

West Africa Seasonal Monitor

2020 Season



vam
food security analysis



World Food Programme, Regional Bureau Dakar

10-20 July 2020

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Highlights

- Much better rains since early July have relieved the rainfall deficits experienced since the early stages of the season in west Africa region. Wetter than average conditions are now predominant across the Sahel. In contrast, the Gulf of Guinea countries from western Guinea, Sierra Leone to south western Nigeria remain under drier than average conditions.
- While vegetation cover remains depressed due to early season dryness, good rainfall in the past few weeks will lead to significant improvements in early August. Availability of water resources is now already satisfactory throughout the West African region.
- Short-term forecasts into a one month rainfall analysis to late July indicate that wetter than average conditions will spread across the region except the gulf guineas costal areas from Liberia to Togo. If these forecasts are realized, early deficit will continue to be alleviated and bring more favourable conditions for the early stages of the growing season and help to vegetation resumption.
- **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

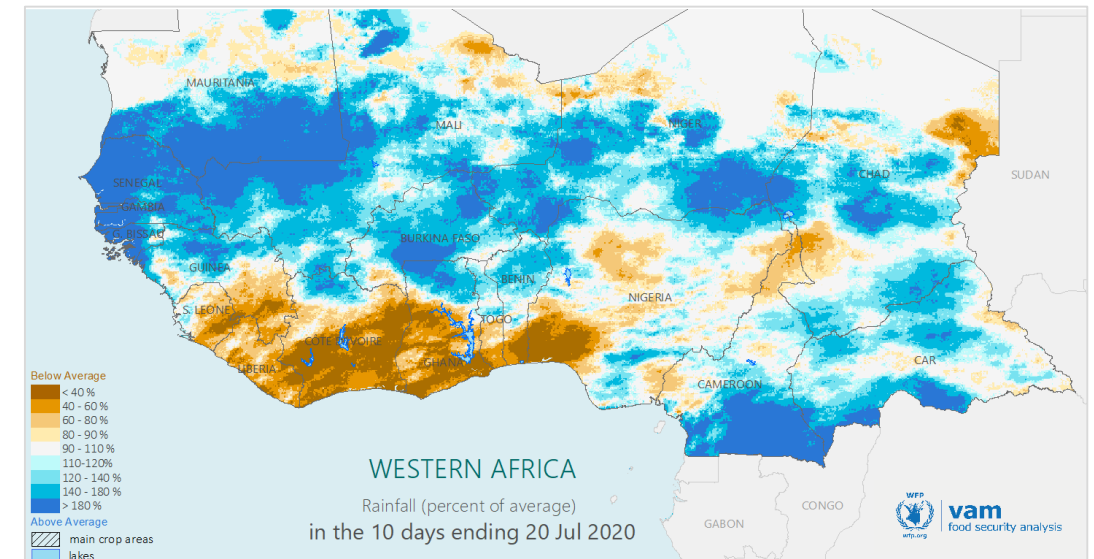
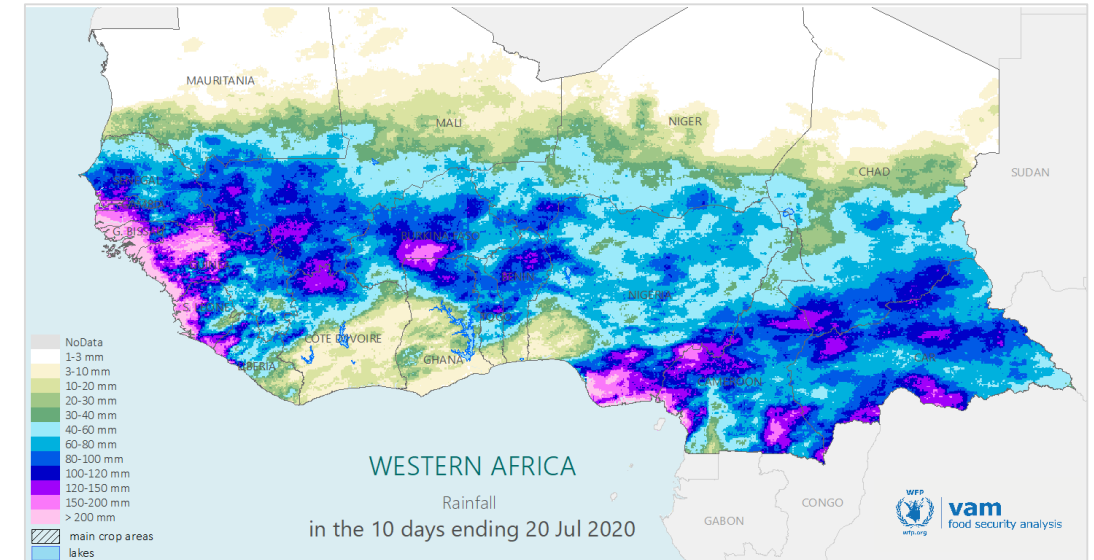
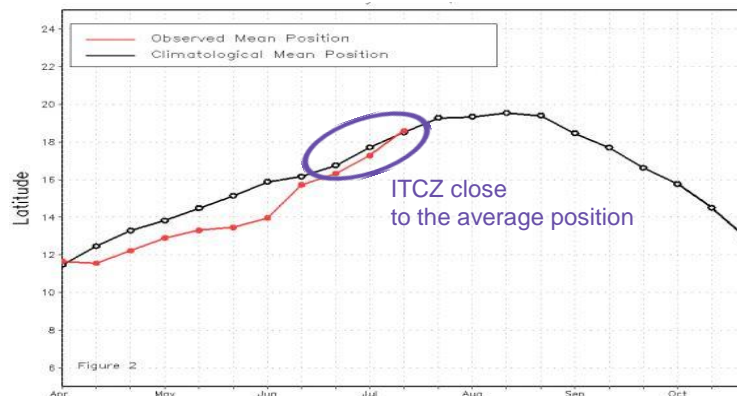
Latest Developments, July 10 - 20 2020

In mid-July West Africa received well distributed good rains and the Sahel region have mostly benefited more favourable conditions. The significant increase in Rainfall in westmost areas over Senegal and southern Mauritania continue to relieve the accumulated deficits. In contrast mid July was very dry across the Gulf of Guinea countries from South-eastern Guinea and Sierra Leone all the way to South-western Nigeria.

The entire Inter-Tropical Convergence Zone (ITCZ) in mid-July shifted northward. In the western regions its located near to the climatological position while the eastern half resided north of its climatological position. Overall, these situations brought more favorable conditions over west Africa region and monsoonal rains remained favourably distributed particularly across westmost part of the region in Senegal, Gambia and Mauritania.

(*) 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)

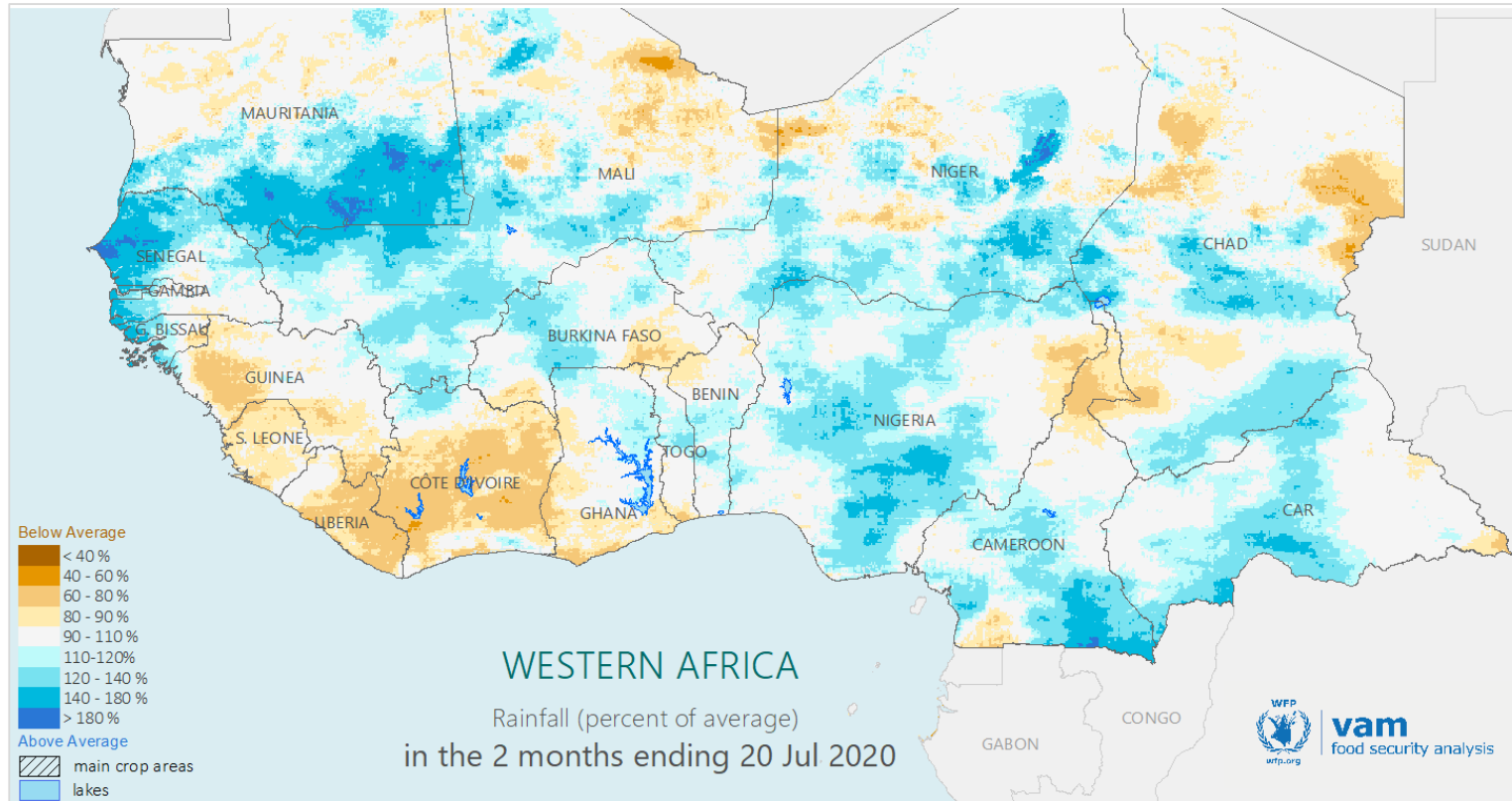


Rainfall amounts from 10 to 20 July 2020 (above).

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 at early – mid season– mid July



Rainfall in the two months up to July 20 as a percent of the average. Blues for wetter than average conditions, browns for drier than average conditions.

July, early mid-season, marks the start the critical period of the rainy season (July – September) which brings the critical rainfall amounts of the season.

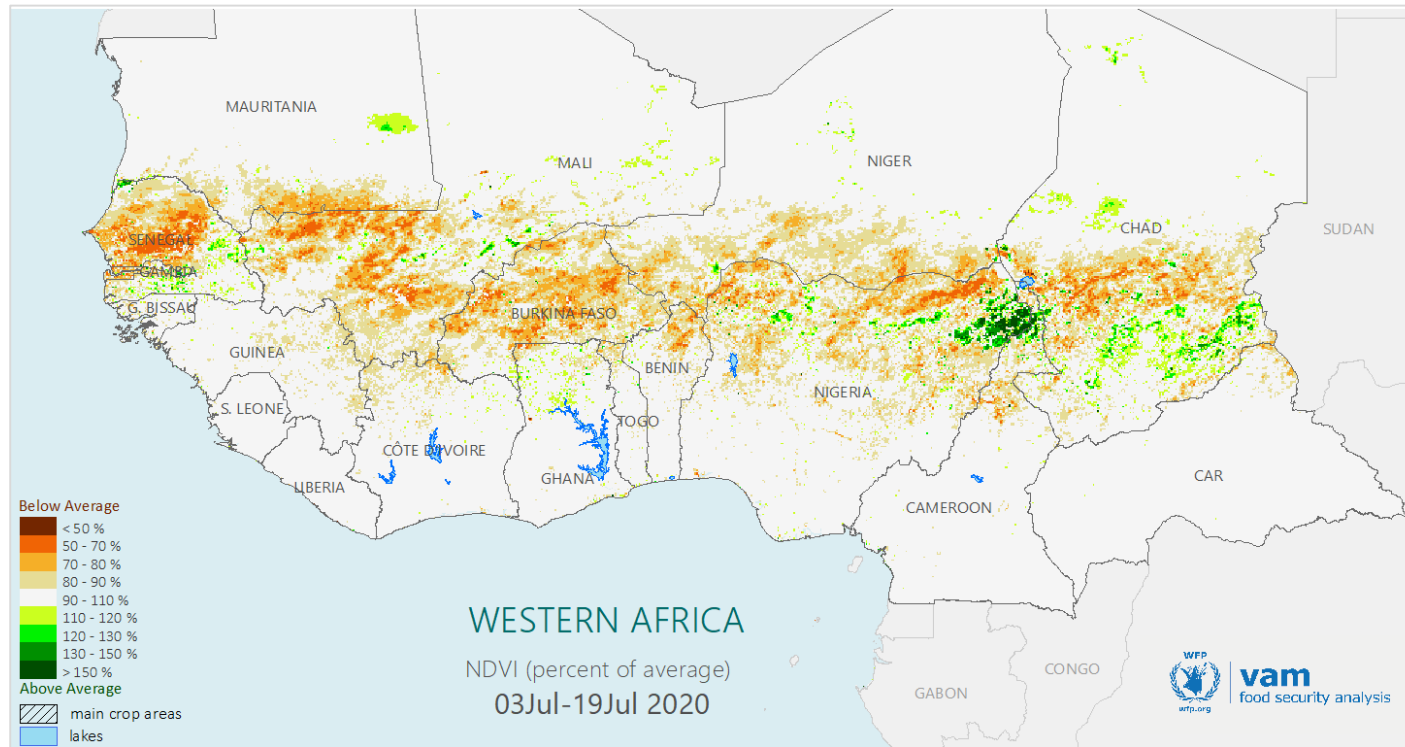
July provided respite from the drier than average conditions. Much better rains since early July have mostly relieved the rainfall deficits experienced since the early stages of the season in west Africa region. Above average to average rainfall was more widespread and rainfall deficits although noted in places, were mostly moderate.

In two month rainfall, seasonal rainfall amounts recovered to average and above levels while western Guinea, Sierra Leone, Liberia, Cote d'Ivoire, Northern Cameroon experienced below average seasonal rainfall.

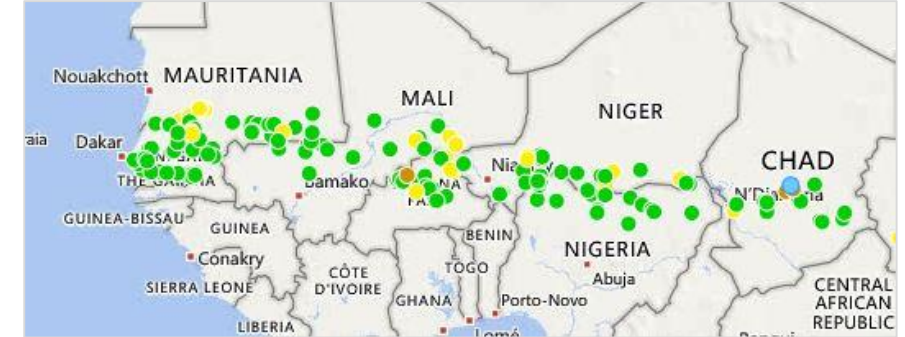
Remaining deficits are of no great significance at this stage of the season, given the season length and the seasonal rainfall amounts in this region, but deserve to be monitored closely.

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Seasonal Development



NDVI in early July - mid July 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>

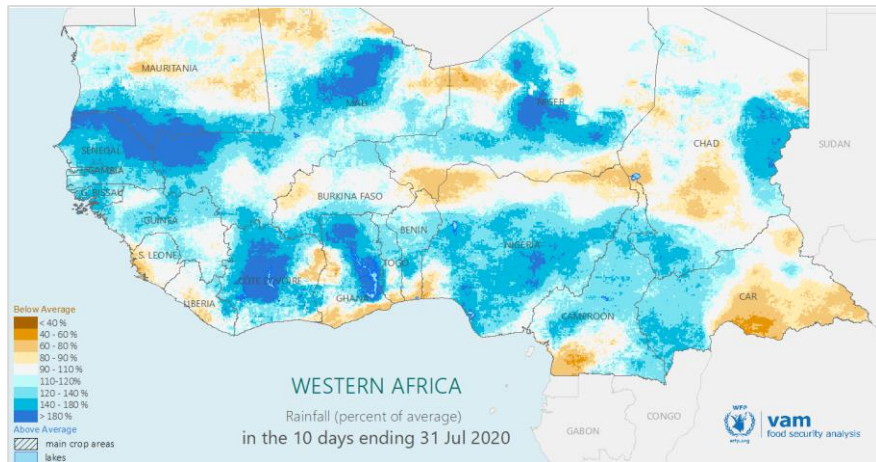
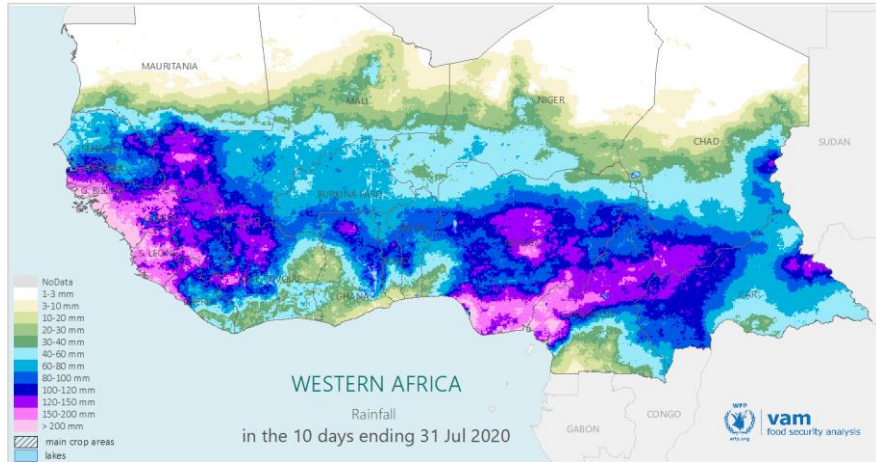
Despite the average to above-average rainfall experienced, the early season dryness has significantly impacted the vegetation dynamics, which still has to recover. Evident below average vegetation can still be seen across most of West Africa region across a wide area across the whole Sahel except for good vegetation condition in pockets over NE Nigeria and Sudanian belt of Chad. These conditions will now improve in response to recent abundant rains and expected good conditions in the coming days.

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.

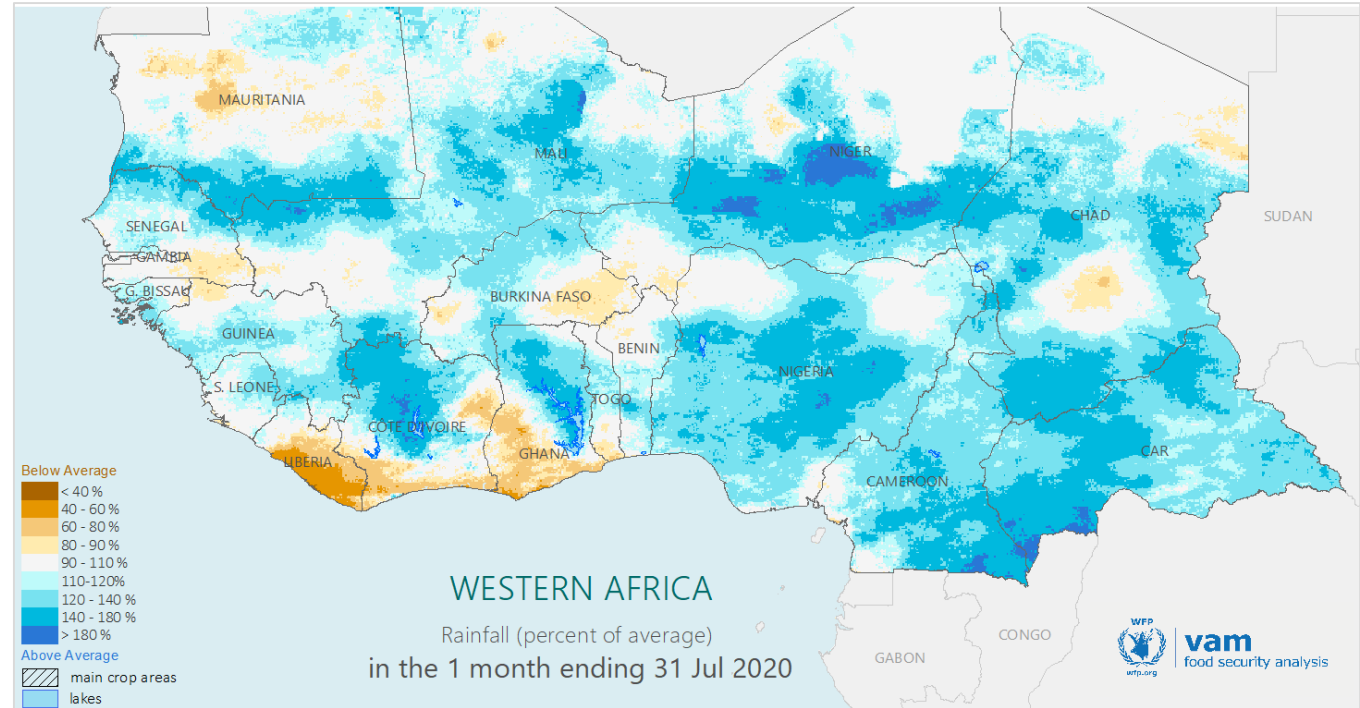
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Short-term Forecasts



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

Above: forecast rainfall amounts and Below: Corresponding anomaly



Rainfall for the month ending July 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 July 31. In late July, west Africa region, is likely to be dominated by wetter than average conditions.

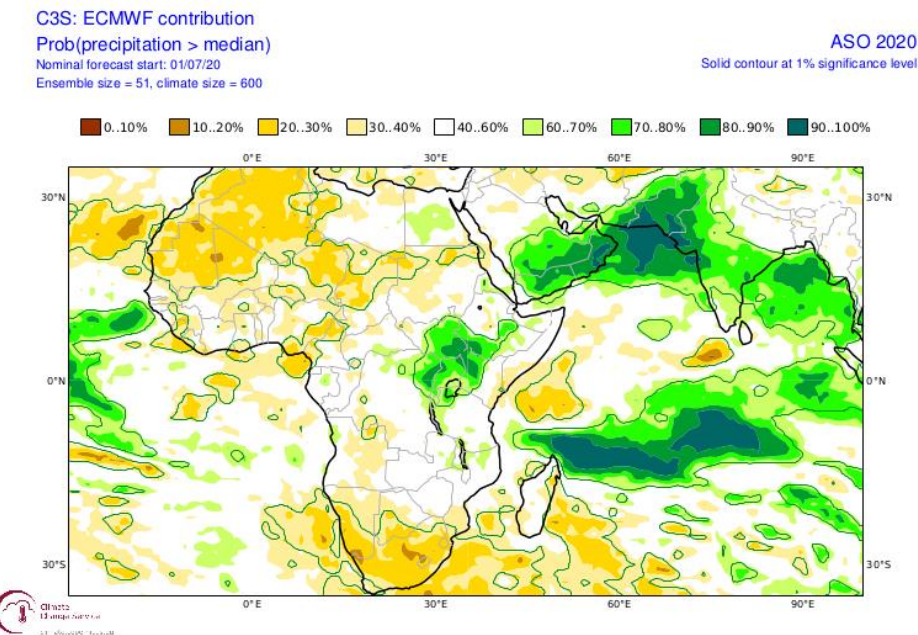
This forecast into a one month rainfall anomaly to late-July indicate wetter than average conditions will spread across the region except the gulf guineas costal areas from Liberia to Togo.– If the forecasts are realized, early deficit will continue to be alleviated and bring more favourable conditions for the early stages of the growing season and vegetation conditions.

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 .

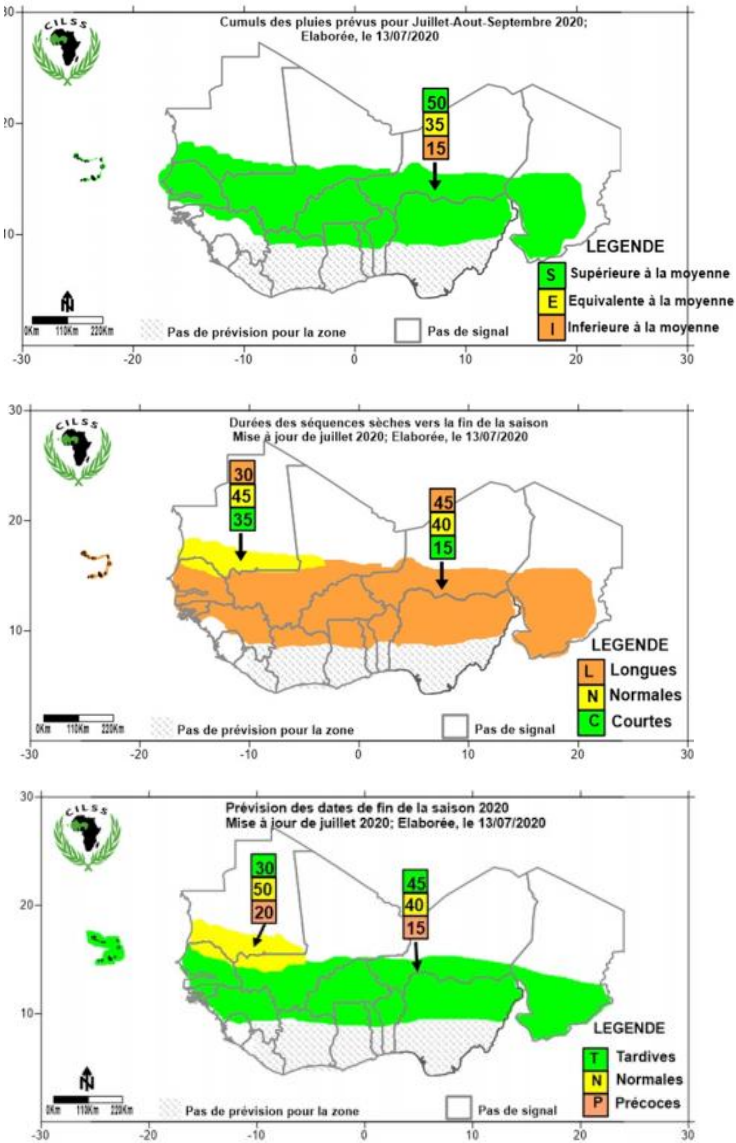
For the rest of the region, in the southern regions conditions will likely be average to mostly near average except most of Cameroun, Sierra Leone, Liberia and pockets over Central Nigeria, Northern Ghana and north-western Cote d'Ivoire where **Below-average rainfall is expected**

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

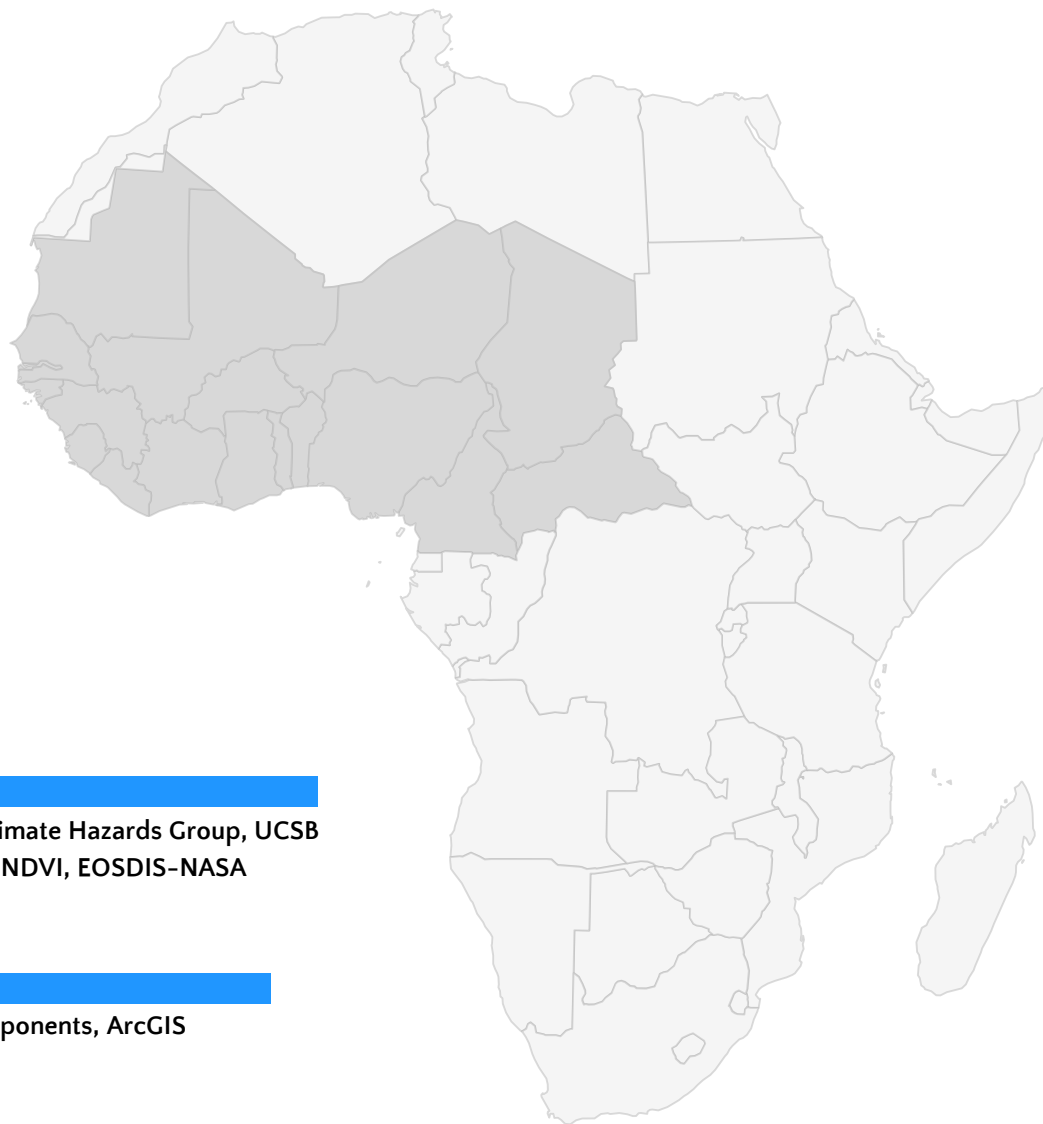
According to PRESASS seasonal forecast, the update of the forecasts in July confirms those issued in April 2020, with high probability of above average rainfall for the period July-August-September in Sahelian countries. It is very likely that the expected rainfall amounts will be concentrated in the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