EARLY WARNING BULLETIN FOR FOOD SECURITY IN THE GAMBIA

No. 2019/06 **Period: June 21 - 30, 2019**

Government of The Gambia

Produced and Published by The Gambia National Multidisciplinary Working Group

Focal Point: Department of Water Resources

TEL: (+220) 4227631 / 4224122 / 8905229 - FAX: (+220) 422 50 09

E-MAIL: dwr@mofwrnam.gov.gm / WEB: www.mofwrnam.gov.gm

1. SYNOPTIC SITUATION

The Inter Tropical Discontinuity (ITD), separating the dry north easterly trade winds from the moist south westerly winds propagated substantially to the north with its mean surface position oscillating over northern Senegal, stretching across central locations of Mali, Niger and then slopping onto Chad.

Places to the north of the ITD remained dry with stable atmosphere and dust haze reported over north-eastern Mauritania, northern Mali, south-eastern Algeria and northern Chad. To the south of the ITD, heavy rains and thunderstorms were reported over The Gambia, southern Senegal, Guinea Bissau, Conakry, southwest Mali, Liberia, Sierra Leone, Ghana, Togo, Benin and Nigeria.

2. WEATHER OUTLOOK FOR THE NEXT DEKAD (01ST- 10TH JULY 2019)

The atmosphere will remain humid with generally warm conditions. Rains and thunderstorms are expected to affect the country on the 01st, 2nd and 8th July 2019. There are not much convective activities to expect during the period.

3. RAINFALL SITUATION

During this dekad, there was significant improvement in rainfall recorded across the country as compared to the preceding dekad. In the Eastern Third, Basse recorded a dekadal total of 89.0mm of rain, whilst Fatoto in the same region recorded a dekadal total of 70.6mm. Rainfall figures from the Middle Third were also very significant with Sapu, Janjanbureh, Jenoi and Kaur recording 80mm, 58.1mm, 16.3mm and 14.8mm respectively. In the Western Third, Kerewan, Yundum and Serekunda recorded rainfall ranging from 28.5mm to a minimum of 11.0mm whereas Banjul and Sibanor each recorded rainfall below 10mm (figure 1).

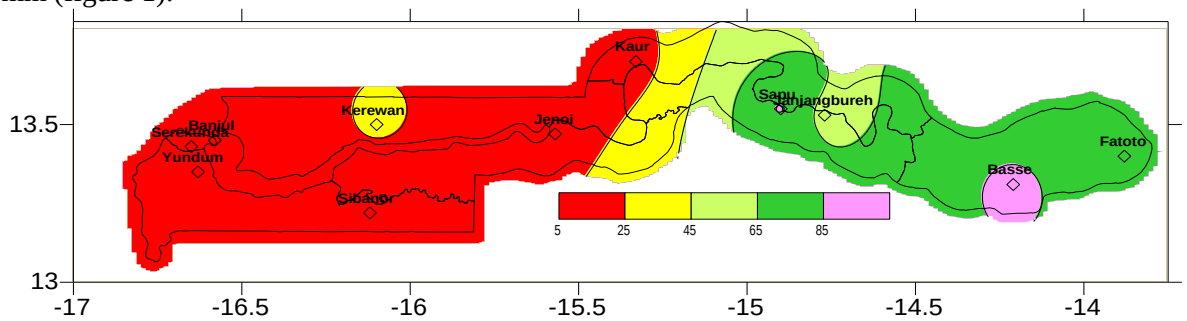

Figure 1: decadal rainfall totals 21st – 30th June 2019.

Seasonal rainfall totals (May 1 to June 30) show great variations ranging from 90mm in the Eastern and Middle Thirds to less than 10mm in the Western Third of the country. This shows that rainy sason activities are as usual at more advance stage in the Eastern and Middle Thirds than in the Western Third of the country.

In comparison, this year's country average as at 30th June 2019 is 42.4mm, which is 13.5% above last year this time (37.3mm), but 46% below the country average (1981_2010), which is 79.5mm.

4. UPDATE ON 2019 SEASONAL RAINFALL FORECAST OVER THE GAMBIA

The Department of Water Resources is pleased to present the **update** on Seasonal rainfall forecast for 2019 Wet Season. To understand the forecast, the following facts must be noted:

- Seasonal forecasting relies on prediction of the evolution of Sea Surface Temperatures (SSTs) over the Global Oceans and may not reflect all the various factors that influence national, regional and global climate systems;
- The forecast is relevant only for the entire season and within relatively large areas, since local and monthly variations may occur;
- Finally, the forecast is only valid for the combined period of July, August and September (JAS), which constitute about 80 per cent of the total seasonal rainfall precipitation in The Gambia.

THE CURRENT STATE OF THE EVOLUTION OF SEA SURFACE TEMPERATURES

The current state of the evolution of the Sea Surface Temperatures (SSTs) for July – August – September (JAS) over Tropical North Atlantic Ocean in figure 1 below depicted weak cooling over the region. It would be recalled that this cooling which has been experiencing since May 2019 is now gradually weakening.

The warm SSTs over Tropical South Atlantic Ocean is also gradually weakening while weak El Niño over Tropical Equatorial Pacific Ocean is expected to persist through the Northern Hemisphere summer of 2019.

The weak cooling depicted in the Tropical North Atlantic Ocean and weak warming in the South Atlantic Ocean are one of contributing factors that retard monsoon surge and inhibits enhanced moisture concentration over the western part of Sahel region (Gambia, Senegal and southern Mauritania).

The persistence of cool SSTs over Tropical North Atlantic Ocean and weak warming over the southern location around Gulf of Guinea States from May 2019 to July 2019 could best explain the late arrival the season.

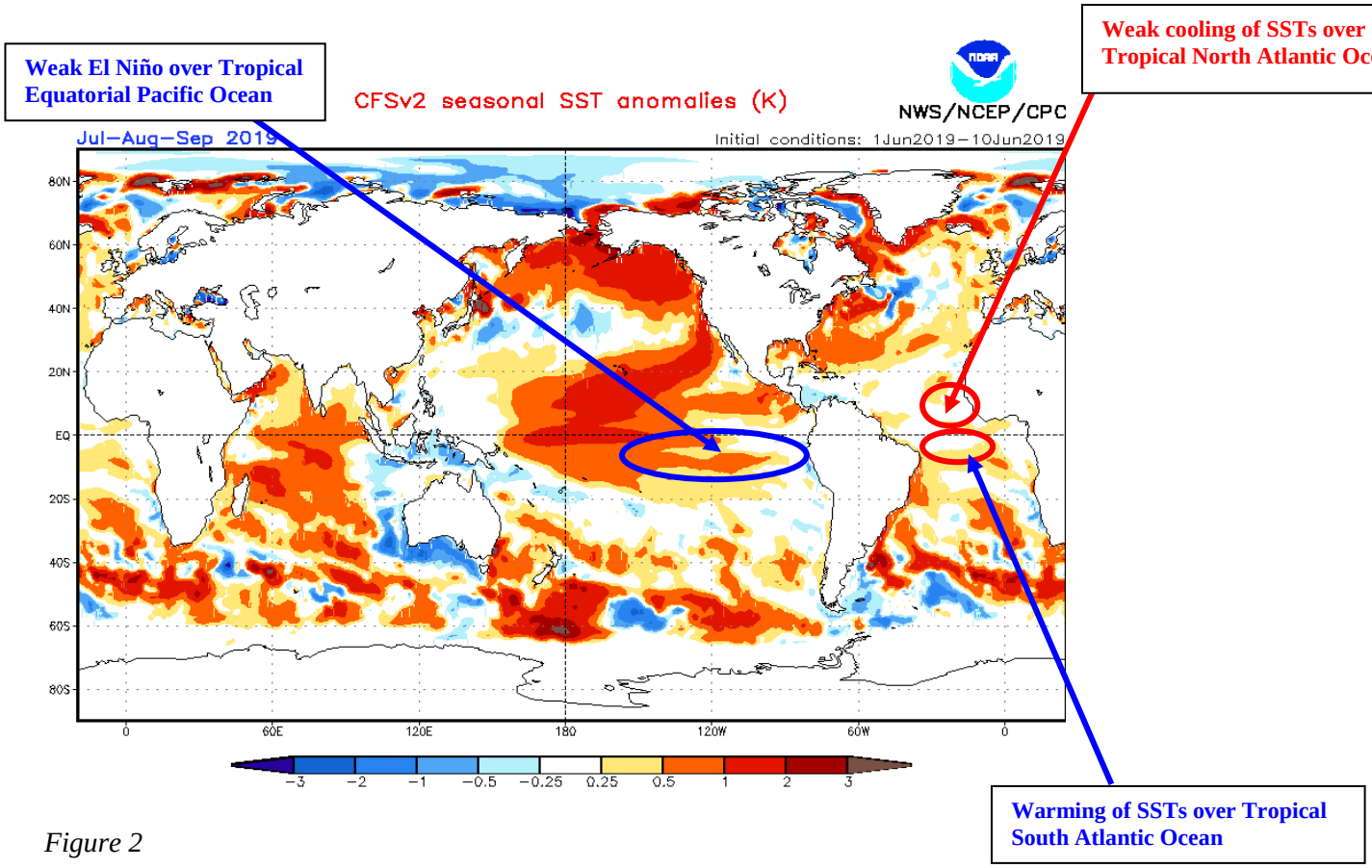

Figure 2

UPDATE FORECAST STATEMENT:

The update forecast for 2019 rainy season is still in favour of **normal to slightly above rainfall category** with a probability of getting **45% Normal** and **35% above normal**. That means a total precipitation value of about **580mm to 690mm** or slightly above for **JAS** is expected in The Gambia. This decision is based on the best estimate of the impact of the various factors affecting rainfall in the country, notably the evolution of the Sea Surface Temperatures over Tropical North and South Atlantic Oceans as indicated above in figure 1.

SEASONAL VARIABILITY (ONSET AND CESSATION)

On Seasonal Variability, late onset and normal to late cessation were predicted with on or after **15th June 2019** as the expected time for the onset over **Upper and Central River Regions** whereas on or after **25th June 2019** was predicted for start of rains **WCR, GBA, LRR and NBR**. Apparently, seasonal monitoring over the country indicated that the first rain arrived on the 18th

June 2019 over Upper and Central River Regions whilst it started on the 29th June 2019 over WCR, GBA, LRR and NBR. This means the prediction for the onset is accurate.

WHY THE RAINY SEASON ARRIVE LATE (LATE ONSET)

The prediction of late onset for 2019 rainy season is what has been observed in the country. The late arrival of the season among other factors could be attributed to the cool tongue of Sea Surface Temperatures featuring over Tropical North Atlantic Ocean since May 2019 and this condition is expected to persist through the month of July 2019.

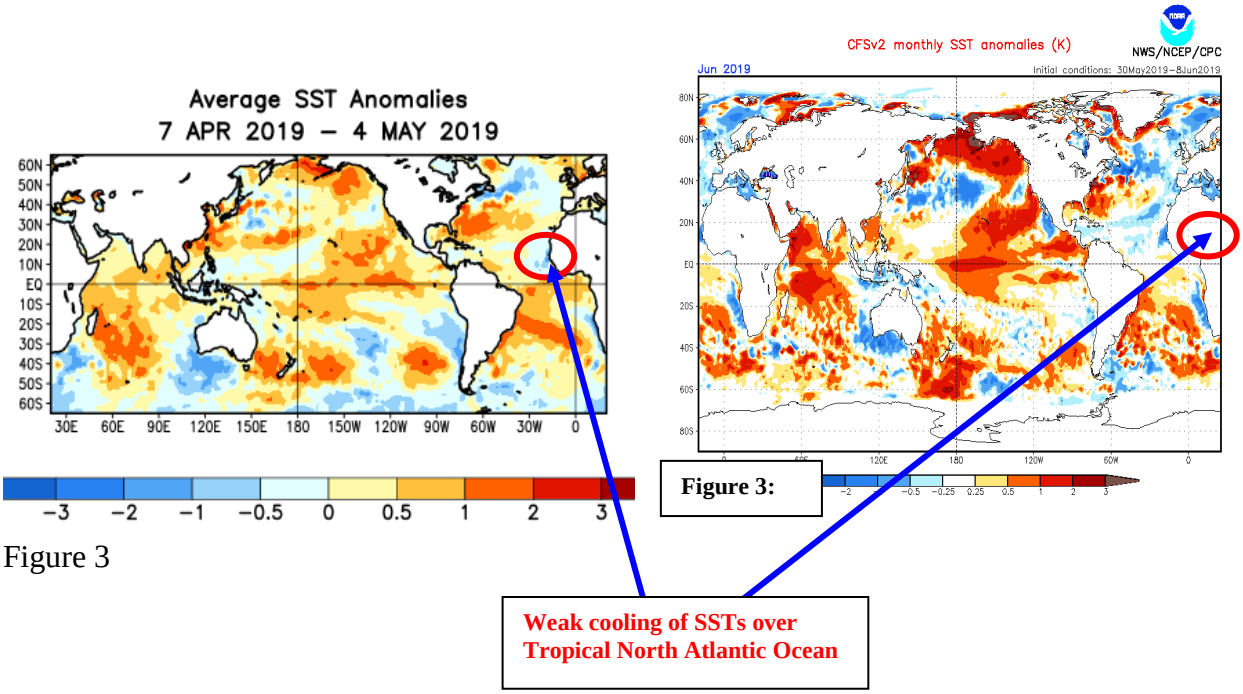

Figure 3

The cool tongue over the Tropical North Atlantic Ocean as depicted in figures 2 and 3 above normally creates subsidence over extreme western Sahel region which technically blocks the propagation of Monsoon over the Gambia, Senegal and southern Mauritania. This consequently favours the inflow of moderate to strong North to Northwesterly winds, disable the convective mechanism and deplete moisture concentration in the atmosphere. Also, the weak warming over Tropical South Atlantic Ocean around the Gulf of Guinea States serves as source of energy sink disconnecting moisture surge into western Sahel region. This also retard the northward propagation of ITD and hence caused delay with the arrival of the season. These situations have been the principal factor for late arrival of the rainy season in 2019.

The cool tongue over the Tropical North Atlantic Ocean is experted to persist through July 2019 as shown in figure 4 below for the projected SSTs. The implication here is that July 2019 will also receive **little** precipitation during the period.

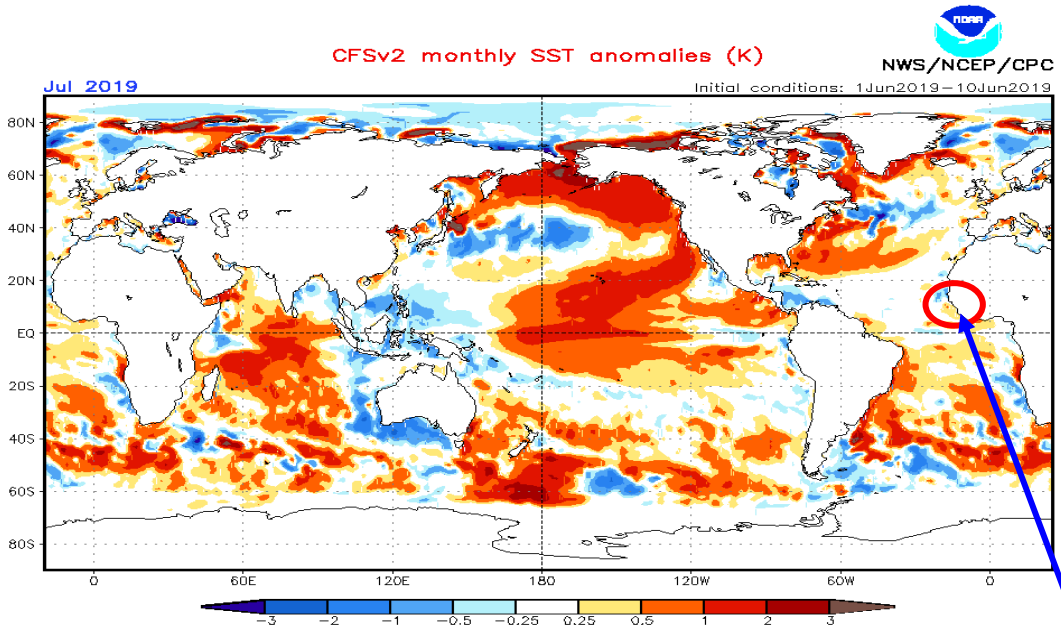

Figure 4

However, the SSTs projection over Tropical North Atlantic Ocean for months of August and September 2019 (figures 5 and 6) shows a shift from weak cool tongue to slight warm pool. If these projected SSTs are to be observed, there is hope for more precipitation towards the end of the rainy season. Based on this projection, we still maintain **normal to slightly above rainfall** in the country.

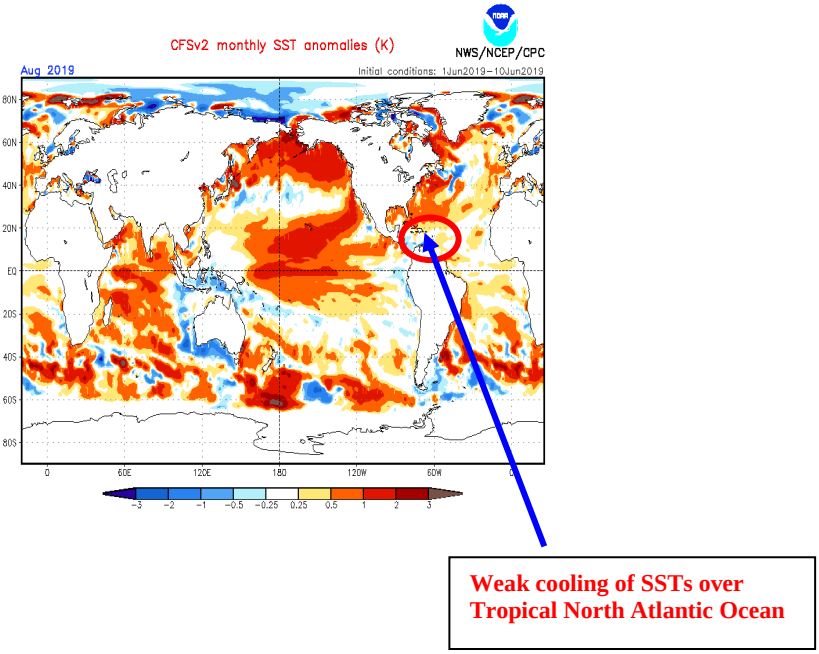

Figure 5

5. AGROMETEOROLOGICAL SITUATION

Mean temperatures varied from 29°C in the Western Third to 31°C over the rest of the country. Recorded minimum temperature were 20°C over the Western Third, 24°C over the Eastern Third and 25°C over the Middle Third of the country; whereas maximum temperature varied between 34°C in the Western Third increasing to 41°C over the Eastern Third. Extreme temperatures reached a minimum of 16°C in the Eastern Third, whereas maximum temperatures reached 42°**C** over the Middle and Eastern Thirds of the country. Generally temperatures have decreased by a degree during this dekad due to increase moisture content in the atmosphere.

Winds during the period were light to moderate in speed. However, a wind storm with a maximum wind speed of **64km/h** swept the Middle Third of the country towards the end of the dekad affecting few weak fences in Kaur in the Middle Third of the country.

Due to increase in cloud coverage, recorded sunshine on average was between 5hours to 8hours countrywide.

Minimum Relative Humidity (RH %) recorded across the country was 20%; whereas maximum RH recorded were over 90% across the country.

6. AGRICULTURAL SITUATION

After significant rainfall records were made in most parts of the country during this dekad, farmers across the country are busy sowing major crops such as cereals (maize, millet and sorghum), as well as groundnut. In the west coast region farmers are still involved in field clearing and seed acquisition. Fertiliser distribution is also in progress.

7. LIVESTOCK SITUATION

Feed Availability: Although the first rains are received in all the country, feed availability continuous to be a major challenge especially for cattle. Most of the standing grasses that remained were burnt during farm clearing operations. This aggravated the feed shortage situation. The late onset of the rainy season has also further worsened the situation compounding feed and water shortage.

Banjul July 02, 2019.

National MWG of The Gambia

Composition of MWG:	**Direct your comments and questions to:**
Department of Water Resources	The Director
Planning Services - Department of Agriculture (DOA)	Department of Water Resources
Communication, Extension & Education Services - DOA	7 Marina Parade, Banjul
Animal Health & Production Services - DOA	The Gambia
Plant Protection Services - DOA	Tel: **(+ 220) 422 76 31 / 422 41 22 / 890 52 29**
National Environment Agency	Email: dwr@mofwrnam.gov.gm