

West Africa Seasonal Monitor

2020 Season



vam
food security analysis

World Food Programme, Regional Bureau Dakar

20-31 August 2020

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Highlights

- Early June to date (end of August) above average rainfall spread over much of West Africa while dry conditions remained across the southern coastal areas of the region leading abnormally dryness. The Sahel region has benefited from more favourable conditions since late July and in far western areas over half western Mauritania remain dryness since mid-august and some pockets over northern, central and eastern Senegal. Heavy rainfall during July-August resulted in flooding in the Niger River Basin throughout Niger, Mali, Nigeria, southern Chad, and Cameroon. Localized production shortfalls may occur in areas bordering the Niger valley due to flooding, and flood risk remains high as above-average rainfall is forecast to continue in these areas through September. In southern Chad 3,286 households have been displaced from 11 villages, 15,000 hectares of crop land have been destroyed and 3 people died including a child due to illnesses.
- Noticeable vegetation improvement is observed over the whole Sahel. As a result of the continued widespread wetter than average conditions across the region since late July, markedly above average vegetation cover extends over much of the Sahel over South-eastern Mauritania, across Mali, North-eastern Burkina Faso, Niger, Chad and Far NE Nigeria. Meanwhile it can be observed low vegetation recovery from some pockets over far western of the region (over south western Mauritania and Northern Senegal) due to recent low seasonal rainfall. Water resources have been maintained at good level throughout the West African region due to ongoing favourable conditions.
- **According to short-term forecasts**, into a one-month rainfall analysis - It is unlikely that a improvement in the situation will occur over southern coastal areas of the region - rainfall deficits are expected to persist in Sierra Leone, Liberia, and Southern (Cote d'Ivoire, Ghana, Benin, Togo and Nigeria).
- **According to 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 high 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 September–November 2020) indicate average to mostly near average condition in Sahel except Central Mali, Northern and SE Senegal, half western Mauritania and Burkina Faso. In the rest of the region, across the southern regions conditions will likely be below average to mostly near average except most of CAR, Southern Ghana and half northern Nigeria where **average condition rainfall is expected**. The two sets of forecasts are not currently consistent, with ECMWF being more pessimistic.

West Africa: Rainfall Season 2020

Latest Developments, August 20 - 31 2020

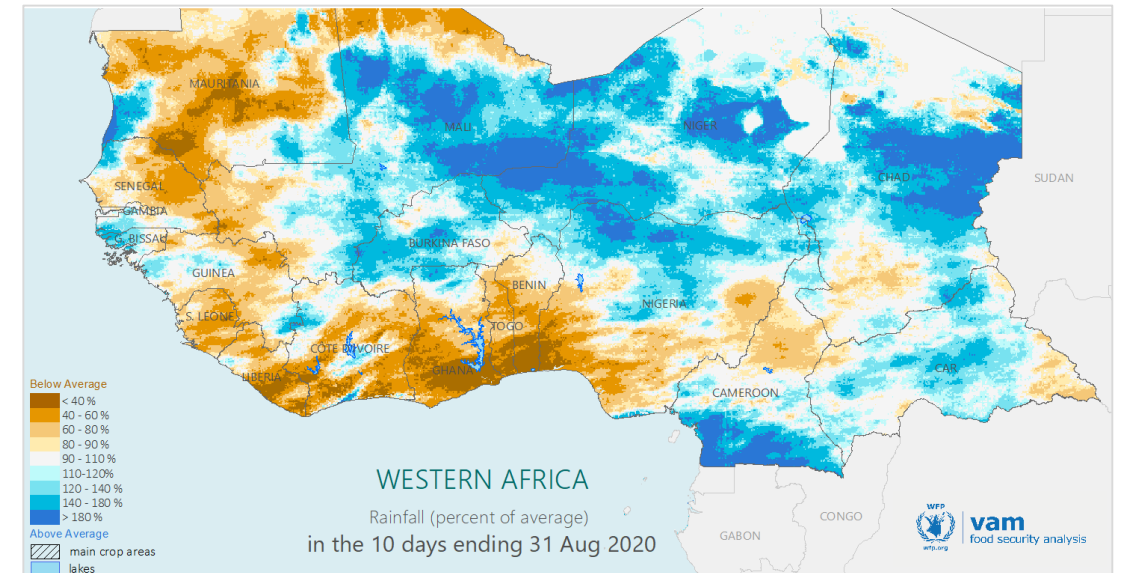
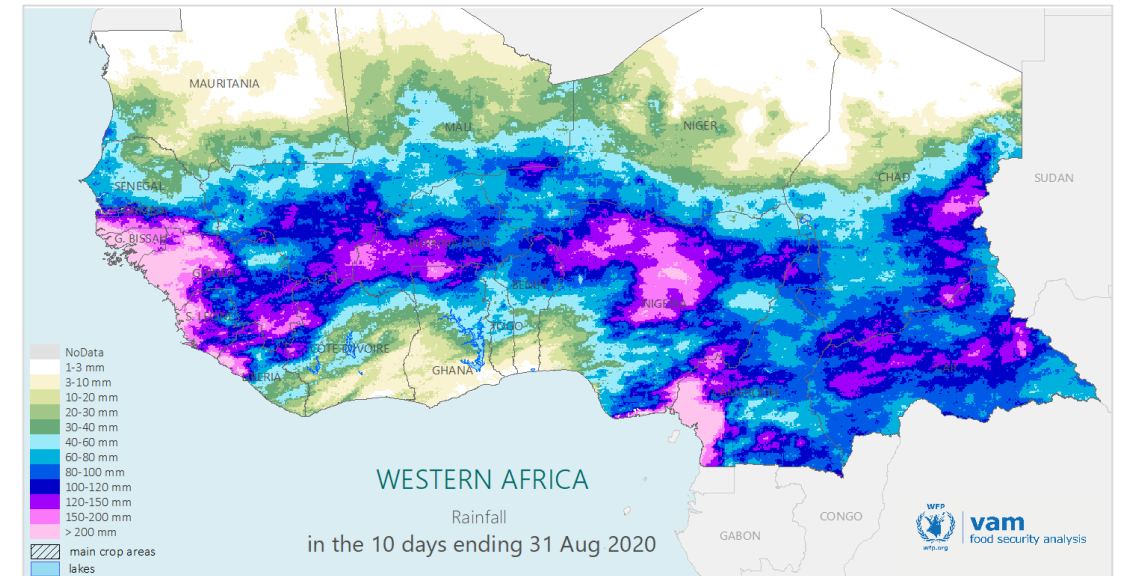
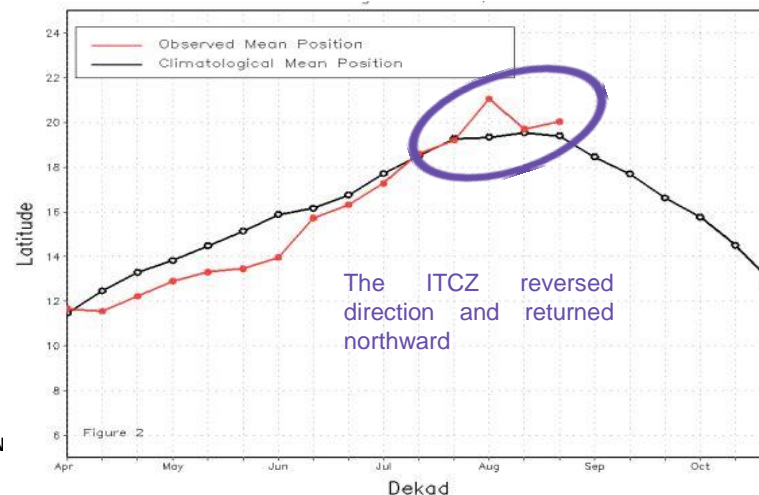
Late August, most of West Africa region received well distributed seasonal rainfall. Sahel region continues to experience widespread above average rainfall. This region, has so far benefited from more favorable conditions in West Africa. Heavy rainfall was also recorded over Guineas, CAR, Cameroun and Nigeria while below average rainfall persist in Mano rivers countries and Gulf of Guinea strengthening abnormal dryness in this part of the region.

Cumulative Heavy rainfall during July and August has caused flooding along the Niger River basin (in Mali and Niger), northern Nigeria, southern Chad, Northern Cameroon and Senegal etc., triggered additional flooding in many areas across West Africa region and exacerbated situations in some places.

During the last dekad of August, the Inter-Tropical Convergence Zone (ITCZ), reversed direction and returned northward. In its equatorward retreat, for the western and eastern regions, this has lead laid well north position to the climatological average position. This anomalous position resulted in enhanced seasonal rainfall over Mali, Niger, Burkina Faso and Western Senegal.

(*) 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)

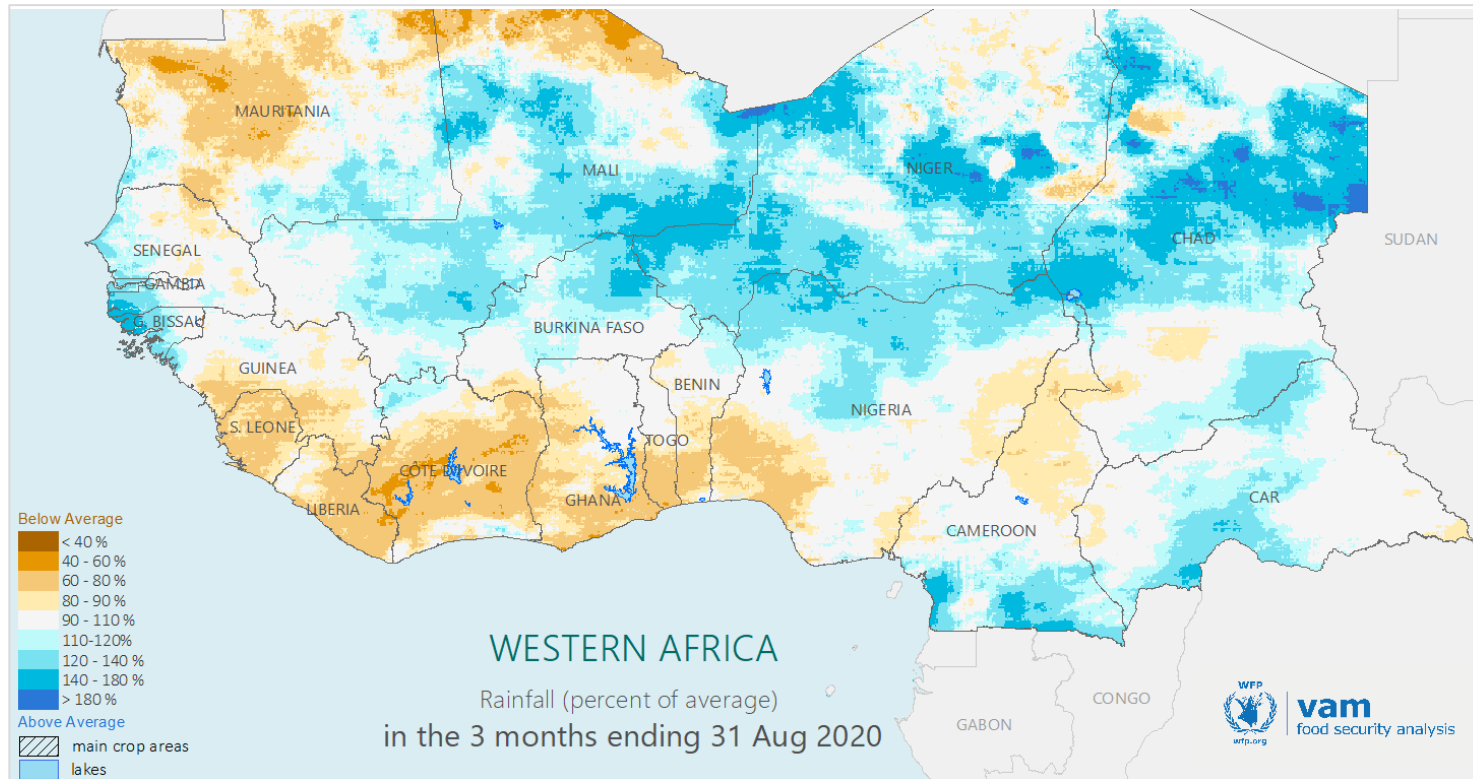


Rainfall amounts from 20 to 31 August 2020 (above).

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

West Africa: Rainfall Season 2020

Current Status - Peak Season in late August



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

In West Africa, the seasonal rainfall since early June to date (end of August) has indicated above average rainfall spread over much of the region while dry conditions have been observed across the southern coastal areas in Mano rivers and Gulf of Guinea (over Southern Guinea, Sierra Leone, Liberia, Cote d'Ivoire, Ghana, Southern Togo and Benin and South-western Nigeria).

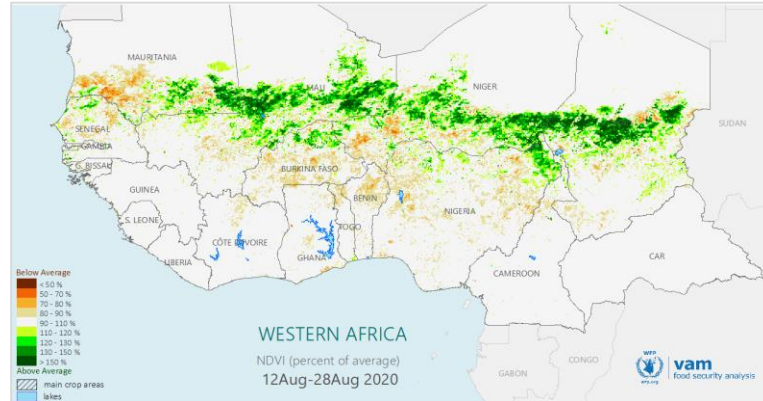
The Sahel region has benefited from more favourable conditions since late July and the eastern areas recorded excess moisture (from far eastern Mali to Chad reaching arid areas of Mali, Niger and Chad). However, in far western areas over half western Mauritania remain dryness since mid-August and some pockets over northern, central and eastern Senegal

Mano river countries extended to Gulf of Guinea continue to experience below average conditions due to continued low seasonal rainfall since June. Hence deficit remains in this region leading abnormally dryness.

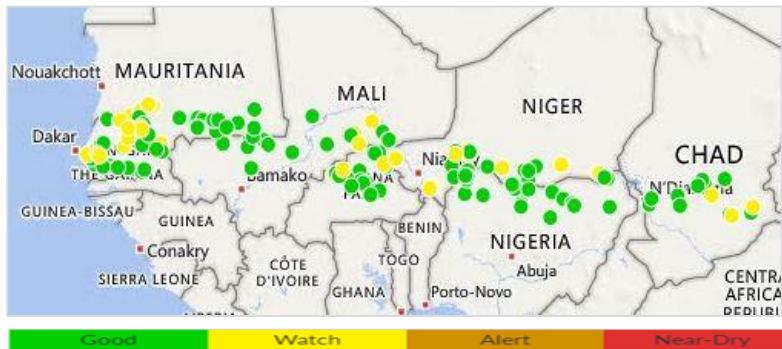
Despite, the season length and the seasonal rainfall in this part of the region, current deficits deserve to be monitored closely.

West Africa: Rainfall Season 2020

Seasonal Development



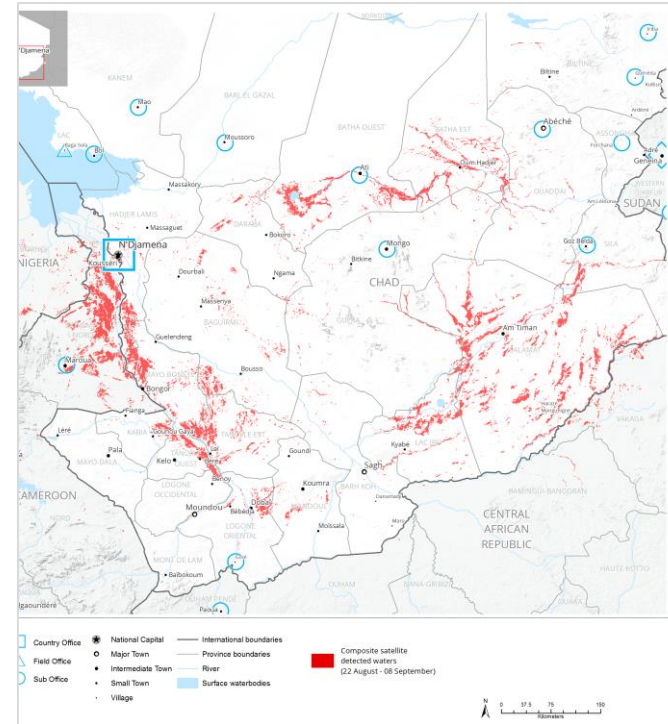
NDVI in mid August - late August as a percent of average. Greens for above average, browns for below average



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

Noticeable vegetation improvement is observed over the whole Sahel. As a result of the continued widespread wetter than average conditions across the region since late July, markedly above average vegetation cover extends over much of the Sahel over South-eastern Mauritania, across Mali, North-eastern Burkina Faso, Niger, Chad and Far NE Nigeria. Meanwhile it can be observed low vegetation recovery from some pockets over far western of the region (over south western Mauritania and Northern Senegal) due to recent low seasonal rainfall. This should evolve more favourably now given very recent widespread wetter than average conditions across the region.

Southern Chad: areas affected by flooding (August 28 – 8 September)



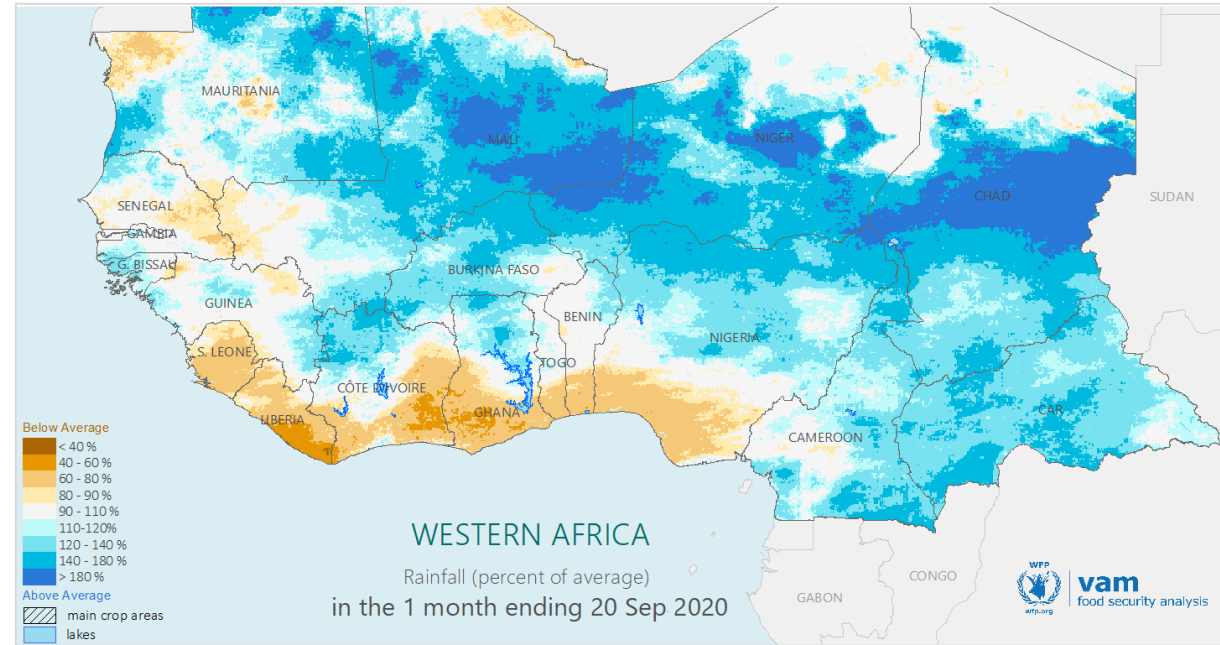
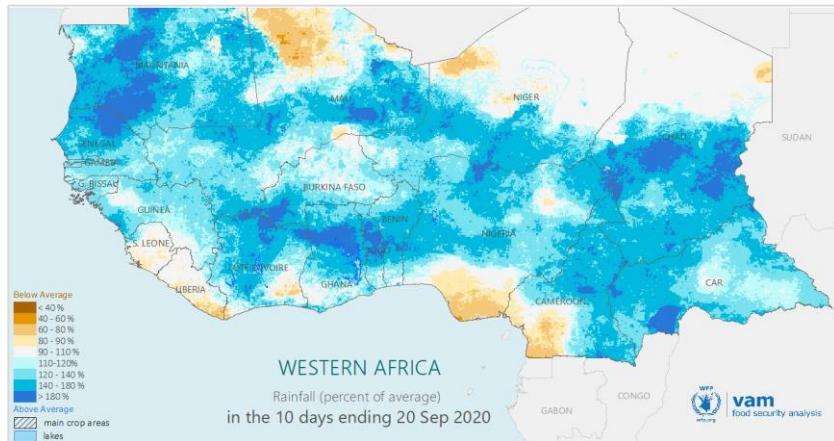
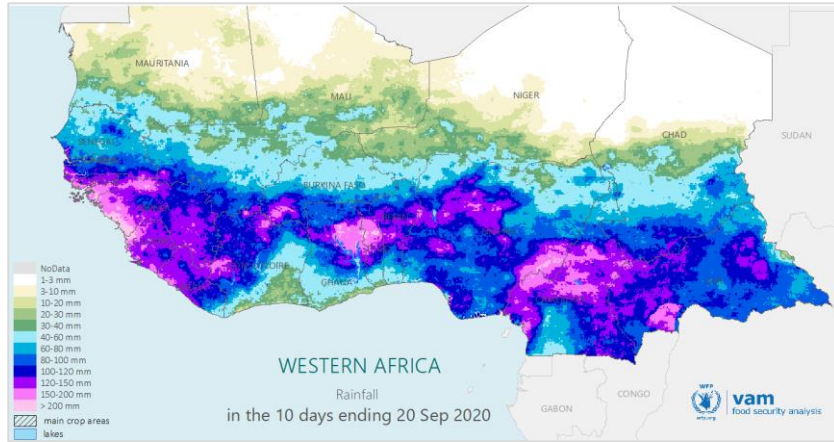
While increased rainfall since late July has improved vegetation conditions, heavy rainfall resulted in flooding in the Niger River Basin throughout Niger, Mali, Nigeria, southern Chad, and Cameroon. Localized production shortfalls may occur in areas bordering the Niger valley due to flooding, and flood risk remains high as above-average rainfall is forecast to continue in these areas through September (see Next slide).

In southern Chad according to the preliminary information : 3,286 households have been displaced from 11 villages : ALLO, KATI, HAIBE, BAR, BILI, NGOIDE, BABONA, MBIL, BANANGI 1, BANANGI 2, BATINIERE, 15,000 hectares of land have been destroyed and 3 people died including a child due to illnesses.

Water resources have been maintained at good level throughout the West African region due to ongoing favourable conditions. Even the areas (over northern Senegal, south-eastern Mauritania, the neighbouring region between Burkina Faso, Mali and Niger and eastern Chad) where a regression of certain conditions had started to be noted since early august, marked improvements are noted due to recent good rainfall over these regions.

West Africa: Rainfall Season 2020

Short-term Forecasts



Rainfall for the month ending September 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 September 20. In mid-September, will spread above average rainfall In west Africa region.

These forecasts into a one-month rainfall analysis- shows that it is unlikely that a improvement in the situation will occur over southern coastal areas of the region - rainfall deficits are expected to persist in Sierra Leone, Liberia, and Southern (Cote d'Ivoire, Ghana, Benin, Togo and Nigeria).

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

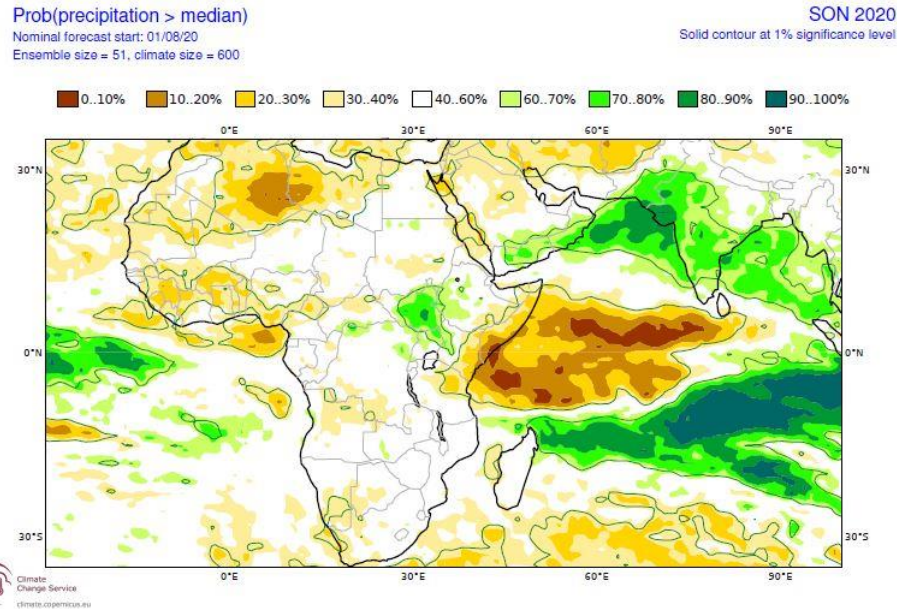
Short range CHIRPS-GEFS forecasts for 10-20 September 2020

Above: forecast rainfall amounts and Below: Corresponding anomaly

West Africa: Rainfall Season 2020

Seasonal Forecasts (2020, PRESASS, ECMWF)

C3S: ECMWF contribution
Prob(precipitation > median)
Nominal forecast start: 01/08/2020
Ensemble size = 51, climate size = 600



ECMWF seasonal forecast for September- November 2020 rainfall, issued in August

Latest seasonal forecasts from ECMWF indicate average to mostly near average condition in Sahel except Central Mali, Northern and SE Senegal, half western Mauritania and Burkina Faso from September to November 2020 .

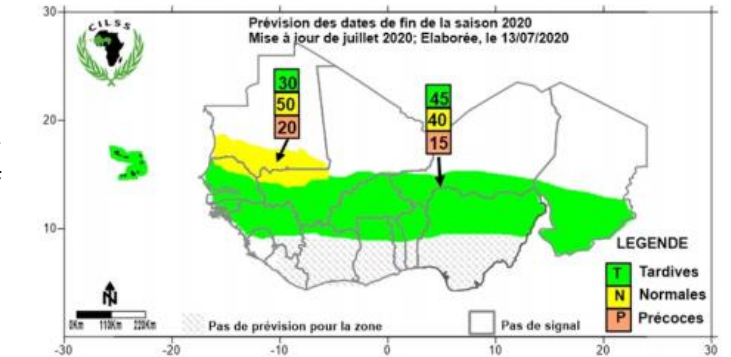
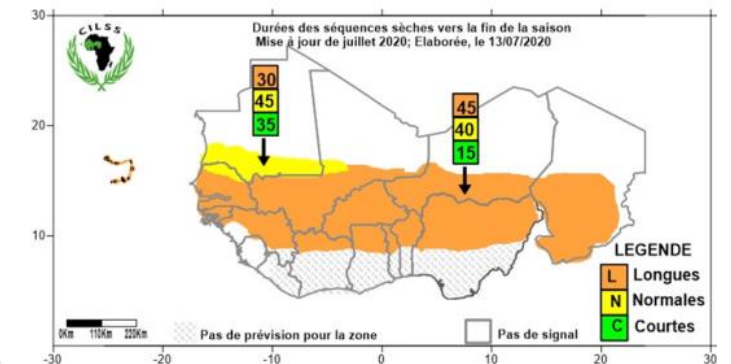
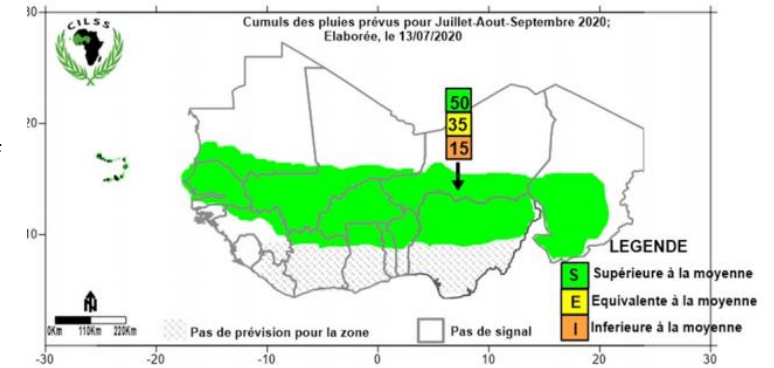
In the rest of the region, across the southern regions conditions will likely be below average to mostly near average except most of CAR, Southern Ghana and half northern Nigeria where **average condition rainfall is expected**

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.

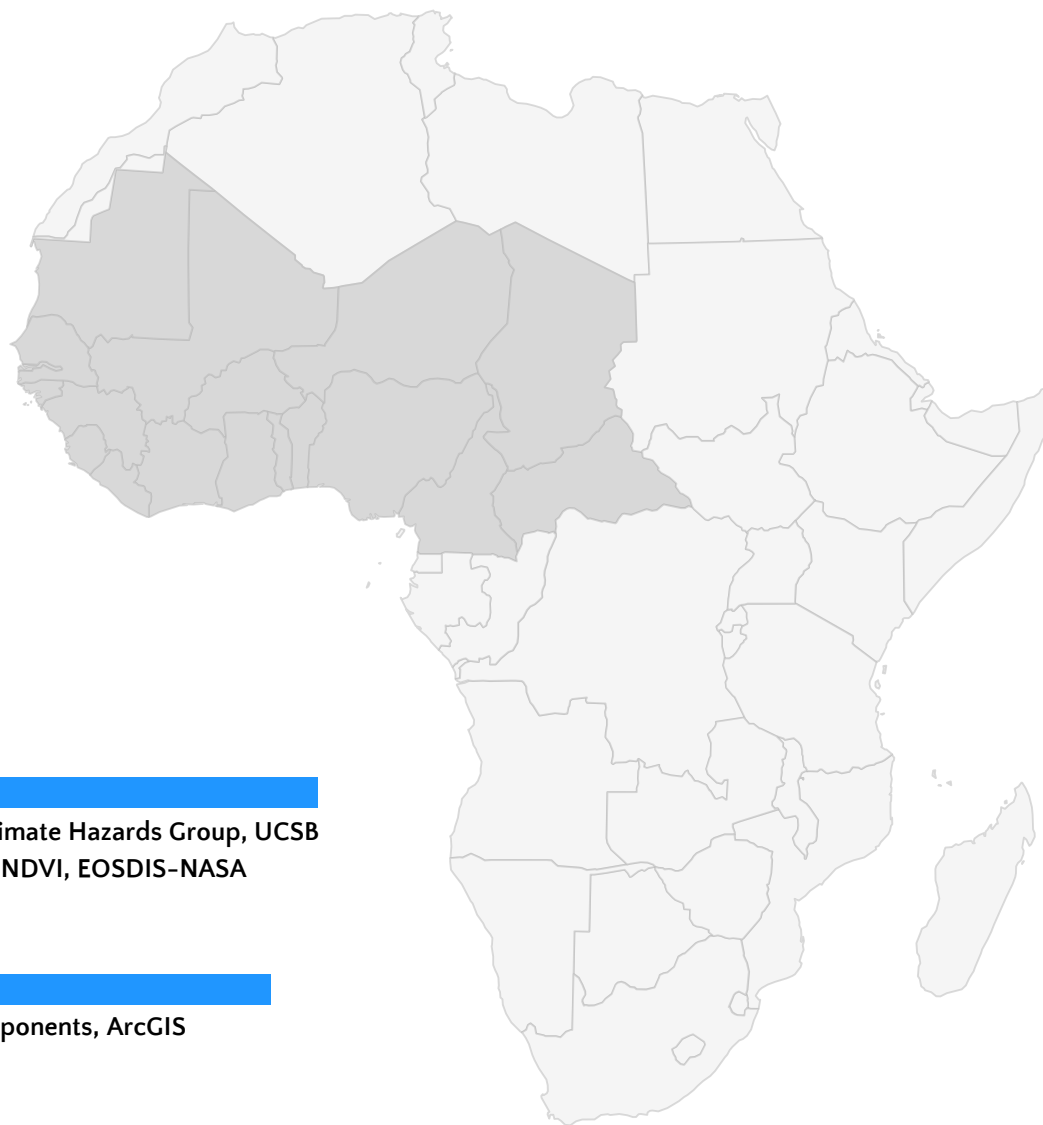
It **emerges from the July 2020 update that**, in the second half of the season, including the heading, flowering and the crops ripening phases, the dry spells should be longer to normal over most Sudan-Sahelian belt covering most of Senegal, Burkina Faso, the southern parts of Mali and Niger, southwestern 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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