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Highlights

- **This dekad the ITCZ made a remakarble shift nothwards. The current position is about the long term average (about 17°N).**
- **Very low or no significant rainfall occurred in North Darfur, North Kordofan, Khartoum and Kassala States. Almost all of these regions registered less than 20mm.**
- **The rainfall totals relative to the long term average, remain below or on average. Greater Darfur and Greater Kordfan are mainly below average, but the bulk of the rain may come in the next two dekades of August.**
- **In Greater Darfur and West Kordofan current evidence from the vegetation index and rainfall estimates indicates delays in the start of the growing season due to poor rains – good rainfalls in the next two dekades of August are important for recovery from this situation. In East Equatoria, Jonglei and Upper Nile, vegetation conditions are also markedly below average.**

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

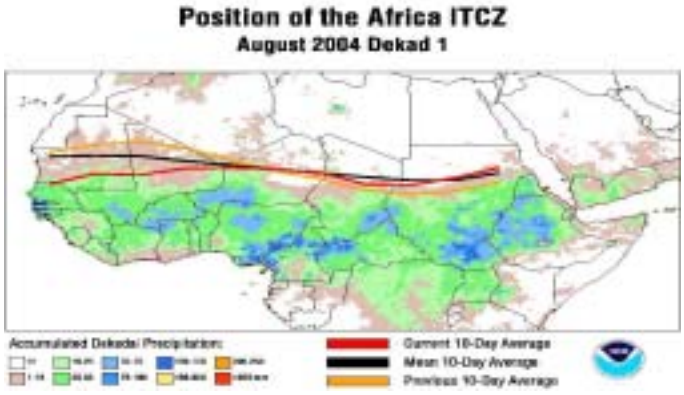

Fig 1a – Position of ITCZ over Africa in August Dek 1 2004 (red) compared to previous dekad (orange) and average position (black). Background is a rainfall map (Source : CPC-FEWS Net)

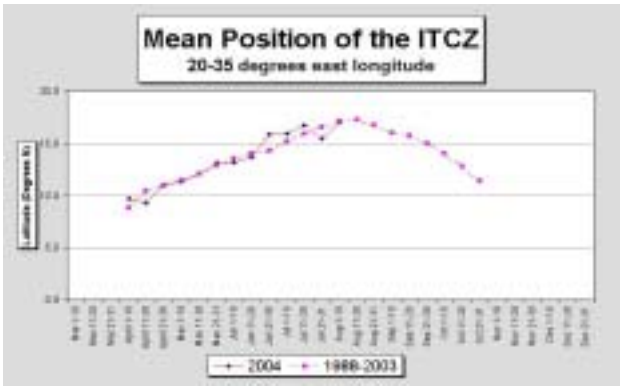

Fig 1b – Current latitude of the ITCZ position compared to the 15 year average. (Source : CPC-FEWS Net)

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 last dekad.
- This dekad, it made a remakarble shift nothwards (see Fig 1). The current position is about the long term average (about 17°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.

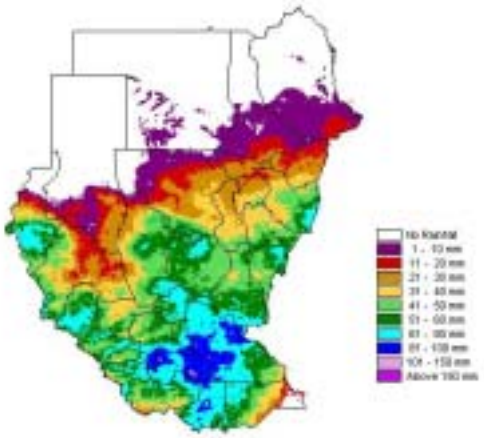

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Fig 2a – Rainfall amounts (mm) 01-11 August 2004

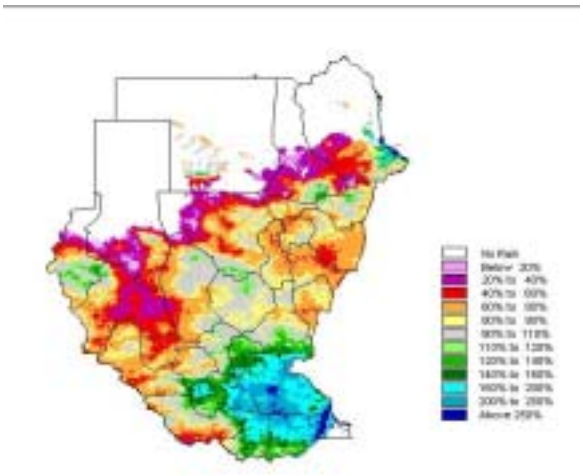

Fig 2b – Same but in relative terms : as % of long term average

In this dekad, the ITCZ moved nothwards, in contrast with previous dekad, the rainfall amounts were generally larger than previous dekad. Areas with heavier rainfall (over 80-100 mm) were found mostly in the southern states of the country (Jungolei, Lakes, Bahr EL Jabal States) with point values of 115.3 mm reported at Juba. Other areas of heavy rainfall are found in parts of West Darfur and South Kordofan with point value of 96.6 mm reported at Rashad.

In contrast, very low or no significant rainfall occurred in North Darfur, North Kordofan and Kassala States. Almost all of these regions registered less than 20mm.

In relative terms Southeastern Sudan registered well above average rainfall, in contrast with Greater Darfur and Eastern Sudan 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.

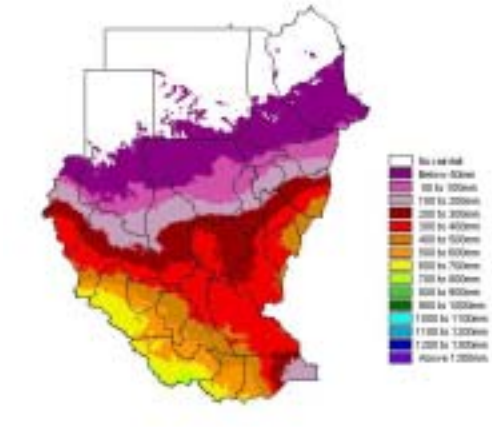

Fig 3a – Cumulative rainfall (Mar Dek1 – Current Dek)

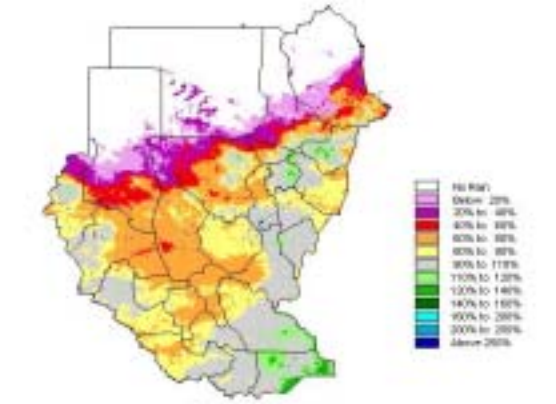

Fig 3b – Same but in relative terms : % of long term average

The cumulative rainfall amounts (Fig 3a) display the usual organisation in latitude bands (as the rainfall moves north following the ITCZ). Currently, values reach 700mm in southernmost Sudan and less than 50mm up to 17°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 Greater Darfur, Greater Kordfan, Unity, Lakes and western parts of West Equatoria States. In these areas it is important that rainfall situation improves during the coming two dekades of August.

Elsewhere, in the South (East Equatoria, Bah Al Jabal and Jungolei States) and East (Blue Nile, Gazira and Kassala States) of the country 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 01-11August 2004. Darker shades for denser vegetation, lightest shade for soil. (Source : ADDS).

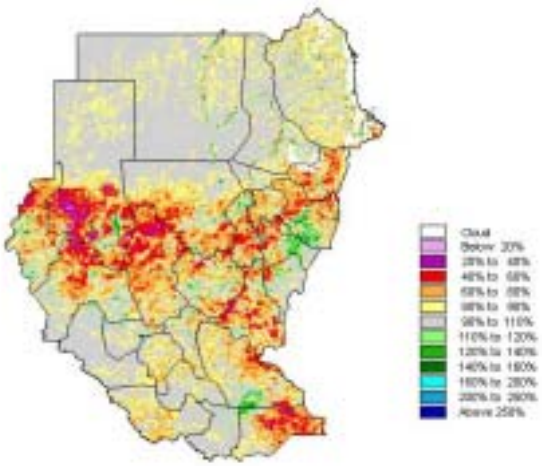

Fig 4b – Same in relative terms : % of long term average (ADDS)

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 and Jonglei-Upper Nile borders.

In West Kordofan and Greater 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 Darfur but these are dependent on good rains during the next two dekades of August.

Acknowledgements

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