

# South Sudan: The 2015 Rainfall Season

*October 2015*

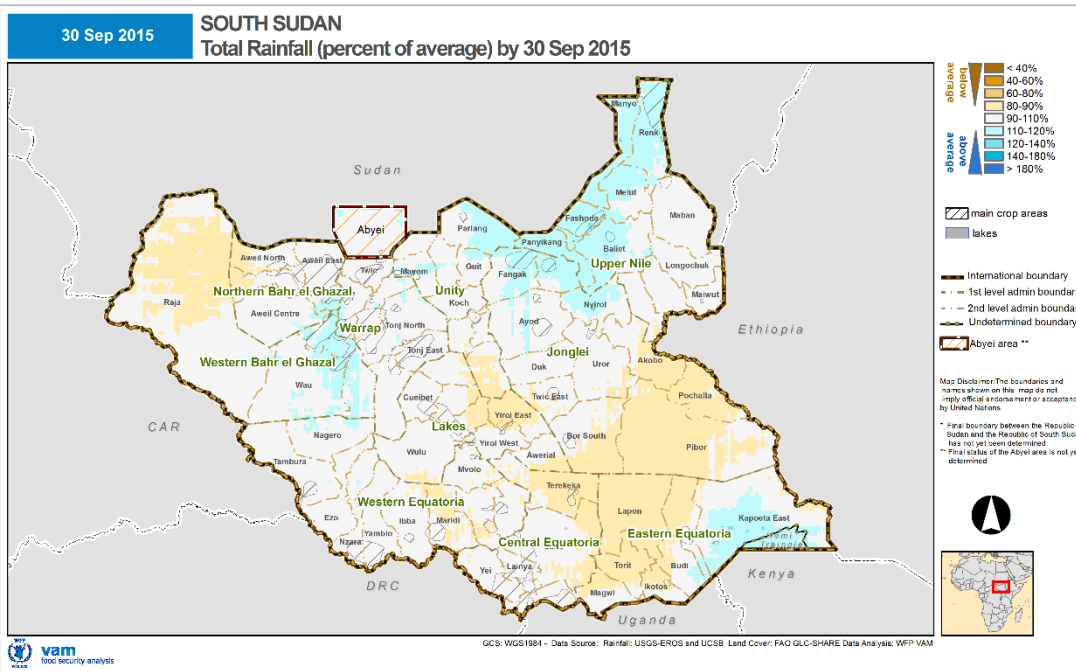


**vam**  
food security analysis

## HIGHLIGHTS

- The growing season of 2015 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.
- The rainfall season continued normally across the country until late June. Field reports indicate that in bimodal areas (west and south west), first-season harvests started timely and second-season activities were underway, as rainfall remained close to average until then.
- However, from July to September, persistent significant rainfall deficits extended across Jonglei, Eastern Equatoria, and Central Equatoria. These conditions are seriously impacting the second agriculture season, mainly in parts of Central Equatoria and across most of Eastern Equatoria, where reports from the field indicate likely reduced crop yields. Pastoralist areas are also being affected with declining pastures.
- The on-going El Nino event, officially declared in March, will remain active throughout 2015 and extend into the first quarter of 2016. This will bring enhanced rainfall across Kenya and SE Ethiopia, which might have both beneficial and adverse effects in bordering areas of South Sudan if it spreads further than usual. While heavy late rains may ignite earlier planting in the next season, it is also likely to increase post harvest losses particularly given poor storage and market connectivity in the country.

# Seasonal Rainfall Performance

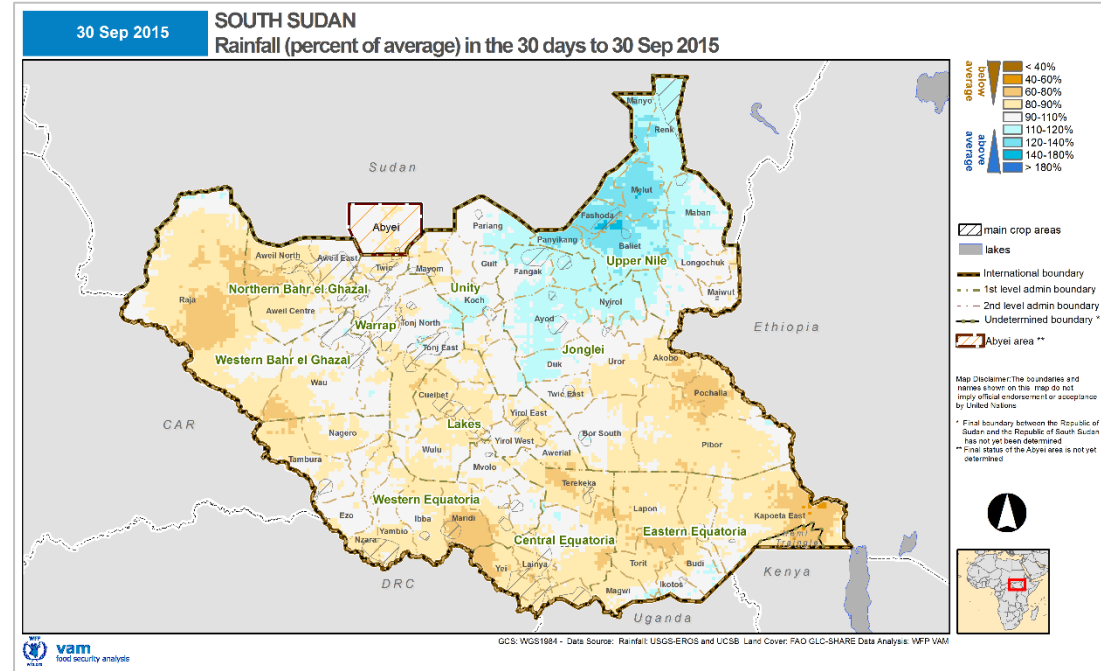


**Map 1:** Seasonal cumulative rainfall until end of September 2015, as a percentage of the 20-year average. Hashed pattern indicates main agricultural areas. Brown shades indicate below-average rainfall; blue shades indicate above-average seasonal rainfall.

## Seasonal rainfall performance

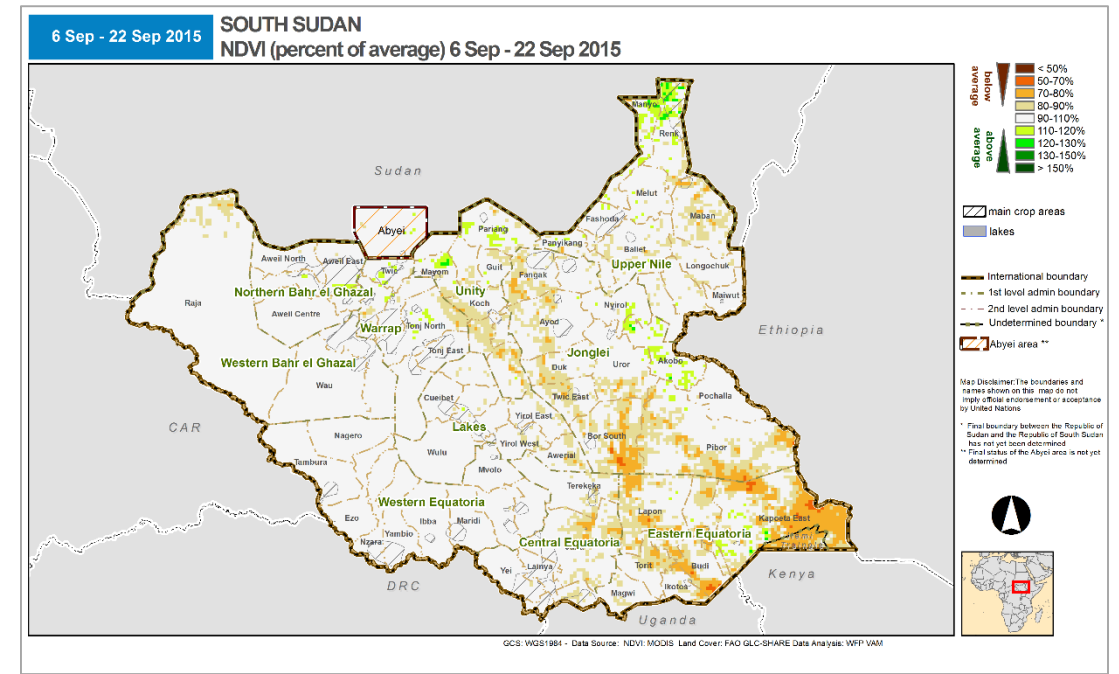
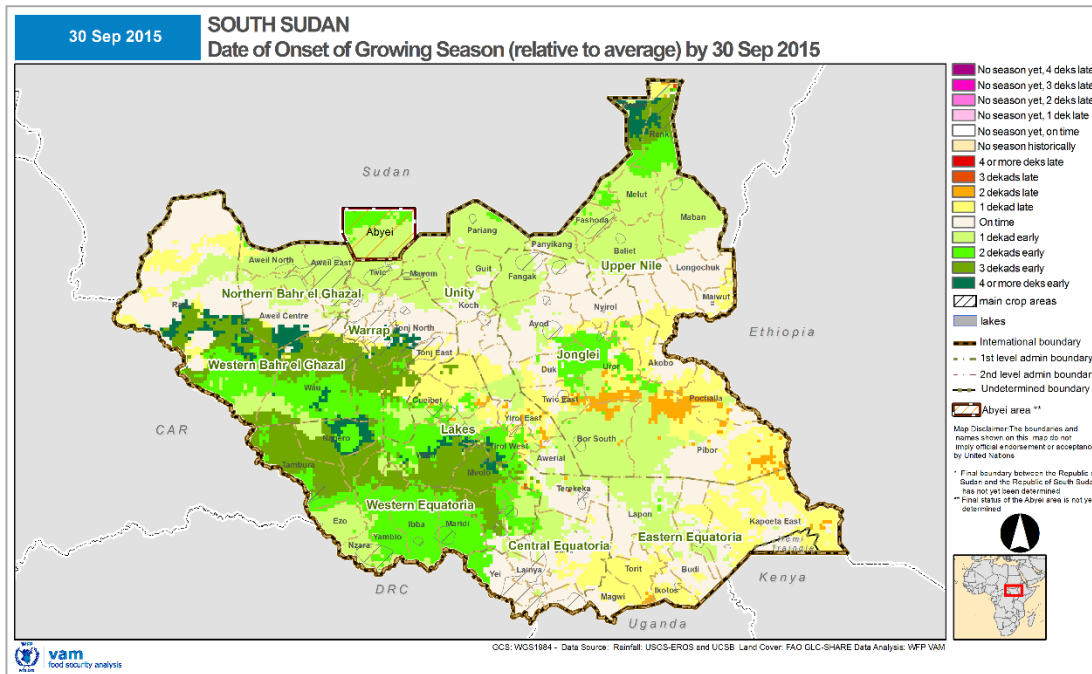
Until end of September, seasonal rainfall was moderately above average in middle-western, far south-eastern and northern parts of the country (Wau in Western Bahr el Ghazal, Kapoeta East in Eastern Equatoria, as well as Upper Nile state) and moderately below average in south-eastern regions (south and east of Jonglei and areas of Central and Eastern Equatoria States). The generally favorable rains are expected to have had a positive impact on the first harvest in the bimodal rainfall areas of western and southern parts of South Sudan and green harvest in the rest of the country. This is in line with information from field reports.

However, a closer look at recent rainfall performance reveals continuous substantial rainfall deficits during the month of September (see Map 2) across the country, except in northern Jonglei and Upper Nile. In fact, a period of below average rainfall started from early July, consistent with field reports of poor rainfall distribution and prolonged dry spells observed in Jonglei, Eastern Equatoria (greater Kapoeta, part of Magwi and Ikwoto counties) and Central Equatoria. This was also reported in Warrap and Lakes but without negative impact on the agricultural season.



**Map 2:** 30 days cumulative rainfall until 30 of September 2015, 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.

# Onset of Season and Vegetation Status



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 September 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 started earlier than usual in 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 central and eastern areas (Central Equatoria, parts of Jonglei), the season started moderately later than usual, due to drier than average conditions in April. In all, no significant disruption of the timing of planting was noticeable.

The current drier than average conditions which started in July has led to below average vegetation developing along the north, central and eastern parts of South Sudan (Unity, Jonglei, Eastern Equatoria and parts of Central Equatoria State). This tendency has been worsening progressively as the season advances. This matches with field reports of prolonged dry spells affecting crop performance in Unity, Jonglei, Eastern Equatoria and Central Equatoria. Furthermore, field information indicates a below average first harvest in Central Equatoria and continuous crop failure (for second season) in Eastern Equatoria due to dry spells and erratic rainfall.

Round 16 of the FSNMS (Jul/Aug 2015) shows a high proportion of farmers reporting shortage of rains as the main problem they have been facing. This applies across the country, but in particular by farmers in Eastern Equatoria (54 percent) and Jonglei (53 percent).

Areas which remained relatively free from impacts of poor rainfall include Great Bahr-el-Ghazal and bimodal rainfall areas of the southwest and west of the country, where planting of the second agricultural season proceeded without much problem and first season harvests have begun trickling in.

# El Nino Event and Seasonal Rainfall Forecast

## The El Nino Event of 2015-2016

An El Nino event has officially been active since March 2015. After remaining at relatively weak levels until May 2015, it is now intensifying and should peak in the last quarter of 2015 and disappear from February 2016 onwards.

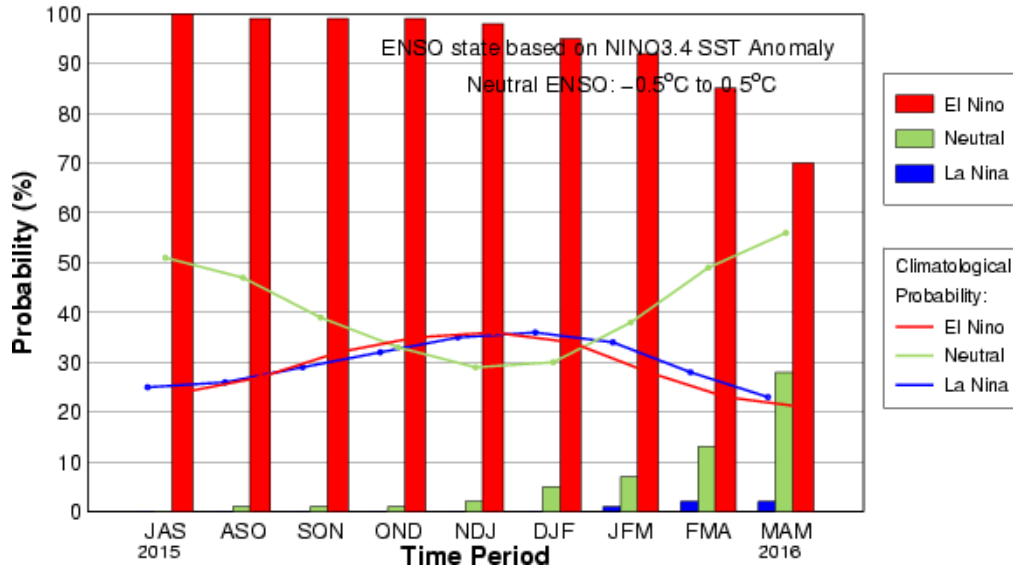
Historically, El Nino events have an impact on South Sudan leading to growing season rainfall deficits and poor vegetation development. The recent drier than average conditions observed in South Sudan is in line the current El Niño developments.

## Rainfall forecasts for October-December 2015

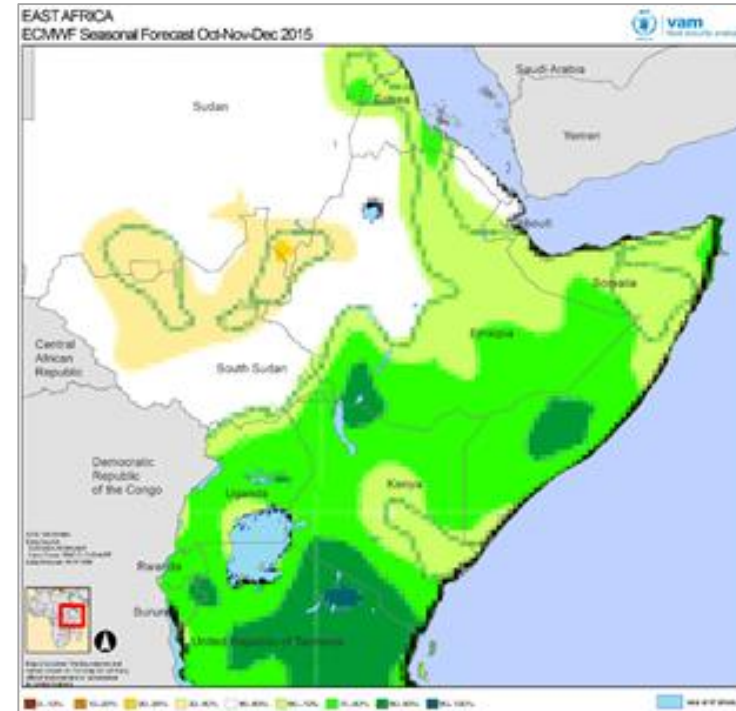
Forecasts for the later stages of the season from ECMWF and IGAD (October to December 2015), indicate that there is increased likelihood of near normal to below normal rainfall for most of South Sudan. This forecast is mostly relevant to more southern areas of the country that has continued to receive rainfall during this period. If this forecast is realized, there is **NO** major improvements in pasture and crop status expected.

In the south-east of South Sudan, there is increased likelihood of above normal to near normal rainfall, linked to El Nino enhanced rainfall during the Short Rainy season in Kenya and southern Ethiopia. This should provide favourable conditions for the second crop season in most of the Greater Equatoria States and recovery in pasture resources in Eastern Equatoria.

Early-Aug CPC/IRI Consensus Probabilistic ENSO Forecast



Probability of an El Niño event (red bars) vs neutral conditions (green) and La Niña (blue). El Niño probabilities remain above 90% throughout the Sahelian growing season.



ECMWF forecast for October-December 2015 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](mailto:raul.cumba@wfp.org)

+211 920002729

Rogério Bonifacio (VAM HQ) - [rogerio.bonifacio@wfp.org](mailto:rogerio.bonifacio@wfp.org)

+39 06 6513 3917



**vam**  
food security analysis