

# REGIONAL FOOD SECURITY PROGRAMME

## GROWING SEASON STATUS

### Rainfall, Vegetation and Crop Monitoring



2005/2006 Issue 6

March 2006

*Release date: 26 April 2006*

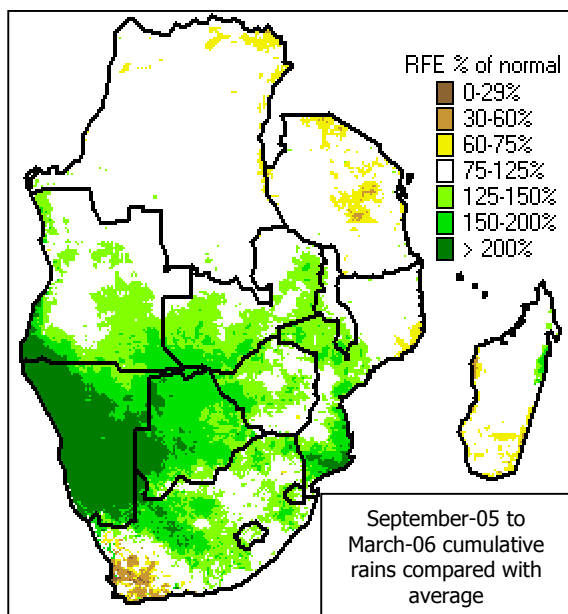
#### Highlights

- **Analysis of rainfall performance shows that most parts of the region had received good rains by the end of March 2006.**
- **Heavy rains caused soil saturation in northern Mozambique southern Malawi and north-eastern Zambia in March resulting in localized flooding.**
- **The onset of long rains in Tanzania's bimodal areas timely.**
- **The food security prospects at both national and regional level certain as good rains persist.**

#### 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 analysis for the month of March shows that above average rains were received in most parts of the region. In the first ten days of the month, widespread rains were received in Malawi, Mozambique, Zambia, Zimbabwe, Tanzania and eastern DRC. Lower amounts were received in Angola. Most of Namibia, Botswana and South Africa were dry in this period. The second dekad saw widespread but moderate rainfall amounts being received in most parts of the region, with the exception of north-eastern Zimbabwe, parts of central Tanzania and southern Mozambique. Angola, DRC and Tanzania had widespread good rains in the third dekad of the month while lower amounts were registered in the rest of the region. Parts of southern Zambia, southern Zimbabwe, eastern Botswana and southern Mozambique were largely dry during this period. Total cumulative rainfall amounts for the season are above average for most parts of the

region, particularly for Botswana and Namibia where rains have significantly improved pasture and water resources. Tanzania is the only exception but there are indications that the rainfall situation is improving in most parts of the country.

#### 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 sixth issue of the Growing Season Status Report for the 2005/2006 rainy season, covering the month of March 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.*

*Although most parts of the region witnessed a general decrease in rainfall during the month of March, which is consistent with the approaching conclusion of the rainfall season, above average amounts were received in significant portions of the region. This kept alive the hopes of a good harvest for those who planted late. Botswana, Namibia and large portions of South Africa were largely dry in the first ten days of the month, which could have been seen as a breather for Botswana and Namibia following some long wet spells in February. Rainfall activity picked up in these countries in the second and third dekads of the month. Some areas, including central Malawi, eastern DRC, northern Madagascar and central Mozambique, received heavy rains in the first dekad of the month which led to some localized flooding in some of the affected areas.*

*Tanzania, reeling from the effects of a drought that started towards the end of last year, got some welcome widespread rains in the month of March. These rains will bring much needed relief and will improve water resources in the country and also improve vegetation conditions.*

*They were signs of developing drought conditions in the southern parts of Madagascar, which were largely dry in the month of March. March estimated rainfall totals were significantly lower than average in this area.*

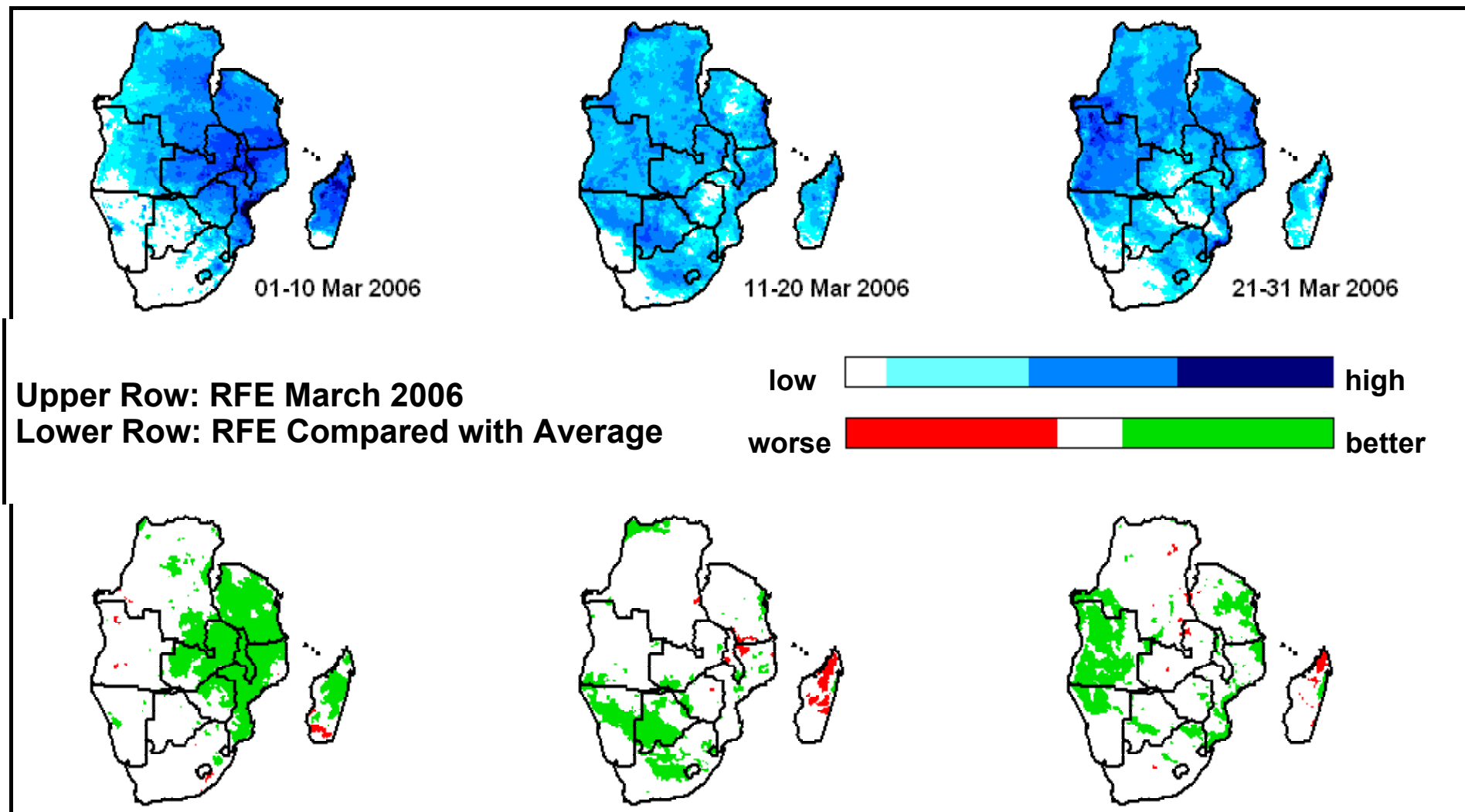
*The focus of this bulletin is primarily at the regional level. However, any information available has been included in this report. For more detailed sub-national analysis, readers should **consult the national meteorological agencies and food security early warning units.***

**Vegetation condition**

Normalized Difference Vegetation Index (NDVI) data (Figure 3 on page 4) for March indicate that most areas of southern Africa continued to enjoy above average vegetation conditions. Above average conditions were noted in almost all areas with the exception of northern and central Tanzania which are still showing the effects of the drought that started towards the end of last year. Parts of Mozambique, Angola and northern Zambia also showed below average monthly vegetation conditions. Countries whose vegetation benefited more from widespread good seasonal rains include Botswana, Namibia, South Africa and Zimbabwe. Significant portions of these countries showed significantly above average vegetation development and pastures in these countries are reported to be very good. Southern Mozambique, Lesotho, southern Zambia, western DRC also showed above average vegetation conditions. The rest of the region had average vegetation conditions.

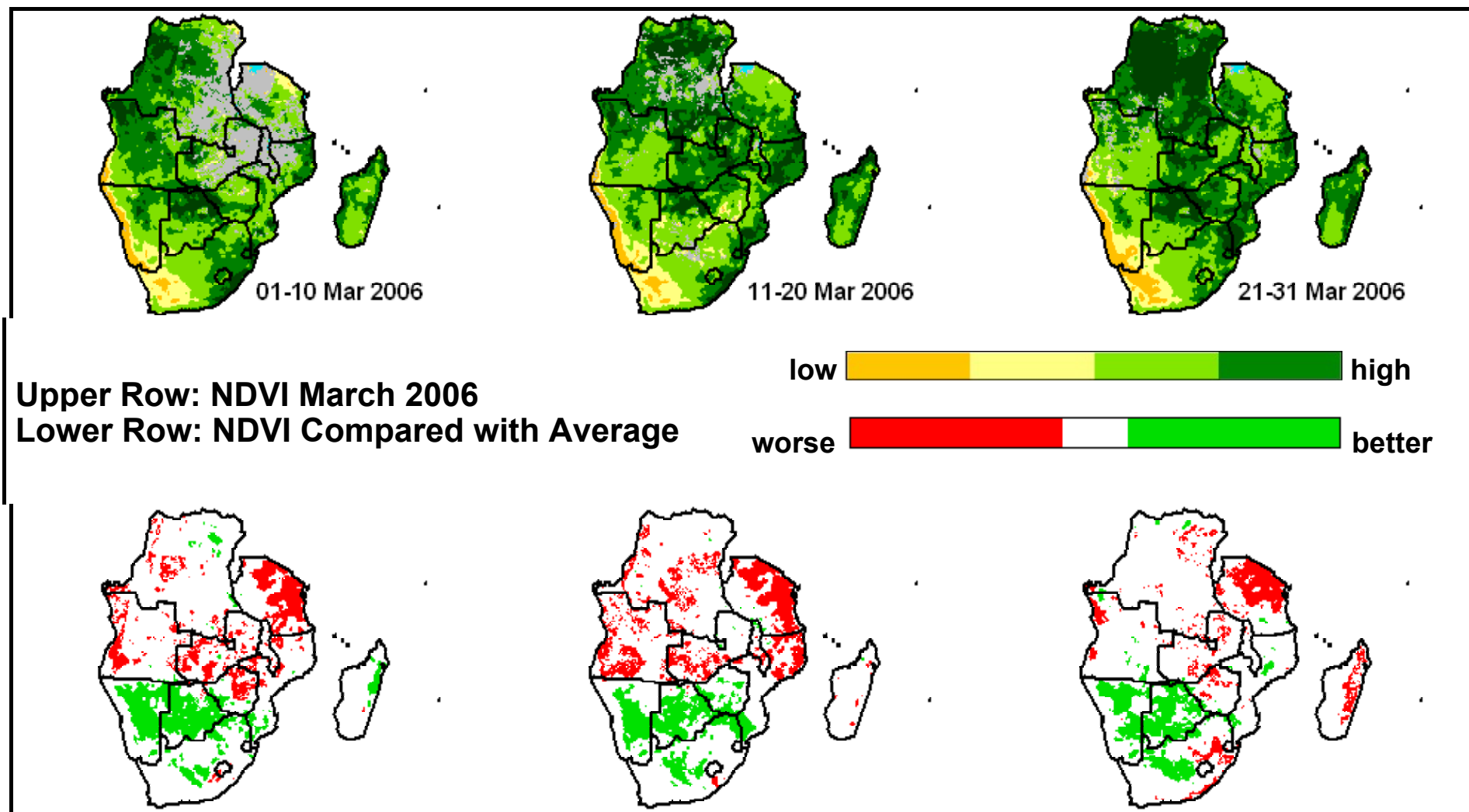
**Floods / Drought:** The 2005-2006 has generally witnessed higher than average rainfall performance in most parts of the region. While this has been a blessing to most farmers in the region, who rely on rainfall for most of their agricultural activities, some communities have suffered significant losses due to flooding, water-logging and leaching of soil nutrients. Reports from Zambia indicate that the Ngwezi and Zambezi rivers got flooded in March leading to some evacuations in the districts of Kazungula and Sesheke, involving several hundreds of people. Flooding was also reported in parts of Malawi, central Mozambique and eastern DRC where incessant rains were also received.

Meanwhile, dry spells and drought have also led to problems in some parts of the region. Tanzania suffered a failed *Vuli* season and Angola suffered the effects of poor December rains in the province of Cunene where food security problems have been reported. Other areas affected by dry spells this season include central and southern Malawi and parts of eastern Zimbabwe.



**Figure 2.**

Rainfall Estimates (RFE) images, March 2006 and difference from average  
From left to right are Dekads 1 (1-10 Mar), 2 (11-20 Mar) and 3 (21-31 Mar)  
Differences from average, lower row, are based on a 10-year average of 1995-2004



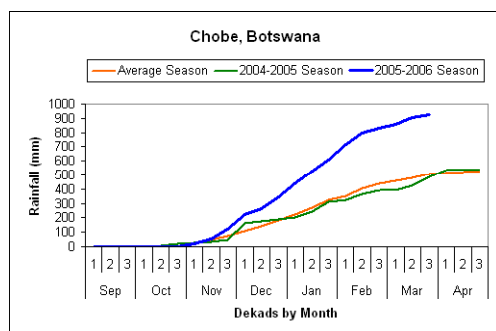
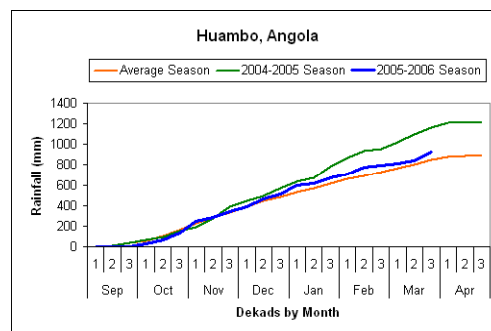
**Figure 3.** Normalized Difference Vegetation Index (NDVI) images, March 2006 and difference from average  
From left to right are Dekads 1 (1-10 Mar), 2 (11-20 Mar) and 3 (21-31 Mar)  
Differences from average, lower row, are based on a long term average of 1982-2003

## 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 good seasonal progression for most of Angola up to the end of March. The western half of the country was dry during the first dekad. The eastern half of the country experienced widespread moderate rains. Light showers to moderate rains were experienced during the second dekad. The country witnessed widespread heavy rains in the 3<sup>rd</sup> dekad of the month. Parts of Huambo, Huila and Benguela provinces received rains that relieved the prolonged dry conditions experienced in previous months. There were reports of food insecurity in the southern province of Cunene, mainly resulting from crop failure because of poor rainfall performance in December 2005. More than 260,000 people were reportedly affected. Cumulative rainfall graphs suggest that the Huambo district received above normal rains during the month.



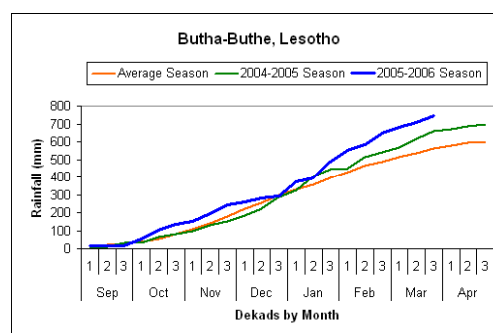
### Botswana

Satellite imagery shows moderate amounts of rainfall in the extreme northern parts of the country during the first dekad. The southern half received moderate to substantial amounts during the second dekad. The heaviest rains were received in the Ghanzi and Kgalagadi provinces during the third dekad. The rest of the country received light showers to moderate rains. Pasture and livestock conditions continued to improve. In general, crops had reached maturity stages and were in good condition. In some districts, crops were stunted due to water logging and leaching as

above normal rains persisted. This might compromise the harvests in the affected districts. Cumulative rainfall graphs for the Chobe district in north-eastern Botswana indicate above average rainfall performance from November 2005 to March 2006.

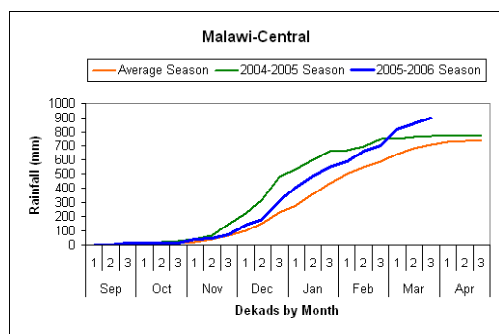
### Lesotho

In general, widespread heavy rainfall across the country continued into March resulting in all parts of the country receiving sufficient rains. The well distributed moderate to heavy rainfall brought relief to some farmers who had received little or no rainfall since the beginning of December 2005. As the wheat harvesting progressed, there were cases of crop damage and germination due to heavy rainfalls being experienced. The late planted crop in the Highlands was affected by early frost. Maize and sorghum ranged from grain filling to ripening stages. The drought conditions experienced during the start of the season affected livestock reproduction as well as wool production and mohair. Pastures improved due to moderate to heavy rainfall received. The delayed planting and early frost might compromise harvests in Lesotho. Cumulative rainfall graph from September 2005 to February 2006 for Berea district indicates an above normal season.



### Madagascar

Satellite imagery suggested that the northern two thirds of the country received widespread moderate to high amounts of rainfall during the first dekad of the month. Extreme eastern and coastal parts received the heaviest rains throughout March. The southern half was drier with some areas receiving little or no rainfall at all during the month. Poor rainfall performance in the south may lead to shortage of water resources. Vegetation conditions were generally near average, with a few areas registering below average conditions.



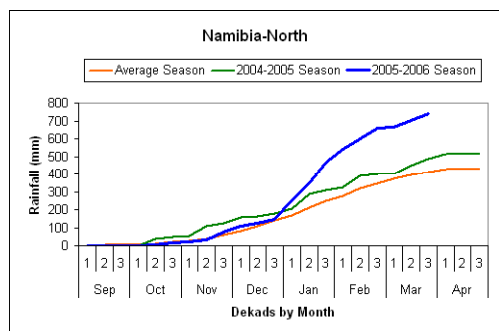
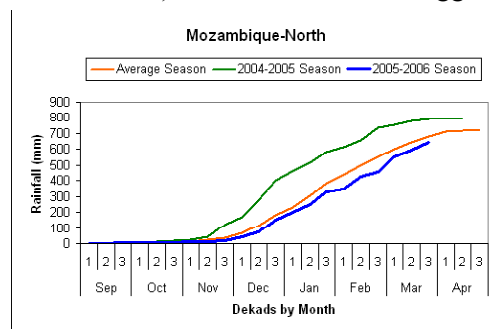
**Malawi**

Central Malawi received substantial to very heavy amounts of rainfall during the first dekad which caused flooding and washed away crops in some parts. Good rains favourable for crop growth and development were received in the northern parts of the country in the month of March. Light to moderate rainfall that was received over most areas during the second dekad maintained soil moisture and supported planting, growth and development of tuber crops. As incessant rains persisted during the month, they continued adversely affecting the matured crops

particularly in the south and some parts of central region where most crops had reached maturity, drying and harvesting stages. Light rains encouraged flood waters in Salima (central Malawi), Mangochi, Machinga and Ntcheu to recede. On the other hand, the rains received over most areas maintained soil moisture and supported planting, growth and development of tuber crops. Maize in the north was reported to be between flowering and maturity stages. Cumulative rainfall graphs (September to March) for central Malawi suggest an above normal season.

**Mozambique**

Almost the entire country except for a few extreme isolated southern areas experienced substantial amounts of rainfall during the first dekad. The heaviest rains were recorded over eastern central Mozambique. Significant rains were also received over the north eastern parts as well as isolated parts of the central and southern parts of Mozambique during the second and third dekads. In the northern areas, crops, livestock and pasture conditions continued to improve with pastures being expected to sustain livestock for the entire year. In general, crops ranged from flowering to maturity stages. The cumulative rainfall analysis (RFE graph) suggests that the 2005/2006 season was just below normal for northern Mozambique.



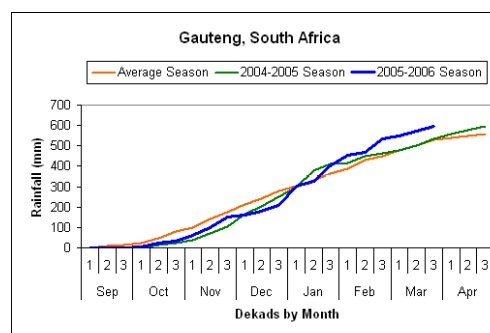
**Namibia**

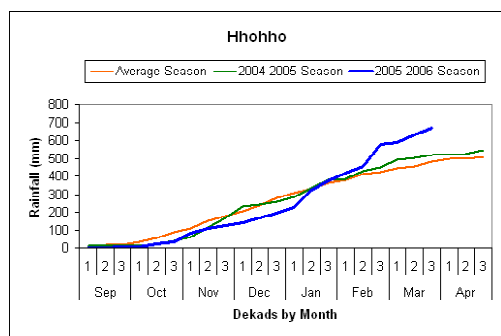
Satellite imagery suggested that widespread rains were received throughout the month of March in the northern parts of the country with the exception of the coastal areas. Heavy widespread rains over much of the country have raised prospects of an improved harvest in all the crop producing regions. However, excess rains during the month have also resulted in flooding, water logging, and nutrient leaching in some areas, which could reduce crop yields. The southern half of the country was dry during the month. It is anticipated that rains continue

especially in the northern central regions (Omusati, Oshana, Ohangwena and Oshikoto) regions where the start of agricultural season was delayed. 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 graphs (September to March) for northern Namibia suggest a way above normal season.

**South Africa**

The first dekad of the month was generally dry, with rainfall activity confined to isolated northern parts of the country and Kwazulu/Natal province. During the second dekad, light to moderate showers were received over the Free State while little or no rainfall was received elsewhere. The northern half received light showers to significant rainfall during the third dekad of March. Analysis of cumulative rainfall total received since September for Gauteng suggests a good second half of the season.



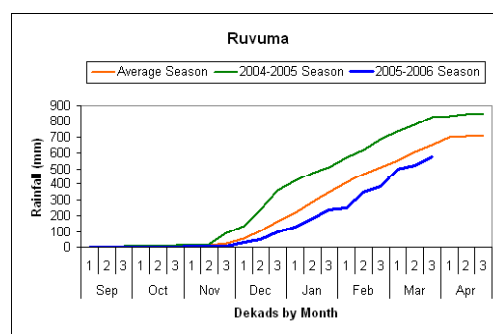


### Swaziland

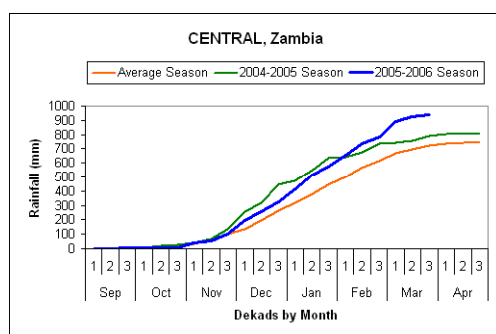
Moderate rains continued to fall in the first dekad of March over most parts of the country except for the southern parts of the country, where as little as a total of 15 mm total was recorded in some weather stations. As the month progressed into the second dekad, most parts of the country received much above average rains. Rainfall declined in the third dekad. Most of the country's maize crop ranged from maturing to drying. Cumulative rainfall totals (September to March) for the Hhohho suggest a good second half of the season, especially for February and March.

### Tanzania

Well distributed above normal rainfall was received in the bimodal areas (i.e Lake Victoria basin, north eastern, northern coast and hinterland regions) where timely onset of long rains occurred. In these areas, land preparation was completed in the first half of the month and sowing up to the end of the month with a few pockets of late sowing as reported from Pangani district in Tanga region. Weeding and fertilizer application were the main activities in most unimodal areas. Crop stages, particularly for maize, ranged between tasseling and ripeness over unimodal areas (southwestern highlands, central, western, southern and southern coast), while in the bimodal areas (Lake Victoria basin, northern coast and northeastern highlands), the crop stages ranged between vegetative and tasseling. Across the country, the cassava crop was mostly at early stages, while paddy was between emergency and flowering stages as observed over the cultivated areas of Mbeya, Tabora, Shinyanga, Lindi and coastal regions, and in moderate state.



### Zambia

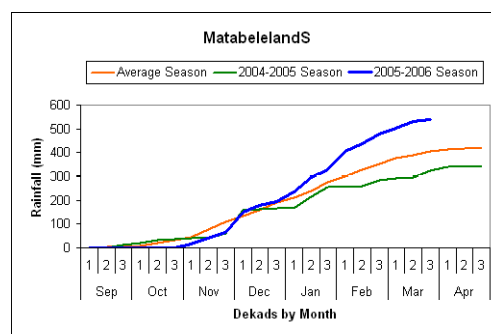


Almost the entire country, with the exception of parts of the Southern Province, received moderate to substantial rains during the first dekad of March. The northern eastern half of the country had widespread rains that exacerbated flooding and water-logging in Kazungula and parts of Sesheke resulting in flood victims being evacuated from flooded areas along Ngwezi and Zambezi Rivers. In general, there was good crop performance country-wide and maize ranged from cob filling to maturity stages and the condition was 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

continued rotting of cassava tubers. The cumulative rainfall total (September to March) graph for Zambia's Central province indicates a season way above normal.

### Zimbabwe

The accumulated rainfall amounts remain very high since the beginning of the season. Several stations have so far surpassed their seasonal normal rainfall with most stations registering more than 700mm. The highest accumulated falls have been recorded at Binga with 1033 mm followed by Kanyemba with 1024 mm. More than three quarters of the country had received normal to above normal rainfall so far as the percentages of normal rainfall remain very high. Harvesting of the early planted maize crop was in progress in most parts of the country. Crop condition was generally fair in most areas, with crops ranging from grain-filling to maturity stages. Excessive rains caused leaching in some areas and this will lead to reduced crops yields.



SITUATION MAP

Status of the 2005/2006 Growing Season  
March 2006

