

## Current Rainfall and NDVI

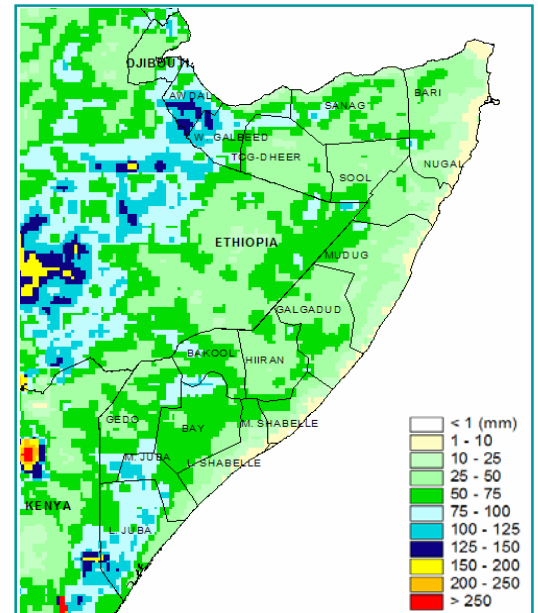
This report is a compilation of climate data on Somalia that FSAU and FEWSNET regularly review for analysis. Primary data source for this information is NOAA/USGS and MARS-JRC. Given the lack of functional meteorological stations network and insecurities in Somalia, information provided here is primarily 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).

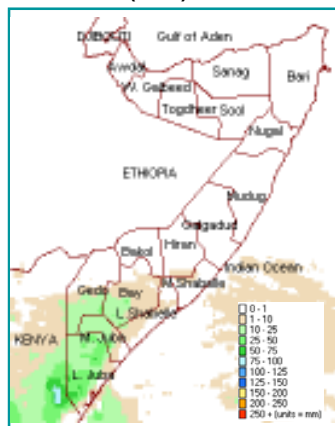


April '05: Cummulative Rainfall (RFE) (mm)

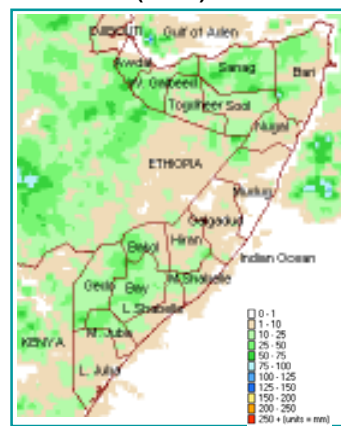


April 2005: Dekadal Rainfall (RFE)

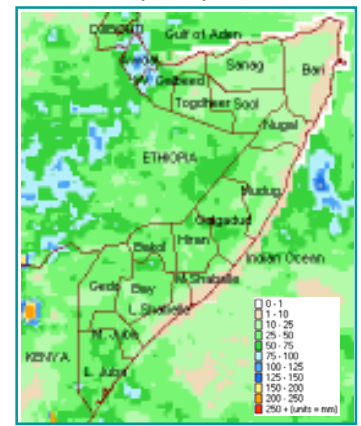
1st Dekad (1-10)



2nd Dekad (11-20)



3rd Dekad (21-30)



### Rainfall Estimation (RFE)

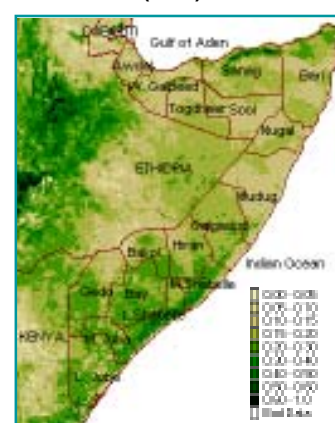
The Rainfall Estimation (RFE) imagery uses Meteosat infrared data, rain gauge reports from the global telecommunications system, and microwave satellite observations to provide RFE in mm at an approximate horizontal resolution of 10 km.

### 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.

April 2005: Dekadal Normalized Difference Vegetation Index (NDVI)

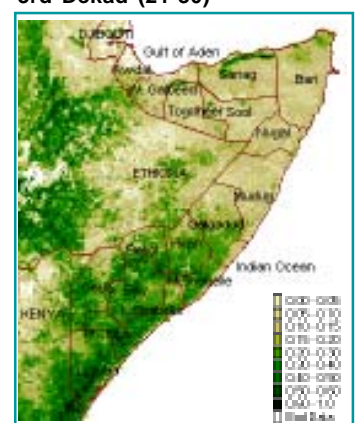
1st Dekad (1-10)



2nd Dekad (11-20)

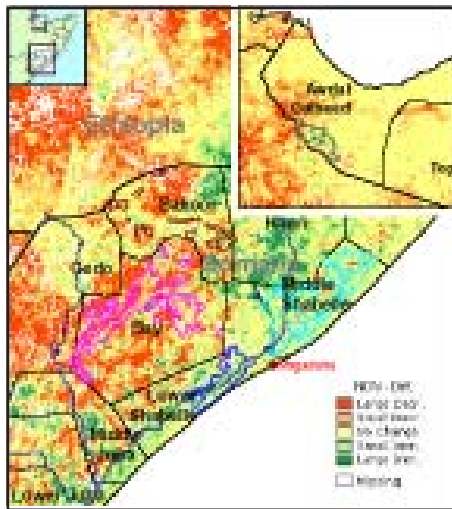


3rd Dekad (21-30)

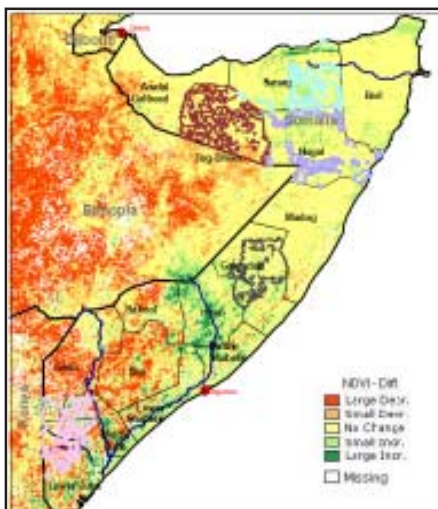


## Seasonal Trends

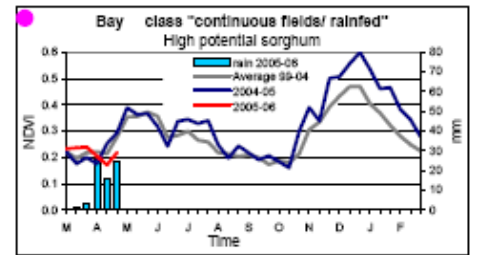
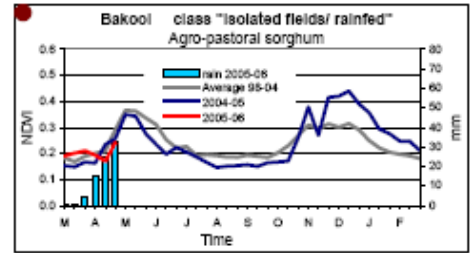
April '05: NDVI Agricultural Areas



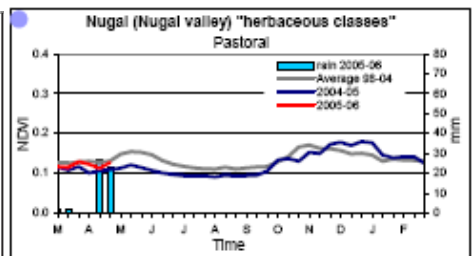
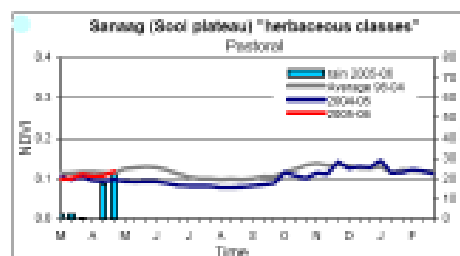
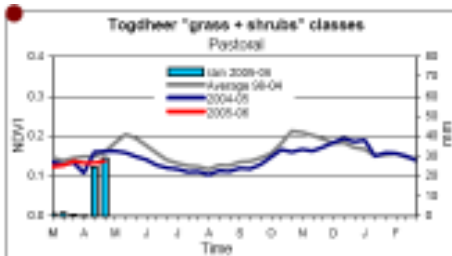
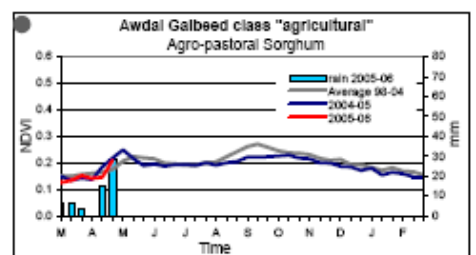
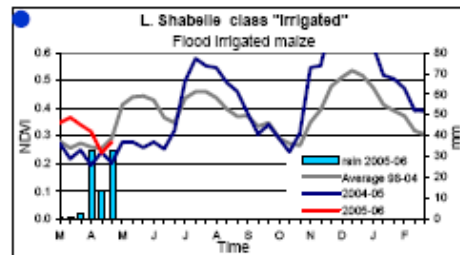
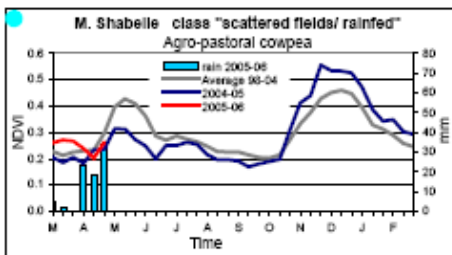
April '05: NDVI Pastoral Areas



April 21-30 III Dekad



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

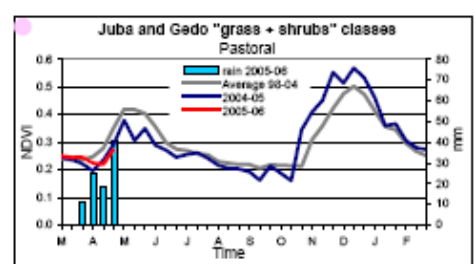
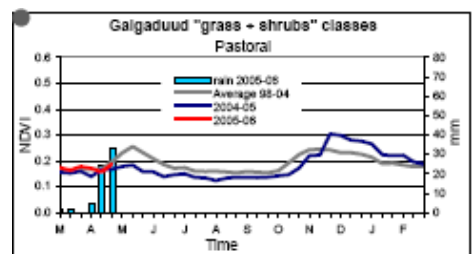


All maps and graphs on this page are the products of Joint Research Centre / MARS-FOOD, which is funded by European Commission. Monitoring vegetation and rainfall conditions in Somalia using SPOT VGT Vegetation Index, AFRICOVER and ECMWF Global Meteorological Modelling.

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).

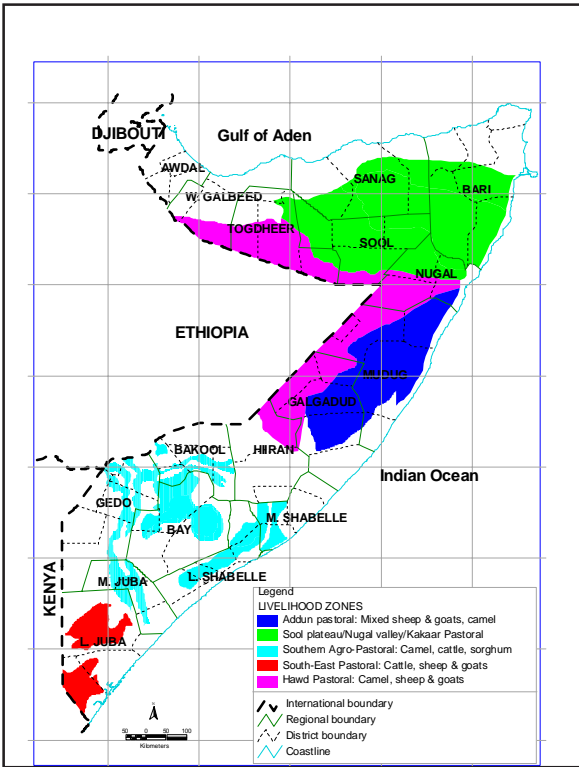


# Long Term Trends

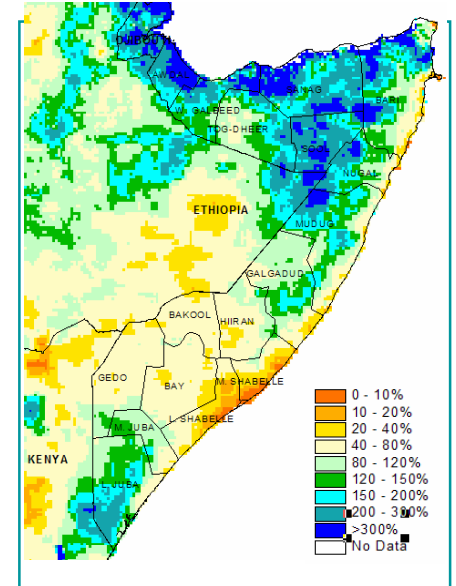
## Time Series Data

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.

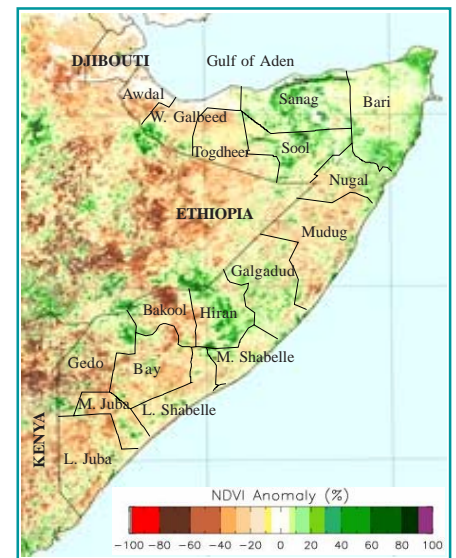
## LIVELIHOOD ZONES USED IN TIME SERIES ANALYSIS



April '05: Rainfall as % of Long Term Mean

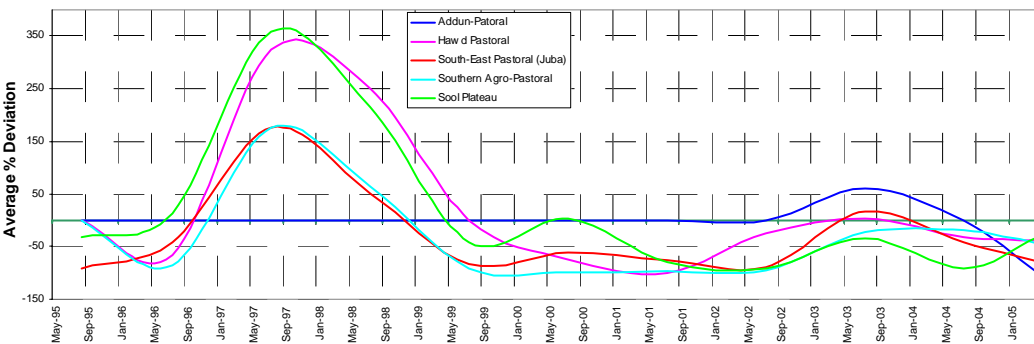


April '05: NDVI, as % of Long Term Mean



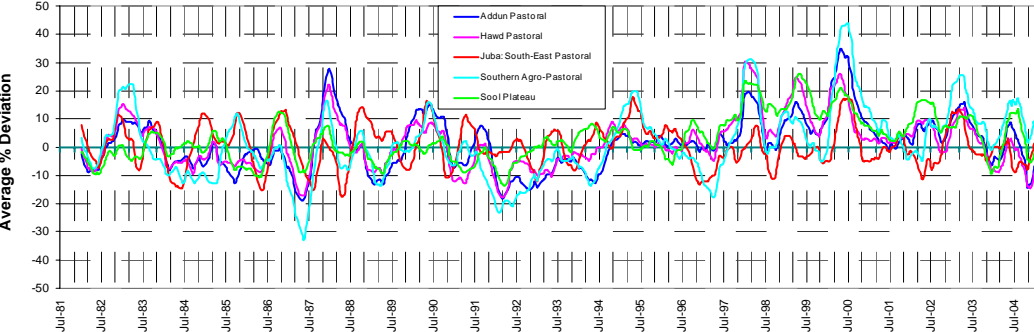
## Historic RFE % Deviation From Long Term Average

Rainfall Estimates (Percent Deviation from the Long Term Mean)



## Historic NDVI Percent Deviation From Long Term Average

NDVI (Percent Deviation from the Long Term Mean)



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