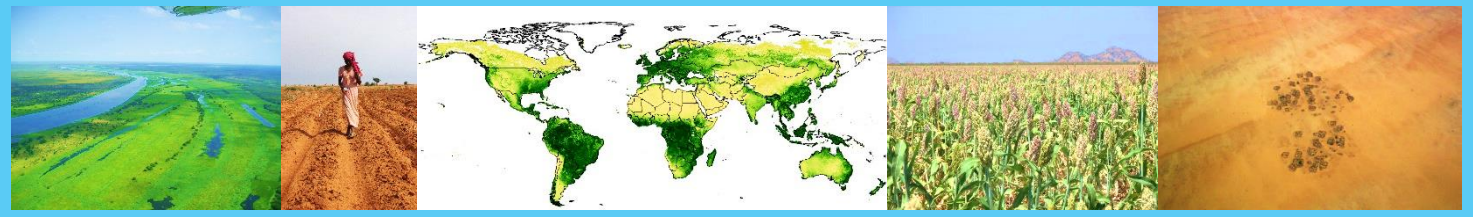

South Sudan: The 2016 Rainfall Seasonal Analysis

May 2016

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HIGHLIGHTS

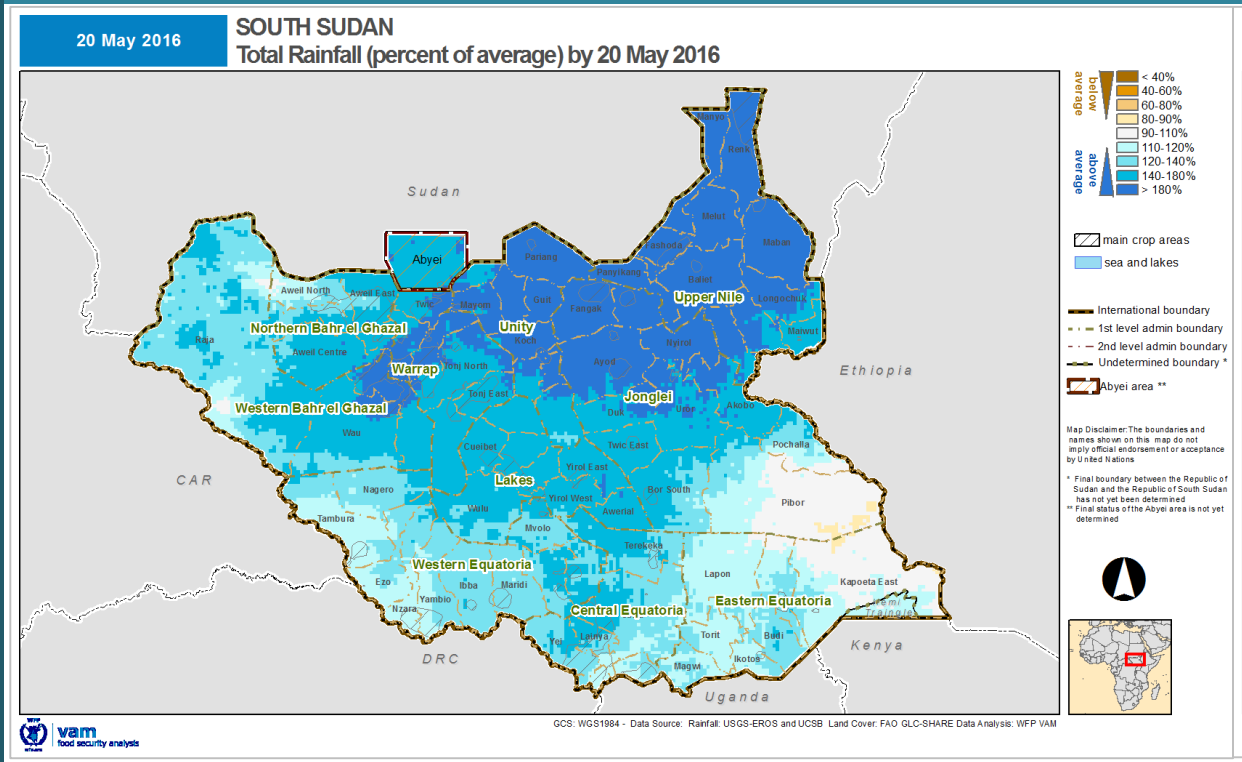
- The growing season of 2016 in South Sudan **started well due** to early favourable rainfall, with earlier than average or timely planting across most of Western Equatoria, Greater Bahr-el-Ghazal, northern areas and Upper Nile. In Central Equatoria and some eastern areas of the country, moderate delays were noticed, but without much consequence;

- in April, rainfall performance was largely above average countrywide. This is in line with field reports that are indicating the start of the rainy season in many areas across the country;

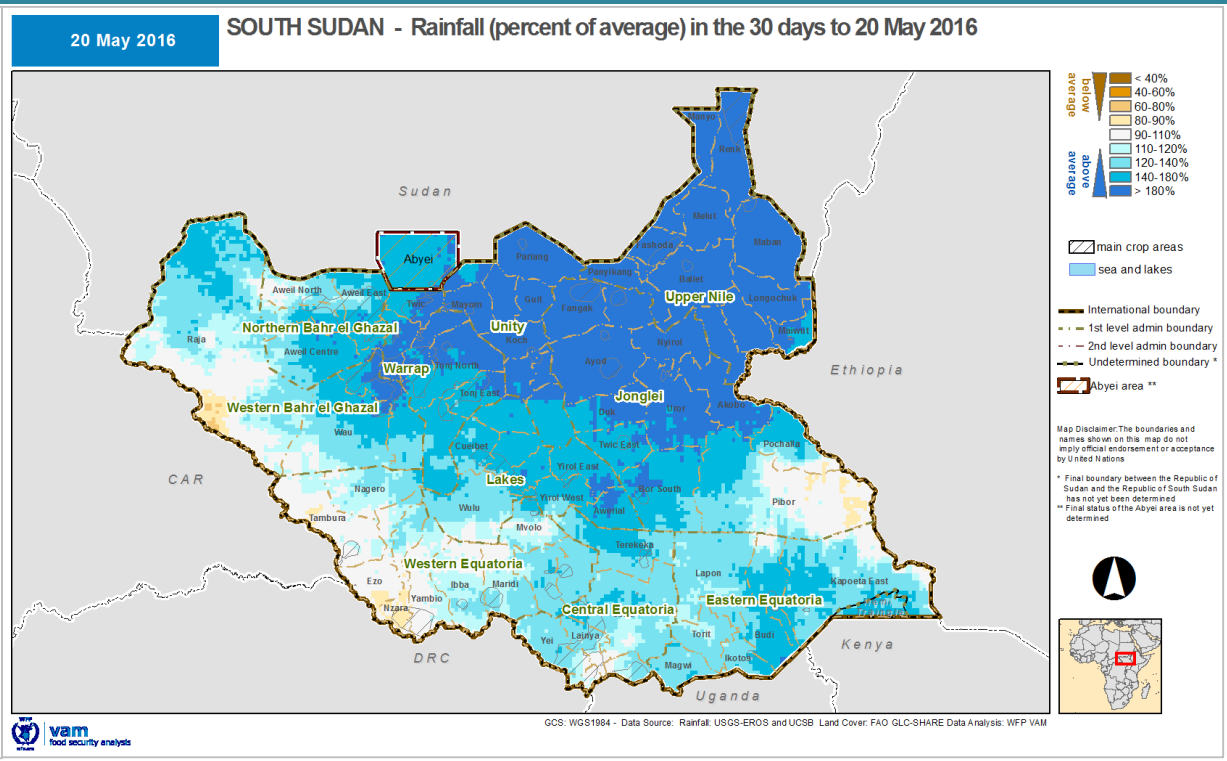
- The **wetter than average conditions in mid May**, led to average to above average vegetation developing along the west, central and north parts of South Sudan;

- Forecasts for the core months of the rainfall season (July to September, see Fig 1 right) for South Sudan and neighbouring areas, point to a high likelihood of above average rainfall, in particular in the eastern half of the country.

Seasonal Rainfall Performance



Map 1: *Seasonal cumulative rainfall until 20 May 2016, as a percentage of the 20-year average. Hashed pattern indicates main agricultural areas. Brown shades indicate below-average rainfall; blue shades indicate above-average seasonal rainfall.*



Map 2: *30 days cumulative rainfall until 20 May 2016, as a percentage of the 20-year average. Hashed pattern indicates main agricultural areas. Brown shades indicate below-average rainfall; blue shades indicate above-average seasonal rainfall.*

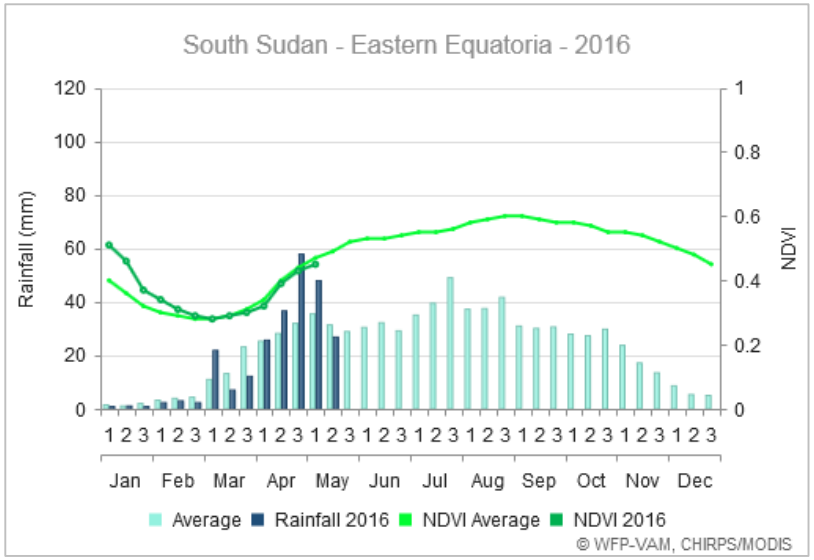
Seasonal rainfall performance

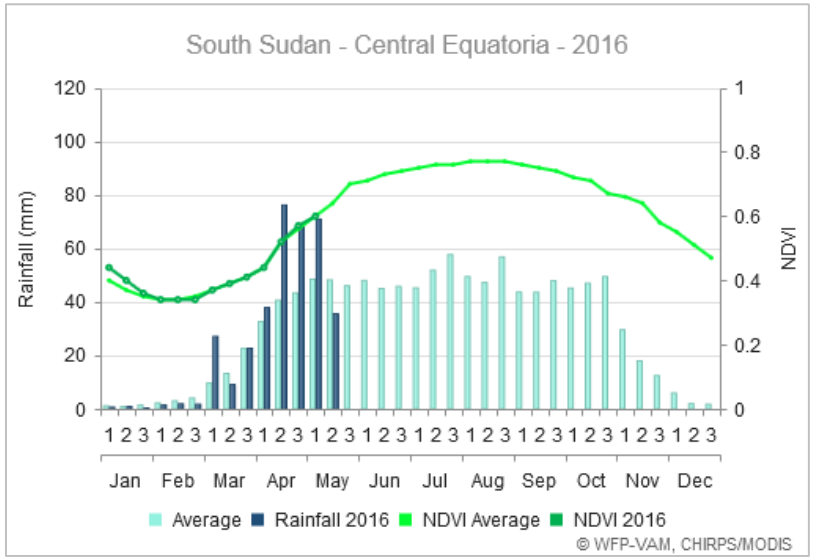
Seasonal rainfall in mid-May was generally above average across South Sudan (map 1), particularly from North Bahr el Ghazal to Upper Nile, where early season rainfall has been around twice as much as the usual. In other states, rainfall has also been above average but at more moderate levels. This has been the case since the very beginning of the season.However, in areas of southern Jonglei (Pibor county) and Eastern Equatoria (Kapoeta East), rainfall is close to normal, after a drier early season.

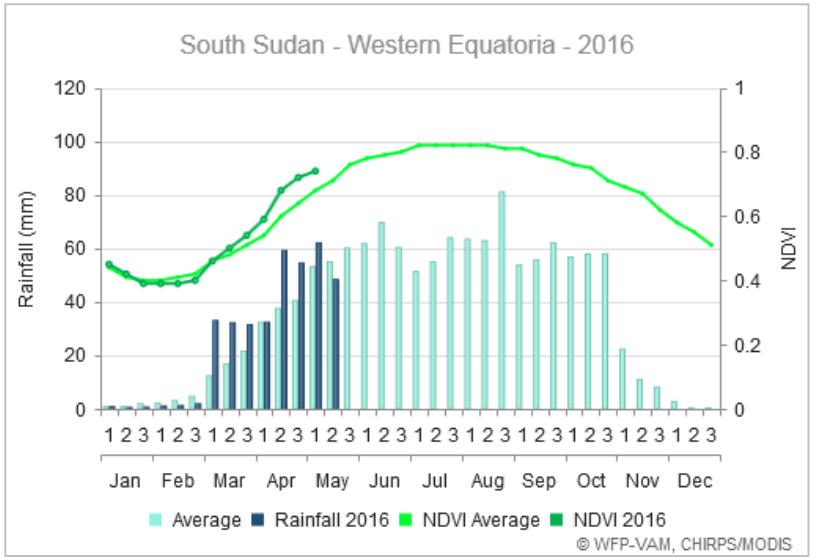
These early wetter than average conditions will have a positive impact on the start of agricultural season and will lead to an early start of planting and cultivation.

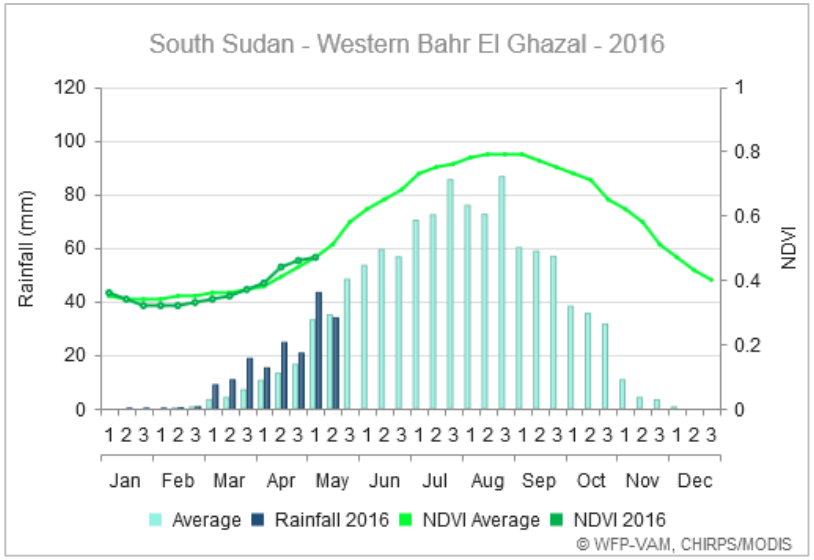
Seasonal Rainfall and Vegetation Performance

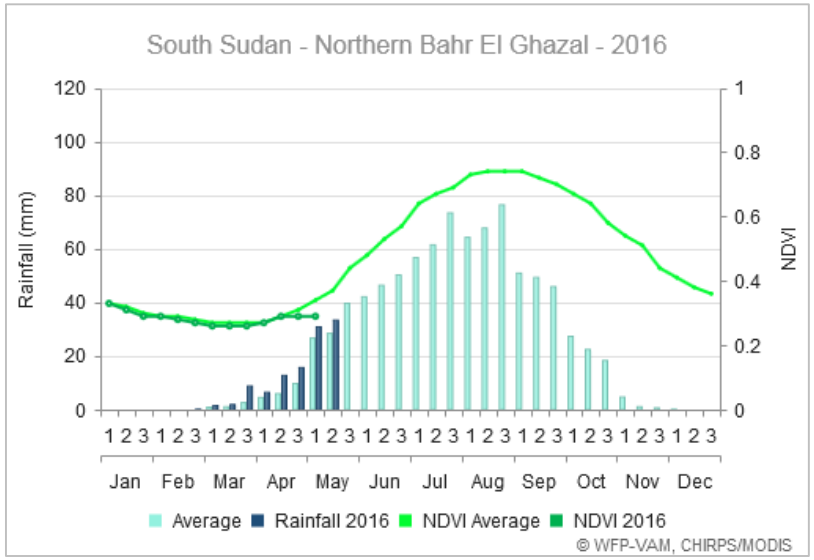
SOUTH SUDAN SEASONAL ANALYSIS - 2016

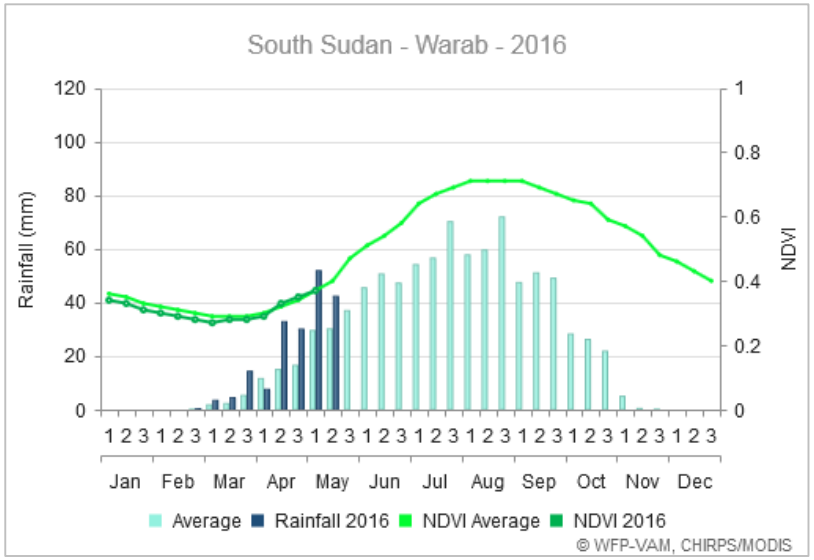






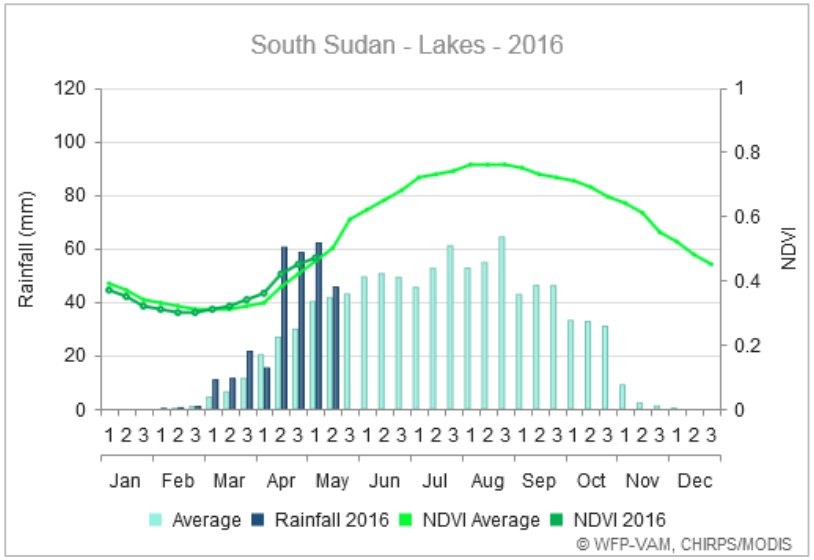


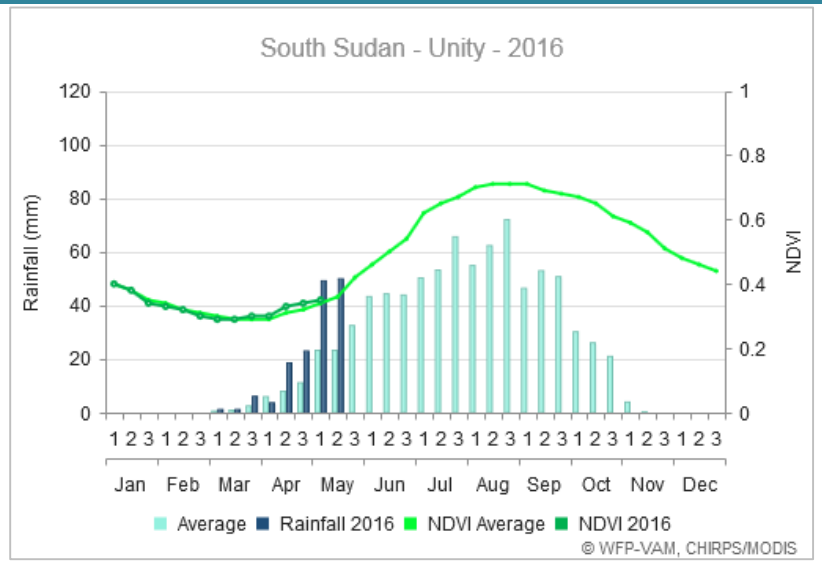


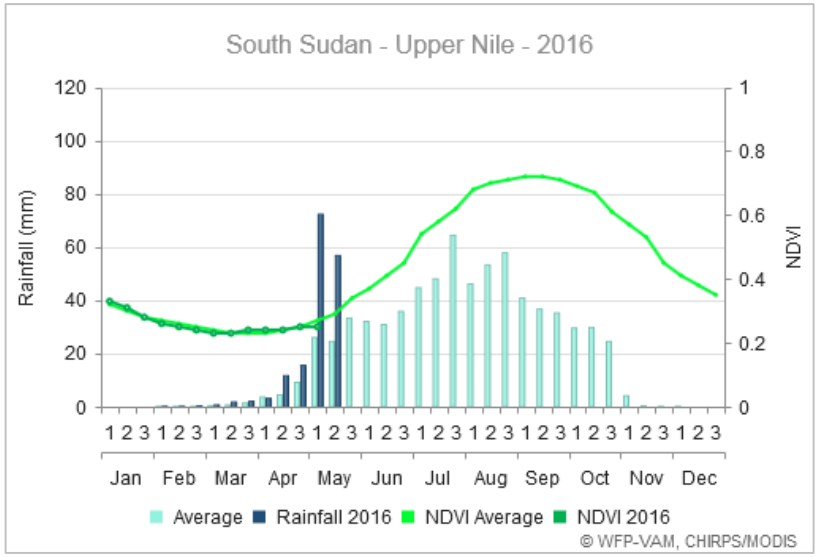


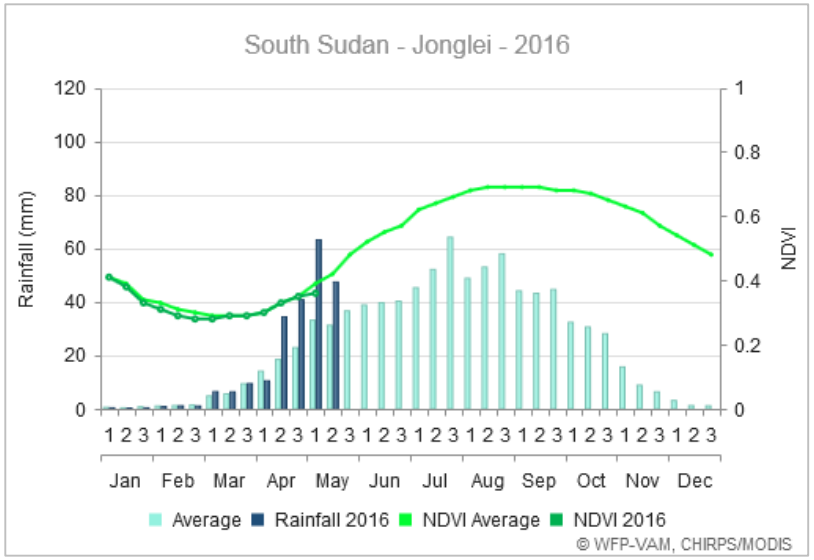
Plots are showing the rainfall and NDVI profiles from 1 dekad of January 2016 including the 20 year average for both rainfall and NDVI.

Seasonal Rainfall and Vegetation Performance





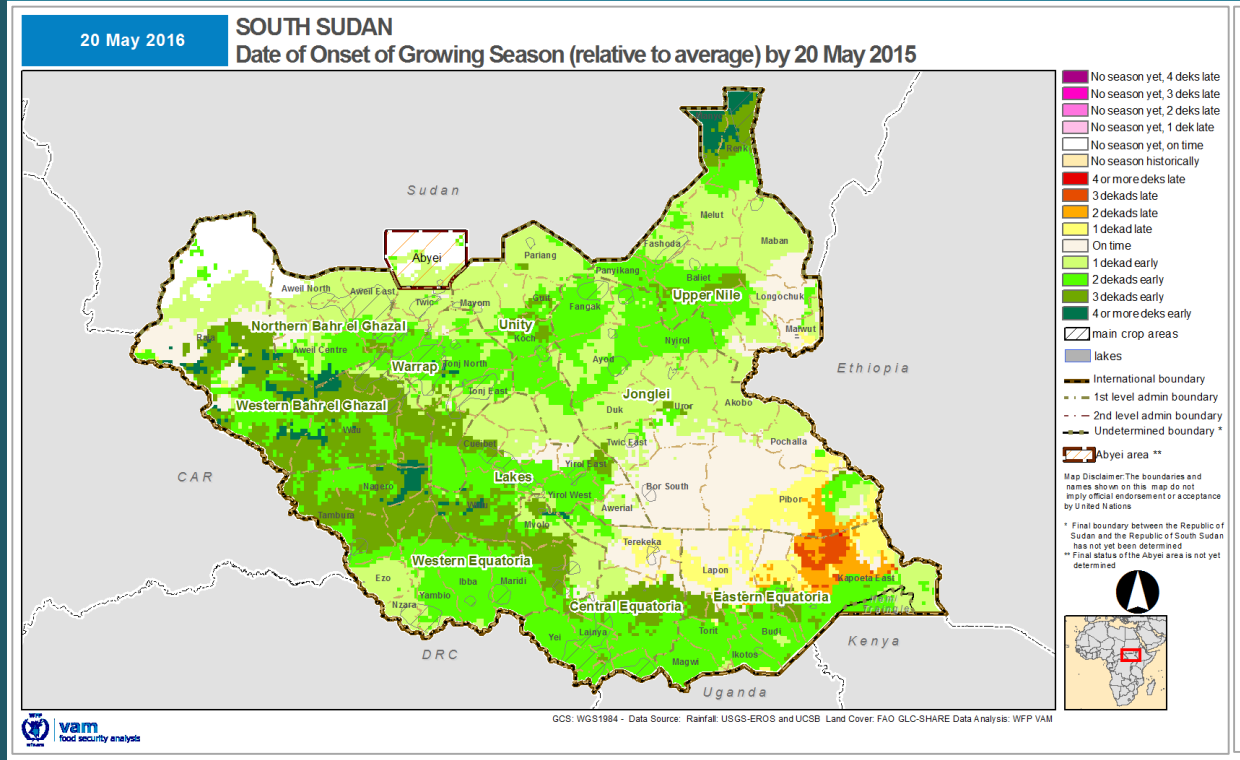


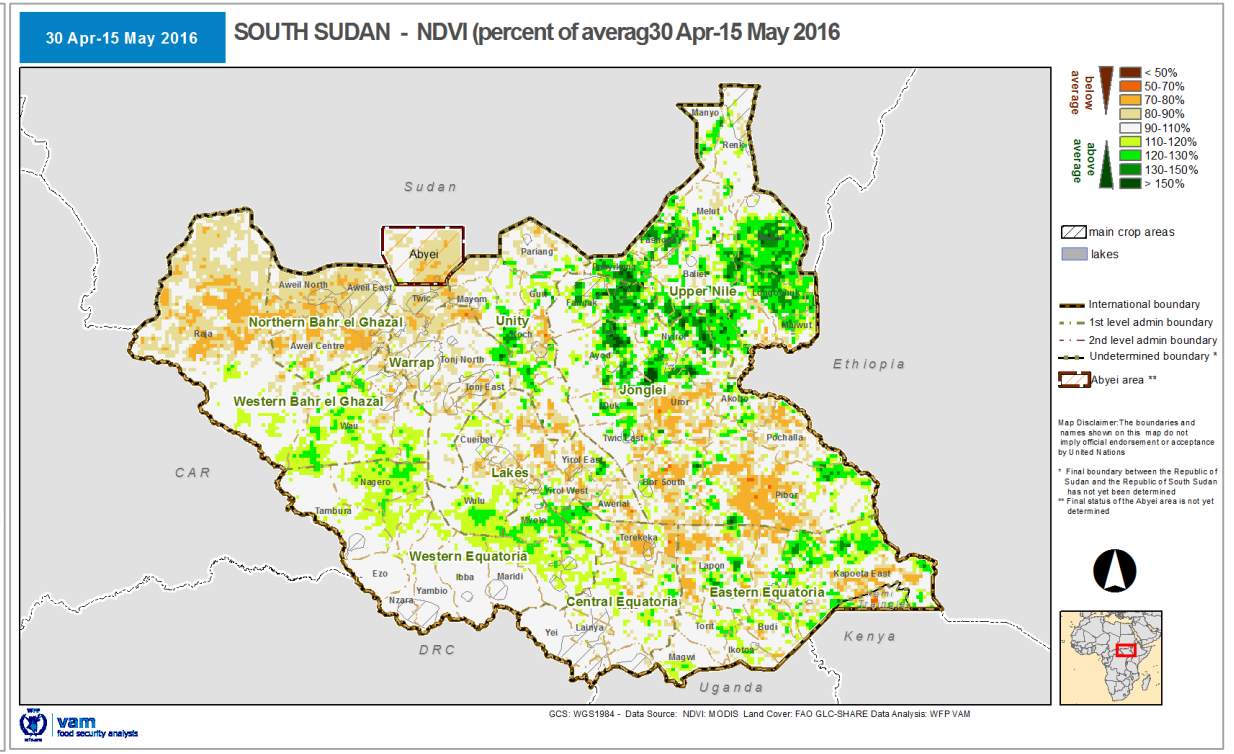


The illustrated plots show the arrival of the rains from March with vegetation development following soon after. They depict better than average rainfall starting from April that will lead to above average vegetation development in due course.

Plots are showing the rainfall and NDVI profiles from 1 dekad of January 2016 including the 20 year average for both rainfall and NDVI.

Onset of the Growing Season





Left: Date of onset of the growing season compared to average. Pinks and yellows to reds for delayed growing seasons, green shades for earlier than average growing seasons.
Right: Late August 2015 Vegetation Index as a percentage of the 12-year average. Hashed pattern indicates main agricultural areas. Orange shades for below-average; green shades for above-average vegetation.

Onset of Season and Vegetation Status

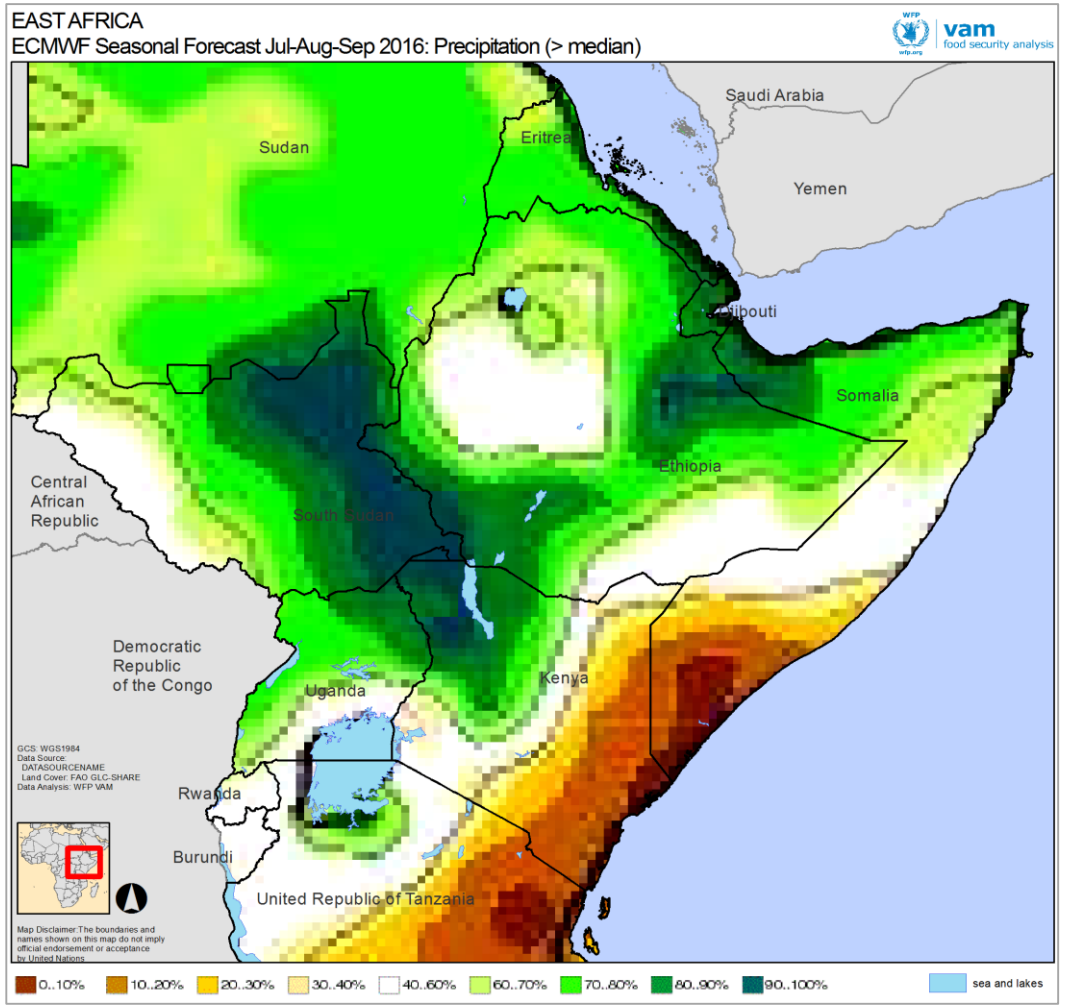
The growing season has started earlier than usual in southern and western areas (Western Equatoria and Greater Bahr-el-Ghazal) as well as along the border with Sudan and in Upper Nile state due to good rains during the earlier stages of the season. In some places, growing season conditions are in place up to a month earlier than usual. In eastern areas (northern part of Eastern Equatoria and southern part of Jonglei), the season started moderately later than usual due to drier than average conditions in April. Overall, no significant perturbations of the planting dates are noticeable or expected.

In the bimodal rainfall areas of western South Sudan, the first season planting is on going. The vegetation cover though still below average in the east of the country will now start increasing to above average levels.

Seasonal Rainfall Forecast

Near future perspectives

- Forecasts for the core months of the rainfall season (July to September) for South Sudan, point to a high likelihood of above average rainfall, in particular in the eastern half of the country.
- The above average rainfall that has been received so far is expected to continue throughout the season.
- A La Nina event may develop from July onwards and this may lead to further enhanced rainfall in the second half of the rainfall season as typical of this region during this type of events.
- Although enhanced rainfall opens good perspectives for higher levels of crop production and good levels of water and pasture, scenarios of significant flooding particularly in the eastern areas of South Sudan (Eastern Equatoria, Jonglei and Upper Nile) need to be considered.
- The forecasts are updated monthly with the next issue being issued in mid-June. The tendencies are common to a number of forecasts from a variety of institutions.



ECMWF forecast for July – September 2016 rainfall.
Green shades = wetter than average conditions more likely.
Brown shades = drier than average conditions more likely

Data Sources:

Rainfall: CHIRPS, Climate Hazards Group, UCSB

Vegetation: MODIS NDVI, EOSDIS-NASA

Land Cover: FAO GLC-Share

Processing:

VAM software components, ArcGIS

For more information, please contact:

Raul Cumba (VAM South Sudan) - raul.cumba@wfp.org +211 920002729

Rogerio Bonifacio (VAM HQ) - rogerio.bonifacio@wfp.org +39 06 6513 3917

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