



REGIONAL FOOD SECURITY PROGRAMME

GROWING SEASON STATUS

Rainfall, Vegetation and Crop Monitoring



2006/2007 Issue 3

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Highlights

- **Good rainfall performance in the northern half of the SADC region, but poor rains in the southern parts by the end of January 2007.**
- **Dry spells have persisted in the southern parts of the region resulting in wilting of crops due to water stress.**
- **Vegetation Index images suggest normal vegetation development in most areas in except south central Mozambique, parts of South Africa and Swaziland.**
- **Persistent heavy rains resulted in widespread floods in Zambia, Malawi, Madagascar and central Mozambique.**

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Rainfall Performance

Rainfall estimates (RFE) (page 3) and ground reports indicate that good rains were received in the central parts of the SADC region in January 2007. During the first dekad, excessive rains were received in central eastern Mozambique and most of central Madagascar. Less rain was received over most of SADC in the second dekad, The south western parts of the region including coastal Angola and Tanzania, northern DRC, southern Zimbabwe and Mozambique, northern South Africa, Lesotho and Swaziland received very light to moderate rain. However, most of northern Madagascar and isolated coastal areas of Mozambique received the heaviest rains during the period under review. Rainfall performance improved significantly during the third dekad as moderate to substantial amounts of rain were received over most of Zambia, extreme southern Tanzania, northern Mozambique, northern half of Malawi, and Madagascar. Excessive localized rains which might have caused flooding were received in Angola, Zambia, central Malawi and northern Mozambique. The rest of the region was either dry or had light rains. Heavy rainfall was observed in northern Madagascar. Cumulative analysis of received rains from 1st September to January 31 as a percentage of average (figure 1) indicates that most parts in northern Democratic

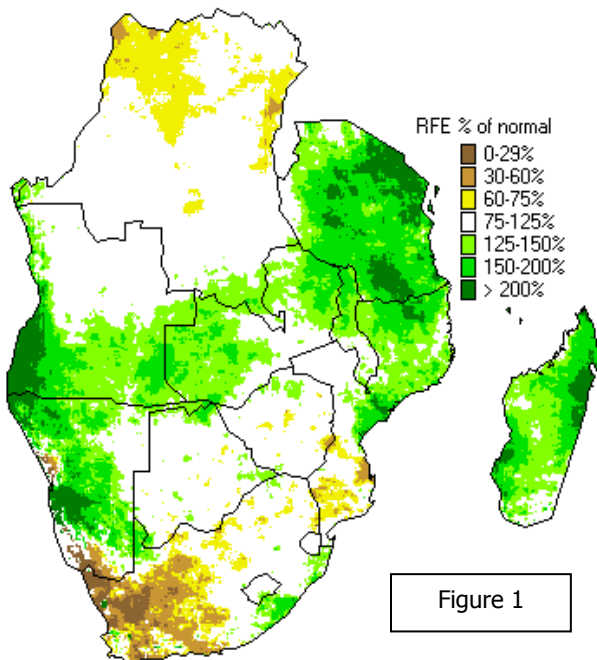


Figure 1

Republic of Congo, southern Mozambique and western half of South Africa had poor seasonal rainfall. Good rainfall totals were received in the rest of the region and excessive rains were received in Tanzania and central SADC region.

SADC Member States:

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

Published by: **Regional Remote Sensing Unit, FANR Directorate, SADC Secretariat**, Private Bag 0095, Gaborone, Botswana **Tel:** (267) 3611826 / 3951863 **Telefax:** (267) 3972848 **Website:** www.sadc.int

EDITORIAL

The Regional Remote Sensing Unit (RRSU) is pleased to present the third issue of the Growing Season Status Report for the 2006/2007 rainy season, covering the month of January 2007. 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 2006/2007 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.

Substantial amounts of rain covering southern eastern Angola, southern Democratic Republic of Congo, central Malawi, central and northern Mozambique, the Caprivi strip in Namibia, southern Tanzania and the northern parts of Zimbabwe were received during the period under review. The rains resuscitated crops where dry conditions had persisted during the month. 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, livestock and infrastructure. Parts of the Maize Triangle of South Africa, however, had good rains in the month.

Erratic rains continued over most of Botswana, northern Democratic Republic of Congo, Lesotho, southern Mozambique, Namibia, Swaziland, southern Zimbabwe, and South Africa during the entire month of January, however, some of the parts that experienced the erratic rains do not grow much cereal crops.

*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 January 2007 indicate that there was an improvement in the vegetation conditions as the vegetation responded to the good rains in different parts of the SADC region in January. Vegetation conditions appeared to be very good in most parts of Botswana and Tanzania throughout the month. Persistent cloud cover over western Angola, southern half of central Democratic Republic of Congo, most of Zambia, Malawi, southern Tanzania and Zimbabwe throughout the three dekads of January makes it difficult to judge the full extent of vegetation development in these areas. Vegetation, including pastures, conditions had improved in these areas owing to the good rains (excessive, in some cases) received in these parts of the region.

Regional Floods and Dry Spells Situation

As the season progressed into January, dry spells were observed especially in the southern half of the region. Crops in Botswana, Lesotho, Swaziland, southern Zimbabwe and southern Mozambique showed symptoms of severe water deficiency by the end of the month. In addition, livestock, although a small percentage, were being negatively affected and in Zambia, some were succumbing to the drought conditions.

Angola, western and eastern Zambia, southern Tanzania, central Mozambique, Madagascar and central Malawi experienced prolonged heavy rains which resulted in localized flooding. The excessive rains that impacted negatively on crops were received during the third dekad of January. The floods resulted in loss of lives, displacement of people, damaged infrastructure, dead livestock, loss of crops, as well as leaching of soil nutrients. Government mitigation teams in different countries were deployed in affected areas to carry out disaster mitigation and response activities.

The water level of the Zambezi river is rising and being monitored by the Zambezi River Authority.

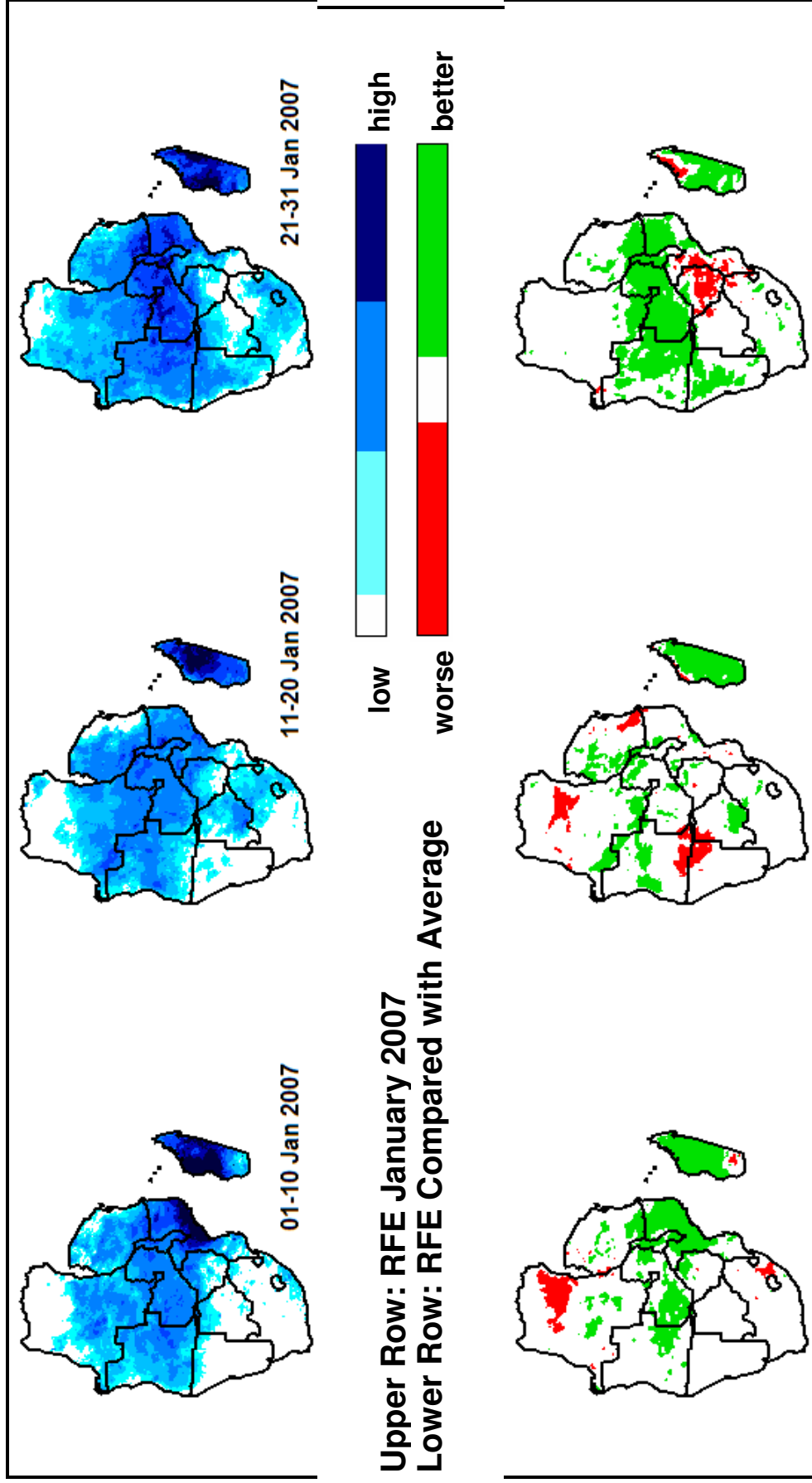


Figure 2.

Rainfall Estimates (RFE) images, January 2007 and difference from average
From left to right are Dekads 1 (1-10 Jan), 2 (11-20 Jan) and 3 (21-31 Jan)
Differences from average, lower row, are based on a 10-year average of 1995-2005

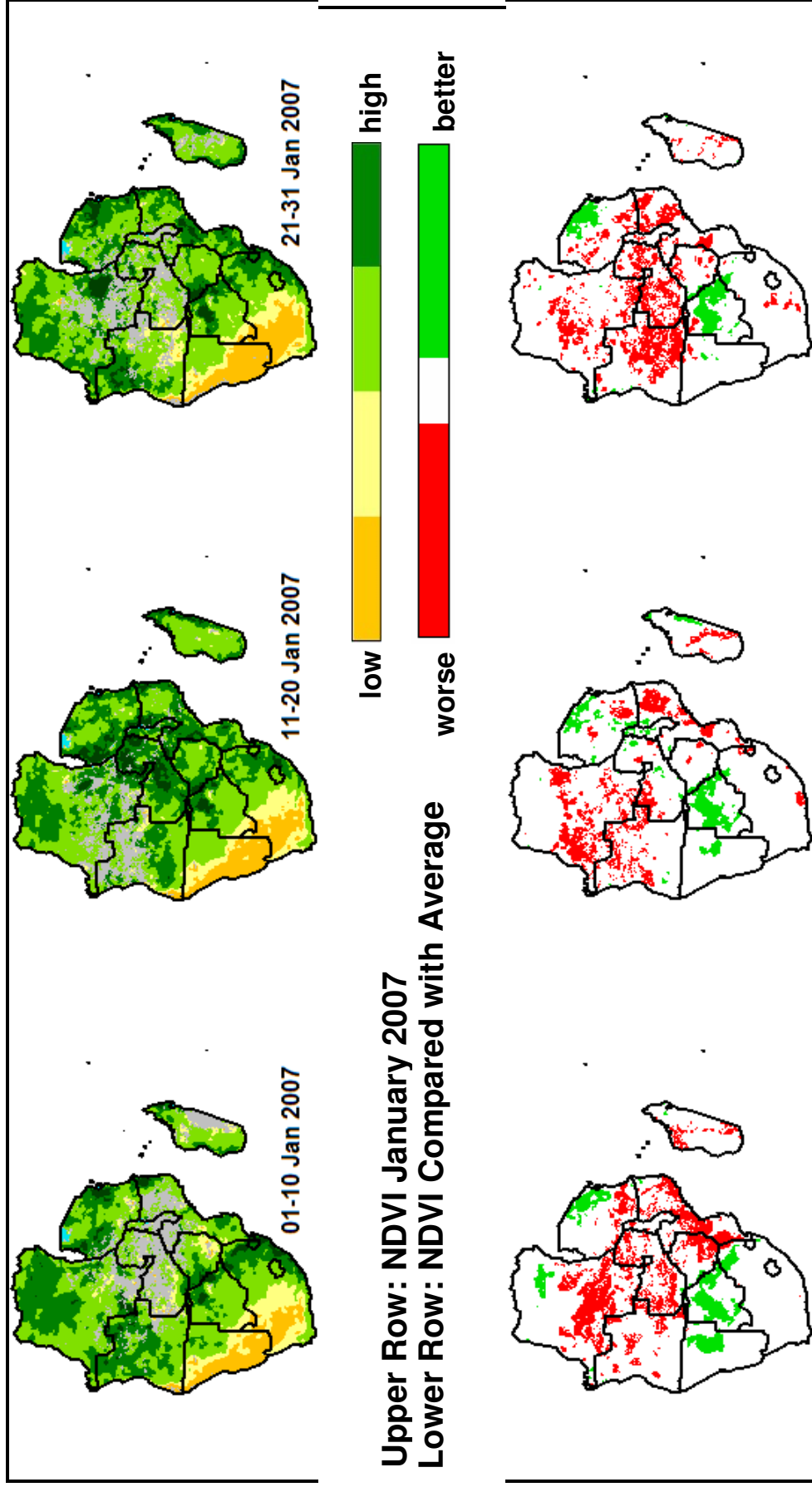
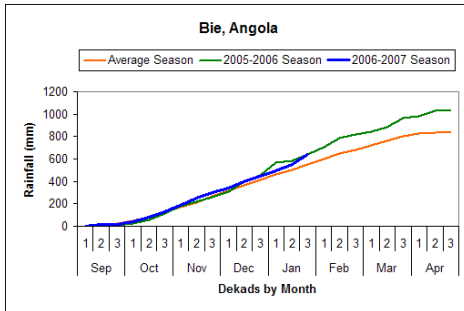


Figure 3.

Normalized Difference Vegetation Index (NDVI) images, January 2007 and difference from average
From left to right are Dekads 1 (1-10 Jan), 2 (11-20 Jan) and 3 (21-31 Jan)
Differences from average, lower row, are based on a long term average of 1982-2006

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 an 11-year (1995-2006) average for selected sub-regions of SADC, which can be administrative boundaries, watersheds, or agricultural areas.

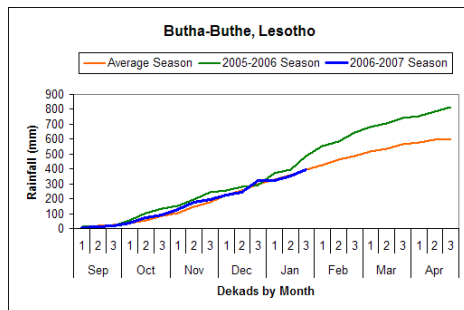
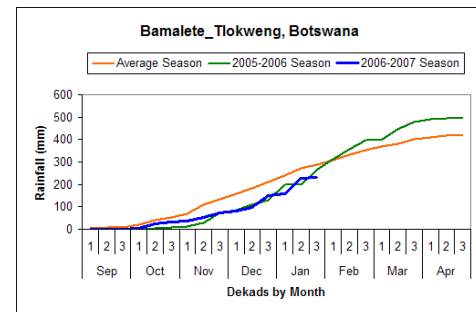


Angola

Satellite imagery suggested that the country received widespread good rains throughout the month of January 2007. Analysis of cumulative rainfall received shows slightly above normal rains for January 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 received above normal rains for the entire month of January.

Botswana

Below average rains were received in some parts during January while some isolated areas received near normal to above normal rains. The southern and eastern parts of Botswana experienced erratic rains during the first two dekads. Bobonong, which received high rainfall in December, received very little in January. Crops were at different vegetative stages and pastures and livestock conditions were still good due to the moisture levels sustained from December. Cumulative rainfall graph for Botswana's Bamalete_Tlokweg district indicated a rainfall season well below normal.



Lesotho

Well distributed rainfall amounts marked the onset of the season in October and farmers engaged in planting and other agricultural activities. Very high rainfall was experienced during the first and/or second days of November in some areas. In the lowlands, it led to water-logging, however, there were some dry spells after the heavy downpours that made the water over the fields recede quickly. Dry spells in November and December made germination of crops difficult. January was also dry. Notable dry spells were observed in the western parts of the

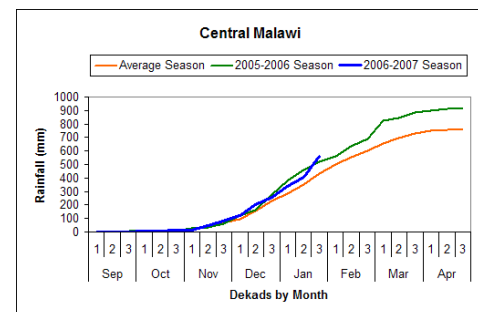
country with the longest dry spells (from December 25, 2006 to January 2007) in Mohale's Hoek and Mafeteng with less than 2.5mm of rainfall. Other parts observed dry spells ranging from ten to fourteen days. Crops were water stressed as high temperatures exacerbated the impact of the dry spells in Mohale's Hoek, Mafeteng, Maseru, Quthing and other areas. Cumulative rainfall (September 2006 to January 2007) suggested an erratic, but normalized season for Butha Buthe district.

Madagascar

Satellite imagery suggested that widespread heavy rains were received over the entire island of Madagascar, with the central parts receiving excessive rains throughout the month. The northern half received widespread heavy rains during the second dekad. The central coastal areas continued to receive substantial amounts of rain up to the last dekad of January. Vegetation conditions were generally near average, with a few areas of the east having better than average conditions.

Malawi

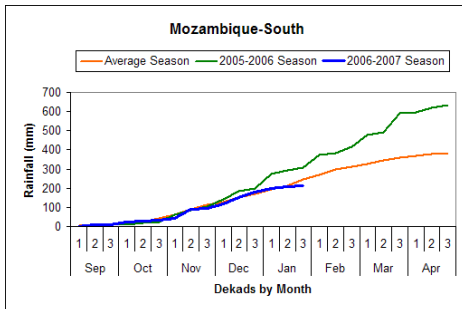
Widespread good rains were received throughout the month of January 2007. Moderate to heavy rains were received in the first and second dekads while above average rains were recorded in the third dekad. The good rains supported crop growth and development in many parts of the country. In some areas, however,



incessant heavy rains resulted in localised leaching of soil nutrients, flooding and water-logging. Floods were reported in Nsanje and Chikwawa in the south, Salima and Nkhotakota in the centre as well as Nkhata Bay and Karonga in the north. Crops were in good condition with the maize crop ranging from vegetative to flowering and cobbing stages. A good harvest production was being anticipated. Cumulative rainfall graph for central Malawi suggested above normal rains for the month of January.

Mauritius

Widespread substantial rains covered almost the entire island during the month of January. Except for northern Mauritius which received slightly below normal rainfall (95% of average), most of Mauritius received above normal rains for January (west - 103%, east -141%, south -143% and central -167% of average respectively). The rains benefited the sugar cane crop which had been affected by the dry spell in December 2006. As at the end of January, cane height was an average of 85.5 cm over the whole island, 12 cm higher than the corresponding period in 2006. The weather in January was in general conducive to cane growth.

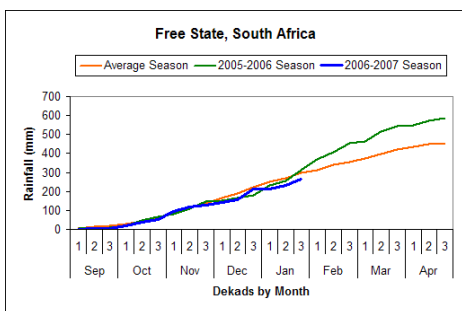
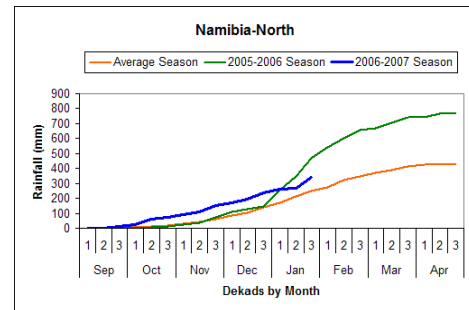


Mozambique

Northern and central Mozambique received substantial amounts of rainfall while erratic rains covered the southern parts throughout the month. The central parts received excessive rainfall during the first dekad while isolated light to moderate showers were recorded over southern Mozambique during the first dekad of January. Dry conditions in the southern parts persisted up to the end of the month. There were also excessive rains in isolated pockets in the northern parts. Crops in the major maize growing areas in the north ranged from emergence to vegetative stages. Replantings were on-going in the south due to erratic rains. In general, crops were in good condition and ranged from emergence to grain-formation

Namibia

The northern parts of the country received good showers throughout the month, especially the Caprivi Strip, with Katima Mulilo receiving the highest total rainfall. For almost the entire country, the first and second dekads were generally dry. Light to moderate showers were experienced during the third dekad; however, more than half the stations received below average rainfall for the month. Cumulative rainfall totals (September 2006 to January 2007) suggest an above normal rainfall for Namibia North.



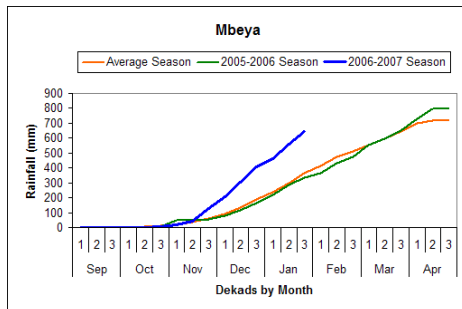
South Africa

Erratic rains were experienced over most of South Africa throughout the month. Dry conditions over the western half prevailed during the first two dekads. Light to moderate showers with isolated heavy rains were received during the third dekad. According to the Crop Estimates Committee, the area planted to maize this season (2006/07) is 2.68 million hectares (up by 67.6%) compared to last season (2005/06)'s 1.60-million hectares. Despite the erratic rains received in January, normal harvest was being anticipated. The increased area planted is due to conducive maize price currently being offered. Crop condition was good, however, most of the crops were at different pollination stages, which require normal temperatures and ample rain to produce above-average yields. Analysis of cumulative rainfall total received since September shows that most parts of the country, including the highly productive maize triangle area, have received just below normal to normal rains.

Swaziland

The month of January was mostly dry and where rains occurred, they were suppressed. The dry spells started in the last dekad of December and prevailed up to the end of January in some areas. In general, the

Highveld and wet Middleveld were slightly affected by the dry spells as water levels from the previous month sustained the crops. In some parts of the Dry Middleveld and the Lowveld, crops at tasseling, cobbing and a few at grain filling stages were succumbing to effects of heat and water deficiency. Elsewhere the effects of the dry spells were minimal. In general, most crops countrywide ranged from vegetative to tasseling stages. Analysis of cumulative rainfall for Shiselweni indicates prolonged dry conditions during the month of January.



Tanzania

The western half of the country continued to benefit from the widespread

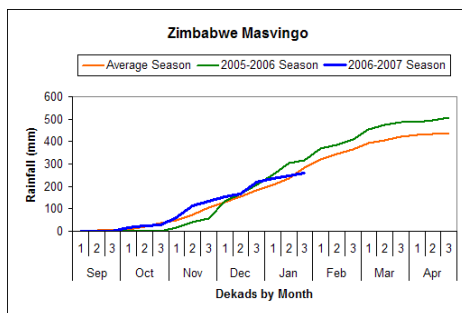
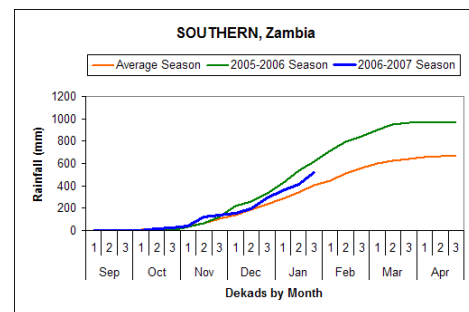
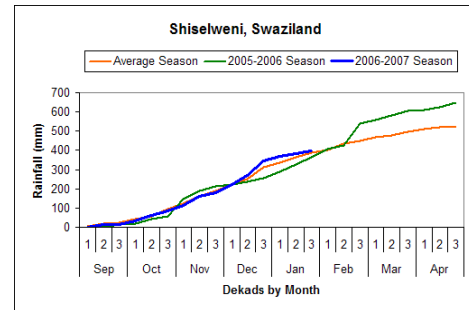
significant rains that

were received. Rainfall activity increased during January over much of the unimodal sector where some of the recording stations reported monthly rainfall amounts that exceeded 200 mm. (e.g. Songea - 319.0 mm, Tukuyu - 310.2 mm) However, the northern coast and north-eastern highlands of the bimodal

sector of the country remained relatively dry, with large areas continuing to receive little or no rains during this period, thus indicating cessation of short rains over this sector. Floods were observed in Mwanza urban in Mwanza region, Pawaga in Iringa region and Tunduru in Ruvuma region, where some infrastructures and crops were destroyed. Crops and pastures were in good condition. In spite of the floods, rainfall performance for the period was generally good and good harvest production was being anticipated. Cumulative rainfall graph for Mbeya suggests well above-average rainfall totals for the month.

Zambia

The entire country recorded normal to above-normal rainfall during the month of January. Torrential rains which started in December continued over most of the country swamping at least twenty-one districts, washing away houses, crops, infrastructure and forcing schools to be closed. The excessive rainfall also resulted in leaching of plant nutrients and submergence of crops. The rains brought relief to Lusaka and Southern provinces which had experienced prolonged dry conditions in December. Weeding and basal dressing fertilizer application continued to be the main agricultural activities. Crops were at the advanced vegetative to flowering stages. Cumulative rainfall graphs for Southern Zambia shows that above normal rains were received in January 2007.



Zimbabwe

Widespread moderate to heavy showers were confined to the northern districts of Mashonaland provinces and northern Manicaland during the month of January 2007. The southern half of Zimbabwe experienced erratic rains with heavy localized falls that occurred in a very short period time followed by an extended dry spell. In these areas, rainfall amounts were less than 20 mm over most places save for Kadoma where 70 mm was recorded. Fertilizer application and weeding were in progress, however, the fertilizer was rarely available on the market. Generally crops were in a fair condition even though in

some areas, the maize crop was yellowing due to nitrogen deficiency. Livestock were in good condition over the northern half of country while in the south they were in fair condition as pastures were not in abundance. The long dry spells in January coincided with the flowering and silking of the crop in some places, which might impact on total production and hence compromise the food security situation. The cumulative rainfall graph for Masvingo province suggests a normalized season for the cumulative period, although the graph also suggests a very dry January.

SITUATION MAP

