

West Africa Seasonal Monitor

2020 Season



vam
food security analysis



World Food Programme, Regional Bureau Dakar

20-31 July 2020

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Highlights

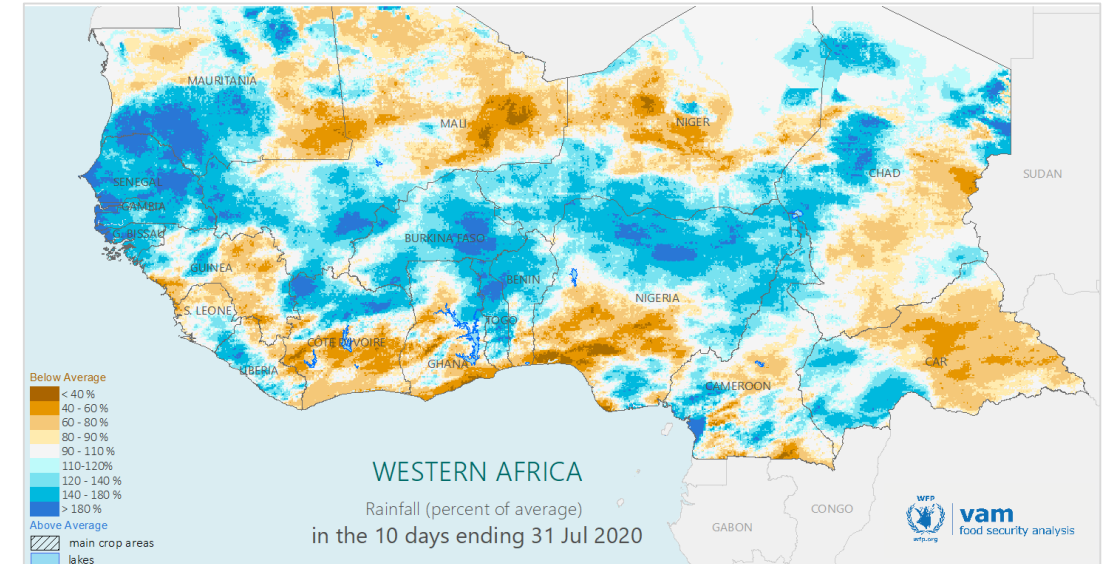
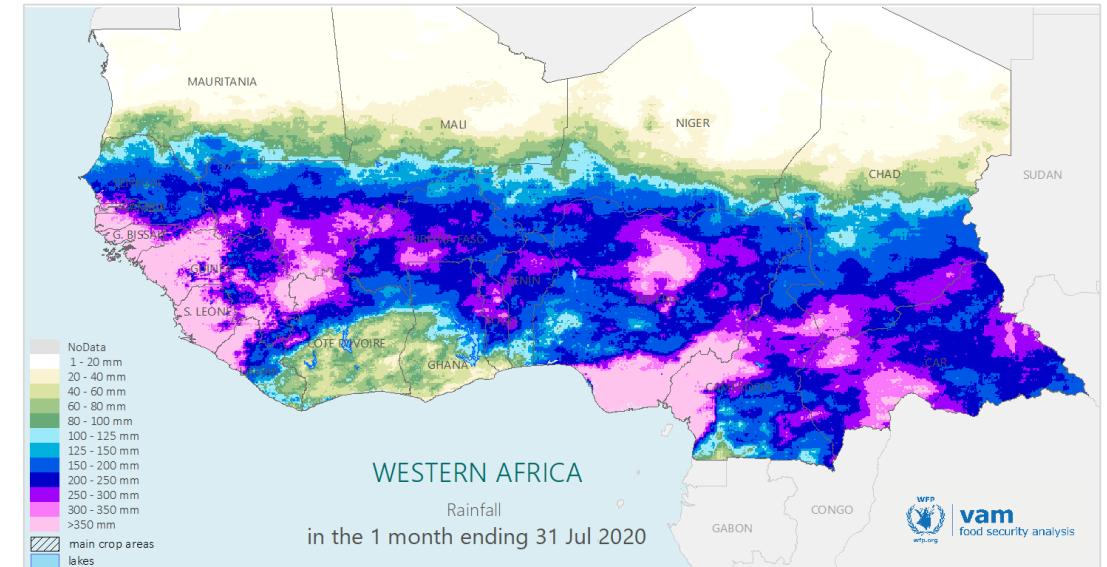
- Overall July provided respite and offset early season dryness. Due to much improved rainfall since late June, above average to average rainfall are now widespread in west Africa. Sahel region benefited more favorable conditions and westmost areas are the wettest. This also has resulted in rising Niger river levels and led to flooding in the Niger River basin of Niger and part of Mali. However in Mano river countries over western Guinea, Sierra Leone, Liberia, Cote d'Ivoire remain below average seasonal rainfall.
- As a result of much improved rainfall, vegetation cover started recover throughout the whole Sahel - In many places, here and there much better conditions are observed. Availability of water resources remain satisfactory throughout the West African region.
- Short-term forecasts into a one month rainfall analysis to mid-August indicate that drier than average conditions will spread across the half coastal western and southern of the region (from Mauritania – Senegal to Cameroon extended in CAR) while opposite region across the Sahel from central Mali, NE Burkina across Niger into Chad will likely be above average.– If the forecasts are realized, early deficit will continue to be alleviated in most of Sahel except the westmost areas and can bring unfavourable conditions for gulf Guineas and mano rivers countries.
- **According PRESASS seasonal forecasts update in July, above average rainfall is expected** in Sahelian countries for the period July-August-September while rainfall amounts will be concentrated in the mid - season between mid-July and August. It emerges, the dry spells should be longer to normal over most Sudan-Sahelian belt in the second half of the season, including the heading, flowering and the crops ripening phases with strong probabilities of late to normal end of season in agricultural areas of Sahelian countries except far northern Senegal, western Mali and the agricultural areas of Mauritania.
- However, **ECMWF** forecasts (for August–October 2020) point to below-average rainfall in the Sahel region over Northern and eastern Senegal, Gambia, Mali, Burkina, Niger and half northern Chad. In the southern regions conditions will likely be average to mostly near average except most of Cameroun, Sierra Leone, Liberia and pockets over Central Nigeria, Northern Ghana and north-western Cote d'Ivoire where **Below-average rainfall is expected**. The two sets of forecasts are not particularly consistent at the moment, with ECMWF being more pessimistic.

West Africa: Rainfall Season 2020

Latest Developments, July 20 - 31 2020

Broadly late July saw favourable rainfall in West Africa, particularly in the Sahel region where significant rainfall performance retrieved the rainfall deficits. Even, westmost areas (over Southern Mauritania, Western Mali and Senegal) which were most affected by rainfall deficits recorded excess moisture during this dekad. However Eastern Chad, Central Guinea, northern Sierra and Liberia, across Gulf Guinea (over southern Cote d'Ivoire, Ghana, southern Benin and southern Nigeria) received below average seasonal rainfall.

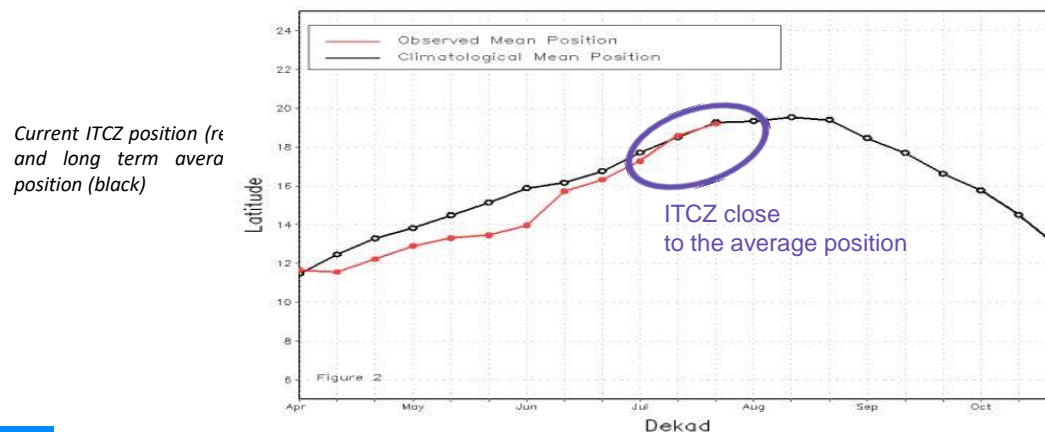
The Inter-Tropical Convergence Zone (ITCZ) in late July shifted continuously northward to approximate its climatological position in the western regions while the eastern half resided north of its climatological position. These can explain the good monsoonal rains in the region particularly across the Sahel countries.



Rainfall amounts from 20 to 31 July 2020 (above).

Same as a proportion of the long term average (below). Blues for wetter than average, browns for drier than average.

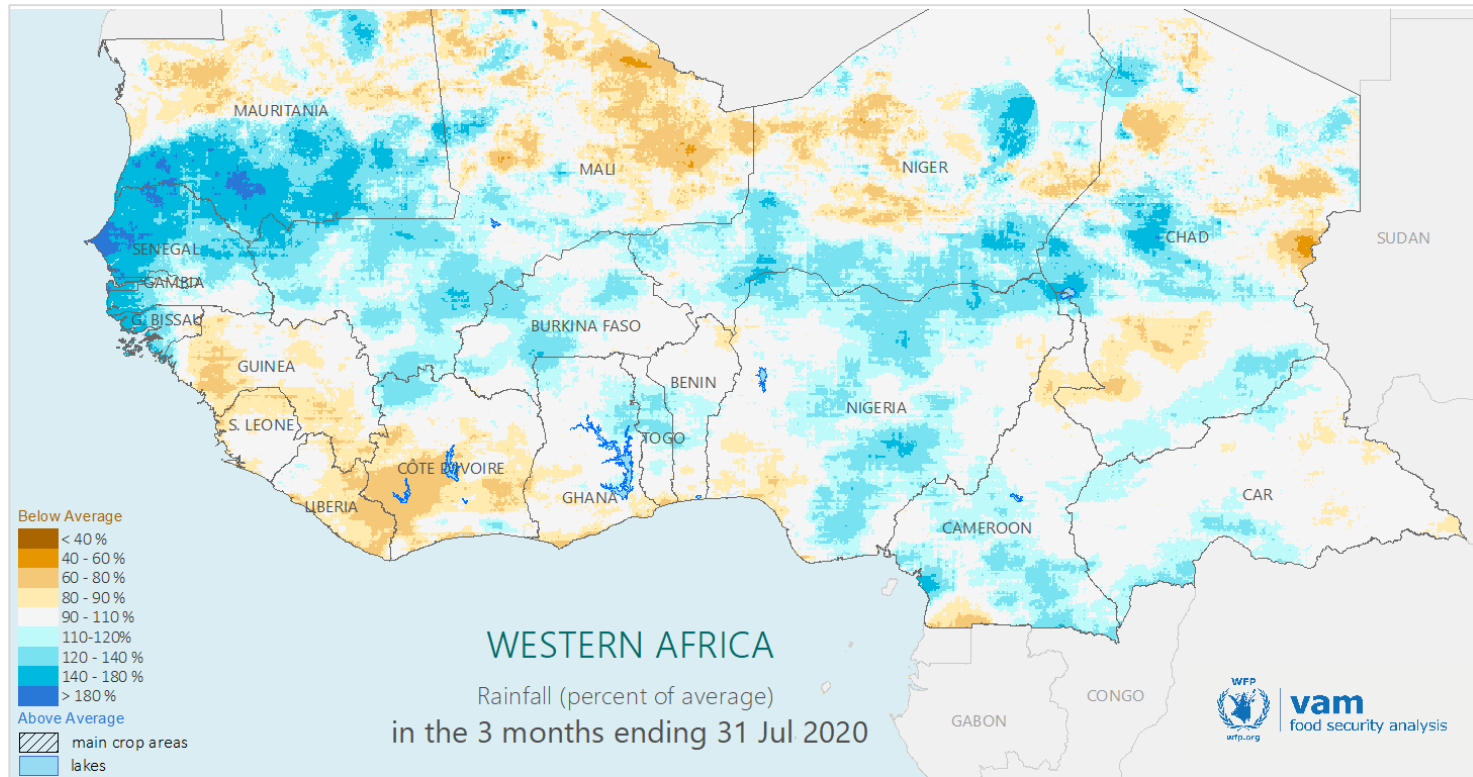
(*) ITCZ: Inter-Tropical Convergence Zone. It's the border between dry areas and areas where the rainfall season is ongoing. It moves northwards as the monsoon advances, backtracking southwards as the monsoon wanes. Delays (advances) in this movement lead to drier (wetter) conditions on the ground.



Current ITCZ position (red line) and long term average position (black line)

West Africa: Rainfall Season 2020

Current Status at early mid season – late July



Rainfall in the three months up to July 31 as a percent of the average. Blues for wetter than average conditions, browns for drier than average conditions.

Late July, in the core seasonal rainfall months (July – September) introducing the peak period of the season (August) which is expected the critical seasonal rainfall amounts.

As a result of much improved rainfall since late June, above average to average rainfall was more widespread in west Africa. Overall July provided respite and offset early season dryness. Sahel region benefited more favorable condition and westmost areas are the wettest.

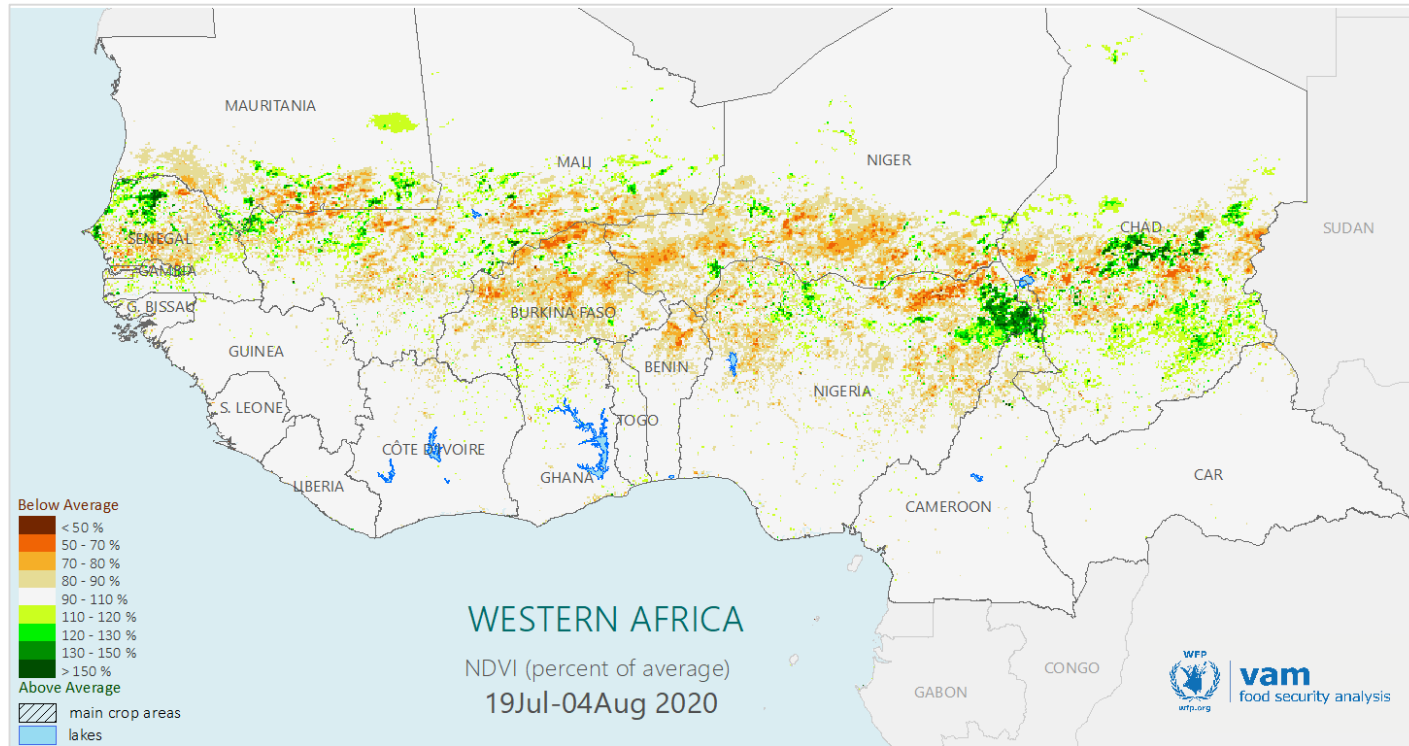
In the past weeks (in July), increased rainfall has resulted in rising Niger river levels and led to flooding in the Niger River basin of Niger and part of Mali.

Meanwhile, persistent below average rainfall noted across Mano river over western Guinea, Sierra Leone, Liberia and Cote d'Ivoire were mostly moderate as well as southern Chad and in region Nord (Cameroon).

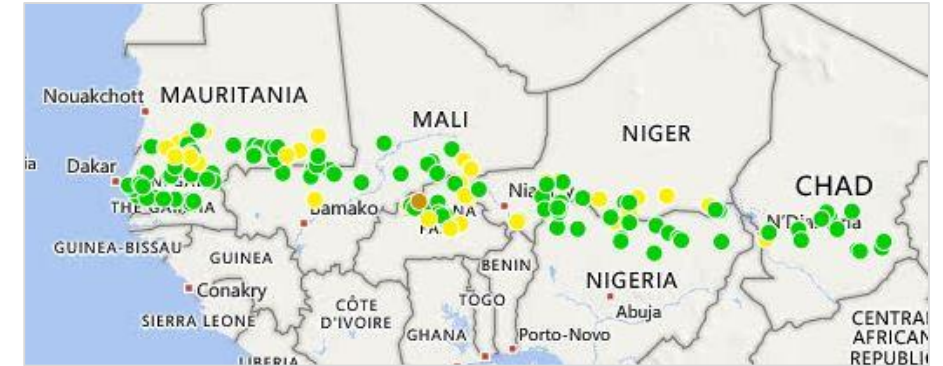
Given the season length and the seasonal rainfall amounts in this part of the region, current deficits are of no great significance, but deserve to be monitored closely.

West Africa: Rainfall Season 2020

Seasonal Development



NDVI in late July - early August as a percent of average. Greens for above average, browns for below average



Water point status across the Sahel. Good: Higher than long term level (LTL), Watch: Between 50 to 100% of LTL, Alert: Between 3% and 50% of LTL, Near-Dry: Below 3% of LTL

<https://earlywarning.usgs.gov/fews/waterpoint/index.php>

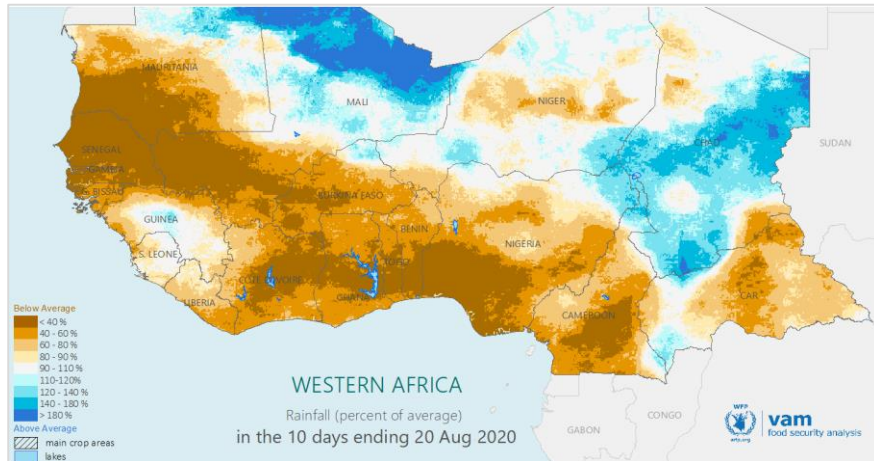
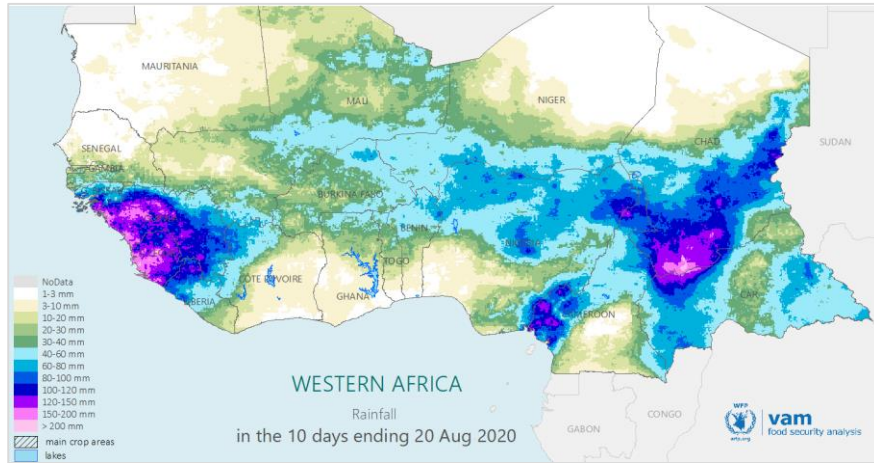
Early season dryness effect can still be seen on the vegetation dynamics. As a result of much improved rainfall in July leading widespread wetter than average conditions across the region, there has been improvement in vegetation cover throughout the whole Sahel. Vegetation started recover in many places, here and there much better conditions are observed. These conditions will continue to be improved in response to recent abundant rains and expected good conditions in the coming days across the Sahel.

The continuous improvements in rainfall since late June, have improved or maintained water resources at good level throughout the West African region.

Even in the westmost regions over Mauritania and Senegal where the conditions were not favourable, water levels returned to normal since the previous dekad.

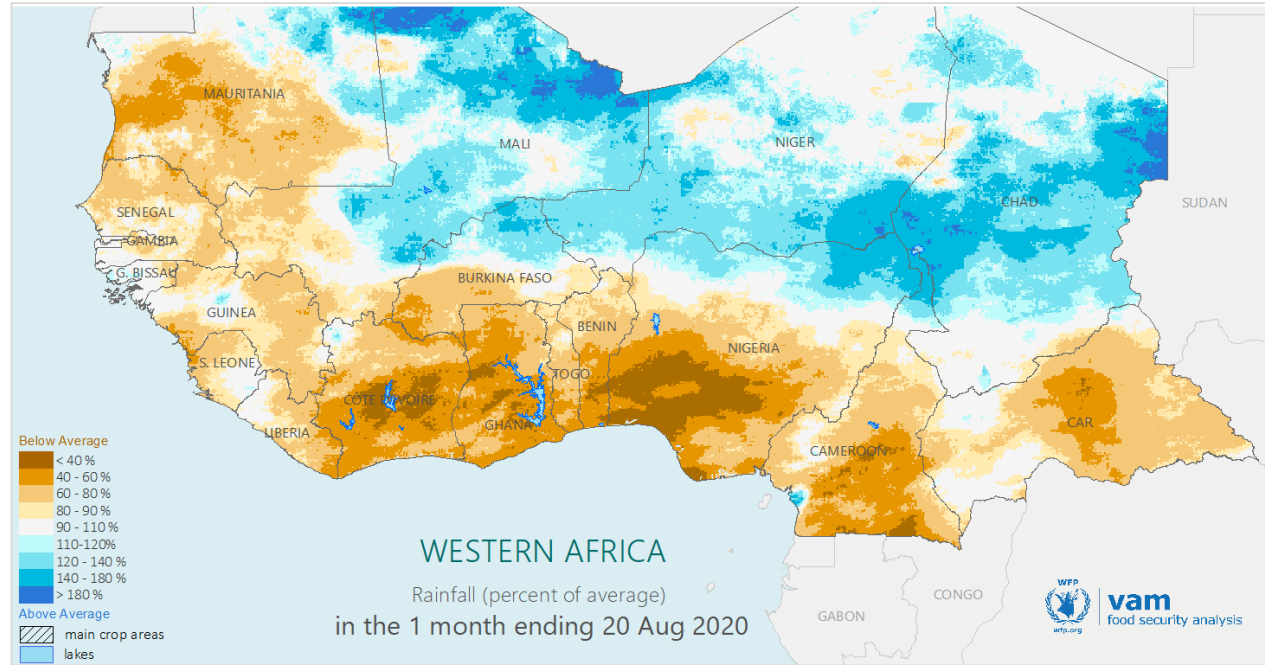
West Africa: Rainfall Season 2020

Short-term Forecasts



Short range CHIRPS-GEFS forecasts for 10-20 August 2020

Above: forecast rainfall amounts and Below: Corresponding anomaly



Rainfall for the month ending August 20 (composed of actual and forecast rainfall) as a percent of the long term average.

Blues for wetter than average conditions, browns for drier than average conditions.

Short range forecasts provide estimates of rainfall up to August 20. In mid-August, in west Africa region, is likely to be dominated by drier than average conditions with two distinct regions (half coastal western and southern drier opposite to northeastern average to above average)

This forecast into a one month rainfall anomaly to mid-August indicate drier than average conditions will spread across the half coastal southern and western of the region (from Mauritania – Senegal to Cameroon extended in CAR) while opposite region across the Sahel from central Mali , NE Burkina across Niger into Chad will likely be above average.– If the forecasts are realized, early deficit will continue to be alleviated in most of Sahel except the westmost areas and can bring unfavourable conditions for gulf Guineas and mano rivers countries.

NOTE: The short range CHIRPS-GEFS forecasts are a bias-corrected and downscaled version of the NCEP Global Ensemble Forecast System precipitation forecasts from the Climate Hazards Centre (CHC/UCSB). They are consistent with the CHIRPS rainfall estimate used in this Bulletin and provide a short range outlook on rainfall.

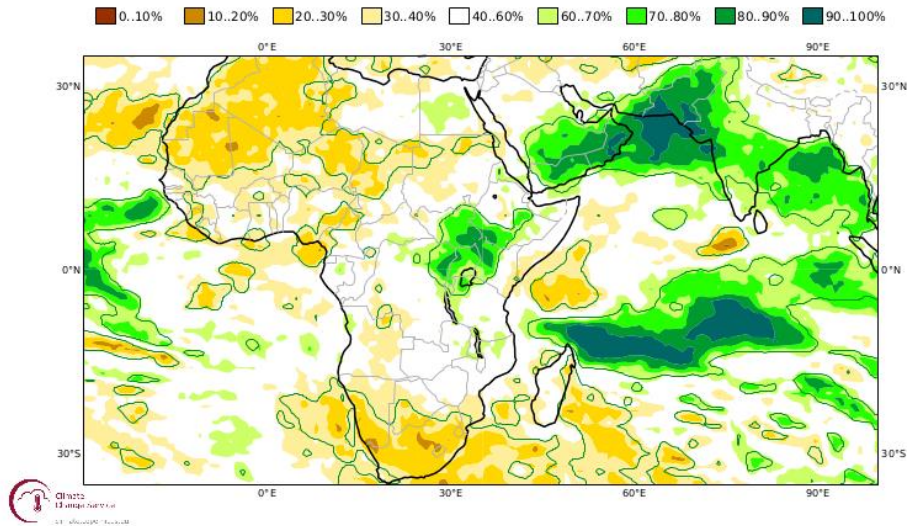
Forecast information should be considered carefully since these products always have a margin of error

West Africa: Rainfall Season 2020

Seasonal Forecasts (2020, PRESASS, ECMWF)

C3S: ECMWF contribution
Prob(precipitation > median)
Nominal forecast start: 01/07/20
Ensemble size = 51, climate size = 600

ASO 2020
Solid contour at 1% significance level



ECMWF seasonal forecast for August-October 2020 rainfall, issued in July

Latest seasonal forecasts from ECMWF point to below-average rainfall in the Sahel region over Northern and eastern Senegal, Gambia, Mali, Burkina, Niger and half northern Chad from August to October 2020 .

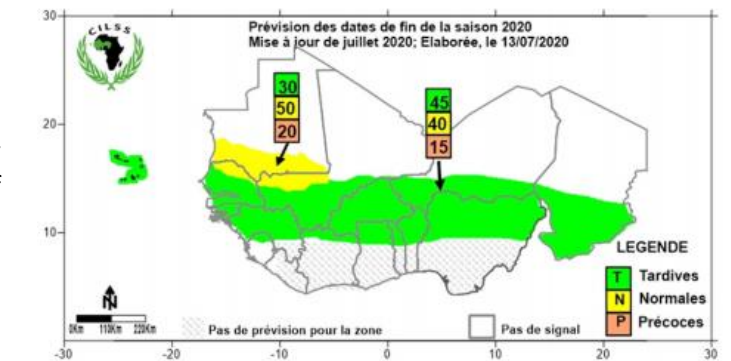
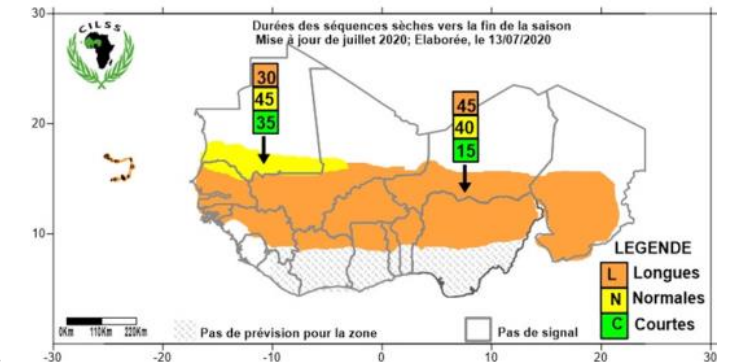
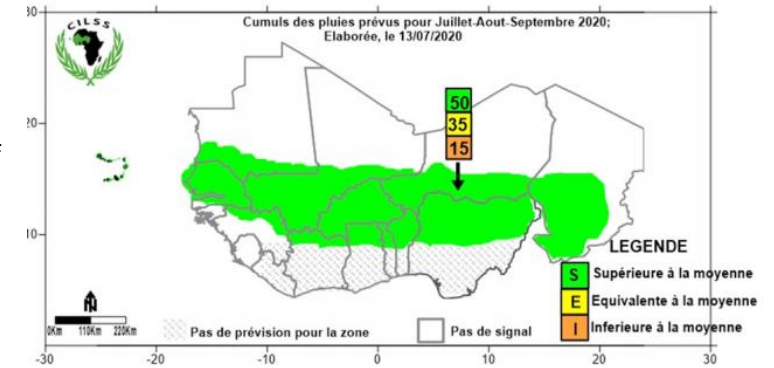
For the rest of the region, in the southern regions conditions will likely be average to mostly near average except most of Cameroun, Sierra Leone, Liberia and pockets over Central Nigeria, Northern Ghana and north-western Cote d'Ivoire where **Below-average rainfall is expected**

ECMWF forecasts are more pessimistic than those of PRESASS so the two sets of forecasts are not particularly consistent at the moment.

According to PRESASS seasonal forecast, the update of the forecasts in July confirms those issued in April 2020, with high probability of above average rainfall for the period July-August-September in Sahelian countries. It is very likely that the expected rainfall amounts will be concentrated in the mid - season between mid-July and August.

Overall, the forecast for **the date of the end of the season** remains the same as those issued in April 2020 for the Sudanese and Sahelian areas. Indeed, the July update reveals strong probabilities of late to normal end of season over all agricultural areas of Sahelian countries ((Senegal, Mali, Burkina Faso, Niger, Chad, Gambia, Guinea Bissau, Guinea and Cabo Verde) and in the northern parts of Côte d'Ivoire, Ghana, Togo, Benin and Nigeria). However, is expected in far northern Senegal, western Mali and the agricultural areas of Mauritania, a normal to late end-of-season.

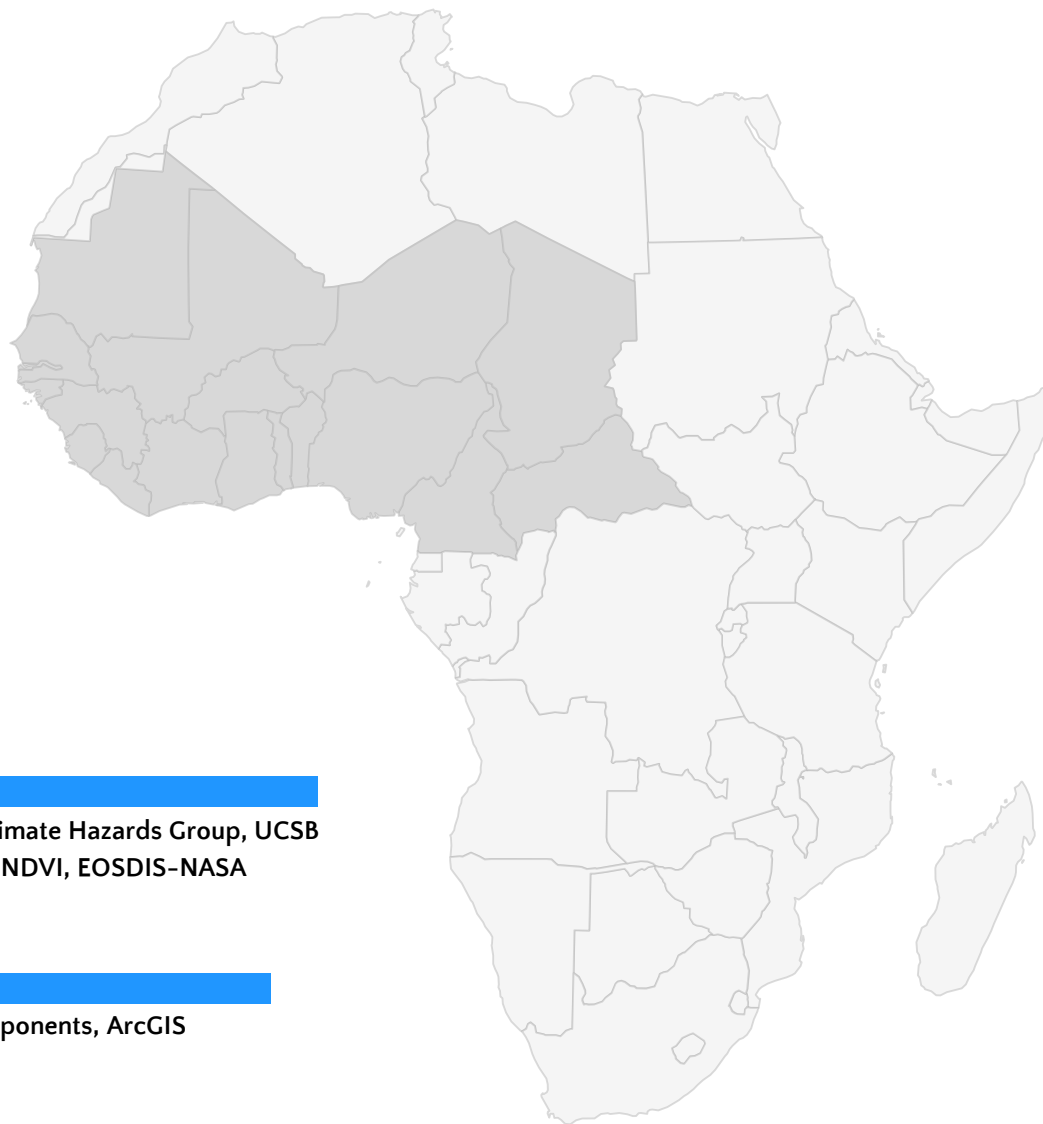
It emerges from the July 2020 update that, in the second half of the season, including the heading, flowering and the crops ripening phases, the dry spells should be longer to normal over most Sudan-Sahelian belt covering most of Senegal, Burkina Faso, the southern parts of Mali and Niger, southwestern Chad, the Gambia, Guinea, Guinea Bissau, the northern Cote d'Ivoire, Ghana, Togo, Benin, Nigeria and most of the Cabo Verde islands.



PRESASS seasonal forecast, issued in July:

Top: July-September 2020 rainfall, Middle: Date of end of seasonal rainfall in Sahel and Sudanese areas

Bottom: Longest dry spell durations during the second half of the rainy season



DATA SOURCES:

Rainfall: CHIRPS, Climate Hazards Group, UCSB
Vegetation: MODIS NDVI, EOSDIS-NASA

PROCESSING:

VAM software components, ArcGIS

FOR FURTHER INFORMATION:

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