift to neutral or possibly La Niña conditions before the end of the year.

National Agrometeorology Summaries

Angola
Satellite rainfall analysis suggests that some south-eastern and southern parts of the country received below average rainfall in December and January. Southern parts of the country were also negatively affected by drought in the previous season. In contrast, many parts of the country received near normal rainfall in December and January, a situation that likely helped in the recovery from the dry conditions experienced earlier in the season, as well the drought of the previous season. The good rains generally received resulted in average to above average vegetation conditions being observed in most parts of the country, except some south-eastern and central areas where below average vegetation conditions were still being observed, according the satellite imagery.

Botswana
January was the 4th consecutive month in which most parts of the country received below average rainfall. The dryness has been concentrated in the eastern parts of the country, which cover most of the country's crop growing areas. In contrast, some northern and north-western parts of the country have received slightly above average rainfall during the last 2 months. As a result of the poor rainfall received thus far, vegetation in most parts of the country is at the poorest levels observed since 2001. Many farmers did not manage to plant due to the low rainfall. A national drought assessment tour is currently being undertaken, earlier than usual this year, due to the severity of the current drought.

DRC
Low rainfall in northern DRC, combined with above-average temperatures have resulted in below average vegetation conditions in many northern parts of the country. Flooding had been experienced in November in north-eastern parts of the country, as well as forest fires in eastern areas.

Lesotho
After little to no rainfall was received in December, rainfall improved significantly in January, although the amounts remained below normal. The January rains came too late for planting, as late-planted crops in Lesotho are generally susceptible to frost damage. Consequently, many farmers did not plant, and there is a large reduction in the area planted this season. Vegetation conditions throughout the country are still well below average, the lowest observed since 2001. Water rationing is currently in effect due to the shortage of water in several districts. Lesotho declared a drought emergency in December due to the devastating impacts of the drought.

Madagascar
Low rainfall and high temperatures in January intensified dryness in the southern half of Madagascar. The southern regions of the country are the most affected, and satellite imagery also suggests that vegetation in the southern areas is at its worst since at least 2001.

Malawi
Dry conditions were experienced in Malawi between late December and early January particularly in the southern half of the country. Rainfall activity increased in mid to late January, but remained less than average in the south. Reports suggest that rainfall was insufficient for optimal crop development, partially due to the dry spell experienced in December and early January. Rainfall was also low in early February in the southern and central parts of the country, leading to moisture stress being experienced by crops in those areas. Crops in the northern parts of the country were reported to be doing well, due to the high rainfall received. However, heavy rains in the north also resulted in flooding in February. Water for livestock sufficient was reported to be

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sufficient, and pasture was generally in good condition, although satellite imagery suggested below average vegetation conditions in a few areas in the south.

Mozambique
Throughout much of the season, Mozambique has experienced well below average rainfall in the southern and central parts of the country, while above average rainfall has been received over the northern parts. Most parts of the country received good rains briefly in late January. These late January rains, while providing some moisture that will contribute slightly to pasture re-growth were highly insufficient to eliminate the prevailing rainfall deficits. Vegetation conditions remain well below average in most of the south and many central areas, the lowest since 2001 in many places. Official reports indicate over 3800 drought-related livestock deaths. Water availability is insufficient. Dry conditions in the south and the centre have reportedly affected 11% of the national planted area. In contrast, torrential rains have occurred in the north. The government declared an Institutional Orange Alert, which is one level away from the highest state of disaster readiness, as a result of the drought situation in southern and central Mozambique, as well as the torrential rains in the north.

Namibia
After good rains were received throughout much of Namibia in December, January was much drier, especially in the northern-central and north-western areas. The north-eastern and other eastern and central parts of the country received normal to above-normal rainfall. As a result of the mixed rainfall pattern, the vegetation is also showing a mixed health, with most areas showing above-normal vegetation conditions, while some areas critical to crop production are showing below average vegetation conditions. These include some of the northern-central areas, as well as the eastern-most parts of the country.

South Africa
Rainfall improved in many parts of the country, in January after several months of very poor rainfall had prevented many farmers from planting. The good January rains, which fell mostly in mid-January, encouraged some farmers to plant, although this was much later than the recommended planting window, and there is a reduced chance for good harvests from these late-planted crops. The preliminary official 2015/16 crop estimates released in late January indicate a 24.4 percentage drop in the area planted to maize compared to the 5-year average, and a 36.4% reduction in maize production, compared to the 5-year average. The January rains were insufficient to eliminate rainfall deficits since October, and seasonal rainfall totals are still well below average in most parts of the country, except for western areas that received high rainfall in January. High temperatures in early February also raised crop water demand. Vegetation conditions in most areas except the west and some eastern areas, remain the lowest observed since 2001, according to satellite imagery, and pasture conditions are poor. Commercial beef slaughters have increased significantly due to culling influenced in part by the drought. Drought-related cattle deaths have also been reported. South Africa's dams were reported at 55% of full supply capacity by end of January, 27% lower than what was observed at the same time last year.

Swaziland
Rainfall was low in much of January, except in mid-January when significant rains were received. This rainfall led to some improvement in vegetation conditions in some central and western areas. Most parts of the country however continued to experience well below-average vegetation conditions, in part, due to the long term dryness. Crops were reported to be performing poorly due to the dry hot conditions in the eastern half of the country, with better performance in the western areas. By December, reports indicated that over 20,000 cattle had succumbed to drought-related deaths, and were still dying by February particularly in the west. Water levels in dams continued to decrease while some rivers had dried up, and water rationing continues.

Tanzania
Tanzania has been receiving well above-normal rainfall since the beginning of the rainy season. This has resulted in conducive conditions for good crop growth in most areas. However, the high rainfall has also resulted in flooding in some eastern and central districts, resulting in losses of rice and maize planted areas. The short (*Vuli*) season in the bimodal parts of the country experienced dry spells in the north-east, while sufficient rains were received in the north. However, flooding occurred in some north-western areas bimodal areas. Generally the unimodal crops were in good condition, with cereals at the vegetative to flowering stage.

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Zambia

Following a delayed onset of rains, most areas in the southern half of the country have thus far received below average rains. January was no exception, as low rainfall was received in some of the southern, central and eastern areas, in the first 2 dekads of January, with subsequent improvement in the 3rd dekad of the month. An increase in rainfall was observed in western parts of the country in mid-January. October to January rainfall totals in many parts of southern Zambia are among the lowest in the last 35 years. Due to the poor rainfall that has prevailed in the south, vegetation conditions continue to be much lower than average. In contrast, crop conditions in northern areas remain good due to the consistent rains that have been falling in those areas.

Zimbabwe

Zimbabwe has experienced very high temperatures and dry conditions since the beginning of the growing season. The poor conditions have negatively affected agriculture: A large proportion of farmers, particularly in the south, did not plant due to the dryness, and crops in many areas in the southern half of the country have permanently wilted. Rainfall performance in the northern areas is better than that in the south, but still below average, and crops in some areas are experiencing moisture stress. Low rainfall conditions continued in January, except for a respite in some eastern, central and southern parts during the last 2 dekads of January, when significant rains were received. The January rains allowed some farmers to plant, though the ensuing dryness likely affected crops. Vegetation conditions continued to be much lower than average, particularly in the southern and western areas. Pasture and water availability for livestock are critical in the south, and over 16,000 drought-related cattle deaths were recorded since the start of the season. The government in early February declared a state of disaster due to the impacts of the drought.

Acknowledgements:

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