



REGIONAL FOOD SECURITY PROGRAMME

GROWING SEASON STATUS

Rainfall, Vegetation and Crop Monitoring



2005/2006 Issue 3

December 2005

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Highlights

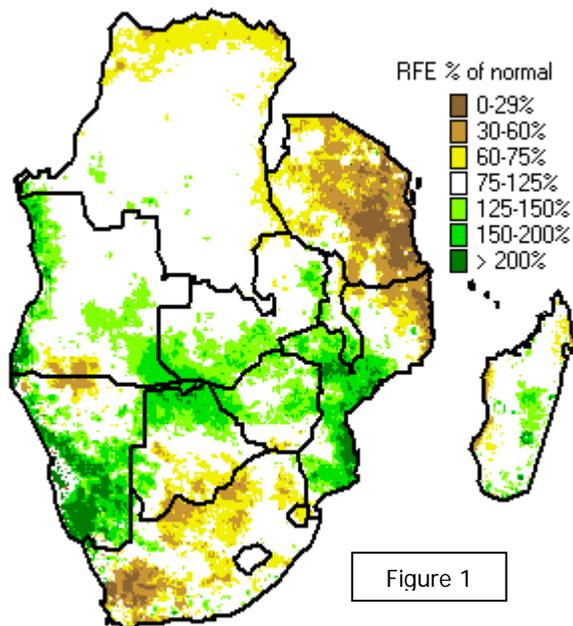
- Analysis of rainfall performance shows that most parts of the region had received good rains by the end of December 2005
- Floods force some farmers to replant after heavy rains wash crops away
- Field reports indicate that land preparation is in progress and sowing of maize continued in many parts of the region.
- Poor crop prospects as the Vuli (short) rains season fails in the bimodal areas of Tanzania.

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Rainfall Performance

Rainfall estimates (RFE) (page 3) and ground reports suggest that good rains were received in the month of December, covering most parts of the region. Above average rainfall totals were registered in Angola, northern



Botswana, western DRC, central and southern Zambia, southern Malawi, northern Namibia, central and southern Mozambique and Zimbabwe. Parts of South Africa, Lesotho, Swaziland and northern Mozambique had below average rains. Most of Tanzania registered below average rains, highlighting a problem with the short-rains (vuli) season of northern Tanzania, where rains have been erratic since the start of the season. Other areas where rains were poor include central Namibia and southern Botswana.

A map of the received rains (from 1st September to December 31) as a percentage of average (figure 1) confirms the poor seasonal rainfall performance in Tanzania. Good rainfall totals were received in the rest of the region except southern Botswana, South Africa, Lesotho and Swaziland.

An updated seasonal forecast from the Drought Monitoring Centre (Harare) indicates a likelihood of normal to above-normal rainfall conditions in most of the SADC region for the period January to March 2006. The northeastern (including Tanzania, northern Malawi, northern Mozambique and parts of eastern Zambia and northern DRC) and southwestern sections of SADC and southern Madagascar are expected to receive normal to below normal rainfall for the same period.

northern Mozambique and parts of eastern Zambia and northern DRC) and southwestern sections of SADC and southern Madagascar are expected to receive normal to below normal rainfall for the same period.

SADC Member States:

Angola, Botswana, Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe.

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EDITORIAL

The Regional Remote Sensing Unit (RRSU) is pleased to present the third issue of the Growing Season Status Report for the 2005/2006 rainy season, covering the month of December 2005. The RRSU acknowledges financial support from Member States (through FANR) and from the EC through an EC-funded FAO project. FAO and USGS/FEWSNET provide technical support and data inputs.

The analysis presented in this bulletin is based on METEOSAT derived Cold Cloud Duration images, which are received through the Botswana Meteorological Department, Rainfall Estimates (RFE) and NOAA-NDVI from the FEWSNET Project. Ground data and interpretation are provided by collaborating national meteorological services and early warning units of the SADC Member States.

The RRSU also provides regular updates on the progress of the 2005/2006 rainy season through 10-day Agromet Updates, which are distributed by the SADC Regional Early Warning System, and posted on the SADC web-site (www.sadc.int) and the Southern Africa Flood and Drought Network site (www.sadc-hazards.net), which is maintained in collaboration with FEWS NET.

Land preparation and sowing continued in most parts of the region in the month of December as farmers sought to take advantage of the good rains that have been received so far. Good rains were received in significant parts of the region in the month, covering Angola, Botswana, DRC, southern Malawi, central and southern Mozambique, most parts of Zambia, most parts of Zimbabwe, northern Namibia, and northern South Africa. While this brought hope of a good season to most farmers in these areas, some farmers found themselves incurring significant losses when heavy rains led to floods that destroyed crops and infrastructure (including homes). Incessant rains in some parts of the region may lead to reducing yields due to leaching, which has been reported in some areas. Parts of Malawi and Mozambique witnessed some torrential rains which led to flash floods and flooded rivers. Some families were left homeless while losses of life due to flooding and lightning were reported in some cases. This was mainly in Mozambique where ironically the northern parts were facing dry conditions and a delayed start to the cropping season. Parts of the northern Mozambique have had erratic rains, the same as the adjacent parts of Tanzania where the main rainfall season had not started by the end of the month. The bi-modal areas of Tanzania suffered a failed vuli season which has meant that there are poor prospects of a good harvest as that season winds up. The main rainfall season has been delayed by up to 40 days in some areas and this is a worrying sign for the country's food security prospects.

Parts of the Maize Triangle of South Africa, a big grain producer for the region, have also witnessed some poor rains in the month but it is yet to be seen how this will impact on maize production. Some farmers in the area are known to use irrigation so the poor monthly rainfall may prove to be a non-issue. Neighbours Lesotho and Swaziland have also seen some erratic rains in the first half of the season.

*The focus of this bulletin is primarily at the regional level. However, any information available has been included in this report. For more detailed sub-national analysis, readers should **consult the national meteorological agencies and food security early warning units.***

Vegetation condition

Normalized Difference Vegetation Index (NDVI) images (page 4) for December indicate that vegetation conditions improved significantly in most parts of the region from the end of November to the end of December. The central parts of the region witnessed a bigger improvement in the vegetation conditions as the vegetation responded to the good rains received in November and December. While conditions in most parts of the region were near or below average, the central and northern parts of Botswana enjoyed above average vegetation conditions throughout the month. This suggests good pasture conditions in these areas of Botswana. Vegetation conditions should generally improve in the region owing to the good rains received in the month in most parts of the region. Tanzania continued to experience dry conditions in the month and by the end of the month, NDVI images suggested well below average vegetation conditions. Other areas where vegetation conditions were below average include parts of central South Africa, parts of Lesotho and Swaziland, where rains were erratic in November and December.

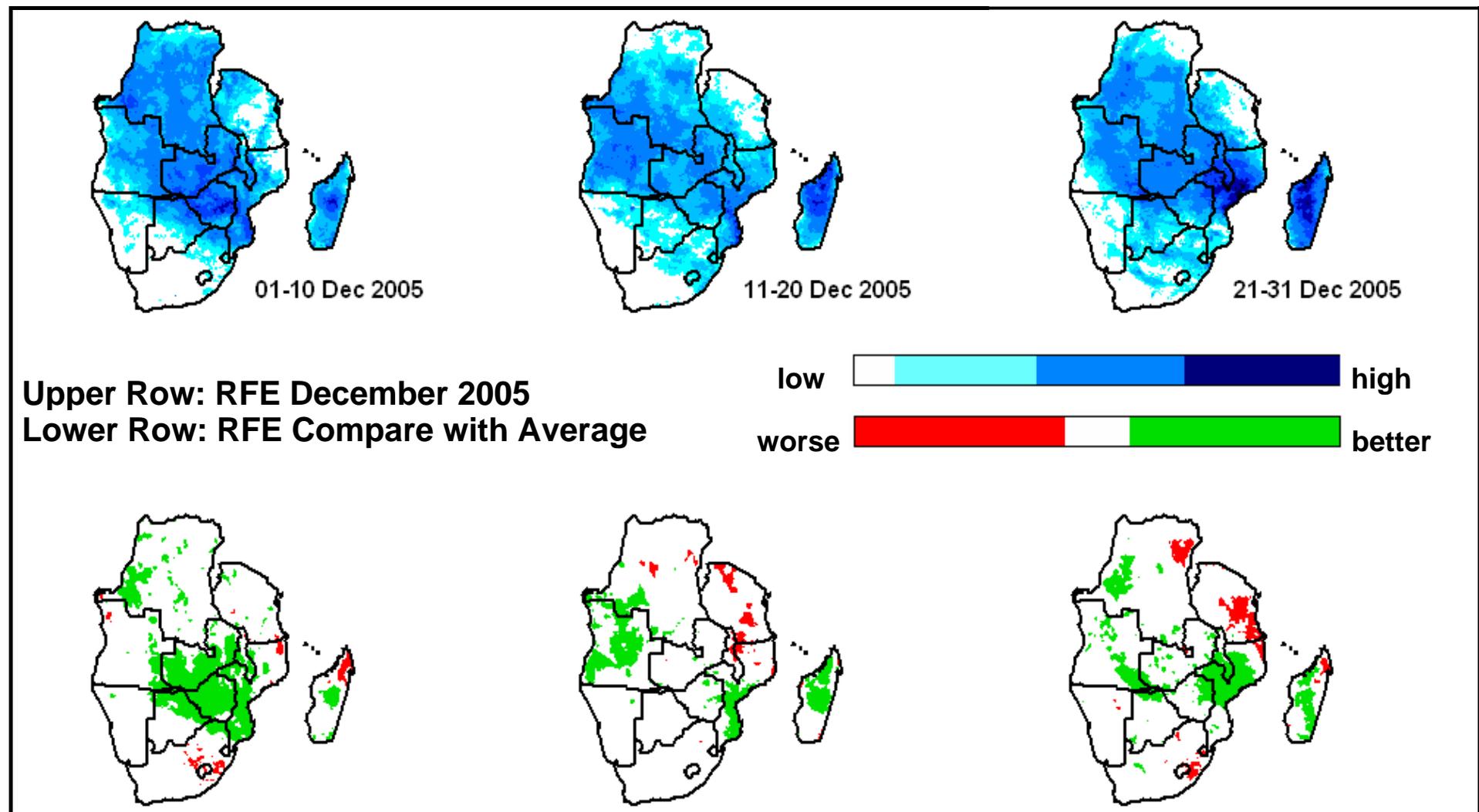
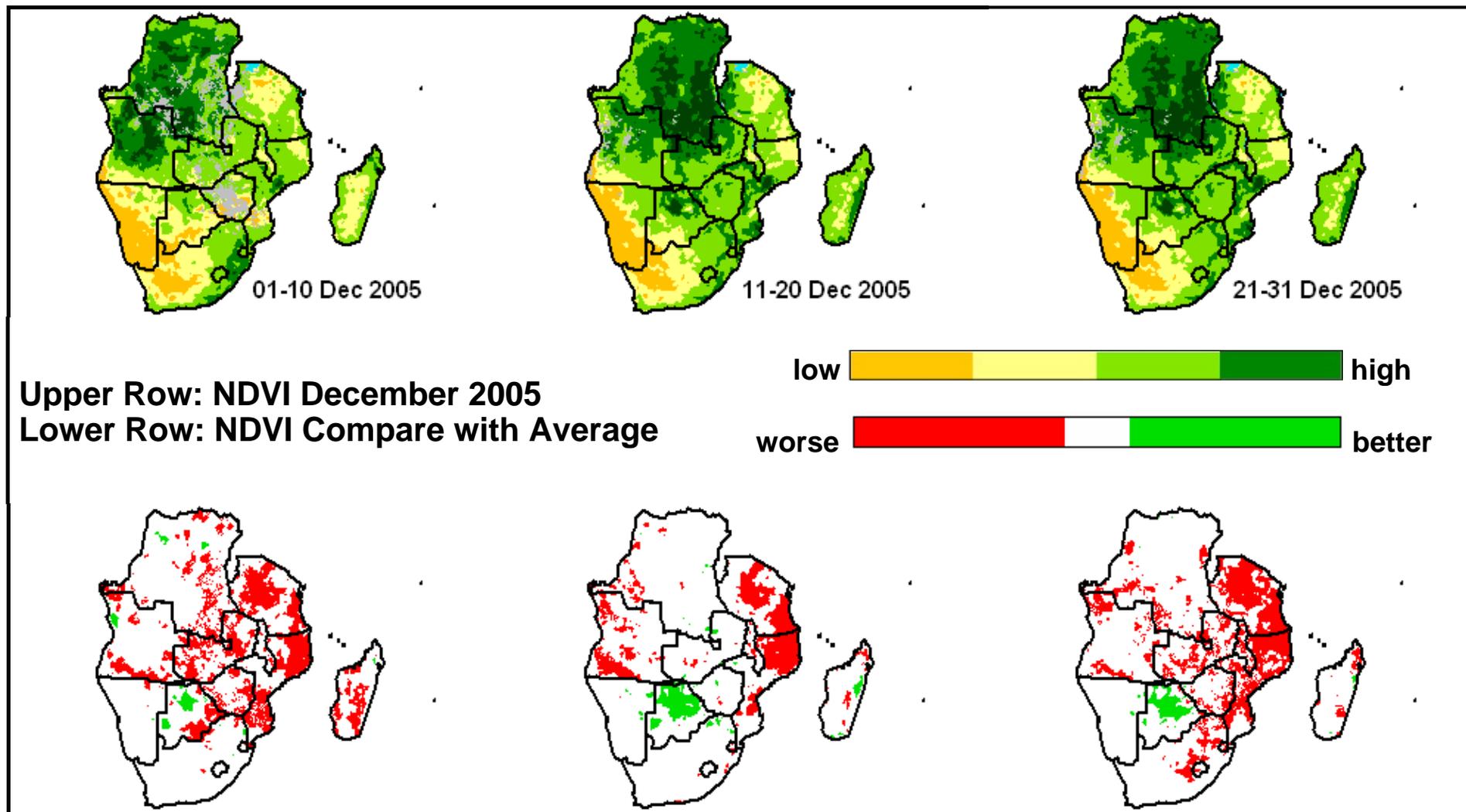


Figure 2.

Rainfall Estimates (RFE) images, December 2005 and difference from average
From left to right are Dekads 1 (1-10 Dec), 2 (11-20 Dec) and 3 (21-31 Dec)
Differences from average, lower row, are based on a 10-year average of 1995-1999



Upper Row: NDVI December 2005
Lower Row: NDVI Compare with Average

low high
worse better

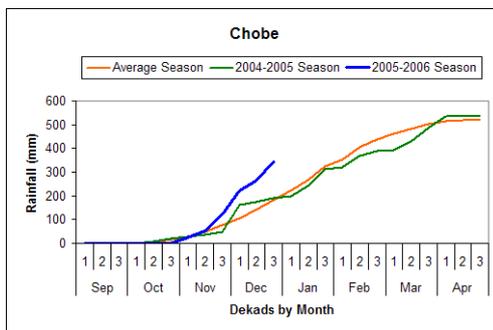
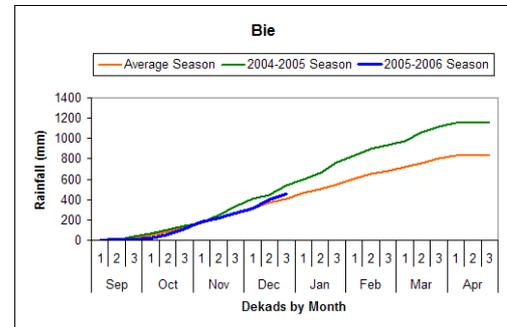
Figure 3. Normalized Difference Vegetation Index (NDVI) images, December 2005 and difference from average
From left to right are Dekads 1 (1-10 Dec), 2 (11-20 Dec) and 3 (21-31 Dec)
Differences from average, lower row, are based on a long term average of 1982-2003

Time series and country updates

A number of rainfall graphs are here presented with updates for SADC countries for which satellite and/or field information (provided by collaborating NEWUs) is available. The graphs are based on rainfall estimates (RFE) data and show a comparison with a 10-year (1995-2004) average for selected sub-regions of SADC, which can be administrative boundaries, watersheds, or agricultural areas.

Angola

Satellite imagery suggested that the country received widespread good rains throughout the month of December. Analysis of cumulative rainfall received shows that slightly above average rains have been received since September in most parts of the country, suggesting a good first half of the season in terms of rainfall performance. Cumulative rainfall graphs suggest that the Bie province (central Angola) received slightly above normal rains for the month.



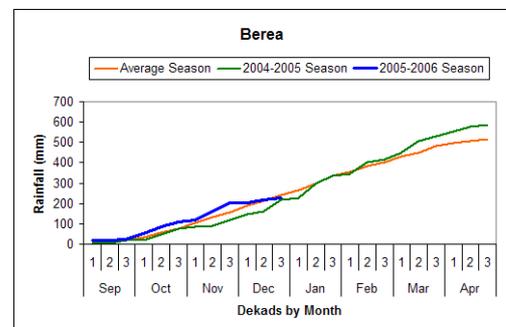
Botswana

Widespread rains were received in most parts of the country in the month of December, with higher amounts being registered in the northern parts. The first ten days of the month witnessed significant showers in the northern parts while the south-western parts were generally dry. The second and third dekad witnessed more widespread rains. The rains brought a significant improvement to pastures as vegetation condition generally picked up across the country. By the end of the month,

vegetation conditions were above average in most parts of the country, especially the northern and central parts. Cumulative rainfall graphs for Botswana's Chobe district in the north and the eastern parts of Tutume district suggest that well above average rainfall totals have been received so far.

Lesotho

Less than average rainfall amounts were received in December as the country witnessed generally dry conditions. Crops (maize and sorghum), which were at emergence to vegetative stages, were reportedly moisture stressed by the end of the month. Weeding was the major agricultural activity, particularly in the low-lying areas. High temperatures were expected to worsen crop condition as dry weather continued. Cumulative rainfall (September to December) was slightly above normal in Mokhotlong district in the east and Moshoeshe I (Maseru district) while the rest of the country registered below normal totals.

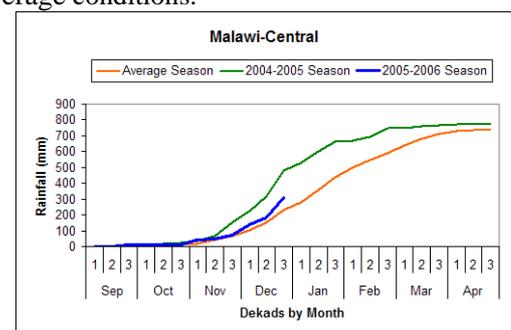


Madagascar

Satellite imagery suggested that the country received widespread moderate to heavy showers throughout the month, with the third dekad being the wettest. Analysis of cumulative rainfall totals shows that above average rainfall totals have been received in the central parts of the country. Vegetation conditions were generally near average, with a few areas of the east having above average conditions.

Malawi

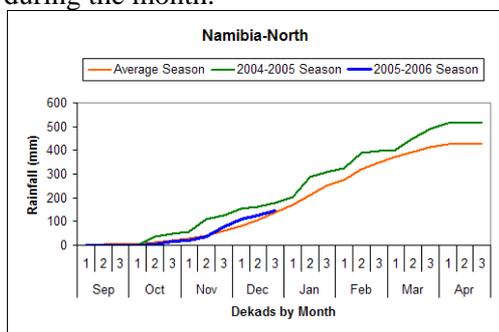
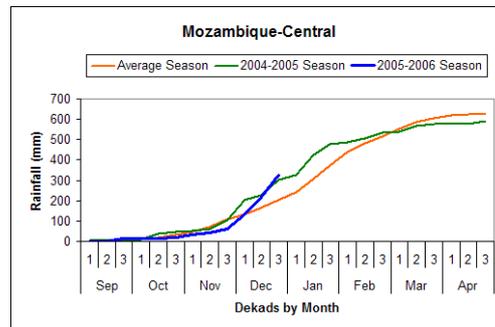
The country witnessed a significant increase in rainfall activity in the month of December. Rains were confined to a few areas in the first ten days of the month but amounts and distribution improved in the second and third dekads, with the third dekad being the wettest. Heavy and continuous rains were experienced in some areas particularly in the south, causing water logging and flash floods in Chikwawa and Nsanje districts during the last ten days of the month. There were reports of crops and livestock being washed



away and destruction of houses, rendering some farming families homeless. Reports indicated that farmers needed assistance for maize seed to replant after the floods. Land preparation, sowing and weeding were the major agricultural activities in the month. Cumulative rainfall totals received from October to December were normal to above normal for most parts of southern and central Malawi while the north received below normal rainfall amounts.

Mozambique

Significant showers were received in most parts of the country during the month of December. The third dekad saw heavy torrential rains in the northern and central parts of the country which resulted in flooding in some of these areas. There were reports of deaths and destruction of infrastructure (including homes) leaving some families homeless, mainly due to lightning and flooding. Hundreds of families also lost their crops due to flooding, and some replanting will be necessary. Cumulative rainfall graphs showed that well above average rainfall totals were received in the central parts of the country during the month.

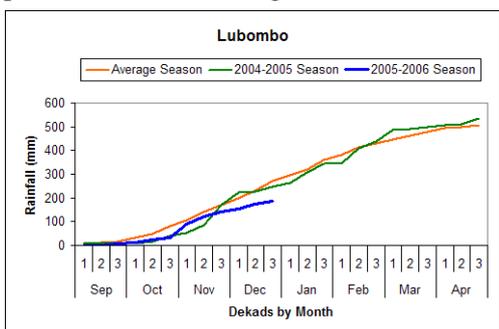
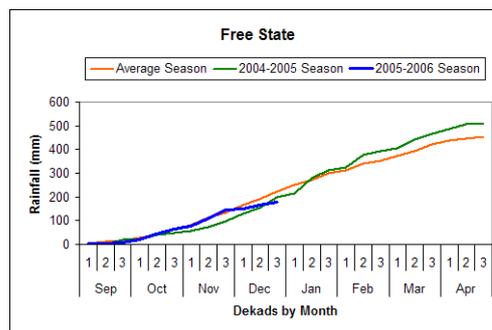


Namibia

The northern parts of the country received some good showers throughout the month, especially the Caprivi Strip. Cumulative rainfall totals (September to December) show that good rainfall totals were received, suggesting a good first half of the season. Vegetation conditions were slightly better than average at the end of the month and pastures benefited from the good rains received in the eastern and northern parts of the country in the month of November and December.

South Africa

The first ten days of the month were generally dry, with rainfall activity confined to the northern parts of the country. Some rain showers were received in the central and eastern parts of the country in the second and third dekads. The amounts received were below average for the Gauteng, Free State and Mpumalanga provinces. Analysis of cumulative rainfall total received since September shows that most parts of the country have received below average rains, including the highly productive maize triangle area.

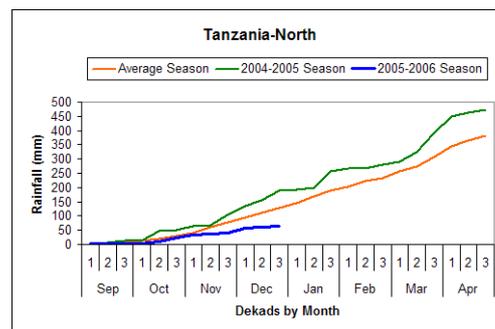


Swaziland

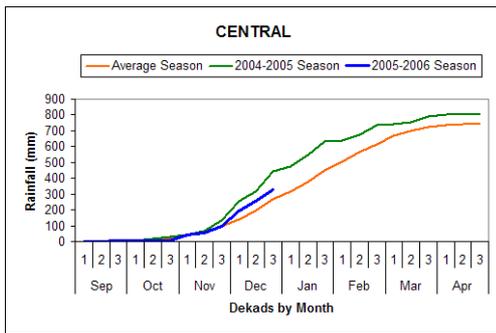
Some showers were received in the month but the total rains received were less than average. Accumulated rains received since the beginning of the season are below average, more so in the Lowveld where earth dams and rivers are in need of more water. Most of the maize crop countrywide was at early to mid vegetative stages. Crop condition was good except in some parts in the Lowveld where the continued dry conditions coupled with high temperatures caused some moisture stress. Land Preparation and sowing were the major activities in the month.

Tanzania

The month of December saw a continuation of the poor performance of the vuli rains. An early cessation of the vuli rains was observed as the bi-modal areas continued to receive little or no rains. Perennial crops such as bananas and citrus were reportedly moisture stressed. Maize yield prospects in the bi-modal areas are poor. The month also saw the commencement of seasonal rains in the unimodal areas, although the start was delayed in some areas. Land preparation and sowing were the major activities in the



unimodal areas, with crops reported to be at emergence stage in the southern parts of the country.



Zambia

The country received well distributed good showers throughout the month of December, marking a good end to the first half of the season. The first dekad was wettest, receiving well above average rainfall totals. Cumulative rainfall graphs for the Eastern, Central, Southern and Lusaka province show that above average rainfall totals have been received halfway through the season. Crops were reportedly at the emergence to early vegetative stages. Land preparation and sowing were still the dominant activities by the end of the month.

Zimbabwe

Significant and well distributed showers were received throughout the month of December. The first dekad was wettest, with most parts registering above average rainfall amounts. Analysis of cumulative rainfall total received since September shows that the northern parts had received above average rains by the end of December. Vegetation conditions were near average in most of the northern parts of the country. The maize crops were at the emergence to vegetative stages. Land preparation and sowing were still the dominant activities by the end of the month, although high input prices were reportedly slowing down some farmers.

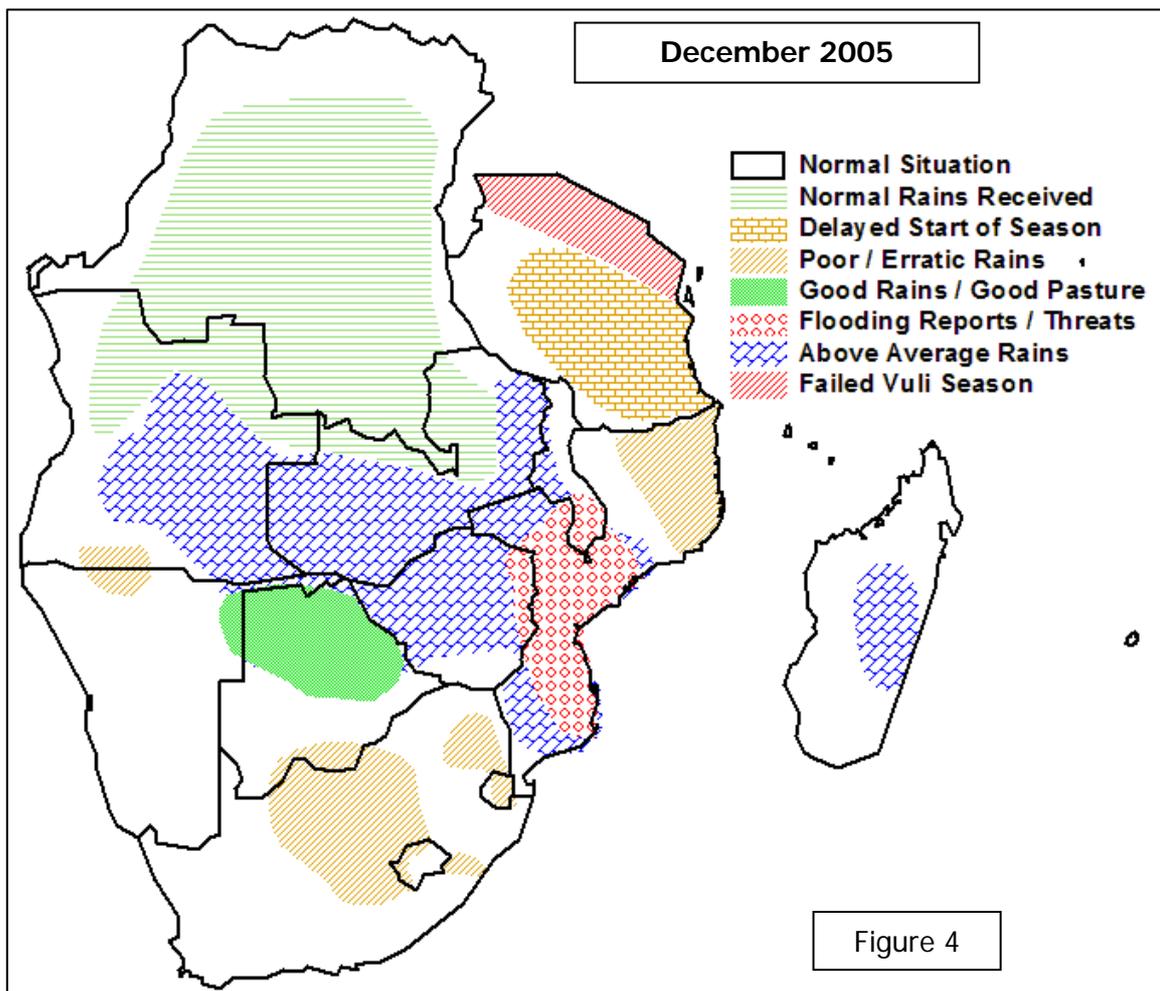
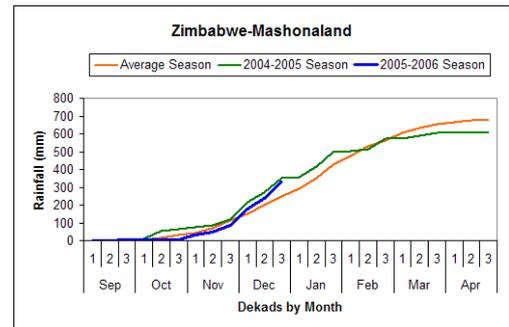


Figure 4