



Southern Sudan

Agrometeorology Update



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HIGHLIGHT:

- Most areas in southern Sudan have received normal rainfall as the agriculture season closely comes to the end....
- Main harvesting season in most parts of southern Sudan and harvested crop yields are promising compared to last year.....
- NDVI shows large deterioration of vegetation in Eastern Equatoria....

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

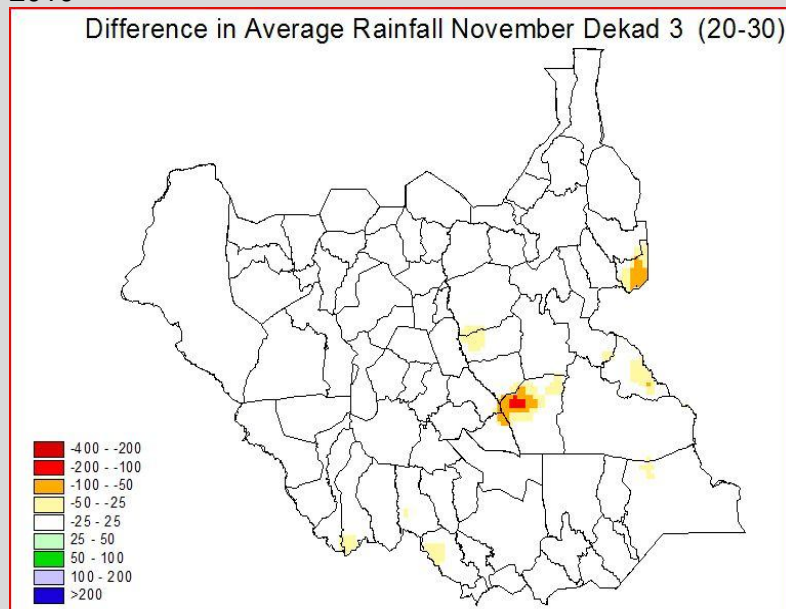
The Agro-meteorology bulletin is a report produced monthly to report on the agricultural season in Southern Sudan. The emphasis of the report is mainly on rainfall performance and its implication on crops and rangeland. The impact of agricultural season has huge implications on food security situation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

State, Baliet, Maban, Longochuk and Maiwut in Upper Nile state, Ibba, Yambio, Nzara and Ezo especially in areas bordering with Democratic Republic of Congo (DRC), Nyirol and Pibor in Jonglei State. In the second dekad the situation improved with most areas receiving rainfall ranging from 10-40mm. Areas covering the eastern parts of Koch, southern parts of Guit, northern leir in Unity State, Ayod, Nyirol in Jonglei state, western parts of Ibba, Nzara, Yambio among others received rainfall between 40-120mm. Most areas in EES, Upper Nile state NBG and WBG (northern parts) received 0-10mm in the second dekad. Low rainfall was received in the last

RAINFALL PERFORMANCE IN SOUTHERN SUDAN

Rainfall estimates in the first dekad of November are observed to range from 0-10mm for northern areas of Unity state, Warrap, the Greater Bahr el Ghazal, Upper Nile state and the southern states of southern Sudan covering CES and EES except Magwi county that had received rainfall in the range of 10-40mm. Few spotted areas had rainfall range of 40-120mm covering areas of Tonj South in Warrap State, Cueibet, Rumbek center and east and Wulu in Lakes

Figure 1. Rainfall anomaly for dekad 3 (20-30) November, 2010



Source: /SSCCSE, FSTS 2010

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



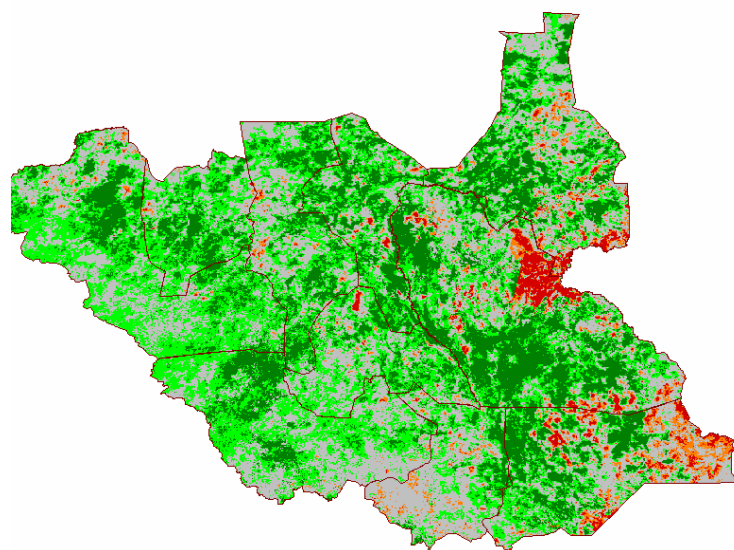
SIFSIA is a programme funded by the European Commission to build capacity in food security in Southern Sudan

For more information/comments, please contact: fs.bulletin@gmail.com

dekad and most areas received less than 10mm of rainfall except for WES and some areas in Jonglei that received rainfall ranging between 10-40mm. The changes in the rainfall are attributed to seasonal change of the year. Reduced rainfall will favour drying and processing of harvested crops as they always require plenty of sunshine radiations.

The rainfall anomaly for November third dekad gives the difference in rainfall performance when the current rainfall performance is compared with the long term, (see figure 1). Observations from figure 1 shows that most places in south Sudan have received normal rainfall as the season closely comes to an end except for Bor south in Jonglei state that received below average rainfall by 25-50mm. Similar incidence of below average rainfall performance was also experienced in upper Nile state in Maiwut county.

Figure 2. NDVI Difference for the period (11-20) November, 2010

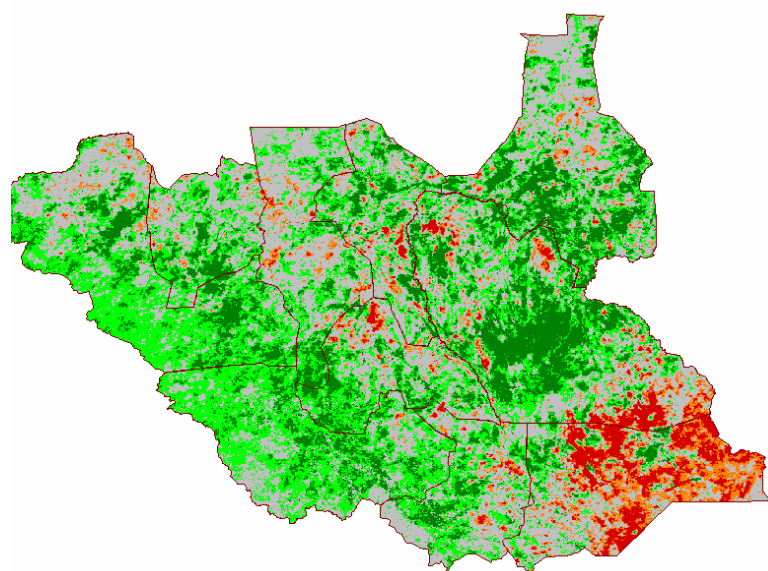


Satellite Imagery: The satellite imagery Normalized Difference Vegetation Index (NDVI) is used to obtain an overall picture of the progress of the agricultural season.

Nov2010diff
 Large Decrease
 Small Decrease
 No Change
 Small Increase
 Large Increase

Source: SSCCSE/ FSTS

Figure 3. NDVI Difference for the period (21-30) November, 2010



Source: SSCCSE/ FSTS

Figures 2 and 3 show the development of the vegetation as the season comes to an end. Figure 2 cover the second dekad of November, 2010 and shows that vegetation in most areas is above average when compare to the average condition during this same period. Most parts of southern Sudan had a small increase in vegetation (light green colour) while other areas had a large increase in vegetation development (dark green colour). However, there were locations in Jonglei and Eastern Equatoria, kapoeta east that had a large decrease in vegetation.

In the third dekad of November, 2010, figure 3, the situaion improved in Jonglei due to some rainfall. Hoever, the situation in the Eastern Equatoria deteriorated further covering most of the state. This implied that the pastures are not performing very well and may directly impact on the livestock condition.

SUMMARY OF AGRICULTURE SEASON BY STATE

Eastern Equatoria State: Rainfall continues to reduce as the season is coming to an end. Most areas received less than 10mm of rainfall. However in comparison to long term it is a normal rainfall situation (see figure 1). Early planted second season crops/sorghum is at harvesting while others are delayed especially in the highlands areas. Some crops especially sorghum is at milky stage. The season continues in the highlands especially for green vegetable crops and also along the rivers supplemented by irrigation during the dry season. Reports of grasshoppers affecting the green crops in Magwi County was reported (EP & R, November, 2010), this may affect the vegetative growth of the crop and the expected yield. The estimated size of the areas and the level of the impacts are not yet known. The ratoon crops are not performing well especially in Kapoeta south, the expected yield may be below average and reports also indicate that the crops have been infested by Aphid. Pastures are not performing well (see figure 2 and 3) and livestock condition is likely to be affected by poor pasture performance.

Warrap State: The progress of the season has been limited by excessive water in the lowland areas in Twic, Gogrial east and west, and Tonj east, south and west. Most crops have been harvested and the yields have been reported to be below average in the flood affected areas. Green vegetables are cultivated throughout the year and in the lowlands during the dry season. The state received normal rainfall (see figure 1) when compared with the long term average, with the areas of Tonj south in the first dekad receiving rainfall of 40-50mm while the rest of the state received less than 10mm. The cumulative rainfall reduced in the last dekad with most areas receiving less than 10mm. This is normal because the agriculture/rain season is coming to an end.

Central Equatoria State: Early planted second season crops like sorghum maize groundnuts, beans, simsim are ready with ongoing harvesting while other sorghum and other crops will mature in late December and January. Crop performance is good except for low lands that had been affected by excessive water during the periods of intensive

rainfall in areas of Ganji, Bungu and Kansuk. In the month of November, this state received normal rainfall with most areas receiving rainfall less than 10mm except for the second dekad where some area received rainfall in range of 10-40mm.

Upper Nile State: Rainfall performance has reduced in this state, observation from the satellite rainfall images indicates that the eastern counties of Maban, Longochuk and Baliet and Maiwut received high amounts of rainfall ranging from 40-120mm while other counties received between 1-10mm especially tending towards the north south border and 10-40mm southern counties. This rain is concentrating to the eastern counties because they are bordering the Ethiopian highlands where intensive rains occur and then extended to eastern parts of Upper Nile state. The rainfall performance is normal except for Maiwut that received below normal rainfall by 50mm. These heavy rains will improve the availability of pastures and water during the dry season.

Northern Bahr el Ghazal State: Occurrence of the floods have availed water for livestock during the dry season, For the last 30days of November, the state received less than 10mm amount of rainfall which is observed to be normal (see figure 1). Possibility is that the floods are receding

Western Bahr el Ghazal State: Reduced rainfall has been observed in this state with most parts in the state receiving rainfall less than 10mm except some payams in Raga County bordering Central African Republic (CAR). November is one of the months where active harvesting of the crops is taking place especially sorghum, the low rainfall performance at this time of the year enables successful processing of already harvested crops. Some of the long term sorghum is ready for harvesting as it was delayed due to late onset of the rainfall

Jonglei State: Ongoing season for the farmers who had conflicts at the beginning of the season and those who replanted like in Pochalla (Pibor county), crops are performing well except for those that are in the flood affected areas. Most Sorghum is ranging from

flowering, milky and mature stage ready for harvest depending on the time of planting/replanting. Floods from Nile Sobat River submerged farms and destroyed crops along the lowlands/river banks.

Floods also submerged pastures in the lowlands but likely to improve during the dry season and when the floods recede. Livestock is grazing in the highland. Most areas received rainfall in the range of 10-40mm in the month of November. Some areas like Ayod, Nyirol, Twic east, Bor south and Pibor have spotted areas that received rainfall in the range of 40-120mm in the second dekad. The rains reduced in the third dekad and when this situation is compared with the average rainfall performance, it is normal. Reduced rainfall will reduce incidences of floods in the state.



Figure 4: Maize around the house was submerged by floods due to august heavy rain in lakes state, Awerial county.
Source: LAF, December, 2010

Unity State: Most crops have been harvested as this is one of the main harvesting months also this state. This year's harvested has been better than last year but only limited to those areas in lowlands that had excessive water associated with floods these areas include Leer. Reports of low/below average harvest have been noted in these flood affected areas. Generally, there has been reduced rainfall in this state from the range of 10-40mm in the second dekad to less than 10mm in the last dekad. The reduced rainfall has implications of good weather favourable for processing of the harvested crops. The performance of the rainfall in the month of November is also observed to be normal as the season phases out.

Lakes State: Rainfall performed normally in Lakes state though there have been reports of flood incidences over the past months. Harvesting of the groundnuts, maize has already been completed. The season was interrupted by the floods in some areas like Rumbek east; Awerial (see figure 4) and Yirol

east where farms were submerged, crops destroyed and people were displaced from their homesteads. Farms were abandoned and crop yields were below average in most parts of these areas. Reports of

pests like smut, sorghum midge and stem borer were received. Similar reports from the counties also noted that the pastures are getting depleted due to confinement of large number of animals on the small pieces of land. Rainfall was between 40-120mm in some parts of Wullu, Cueibet, Rumbek center and east while the other areas had between 10-40mm in the first dekad. There was less than 10mm of rainfall received in the last dekad.

Western Equatoria State: Continuous insecurity still remains a threat to the farming household. The major threat to the security is the existence of the LRA and the nomadic Ambororo that move with large number of cattle and are armed. This state is gifted with palatable pastures that are available throughout the year, for this reason it has attracted the Ambororo nomadic group. Recent LRA attacks on 8th and 19th November have created fear and tension especially to the second season farming households that have fields far away from homes. The crops are performing well with expectation of harvest in December and January. Pest like rosette and elegant grasshoppers that affect the g/nuts and cassava has been a threat to farmer and no serious measures have been taken. Mixed trends of rainfall has been observed in this state with most areas having rainfall range of 10-40mm except for some parts of Yambio, Ibba, Nzara and Ezo in the first dekad that received between 40-120mm. The situation is normal and the second season crops are expected to perform normally.