Climate Update

FSNAU
Food Security and Nutrition Analysis Unit - Somalia

October 2017 Monthly Rainfall and NDVI (Issued November 24, 2017)

Highlights

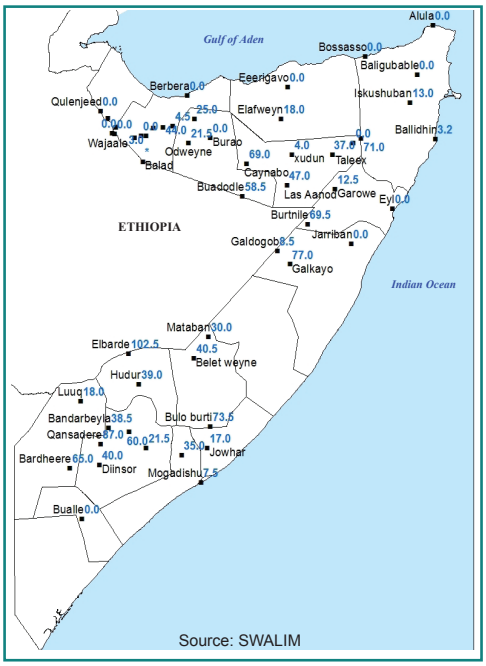
The *Deyr* (October-December) rains in October were generally below average in many parts of the country and poorly distributed in space and time. According to the rain gauge data, some of the stations that received above average rains include: Buhodle (58mm), Laasanod (48mm), Teleex (37mm), Caynabo (69mm), Burtinle (65mm), Qardo (71mm) in the North, as well as Elbarde (102mm) Galkayo (77mm), and Bandarbeyla (38mm) in the South and Central regions. The other remaining stations recorded below average rainfall (Table 1). The Shabelle River level has increased considerably but remained below flood risk level.

Satellite derived rainfall estimates (RFE) confirm intensification of *Deyr* rains in the second and third dekad of October after a low start during first dekad. Large parts of NIP (Northern Inland Pastoral), Togdher, Bay Bakool, Hiran and Part of Gedo and Shabelle received light rains of above 40mm (Map 2). However the anomaly map which shows comparison to the long term mean (LTM) indicates significant rainfall deficits in the Southern regions Addun of Central, and East and West Golis in the North (Map 9). The vegetation cover (NDVI) for October 2017 suggests continued deterioration of vegetation conditions in large areas in Southern parts of the of country, with Lower Shabelle and Lower Juba showing largest decrease (Map 10). Additionally, the NDVI profiles (Page 3 and 4) mostly show negative trends especially in the month of October except for Nugal and Togdheer regions. Additionally field reports in Central regions point to continued distressed browse conditions, further exacerbating the current drought conditions.

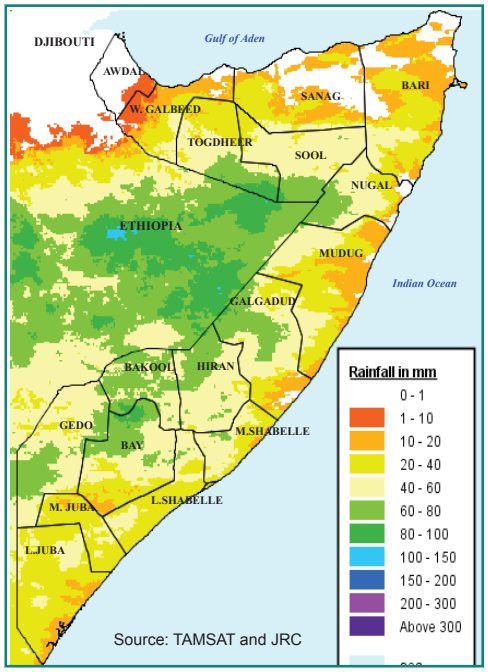
The *Deyr* rains have slightly improved surface water conditions and browse/ pasture for animals. Subsequently, livestock body conditions is improving in pastoral livelihoods. However, in North Inland Pastoral (NIP) and other Berkad dependents areas in Northeast water condition is still poor with higher prices being reported. The rains in the upper catchments of Shabelle have also improved thereby promoting irrigation activities. Agricultural activities in the south comprise of land preparation, dry and wet sowing and irrigation.

Below average rainfall during October is expected to significantly determine the overall *Deyr* season rainfall perfomance. Although rainfall in the first dekad of November is average to above average in most Central and Southern parts of the country, little to no rainfall is expected for the rest of November. As a result, the total *Deyr* season rainfall is likely to be below average.

Map 1: Oct 2017 Monthly Rain Gauge Data

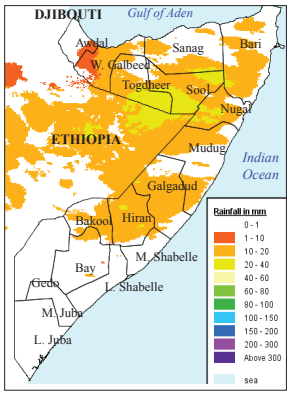


Map 2: Oct 2017 TAMSAT Monthly Rainfall Estimates

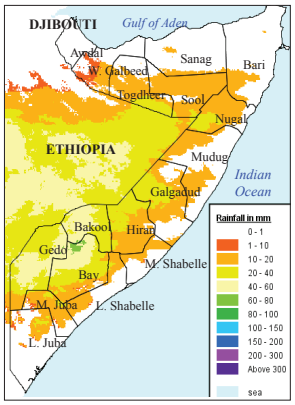


October 2017: Dekadal RFE Progression

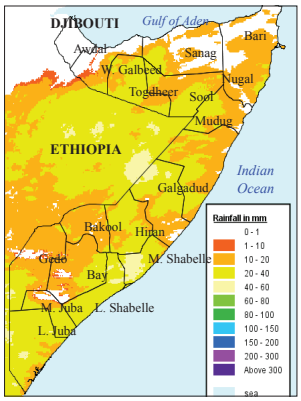
Map 3: 1st Dekad (1-10)



Map 4: 2nd Dekad (11-20)

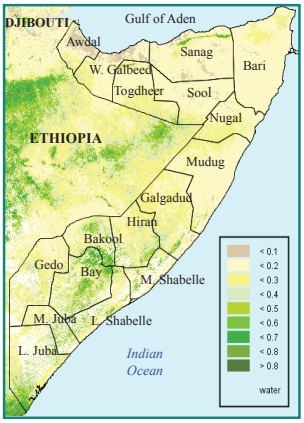


Map 5: 3rd Dekad (21-30)

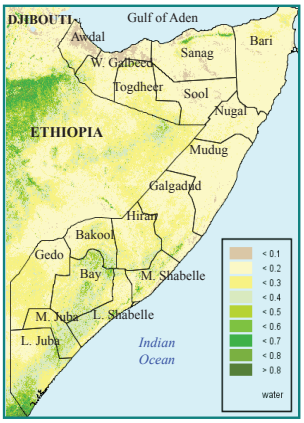


October 2017: Dekadal NDVI Progression

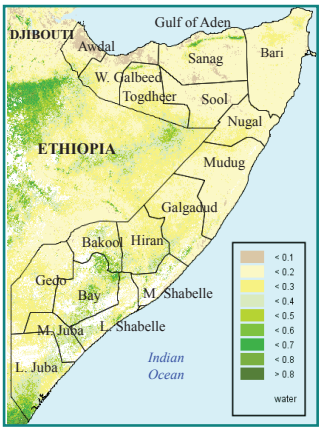
Map 6: 1st Dekad (1-10)



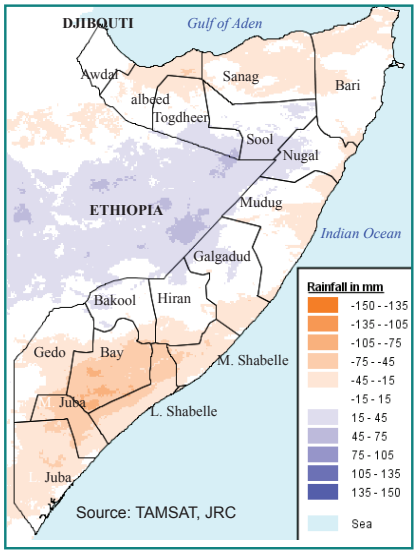
Map 7: 2nd Dekad (11-20)



Map 8: 3rd Dekad (21-30)



Map 9: Oct 2017 Estimated Rainfall Difference (in mm) from short term mean (1999-2016)



Map 10: Oct 2017 NDVI Absolute Difference from Short Term Mean (2001- 2016)

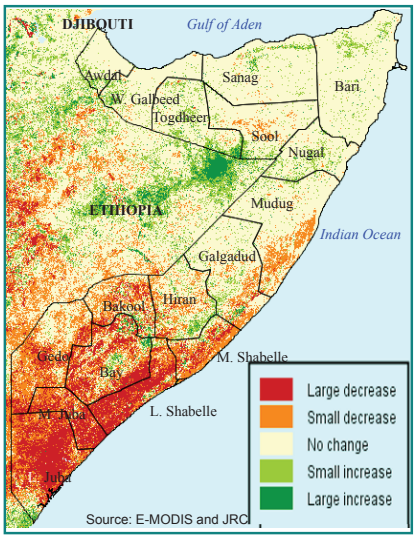


Table 1: Observed rain gauge data compared to long term monthly averages (October 2017)

Northern Regions

Region	Station Name	dek 1	dek 2	dek 3	Oct-17	LTM
Awdal	Borama	0.0	0.0	0.0	0.0	19.0
Awdal	Qulenjeed	0.0	0.0	0.0	0.0	25.0
Bari	Bossasso	0.0	0.0	0.0	0.0	2.0
Bari	Qardo	31.0	17.0	23.0	71.0	26.0
Bari	Dangoroyo	0.0	0.0	0.0	0.0	24.0
Bari	Ballidhin	1.5	1.7	0.0	3.2	9.0
Bari	Alula	0.0	0.0	0.0	0.0	1.0
Bari	Bandarbeyla	0.0	0.0	38.5	38.5	17.0
Bari	Iskushuban	13.0	0.0	0.0	13.0	6.0
Mudug	Galdogob	5.5	3.0	0.0	8.5	49.0
Mudug	Jarriban	0.0	0.0	0.0	0.0	32.0
Mudug	Galkayo	63.0	14.0	0.0	77.0	48.0
Nugaal	Garowe	12.5	0.0	0.0	12.5	29.0
Nugaal	Eyl	0.0	0.0	0.0	0.0	41.0
Nugaal	Burtnile	61.0	7.0	1.5	69.5	36.0
Sanaag	Eeerigavo	0.0	0.0	0.0	0.0	4.0
Sanaag	Elafweyn	0.0	0.0	18.0	18.0	21.0
Sool	Caynabo	6.0	0.0	63.0	69.0	30.0
Sool	xudun	4.0	0.0	0.0	4.0	26.0
Sool	Taleex	19.0	18.0	0.0	37.0	25.0
Sool	Las Aanod	47.0	0.0	0.0	47.0	30.0
Togdheer	Burao	0.0	0.0	0.0	0.0	34.0
Togdheer	Sheikh	20.0	0.0	5.0	25.0	71.0
Togdheer	Odweyne	8.5	0.0	13.0	21.5	36.0
Togdheer	Buadodle	3.0	4.0	51.5	58.5	40.0
Wogooyi Galbeed	Gebilley	0.0	0.0	0.0	0.0	17.0
Wogooyi Galbeed	Malawle	0.0	0.0	0.0	0.0	32.0
Wogooyi Galbeed	Wajaale	0.0	0.0	0.0	0.0	25.0
Wogooyi Galbeed	Hargeisa	0.0	0.0	3.0	3.0	29.0
Wogooyi Galbeed	Daraweyne	0.0	0.0	3.0	3.0	32.0
Wogooyi Galbeed	Cadaadley	0.0	4.5	0.0	4.5	35.0
Wogooyi Galbeed	Dilla	2.0	0.0	0.0	2.0	25.0
Wogooyi Galbeed	Aburin	0.0	0.0	0.0	0.0	32.0
Wogooyi Galbeed	Dhubato	29.0	0.0	15.0	44.0	33.0
Wogooyi Galbeed	Baligubable	0.0	0.0	0.0	0.0	36.0
Wogooyi Galbeed	Berbera	0.0	0.0	0.0	0.0	0.0

Southern Regions

Region	Station Name	dek 1	dek 2	dek 3	Oct-17	LTM
Bakool	Hudur	3.0	22.0	14.0	39.0	100.0
Bakool	Elbarde	0.0	62.5	40.0	102.5	87.0
Banadir	Mogadishu	0.0	0.0	7.5	7.5	*
Bay	Baidoa	0.0	7.0	53.0	60.0	135.0
Bay	Diinsor	0.0	37.0	3.0	40.0	64.0
Bay	Bardaale	0.0	21.0	12.0	33.0	89.0
Bay	BurHakaba	0.0	0.0	21.5	21.5	112.0
Bay	Wanleweyne	35.0	0.0	0.0	35.0	*
Bay	Qansadere	0.0	80.0	7.0	87.0	*
Gedo	Luuq	0.0	0.0	18.0	18.0	48.0
Gedo	Bardheere	0.0	0.0	65.0	65.0	82.0
Gedo	Dolow	0.0	6.5	26.5	33.0	*
Hiraan	Belet weyne	0.0	8.0	32.5	40.5	86.0
Hiraan	Bulo burti	10.5	63.0	0.0	73.5	90.0
Hiraan	Mataban	0.0	30.0	0.0	30.0	*
Lower Shabelle	Balad	0.0	0.0	0.0	*	65.0
Middle juba	Bualle	0.0	0.0	0.0	0.0	48.0
Middle Shabelle	Jowhar	0.0	17.0	0.0	17.0	99.0

*indicates missing data

Monthly rainfall and NDVI perfomance 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

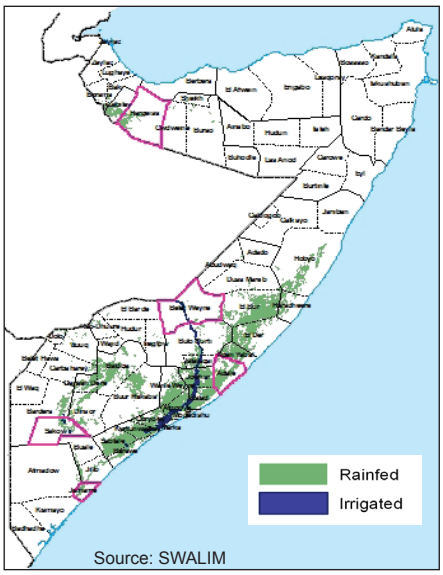
The maps and graphs on pages 3 and 4 are produced in collaboration with the Joint Research Centre of the European Commision. The graphs present seasonal trends of crop specific NDVI (Normalised Difference Vegetation Index) as lines and rainfall values (RFE) as bars for each of the delineated land cover 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.

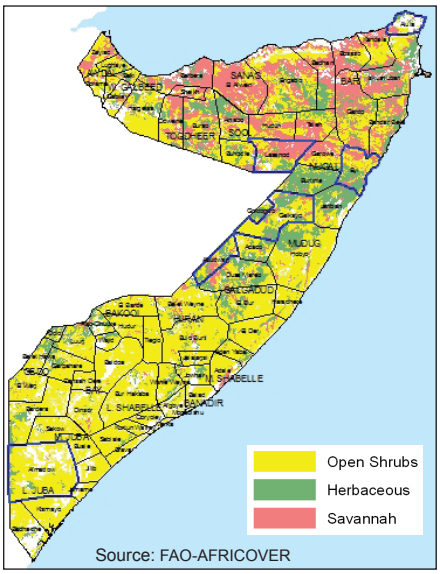
- Current Rainfall Estimates and NDVI data are derived from NOAA/CPC and DEVCOCAST (www.devcocast.eu) respectively, while the rain gauge data is collected by FAO-SWALIM and FEWSNET.
- The seasonal profiles on page 3 and 4 are produced in collaboration with JRC-MARS. For more information visit http://mars.jrc.europa.eu/mars/About-us/FOODSEC 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.
  The TAMSAT informatio is available on http://www.met.reading.ac.uk/tamsat/about/

Seasonal rainfall and NDVI trends by region

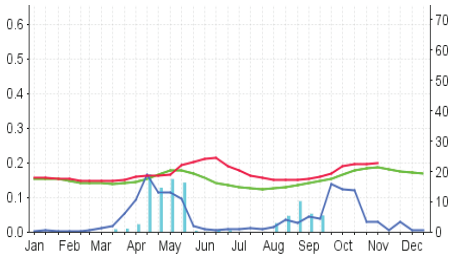
Map 11: Agricultural Areas



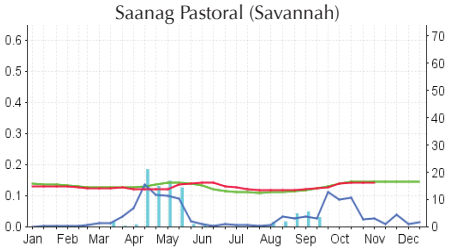
Map 12: Pastoral Areas



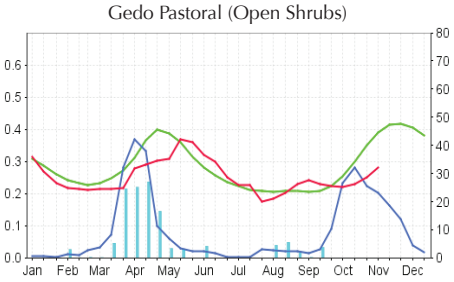
Togdheer Pastoral (Savannah)



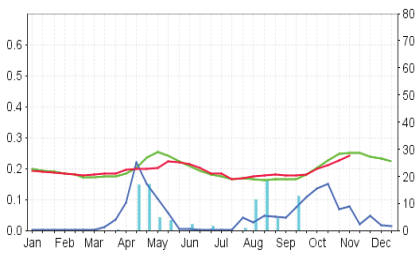
Saanag Pastoral (Savannah)



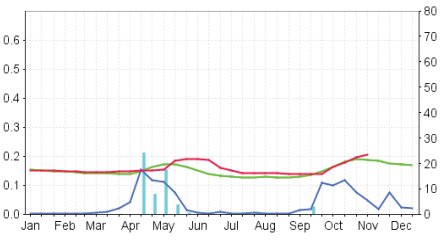
Gedo Pastoral (Open Shrubs)



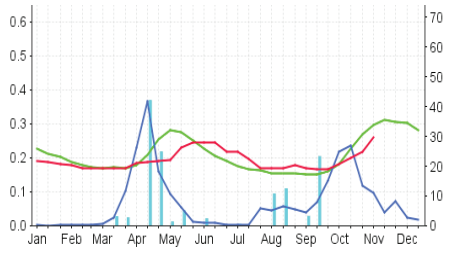
Galgadud Pastoral (Herbaceous)



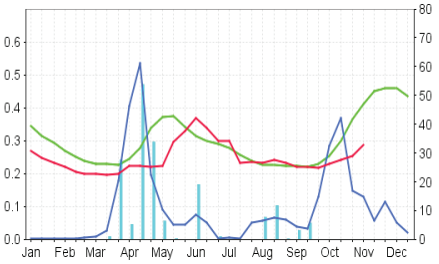
Nugal Pastoral (Open Shrubs)



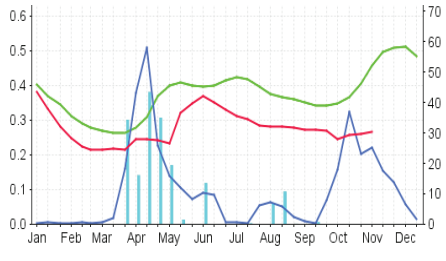
Hiran Agropastoral (Rainfed)



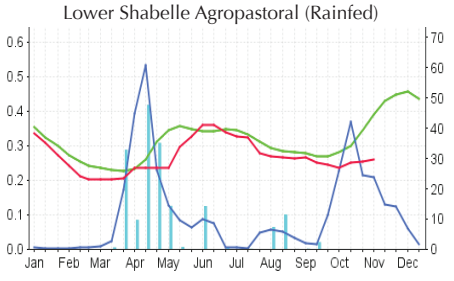
Middle Shabelle Agropastoral (Rainfed)



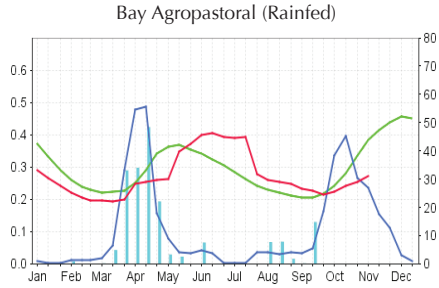
Lower Shabelle Riverine (Irrigated)



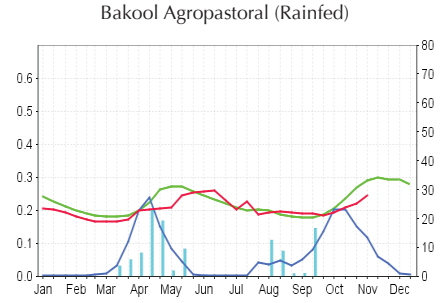
Lower Shabelle Agropastoral (Rainfed)



Bay Agropastoral (Rainfed)



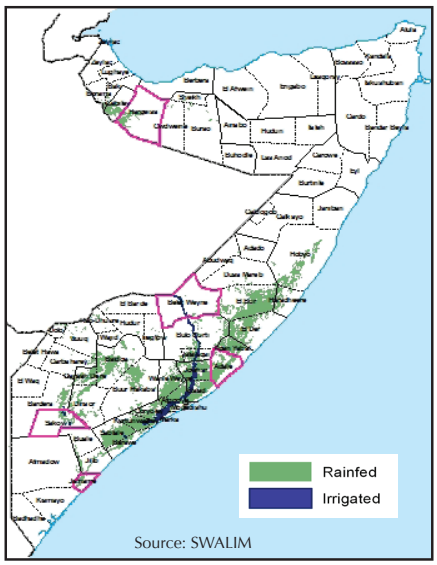
Bakool Agropastoral (Rainfed)



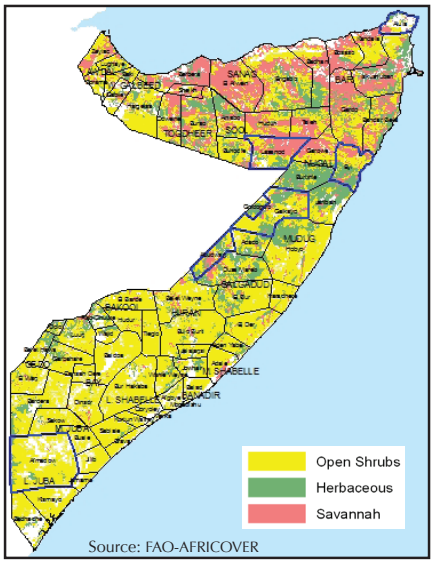
RFE 2017 — RFE AVG: 2001-2016 — NDVI-C 2017 — NDVI-C LTA MEAN (1999-2016)

Seasonal rainfall and NDVI trends for selected districts

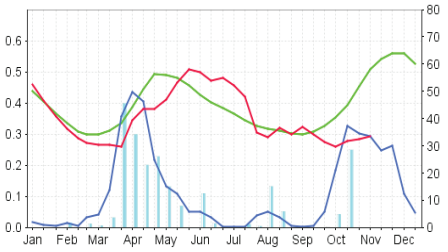
Map 13: Agricultural Areas



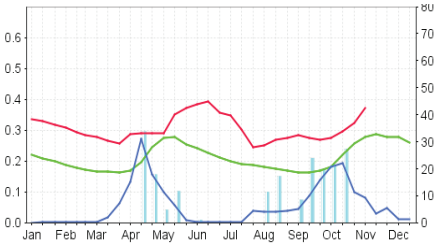
Map 14: Pastoral Areas



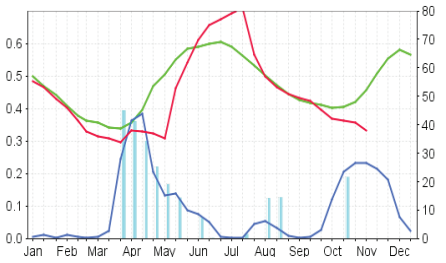
Afmadow Pastoral (Open Shrubs)



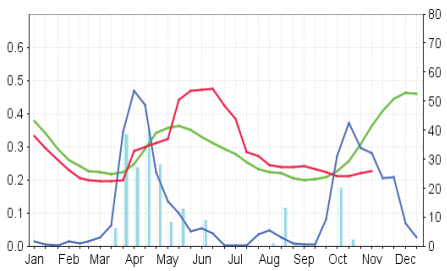
Beletweyn Riverine (Irrigated)



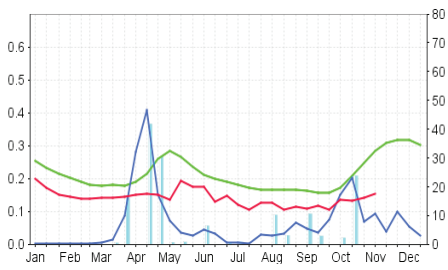
Jamame Riverine (Irrigated)



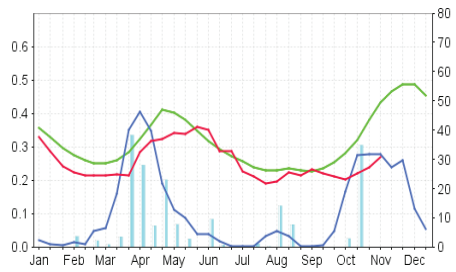
Sakow Agropastoral (Rainfed)



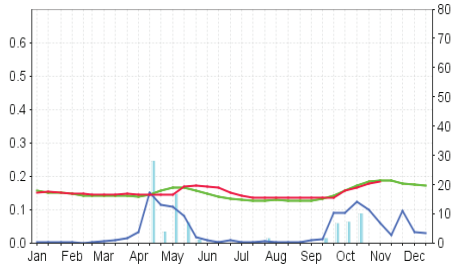
Adale Agropastoral (Herbaceous)



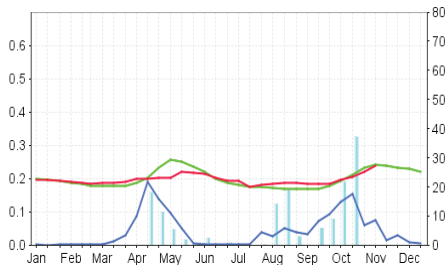
Afmadow Pastoral (Herbaceous)



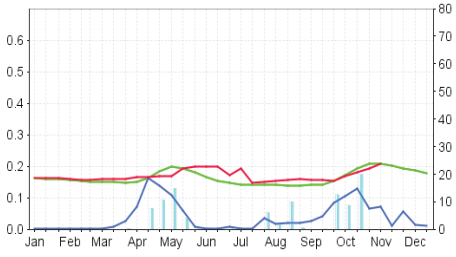
Eyl Pastoral (Open Shrubs)



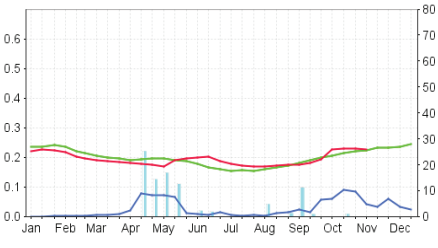
Abudwak Pastoral (Herbaceous)



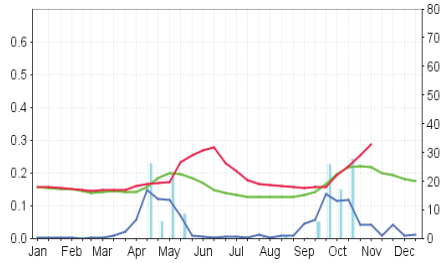
Galkayo Open Shrubs



Alula Pastoral (Open Shrubs)



Lasanod Pastoral (Herbaceous)



RFE 2017 — RFE AVG: 2001-2016 — NDVI-C 2017 — NDVI-C LTA MEAN (1999-2016)

Food and Agriculture Organization of the United Nations

Technical Partners
FEWS NET
World Food Programme
unicef
JRC EUROPEAN COMMISSION

FSNAU Funding Agencies
UKaid from the British people
SWEDEN
USAID FROM THE AMERICAN PEOPLE
MINISTRY FOR FOREIGN AFFAIRS OF FINLAND
SHF
WORLD BANK