



## Summary



### SADC-THEMA Agricultural Bulletin

- *Decline in rainfall observed over most parts of the SADC region marking the end of rainfall season.*
- *Heavy fall in excess of 200mm over some parts of Tanzania*
- *Drought conditions over the coastal parts of Angola*

April 2014, Issue: 08

#### 1. Highlights

Season 2013- 2014

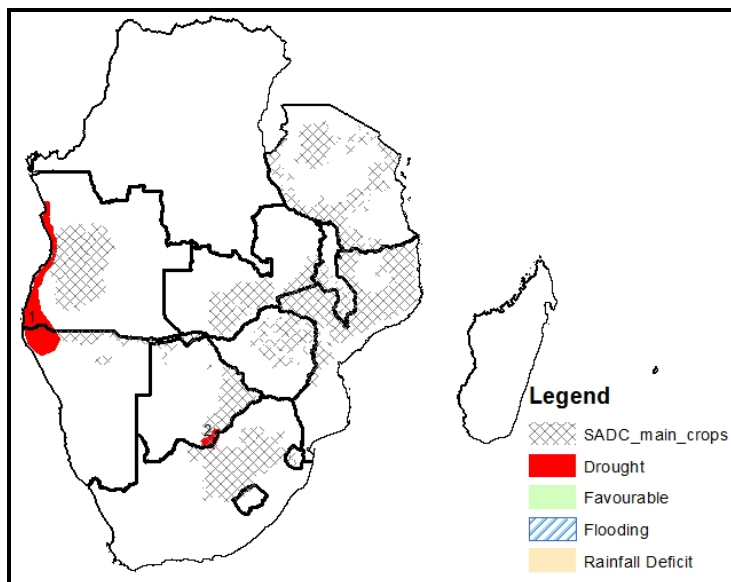


Figure 1: spatial distribution of the main events

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## 2. Rainfall Performance

A decline in rainfall is observed over most parts of the SADC region signaling the end of the rainfall season. During the first dekad of April, below normal rains were observed over most parts of the region except over the southern tip of DRC, the northeastern parts of Angola, the southern parts of Zambia and some isolated areas in Tanzania. During the second dekad rainfall anomaly maps shows a decline in rainfall over most parts of the SADC region except over some parts of Namibia, Tanzania, Botswana, DRC and South Africa. During the third dekad some central parts of the region received above normal rainfall especially over most parts of DRC, southern parts of Angola, most parts of Zambia and Zimbabwe, and the far southern parts of South Africa.

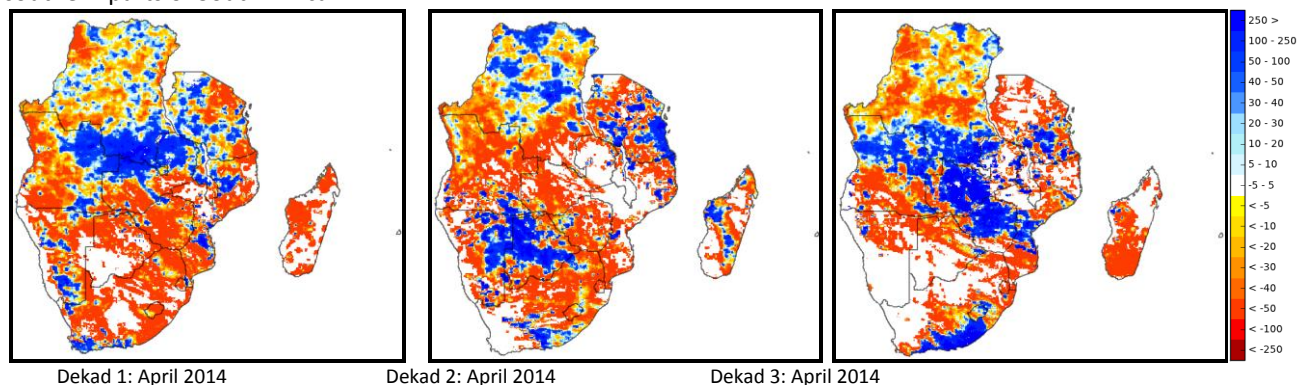


Figure 2: Rainfall Anomaly maps; there has been a general decrease in rainfall performance in both intensity and distribution during the month of April.  
Note: Normal ranges between -10% to 10%, less than -10% is below normal and greater than 10% is above normal.

Heavy falls in excess of 200mm were received over some parts of Tanzania (Fig 3a) during the second dekad of April. Some parts of Malawi received above normal rains in most dekads of the rainfall season (Fig 3b).

### Tanzania

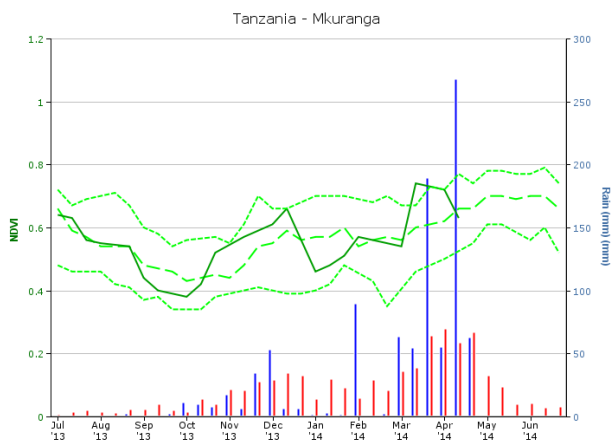


Figure 3a: NDVI and rainfall time series for Tanzania (rainfall in excess of 200mm)

### Malawi

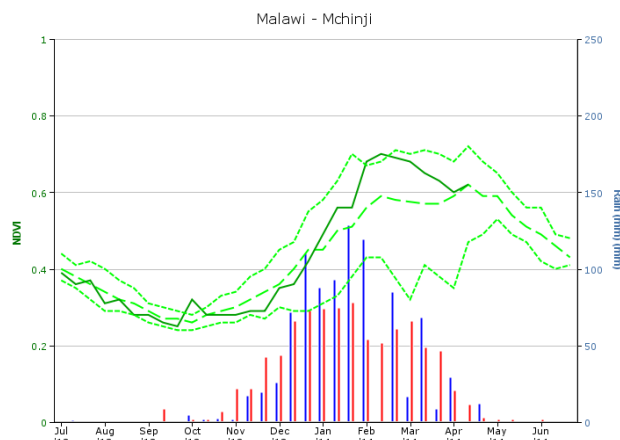


Figure 3b: NDVI and rainfall time series for Malawi

■ Rain    ■ Rain LT Avg    — NDVI LT Avg Filtered    — NDVI Filtered    — NDVI LT Max Filtered    - - NDVI LT Min Filtered





### 3. Vegetation Conditions

Satellite based analysis of the monthly average NDVI anomaly (Figure 4) for April indicates normal to above normal vegetation conditions over most parts of the SADC region. The good vegetation growth resulted from the good rains that were received since the beginning of January. Poor vegetation growth is most notable in the far western parts of Angola and isolated areas of Tanzania.

The good rains observed during the last three months of season 2013/2014 over most parts of the SADC region (especially over Botswana, Namibia, Mozambique, South Africa and Zimbabwe) has improved soil moisture condition and hence significantly improved the vegetation growth in most parts of these areas (Fig.4).

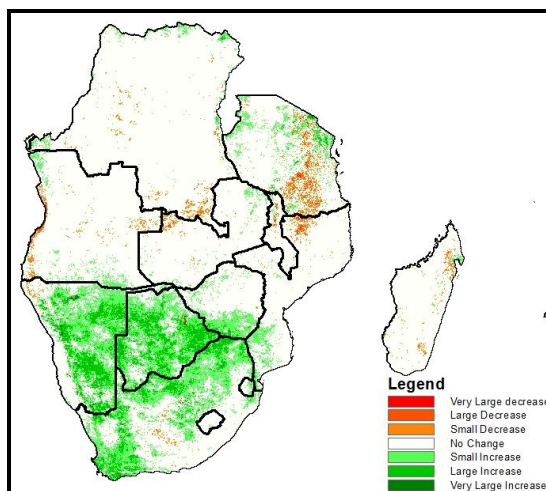


Figure 4: NDVI difference

However, the continued below normal rainfall over the far western parts of Angola (Fig 1, Area 1) has led to the continued deteriorate of vegetation growth over these areas resulting in more areas experiencing drought conditions as shown in Figure 5a. In these areas vegetation has been consistently below normal since November last year. Some parts of Botswana which have been experiencing below normal vegetation growth are now showing some great improvement (Fig 5b).

#### Angola

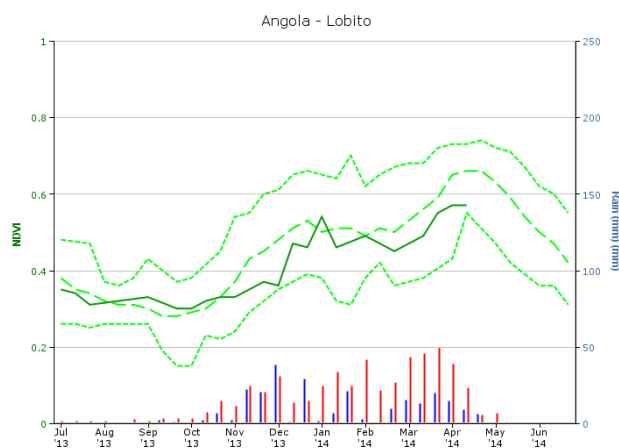


Figure 5a: NDVI and rainfall time series representative of Area 1 (Angola)

#### Botswana

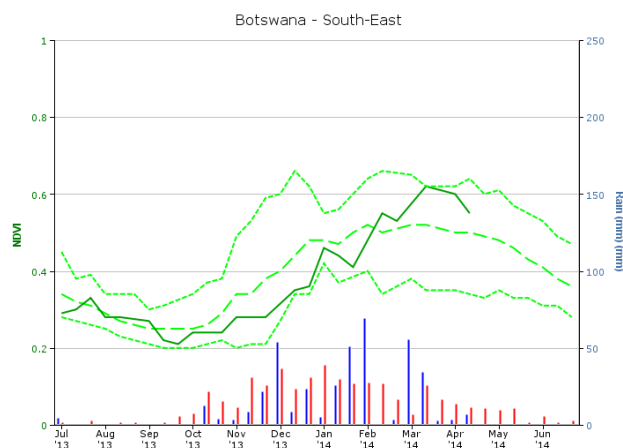


Figure 5b: NDVI and rainfall time series representative of Area 2 (Botswana)

■ Rain ■ Rain LT Avg — NDVI LT Avg Filtered — NDVI Filtered — NDVI LT Max Filtered — NDVI LT Min Filtered

April signals the end of rainfall season therefore areas affected by drought may require some interventions.





#### 4. MESA

The **MESA** program addresses the need for improved environmental monitoring towards sustainable management of natural resources in Africa. Five Regional Thematic Actions (THEMA), one per Regional Economic Community (REC), are being established by the Regional Implementation Centres (RICs) to develop appropriate information services, in order to address the already prioritized decision needs of the RECs in the fields of (i) water resources management (CEMAC); (ii) crop and rangeland management (ECOWAS); (iii) agricultural and environmental resources management (SADC); (iv) mitigation of land degradation (including forest exploitation) and conservation of natural habitats (IGAD) and; (v) marine and coastal management (IOC).

The **SADC-THEMA** is developing four information services namely Agriculture, Drought, Flood and Fire in order to address the already prioritized decision needs for SADC region. The Agricultural Service will monitor the state of the crops and rangeland. The Drought Service will monitor drought during the whole year and deliver a decadal “Drought map” and a “Drought Outlook” in support of both agriculture and environmental issues. The Floods Service will provide a flood risk indication and a flash flood forecast (before the floods), flood modeling (during the event of floods) and flood damage assessments (after the floods). The Fire Service will provide a daily fire risk indication (before the fire), continuous active fire maps (in real time during the fire season, refreshed every 15 minutes) and monthly burnt area assessments (after the fire). A common “Long Range forecast” service will complement the three (3) core services and provide them a seasonal forecast outlook. The SADC-Thema is implemented under the leadership of Botswana Department of Meteorological Services (BDMS) and SADC Climate Service Centre. The program is implemented under the coordination of the African Union Commission with the support of the European Union.

#### 5. Contacts

For further information, please visit:

- The MESA-SADC THEMA and its Products: <http://www.amesd.co.bw/>
- SADC FANR <http://www.sadc.int/fanr/>

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The help-desk is available at [helpdesk@amesd.co.bw](mailto:helpdesk@amesd.co.bw) or phone to +267-3612205.

#### 6 Acknowledgements

*This agricultural bulletin is provided every month to provide an overall view of the agricultural season performance. It is the result of cooperation between MESA SADC-THEMA (represented by the Botswana Department of Meteorological Service as the Regional Implementation Centre), the SADC-FANR, JRC-MARS and FEWSNET. This bulletin is exclusively based on the analysis of remote sensing imagery and of derived environmental indicators. Despite of its intrinsic limitations, remote sensing is a cost effective approach allowing a quick monitoring of the environmental situation in the SADC area. The data is received in near real time from the EUMETCast system (courtesy from EUMETSAT), which routinely distributes Earth Observation data by satellites broadcasting.*

*The MESA project is funded by the 9th European Development Fund of the European Commission.*

The retrieving of Earth Observation data, the computation of the environmental indicators as well as the graphics used in this bulletin were automatically performed by the Environmental Station (eStation), developed by the Joint Research Centre of the European Commission (<http://estation.jrc.ec.europa.eu>).

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