

# Seasonal Climate Update



Food Security and Nutrition Analysis Unit - Somalia



Seasonal Rainfall and NDVI, April - June, 2011

## Gu 2011

This seasonal climate update, a joint effort of FSNAU, MARS-JRC, FEWS NET and SWALIM, is produced after every seasonal assessment (Gu and Deyr), to provide an overall view of the seasonal performance. The data and analyses in this publication are based on remote sensing (RFE and NDVI) and complemented by rain gauge data collected by SWALIM

## Highlights

### Rainfall

The 2011 *Gu* rainfall was extremely poor in terms of intensity, duration, distribution and coverage over time in most parts of the country, particularly in southern Somalia. According to both the RFE and SWALIM's rain gauge data (Map 2), the regions with severe rainfall deficit include Bay, Lower Shabelle and the Jubas, where rainfall started with a delay of nearly one month and, with the exception of one extremely intense event at the beginning of May, remained far below average for the rest of the rainy season. Other regions with below normal rainfall comprise Gedo, Hiran, Bakool, Mudug, Galgaduud, Sool and Sanaag.

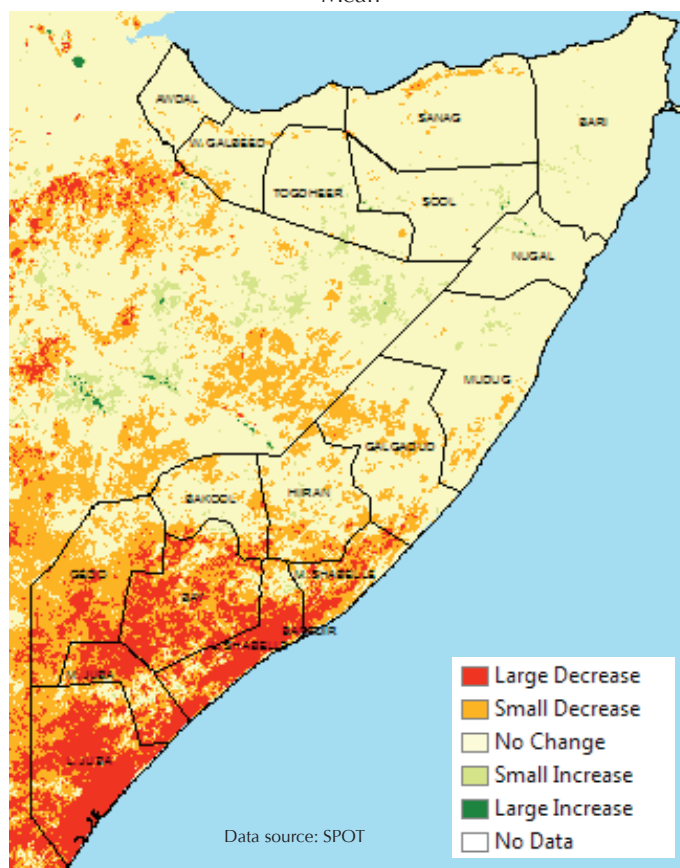
*Gu* 2011 satellite derived percentage rainfall anomaly clearly shows a considerable reduction of rainfall from the long term average in contrast to previous *Gu* 2010, considered a good season (Map 3 and 4).

### Normalized Difference Vegetation Index (NDVI)

The NDVI difference map (Map 1) shows acute retrogression of pasture and vegetation in the southern and lower central parts of the country. Indications in the North however, show normal to slightly below normal pasture conditions. The most evident depressed vegetation is visible in Lower and Middle Shabelle, Bay-Bakool and Lower Juba agropastoral areas, grazing areas of South-East Pastoral and parts of Southern Inland Pastoral livelihood zones.

The cumulative effects of the two consecutive seasonal rainfall failures (*Deyr* 2010; *Gu* 2011), which are reflected in crop production failures, water and pasture shortages, deteriorated livestock conditions and excessive livestock death, are among the main contributing factors of currently persisting famine conditions in parts of the South and food security crisis in most areas of the country.

Map 1: June 2011: NDVI Absolute Difference from Long Term Mean



### Data Sources

Maps and graphs in this bulletin are produced from three sources:

- Current Rainfall Estimates and NDVI data are derived from NOAA AVHRR and SPOT VEGETATION, while the rain gauge data is collected by FAO-SWALIM
- The seasonal profiles and long term trends on page 2 are produced in collaboration with MARS-JRC are utilise a combination of FAO-Africover and FAO-SWALIM land cover classes to derive RFE and NDVI summaries. For more information visit <http://mars.jrc.ec.europa.eu/mars/About-us/FOODSEC>

Technical and Managerial Support



Funding Agencies

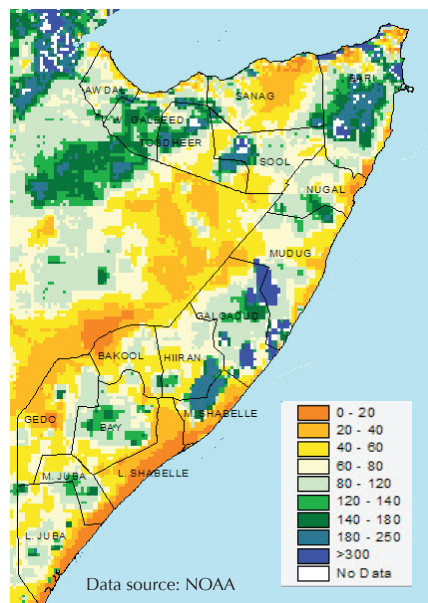


# Gu Rainfall and NDVI

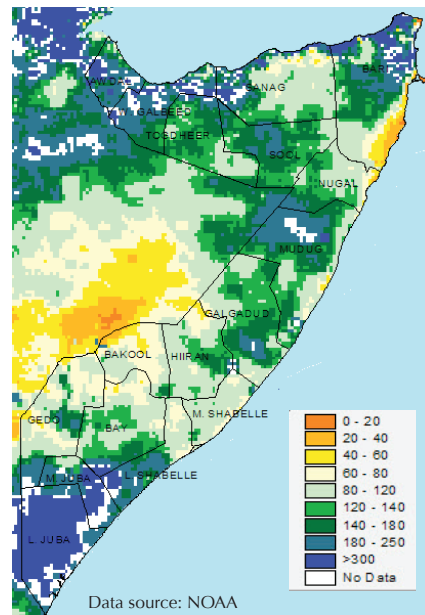
Map 2: Gu 2011 Rainfall Performance



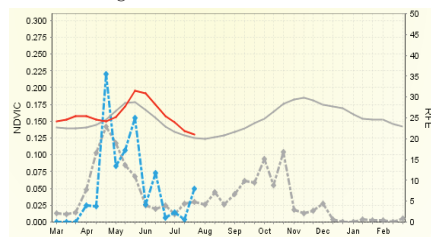
Map 3: Gu 2011: Rainfall as % of Long Term Mean



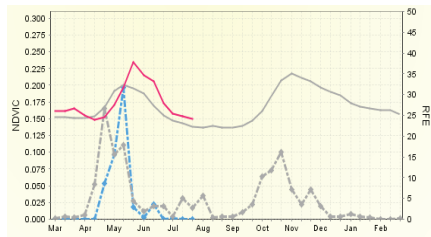
Map 4: Gu 2010: Rainfall as % of Long Term Mean



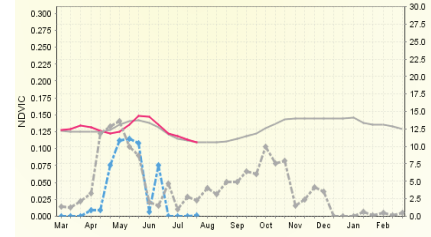
Togdheer Pastoral (Savannah)



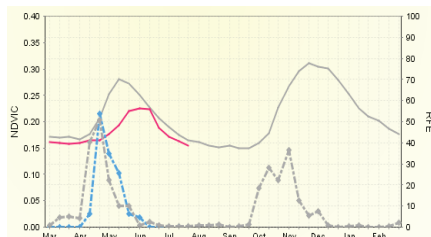
Nugal Pastoral (Savannah)



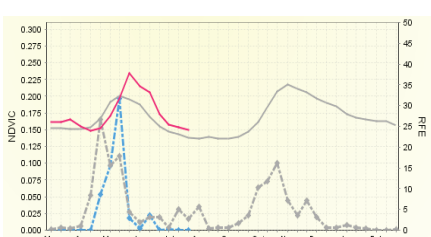
Saanag Pastoral (Savannah)



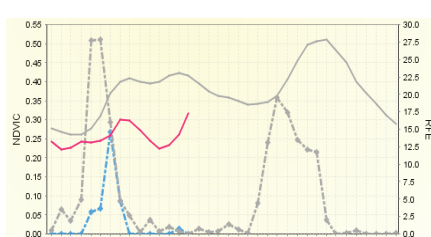
Hiran Agropastoral (Rainfed)



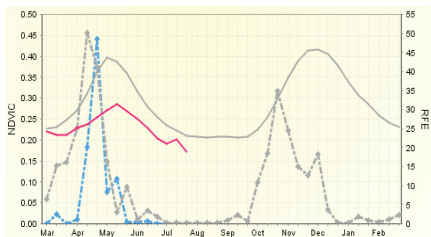
Middle Shabelle Agropastoral (Rainfed)



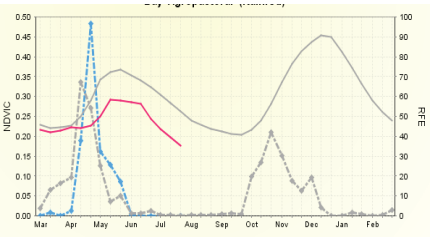
Lower Shabelle Riverine (Irrigated)



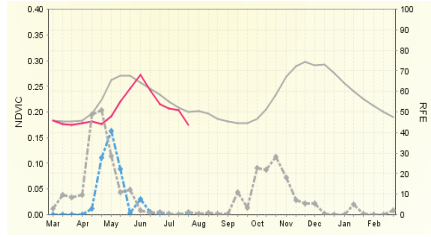
Gedo Pastoral (Open Shrubs)



Bay Agropastoral (Rainfed)



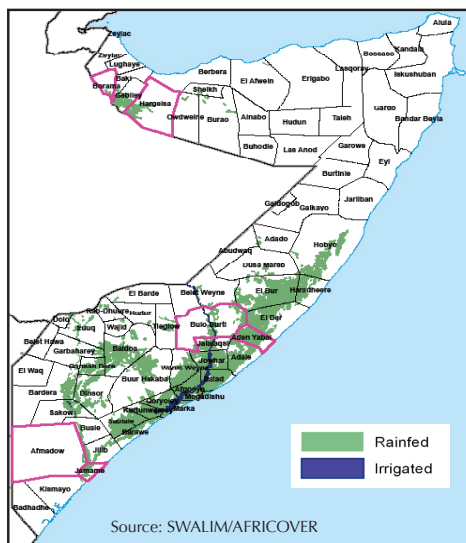
Bakool Agropastoral (Rainfed)



— RAIN Avg: 1999-2011    — RAIN 2011    — VGT 2011    — VGT LTA-MEAN

# Long term rainfall and NDVI trends for selected districts

Map 5: Agricultural Areas

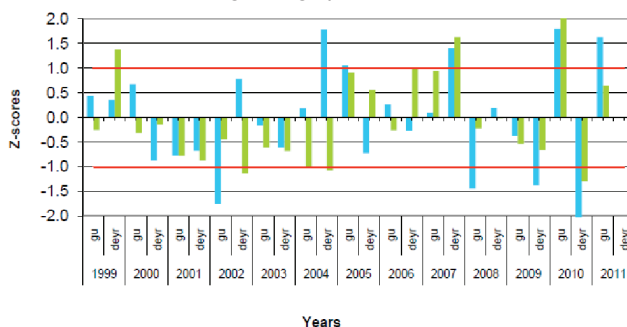


## Agriculture

The poor performance of *Gu* season, which is clearly shown by the RFE and NDVI graphs (pg.2), as well as scarcity of water for irrigation, mainly due to low and erratic river crest, have severely impacted crop conditions. Crops have either failed completely or were significantly below average across southern Somalia. Maize yields and harvested areas were significantly below average in the maize agro-pastoral and riverine areas of Shabelle and Juba regions. High potential sorghum producing areas of Bay, Middle Juba (Sakow), Middle Shabelle, Bakool, Gedo (Bardhera) and parts of Lower Shabelle also produced significantly below average sorghum or experienced complete crop failure. Northwest agropastoral areas show normal to slightly below normal crop conditions.

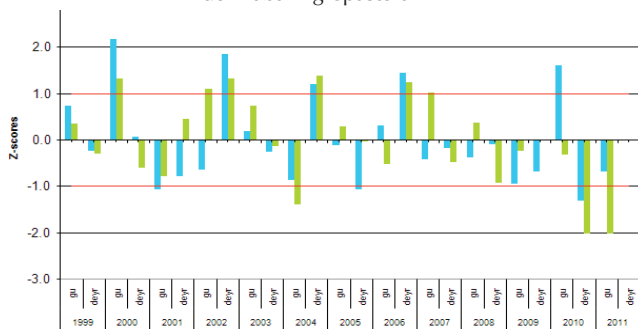
### Selected districts with good crop production

Hargeisa Agropastoral

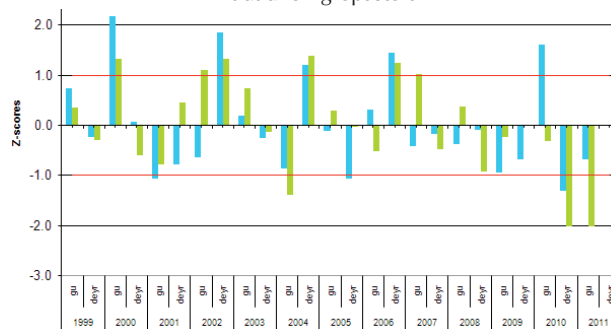


### Selected districts with very poor crop production

Aden Yabal Agropastoral



Badadhe Agropastoral



Afgoye Agropastoral Irrigated



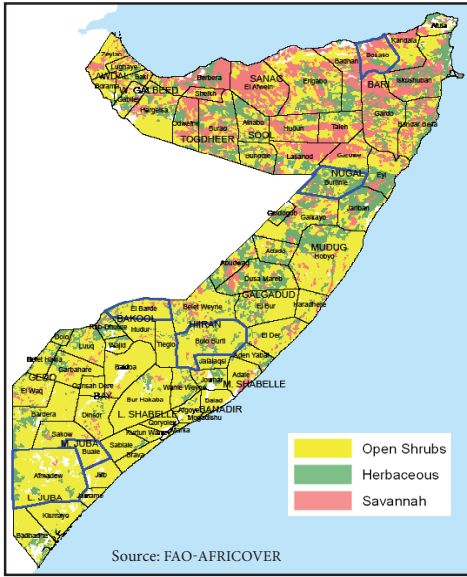
Kurtunwarey Irrigated



— RFE — NDVI — 70% range

# Long term rainfall and NDVI trends for selected districts

Pastoral Areas

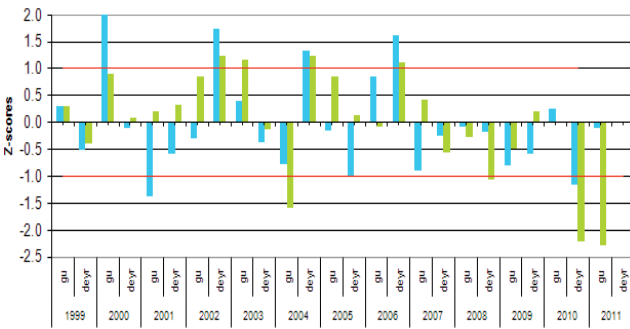


## Pasture

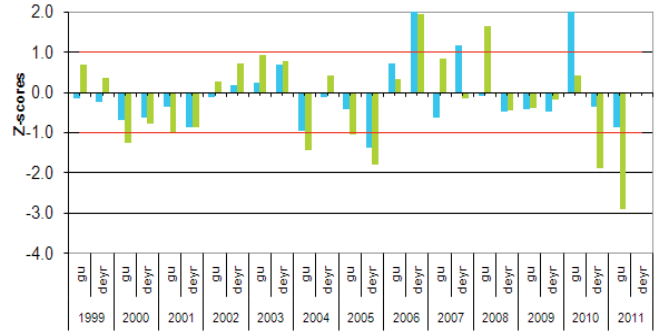
Generally pasture conditions have been average to below average in the northern pastoral areas and extremely below average in southern Somalia as well as some parts of Central due to prolonged dry conditions. However, the situation is expected to improve in areas that are receiving *Hagaa* (Shabelle and Juba) or *Karan* (Awdal and W. Galbeed) rains. Livestock body conditions are generally poor for sheep and cattle due to the long recovery period required. However, body condition is average for camel and goats. Excessive livestock mortality and off-take in pastoral and agropastoral areas of southern and central Somalia and parts of Northern regions during the *Jilaa* dry season reduced herd sizes affecting resilience of pastoralists across the country.

### Selected districts with poor pasture conditions

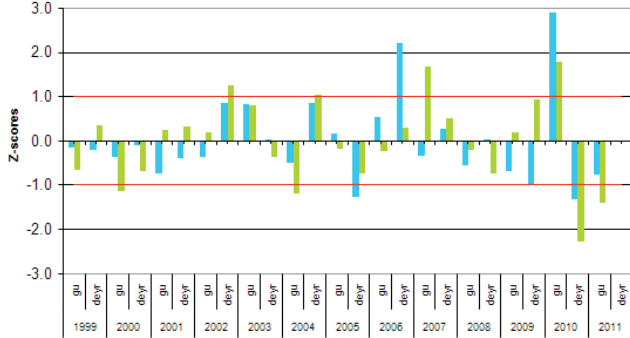
Adenyabab pastoral open shrubs



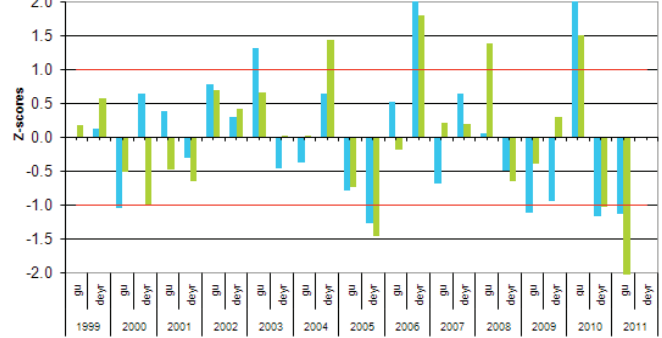
Afmadow pastoral open shrubs



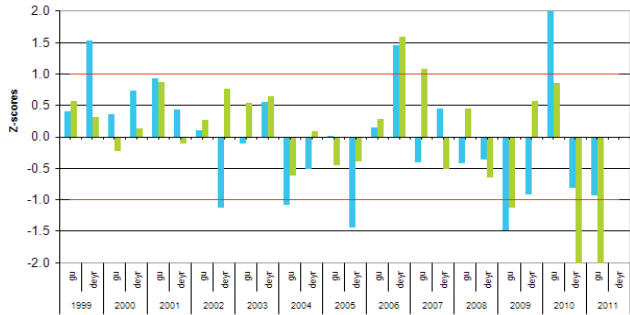
Borama Agropastoral



Bardheere Pastoral open shrubs



Kismayo Agropastoral



Dinsor pastoral open shrubs



— RFE — CNDVI — 70% range