FSAU
Food Security Analysis Unit
Somalia
Issued November 13, 2005

Climate Data Update

November 2005

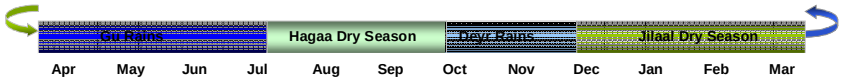
FEWS NET
FEWSNET-SOMALIA

Current Rainfall and NDVI

This report is a compilation of climate data on Somalia that FSAU and FEWSNET regularly review for analysis. Primary data source for this information is NOAA/USGS and MARS-JRC. Given the lack of functional meteorological stations network and insecurities in Somalia, information provided here is primarily based on remote sensing and modeling, hence the information is susceptible to inconsistencies and gaps. For triangulation by field observation, interpretation and analysis please refer to the climate sector article in FSAU's Monthly Food Security and Nutrition Brief.

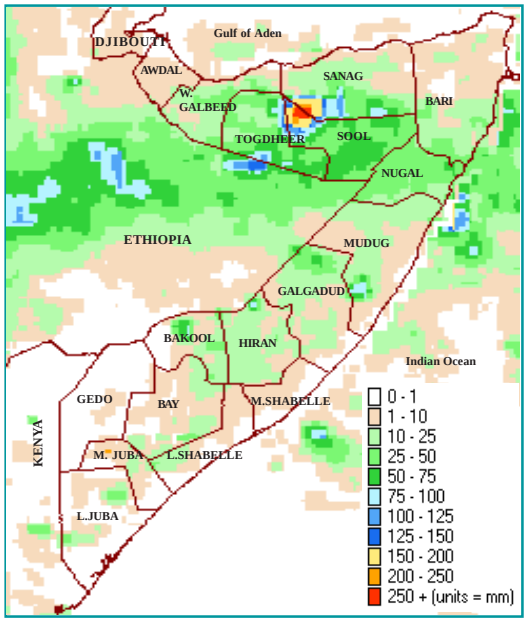
Maps and graphs on page 1 and 3 are based on data from NOAA/USGS and produced by FEWSNET Somalia and FSAU. Maps and graphs on page 2 are produced by MARS-JRC.

Climate in Somalia is influenced by the northerly movement of the Inter Tropical Convergence Zone (ITZ), which is responsible for the bimodal rainfall pattern which the country experience annually. From April to July, the northerly movement of the ITZ brings the major *Gu* rains and the southerly movement of the same from between September and November results in the minor *Deyr* rains. The rainy seasons are separated by two dry spells, *Jilaal* (January-March) and *Hagaa* (July-September).



Somalia Seasonal Timeline

October '05: Cummulative Rainfall (RFE) (mm)

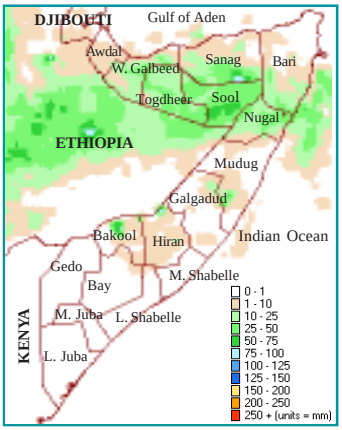


Rainfall Estimation (RFE)

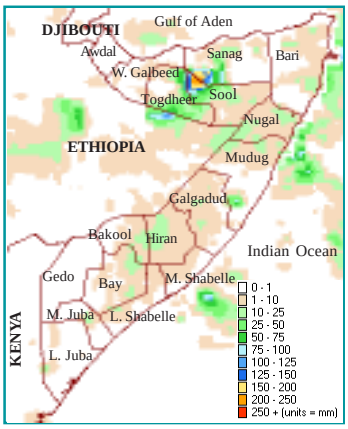
The Rainfall Estimation (RFE) imagery uses Meteosat infrared data, rain gauge reports from the global telecommunications system, and microwave satellite observations to provide RFE in mm at an approximate horizontal resolution of 10 km.

October 2005: Dekadal Rainfall (RFE)

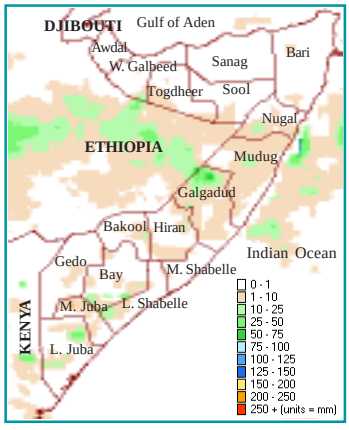
1st Dekad (1-10)



2nd Dekad (11-20)



3rd Dekad (21-31)

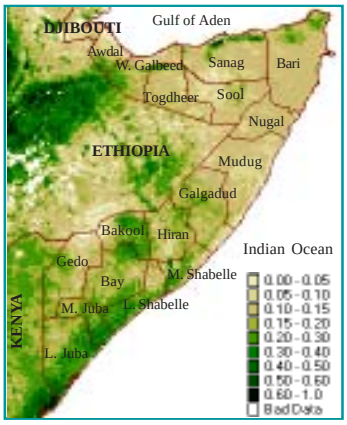


Normalized Difference Vegetation Index (NDVI)

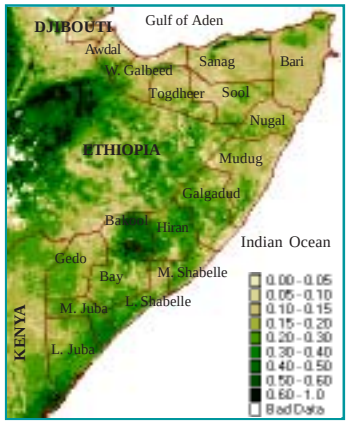
Normalized Difference Vegetation Index (NDVI) imagery is calculated from the red and near infra-red reflectance observed by the AVHRR (Advanced Very High Resolution Radiometer) sensor on NOAA meteorological satellites. The NDVI image provides an indication of the vigor and density (greenness) of vegetation at the surface.

October 2005: Dekadal Normalized Difference Vegetation Index (NDVI)

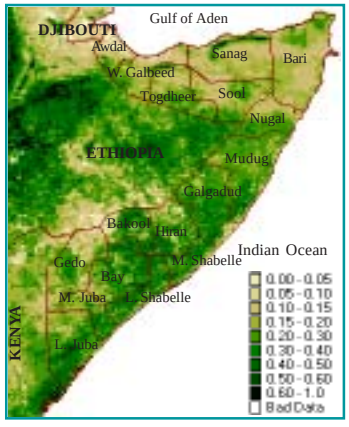
1st Dekad (1-10)



2nd Dekad (11-20)

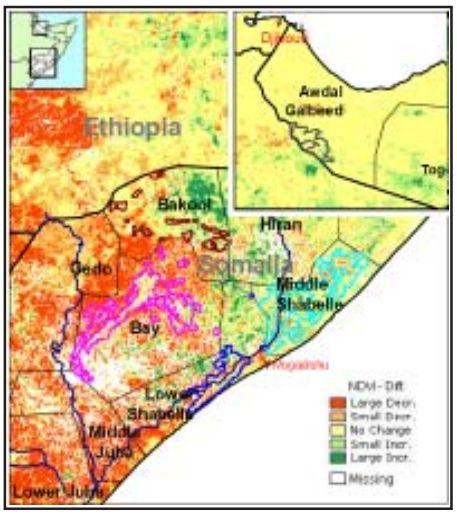


3rd Dekad (21-31)

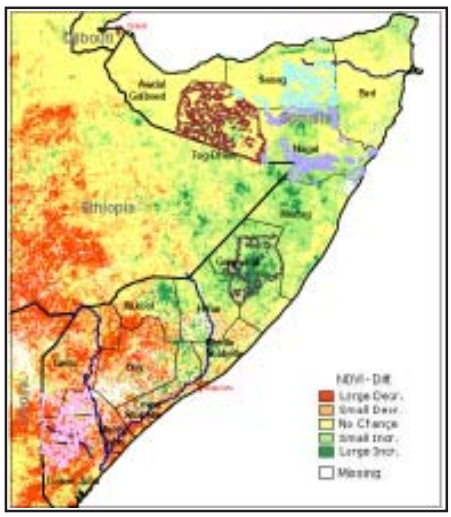


Seasonal Trends

October '05: NDVI Agricultural Areas

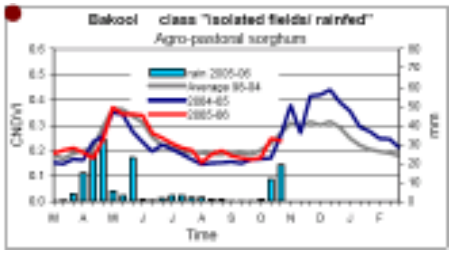


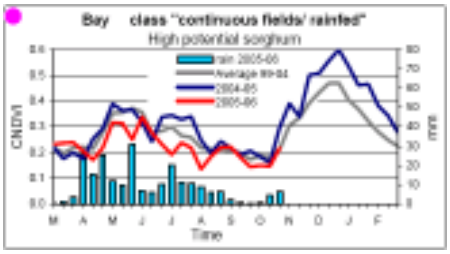
October '05: NDVI Pastoral Areas

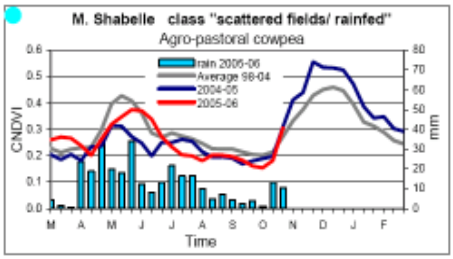


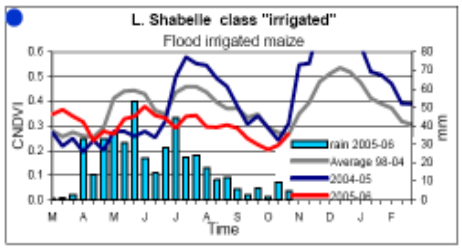
Normalized Difference Vegetation Index (NDVI) Absolute difference w.r.t previous year (Act.—Prev.) for Dekad III of October 2005

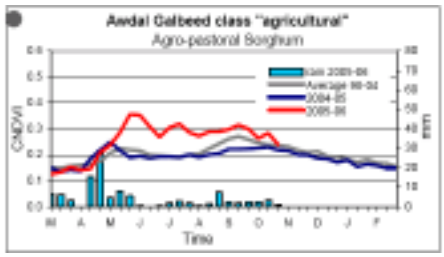
October 21-31 III Dekad

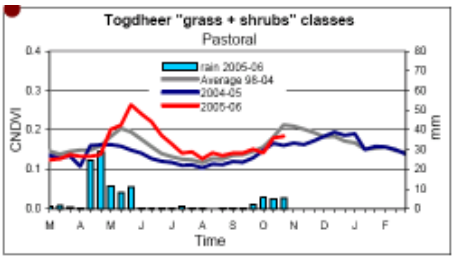


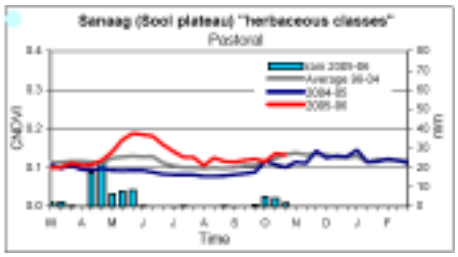


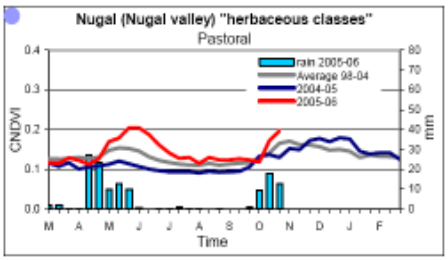










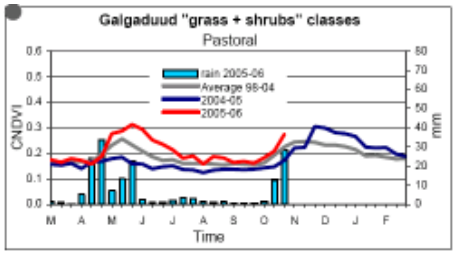


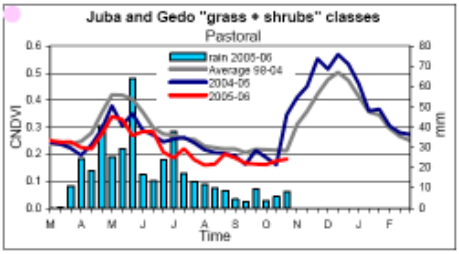
All maps and graphs on this page are the products of Joint Research Centre / MARS-FOOD, which is funded by European Commission. Monitoring vegetation and rainfall conditions in Somalia using SPOT VGT Vegetation Index, AFRICOVER and ECMWF Global Meteorological Modelling.

Color demarcations on the two maps delineate areas where rainfall (RFE) and 'greenness' (NDVI) data are presented in the graphs. (See corresponding color coded dot on graphs for data analysis.)

Graphs present NDVI (line graphs) and RFE (bar charts) for each of the delineated areas. Rainfall (RFE) is current by dekad and expressed in mm. NDVI is current average, last year average and average for 1998-2004.

Mapped NDVI is absolute difference with respect to previous year (Actual - Previous).

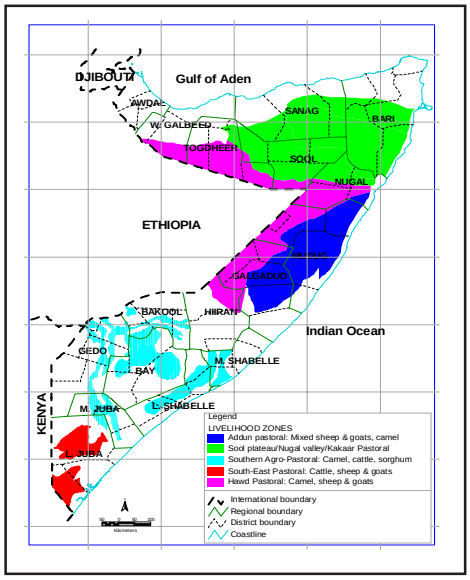




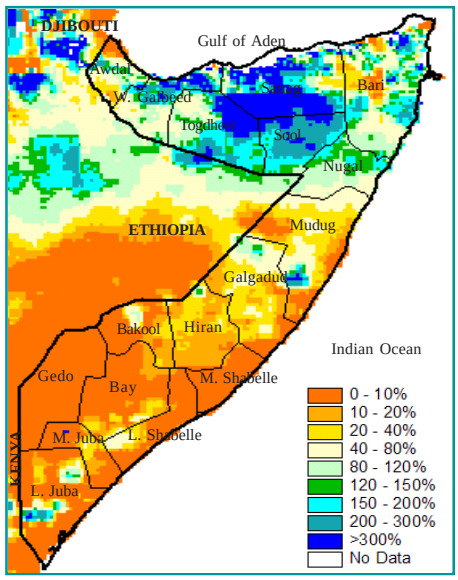
Long Term Trends

Time Series Data
The time series of rainfall and NDVI show trends in rainfall and vegetation. The time series of NDVI data (from 1982-present) allows analysis of changes in vegetation vigor and density in response to bio-physical conditions (including plant type, weather and soil). The primary use of these images is to compare the current state of rainfall and vegetation with previous time periods, for example the same time in an average year or a reference year to detect anomalous conditions.

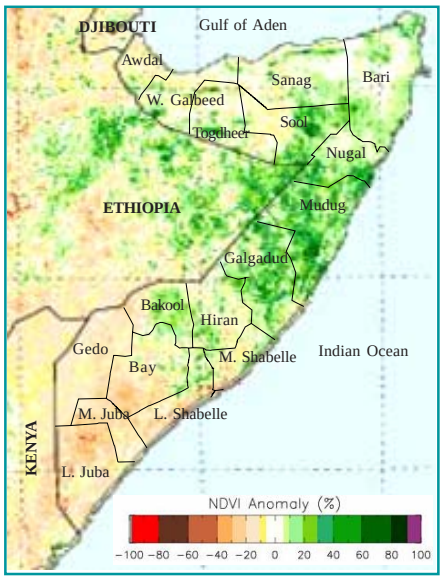
Livelihood Zones Used in Time Series Analysis



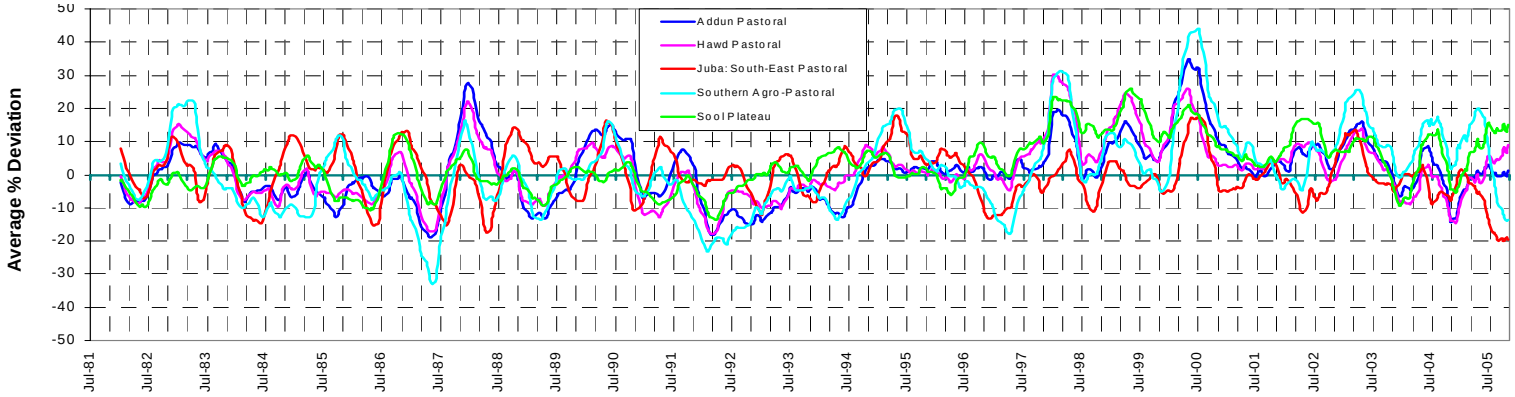
October '05: Rainfall as % of Long Term Mean



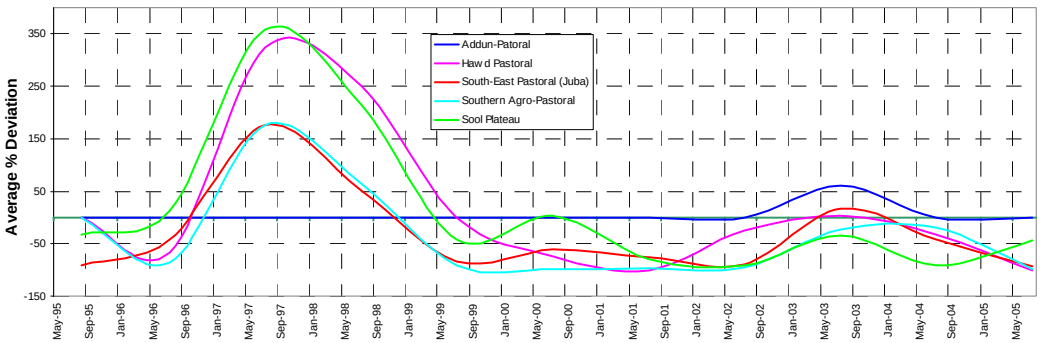
October '05: NDVI, as % of Long Term Mean



Historic NDVI Per cent Deviation From Long Term Average



Historic RFE % Deviation From Long Term Average



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