

West Africa Seasonal Monitor

2020 Season



vam
food security analysis

World Food Programme, Regional Bureau Dakar

01-10 August 2020

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Highlights

- In early August, the rainfall season pattern in west Africa is average to above average. The Sahel have most benefited more favourable conditions since late July. As a result, the early season dryness has been sharply absorbed. Rainfall excess and the continued favourable conditions has led to high Niger river levels and caused flooding across the Niger River basin of Mali, Niger, and Nigeria. Meanwhile, across Mano river countries over western Guinea, Sierra Leone, Liberia and Cote d'Ivoire, rainfall remain low and deficits persist.
- As a results of rainfall improvement since late July, the continued effect on the vegetation dynamic is noticeable. Remarkable vegetation recovery was observed in a wide areas over the whole Sahel. Much better and very good vegetation condition are observed over Senegal, Southern Mauritania, Central Mali, in the Lake Chad Basin, in the Sahel Chad. Availability of water resources remain satisfactory throughout the West African region.
- Short-term forecasts in one month rainfall analysis to late August describes the same configuration as the previous dekad - characterized by two distinct opposite regions : drier than average conditions will spread across the half coastal southern and western of West Africa while opposite region across the Sahel from central Mali , NE Burkina across Niger into Chad will likely be completely wet– If the forecasts are realized, early deficit will be sharply alleviated in most of Sahel except the westmost areas and can upswing the ongoing unfavourable conditions in 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.

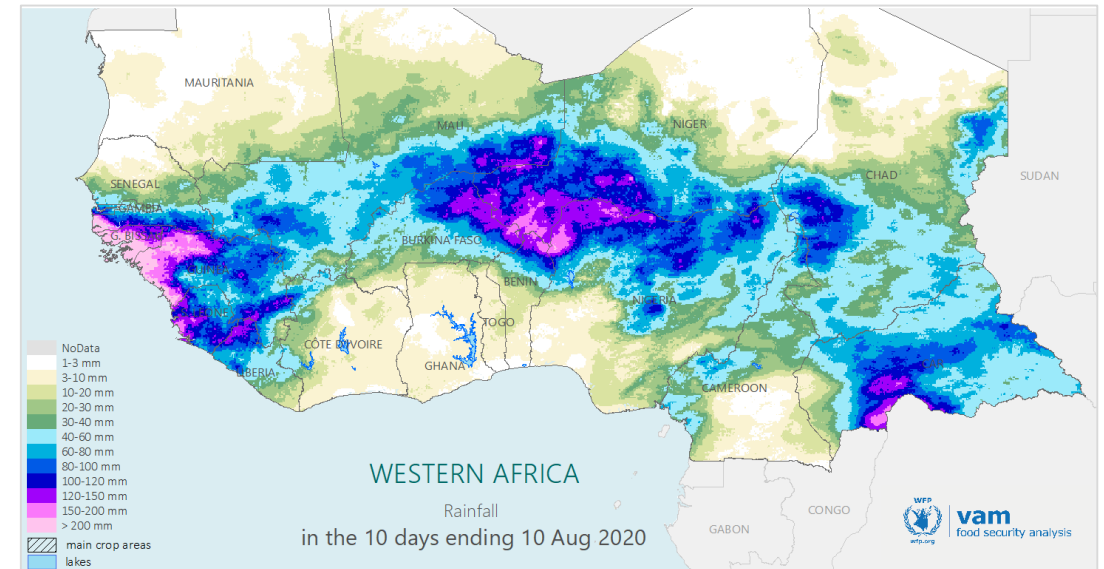
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Latest Developments, August 01 - 10 2020

Early August Sahel region continued to benefit more favourable conditions. The largest rainfall amounts was recorded in Mali, Burkina Faso, Niger, Southern Chad as well as Gambia, Southern Senegal.

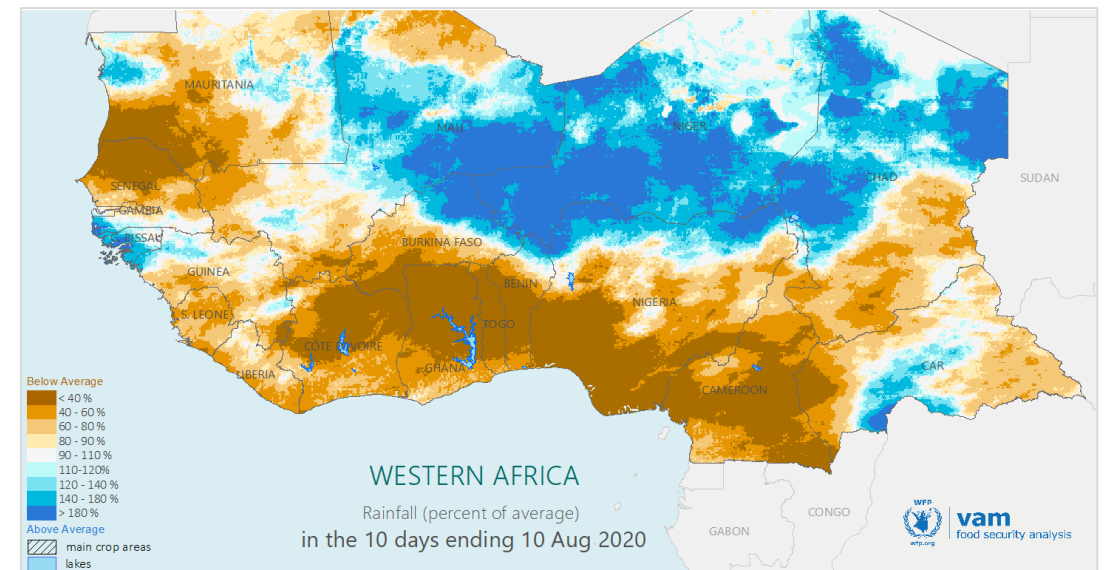
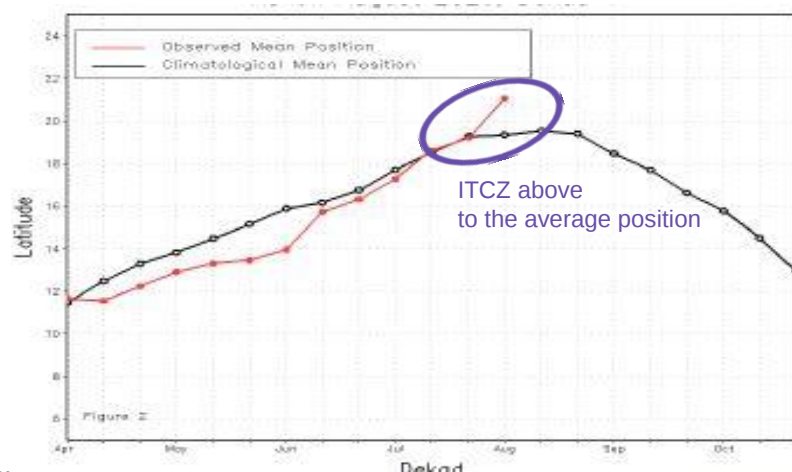
Rainfall excess during the past weeks in this region and the continued favourable rainfall conditions has led to high Niger river levels and caused flooding across the Niger River basin of Mali, Niger, and Nigeria. Meanwhile, in southern Guinea, Cote d'Ivoire, Ghana, Togo, Benin, and southern Nigeria rainfall remain low and deficits persist.

During the first dekad of August, the Inter-Tropical Convergence Zone (ITCZ), experienced a northward surge in the western and eastern regions relative to its previous dekad and located anomalously north of the long-term average position. This can explain the above average rainfall across central Mali and parts of Niger.



(*) 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)
and long term average
position (black)

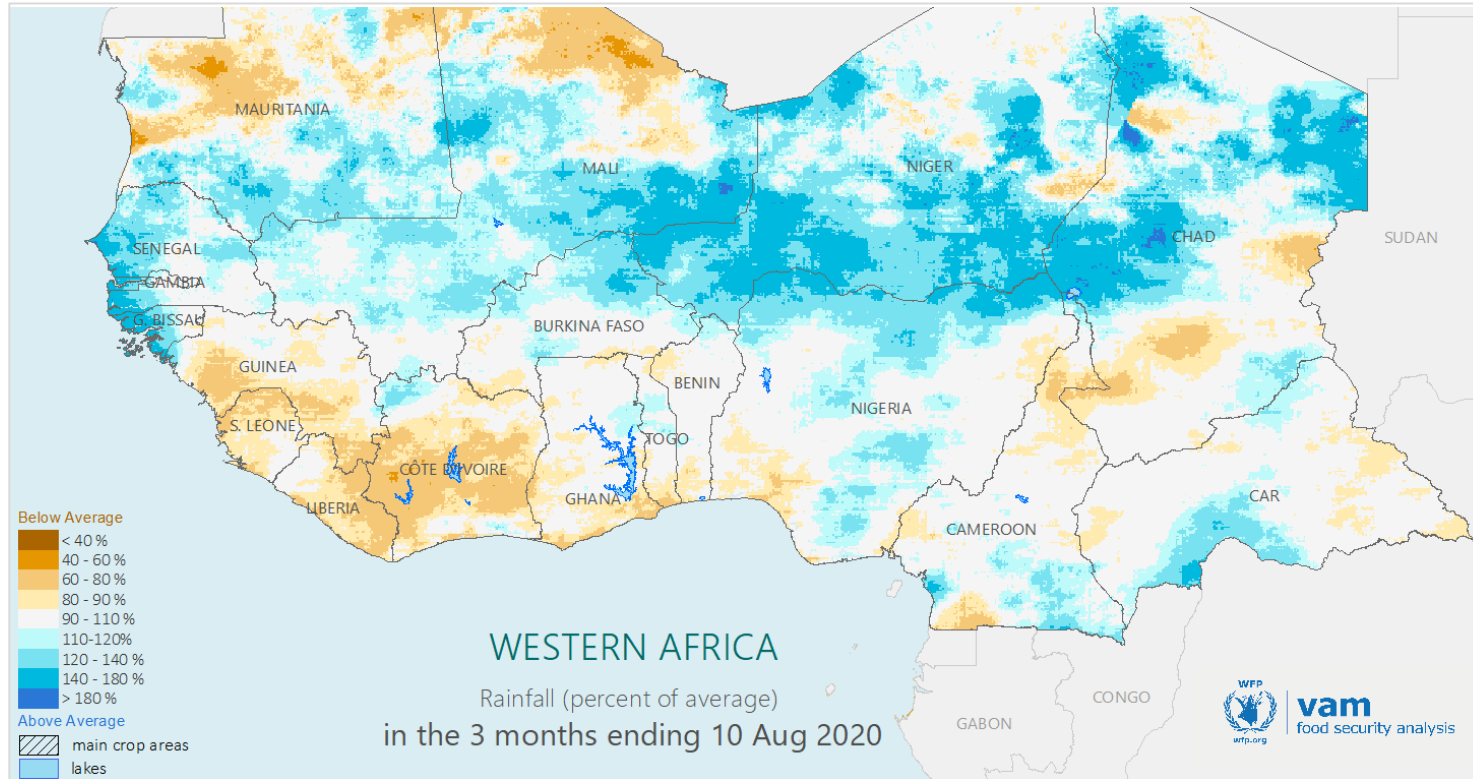


Rainfall amounts from 01 to 10 August 2020 (above).

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

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Current Status - Peak Season in early July



Rainfall in the three months up to August 10 as a percent of the average. Blues for wetter than average conditions, browns for drier than average conditions.

In early August, the rainfall season pattern in west Africa is generally average to above average.

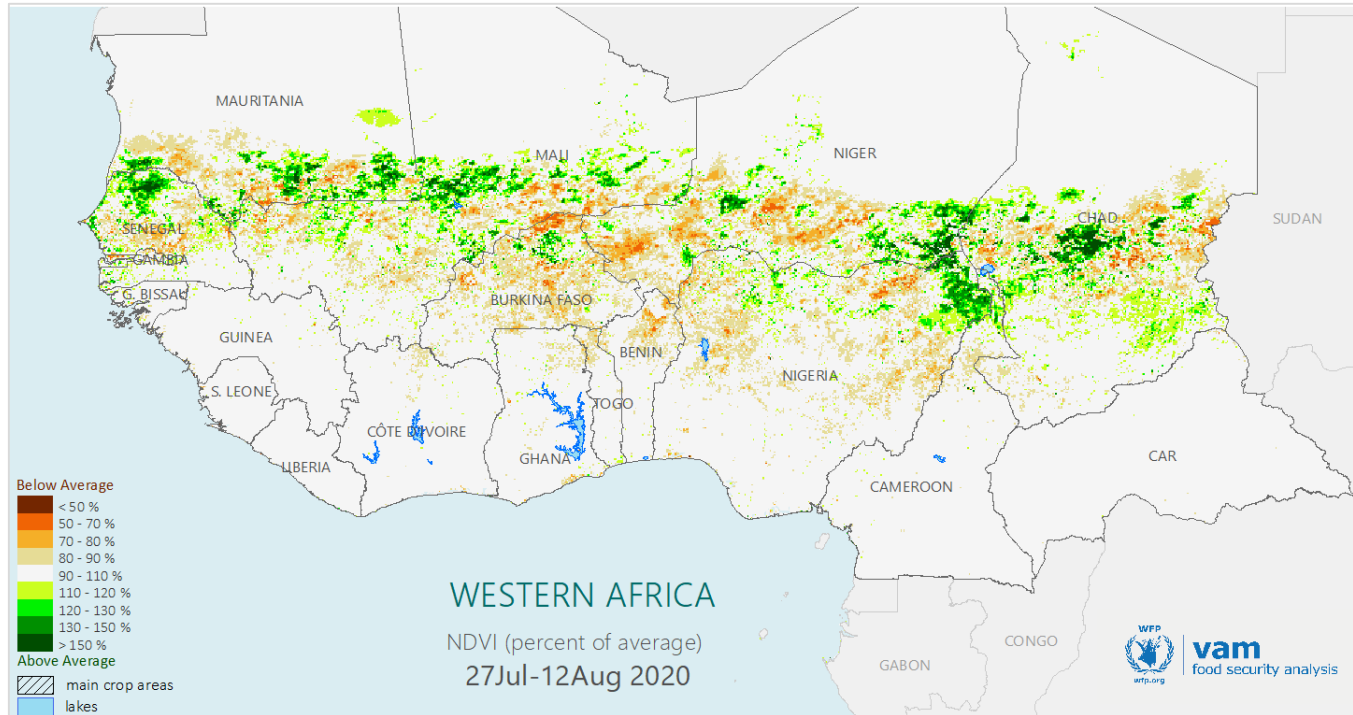
In Three (3) month rainfall, above average rainfall was more widespread over Sahel. This region have most benefited more favourable conditions since late July. Excess moisture is noted in eastern Sahel over far eastern Mali, North-eastern Burkina, Niger, Northern Nigeria and Western Chad.

Rainfall deficits where have occurred, were mostly moderate particularly across Mano river countries over western Guinea, Sierra Leone, Liberia and Cote d'Ivoire were moderate as well as southern Chad and in region Nord (Cameroon). The continued below-average rainfall has drastically increased the moisture deficit in this region sustaining abnormally dryness.

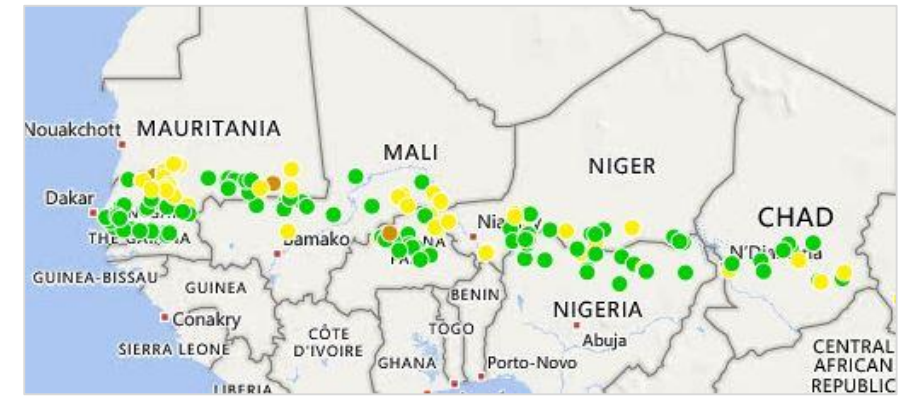
Given the season length and the seasonal rainfall amounts in this part of the region, current deficits are of no great significance, but deserve to be monitored closely.

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Seasonal Development



NDVI in late July - mid 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>

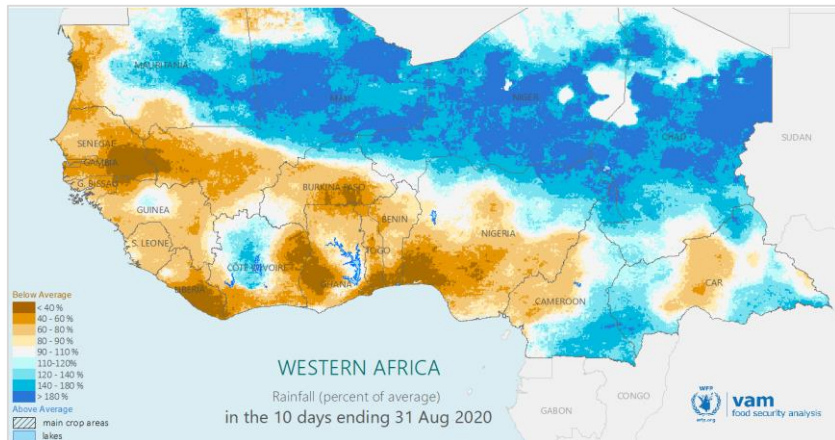
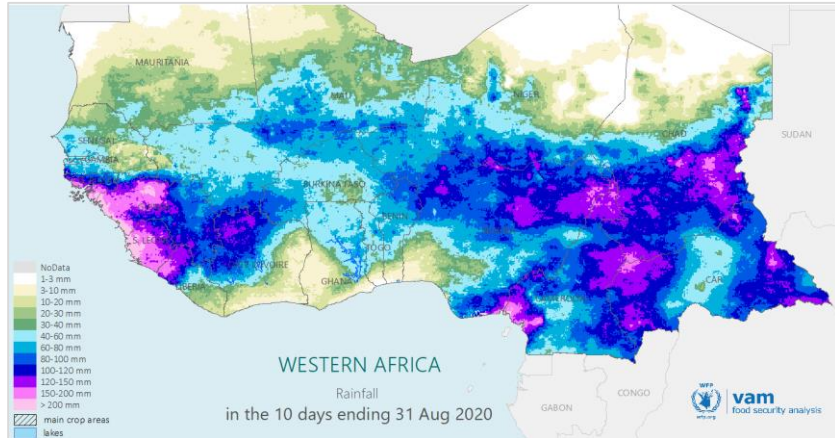
Early season dryness has been sharply absorbed. As a results of rainfall improvement since late July, the continued effect on the vegetation dynamic is noticeable. Remarkable vegetation recovery was observed in a wide areas over the whole Sahel from Senegal to Chad. Much better and very good vegetation condition are observed over Senegal, Southern Mauritania, Central Mali, in the Lake Chad Basin, in the Sahel Chad. These conditions will continue to be improved in response to the continue good rains and expected more good conditions in the coming days across the Sahel.

The continuous improvements in rainfall since late July, have improved or maintained water resources at good level throughout the West African region. However, a regression of certain conditions started to be noted in some places in northern Senegal, south-eastern Mauritania, the neighbouring region between Burkina Faso, Mali and Niger and eastern Chad compared to the last two previous dekad.

It Won't take long to get back to normal situation with regard to the good conditions underway.

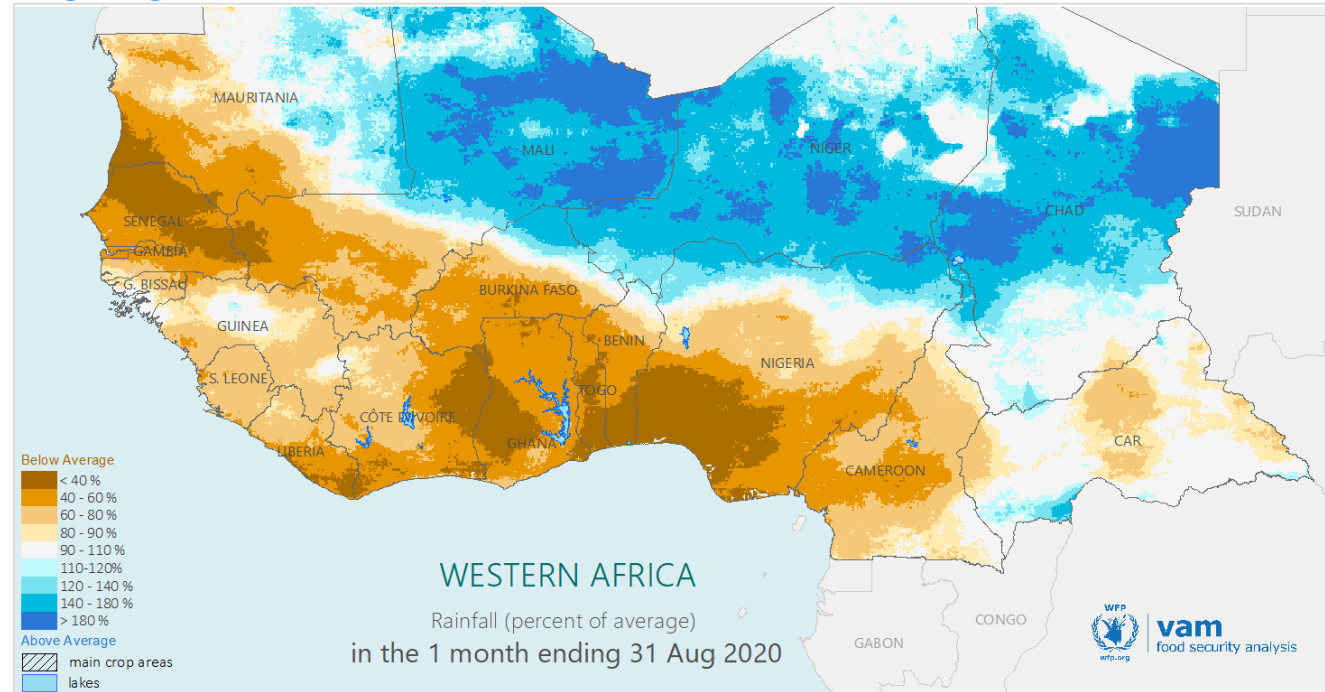
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Short-term Forecasts



Short range CHIRPS-GEFS forecasts for 20-31 August 2020

Above: forecast rainfall amounts and Below: Corresponding anomaly



Rainfall for the month ending August 31 (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 31. In late August, the west Africa region, is likely to be characterized by two distinct opposite regions (half coastal western and southern dry region opposite to northern completely wet).

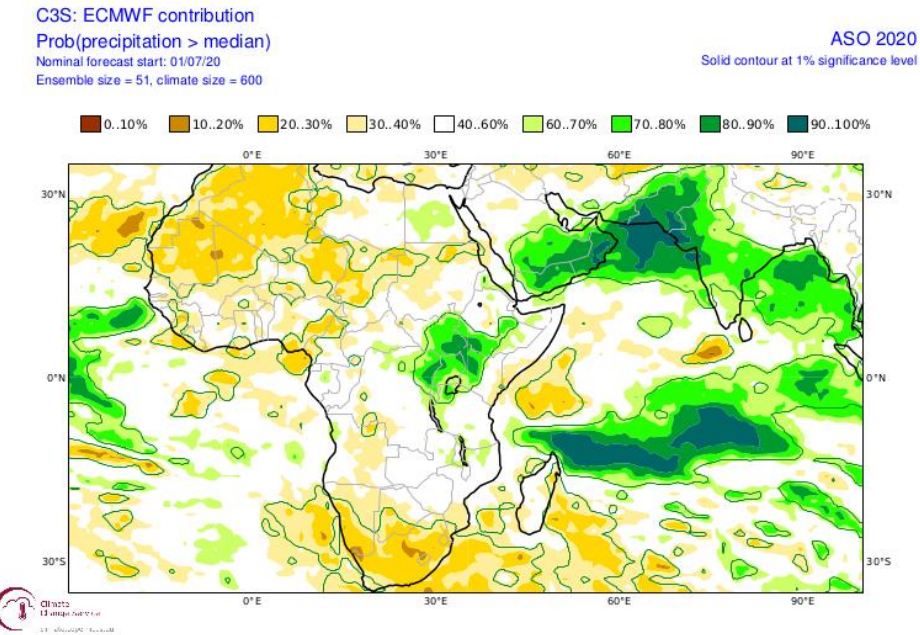
This forecast in a month rainfall anomaly to late August describes the same configuration as the previous dekad. Drier than average conditions will spread across the half coastal southern and western of the region (from Mauritania – Senegal to Cameroon extended in CAR) while opposite region across the Sahel from central Mali , NE Burkina across Niger into Chad will likely be above average.– If the forecasts come true, early deficit will be sharply alleviated in most of Sahel except the westmost areas (can occur failed situation in mid season) 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

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Seasonal Forecasts (2020, PRESASS, ECMWF)



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 .

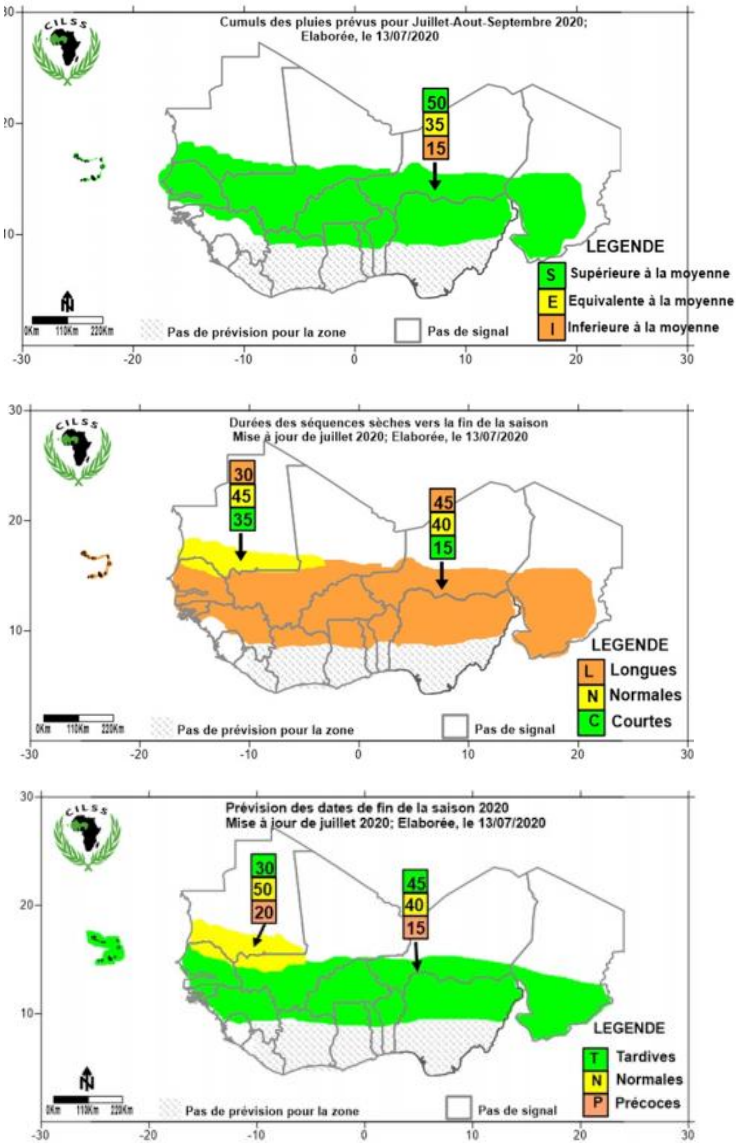
For the rest of the region, in the southern regions conditions will likely be average to mostly near average except most of Cameroun, Sierra Leone, Liberia and pockets over Central Nigeria, Northern Ghana and north-western Cote d'Ivoire where **Below-average rainfall is expected**

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

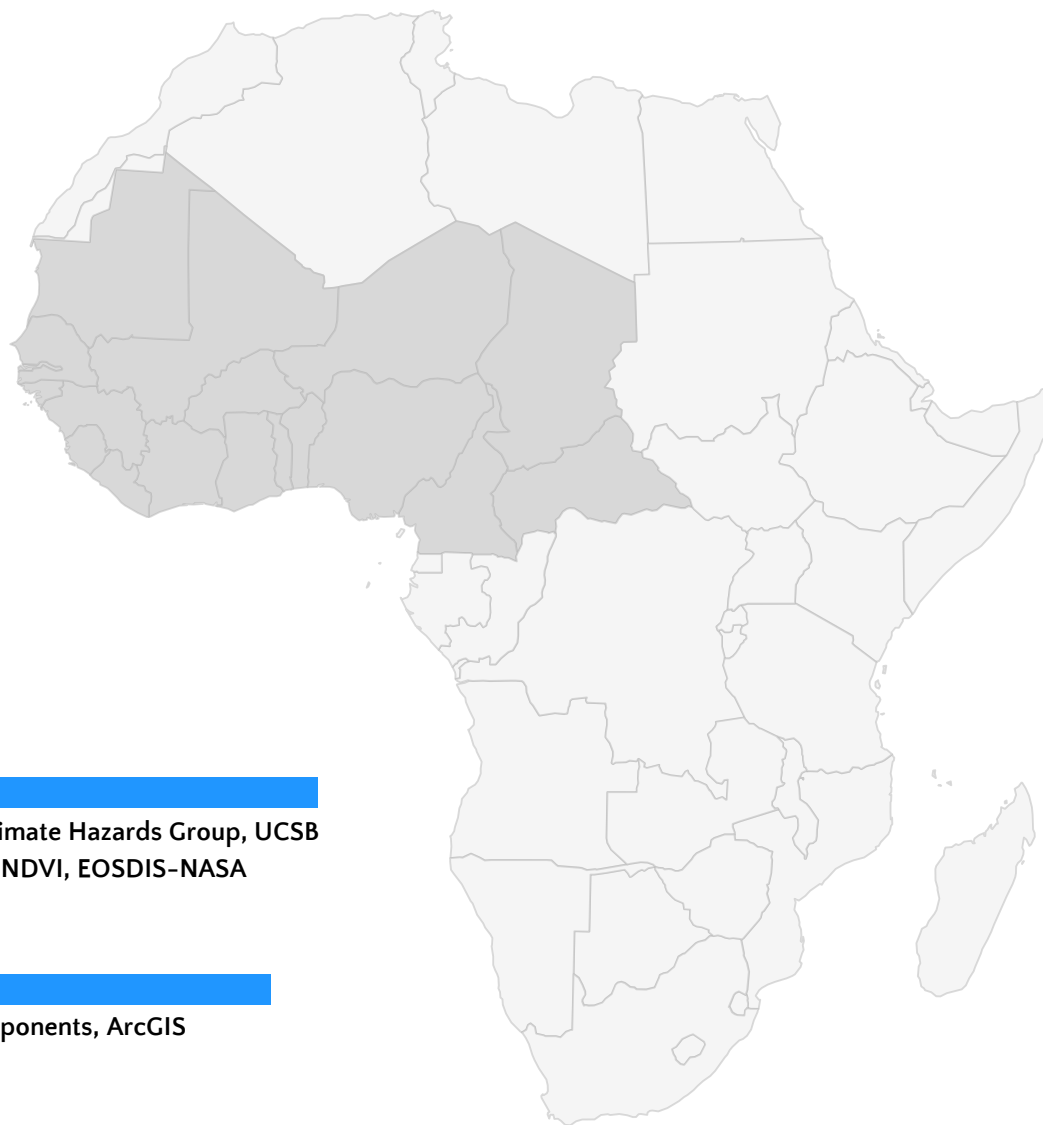
According to PRESASS seasonal forecast, the update of the forecasts in July confirms those issued in April 2020, with high probability of above average rainfall for the period July-August-September in Sahelian countries. It is very likely that the expected rainfall amounts will be concentrated in the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