



Southern Sudan



Agronomy Update

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HIGHLIGHT:

- Rainfall performance in southern Sudan range from Average to below average.....
- Most areas in southern Sudan are harvesting the first season crops and the yields are promising.....
- Vegetation performance ranges from average to above average

Produced by Food Security and Technical Secretariat (FSTS), Southern Sudan Center for Census, Statistics and Evaluation (SSCCSE) in collaboration with Government of Southern Sudan Institutions
 1. Ministry of Agriculture and Forestry. 2. Ministry of Animal Resources and Fisheries 3. Ministry of Health. 4. Southern Sudan Relief and Rehabilitation Commission

INTRODUCTION

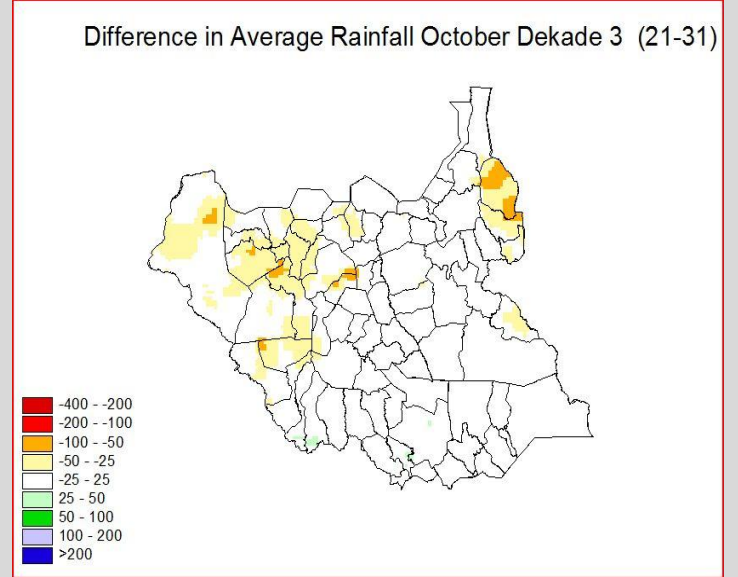
The Agro-meteorology bulletin is a report produced monthly to report on the agricultural season in Southern Sudan. The emphasis of the report is mainly on rainfall performance and its implication on crops and rangeland. The impact of agricultural season has huge implications on food security situation of households that basically depend on agriculture.

Equatoria, southern parts of Eastern Equatoria bordering Uganda, Upper Nile State, Jonglei in particular Pachalla and Akobo. In the third dekad of October, 2010, there were few areas that received rainfall ranging from 40-80mm concentrated mainly in Western Bahr Ghazal, northern parts of Western Equatoria, Northern Bahr Ghazal, Upper Nile (Maban & Longochuk). However, other areas had rainfall ranging from 20-40mm. Areas in Eastern Equatoria observed rainfall amounts of less than 10mm. In comparison to long term rainfall (RFE), the third dekad of October received normal rainfall in most parts of Southern Sudan (figure 1). However, parts of Upper Nile (Maban, Longochuk and Maiwut), Jonglei (Akobo), Unity (Abeimnhom and Rubkona), Northern (most counties) and Western Bahr el Ghazal (Jur, Wau and Raga counties) received less rainfall

RAINFALL PERFORMANCE IN SOUTHERN SUDAN

For the last 31 days of the month of October, most areas in Southern Sudan received rainfall ranging from 10-20mm. A few areas mainly concentrated in the northern parts of Southern Sudan experienced rainfall ranging from 40-80mm. In the second dekad, the rainfall pattern improved as above average rainfall was received mainly along the western part of Southern Sudan covering areas at the border of Western Equatoria State, greater Bahr el Ghazal States, Central

Figure 1. Rainfall anomaly for dekad 3 (21-31 October, 2010)



Source: /SSCCSE, FSTS 2010

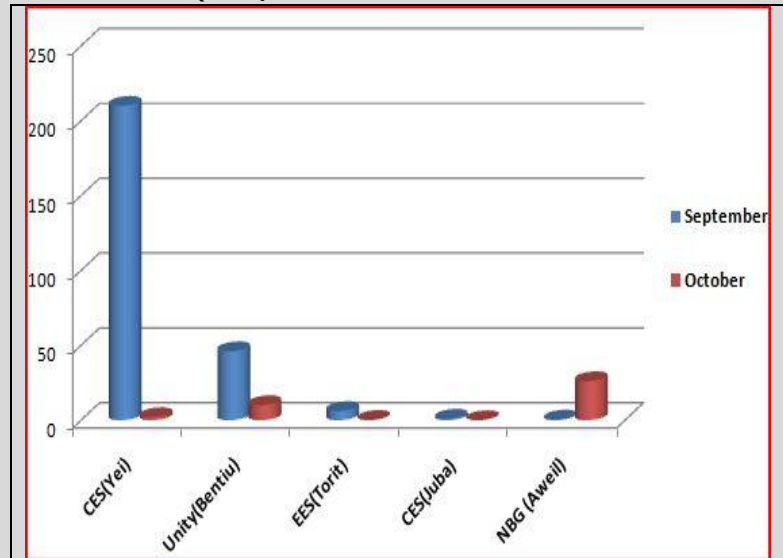
A joint effort of the Government of Southern Sudan with United Nation Organizations and International Non-Governmental Organizations



SIFSIA is a programme funded by the European Commission to build capacity in food security in Southern Sudan

when compared to average by about -50 to -100 (See figure 1). With normal rainfall having been received, the agricultural activities are expected to be normal as well. The low rainfall received as the season comes to an end is beneficial for drying of grain harvested for longer storage. However, in locations such as Lakes, this may have implications as the late maturing crops still needs moisture for final development and maturity.

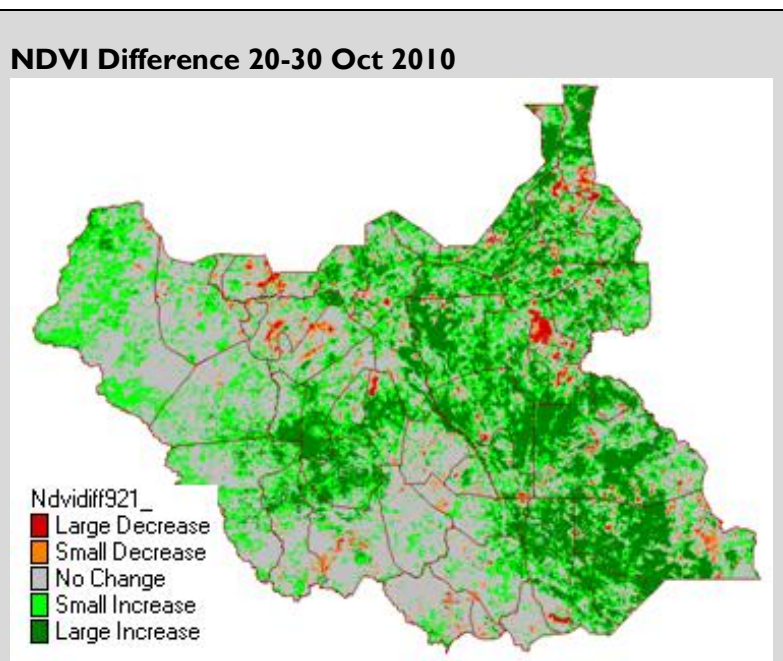
Figure 2: Comparison of October and September Total rainfall 2010 (mm)



Source: SSCSE/FSTS October 2010

With reference to data from the automatic weather stations that are located in the 10 state capitals. Comparison among four states and five capitals, with two in Central Equatoria State (Juba and Yei), observations show relative decrease in rainfall performance over the past 31 days. Rainfall amount is reducing in most areas as crops are at harvesting stage and the season is coming to an end. The situation in NBS (Aweil) was different in that the rainfall performed better compared to September (See figure 2) possibilities of floods receding is likely to be delayed. Generally, with observation from figure 1 the situation is considered to be normal. The rainfall is expected to further reduce as the cultivation season is phasing out and the dry season is approaching.

Figure 3. NDVI Difference for the Period (20-30) Sept 2010.



Source; SSCSE/FSTS, 2010

Satellite Imagery: The satellite imagery Normalized Difference Vegetation Index (NDVI) is used to obtain an overall picture of the progress of the agricultural season.

The rainy season is almost coming to an end and the amount of the precipitation has started to reduce. The amount of rainfall, distribution and intensity has a direct impact on vegetation growth. With reference to the NDVI satellite imagery for the past 31 days of October, vegetation performance was good at the beginning of the month. However there have been reductions in the second dekad and the trend continued to the third/last dekad. This has been attributed to the reduction in the precipitation as the season is phasing out in most areas. When comparing the current vegetation performance with the long term/average/normal situation, most areas in southern Sudan are ranging from average to above average with large vegetation increase in Jonglei, Upper Nile and Lakes (See figure 3). Only very few scattered spots widespread all over

southern Sudan have vegetation performing below average by having large decreases. When the October situation is compared to the September, there has been an increase in performance of vegetation despite the fact that the season is phasing out. This simply implies that the current October vegetation performance is much better than the average conditions. This also gives an indication of good pastures and water for livestock hence improved animal conditions. In terms of area coverage, the south east, north east and the central have wide areas covered with large vegetation increase compared to south west and North West that are at average.

SUMMARY OF AGRICULTURE SEASON BY STATE

Eastern Equatoria State: This state had the highest amount of rainfall (peak) in August and then there has been tremendous reduction in rainfall amount since up to date. In October, it received less than 1mm compared to 6mm in September based on data from automatic weather stations. This is considered to be normal as the season is coming to an end (see figure 1). Vegetation performance is ranging from above average with large increase in western parts of the state to normal in eastern areas of the greater Kapoeta. Crops are performing well but weak around flooded river banks and low lands however possibilities are that they will recover. Rains continue reducing as the dry season is approaching. Generally sorghum is at flowering and milky stage as well as simsim being at maturity stage. Vegetable crops are also being cultivated throughout the year at household level. In Kapoeta, the first season sorghum was affected by birds and also the ratoon crops were affected during flowering by severe infestation by aphids especially in Kapoeta south.

Warrap State: Rainfall performance ranges from normal to below normal during the reporting period and most areas are covered with average vegetation with few spotted areas below average/ large decrease. Crop performance was reported to be affected by excessive rainfall in the middle of the season in lowlands especially in areas of Twic, Gogrial east and west, and Tonj east and west the crops are appearing yellow especially simsim. Highland areas were doing well especially the simsim. Most crops like maize, ground nuts and sorghum have been harvested.

Central Equatoria State: The second season is in progress and the crops are performing well. Crops cultivated mainly include g/nuts at maturity stage, beans at fruiting stage, sorghum at flowering to maturity stage, simsim at maturity stage. Rainfall amount have reduced (see figure 2), this means the

season is phasing out as the agricultural calendar is coming to an end. With reference to the figure 1, the state has received normal rainfall in the month of October. This implies that although the rainfall amount is reducing it is normal as far as the progress of the second season is concerned. Crops are also expected to perform normally. Generally, vegetation is performing at average with few spotted areas with small increase and decrease especially in Kapoeta east. Pastures and availability of water to animals is expected to be at average meaning a normal situation is expected.

Upper Nile State: Although the season was delayed but lately established, crops performed well compared to last year and the harvest is promising. Short term variety sorghum performed well and is being harvested. Excessive rainfall affected the low land farm lands especially along rivers that caused flooding and the yields have been affected although estimates of the impact is not yet confirmed. Pastures and water are available for animals but currently animals are grazed in the highlands especially in the Eastern part of the state and will be moved to low lands when the dry season sets in probably from January to April, 2011. Mixed trend of vegetation performance was observed over the past 31 days (See figure 3). Most areas are above average with large increase. Vigorous vegetation growth is triggered by excessive water especially during the periods of heavy rains that occurred in the Ethiopian highlands. Similar rainfalls are also accountable for the floods in the eastern / lowland areas in the state. In comparison to long term, rainfall performance is normal to below normal (See figure 1). Below average rainfall is observed in Maban, Longochuk, Maiwut, counties all in the eastern part of the state. Likely chances are that the floods are receding as these were previously flooded areas.

Northern Bahr el Ghazal State: There was increased rainfall in this state that caused flooding of the lowlands in Aweil in the middle of the season. Excessive waters came from flooding of the river Lol. Floods have been a challenge to the farming household. Rainfall performance ranges from normal/average to below average by 25mm during the reporting period. The difference in the average NDVI Satellite image for the last dekad of October, 2010 indicates that vegetation performance is normal, however, there are a few scattered and spotted areas with below average with large decrease and above average by small increase. Pastures are performing normally and grazing will be extended up to the dry season. Reports indicate that the quantities of yield of crop harvested have been affected by lack of inadequate seeds, effects of pests, weeds and the negative effect of floods in the lowlands caused by excessive water although generally the yields will be better than last season.

Western Bahr el Ghazal State: Rainfall performance was observed to range from average to below average (See figure 1). Compared to last month, there has been reduction in the rainfall. Vegetation performance is observed to range from average to above average by small increase. Pastures and water availability to livestock is expected to perform at average. Sorghum is reported to have been harvested in September and observations during CFSAM indicate that Sorghum crops planted by farmers in the east bank in Acumcum payam seemed not to have performed well. Further clarification show that the place is not good for growth of long term sorghum. Agricultural production is predicted to be lower than in Wau. The long term sorghum variety is reported to range from vegetative to flowering due to the delay in the rainfall in some areas. Sorghum smart disease and striga weeds were reported to have affected sorghum crops.

Jonglei State: The NDVI Satellite image indicates improved vegetation performance compared to long term average situation. Most areas have vegetation greenness ranging from normal to above normal by large increase. Vegetation growth is triggered by excessive water that previously caused floods. With reference to the satellite rainfall images, observations show that the rainfall performance is normal. The

first season crops are performing well except for those affected by floods, and pests and diseases like fungus. Some areas like pochalla (Pibor County) are replanting due to the effects of the floods that destroyed the crops. The crop stages are ranging from vegetative, flowering and Maturity stages. There is also delayed harvest and small areas to be harvested for farmers who had conflicts at the beginning of the season that caused insecurity.

Unity State: There was normal to below normal rainfall performance observed in this state. Vegetation performance ranges from normal to above normal with few spotted areas with below normal/decrease in vegetation. Harvesting of sorghum as the major crop cultivated by majority of the households has been going on. Yields in Buow payam in Koch county had been affected by conflicts between armed factions which made the community flee and returned towards harvest hence missed weeding which affected crop performance.

Lakes State: With reference to the NDVI satellite images (see figure 3), Vegetation performance for the month of October is from average to above average with many areas covered with large vegetation increase. Rainfall performance is normal throughout the state. Most crops are performing normally with harvesting of short maturing sorghum, ground nuts; 'bambara' nuts. Long maturity sorghum and bulrush millet are at flowering stage. Reports indicate that this year's crop performance and harvesting is promising compared to last year. Previously flooded areas will improve animal condition by availing pastures and water during the dry season when the floods recede.

Western Equatoria State: The areas that managed to cultivate for the second season, are having good crop performance except for ground nuts that are affected by rosette and the elegant grass hoppers that affect cassava. Vegetation performance ranges from normal to above normal (see figure 2). Rainfall performance is also at average with very few areas in the north of the state below average (see figure 1). Pasture and water will be available to animals during the dry season. The LRA and Ambororo activities are the major challenge to the cultivating households by causing insecurity in the farmlands.