



South Sudan

Agrometeorology Update



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Produced by Food Security Technical Secretariat (FSTS), National Bureau of Statistic (NBS) in collaboration with Government of South Sudan institutions:
 1. Ministry of Agriculture and Forestry. 2. Ministry of Animal Resources and Fisheries 3. Ministry of Health. 4. Ministry of Humanitarian and Disaster Management and South Sudan Relief and Rehabilitation Commission

HIGHLIGHT:

- Low rainfall but still caused flash floods in some States.....
- Harvest completed in most states while second season is ongoing in the equatorial region....
- Vegetation performance ranges from average to above average improving pasture availability for livestock.....

It is becoming evident that the 2011 rain-fed agricultural season has come to an end.

Rainfall performance in South Sudan Oct-Nov 2011

Based on satellite rainfall estimates cumulative rainfall analysis for October to November suggests that normal to below normal rainfall has been observed in many of the western parts of the region (Fig. 1). The amount in most parts of South Sudan has been mainly below normal over the months. The areas that have been worst affected by poor rainfall in October and November include much of Jonglei, Upper Nile, Eastern Equatoria, parts of Lakes, Central Equatoria and Unity state. Although Western and Northern Bahr el Ghazal appear not to have been badly affected by low rainfall, this is in fact due to the heavy rains that were received in the third dekad of September. The low rainfall received across South Sudan during the last dekad of October and November depicted the withdrawal of rainfall season over the country. The entire South Sudan did not receive significant rainfall except areas with bimodal rainfall across green belt and some pockets of Upper Nile state.

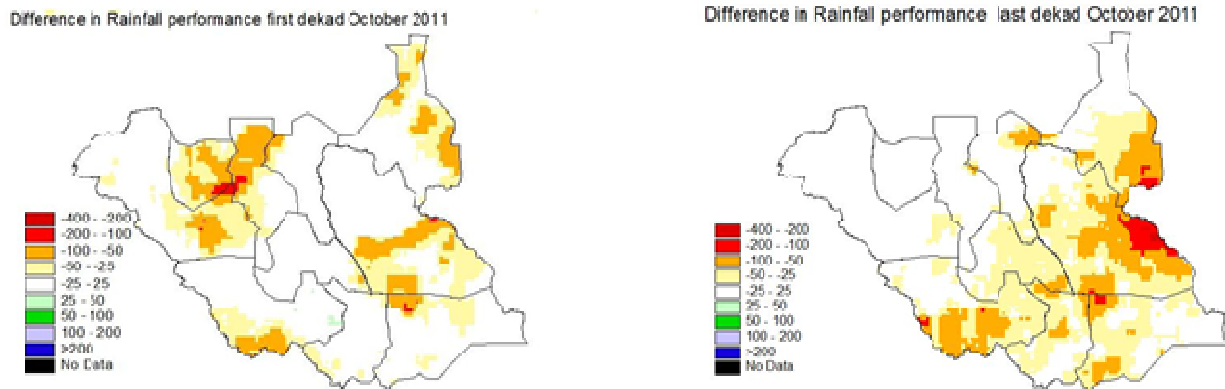
Bahr el Ghazal (Western, Northern, Lakes and Warrap) has generally witnessed some rainfalls in the last dekad of October. However, the prevailing weather in the last dekad of November showed that most areas in Bahr el Ghazal, Upper Nile and much of Equatoria start experiencing dry condition which indicates the cessation of rainy season. Satellite imagery indicates that northern and central parts of the country have recorded more than 25mm meanwhile Jonglei, Central and Eastern Equatoria and Upper Nile state have received less than 20mm. The short-season crops largely failed in bimodal areas due to persistent dry spell in June and July and now the poor rainfall performance in the unimodal rainfall areas is expected to threaten and destroy crops especially in Bahr el Ghazal, Upper Nile and some pockets in Central and Eastern Equatoria. Report from the country CFSAM 2011 indicates that crops have wilted in these areas and failed to yield (Fig. 3).

A joint effort of the Government of South Sudan with United Nations Organizations and International Non-Governmental Organizations



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Figure 1: Comparison of Rainfall performance in first and last dekad of October 2011 in South Sudan

Source : Maps FSTS/NBS, Data USAID FEWSNet

South Sudan Vegetation development analysis

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

Normalized Difference Vegetation Index (NDVI) images (Fig. 2) for October and November 2011 suggest satisfactory vegetation condition in most parts of South Sudan except the north eastern and western parts of the region. A significant improvement in vegetation status was notable over the areas in northern half of Unity, Warrap and some pockets in

Upper Nile state and bimodal rainfall areas in Western Equatoria during the third dekad of October. Normalized Vegetative Index (NDVI) anomaly for November further shows significant increase of vegetation following substantial amount of moisture received in last dekad of October. As the result, vegetation cover has improved significantly and Figure 2.b indicates vegetation cover in Unity, Upper Nile, Warrap, parts of Northern Bahr el Ghazal and Jonglei state have large increment in vegetation cover and while the performance in Eastern, Central and western Equatoria is above average with small increment. Figure 2.b also showed a significant improvement in the last dekad of November and vegetation performance was much better in all the states as compared to the last dekad of October. This implies that the rainfall that was received in these months had significant impact on the vegetation development. Observation reveals that most areas are performing from average to above average with few pockets of below average vegetation performance.

Generally the greater Kapoeta Counties and other locations mainly along the border with Sudan have observed above average vegetation performance and this will improve the availability of pastures for livestock since most of these areas are agro-pastoral communities. Below average vegetation performance especially in October was noted mainly in many parts of Central, Western and north eastern parts of Eastern Equatoria state following the retreat of rainfall. Lakes, Northern parts of Western Bahr el Ghazal and Jonglei State have received insufficient amount of rainfall and this is likely to affect the performance of vegetation, availability of the pasture in these areas and the animal body condition. However, vegetation cover improved in the last dekad of November with most areas

SUMMARY OF AGRICULTURE SEASON BY STATE

Eastern Equatoria State: Based on the observed NDVI images, most parts of the state have witnessed below average vegetation. However, some areas like greater Kapoeta and Magwi County have observed above average vegetation

performance. There are also few pockets which observed below average vegetation. The observed rainfall performance range between below to above average.

Vegetation

performance also has been improved to average in the last

dekad of October and November and this will have positive impact on pastures. Harvest is reported to have been completed in most parts of the state although harvested yields were below average.

Warrap State: Though rainy season has come to an end, vegetation performance has been satisfactory over the state. This situation has improved pasture availability to livestock and this will improve livelihood situation of pastoralists. Harvest of long mature sorghum variety has commenced; however, expected yield will be below average. This was induced by June-July dry spells which had affected crop productivity throughout the region. Crop in the northern parts of the state had completely failed. Farmers had re-planted three times when rainfall resumed in August/September; however, retreat of seasonal rainfall will affect these late planted crop in the areas.

Central Equatoria State: In the last observation, Satellite images indicate that

vegetation performance is deteriorating following insufficient moisture received during the months. This inadequate water had failed to support the vegetation growth and this will likely endanger pastures and water availability

for the livestock. Rainfall in October and November performed at below average. The southwest parts of the state have commenced harvesting second season crops and yields were considerably low.

Figure: 3. Late planted crop in Awiel west County, NBGS



Source: 2011 CSFAM, NBGS,

Upper Nile State: Rainfall deficit had affected crop productivity in most parts of the state. Harvested yields in Nasir, Ulang, Baliet, Malut, Panyikang and parts of Fashoda were significantly low. However, crop yields in south eastern parts of the state have average yields. Incidences of insecurity in Maban County have also disrupted harvest and since farmers were displaced due to insecurity. Vegetation performance is good with most areas above average.

Northern Bahr el Ghazal State: Except Aweil East and some pockets of Aweil Centre, harvest of sorghum (short mature variety) has been completed. Some fields have failed to yield due to protracted dry spell that had affected the whole state (Fig.3). Satellite images indicate that rains resumed in August satisfactorily through September.

Western Bahr el Ghazal State: Except for sorghum crop, harvests for legumes and root/tubers have started in October in Raja, Jur

River and parts of Wau County. Vegetation performance was above normal following resumption of rains in August after June-July dry spell.

Jonglei State: In the third dekad of October and November, the observed rainfall was below average. The prevailing weather in November shows the end of seasonal rainfall with significant minimal weather activity over the state. Vegetation performance in areas range between average to below average. In the second dekad of October the south eastern parts of the state received substantial amount of rains and this had improved vegetation performance. NDVI anomaly in the state performed above average. Crop had failed in many parts of the state though some pockets toward Pibor and Akoba County have harvested below average yields.

Unity State: Rainy season has ended and many areas at the northern parts of the state started experiencing dry conditions. Pasture and water become limited and competition over available resources is expected to start early this year (2012). Harvest had completed and yields observed from the traditional sector (rain fed) were considerably low. Though farmers replanted many times after recommencement of rainfall in August/September, withdrawal of rainy season occurred when the crops are at critical growing stage and affected their development growth.

Lakes State: Satellite imagery suggests that the entire state received normal to below normal rainfall in most parts during the month of October. While during third dekad of November, the whole state started

experiencing dry condition although some areas were reported to have received showers. Vegetation performance range between normal to above normal; however, some areas are performing below average in the third dekad of October. Crops which were re-planted late have failed to yield due to insufficient rains received.

Figure: 3. Livestock



Source: 2011 CSFAM, NBGS,

Western Equatoria State: Light to moderate rains were received in most parts of the state in the period under review, with a few areas in the north and eastern parts getting normal rains in excess of 25 mm. Several areas had rainfall totals above 20mm but there were a few areas where below average rains were received, especially in the Mvolo, Mundri west and Mundri east. Vegetation conditions have improved with few spots of below and above normal. Harvest of second season crops has commenced although the expected yields appear to be below normal because rains received over the months was inadequate to support crop growth.