



# REGIONAL FOOD SECURITY PROGRAMME

## GROWING SEASON STATUS

### Rainfall, Vegetation and Crop Monitoring



2005/2006 Issue 5

February 2006

Release date: 20 March 2006

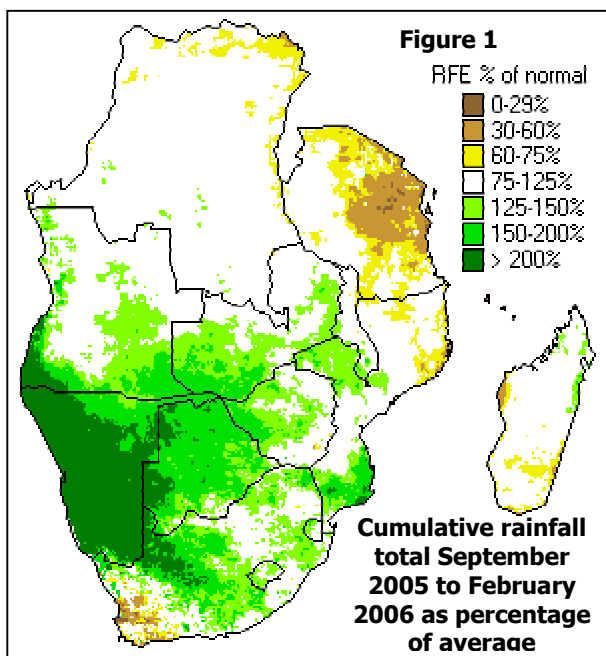
#### Highlights

- Analysis of rainfall performance shows that most parts of the region had received good rains by the end of February 2006
- Prolonged dry spells in parts of central and southern Malawi result in severe crop stress.
- More than 150% of the normal rainfall totals registered in Botswana and Namibia in January and February localized flooding problems reported.
- Parts of Huambo, Huila and Benguela provinces in Angola continued to experience prolonged dry spells

#### Contents

|  |       |
|--|-------|
| Editorial ...                                | Pg. 1 |
| Rainfall Performance / Season Development... | Pg. 1 |
| Rainfall Estimates ...                       | Pg. 3 |
| Vegetation Maps ...                          | Pg. 4 |
| Rainfall Time Series + Country Updates       | Pg. 5 |

### Rainfall Performance



Rainfall Estimates (RFE) [figure 2, page 3] and ground reports confirm that widespread rains were received in most parts of the region in the month of February 2006. Amounts received were more than average for significant portions of Botswana, Namibia, Zambia and South Africa. The second and third dekads saw an improvement in rainfall activity in a large part of Tanzania, particularly the south. Meanwhile parts of Malawi, eastern Zimbabwe and parts of central and southern Mozambique witnessed some reduced rainfall activity in the month. Dry spells were reported in parts of central and southern Malawi, in some parts starting as early as January. Amounts of cumulative rainfall since September 2005 are more than average for most parts of the region, more so for Botswana and Namibia, where amounts were more than 150% of the normal. These two countries had widespread significant rains throughout the month of January and February. This significantly improved water resources in both countries but also caused water-logging problems and localized flooding, particularly in Namibia.

#### 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](http://www.sadc.int)

**EDITORIAL**

The Regional Remote Sensing Unit (RRSU) is pleased to present the fourth issue of the Growing Season Status Report for the 2005/2006 rainy season, covering the month of February 2006. The RRSU acknowledges financial support from Member States 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](http://www.sadc.int)) and the Southern Africa Flood and Drought Network site ([www.sadc-hazards.net](http://www.sadc-hazards.net)), which is maintained in collaboration with FEWS NET.

Good rains were received in most parts of the region during the month of February, with significant amounts covering parts of Angola, Botswana, DRC, Namibia, South Africa, Zambia, and western Zimbabwe. In some parts of the region persistent rains drained hopes of a good harvest as leaching and water-logging were been observed. Parts of Malawi, south-eastern Zimbabwe and southern Mozambique witnessed drier weather in the month. For Malawi, crop failure resulted as dry spells persisted from January. Meanwhile, flash floods were reported in parts of Namibia and Botswana. These two countries have witnessed above average rains this season, particularly in the months of January and February. Water resources and pasture have been significantly improved following this wet spell.

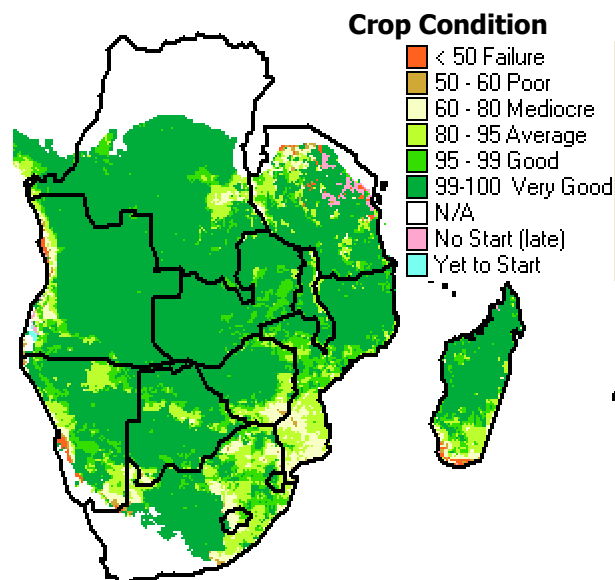
Tanzania witnessed an improvement in rainfall performance in the second and third dekads of the month, which brought some welcome relief to the drought affected parts of the country.

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.*

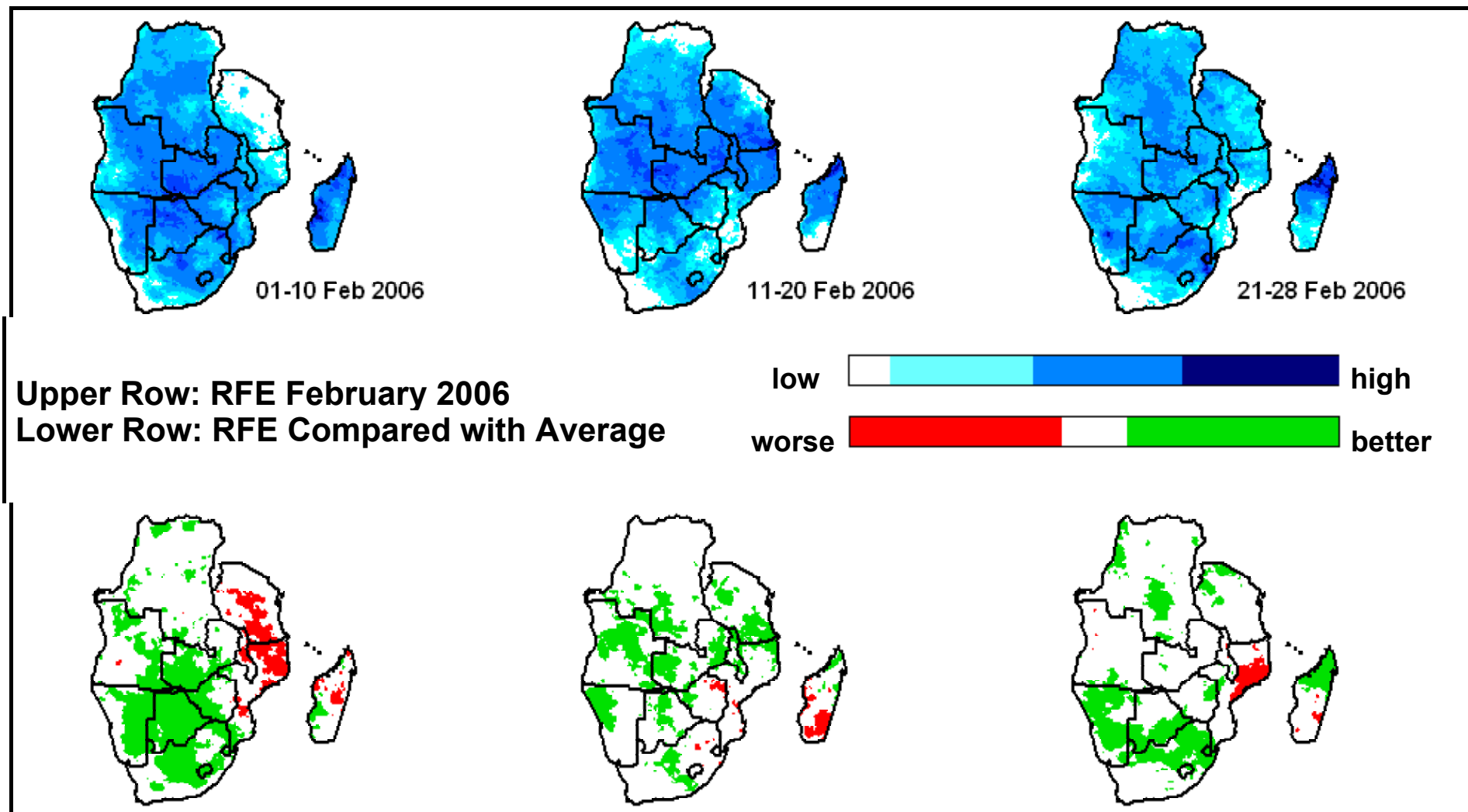
**Vegetation condition**

Normalized Difference Vegetation Index (NDVI) data for February 2006 indicate that vegetation development continues to benefit from widespread rains received in January and February. Vegetation conditions improved significantly from the end of January to the end of February, particularly in southern Tanzania, northern Mozambique, northern parts of Namibia and central parts of South Africa.

Most of Namibia, Botswana and central South Africa had well above average vegetation conditions during the month following a lengthy spell of widespread rains in these areas. Pasture conditions are satisfactory in these areas. In the rest of the region, normal vegetation conditions were noted, with the exception of northern Tanzania where vegetation is generally stressed as a result of the drought.

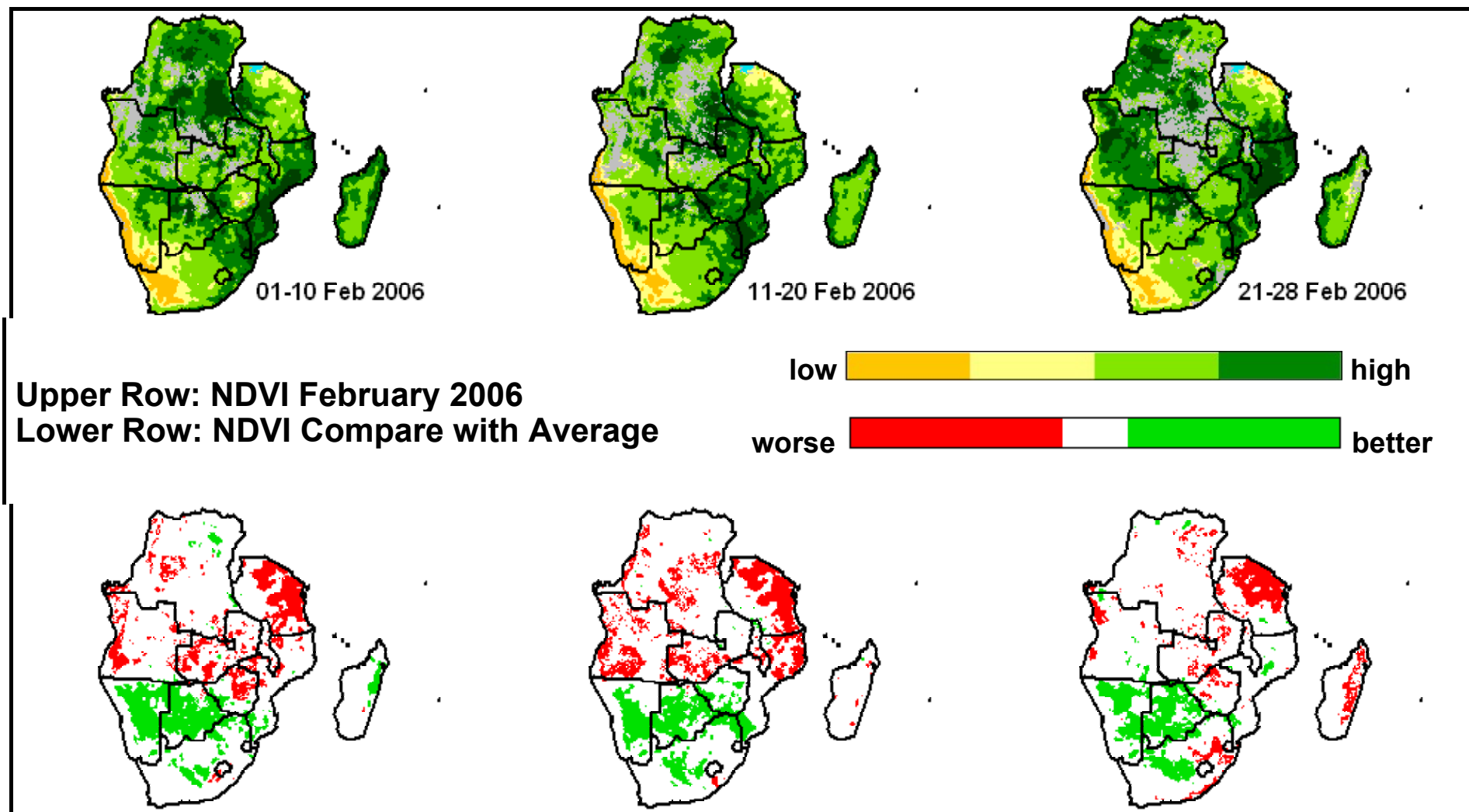


**Water Requirements Satisfaction Index (WRSI)** as at the end of February 2006 – The map above confirms that rainfall has not been the major limiting factor for the 2005/2006 agricultural season in most parts of the region. Only a few areas, i.e. parts of Malawi, southern Mozambique, south-eastern Zimbabwe, parts of South Africa and parts of Tanzania, have experienced dry spells that have negatively affected the maize crop.



**Figure 2.**

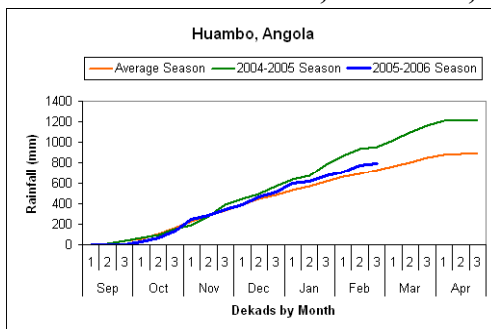
Rainfall Estimates (RFE) images, February 2006 and difference from average  
From left to right are Dekads 1 (1-10 Feb), 2 (11-20 Feb) and 3 (21-28 Feb)  
Differences from average, lower row, are based on a 10-year average of 1995-2004



**Figure 3.** Normalized Difference Vegetation Index (NDVI) images, February 2006 and difference from average  
From left to right are Dekads 1 (1-10 Feb), 2 (11-20 Feb) and 3 (21-28 Feb)  
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 presented here, with updates for SADC countries for which satellite and/or field information 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.



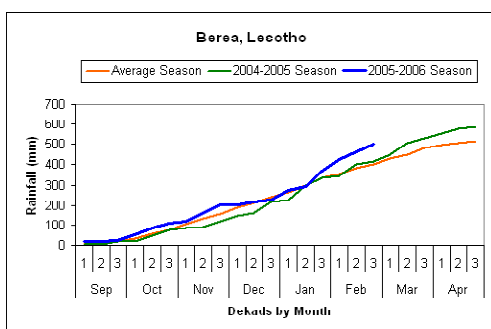
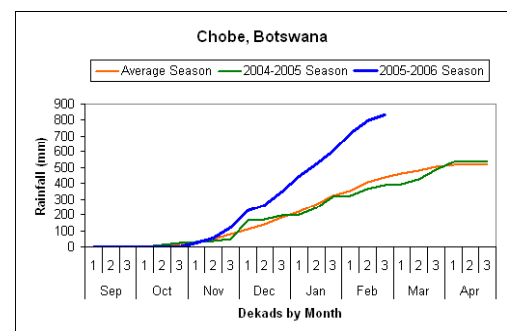
### Angola

Satellite imagery suggested that during the first dekad of February, the eastern parts of Angola received widespread rains. Moderate to significant rains were received over almost the entire country with the exception on the coastal areas. The southern half received moderate rains while some areas in the north-western half registered very little or no rain during the third dekad. Parts of Huambo, Huila and Benguela provinces continued to experience prolonged dry spells which started in

mid-December and prevailed into February 2006, resulting in crop stress. Crop assessments conducted in January confirmed that crops in these areas were severely moisture stressed. However, cumulative rainfall graphs suggest that the Huambo district received above normal rains during the month.

### Botswana

During the month of February, 2006, the whole country experienced normal to much above normal rainfall with good temporal and spatial distributions. Almost the entire country experienced widespread rains during the first dekad of February. The northern half received moderate rains while isolated showers were recorded in the southern half during the second dekad. The southern half recorded more rains than the northern parts in the third dekad. Significant amounts of rain continued in the north-eastern parts of the country with most districts recording way above normal rains. In general, crops ranged from flowering to maturity stages and were in good condition; however crops were stunted in some districts due to water logging and leaching as rains persisted. This might result in reduced yields in the affected areas. Cumulative rainfall graph for the Chobe district in north-eastern Botswana indicated a season much above normal from November 2005 to February 2006.



### Lesotho

Substantial amounts of rain were registered throughout the month of February. During the first and second dekad, above-normal rains were received throughout the country and these resulted in localized waterlogging and were likely to impact negatively on crops. The rainfall registered during the third dekad of February 2006 was far above normal dekad rainfall throughout the country, except in Quthing, where only 9.4 mm was recorded. However, the heavy rainfall was detrimental to crops in some areas as they were submerged. Most crops were

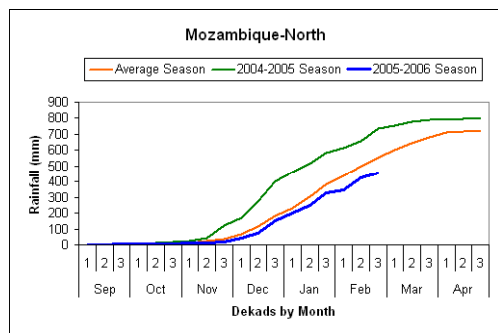
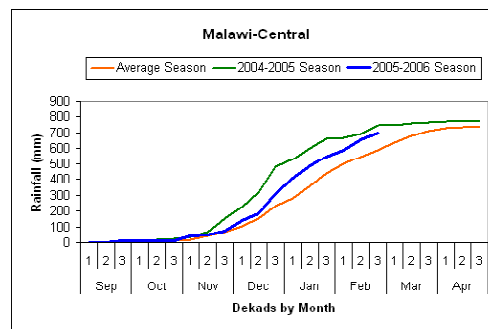
in good condition and ranged from tasseling to maturity stages but there was little improvement in terms of crop development for the crops in waterlogged areas. The main agricultural activities were mainly weeding of maize and preparing land for winter wheat, especially in the lowlands. Cumulative rainfall graphs for Bera district indicate an above normal season, though some dry spells were experienced back in December.

### Madagascar

Satellite imagery suggested that the northern half of the country continued to receive widespread moderate to heavy rains during the month of February. Central west Madagascar received the heaviest rains during the first dekad. The southern half was drier with some areas receiving little or none at all during the second and last dekads. Vegetation conditions were generally near average, with a few areas registering below average conditions.

### Malawi

Good rains favourable for crop growth and development were received in most parts of the country in the month of February. However, some localized dry spells were encountered in some districts. Affected districts include Rumphi, Mzimba, Karonga, Kasungu, Lilongwe, Mchinji, Dowa, Zomba and Nsanje. Kasungu was most affected with a dry spell persisting from January to mid-February. According to WFP, 2,250 hectares of maize and 341 hectares beans had reached permanent wilting point by mid-February 2006 and there were reports of crop failure in the district by the end of the month. Other crops such as tobacco and groundnuts had also started wilting but were being expected to revitalize after the rains in the third dekad. Third dekad rains brought some relief in Kasungu while the dry spell persisted in the lower Shire valley in the south. Crop condition was reportedly satisfactory in parts of the centre and south where some of the crop had matured and was drying. In the northern parts crops were reportedly at vegetative stages. Cumulative rainfall performance since 1<sup>st</sup> October 2005 indicates that as at end of February most areas in the north and central parts of Malawi had received below 75% of the expected cumulative rainfall.



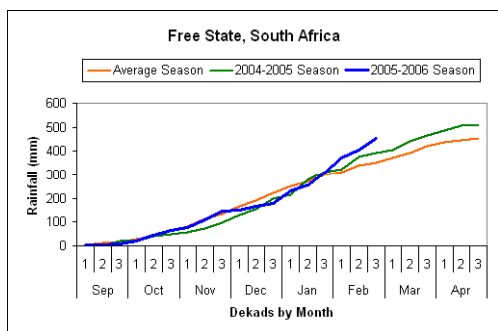
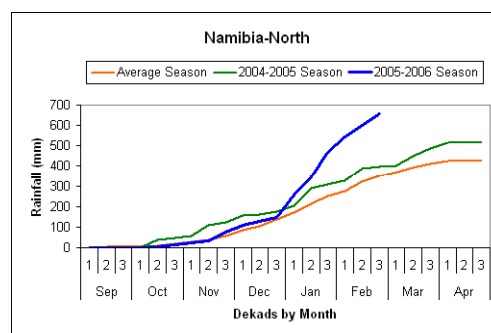
### Mozambique

For Mozambique, February was characterized by irregular and below normal rains which were insufficient to meet water requirements for most crops. The northern parts were generally dry during the first dekad but received moderate to heavy rains in the second dekad. During the same period, the central and southern parts received light showers to moderate rains. Most of the country was generally dry during the third dekad with the exception of some parts in the extreme southern and northern tips. In general, crops were in good condition in most parts of the country. Crop stages ranged from flowering vegetative to

maturity stages in the central and southern provinces, with different vegetative stages in the north. Livestock condition was good. Cumulative rainfall totals (September to February) for northern Mozambique indicate a slightly below average season.

### Namibia

Satellite imagery suggested that widespread rains were received during the first and third dekads of February over almost the entire country with the exception of the coastal areas. The southern half of the country was dry during the second dekad while the northern half received moderate to heavy rains. Namibia received above normal rains in most districts during the 2005/2006 crop growing season. Crops, livestock and pasture conditions improved significantly as well as general vegetation conditions. Good harvests were being anticipated. Cumulative rainfall totals (September to January) indicate that good rainfall totals were received, with rains being above normal this season.

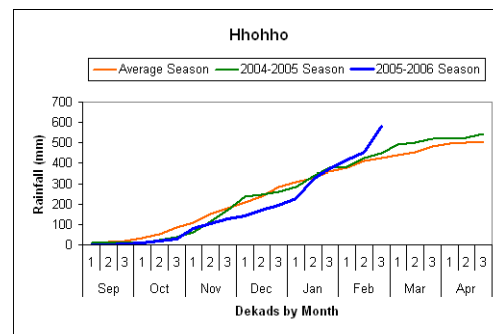


### South Africa

The first half of the month was generally dry, with rainfall activity confined to the northern parts of the country. The south-western part of the country was dry throughout the month with light to moderate rains being received. Heavy rains were registered over the maize growing areas. Analysis of cumulative rainfall total received since September for the Free State suggest normal rain totals by January and above normal totals by end of February. According to Enviro Vision, the approximate area planted is 1.7 million hectares with an expected RSA crop of between 5.95 and 7.09 million tons

### Swaziland

During the first dekad of February, the country received insignificant rains in most parts of the country while significant rains were only received in the north western parts of the Highveld. The lower Lowveld continued recording the least amount of rainfall resulting in crops showing symptoms of severe water stress. As the month progressed, low rainfall amounts were received. This was likely to aggravate the situation in some areas (especially Sithobela) where prolonged dry conditions had prevailed since January resulting in severe crop moisture deficiency. Given the time left to end of crop growing season, the affected crops were unlikely to recover. However pastures were doing well as they are more resilient than food crops. Cumulative rainfall graphs for Hhohho district indicate improving rainfall performance.

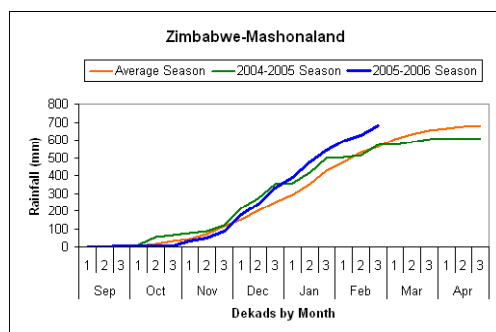
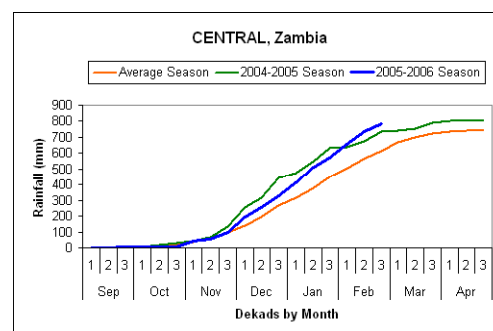


### Tanzania

During the second and third dekads, the observed soil moisture replenishment brought relief to field crops. Persistent dry conditions that impeded most agricultural activities and caused wilting of early planted crops over several areas particularly central and southern coast in the unimodal rainfall areas, and most of bimodal rainfall regime eased out. Over the western part of the country (Kigoma, Rukwa and Tabora west), the maize crop was in good state, ranging between earing and wax ripeness stages. Over several parts of the south-western highlands maize crop ranged from late vegetative stage to earing and was in moderate state. The crop was also reported to be in moderate state over few areas of Mtwara (Newala district) and Lindi regions in the southern coast. Over the bimodal rainfall areas, farmers continued with land preparations for the long rains (*Masika*) season, although reports from sampled stations indicate that planting of crops mainly beans and maize had started over a few areas in Ngara and Karagwe districts in Kagera region, Rombo in Kilimanjaro region and Pangani in Tanga region. Pastures and water supply for livestock has generally remained low over most of the central and north-eastern highlands areas.

### Zambia

During the month, most parts of country continued recording normal to above normal rainfall. The northern half of the country had widespread rains in the second dekad while the south had excessive rains which resulted in flash floods in some parts of Kazungula and Sesheke districts. There were some reports of army worm infestation in Sesheke district and surrounding areas which could negatively impact on crop yields in affected areas. In general, there was good crop performance country-wide and maize ranged from cob filling to maturity stages and the condition is fairly good. However, cotton and some leguminous crops in Magoye were in poor condition due to excessive rains while in Mwinilunga there were reports of cassava tubers rotting. Overall, a good harvest is being expected in the country. The cumulative rainfall graphs for the Central province indicate an above average rainfall season with well distributed rains.



### Zimbabwe

Significant rains were received over almost the entire country during the first dekad with the exception of Mutare district in Manicaland which was very dry. The north-western half of the country continued to receive substantial amounts of rains. Torrential rains were received in Matabeleland during the first dekad and these washed away crops dampening the hope of a bumper harvest in Matabeleland at the end of the growing season. For the eastern half, light showers were recorded over most areas while others recorded no rain at all. During the third

dekad, light showers to moderate rains were received with the heaviest being registered in the north-eastern parts of the country. Masvingo province experienced declining rainfall. In most areas, maize crops ranged from flowering to maturity stages and were in fairly good condition while in some areas crops were affected by too much rain that leached all the soil nutrients.

SITUATION MAP

# Status of the 2005/2006 Growing Season February 2006

