

Climate Update



Food and Agriculture
Organization of the
United Nations



Food Security and Nutrition
Analysis Unit - Somalia

October 2019 Monthly Rainfall and NDVI (Issued November 26, 2019)

Highlights

The 2019 *Deyr* (October-December) rainy season started early between mid-September and early October. The rains continued to intensify in space and time across Somalia, reaching a peak during the second daka of October. Rainfall intensity declined during the last daka of October. Many areas in Somalia recorded normal to above normal rains, with the exception of northeastern parts of the country that recorded below normal rains (Maps 1 to 5 and 9).

The good rains have replenished water sources leading to a reduction of water stress and boosted both pasture growth and crop cultivation. There has been an improvement in rangeland conditions, livestock body conditions and milk production as well as increased conception among all livestock species in most parts of the country except some pockets of Bari, Coastal *Deeh* and Hawd Pastoral livelihoods of northeast and central regions which received low amounts of rainfall during the month. However, this is expected to have minimal adverse impact on livestock due to improved migration possibilities to adjacent livelihoods where rainfall performance has been relatively better. Apart from germination failure and replanting in areas affected by flash floods, crop production prospects in rain-fed agropastoral livelihoods are good due to sufficient moisture in the soil to support plant growth and development.

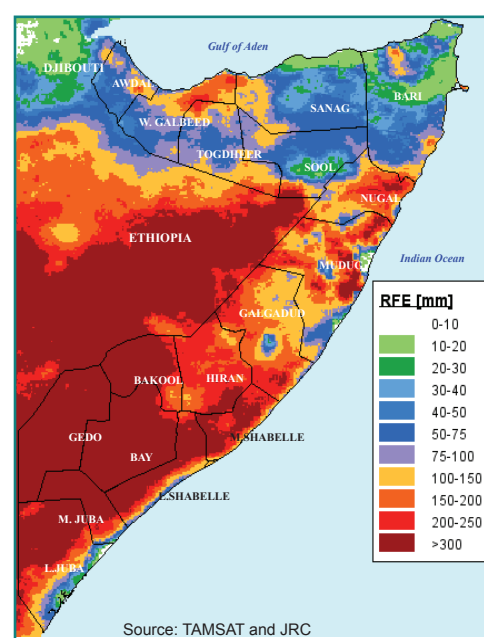
In riverine livelihoods along the Shabelle and Juba rivers, heavy floods and waterlogging have caused delays in crop cultivation. As a result, overall area planted in low-lying parts of riverine livelihoods along the Shabelle and Juba rivers is low for this time of the year. Heavy rains and increased river levels in October led to flooding in Beledweyne, Jowhar and Bardhere districts. Low-lying agricultural areas along the two rivers have also been adversely affected due to flooding and water logging. Flash floods were also experienced in Bay, Bakool, Middle Shabelle (Jowhar) and Banadir regions inundating farmlands and disrupting road networks. In Hiraan (Beletweyne and Buloburto), floods have damaged property and infrastructure and the internal displacement of over 240 000 people and the death of approximately 20 individuals, leading to worsening humanitarian conditions among the affected populations.

Average to above average rainfall in most parts of Somalia also had a positive impact on vegetation conditions in most regions of the country (Maps 6 to 8 and 10). According to the satellite-derived vegetation condition (Normalized Difference Vegetation Index – NDVI), which is used to assess vegetation vigor during the month, most areas in the country indicate good vegetation conditions compared to the short-term average. However, parts of Bari region and coastal areas of Lower Shabelle show mixed vegetation conditions with pocket areas showing some deterioration. These are areas that did not receive significant amount of rainfall in October.

Map 1: Oct 2019 Monthly Rain Gauge Data (in mm)

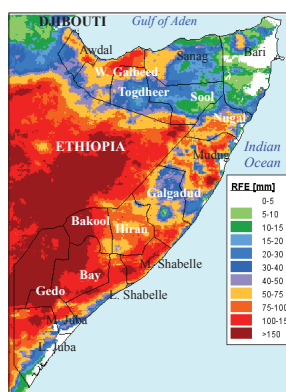


Map 2: Oct 2019 TAMSAT Monthly Rainfall Estimates

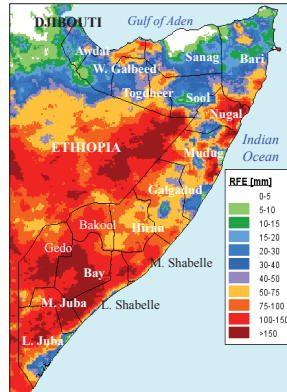


October 2019: Dekadal RFE Progression

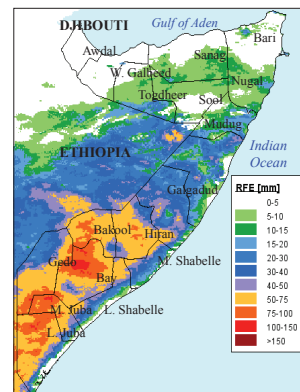
Map 3: 1st Dekad (1-10)



Map 4: 2nd Dekad (11-20)

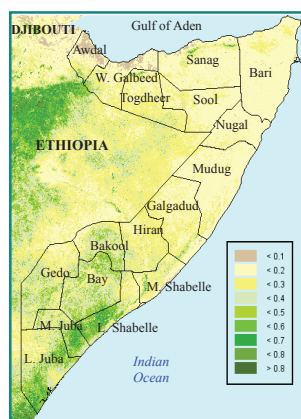


Map 5: 3rd Dekad (21-30)

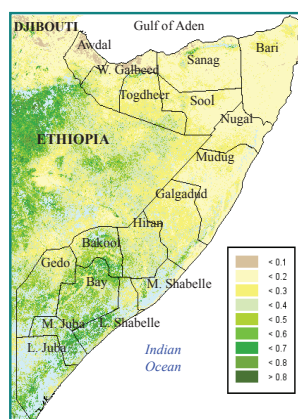


October 2019: Dekadal NDVI Progression

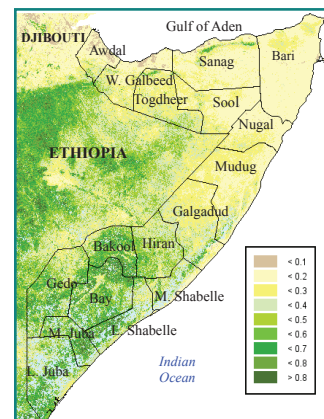
Map 6: 1st Dekad (1-10)



Map 7: 2nd Dekad (11-20)

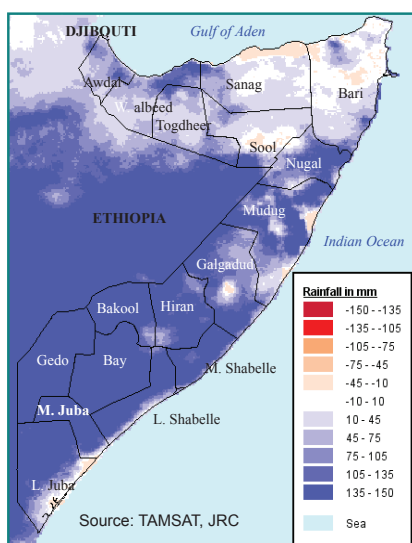


Map 8: 3rd Dekad (21-30)



Monthly rainfall and NDVI performance October 2019

Map 9: Oct 2019 TAMSAT Rainfall Difference from Short Term Average (1999-2018)



Map 10: Oct 2019 NDVI Absolute Difference from Short Term Average (2001-2018)

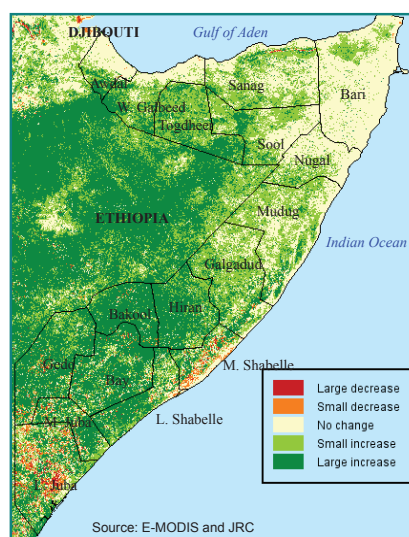


Table 1: Observed rain gauge data compared to Short term averages (October 2019)

Northern Regions (in mm)

Station Name	Region	dek 1	dek 2	dek 3	Oct-19	STA
Borama	Awdal	45.0	3.0	0.0	48.0	19.0
Qulenjeed	Awdal	32.5	0.0	0.0	32.5	25.0
Gebilley	Wogooyi Galbeed	43.0	0.0	0.0	43.0	17.0
Malawle	Wogooyi Galbeed	12.0	0.0	0.0	12.0	32.0
Wajaale	Wogooyi Galbeed	69.0	0.0	0.0	69.0	25.0
Hargeisa	Wogooyi Galbeed	40.5	6.0	0.0	46.5	29.0
Darawayne	Wogooyi Galbeed	2.0	29.0	0.0	31.0	32.0
Cadaadley	Wogooyi Galbeed	67.5	23.0	0.0	90.5	35.0
Dilla	Wogooyi Galbeed	38.0	0.0	0.0	38.0	25.0
Aburin	Wogooyi Galbeed	35.0	7.0	0.0	42.0	32.0
Dhubato	Wogooyi Galbeed	49.0	21.0	0.0	70.0	33.0
Baligubable	Wogooyi Galbeed	21.0	25.0	0.0	46.0	36.0
Berbera	Wogooyi Galbeed	18.5	1.0	0.0	19.5	0.0
Burao	Togdheer	52.0	13.0	0.0	65.0	34.0
Odweyne	Togdheer	100.0	64.5	0.0	164.5	36.0
Buadodle	Togdheer	37.0	0.0	0.0	37.0	40.0
Eerigavo	Sanaag	62.0	0.0	0.0	62.0	4.0
Elafweyn	Sanaag	61.5	46.5	0.0	108.0	21.0
Caynabo	Sool	14.0	5.0	0.0	19.0	30.0
Xudun	Sool	7.5	78.0	0.0	85.5	26.0
Taleex	Sool	0.0	0.0	0.0	0.0	25.0
Las Aanod	Sool	0.0	0.0	0.0	0.0	30.0
Bossasso	Bari	5.0	0.0	0.0	5.0	2.0
Qardo	Bari	2.0	0.0	0.0	2.0	26.0
Dangoroyo	Bari	15.0	0.0	0.0	15.0	24.0
Ballidhin	Bari	0.0	0.0	0.0	0.0	9.0
Alula	Bari	0.0	0.0	0.0	0.0	1.0
Bandarbeyla	Bari	0.0	53.0	0.0	53.0	17.0
Iskushuban	Bari	0.0	0.0	0.0	0.0	6.0
Garowe	Nugaal	0.0	0.0	0.0	0.0	29.0
Eyl	Nugaal	0.0	25.0	0.0	25.0	41.0
Burtile	Nugaal	6.7	34.5	0.0	41.2	36.0
Galdogob	Mudug	15.0	61.0	8.0	84.0	49.0
Jarriban	Mudug	7.0	0.0	0.0	7.0	32.0
Galkayo	Mudug	0.0	12.0	9.5	21.5	48.0

Southern Regions (in mm)

Station Name	Region	dek 1	dek 2	dek 3	Oct-19	STA
Hudur	Bakool	78.0	48.0	95.5	221.5	100.0
Elbarde	Bakool	69.0	134.5	101.0	304.5	87.0
Baidoa	Bay	98.7	153.7	36.0	288.4	135.0
Diinsor	Bay	70.4	106.3	56.4	233.1	64.0
Bardale	Bay	86.5	137.0	65.0	288.5	89.0
Burhakaba	Bay	30.0	58.0	170.6	258.6	112.0
Wanleweyne	Bay	15.7	122.2	21.5	159.4	98.0
Qansadere	Bay	166.5	165.4	41.2	373.1	88.0
Luuq	Gedo	128.5	100.0	7.0	235.5	48.0
Bardheere	Gedo	72.0	132.0	7.0	211.0	82.0
Belet weyne	Hiraan	63.5	62.0	46.5	172.0	86.0
Bulo burti	Hiraan	33.5	22.0	60.0	115.5	90.0
Bualle	Middle juba	14.0	137.5	85.0	236.5	48.0
Jowhar	Middle Shabelle	20.0	89.0	25.0	134.0	99.0

*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.

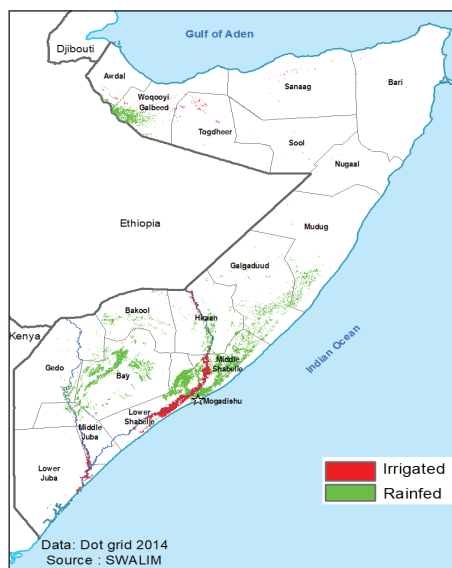
- The seasonal profiles on page 3 and 4 are produced in collaboration with JRC-MARS. For more information visit <http://mars.jrc.europa.eu/mars/About-us/FOODSEC> For more information on NDVI visit <http://earlywarning.usgs.gov/adds> and <http://fsausomali.org/fileadmin/uploads/1308.pdf>

- 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.

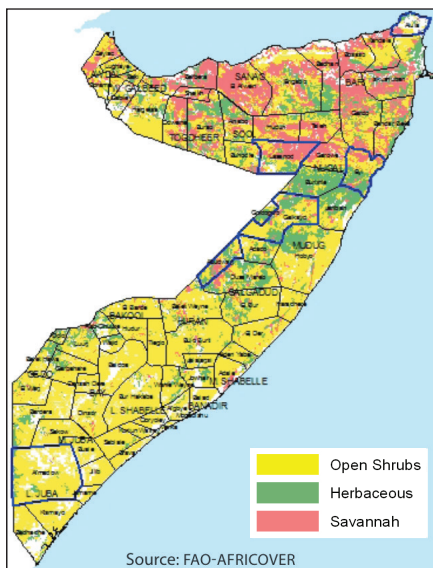
The TAMSAT information is available on <http://www.met.reading.ac.uk/tamsat/about/>

Seasonal rainfall and NDVI trends by region October 2019

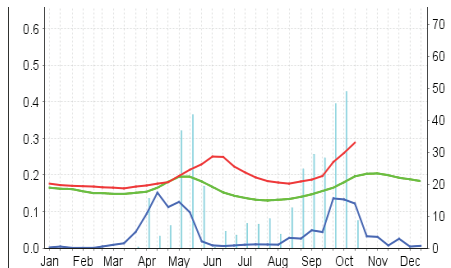
Map 11: Agricultural Areas



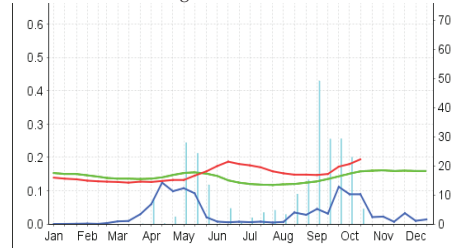
Map 12: Pastoral Areas



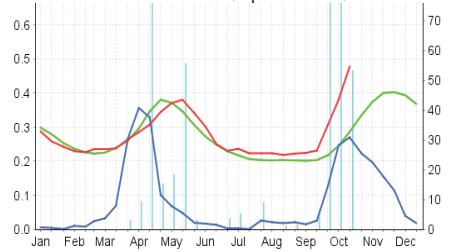
Togdheer Pastoral (Savannah)



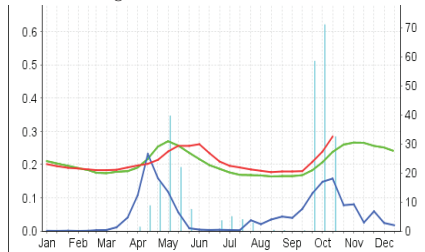
Saanag Pastoral (Savannah)



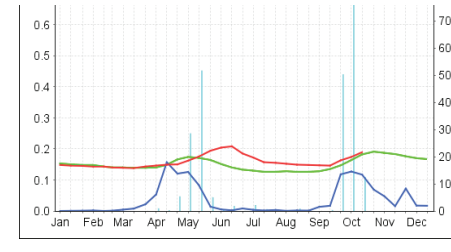
Gedo Pastoral (Open Shrubs)



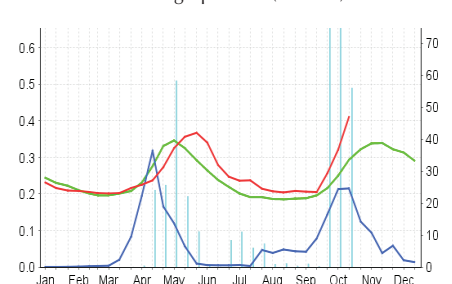
Galgaduud Pastoral (Herbaceous)



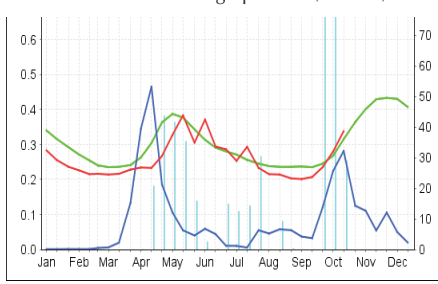
Nugal Pastoral (Open Shrubs)



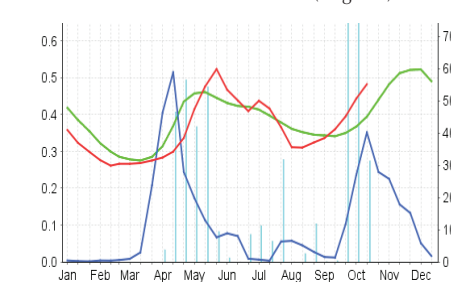
Hiran Agropastoral (Rainfed)



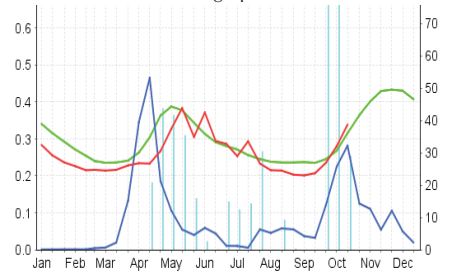
Middle Shabelle Agropastoral (Rainfed)



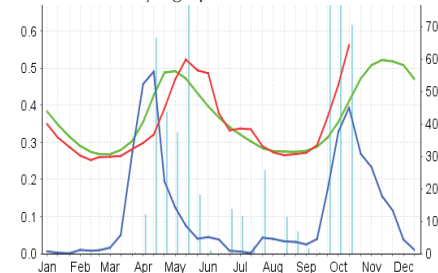
Lower Shabelle Riverine (Irrigated)



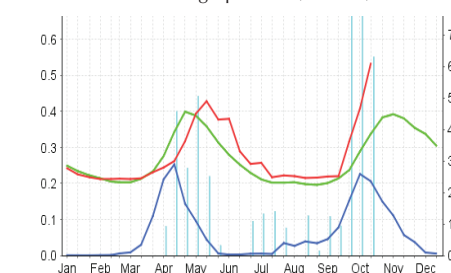
Middle Shabelle Agropastoral (Rainfed)



Bay Agropastoral (Rainfed)



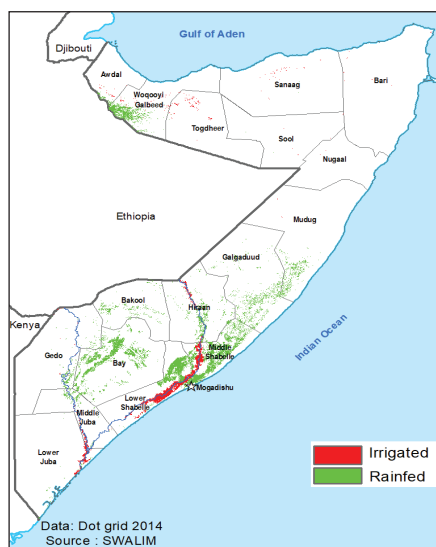
Bakool Agropastoral (Rainfed)



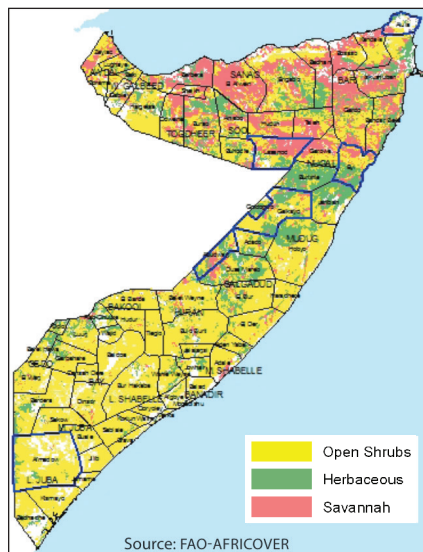
RFE 2019 RFE STA: 2001-2018 NDVI 2019 NDVI STA 1999-2018

Seasonal rainfall and NDVI trends for selected districts October 2019

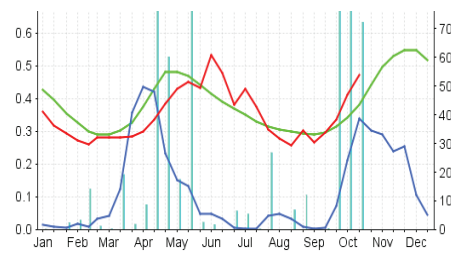
Map 13: Agricultural Areas



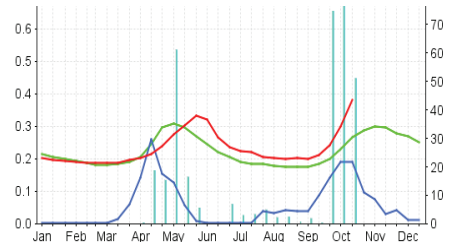
Map 14: Pastoral Areas



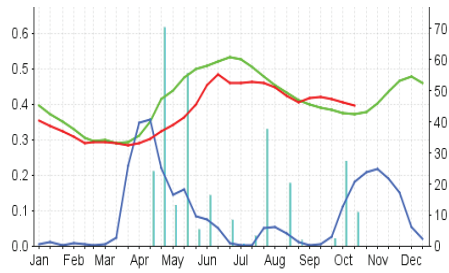
Afmadow Pastoral (Open Shrubs)



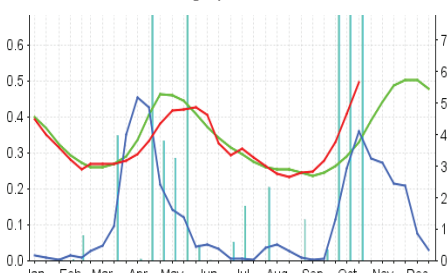
Beletweyn Riverine (Irrigated)



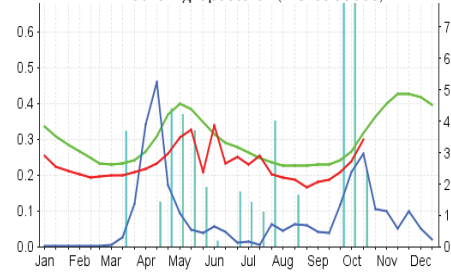
Jamame Riverine (Irrigated)



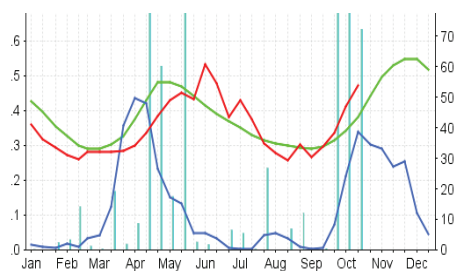
Sakow Agropastoral (Rainfed)



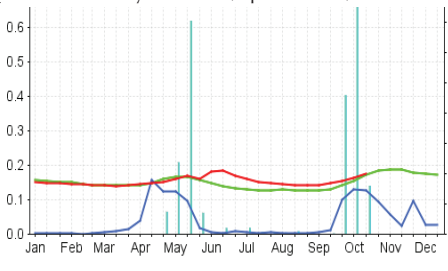
Adale Agropastoral (Herbaceous)



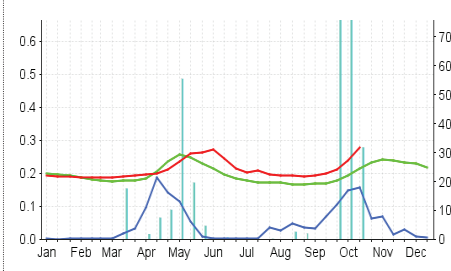
Afmadow Pastoral (Herbaceous)



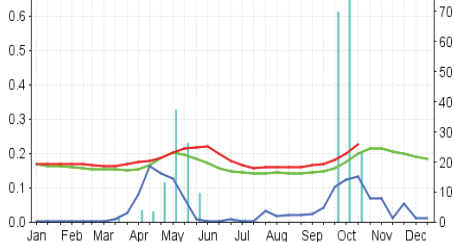
Eyl Pastoral (Open Shrubs)



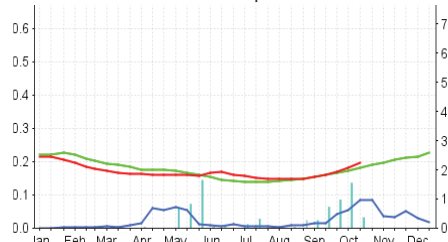
Abudwak Pastoral (Herbaceous)



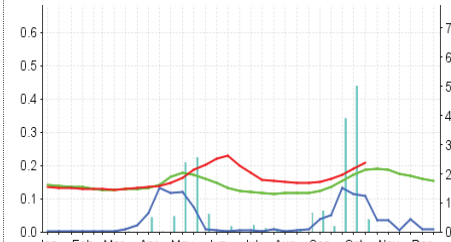
Galkayo Open Shrubs



Alula Pastoral (Open Shrubs)



Lasanod Pastoral (Herbaceous)



 RFE 2019
  RFE STA: 2001-2018
  NDVI 2019
  NDVI STA 1999-2018