



# Food Security Early Warning System Agromet Update



**2014/2015 Agricultural Season**

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## Highlights

- Heavy January rains cause extensive flooding in Madagascar, Malawi and Mozambique
- A January dry spell negatively affects crops in southern parts of the region
- Armyworm outbreaks reported in Mozambique and Zimbabwe

## Regional Summary

For much of January, very heavy rains fell in the north/eastern parts of the region, in particular, southern Madagascar, Malawi, northern/central Mozambique, southern Tanzania, eastern Zambia and northern Zimbabwe (Figure 1). The heavy rains led to flooding in many areas, affecting over 900,000 people in the region, particularly Madagascar, Malawi and Mozambique. Impacts included fatalities, destruction of infrastructure, (including housing), displacement, and agricultural impacts such as flooding and washing away of crops and livestock. Waterlogging and leaching of crops was also reported in some areas, including parts of Malawi and Zambia. In many locations, the heavy rains had started in early December.

While the north/eastern parts of the region were experiencing abnormally high rains, several areas in the southern half of the region experienced low rainfall in January. Highlighted by the brown colours in Figure 1, these areas include western Angola, parts of eastern and western Botswana, southern Mozambique, northern Namibia, central and northern South Africa, and parts of central and southern Zimbabwe. There have been reports of crops wilting due to the extended dryness in some of these areas including parts of southern Botswana and central Zimbabwe. Some of the impacts of the dry conditions in January and earlier are apparent in the crop water requirements satisfaction index (WRSI) shown

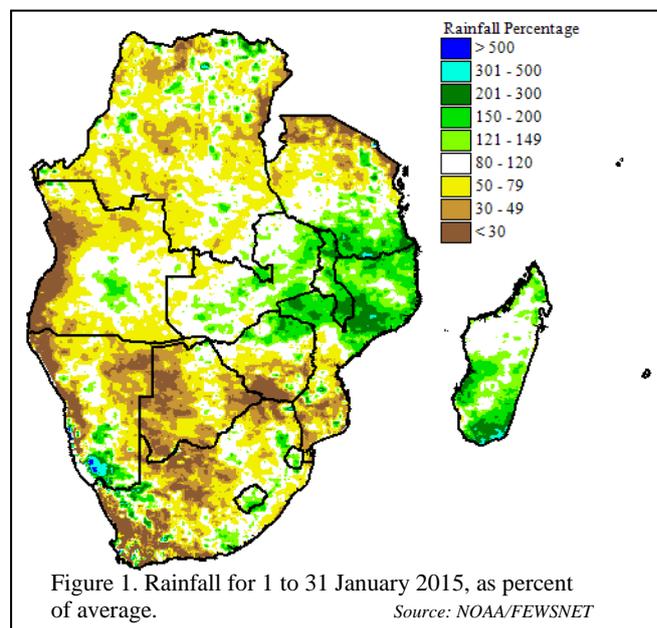


Figure 1. Rainfall for 1 to 31 January 2015, as percent of average.

Source: NOAA/FEWSNET

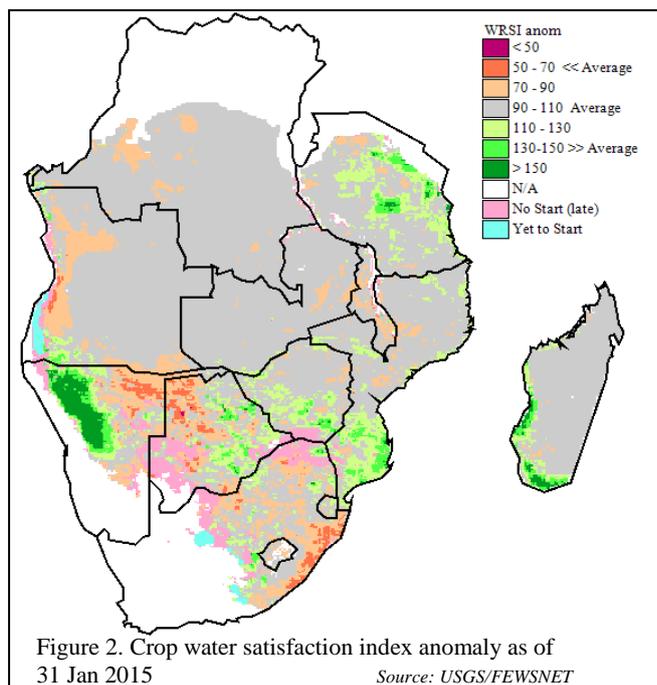
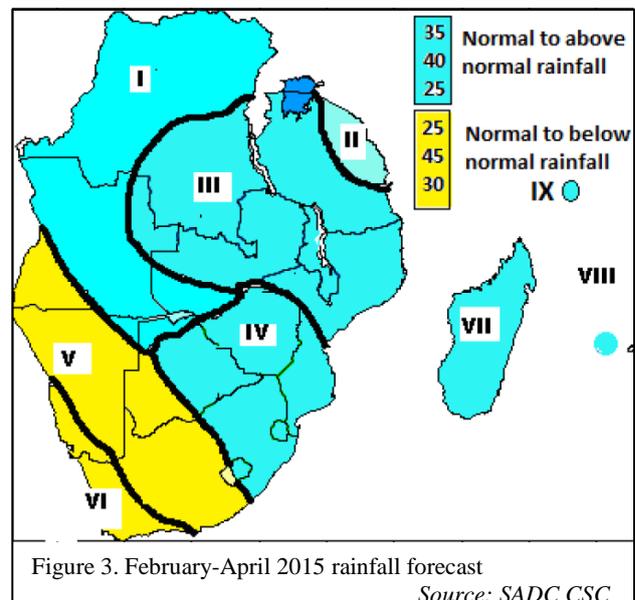


Figure 2. Crop water satisfaction index anomaly as of 31 Jan 2015

Source: USGS/FEWSNET

in Figure 2. The WRSI shows the extent to which a crop's water needs are met during the course of the growing season, and in Figure 2, this index is expressed as a percentage of average WRSI conditions. Based on the rainfall distribution from the beginning of the season up to end of January, and assuming average rainfall from February until the end of the season, the map suggests that below average cropping outcomes could occur in parts of Botswana, Malawi, northern Namibia, central South Africa, and eastern Zambia. In some areas, particularly Malawi and Zambia, this expectation is related to the delayed onset, and the assumption that the rainfall season may end before crops have fully matured.

The rainfall season started very late in parts of Malawi, central/northern Mozambique, eastern Zambia and northern Zimbabwe. As illustrated by the WRSI, the late start could negatively impact harvests if the rainfall season does not extend longer than usual, until at least April in some areas. If however the rainfall season is extended in these areas, good harvests can still be expected, particularly where flooding, waterlogging and leaching have not already negatively affected crops. The recent February-March-April (FMA) rainfall forecast (Figure 3) from the SADC Climate Services Centre (CSC) shows increased chances of normal to above normal rainfall in these areas for the FMA period, which may imply a possibility of extended rains in the late-start areas, resulting in



a reduced impact of the delayed start. The late onset may also have a low impact in areas where early maturing crop varieties are grown. The late onset will however delay the availability of harvests in most affected areas, with consequent food security implications.

There is still risk of floods and cyclones, with the peak of the season being in February for many areas. With current saturated soil moisture conditions and high river levels in many parts of Madagascar, Malawi and Mozambique, there are high chances of further flooding in these countries if heavy rains continue to fall. If normal to above-normal rains occur as predicted by the FMA forecast in the flood affected parts of Malawi, Mozambique and Madagascar, as well as some waterlogged areas of Zambia, this could worsen the impacts of the flooding, and negatively affect agricultural conditions due to increased waterlogging and leaching, particularly if the rains are intense. The forecast update is also predicting normal to below normal rains for south-western parts of Angola, most parts of Namibia, north and central South Africa, western Lesotho and south-western Botswana. Some of these areas received low rainfall in January, and if further low rains occur, particularly extended dry spells, in the remainder of the season, this may reduce crop yields and negatively impact on grazing.

Readers need to note that the forecast considers rainfall totals over the specified 3-month period, and does not incorporate the probability of dry spells, which can cause crop failure if extended, or intense rainfall from severe weather conditions such as tropical storms, which can cause flooding. The SADC CSC also advises users of the forecast to contact national meteorological and hydrological services for finer details, updates to the forecast, and additional guidance.

A report by the International Red Locust Control Organization for Central and Southern Africa (IRLCO-CSA) indicates that armyworm outbreaks were reported in Mozambique and Zimbabwe, and to a lesser extent in Tanzania. Control measures were being undertaken.

## *National Agrometeorology Summaries*

### **Angola**

Below average rainfall was received in western and southern Angola during the month of January. Although vegetation conditions are generally above normal in most parts of the country according to satellite imagery, some southern, western and central parts of the country were showing below-average vegetation conditions by the end of January. Reports indicate that some of the south-western areas, which had previously experienced drought in the last few years, have showed a recent improvement in pasture conditions.

### **Botswana**

After receiving relatively good rainfall in December, most parts of the country received well below average rainfall in January, with some areas in the eastern and western parts recording less than 30% of average, according to satellite rainfall estimates. The low rainfall led to moisture stress and crops wilting in some areas, including the south-east and southern areas. Satellite imagery also indicates that vegetation conditions are below average in many parts of the country, though above-normal in the eastern areas.

### **Lesotho**

Maize in the western and eastern parts of the country was reported to be in the flowering and vegetative stages respectively by mid-January. Rangelands were reported to be in good condition. With satellite vegetation images showing near average condition, and the generally good rainfall that has been received during the season, crops are expected to be in fair to good condition in most areas.

### **Madagascar**

After a late onset of the rains and poor December rains in the south, January was marked by heavy rains which caused flooding, particularly in the central and southern parts of the country. The floods resulted in fatalities, destruction of infrastructure, displacement of people, and agricultural losses. Reports from UN OCHA indicate that close to 10,000 hectares of rice were flooded. Other reports suggest that in some south-eastern areas, 40 to 80% of crops were lost due to flooding. Southern Madagascar has also been battling a locust infestation since 2012, through a joint government FAO anti-locust programme. An FAO report indicates that the operation, which is scheduled to end in 2016, is facing financial constraints. This comes at a time when the rainy season is providing acceptable breeding conditions for the locusts, although the high soil moisture conditions due to heavy rainfall in southern Madagascar is likely to restrict the formation of the wingless locust “hopper” bands, which eventually become of devastating swarms of flying locusts, if not controlled at the hopper stage.

### **Malawi**

Heavy rains fell in Malawi in January, particularly in the southern areas, resulting in flooding. Government estimates indicate that 116,000 farming households were affected by flooding, losing crops and livestock due to the floods. Approximately 64,000 hectares of cropland were affected. The ministry of agriculture estimated that approximately 42,000 hectares of agriculture land were destroyed, and more than 100,000 tons of harvest was lost. The heavy rains also resulted in waterlogging and leaching, as evidenced by yellowing of crops in the fields. In addition to these direct losses, the heavy incessant rains also hampered farm operations such as weeding and spraying of pesticides. Humanitarian stakeholders in the agriculture sector have been undertaking activities geared towards replanting of sweet potatoes, cassava, and early-maturing maize. Rains

that were not excessive supported crop and pasture development. Maize crops were reported to be mostly at vegetative to flowering stage.

## **Mozambique**

Heavy rains fell in northern and central Mozambique in December and January, resulting in flooding in many areas. Over 150,000 people were affected by flooding in Mozambique, with the most severe impacts in central Mozambique. Teams from the Ministry of Agriculture are currently the field doing a national assessment of agricultural conditions. The assessment will also likely provide information on the extent of damage that the floods caused on the agricultural sector. A report by the IRLCO-CSA reported armyworm outbreaks in 4 provinces in Mozambique, and control measures were currently being undertaken.

## **Namibia**

Since late December, low rainfall was received in parts of northern Namibia, leading to dry conditions in some areas. Satellite-based rainfall estimates indicate that in some areas, less than 30% of average rainfall was received in January. A December national food security report had indicated that grazing conditions were in a poor to fair state, although better than in the previous season when many drought-related livestock deaths had been recorded. Good rainfall was received in some northern areas in January, leading to rising water levels in the major northern rivers.

## **South Africa**

South Africa generally received near-normal rains in the central areas in January, while the northern areas and the western half of the country received below-normal rainfall. Reports indicated that by end of December, crops in most areas were performing well and in good condition. Follow-up rains are needed for the remainder of the season in order to allow crops to reach maturity. Area-planted to maize was reported to have decreased by 1.18% compared to last year.

## **Tanzania**

Crops in the unimodal areas are reportedly doing well, and currently in the late vegetative to early reproductive stage. After a relatively dry December in some of the unimodal areas, January received high rainfall in most areas. In the bimodal areas, crops have reached full ripeness stage. The bimodal areas are now seasonally dry, awaiting the onset of the *Masika* (long rainy season). Water availability for livestock was reported to be moderate.

## **Zambia**

Most parts of Zambia received high rainfall from late December, through much of January. The high rainfall facilitated good crop development. National reports indicate that the heavy rains led to leaching and water logging in some northern and central parts of the country. In southern parts of the country, low rainfall has led to reduced soil moisture and potential crop-water stress. Due to the late onset of rains and subsequent late planting, rainfall will be needed until at least April, in order to allow for maize crops to reach maturity, particularly in the eastern parts of the country.

## **Zimbabwe**

Following intense December rains and flooding, an extended dry spell in January negatively impacted crop performance in central, eastern and southern parts of the country. Indications of moisture stressed maize crops were received in some southern and eastern areas. This was corroborated by crop water balance models, which suggested low soil moisture conditions, particularly in the southern half of the country. Rains in late January through early February helped to ease the dryness in some southern areas. Armyworm outbreaks were reported in more than half of Zimbabwe's provinces, causing mild to severe damage, particularly on pastures, before being controlled.