

Climate Update



Food and Agriculture
Organization of the
United Nations



Food Security and Nutrition
Analysis Unit - Somalia

September 2019 Monthly Rainfall and NDVI (Issued October 23, 2019)

Highlights

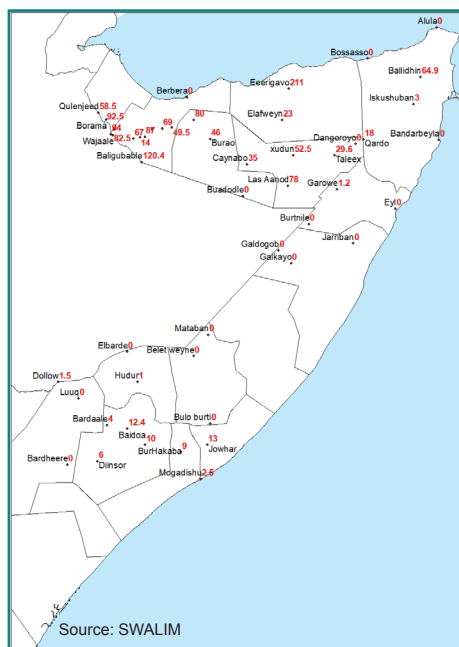
September marks the end of *Hagaa/Karan* (July-September), a typically dry season across most parts of Somalia. Moderate to heavy rains were observed in September 2019 in the northern regions while in central and southern parts of the country there was little or no rainfall during the month. The northwest regions received the highest amounts of rainfall, with some areas receiving as much 50 to 100 mm above average for the month as a result of intensified *Karan* rains.

Some of the stations that received significant rains include Borama (93mm), Gebilley (94mm), Hargeisa (87mm) and Sheikh (80mm), all in the northwest parts of the country. In southern Somalia where September is typically a dry period, Jowhar and Baidoa stations recorded light rains (13mm each) as indicated in Table 1 and Map 1.

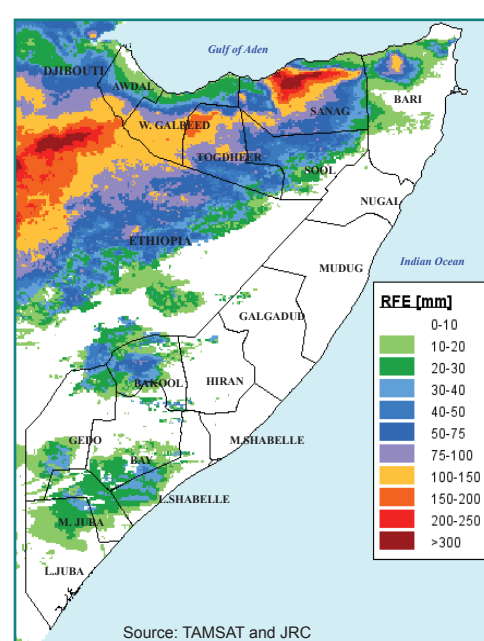
Satellite derived Rainfall Estimate (RFE) indicate there was more rainfall in the second and third dekads of September 2019, mostly in the northwest with some rainfall in northern parts of Bari region in the northeast. Vegetation cover measured through the Normalized Difference Vegetation Index (NDVI) showed slight deterioration/decrease in southern regions because of the effect of the extended dry period that followed the early cessation of the 2019 *Gu* season rainfall in early to mid-June. In the north, there was an increase in vegetation cover (Map 10), especially in areas that received intensified *Karan* rains.

Average to above average *Karan* rains in northern Somalia have replenished most water catchments, improved pasture and browse as well livestock body conditions. Milk availability has also increased as a result of improved rangeland conditions. In the Northwest Agropastoral livelihood zones, the *Gu/Karan* sorghum crops which were planted late due to the poor and delayed start of the 2019 *Gu* season have also benefited from the good *Karan* rains and this in turn is expected to slightly improve the *Gu/Karan* sorghum yield and production in November/December.

Map 1: Sept 2019 Monthly Rain Gauge Data

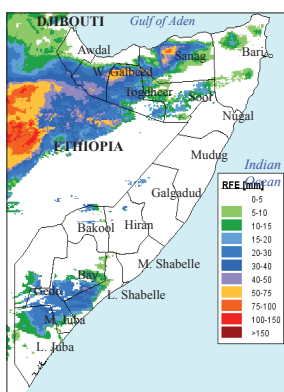


Map 2: Sept 2019 TAMSAT Monthly Rainfall Estimates

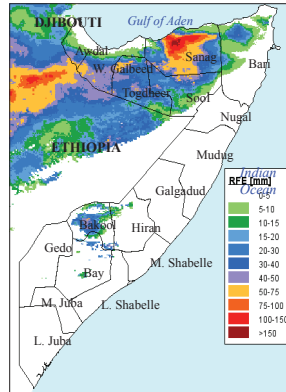


September 2019: Dekadal RFE Progression

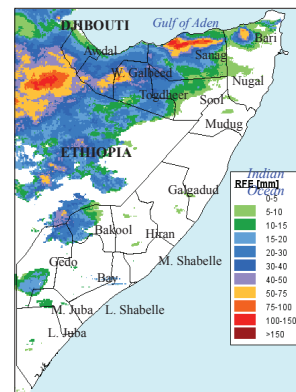
Map 3: 1st Dekad (1-10)



Map 4: 2nd Dekad (11-20)

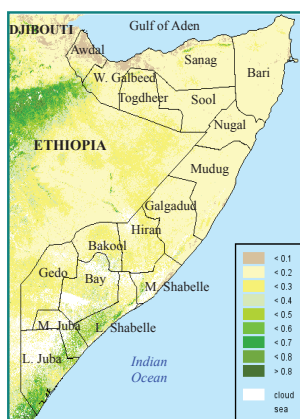


Map 5: 3rd Dekad (21-30)

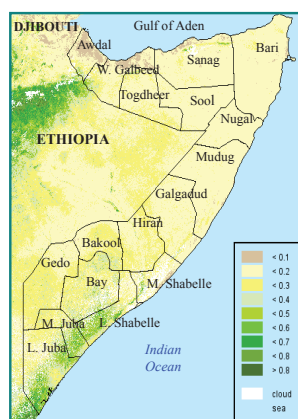


September 2019: Dekadal NDVI Progression

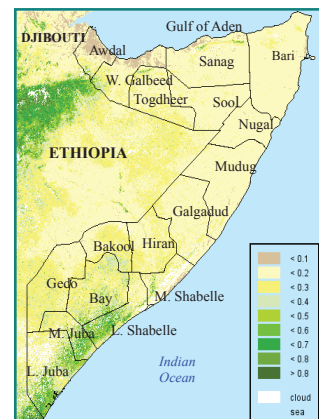
Map 6: 1st Dekad (1-10)



Map 7: 2nd Dekad (11-20)

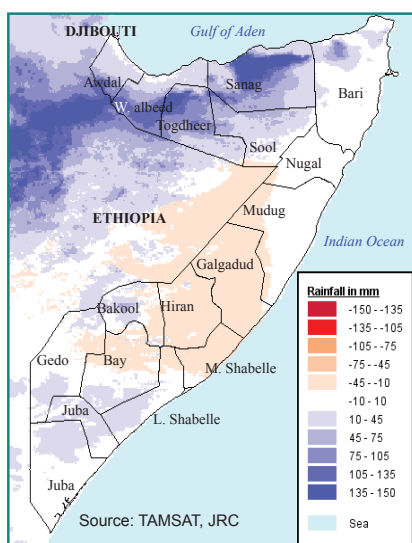


Map 8: 3rd Dekad (21-30)



Monthly rainfall and NDVI performance

Map 9: Sep 2019 TAMSAT Rainfall Difference from short term mean (1999-2018)



Map 10: Sep 2019 NDVI Absolute Difference from Short Term Mean (2001- 2018)

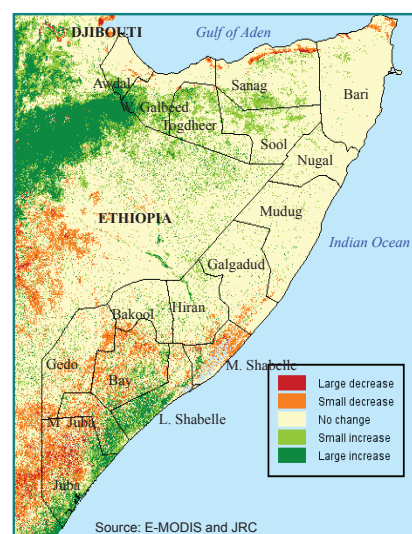


Table 1: Observed rain gauge data compared to Short term averages (September 2019)

Northern Regions

Region	Station Name	dek 1	dek 2	dek 3	Sep-19	STA
Awdal	Borama	26.0	53.0	13.5	92.5	80.0
Awdal	Qulenjeed	8.0	15.0	35.5	58.5	76.0
Wogooyi Galbeed	Gebilley	28.0	38.5	27.5	94.0	59.0
Wogooyi Galbeed	Malawle	14.0	0.0	0.0	14.0	66.0
Wogooyi Galbeed	Wajaale	12.5	59.0	11.0	82.5	70.0
Wogooyi Galbeed	Hargeisa	21.5	35.5	30.0	87.0	65.0
Wogooyi Galbeed	Daraweyne	14.0	38.5	0.0	52.5	59.0
Wogooyi Galbeed	Cadaadley	30.5	4.0	15.0	49.5	49.0
Wogooyi Galbeed	Dilla	9.0	35.0	13.5	57.5	73.0
Wogooyi Galbeed	Aburin	1.0	50.0	16.0	67.0	67.0
Wogooyi Galbeed	Dhubato	29.0	15.0	25.0	69.0	56.0
Wogooyi Galbeed	Baligubable	40.5	75.5	4.4	120.4	65.0
Wogooyi Galbeed	Berbera	33.0	13.0	0.0	46.0	3.0
Togdheer	Burao	33.0	13.0	0.0	46.0	27.0
Togdheer	Sheikh	17.0	49.0	14.0	80.0	74.0
Togdheer	Buadodle	0.0	0.0	0.0	0.0	31.0
Sanaag	Eeerigavo	16.0	121.0	74.0	211.0	80.0
Sanaag	Elafweyn	0.0	9.5	13.5	23.0	37.0
Sool	Caynabo	0.0	10.0	25.0	35.0	33.0
Sool	Xudun	0.0	3.0	49.5	52.5	23.0
Sool	Taleex	0.0	17.6	12.0	29.6	19.0
Sool	Las Aanod	0.0	5.0	73.0	78.0	15.0
Bari	Bossasso	0.0	0.0	0.0	0.0	1.0
Bari	Qardo	0.0	6.0	12.0	18.0	8.0
Bari	Dangoroyo	0.0	0.0	0.0	0.0	9.0
Bari	Ballidhin	12.3	33.0	19.6	64.9	9.0
Bari	Bandarbeyla	0.0	0.0	0.0	0.0	9.0
Bari	Iskushuban	0.0	3.0	0.0	3.0	7.0
Nugaal	Garowe	0.0	0.0	1.2	1.2	17.0
Nugaal	Eyl	0.0	0.0	0.0	0.0	2.0
Nugaal	Burnile	0.0	0.0	0.0	0.0	17.0
Mudug	Galdogob	0.0	0.0	0.0	0.0	10.0
Mudug	Jariban	0.0	0.0	0.0	0.0	11.0
Mudug	Galkayo	0.0	0.0	0.0	0.0	4.0

Southern Regions

Region	Station Name	dek 1	dek 2	dek 3	Sep-19	STA
Bakool	Hudur	1.0	0.0	0.0	1.0	8.0
Bakool	Elbarde	0.0	0.0	0.0	0.0	35.0
Bay	Baidoa	0.9	6.0	5.5	12.4	13.0
Bay	Diinsor	1.5	3.2	1.3	6.0	11.0
Bay	Bardaale	1.0	0.5	2.5	4.0	12.0
Bay	Burhakaba	10.0	0.0	0.0	10.0	18.0
Bay	Wanleweyne	9.0	0.0	0.0	9.0	16.0
Gedo	Luuq	0.0	0.0	0.0	0.0	3.0
Gedo	Bardheere	0.0	0.0	0.0	0.0	8.0
Hiraan	Belet weyne	0.0	0.0	0.0	0.0	13.0
Hiraan	Bulo burti	0.0	0.0	0.0	0.0	8.0
Hiraan	Mataban	0.0	0.0	0.0	0.0	12.0
Banadir	Mogadishu	0.5	2.0	0.0	2.5	17.0
Middle Shabelle	Jowhar	0.0	13.0	0.0	13.0	6.0

*indicates missing data

Monthly rainfall and NDVI performance maps

The Mapped NDVI and RFE above represent the differences from Long Term Mean. E-MODIS NDVI is presented as absolute difference from Long Term Mean for the same period (current - long term mean), while TAMSAT-RFE is presented as the relative difference from Long Term Mean (Current*100)/LTM.

Seasonal Trend Graph

The maps and graphs on pages 3 and 4 are produced in collaboration with the FOODSEC Action of the Joint Research Centre of the European Commission. The graphs present seasonal trends of crop specific NDVI (Normalised Difference Vegetation Index) as lines and rainfall values (RFE) as bars for each of the delineated land cover and administrative units (regions and districts). For more information or request on available data, please send an email to: data@fsnau.org.

Primary data sources are NOAA/USGS, European Centre for Medium- range Weather Forecast (ECMWF), MARS-JRC, FSNAU and SWALIM. Maps and graphs on this bulletin are produced from four sources.

- Current Rainfall Estimates and NDVI data are derived from NOAA/CPC and DEVCOCast (www.devcoast.eu) respectively, while the rain gauge data is collected by FAO-SWALIM and FEWSNET.

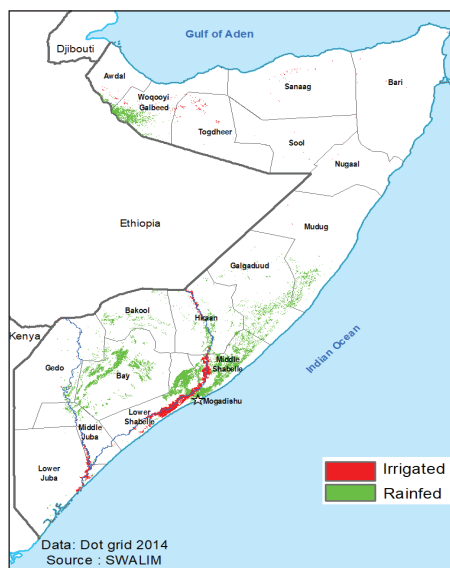
- The seasonal profiles on page 3 and 4 are produced in collaboration with JRC-MARS. For more information visit <http://mars.jrc.europa.eu/mars/About-us/FOODSEC> For more information on NDVI visit <http://earlywarning.usgs.gov/adds> and <http://fsausomali.org/fileadmin/uploads/1308.pdf>

- This report is a compilation of climate data and field reports on Somalia that FSNAU and FEWS NET regularly review for analysis. For more information on data sources, please refer to page 2.

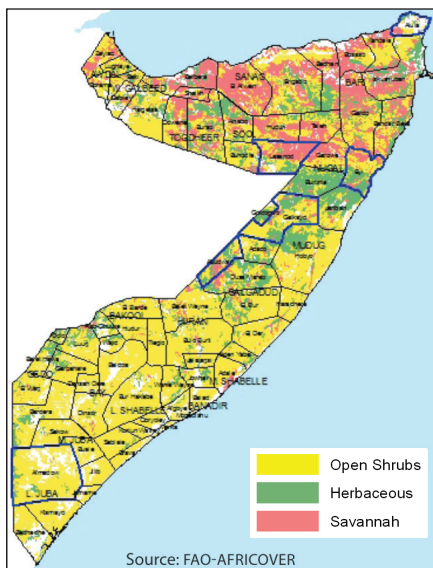
The TAMSAT information is available on <http://www.met.reading.ac.uk/tamsat/about/>

Seasonal rainfall and NDVI trends by region

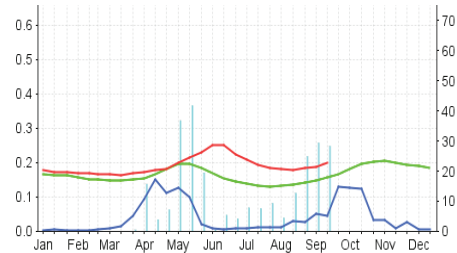
Map 11: Agricultural Areas



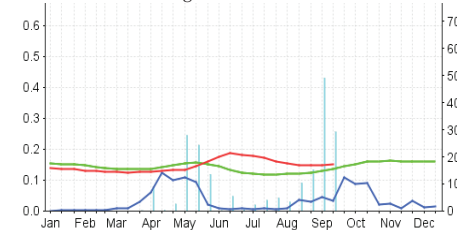
Map 12: Pastoral Areas



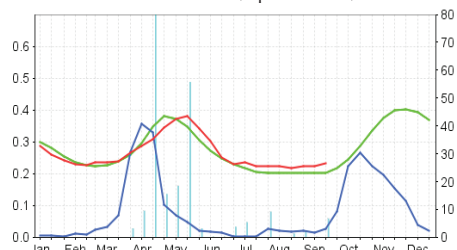
Togdheer Pastoral (Savannah)



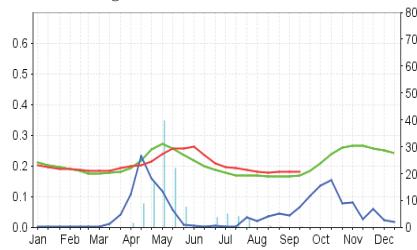
Saanag Pastoral (Savannah)



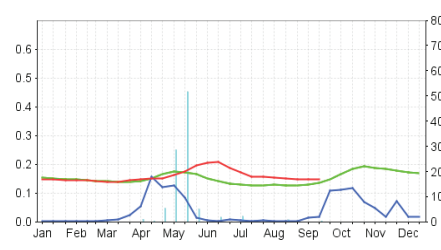
Gedo Pastoral (Open Shrubs)



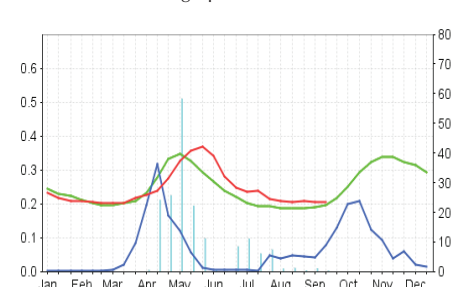
Galgaduud Pastoral (Herbaceous)



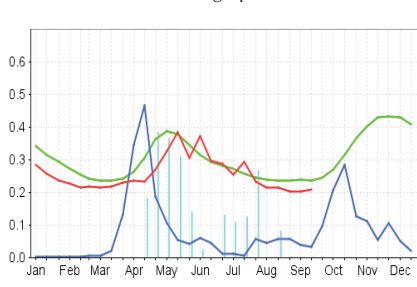
Nugaal Pastoral (Open Shrubs)



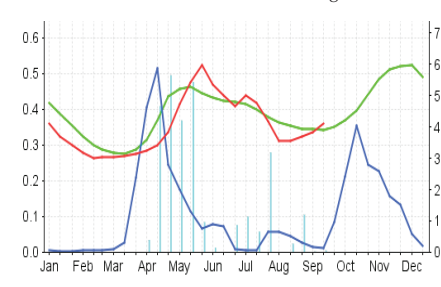
Hiran Agropastoral (Rainfed)



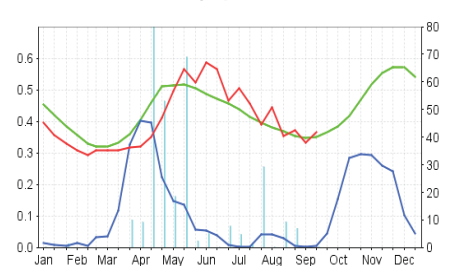
Middle Shabelle Agropastoral (Rainfed)



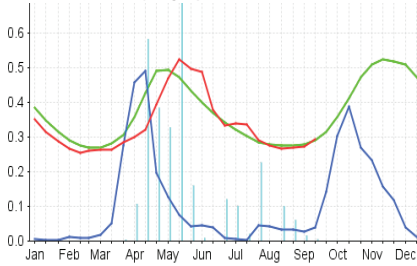
Lower Shabelle Riverine (Irrigated)



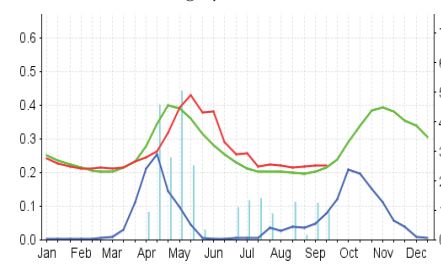
Lower Juba Agropastoral (Rainfed)



Bay Agropastoral (Rainfed)

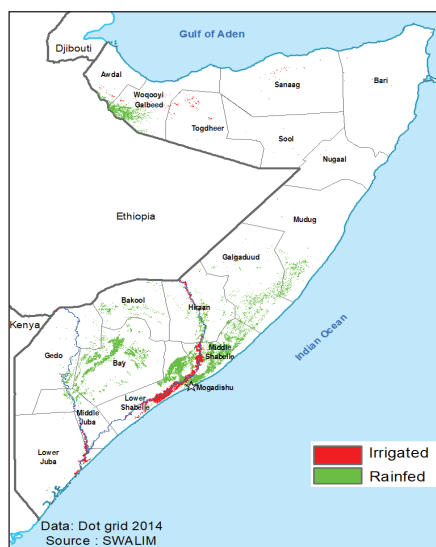


Bakool Agropastoral (Rainfed)

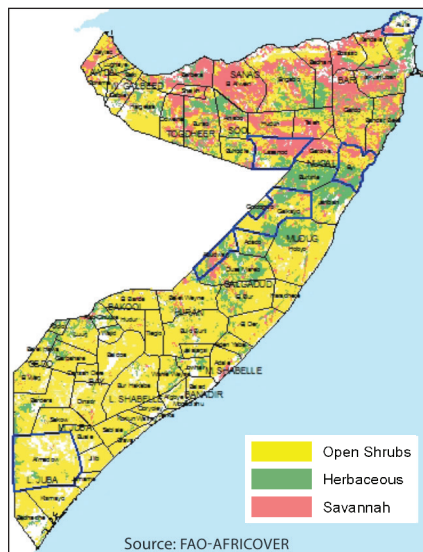


Seasonal rainfall and NDVI trends for selected districts

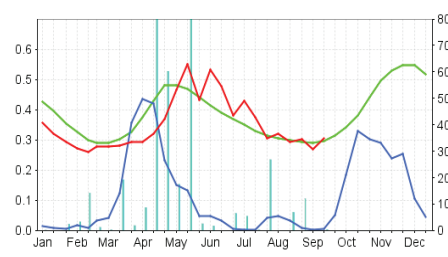
Map 13: Agricultural Areas



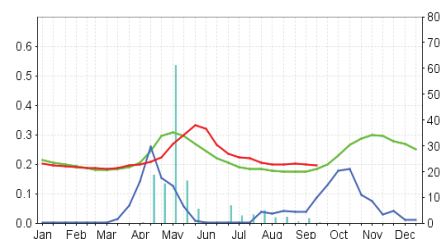
Map 14: Pastoral Areas



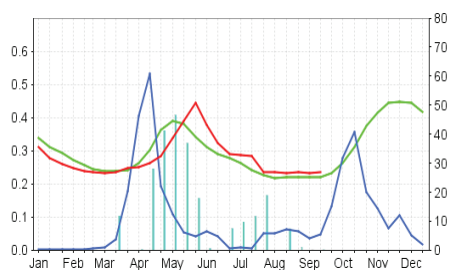
Afmadaw Pastoral (Open Shrubs)



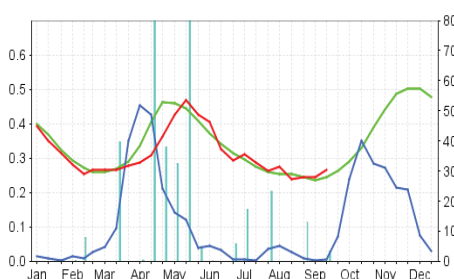
Beletweyn Riverine (Irrigated)



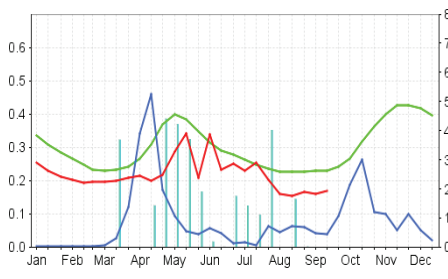
Jamame Riverine (Irrigated)



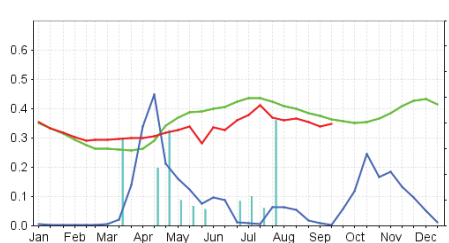
Sakow Agropastoral (Rainfed)



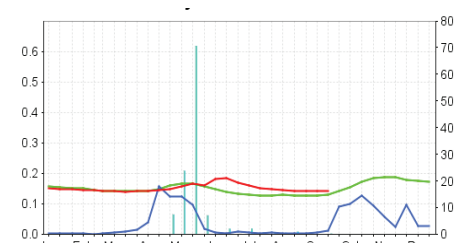
Adale Agropastoral (Herbaceous)



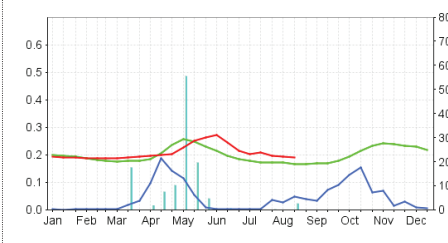
Merka Pastoral (Herbaceous)



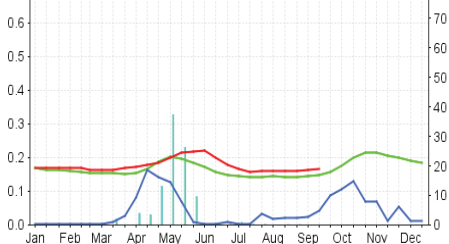
Eyl Pastoral (Open Shrubs)



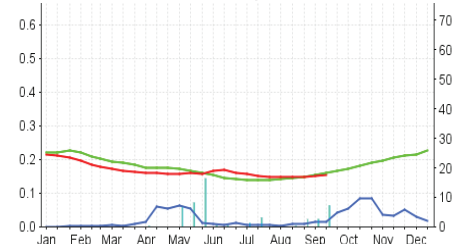
Abudwak Pastoral (Herbaceous)



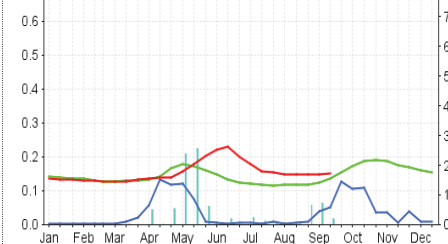
Galkayo Open Shrubs



Alula Pastoral (Open Shrubs)



Lasanod Pastoral (Herbaceous)



RFE 2019 RFE STA (2001-2018) NDVI 2019 NDVI STA (1999-2018)