West Africa Seasonal Monitor

2020 Season

World Food Programme, Regional Bureau Dakar

01-10 September 2020

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Highlights

- So far (early September), good seasonal performance characterized West Africa region resulting widespread average to above average seasonal rainfall and rainfall deficits where occurred are mostly moderate (Mano rivers and Gulf of Guinea and Central Cameroon). In 2020, at this period, exceptionally, through the Sahel have prevailed well above average seasonal rainfall, even far western areas over northern Senegal and southern Mauritania where remained deficits during these past years (2019, 2018, 2017…). Recent heavy rainfall over Central Sahel and Senegal may lead to increase water level in the Niger River and its tributaries over central Mali which could reach their danger level and led to flooding in low-lying areas along northern Senegal and in the borders with Mauritania. Preliminary flood impact over Mali show that the most important exposed population to floods are located in the Inner Delta of the Niger River in Mali. A total of 139,424 people are exposed in these areas of which Djenne (40,964 people), Tenenkou (40,356 people), Youwarou (18,424 people), Niafunke (13, 203 people), Dire (16,098 people) and Niono (10,379 people).

- As a result of good seasonal rainfall performance markedly above average vegetation cover extends throughout the whole Sahel. Given the ongoing widespread wetter than average conditions across the region much better vegetation condition is expected in far western areas (over Senegal and southern Mauritania). 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 up to 30 September - It is likely that a improvement in the situation will occur over southern coastal areas of the region - rainfall deficits will likely be retrieved 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.

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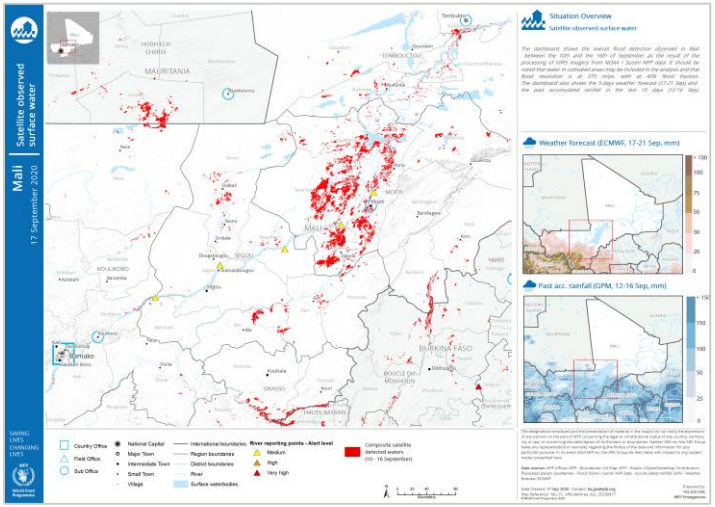
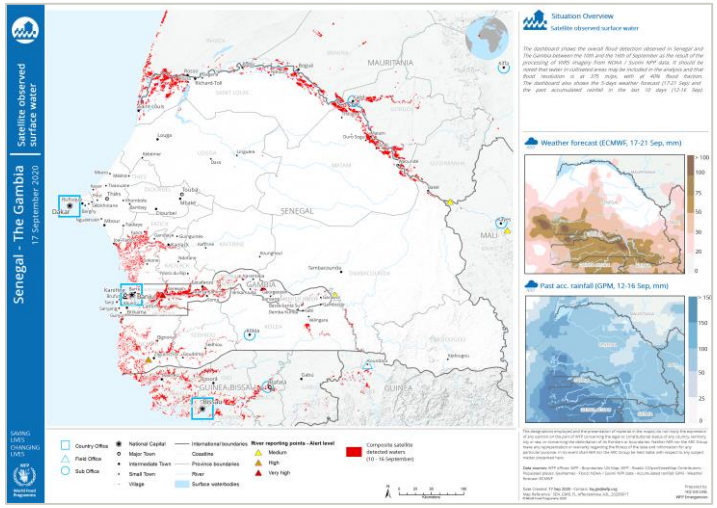
Flood impact and flooding affected area : satellite Detection

Late august – early September, was reported, many areas affected by floods in the region, resulting fatalities, material damage, destruction of livelihood, population displacements and deteriorated access. According information from field, is reported 4,211 effected households in Chad, Cameroon and Nigeria, 229,154 people affected in Burkina Faso, Guinea and Guinea Bissau. 11 villages was displaced in Chad, 3,347 houses destroyed in Burkina Faso, 5,846 affected in Guinea. 15,000 hectares crop land destroyed in Chad and affected areas detected in Nigeria and Cameroon. 1,790 IDPs emergency shelters destroyed or damaged in Burkina Faso and 6 camps; 240 shelters and 6 toilets affected in Nigeria.

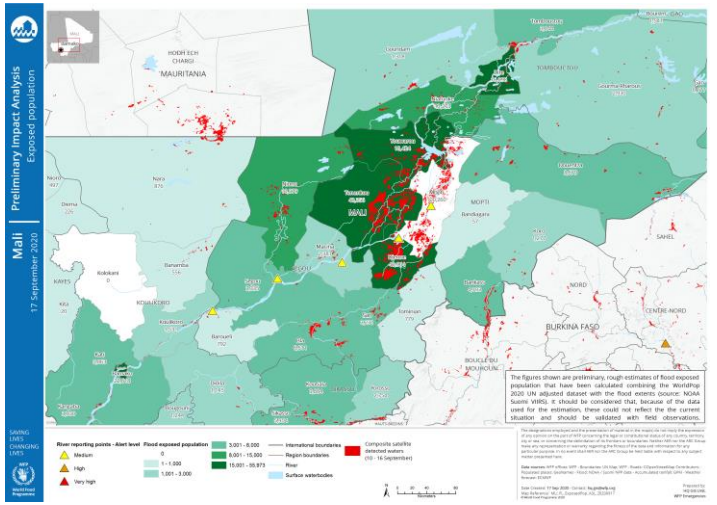
(A)Mali : Satellite water detection 10 – 16 September 2020



(B) Senegal, Gambia, Mauritania and Guinea Bissau: Satellite water detection 10 – 16 September 2020



***(C)** Mali : areas affected by flooding (10 – 16 Sept. 2020) and* **Flood exposed population**



During the last 5 days (12-16 Sep), heavy and torrential rains have led to widespread flooding in southwestern **Senegal**, western and central **Gambia** and western **Guinea Bissau** while continued moderate rainfall have led to flooding in low-lying areas along northern **Senegal** and in the borders with **Mauritania**. Moderate to heavy rains have also led to widespread flooding in central **Mali** including Djenne, Tenekou, Mopti and Youarou whith some localized flooding was recorded in Sikasso, Tombouctou, Niono and many places in **Burkina Faso (A and B)**.

Preliminary flood impact map ©over Mali show the most important exposed population to floods are located in the Inner Delta of the Niger River in Mali.

A total of 139,424 people are exposed in these areas of which Djenne (40,964 people), Tenenkou (40,356 people), Youwarou (18,424 people), Niafunke (13, 203 people), Dire (16,098 people) and Niono (10,379 people).

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Latest Developments, September 0 1- 10 2020

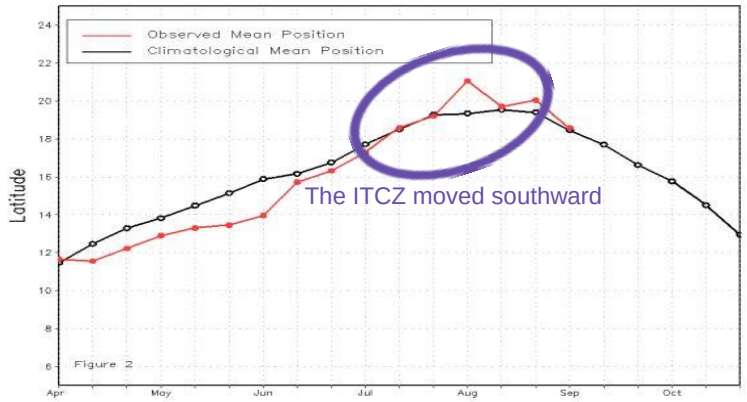
Early September, West Africa region recorded well distributed seasonal rainfall and continue to experience widespread above average rainfall. The Sahel continued to benefit more favorable condition. In this region during this period, heavy rainfall was also recorded in Central Sahel and over far western areas (in Senegal and southern Mauritania). This may lead to an increase of water level in the Niger River and its tributaries over central Mali (in the Inner Delta of the Niger River in Mali), lead to flooding in low-lying areas along northern Senegal and in the borders with Mauritania and trigger additional flooding in many areas and exacerbate situations in some places.

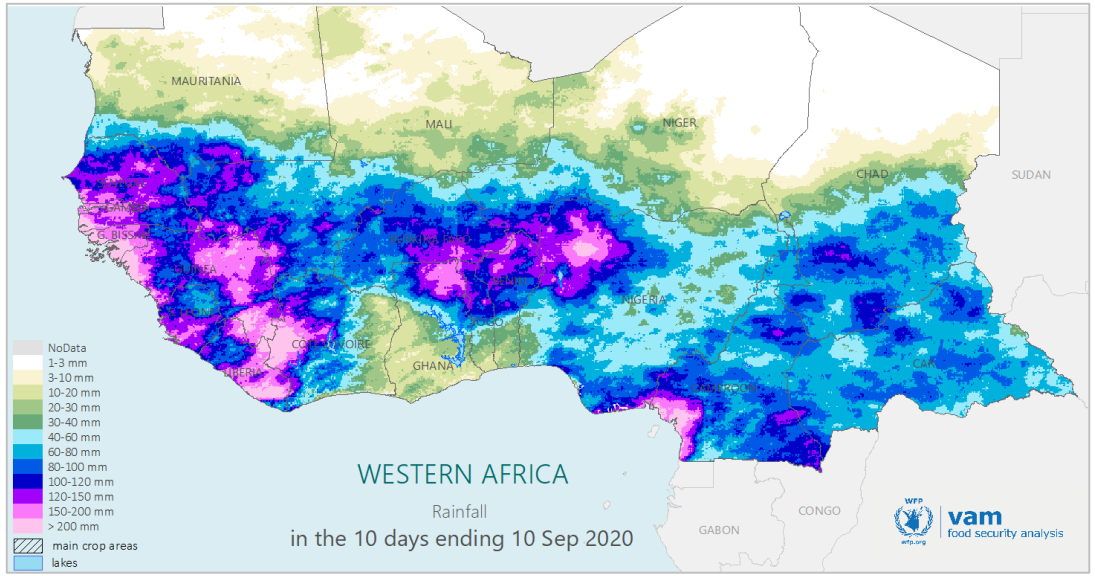
However below average rainfall persist in Gulf of Guinea. The eastern part of Nigeria , central Cameroon, and Western CAR was also affected by poor rainfall time distribution during this period.

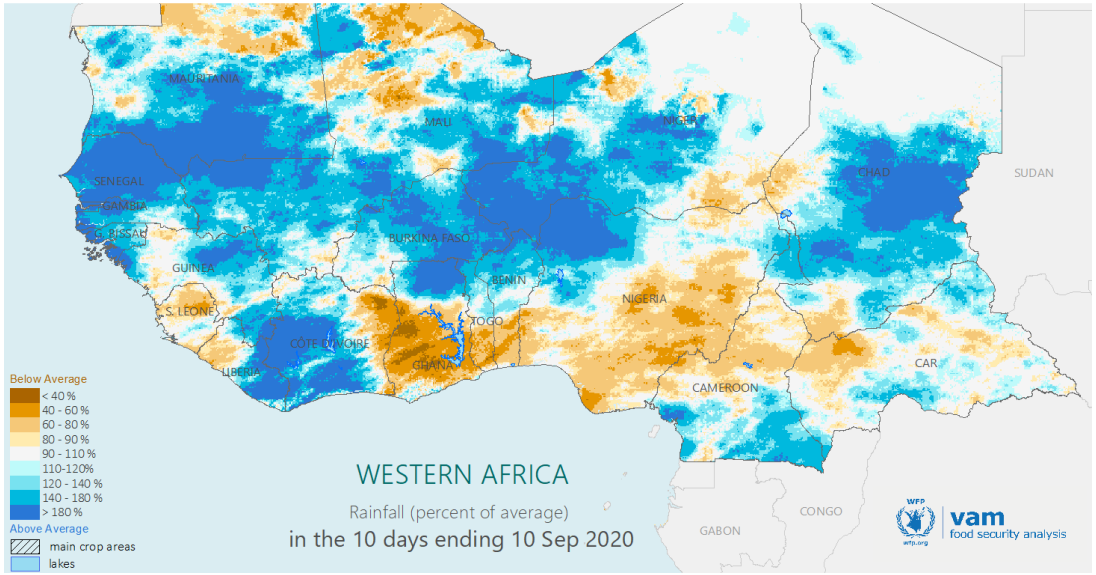
In this first dekad of September , the Inter-Tropical Convergence Zone (ITCZ), has moved southward compared to the previous dekad. The western part has moved slightly close to the climatological position while the western part positioned well to the north of the mean position. This abnormal southerly position can explain to light rains over western Chad and eastern 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)



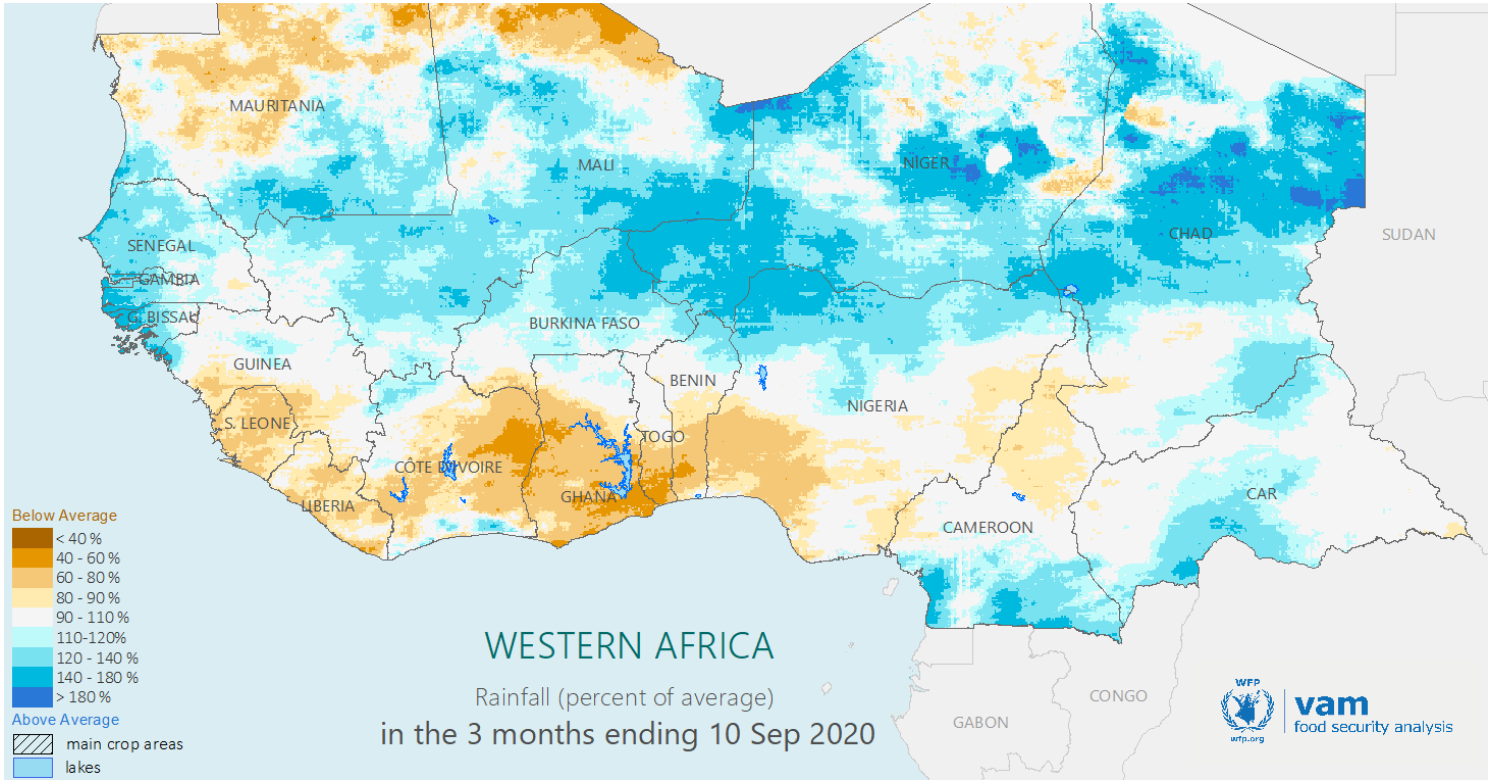




Rainfall amounts from 01 to 10 September 2020 (above).
Same as a proportion of the long term average (below). Blues for wetter than average, browns for drier than average.

West Africa: Rainfall Season 2020

Current Status - Peak Season (early September)



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

So far, good seasonal performance characterized West Africa region resulting widespread average to above average seasonal rainfall and rainfall deficits where occurred are mostly moderate. These deficits 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) and Central Cameroon.

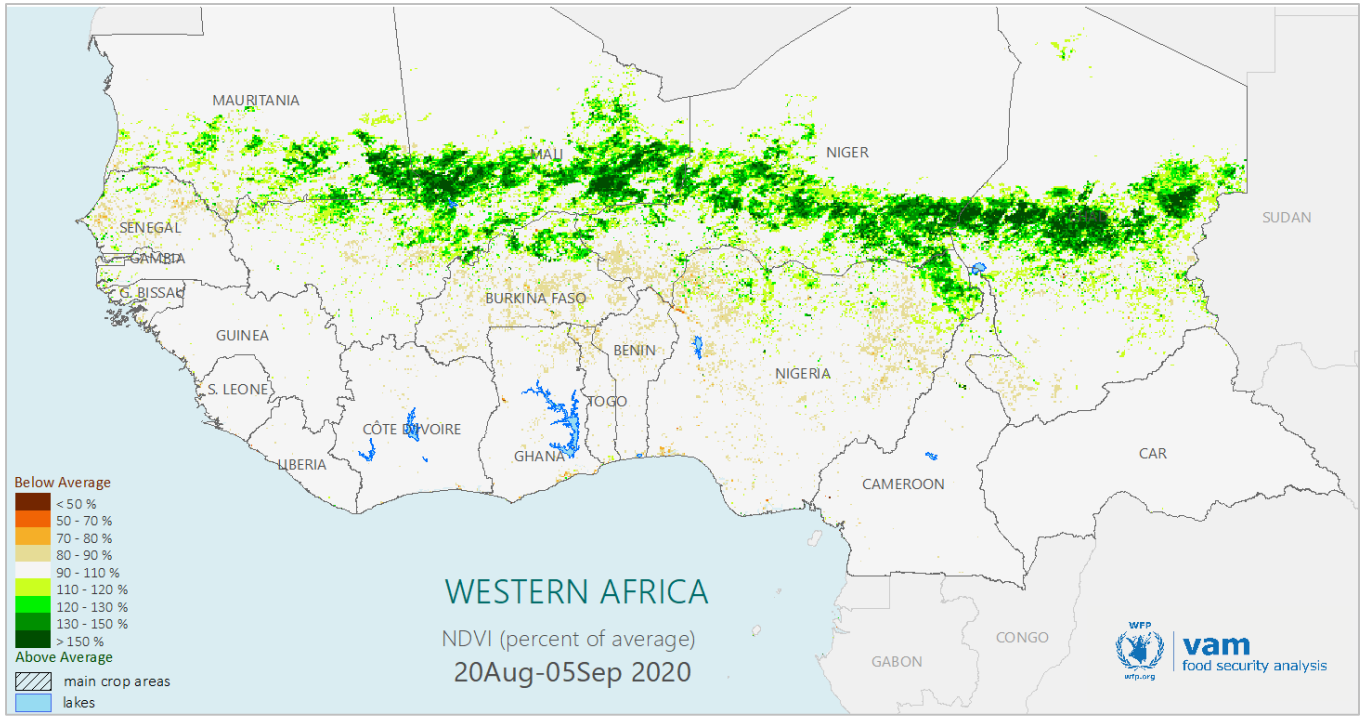
In 2020, at this period, exceptionally, through the Sahel have prevailed well above average seasonal rainfall, even far western areas over northern Senegal and southern Mauritania where remained deficits during these past years (2019, 2018, 2017…).

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). In far western areas over half western Mauritania and some pockets over northern, central and eastern Senegal dryness since mid-august was totally relieved given the very recent widespread wetter than average conditions across this region in late August – early September.

Despite, the season length and the seasonal rainfall across the southern coastal areas in Mano rivers and Gulf Guinea, current deficits deserve to be monitored closely.

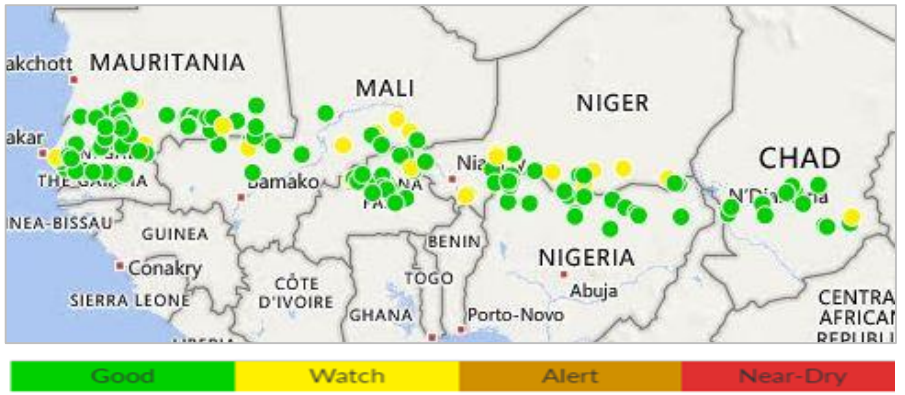
West Africa: Rainfall Season 2020

Seasonal Development



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

As a result of good seasonal rainfall performance marked by widespread wetter than average conditions across the region since late July, markedly above average vegetation cover extends throughout the Sahel from Senegal by Southern Mauritania, across Mali, North-eastern Burkina Faso, Niger, Chad and Far NE Nigeria. Given the ongoing widespread wetter than average conditions across the region much better vegetation condition is expected in far western area (over Senegal and southern Mauritania).



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

While increased rainfall since late July has benefited vegetation, crops and pasture conditions, heavy rainfall resulted in flooding affecting many areas in the region throughout Niger, Mali, Nigeria, Chad, and Cameroon, Senegal, Burkina Faso, Guinea, Guinea Bissau etc.

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, there has been almost total recovery.

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

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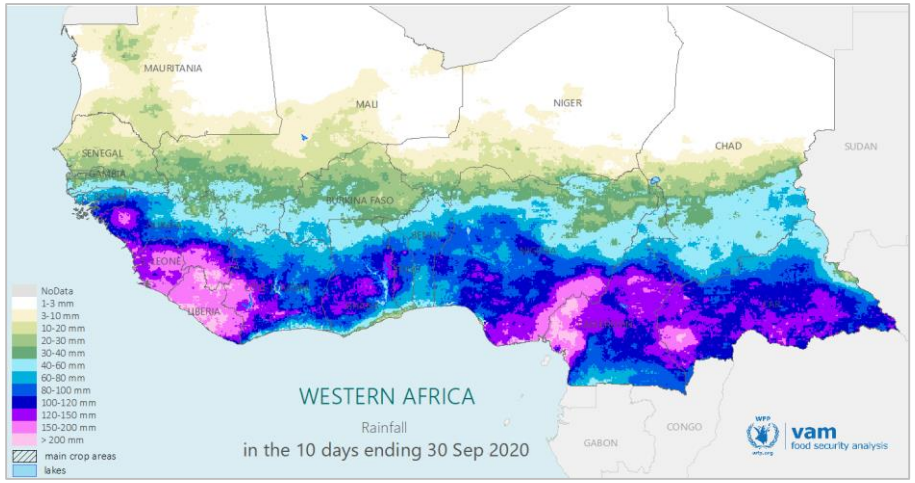
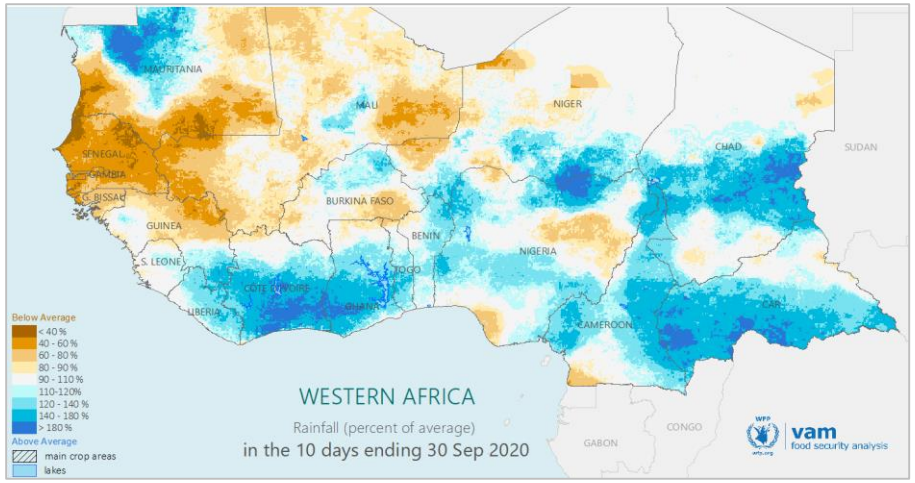
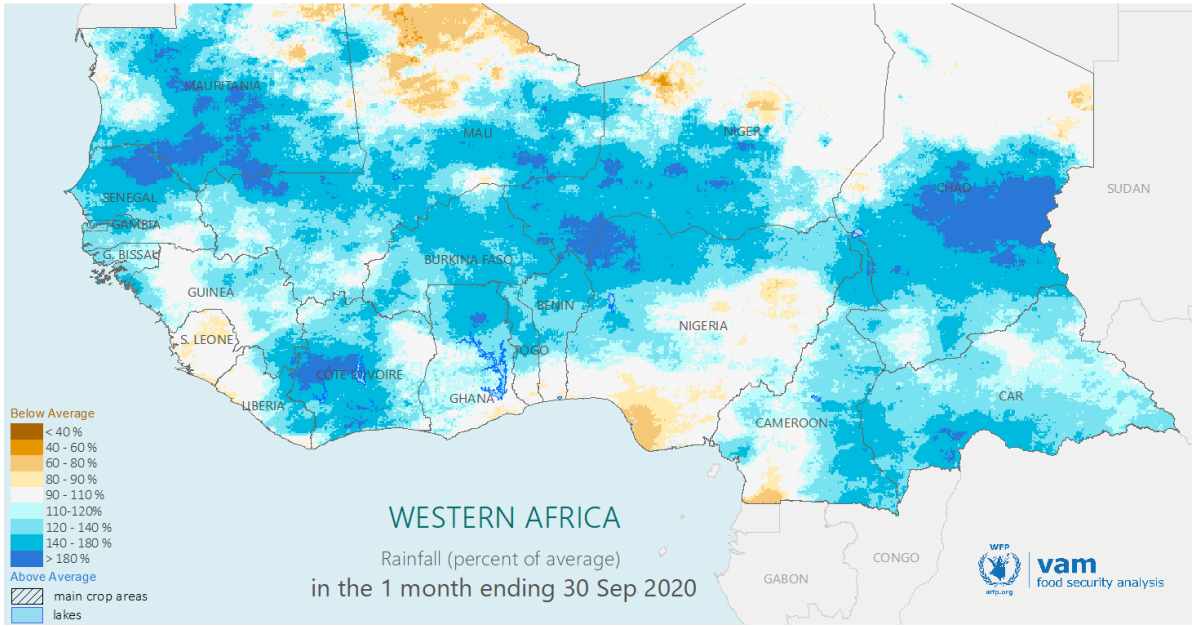
Short-term Forecasts





Short range CHIRPS-GEFS forecasts for 20-30 September 2020
Above: forecast rainfall amounts and Below: Corresponding anomaly



Rainfall for the month ending September 30 (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.

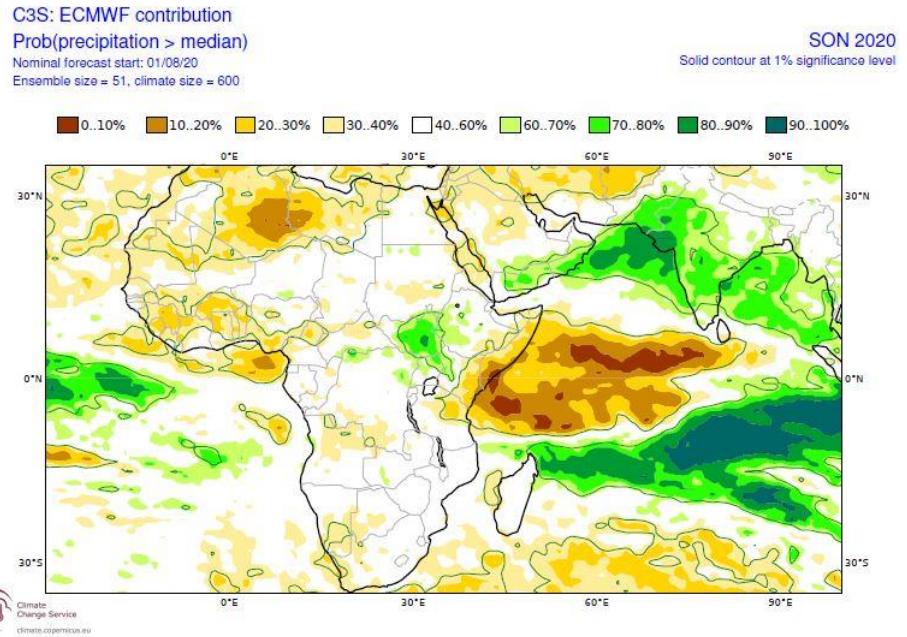
Short range forecasts provide estimates of rainfall up to September 30. In late September, will spread well above average rainfall In west Africa region.

These forecasts into a one-month rainfall analysis- shows that - It is likely that a improvement in the situation will occur over southern coastal areas of the region - rainfall deficits will likely be retrieved 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

West Africa: Rainfall Season 2020

Seasonal Forecasts (2020, PRESASS, ECMWF)



***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 .

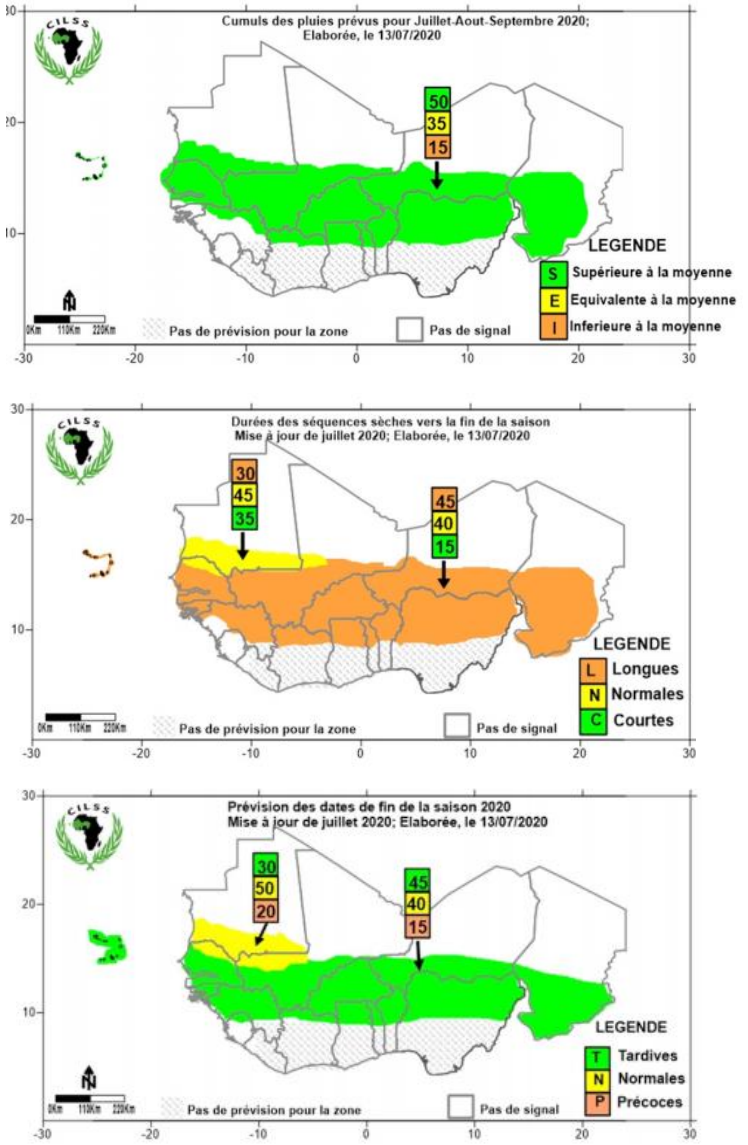
In the rest of the region, across the southern regions conditions will likely be below average to mostly near average except most of CAR, Southern Ghana and half northern Nigeria where **average condition rainfall is expected**

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

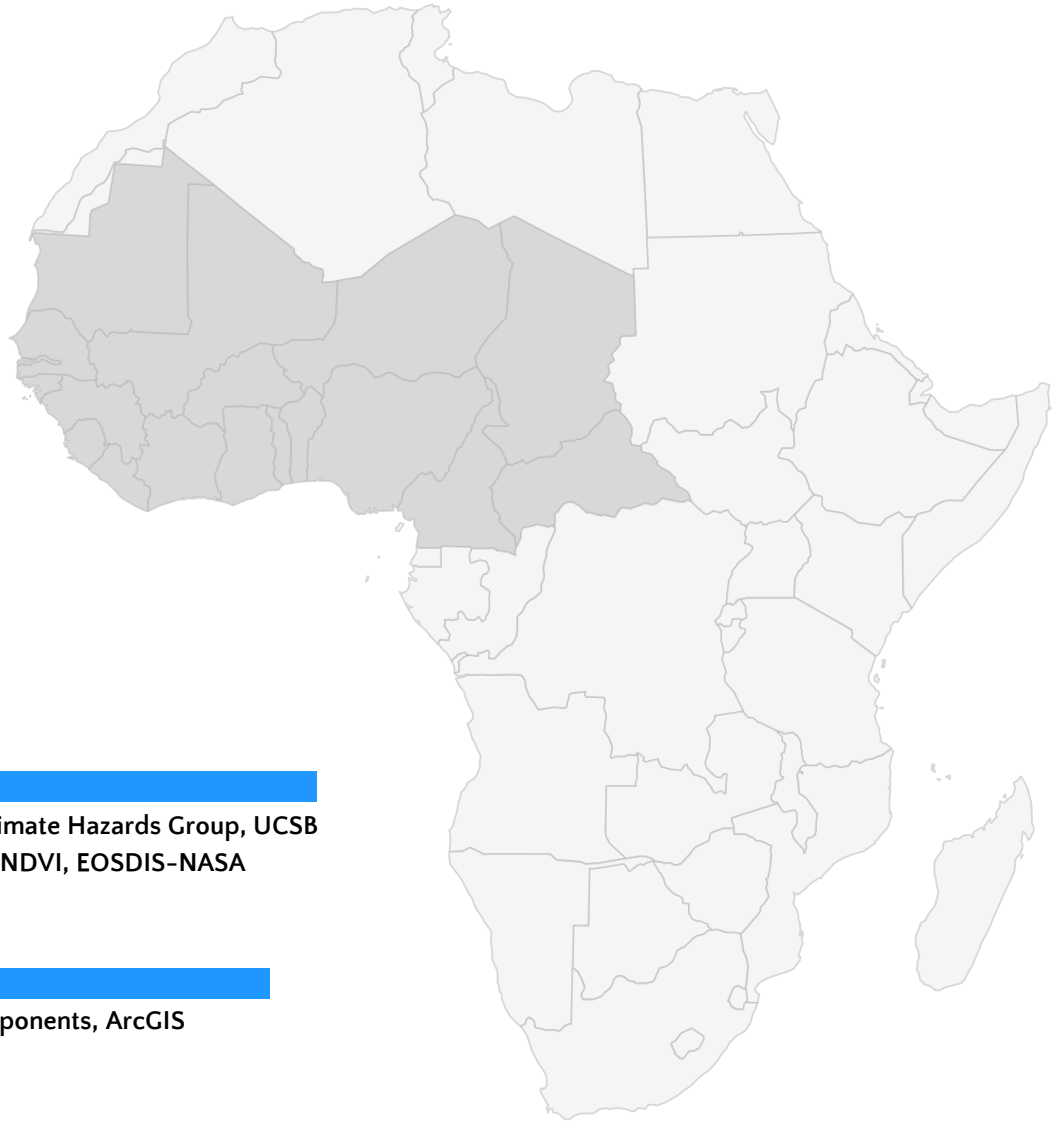
According to PRESASS seasonal forecast, the update of the forecasts in July confirms those issued in April 2020, with high probability of above average rainfall for the period July-August-September in Sahelian countries. It is very likely that the expected rainfall amounts will be concentrated in the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