



Somalia Drought Watch

March, 2011

Issued: April 12, 2011



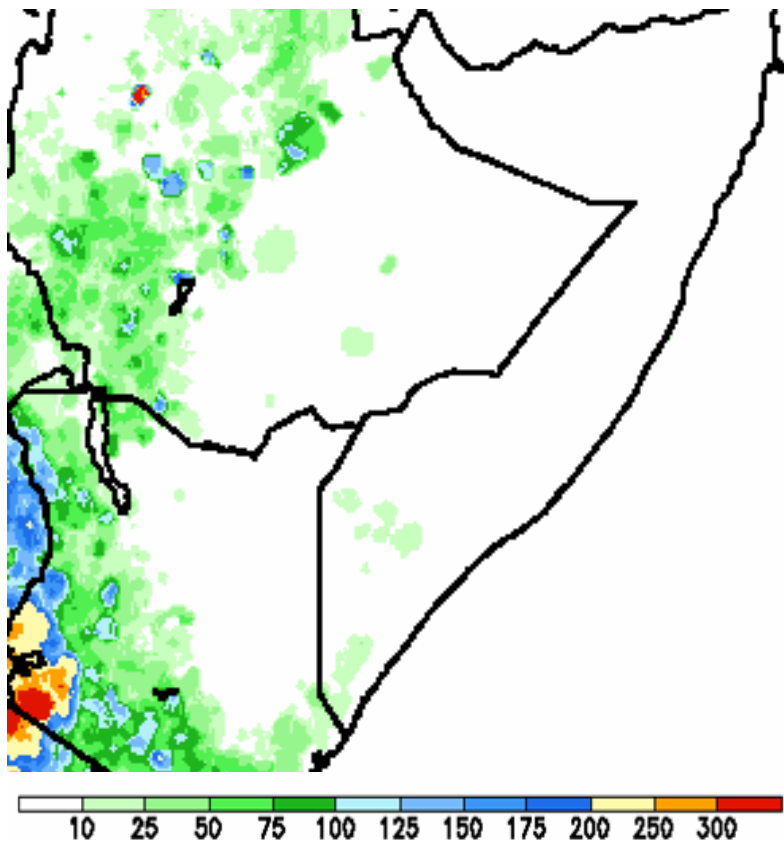
Key messages

- Climate models predict increased likelihood of near to below normal rainfall in Somalia during the Gu 2011 rainfall season (April to June).
- Drought conditions persisted in most parts of the country during the month of March 2011.
- Pasture and water are in extremely poor conditions and close to a complete depletion in most areas of key pastoral livelihoods across Somalia.
- River levels are currently below their normal in both Juba and Shabelle rivers during this time of the year and are expected to further decrease until the next rainy season that is expected next month.

Introduction

The analysis presented in this bulletin consists of four parts: (i) summary of the climatic conditions during the month of February and the Gu 2011 rainfall season expected seasonal outlook are presented in page 1, (ii) results of vegetation conditions as represented by the Normalized Difference Vegetation Index (NDVI) as an indicator for soil moisture, are given in page 2, (iii) the Combined Drought Index (CDI) used to measure the magnitude and severity of drought is derived from a combination of rainfall, temperature and vegetation conditions is presented in page 3 and, (iv) observed water levels along the Juba and Shabelle rivers and general potential impacts of the drought situation in Somalia are given in page 4. For more information on CDI please visit <http://www.faoswalim.org/downloads/cdi.pdf>, for more information on the impacts please consult FSNAU and for previous issues of this drought watch please visit: <http://www.faoswalim.org/downloads/>

Summary of Climatic Conditions for March 2011



Map-1: Rainfall Estimates for March 2011

Source: NOAA

Many parts of the country remained generally dry throughout the month of March 2011. Light rains were however received in parts of the Juba valley during the first half of the month as indicated on map 1. The month of March, 2011 was characterised by high temperatures with low amounts of relative humidity and relatively high windspeeds.

The Gu rains normally start in late March in the north western parts of the country and late March / early April in the rest of the country, this has however not taken place yet creating doubts among the humanitarian actors in Somalia about the future food security and water availability.

Cooler than normal Sea Surface Temperatures (SSTs) continued to occur over the Eastern and Central Equatorial Pacific Ocean and the Western Equatorial Indian Ocean adjacent to the Somalia Coastline, indicating that the moderate La Niña conditions still persists. These temperature patterns have weakened the rainfall generating mechanism in Somalia and the Horn of Africa in general.

Vegetation Conditions

Satellite derived NDVI data (SPOT VEGETATION-1Km resolution) was used to assess the vegetation conditions during the month of March 2011 in Somalia.

Most parts of the country show no change compared to the historical situation in the same month. However, the map indicates extremely poor vegetation in most parts of south and central except some greens in North Galkaio due to Acacia tree renaissance during dry period. In the North, Gabiley district of Waqoyigalbeed region Satellite imagery also show some greenness. Field reports confirmed lack of pasture in key agropastoral areas of the south and pastoral areas of the central and Northern parts of the country.

The irrigated fields, Burhakaba and Jowhar, still show continued drop in NDVI values that have remained below the LTA NDVI values as indicated in figure 1.

It should be recalled that, the *Jilal* dry season started with large negative differences in the south and central parts of the country. The situation in terms of pasture and water availability, therefore, remains bad.

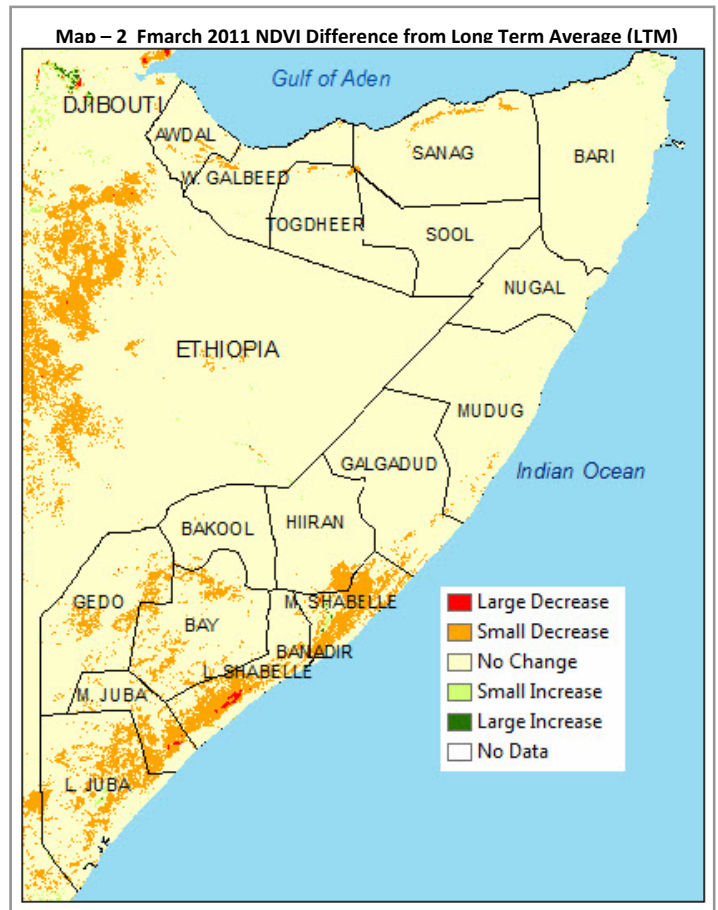
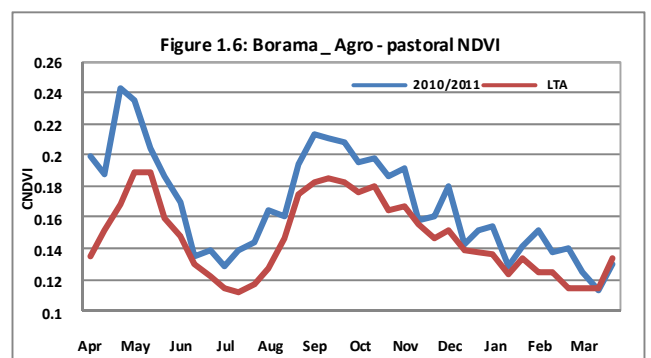
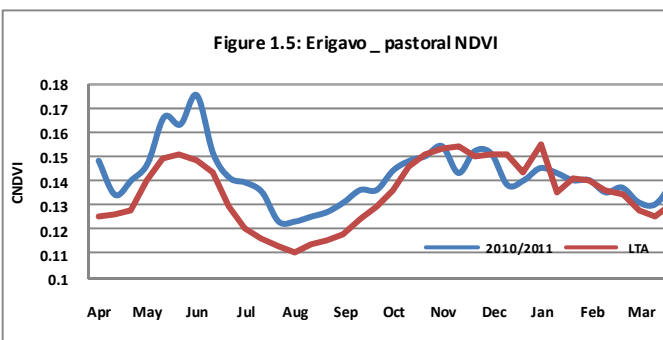
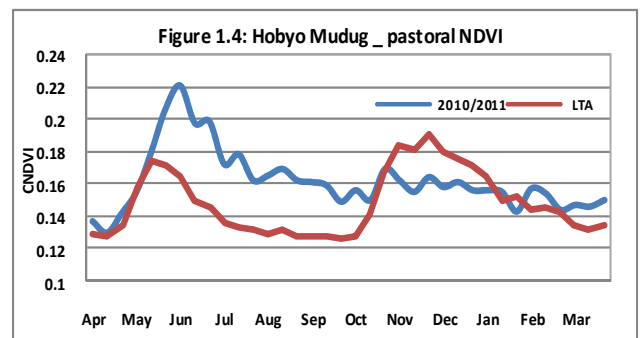
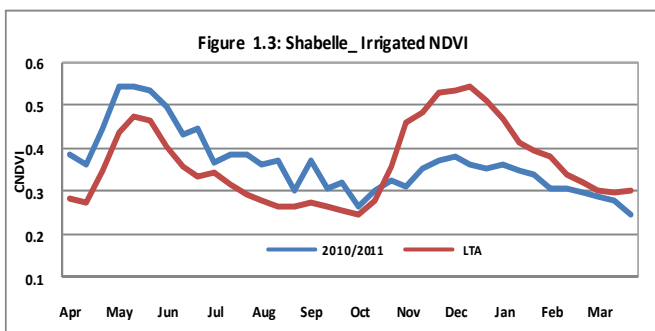
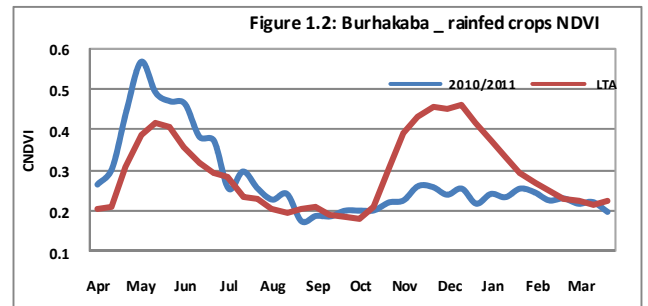
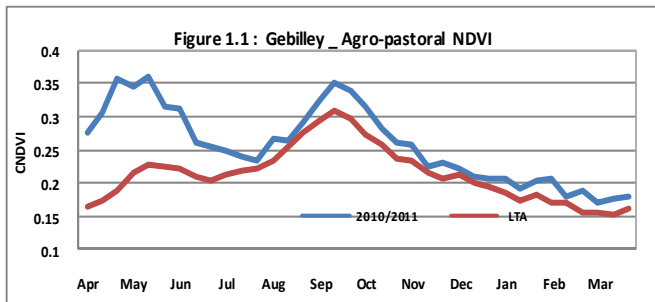


Figure 1: 2010/2011 NDVI compared to long term average NDVI

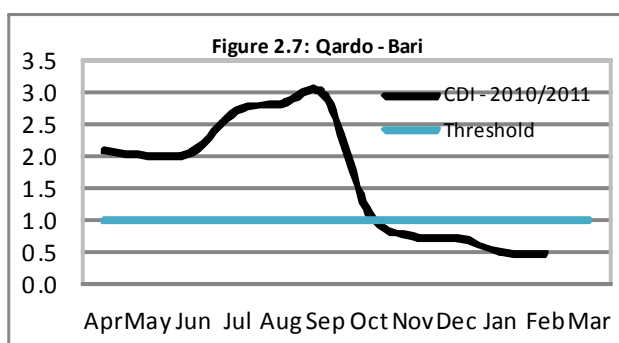
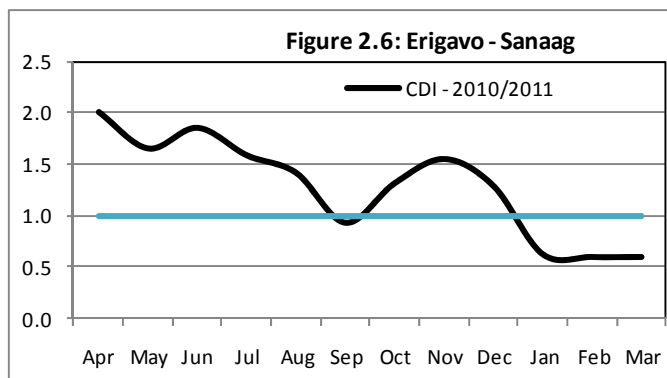
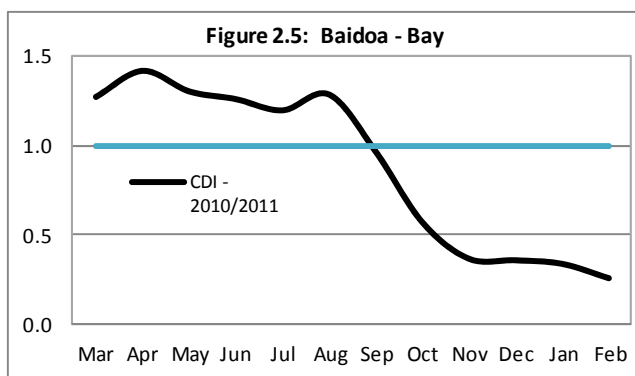
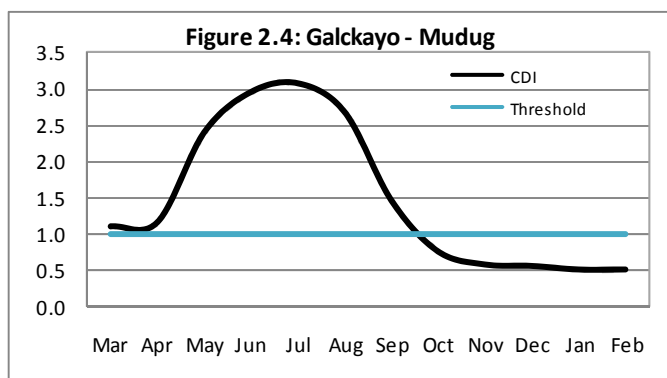
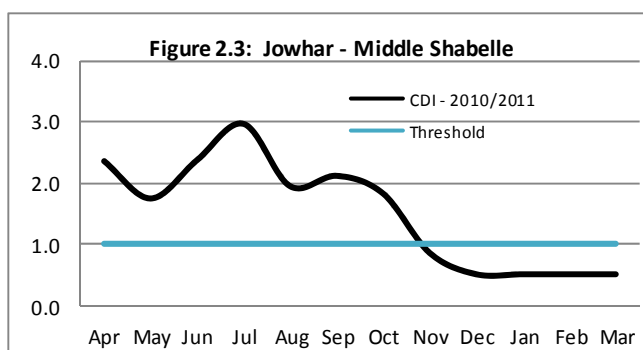
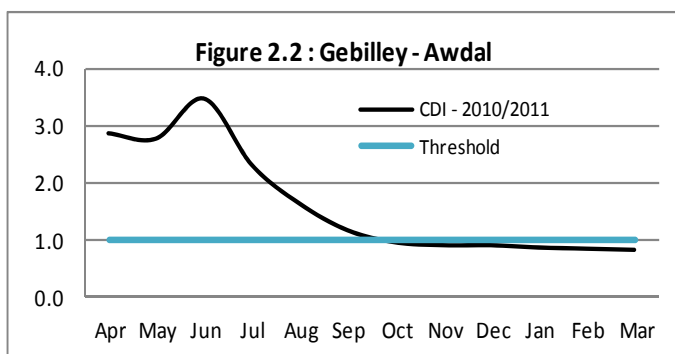
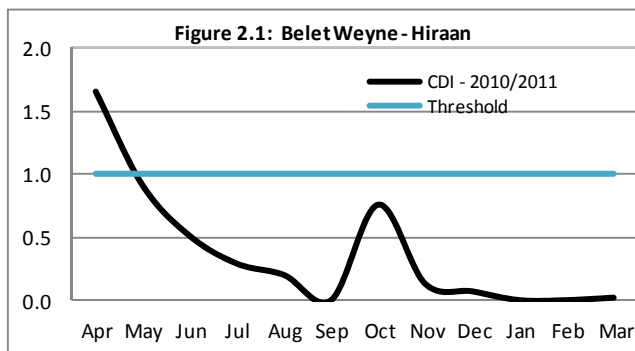


Combined Drought Index — CDI

The results of the monthly CDI calculations show that the drought conditions persisted during the month of March 2011. The graphs in Figure-2 show the CDI values for selected areas in Somalia. The threshold 1.0 indicates normal conditions. Drought conditions have a CDI value of less than 1.0, while wet conditions have values greater than 1.0. Figure-2 shows that drought conditions continued to deteriorate during the month in review. Most parts of the country therefore remained under severe hydrometeorological drought conditions apart from a few pockets in the north western regions that continued to be in mild hydro-meteorological drought conditions. Areas that are worst hit by the current drought include Hiran, Middle Shabelle and Bay regions, with Hiran regions remains the most affected.

Figure 2: Monthly CDI graphs for some selected stations in Somalia

CDI Value	Drought condition
0.0 to 0.3	extreme hydro-meteorological drought
0.3 to 0.5	severe hydro-meteorological drought
0.5 to 0.7	medium hydro-meteorological drought
0.7 to 0.9	mild hydro-meteorological drought
0.9 to 1.1	normal
> 1.1	above normal



River Levels

Observed river levels are currently below their average during this time of the year, but are expected to rise slightly in the coming few weeks after the onset of the much expected Gu rainy season in the country. The graphs in Figure-3 show comparison of current and long term average levels for both the Shabelle and Juba Rivers at Belet Weyne and Luuq stations, respectively. The lower areas of the two rivers that depend on irrigated agriculture have been affected seriously by the low levels which are not enough to support irrigated agriculture.

Figure-3.1: Shabelle River at Belet Weyne

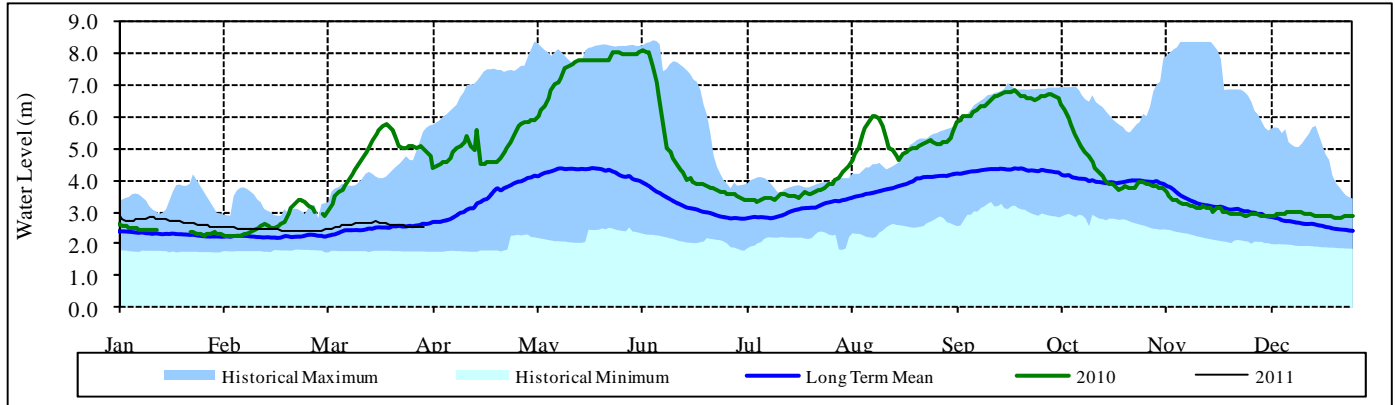
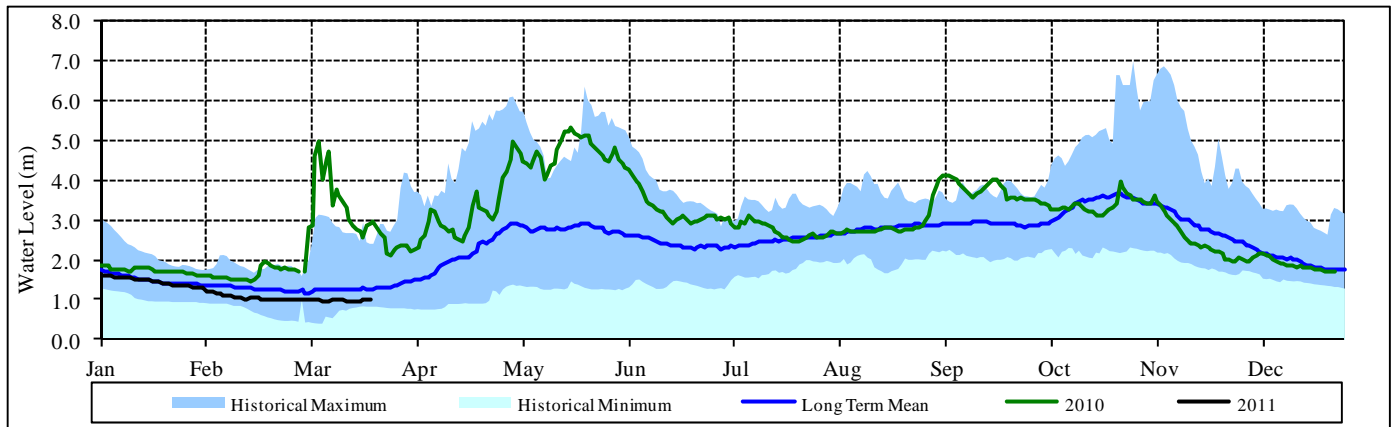


Figure 3.2: Juba River level at Luuq



Potential Impacts

Despite the fact that no rains were reported in most parts of Somalia or in the river catchments in the highlands of Ethiopia so far land preparation and dry sowing activities started in crop producing areas (agropastoral and riverine livelihoods) in March 2011. Additionally, in some areas along Shabelle and Juba rivers, farming communities have started watering mainly maize, rice and vegetable crops. However, the cropping activities in agropastoral and riverine communities are considered below average at this time of the year due to lack of rains. The crop performance is likely to deteriorate if the Gu 2011 rains are delayed and river waters are not replenished to facilitate irrigation activities.

Pasture and water are in extremely poor conditions and close to a complete depletion in most areas of key pastoral livelihoods across Somalia. Severe water crises yielded high water trucking costs, which pastoral and agropastoral households meet through increased debt accumulation and/or livestock sales. Body condition of small ruminants and cattle has deteriorated to poor and very poor conditions, leading to death of offspring (calves, kids, lambs) as well as lactating animals due to prolonged drought conditions. Livestock migration remains limited due to exhausted rangelands and weak body conditions. In addition, some livestock death can be expected with the start of the Gu rains due to lack of resistance of animals against the cold rains.

This Drought Watch is a joint publication between SWALIM, FSNAU and FEWS NET Somalia. It is updated monthly, and is available from the SWALIM website: <http://www.faoswalim.org>. The technical support and provision of the NDVI satellite images by the Joint Research Centre of the European Union is greatly appreciated.