



Food Security Early Warning System Agromet Update



2018/2019 Agricultural Season

Issue 04 Month: February

Season: 2018-2019

15-02-2019

Highlights

- A late and erratic onset of rains delayed planting and reduced area planted in southern and western parts of the region.
- A dry spell from mid-January to early February caused moderate to severe crop moisture stress in the central parts of the region. The dry spell ended in early February, allowing recovery of some crops. Observations however indicate that permanent wilting had occurred in several areas
- Rainfall performance to date is raising concerns for regional harvests, particularly in areas with prevailing high levels of food insecurity, and some traditionally high production areas
- The season is progressing well in north-eastern parts of the region, with good harvest prospects

Summary

Total rainfall from October 2018 to early February 2019 was well below average across most parts of the region. Preliminary analysis suggests that for several south-western and central areas, the October-to-January rainfall totals may have been among the lowest in almost 40 years (Figure 1). These areas include southern Angola, northern Namibia, northern Botswana, Lesotho, much of South Africa, southern Zambia, and central and western Zimbabwe. In general, the low seasonal rainfall totals observed in the region were primarily the result of (a) delayed and erratic onset of rains in several areas that resulted in reduced planted area and poor germination, and (b) mid-season dry spells of varying duration that resulted in crop moisture stress and wilting of crops. These factors both reduce end of season production prospects due to reductions in planted area, reduced yields, and reduced potential for crops to reach maturity. The poor seasonal performance is likely to have the most negative local impacts in those cropping areas which had already experienced poor agricultural production for the 2017-2018 season, and subsequently elevated high levels of food insecurity. Poor seasonal crop performance in traditionally high-production areas may also have a bearing on regional supplies.

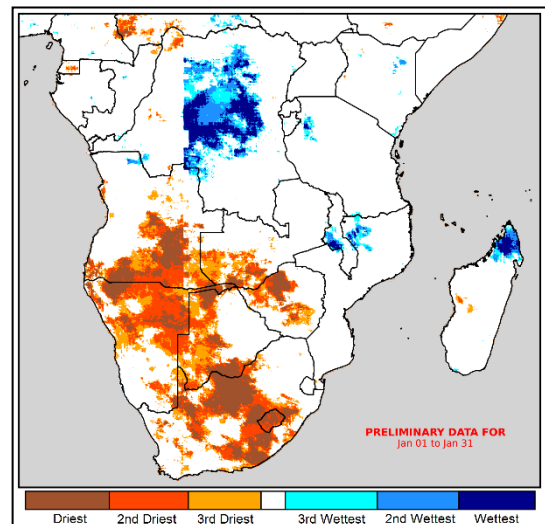


Figure 1. Areas where total rainfall for 1 Oct 2018 to 31 Jan 2019 was among driest or wettest since 1981
Source: UCSB CHC, CHIRPS

Effects of the delayed and erratic onset of rains

Many areas were affected by delayed and erratic onset (Figure 2). These include southern Angola, northern Namibia, Botswana, Lesotho, central South Africa, southern Mozambique, and most parts of Zimbabwe. In many of these areas, significant reductions in cropped area were reported, as many farmers could not plant due to the dryness, thereby reducing overall expected crop production. In South Africa, the area planted to maize reported at the end of the January was 10% below the 10-year average. Poor germination and crop establishment were also reported in various parts of the affected areas in the region, thereby reducing yield potential early in the season. Replanting and gap-filling to counter these effects were reportedly undertaken in some cases.

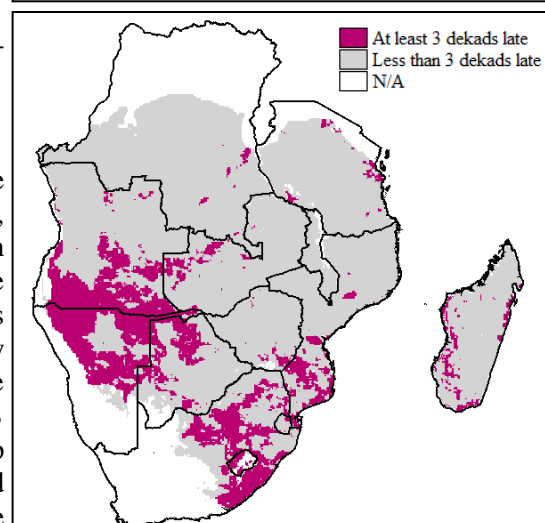
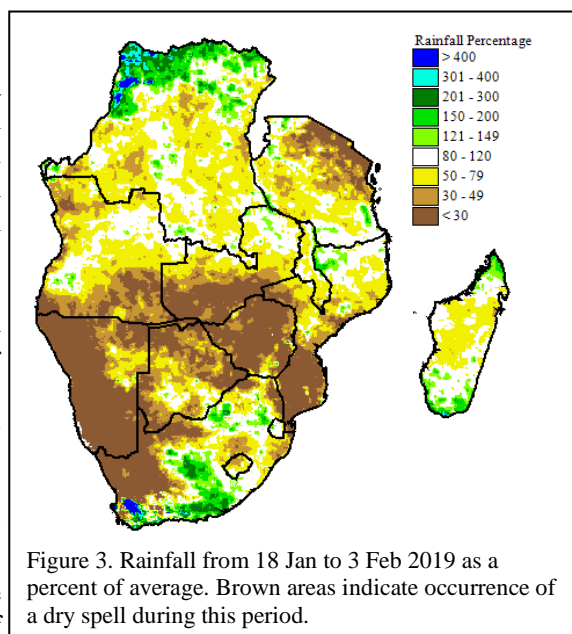


Figure 2. Areas where the onset of rains was at least 3 dekads (approx. 1 month) late in the 2018/19 season

Effects of the mid-season dry spell

A dry spell starting from mid-January affected central parts of the region, including south-western Angola, Botswana, part of Lesotho, southern Mozambique, southern Zambia and southern and central Zimbabwe (Figure 3). The dry spell reportedly resulted in permanent wilting in some southern and central parts of Zimbabwe, part of Lesotho, and southern Mozambique. Severe moisture stress was also reported in parts of Botswana. Crop-specific soil water balance models indicate that in addition to these areas, parts of central, eastern and northern South Africa may also have been affected by severe soil moisture stress with potential for wilting. In southern Zambia and north-eastern Zimbabwe, preliminary information indicated that although crops were generally in fair condition, some signs of moisture stress were showing in some areas due to the ongoing dryness. Rainfall in most of the affected areas resumed in early February, excluding southern Mozambique where dryness persisted. The resumption of rains prevented large-scale occurrence of crop permanent wilting. Varying levels of yield reductions however most likely occurred in many areas due to the dryness.

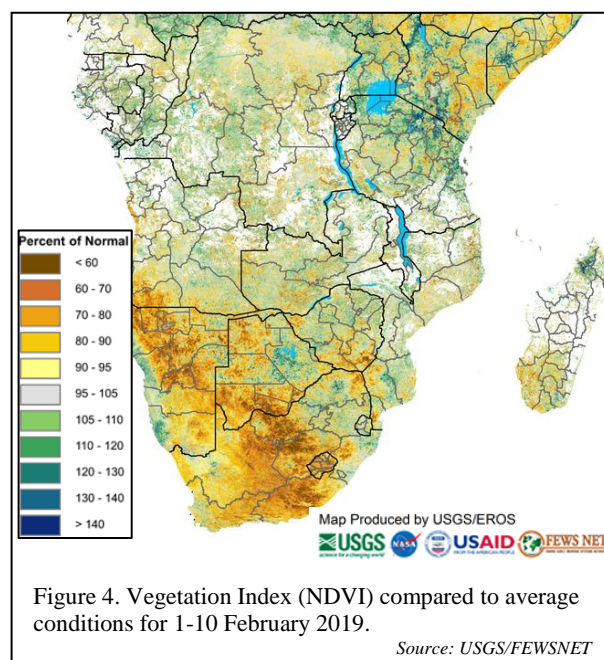


Good rainfall in the north-eastern parts of the region

In contrast, north-eastern parts of the region have generally received good rains conducive to crop development, over much of the season to date. These areas include Malawi, northern Mozambique and eastern Zambia. Malawi and Zambia are generally surplus maize producers, whose maize production in several of the last few years have been exported regionally. Thus the favourable production prospects in these areas may partially contribute to a regional maize production buffer that can help to mitigate impacts of poor crop production in some areas.

Effect of dry conditions on pasture and livestock

The dry conditions experienced in the south have also affected pasture and livestock. Vegetation conditions remained poor in southern Angola, Botswana, Lesotho, Namibia, and South Africa, according to satellite image analysis (Figure 4). In contrast, vegetation improvement was noted in parts of eastern Botswana, southern Mozambique, western Madagascar, and northern South Africa, due to recent rains. The poor vegetation conditions inferred from satellite imagery was corroborated by reports of poor pasture and livestock conditions in parts of Botswana, Lesotho, Zimbabwe and South Africa. An official South Africa report released in February indicated that grazing and livestock conditions in many parts of the country had deteriorated. Drought-related cattle deaths have been reported in some countries including South Africa and Zimbabwe.



Pests and disease reports

A December 2018 report from the International Red Locusts Control Organization (IRLCO) indicated that reports of African Armyworm had been received from Malawi, and no other of its member countries had at that time reported outbreaks of either African Armyworm or Fall Armyworm (FAW). More recently, FAW has also been reported in Mozambique, Zambia and Zimbabwe. The dry conditions in southern Mozambique enhance the risk of crop damage from FAW. Since the first sightings of FAW in the region in 2016, FAW outbreaks have been reported in all SADC countries except Lesotho and Mauritius. Crop protection specialists

have cautioned that the pest should now be considered endemic in the region, and it should be diligently monitored and managed each season to avoid large-scale negative impacts.

Agricultural impact of floods

Since the beginning of the season, floods have been reported in Madagascar, Malawi, Mozambique and Zambia. In early January, heavy rains caused flooding in parts of central Malawi, northern Mozambique, and eastern Zambia. No reports of impacts on croplands was noted. In late January, Cyclone Desmond tracked through the Mozambique Channel, causing flooding in central Mozambique and south-western Madagascar. Cyclone Ekestang brought further flooding in north-eastern Madagascar. While the cyclones caused flooding of some maize and rice fields in Madagascar, little impact on agricultural production was noted in Mozambique.

Multi-year droughts

Some of the areas currently receiving poor rains this season have experienced low and erratic rainfall in the past few seasons. As a result, the current low 2018-2019 rainfall is exacerbating water shortages and food insecurity in affected areas. Figure 5 shows areas that experienced extended dry conditions for both the 2017/18 season and the 2018/19 season through to 31 January 2019 (in brown colour), based on an analysis using the standardized precipitation index (SPI). Over 1 million people are affected by drought in southern Angola as a result of several seasons of low rainfall and the ongoing dryness, according to the Food Resilience and Nutrition Security Programme in Angola (FRESAN). High levels of food insecurity due to low food production, as well as extreme water shortages in the area abound, according to the report. Neighbouring areas in northern Namibia have also fared poorly from multiple droughts over the last few seasons, and national reports indicate potential water shortages, and reductions in planted area. Levels of water reservoirs are reportedly low in Maputo, Mozambique as a result of low rains, compounded by below average rains this season. Three of the last four seasons have had below average rainfall in southern Mozambique. The average levels of dams for several provinces in South Africa has decreased compared to last season. In addition to water resources, recurring droughts have also taken a toll on pasture and livestock conditions, due to the unavailability of water and grazing for full recovery.

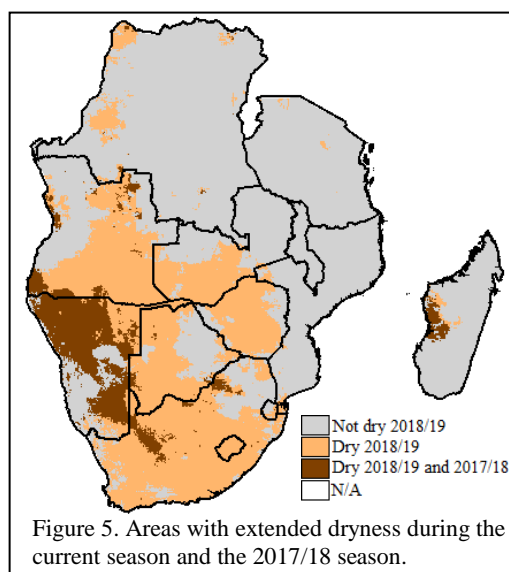


Figure 5. Areas with extended dryness during the current season and the 2017/18 season.

Areas where the current season performance may exacerbate prevailing food insecurity

Several areas were affected by a long dry spell during the 2017/18 season, which resulted in below average crop production and contributed to elevated levels of food insecurity in some areas. Botswana, Lesotho, Malawi and Zambia all attained below average crop production for the 2017-2018 rainfall season, primarily due to the poor rainfall distribution during that season. At a sub-national level, based on the IPC, high levels of food insecurity have been estimated for the October 2018 to March 2019 period for eastern and western Zambia, much of Zimbabwe, southern Malawi, southern Mozambique western Swaziland, southern Lesotho and southern Madagascar. Current season analysis indicates that except for Swaziland, eastern Zambia and southern Malawi, most of the above-mentioned areas are currently experiencing poor seasonal performance, which may exacerbate the elevated food insecurity that populations there are already facing. Areas where the crop water requirements satisfaction index (WRSI) is projected to be below average for both the current season and the last season are shown in Figure 6, depicted in orange colours.

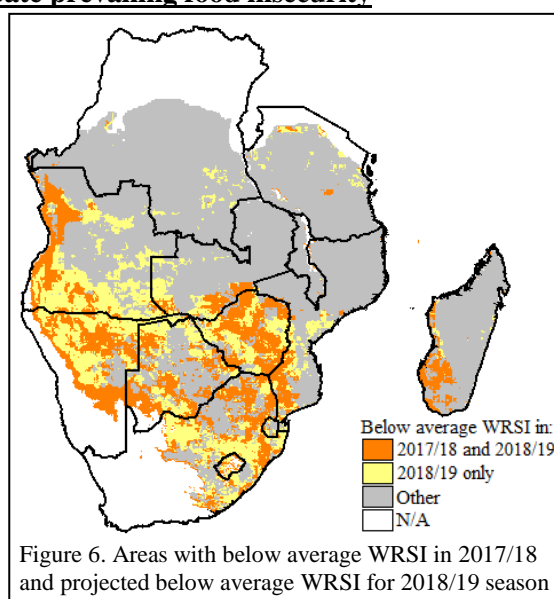


Figure 6. Areas with below average WRSI in 2017/18 and projected below average WRSI for 2018/19 season

The WRSI is often used as a preliminary indicator to show where poor rainfall distribution during the season may have reduced crop yields.

Rainfall outlooks, and implications for crop yields

Short term forecasts through to late-February suggest the likely continuation of dry conditions in western parts of the region, and wet conditions in the eastern half of the region. Many of the western areas are already experiencing high levels of food and water insecurity, and the projected dry conditions may only serve to exacerbate the situation. In areas where crops had not already been negatively affected by dry spells earlier in the season, the continuation of rainfall until March/April will raise the chances for attainment of some good harvests. However, in areas that experienced extended dry spells, the cumulative impact of crop moisture deficits are likely to manifest as varying levels of yield reduction, depending on the severity of moisture deficits. The short term forecasts for continued rainfall in the eastern half of the region will further help in recovery of pastures and improvement of water supply in the areas where significant rains occur. The SADC CSC January-to-March rainfall forecast for normal to below-normal rainfall raises the possibility for further dry spells occurring. Close field-based monitoring and reporting is required to check and report on the status of crop growth and development, with a view to continually updating crop production prospects for planning purposes. In particular, incidents of permanent wilting, which have the most severe impact on crop yield, need to be noted and reported as they occur.