

Climate Update



Food and Agriculture
Organization of the
United Nations

FSNAU
Food Security and Nutrition
Analysis Unit - Somalia

SWALIM

November 2018 Monthly Rainfall and Vegetation Cover (Issued December 20, 2018)

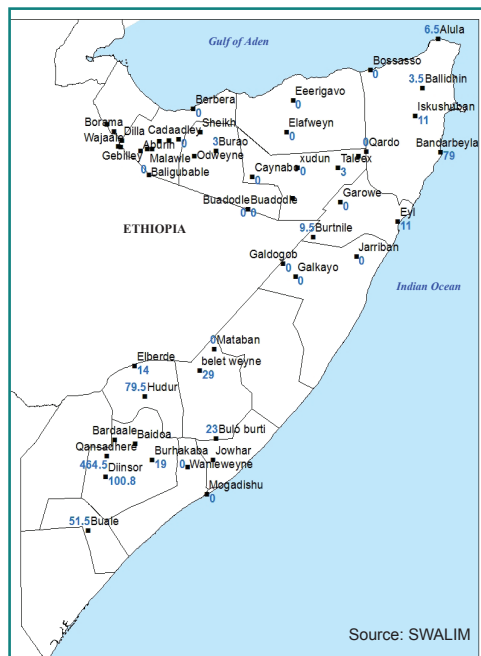
Highlights

Deyr season (October-December) rainfall performance in November 2018 varied from place to place. There was a general reduction of rainfall activities in many parts of the country. However, in the south, most weather stations reported moderate rains with some stations recording well above average rains. The stations that recorded significant rains include: 67 mm in Qulenjeed of Awdal region, 79 mm in Bandarbeyla of Bari region, 79 mm in Hudur of Bakool region, 60 mm in Baidoa, 77 mm in Bardale, 100 mm in Dinsor of Bay region, and 51 mm in Buale of Middle Juba region (Map 1; Table1). Overall, the 2018 *Deyr* season rainfall in October and November 2018 has been below average in terms of amount, intensity and coverage, with most southern regions experiencing rainfall deficits of 25 to 100 mm compared to the October-November short-term average (Map 9). Rainfall in the upper catchments of Shabelle and Juba rivers in the Ethiopian highlands led to rising river water levels along the Shabelle and Juba rivers, but river water levels remained below moderate flood-risk levels throughout the season with no riverine flooding reported, contrary to earlier expectations.

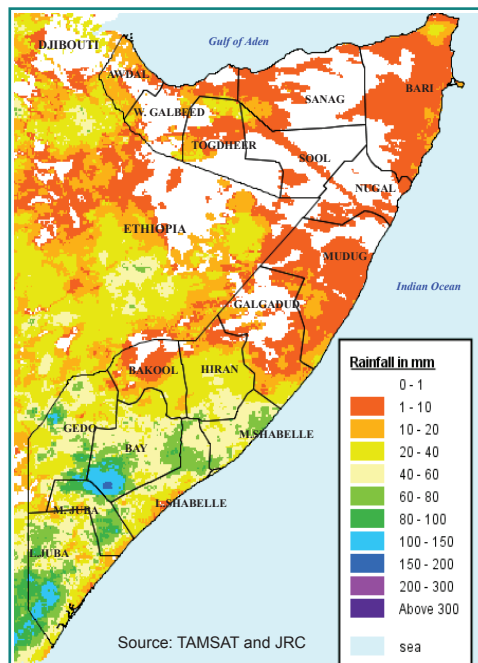
Satellite-derived rainfall estimates show continuation of *Deyr* rains through late November, with moderate to heavy rains of 40-150mm in the Jubas, Shabelles, Bay, Gedo and parts of Hiran (Maps 2-5 and 9). Vegetation cover measured through the Normalized Difference Vegetation Index (NDVI) for November 2018 indicates deterioration of vegetation conditions in southern Somalia, with the exceptions of parts of Hiran, Bay, Bakool and Gedo that showed improved biomass conditions (Maps 6-8 and 10).

Below average *Deyr* season rainfall is expected to lead to below average cereal production in southern Somalia and faster depletion of range resources in northeast and central Somalia. Although there have been some rainfall in early December, this is not expected to have a major positive impact, especially in crop growing areas that experienced poor rainfall during critical stages of crop growth and development.

Map 1: November 2018 Monthly Rainfall Station Data (in mm)

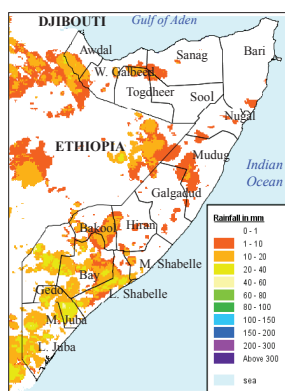


Map 2: November 2018 Monthly Rainfall Satellite Data (in mm)

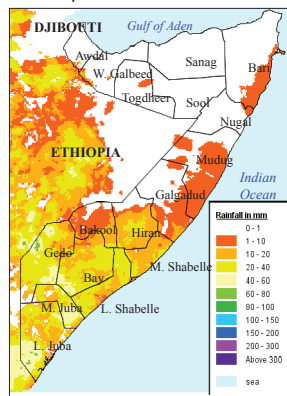


November 2018: Dekadal Rainfall (RFE) Progression

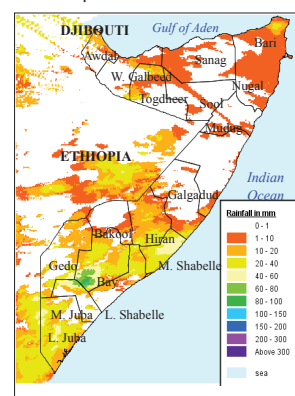
Map 3: 1st Dekad (1-10)



Map 4: 2nd Dekad (11-20)

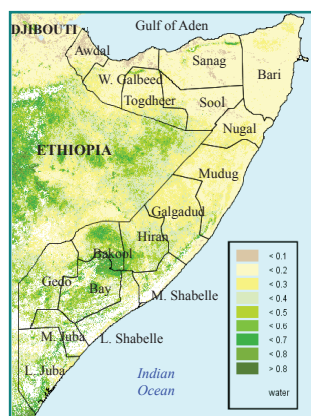


Map 5: 3rd Dekad (21-30)

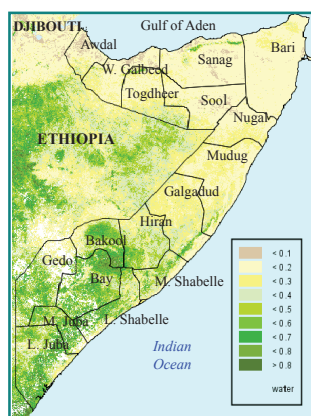


November 2018: Dekadal Vegetation Cover (NDVI) Progression

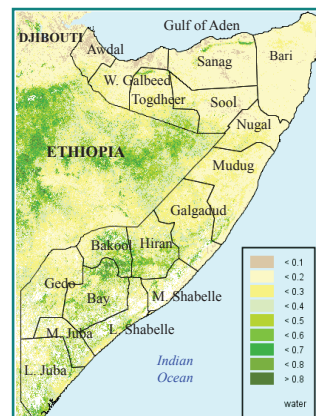
Map 6: 1st Dekad (1-10)



Map 7: 2nd Dekad (11-20)

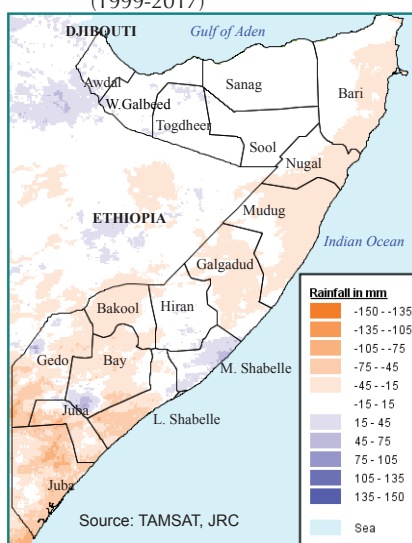


Map 8: 3rd Dekad (21-30)



Monthly rainfall and Vegetation Cover performance

Map 9: November 2018 TAMSAT Rainfall Difference from Short Term Average (1999-2017)



Map 10: November 2018 NDVI Absolute Difference from Short Term Average (2001-2017)

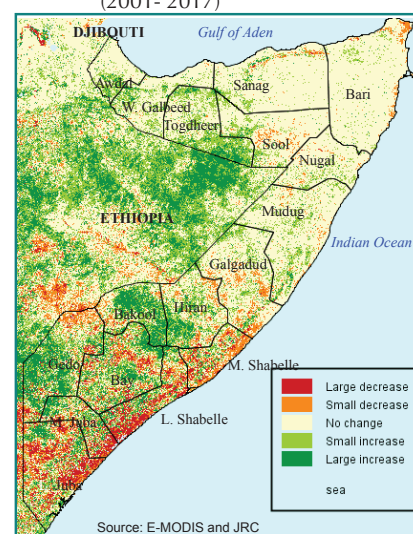


Table 1: Observed rain gauge data for November 2018 compared to short term monthly averages (STA)

Northern Regions

Region	Station Name	dek 1	dek 2	dek 3	Nov-18	STA
Awdal	Borama	0.0	0.0	0.0	0.0	9.0
Awdal	Qulenjeed	0.0	67.5	0.0	67.5	14.0
Bari	Bossasso	0.0	0.0	0.0	0.0	3.0
Bari	Qardo	0.0	0.0	0.0	0.0	5.0
Bari	Dangoroyo	0.0	0.0	0.0	0.0	11.0
Bari	Ballidhin	0.0	0.0	3.5	3.5	9.0
Bari	Alula	0.0	0.0	6.5	6.5	6.0
Bari	Bandarbeyla	0.0	28.0	51.0	79.0	11.0
Bari	Iskushuban	0.0	0.0	11.0	11.0	6.0
Mudug	Galdogob	0.0	0.0	0.0	0.0	19.0
Mudug	Jarriban	0.0	0.0	0.0	0.0	14.0
Mudug	Galkayo	0.0	0.0	0.0	0.0	15.0
Nugaal	Garowe	0.0	0.0	0.0	0.0	11.0
Nugaal	Eyl	0.0	3.0	8.0	11.0	15.0
Nugaal	Burntile	0.0	0.0	9.5	9.5	14.0
Sanaag	Eerigavo	0.0	0.0	0.0	0.0	5.0
Sanaag	Elafweyn	0.0	0.0	0.0	0.0	7.0
Sool	Taleex	3.0	0.0	0.0	3.0	8.0
Sool	Las Aanod	0.0	0.0	0.0	0.0	10.0
Sool	Caynabo	0.0	0.0	0.0	0.0	13.0
Sool	xudun	0.0	0.0	0.0	0.0	9.0
Togdheer	Buadodle	0.0	0.0	0.0	0.0	13.0
Togdheer	Burao	0.0	0.0	3.0	3.0	8.0
Togdheer	Sheikh	0.0	3.0	4.5	7.5	25.0
Togdheer	Odweyne	0.0	0.0	0.0	0.0	11.0
Togdheer	Buadodle	0.0	0.0	0.0	0.0	13.0
Wogooyi Galbeed	Gebilley	0.0	0.0	0.0	0.0	10.0
Wogooyi Galbeed	Malawle	0.0	0.0	0.0	0.0	11.0
Wogooyi Galbeed	Wajaale	0.0	10.0	0.0	10.0	12.0
Wogooyi Galbeed	Hargeisa	0.0	0.0	0.0	0.0	8.0
Wogooyi Galbeed	Daraweyne	0.0	0.0	0.0	0.0	11.0
Wogooyi Galbeed	Cadaadley	0.0	0.0	0.0	0.0	12.0
Wogooyi Galbeed	Dilla	0.0	0.0	10.0	10.0	12.0
Wogooyi Galbeed	Aburin	0.0	0.0	0.0	0.0	11.0
Wogooyi Galbeed	Dhubato	0.0	0.0	0.0	0.0	12.0
Wogooyi Galbeed	Baligubable	0.0	0.0	0.0	0.0	13.0
Wogooyi Galbeed	Berbera	0.0	0.0	0.0	0.0	1.0

Southern Regions

Region	Station Name	dek 1	dek 2	dek 3	Nov-18	STA
Bakool	Elberde	0.0	14.0	0.0	14.0	*
Bakool	Hudur	2.5	60.0	17.0	79.5	*
Banadir	Mogadishu	0.0	0.0	0.0	0.0	*
Bay	Burhakaba	0.0	19.0	0.0	19.0	*
Bay	Wanleweyne	0.0	0.0	0.0	0.0	*
Bay	Baidoa	0.0	59.5	0.0	59.5	89.0
Bay	Bardaale	12.5	40.0	25.0	77.5	63.0
Bay	Diinsor	2.5	70.9	27.4	100.8	98.0
Bay	Qansadhere	162.2	229.8	72.5	464.5	*
Hiraan	Bulo burti	0.0	17.5	5.5	23.0	*
Hiraan	Mataban	0.0	0.0	0.0	0.0	*
Hiraan	belet weyne	0.0	0.0	29.0	29.0	*
Middle juba	Buale	0.0	43.0	8.5	51.5	*
Middle Shabelle	Jowhar	10.0	9.0	5.0	24.0	*

*Indicates missing data

Monthly rainfall and NDVI performance maps

The Mapped NDVI and RFE above represent the differences from Short 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: fsnau@fao.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 DEVCOCAT (www.devcoast.eu) respectively, while the rain gauge data is collected by FAO-SWALIM and FEWSNET.

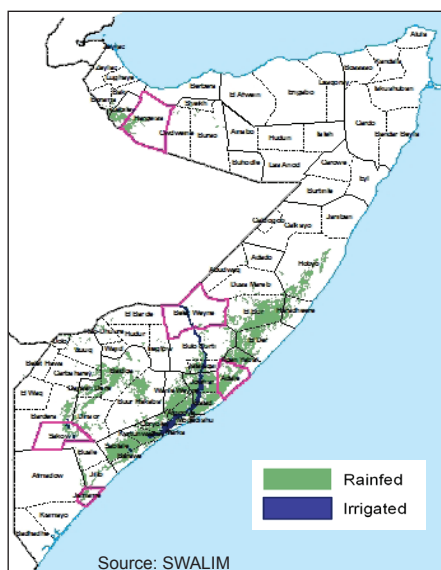
- The seasonal profiles on page 3 and 4 are produced in collaboration with JRC-MARS. For more information visit <http://mars.jrc.europa.eu/mars/About-us/FOODSEC> For more information on NDVI visit <http://earlywarning.usgs.gov/adds> and <http://fsausomali.org/fileadmin/uploads/1308.pdf>

- 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.

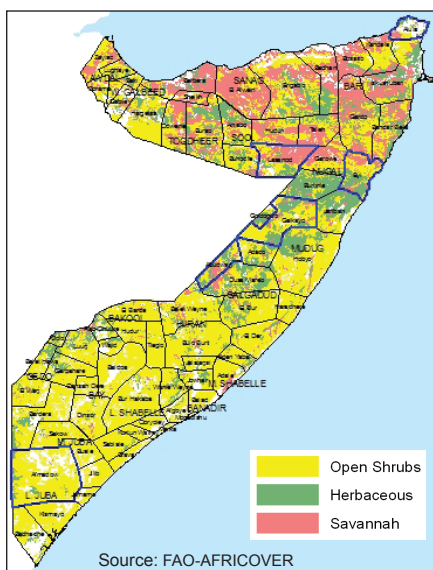
The TAMSAT information is available on <http://www.met.reading.ac.uk/tamsat/about/>

Seasonal rainfall and Vegetation Cover trends by region

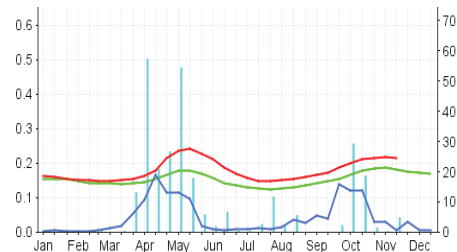
Map 11: Agricultural Areas



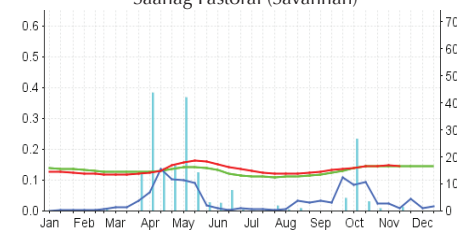
Map 12: Pastoral Areas



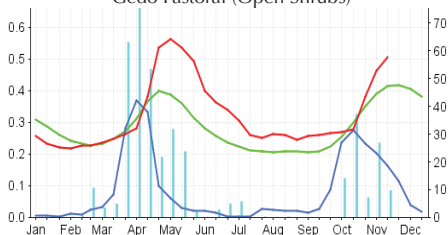
Togdheer Pastoral (Savannah)



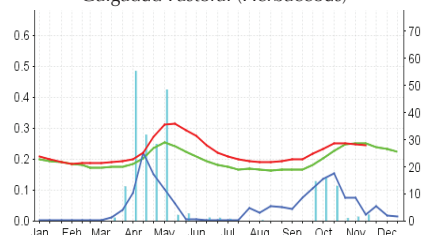
Saanag Pastoral (Savannah)



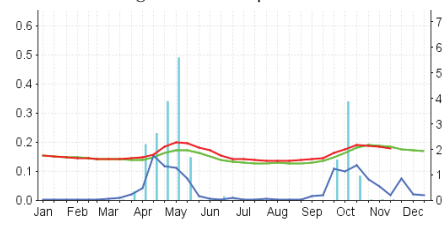
Gedo Pastoral (Open Shrubs)



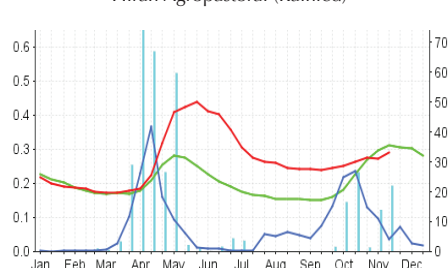
Galgadud Pastoral (Herbaceous)



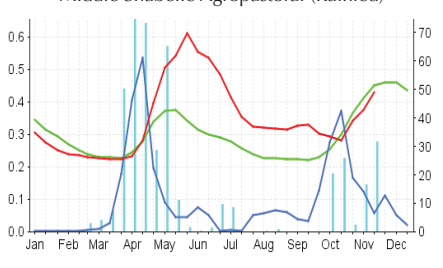
Nugal Pastoral (Open Shrubs)



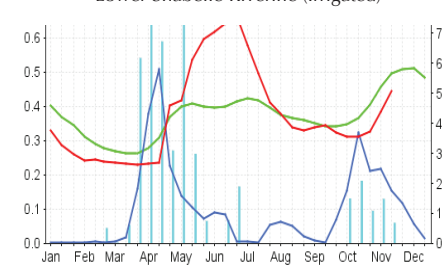
Hiran Agropastoral (Rainfed)



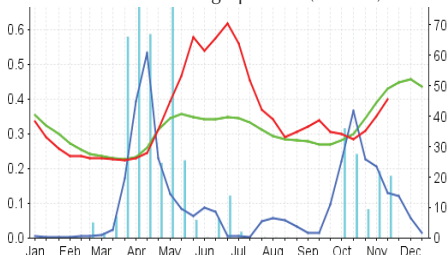
Middle Shabelle Agropastoral (Rainfed)



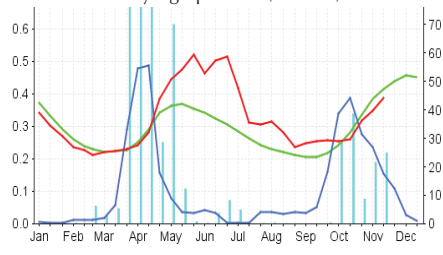
Lower Shabelle Riverine (Irrigated)



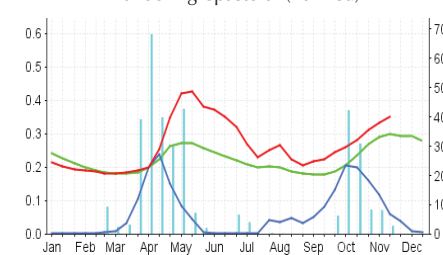
Lower Shabelle Agropastoral (Rainfed)



Bay Agropastoral (Rainfed)



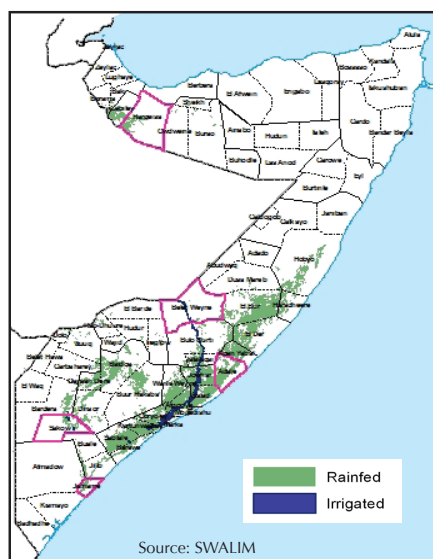
Bakool Agropastoral (Rainfed)



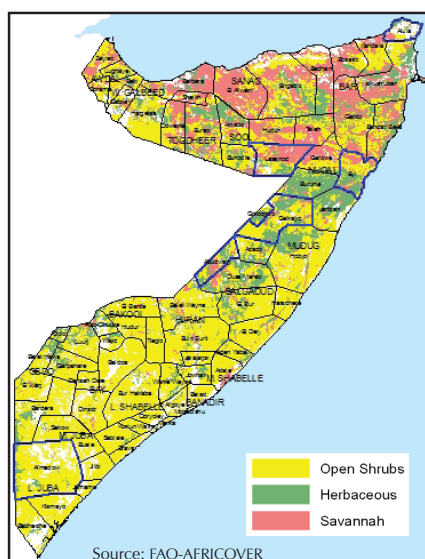
 RFE 2018
  RFE STA: 2001-2017
  NDVI-C 2018
  NDVI-C STA (1999-2017)

Seasonal rainfall and Vegetation Cover trends for selected districts

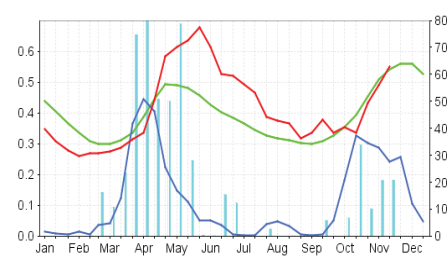
Map 13: Agricultural Areas



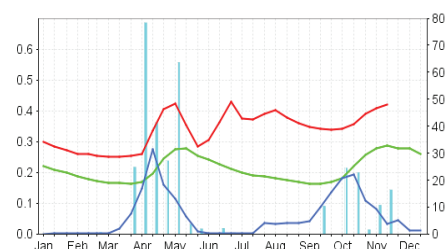
Map 14: Pastoral Areas



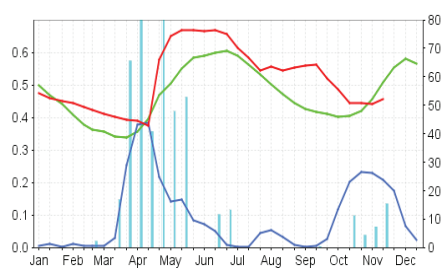
Afmadow Pastoral (Open Shrubs)



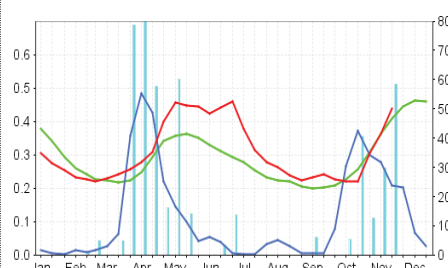
Beletweyn Riverine (Irrigated)



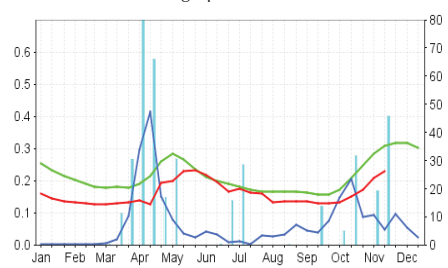
Jamame Riverine (Irrigated)



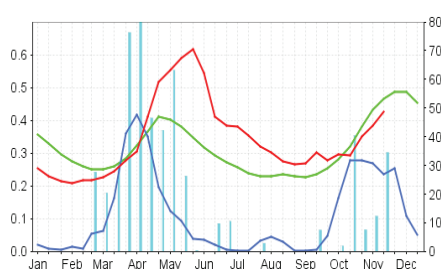
Sakow Agropastoral (Rainfed)



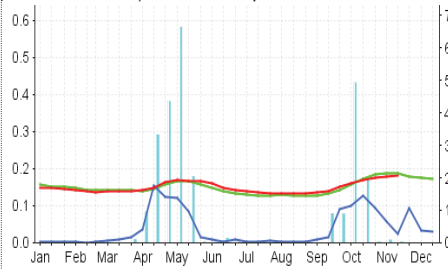
Adale Agropastoral (Herbaceous)



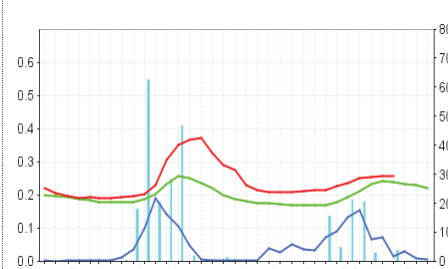
Afmadow Pastoral (Herbaceous)



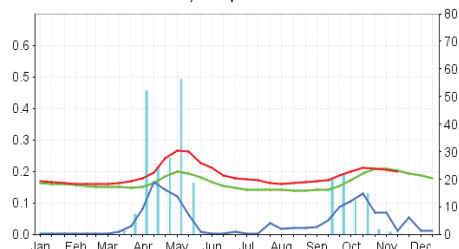
Eyl Pastoral (Open Shrubs)



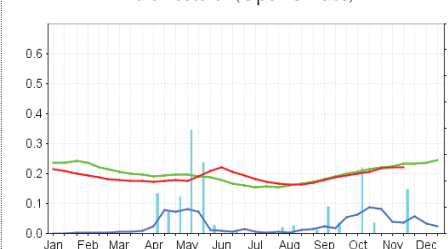
Abudwak Pastoral (Herbaceous)



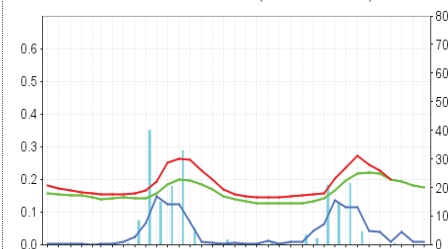
Galkayo Open Shrubs



Alula Pastoral (Open Shrubs)



Lasanod Pastoral (Herbaceous)



RFE 2018
 RFE STA: 2001-2017
 NDVI-C 2018
 NDVI-C STA (1999-2017)