Sudan Agromet Dekadal Bulletin

Published by Sudan Meteorological Authority (SMA)

Vol 2, Issue 17 **21-31 August 2004**

Highlights

- **This dekad the ITCZ made a remakarble shift southwards. The current position is south of the long term average (about 15°N).**
- **Areas with heavier rainfall (over 60-80 mm) were found in the Southwestern and Western states of the country. Very low or no significant rainfall occurred in northern parts of North Kordofan, White Nile, Gazeira, Kassala and East Equatoria States.**
- **In relative terms Southern and Western Kordfan, Southern Darfur, Upper Nile, Bahar Al Gabal, Khartoum and southern parts of Nile State registered well above average rainfall, in contrast with Unity, Warab, West Bahar Al Gazal, Blue and White Nile, Sennar, Gedaref and Gazeira States, where rainfall amounts were markedly below the average.**
- **In Greater Kordofan and North Darfur vegetation conditions are markedly below average. This reflects the same conditions in seasonal rainfall displayed in Fig 3b. In Southern Sudan, vegetation conditions are mostly on average (Fig 4b) in broad accordance with the rainfall situation but declining vegetation conditions are noticeable in East Equatoria, northern parts of Jonglei and Upper Nile States.**

Rainfall Analysis – Seasonal Progress

Rainfall in Sudan and its seasonal distribution is mostly the result of the northwards movement of moist air masses, source of the rainfall. The Intertropical Convergence Zone (ITCZ) marks the northernmost extent of these humid air masses, where they meet with drier and warmer air. The rains follow some distance south of this border between air masses, so that tracking this ITCZ through the season provides a quick evaluation of the seasonal movement of the rains

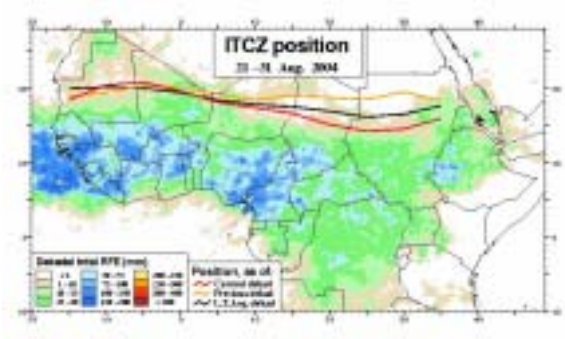

Fig 1a – Position of ITCZ over Africa in August Dek 3 2004 (red) compared to previous dekad (orange) and average position (black). Background is a rainfall map (Source : CPC-FEWS Net)

Fig 1b – Current latitude of the ITCZ position compared to the 15 year average. (Source : CPC-FEWS Net)

Note (fig 1a) how the ITCZ position marks the border between the (significantly) rainy and non-rainy rainfall

areas. The way this position changes along the season can be described by the time series of its mean latitude (fig 1b). We can see :

- The ITCZ has been South of the average for the this dekad.
- This dekad, it made a remakarble turn southwards (see Fig 1). The current position is about to 15°N.

Rainfall Analysis - Dekadal Amounts and Frequency

10 day rainfall amounts produced by SAMIS at SMA/SEWS are based on a combination of METEOSAT satellite and synoptic gauge data. Rainfall climatology is similarly derived from a combination of historical data from the two sources.

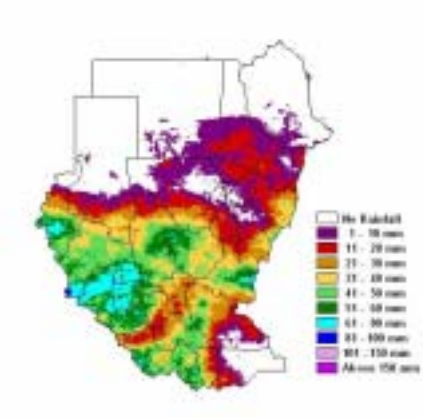

Fig 2a – Rainfall amounts (mm) 21-31 August 2004

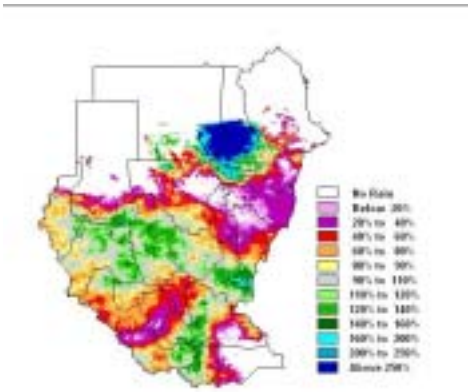

Fig 2b – Same but in relative terms : as % of long term average

In this dekad, the ITCZ moved southwards, in contrast with previous dekad, the rainfall amounts were generally lower than previous dekad. Areas with heavier rainfall (over 60-80 mm) were found in the Southwestern and Western states of the country (North and West Bahar Al Gazal and South and West Darfur and South Kordfan) with point values reaching 63.1 mm reported at Rashad and 53.6 mm reported at Nyala.

In contrast, very low or no significant rainfall occurred in northern parts of North Kordofan, White Nile,Gazeira,Kassala,and East Equatoria States.Almost all of these regions registered less than 20mm.

In relative terms Southern and Western Kordfan, Southern Darfur, Upper Nile, Bahar Al Gabal, Khartoum and southern parts of Nile State registered well above average rainfall, in contrast with Unity, Warab, West Bahar Al Gazal, Blue and White Nile, Sennar, Gedaref and Gazeira States, where rainfall amounts were markedly below the average.

Rainfall Analysis - Cumulative Amounts

Cumulative amounts are obtained by summing the dekadal estimates starting from Dekad 1 of March until present.

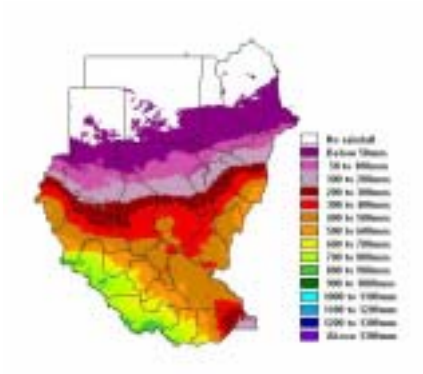

Fig 3a – Cumulative rainfall (Mar Dek1 – Current Dek)

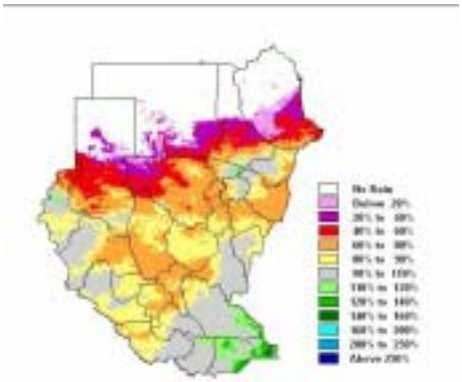

Fig 3b – Same but in relative terms : % of long term average

The cumulative rainfall amounts (Fig 3a) display the usual organisation in latitude bands (as the rainfall moves north following the ITCZ). Currently, values approach 900mm in southernmost Sudan and less than 50mm up to 18°N.

The situation relative to the average (Fig 3b) has not changed much from last dekad in many parts of Sudan. The belt of below average conditions now includes North Darfur, Greater Kordfan, Unity, Warab, White Nile, Kassala, Gedaref and western parts of West Equatoria States. In these areas it is important that rainfall situation improves during the rest of season.

Elsewhere, in the South (East Equatoria, Bah Al Jabal ,Upper Nile and Jungolei States) and in parts of Western Sudan(northern parts of West Darfur and western parts of South Darfur) the situation is close to the average or above.

Vegetation Analysis

Vegetation information is based on the NDVI, a satellite index related to vegetation amount and vigour. NDVI data is sourced from the Africa Data Dissemination Service and processed at SMA.

Fig 4a – NDVI 21-31 August 2004. Darker shades for denser vegetation, lightest shade for soil. (Source : ADDS).

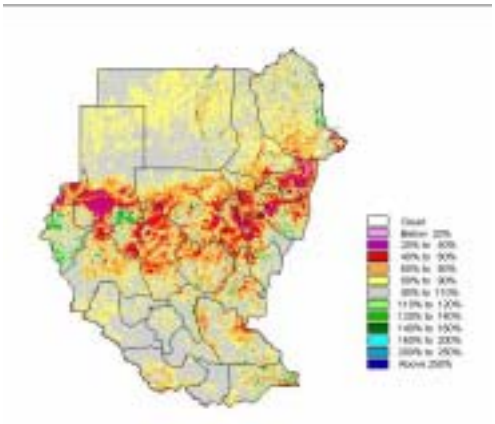

Fig 4b – Same in relative terms : % of long term average (ADDS)

The NDVI for this dekad (Fig 4a) continues the trend of vegetation advancing northwards following the progress of the rains. Currently, new season vegetation development is registered in the central States, up to the borders of Sennar, Gedaref, South and West Kordofan and West and South Darfur.

In Southern Sudan, vegetation conditions are mostly on average (Fig 4b) in broad accordance with the rainfall situation but declining vegetation conditions are noticeable in East Equatoria, northern parts of Jonglei and Upper Nile States.

In Greater Kordofan and North Darfur vegetation conditions are markedly below average. This reflects the same conditions in seasonal rainfall displayed in Fig 3b.

The indications from the vegetation index and rainfall estimates imply that early season vegetation development is somewhat delayed due to poor or irregular rains. However some improvements are already noticeable in West Darfur but these are dependent on good rains during the rest of the season .

Acknowledgements

WFP Khartoum funded the installation of technical capacity and provision of training at SMA (Sudan Meteorological Authority) in the shape of SAMIS/SD – Satellite based Agro Meteorological Information System / Sudan. This is an operational system for the local production of satellite and station based rainfall and vegetation information for distribution to a wide range of local users. The system was prepared and installed by the TAMSAT group of the Department of Meteorology, Univ of Reading, UK. For information, please contact Dr. Rogério Bonifácio at : tamsat@rdg.ac.uk or rbonifacio@mail.telepac.pt

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