

West Africa Seasonal Monitor

2020 Season



vam
food security analysis



World Food Programme, Regional Bureau Dakar

Overall Seasonal
Evaluation

Contents

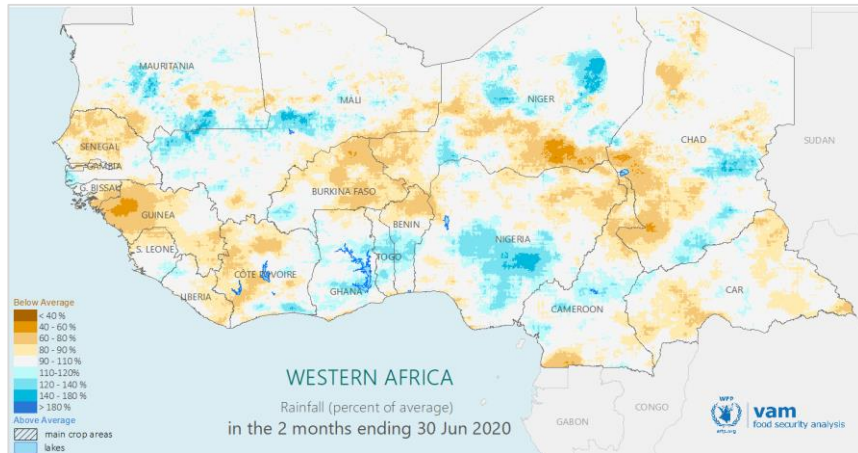
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Highlights

- Early season dryness from May onwards led drier than average conditions affected most of West Africa region, **spanning** across a wide region from south eastern Senegal - Guinea across eastern Mali, Burkina Faso , Niger and northern Nigeria regions as well as CAR.
- From July, the rainy season has been much favorable across most of West Africa. Sahel region has benefited from more favorable conditions and Easternmost areas are the wettest while Mano river countries remain below average seasonal rainfall.
- In some areas, over Western and Southern Guinea, Northern Sierra Leone, Northern Ghana, Northern Cote d'Ivoire, Central Cameroon and Nigeria Eastern areas neighbouring Central Cameroon was less rainy than usual this year. Guinea affected by early season dryness, July provide respite and continuing improvement until September, was extended over Liberia, Cote d'Ivoire and Ghana. However, over southern Ghana, Togo, Benin, Nigeria extended to Central Cameroon deficits have been mostly light to moderate and conditions in Sierra Leone remain below average.
- A pattern of strongly above average vegetation emerged during September and October: this is particularly noticeable in the whole Sahel. This development is due to a better than average overall rainfall season. It mostly results from increase and improvement in rainfall since late July, and wetter conditions in August and September led to a continuous, vigorous response from grasslands resulting in significantly above average vegetation levels.
- Cumulative Heavy rainfall during August and September has caused flooding affecting many areas in the region throughout Niger, Mali, Nigeria, Chad, Cameroon, Senegal, Burkina Faso, Guinea, Guinea Bissau, Mauritania, Cote d'Ivoire, Ghana, Gambia, Benin, Cabo Verde and CAR. This resulted fatalities, material damage, destruction of livelihood, population displacements and deteriorated access. The impact in 2020 is particularly severe, and the number of people affected is almost double from last year. Its reported, 2.1 million people affected (of which 195,000 in DRC and 46,000 in Rep. of Congo), 86,000 people displaced, 412 people killed, 559 people injured and 189,000 houses destroyed/damaged (of which 6,000 in DRC). These include 7,956 damaged shelters in Burkina Faso and Nigeria.
- In West Africa crop prospects are generally favourable due to good seasonal rainfall except in areas affected by ongoing conflict. Harvesting of main season crops is complete in some areas and will complete across the Sahel in December. Along of the Gulf of Guinea despite the below average rainfall, conditions are favourable. In Niger, production of 2020 main season cereals is expected to be slightly above-average and Chad 2020 cereal production prospects are only near-average due to long dry periods in August as well as localized flooding in July and August in some areas. In Togo, overall 2020 cereal production is estimated to be slightly above-average as the rains were favourable for crop development. In Nigeria, despite impacts from conflict, flooding in the northwest and northcentral, 2020 cereal crop production is estimated at slightly above the previous five-year average due to above-average cumulative precipitation amounts. In Central African Republic, resurgence of violence by armed groups in the northwest and southeast is disrupting agricultural activities and is likely to result in a significant decrease in crop production despite favourable seasonal rainfall.

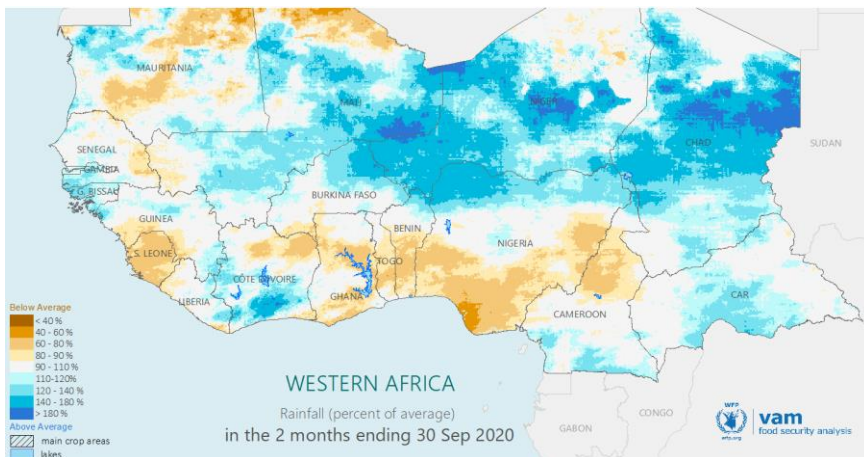
West Africa: Rainfall Season 2020

Phase 1 May – June 2020



Rainfall in the two months up to June 30 as a percent of the average. Blues for wetter than average conditions, browns for drier than average conditions.

Phase 2 July – September 2020



Rainfall in the three months up to September 30 as a percent of the average. Blues for wetter than average conditions, browns for drier than average conditions.

The Season at a Glance

Early season dryness from May onwards led drier than average conditions affected most of West Africa region.

From July, the rainy season has been much favorable across most of West Africa. Sahel region has benefited from more favorable conditions and Easternmost areas are the wettest while Mano river countries over western Guinea, Sierra Leone, Liberia, Cote d'Ivoire remain below average seasonal rainfall.

Despite the rainfall improvement since late June, bad seasonal rainfall distribution continued to lead below-average rainfall across Gulf of Guinea's countries as well as Sierra Leone and Central Cameroon. This has drastically increased the moisture deficit in these areas sustaining abnormally seasonal dryness.

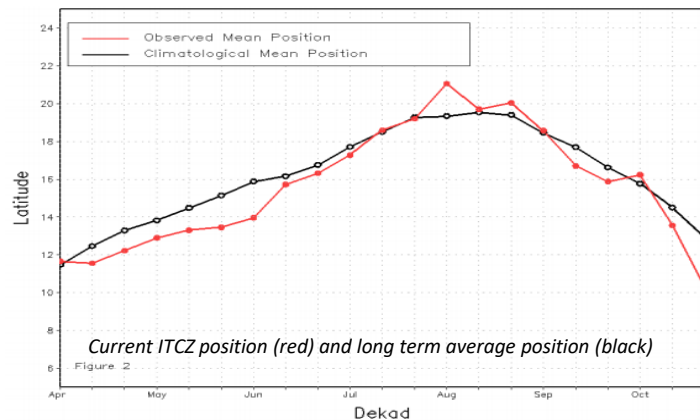
However the cumulative heavy rainfall recorded from mid-August to September resulted in flooding, that have affected particularly Burkina Faso, Cameroon, Chad, Ghana, Mali, Niger, Nigeria, and Senegal.

West Africa: Rainfall Season 2020

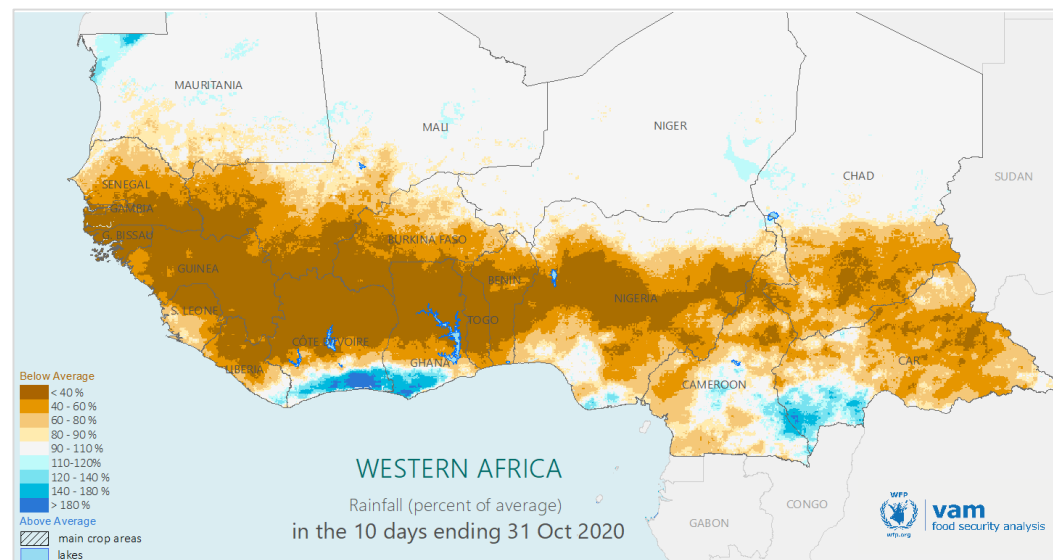
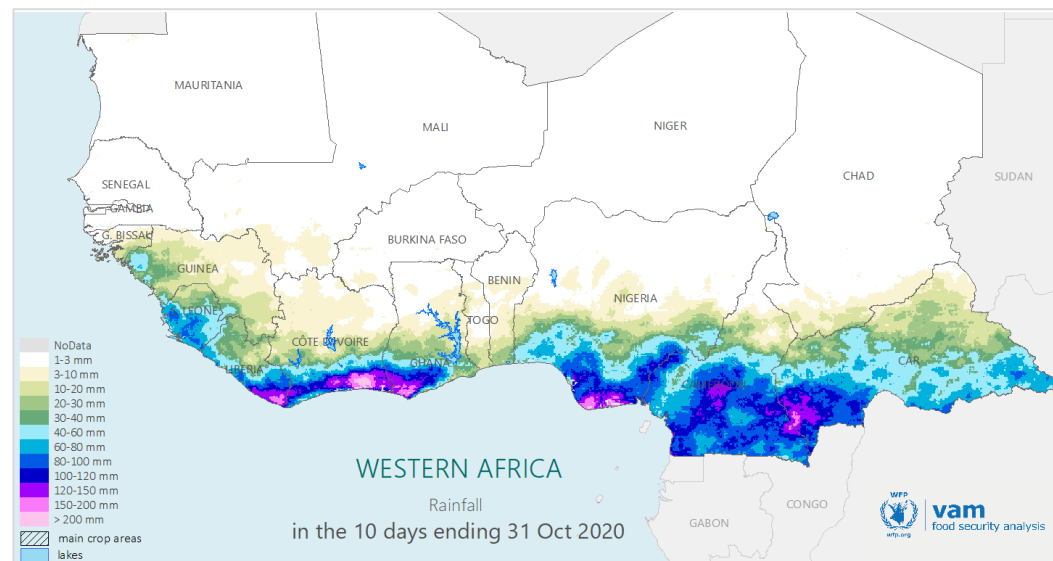
Latest Developments, October 20 – 31, 2020

Late October seasonal rainfall was observed in the far southernmost areas of the region. These latitudinal changes in rainfall due to the southward movement of the Intertropical Front (ITF) marking the end of the rainy season in the Sahel and most southernmost areas of Western Africa. Only coastal areas from Guinea to Southern Nigeria as well Southern Cameroon and CAR have received light to moderate seasonal rainfall.

At the end of October, the Inter-Tropical Convergence Zone (ITCZ), continued its rapid retreat equatorward and located anomalously south of the long-term average position along its entire length. This abnormal position led to below average rainfall across the sudanian – Guinean region of West Africa Region. Meanwhile, the mean eastern portion of the ITCZ, was located to the southern of its climatological position moving southward from its previous position.



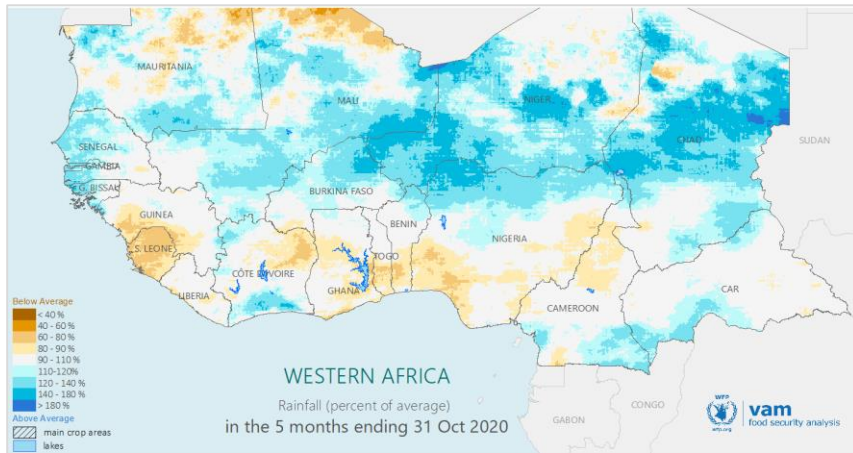
(*) ITCZ: Inter-Tropical Convergence Zone. It's the border between dry areas and areas where the rainfall season is ongoing. It moves northwards as the monsoon advances, backtracking southwards as the monsoon wanes. Delays (advances) in this movement lead to drier (wetter) conditions on the ground.



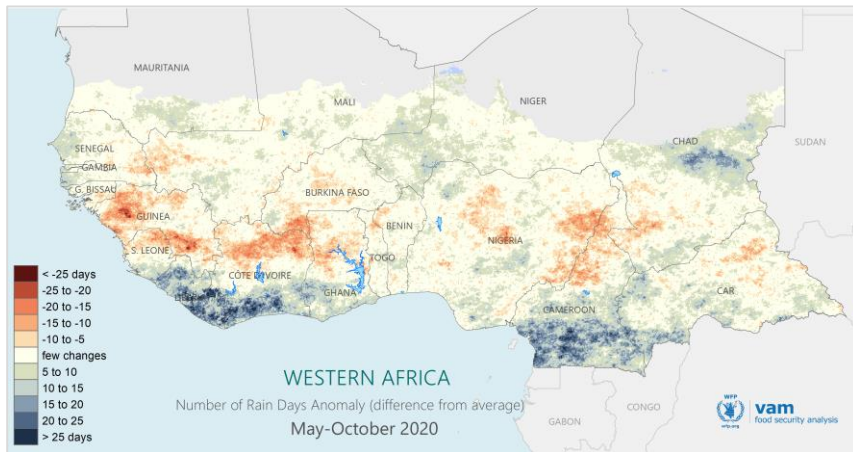
Rainfall amounts from 20 to 31 October 2020 (above). Same as a proportion of the long term average (below). Blues for wetter than average, browns for drier than average.

West Africa: Rainfall Season 2020

Seasonal performance



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



Number of rainy days up to October 31 as a percent of the average. red for less than average, blue for more than average

Seasonal development

In West Africa, the seasonal rainfall since June to date (end October) has been characterized by mostly adequate and well-distributed rains: this results in average to above-average seasonal rainfall. The Sahel region benefited the most from very good conditions with well above-average seasonal rains. The eastern part of this region experienced excess moisture from far eastern Mali, Niger, Burkina Faso to Chad.

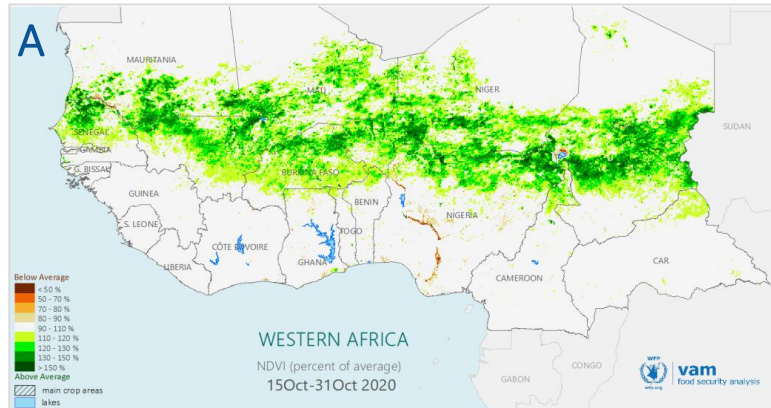
In the southernmost part of the region over Mano River's and Gulf of Guinea's regions, moisture deficit conditions improved, due to recent rainfall in September and October. Liberia and most of Cote d'Ivoire have received average to above-average rainfall since the beginning of September.

In some areas, over Western and Southern Guinea, Northern Sierra Leone, Northern Ghana, Northern Cote d'Ivoire, Central Cameroon and Nigeria Eastern areas neighbouring Central Cameroon was less rainy than usual this year. Guinea affected by early season dryness, July provided respite and continuing improvement until September, was extended over Liberia, Cote d'Ivoire and Ghana. However, over southern Ghana, Togo, Benin, Nigeria extended to Central Cameroon deficits have been mostly light to moderate and conditions in Sierra Leone remain below average.

In general, favourable conditions are more widespread, this season's rainfall has been average to above average in West Africa region.

West Africa: Rainfall Season 2020

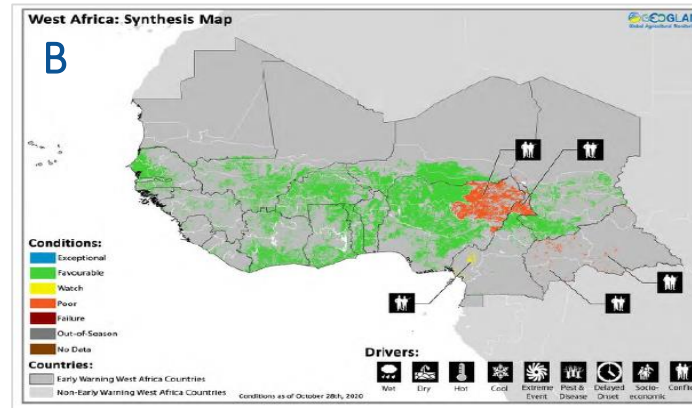
Seasonal performance



NDVI mid October – early November as a percent of average. Greens for above average, browns for below average

- A pattern of strongly above average vegetation emerged during September, and continued vigorously in October until early November (**Map A**): this is particularly noticeable in the whole Sahel across Senegal, Mauritania, Mali, Burkina Faso, Niger, Northern Nigeria and Chad. This development is due to a better than average overall rainfall season. It mostly results from increase and improvement in rainfall since late July, wetter conditions in August and September and the extended seasonal rainfall in October, that led to a continuous, vigorous response from grasslands resulting in significantly above average vegetation levels. Agricultural and pasture areas benefitted from very good seasonal conditions. Good production prospects are certain this year (2020) in the region (in biomass and crops production).
- In West Africa Harvesting of main season crops is complete in some areas (**Map B**) and will complete across the Sahel in December, while planting and development of second season crops is underway. Crop prospects are generally favourable due to good seasonal rainfall except in areas affected by ongoing conflict.

Seasonal Impacts



Crop condition map synthesizing information as of October 28th. Crop conditions over the main growing areas are based on a combination of inputs including remotely sensed data, ground observations, field reports, national, and regional experts.

From July to September, heavy rains in Burkina Faso, Cameroon, Chad, Ghana, Mali, Niger, north-western and northcentral Nigeria, and Senegal resulted in flooding that damaged crops and inundated farmland; however, yield prospects remain favourable. Also, while conditions were drier-than-average along the Gulf of Guinea countries in September, moderate to heavy rainfall was recorded over **Liberia, Sierra Leone, Cote d'Ivoire, Ghana, Togo, Benin, and Guinea** in October, and conditions are favourable. COVID-19 related restrictive measures implemented to contain the pandemic continue to impact access to inputs and labour across much of the region which may curtail yield prospects in some areas. In **Niger**, production of 2020 main season cereals is expected to be slightly above-average and Chad 2020 cereal production prospects are only near-average due to long dry periods in August as well as localized flooding in July and August in some areas. In Togo, overall 2020 cereal production is estimated to be slightly above-average as the rains were favourable for crop development. However, flooding in northern districts of Dankpen, Bassar, Oti, and Oti-Sud in early



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

Water point status across the Sahel as of November 12th. 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

September and further riverine flooding in October curbed production prospects in worst affected areas. Localized FAW attacks also occurred in several areas of the country. In Nigeria, 2020 cereal crop production is estimated at slightly above the previous five-year average due to above-average cumulative precipitation amounts since the beginning of the season and despite impacts from conflict, flooding in the northwest and northcentral regions. In Central African Republic, resurgence of violence by armed groups in the northwest and southeast is disrupting agricultural activities and is likely to result in a significant decrease in crop production despite favourable seasonal rainfall.

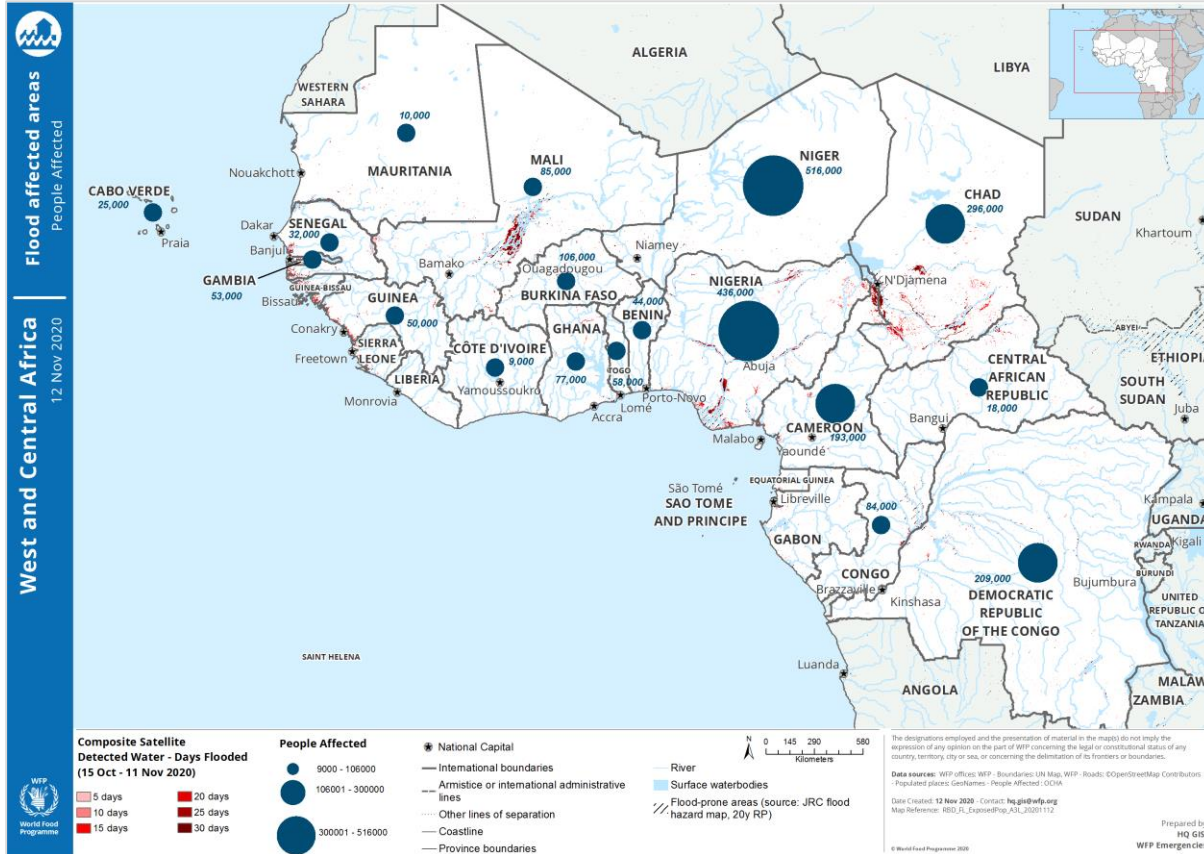
- As a result of good seasonal performance, water resources have been maintained at a good level throughout the West African region (**Map C**). In areas over northern Senegal, south-eastern Mauritania, the neighbouring region between Burkina Faso, Mali and Niger and, Eastern Chad) where observed concerns in late July, but there has been total recovery. Until mid November water resources stay at their highest level.

https://cropmonitor.org/documents/EWCM/reports/EarlyWarning_Crop_Monitor_202011.pdf

West Africa: Rainfall Season 2020

Seasonal performance

Flooding Situation



Cumulative Heavy rainfall during August and September has caused flooding in many areas across Western and Central Africa region and exacerbated situations in some places. Thus is reported many areas affected by flooding in the region throughout **Niger, Mali, Nigeria, Chad, Cameroon, Senegal, Burkina Faso, Guinea, Guinea Bissau, Mauritania, Cote d'Ivoire, Ghana, Gambia, Benin, Cabo Verde and CAR**. This resulted fatalities, material damage, destruction of livelihood, population displacements and deteriorated access.

As of 10 October, flooding has affected around 2.1 million people in West and Central Africa. The impact in 2020 is particularly severe, and the number of people affected already is almost double last year's, when floods affected 1.1 million people in 11 countries. [\(OCHA\)](#)

Overall in 2020 , 2.1 million people affected (of which 195,000 in DRC and 46,000 in Rep. of Congo), 86,000 people displaced, 412 people killed, 559 people injured and 189,000 houses destroyed/damaged (of which 6,000 in DRC). These Include 7,956 damaged shelters in Burkina Faso and Nigeria . [\(OCHA\)](#)

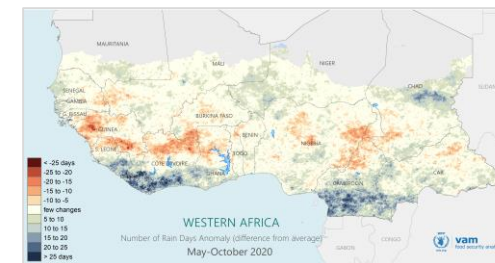
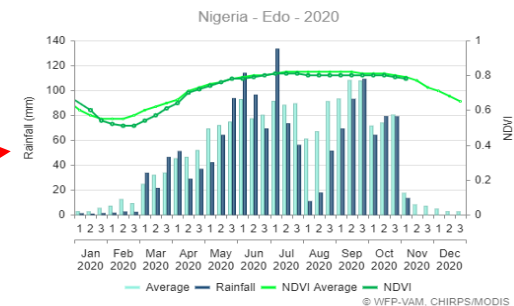
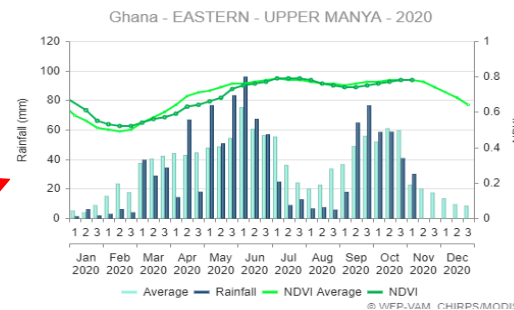
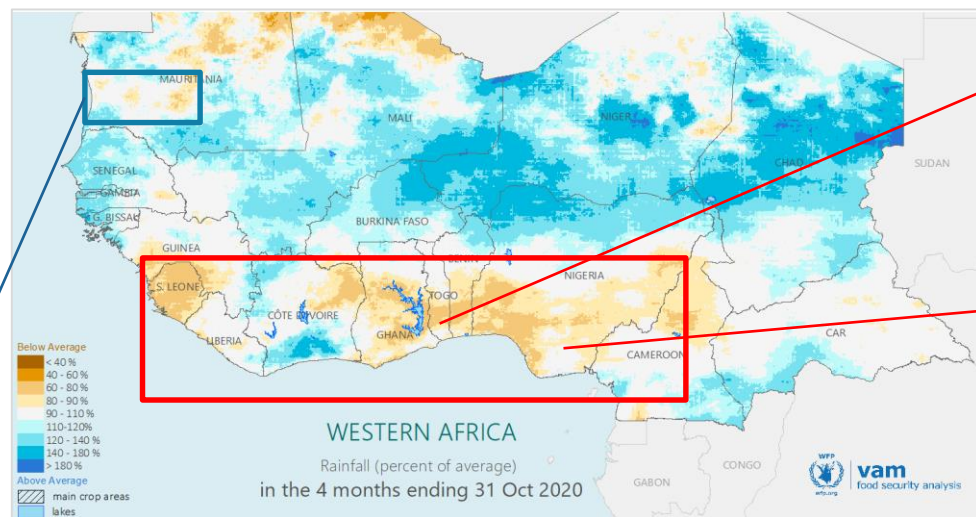
Flood Affected Areas and affected people as of 2 October 2020

While increased rainfall since late July has improved vegetation and crops conditions, heavy rainfall resulted in flooding.

West Africa: Rainfall Season 2020

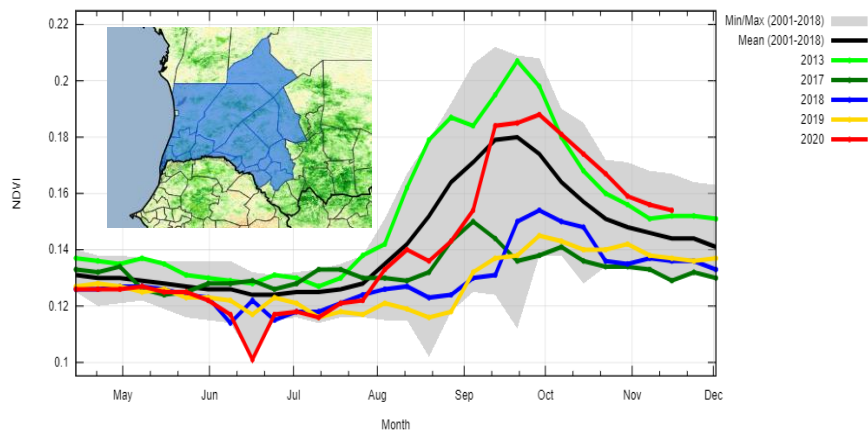
Focus Areas

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



Number of rainy days up to October 30 as a percent of the average. red for less than average, blue for more than average

Plot 1. Seasonal Time Series for Terra MODIS 8-day NDVI / Aoujeft, Adrar, Mauritania; Barkeol, Assaba, Mauritania; Aleg, Brakna, Mauritania; Bababe..



In far western areas (over South-western Mauritania) seasonal rainfall deficits persisted during these past consecutive years (2019, 2018, 2017...) In 2020 conditions are more favorable compared to 2019, 2018, 2017, 2013. Mid-August in Western Mauritania, deficits have been largely relieved and conditions remain favourable.

From June to early September, Mano river countries extended to the Gulf of Guinea have been affected by poor rainfall time distribution, leading to abnormal dryness.

The recent rainfall improvement have mostly improved slightly the rainfall conditions and deficits remain moderate. Conditions in Sierra Leone remain below average.

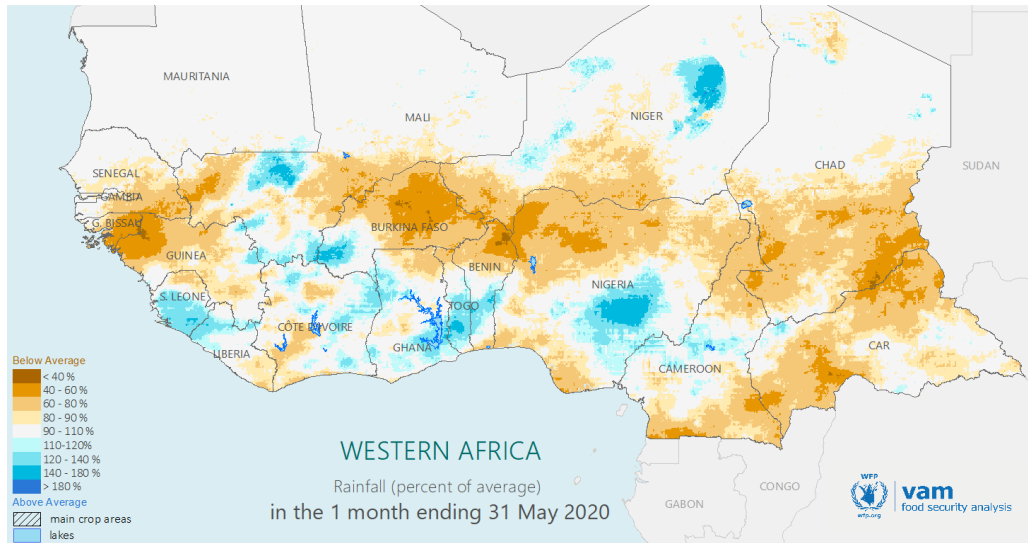
<https://glam1.gsfc.nasa.gov/>

https://dataviz.vam.wfp.org/seasonal_explorer/rainfall_vegetation/visualizations

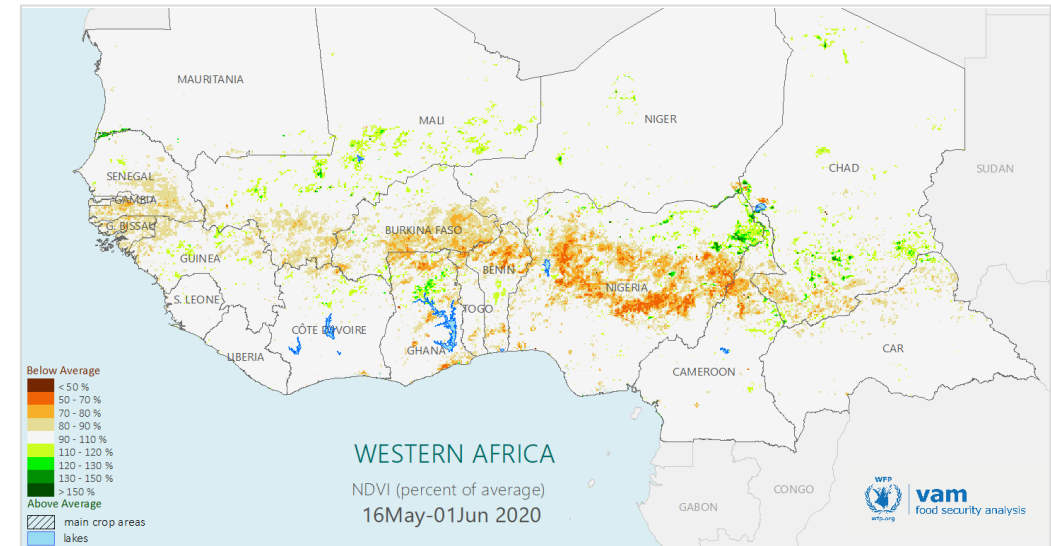
West Africa: Rainfall Season 2020

The Season: month by month

Early season - May



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



NDVI in mid May – early June as a percent of average. Greens for above average, browns for below average

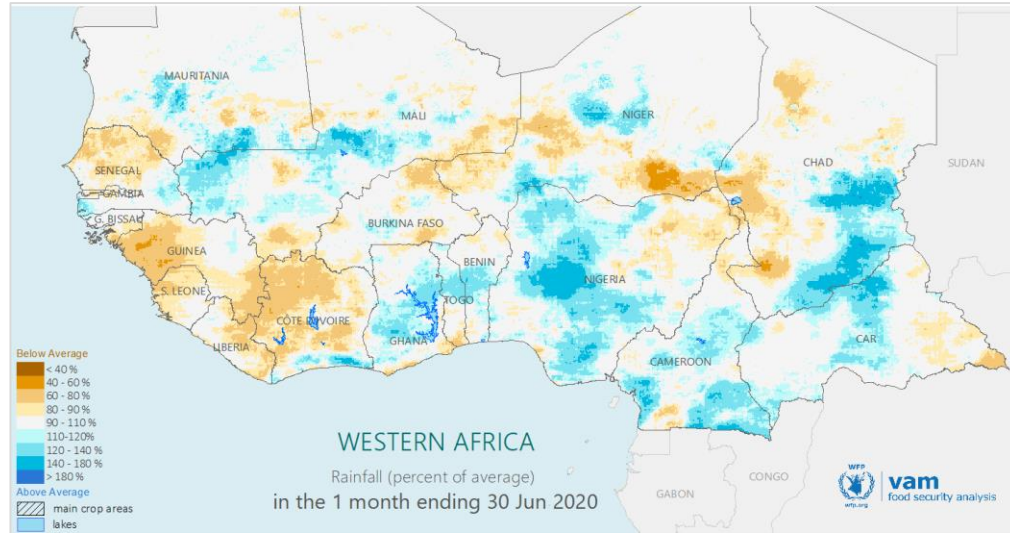
In May at the early stages of the growing season across the region was dominated by drier conditions. Rainfall deficits extend across a wide region from south eastern Senegal - Guinea across eastern Mali, Burkina Faso, Niger and northern Nigeria regions as well as CAR. This can be linked to the ITCZ anomalous positions south of the average are usually associated with broad drier than average conditions across West Africa.

Vegetation condition is affected by early season dryness. Poor vegetation cover can be seen across the broad area from SE Senegal across Burkina Faso, Nigeria, over Northern Ghana, Benin and Togo. This below average vegetation cover is most pronounced over Nigeria Central Belt. Over southern Chad favorable vegetation conditions are still observed, and already some earlier than usual starts of the season can be seen in NE Nigeria and Northern Cameroon.

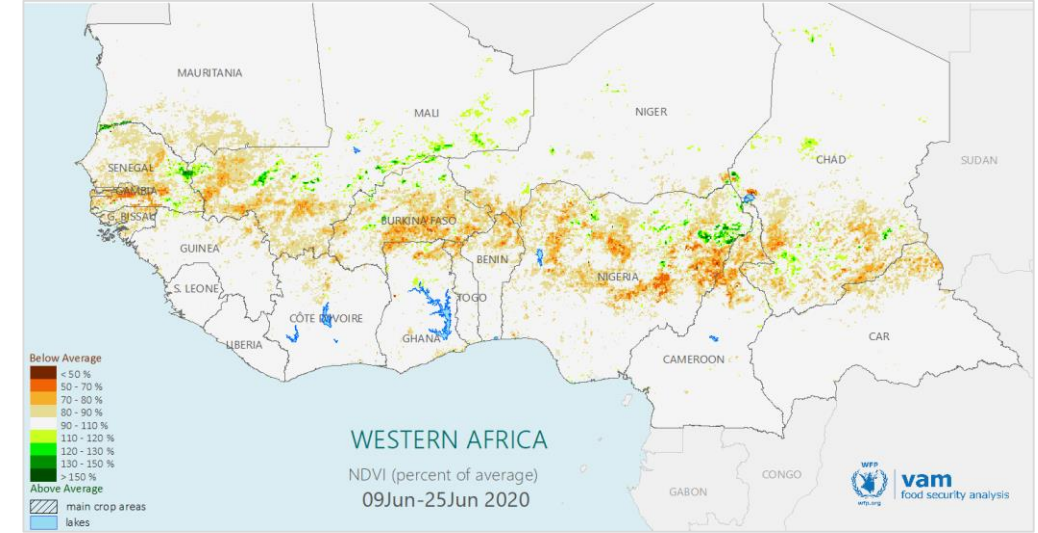
West Africa: Rainfall Season 2020

The Season: month by month

Early season - June



Rainfall in a One months up to June 30 as a percent of the average. Blues for wetter than average conditions, browns for drier than average conditions.



NDVI in June as a percent of average. Greens for above average, browns for below average

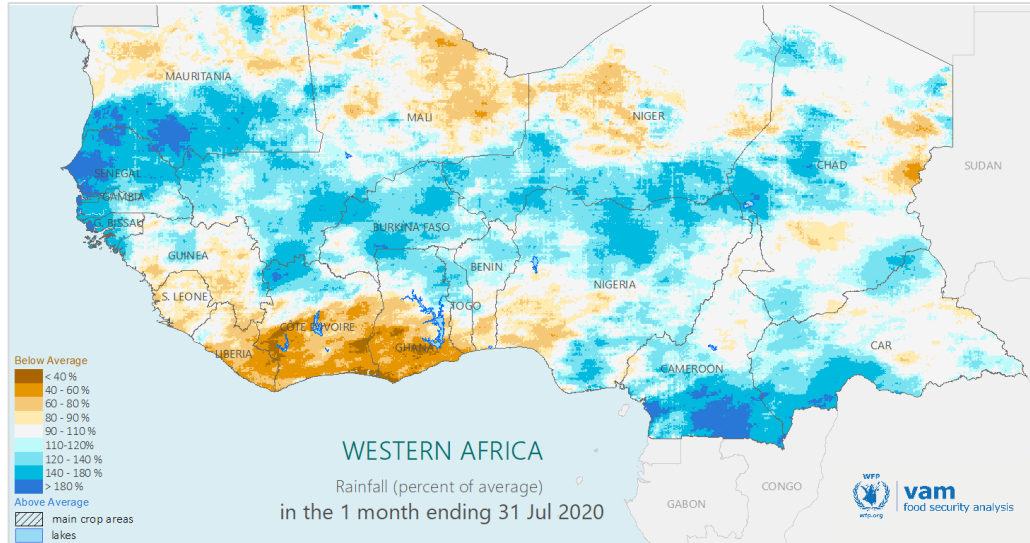
By end of June the early stages of the rainfall season are coming to an end, the West Africa Region is characterized by variable conditions rainfall deficits are noticeable in westernmost areas from Senegal to Cote d'Ivoire. Other deficitary areas extend from far eastern Burkina across into eastern Niger and the Lake Chad region. Wetter than average conditions extend from Ghana across Nigeria and Cameroon.

Accumulated early rainfall deficits across the region are having a negative impact on the timing of the growing season and lead below average vegetation across a broad area from Southern Mauritania-Senegal-Gambia-Guinea Bissau- across western Mali, Burkina Faso, Nigeria, and into southern Chad. This below average vegetation cover is most pronounced over Nigeria Central Belt and South-eastern Burkina Faso, Senegal, Gambia and Guinea Bissau.

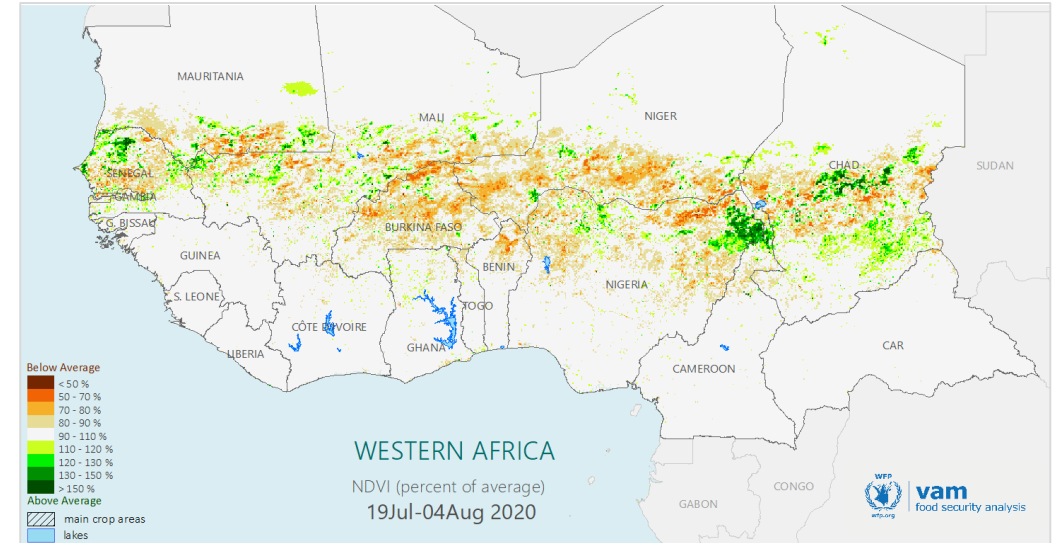
West Africa: Rainfall Season 2020

The Season: month by month

Mid Season - July



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



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

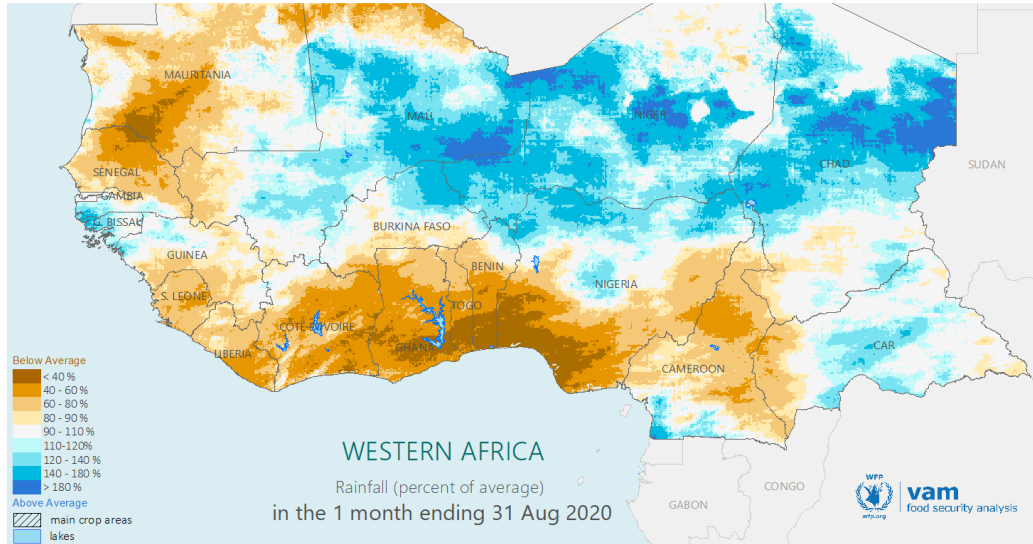
July provided respite and offset early season dryness. Due to much improved rainfall since late June, above average to average rainfall are now widespread in west Africa. Sahel region benefited more favorable conditions and westmost areas are the wettest.

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

West Africa: Rainfall Season 2020

The Season: month by month

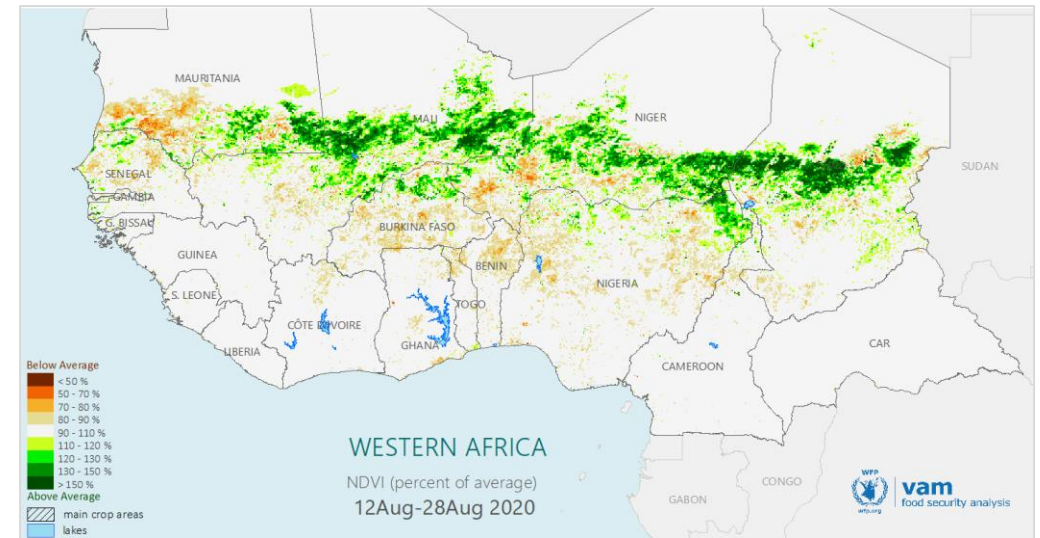
Peak Season - August



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

In August, seasonal rainfall has indicated above average rainfall spread over Sahel 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). Elsewhere, in Sahel across far western areas over Mauritania and northern Senegal remain dryness since mid-august and some pockets over central and eastern Senegal.

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.

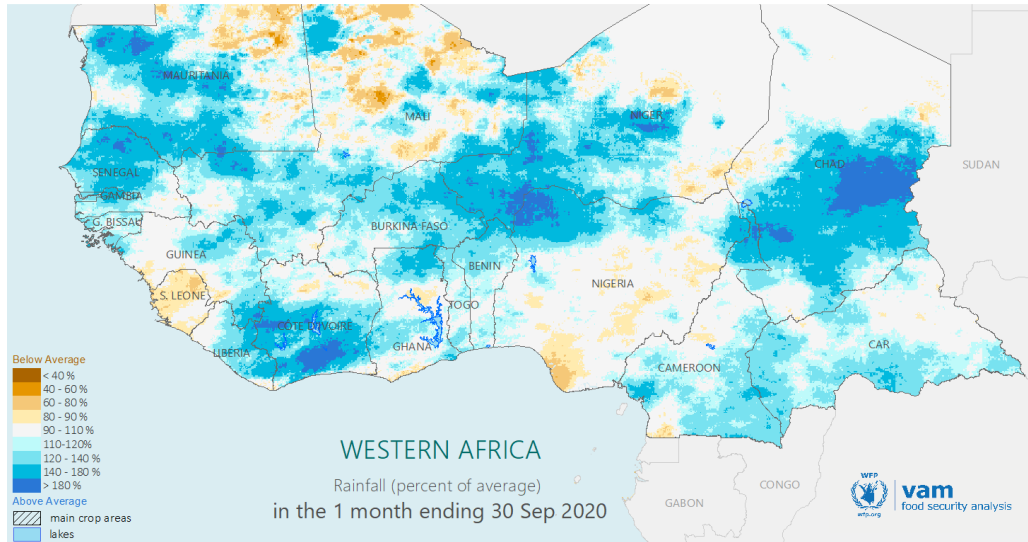


NDVI in mid August - late August as a percent of average. Greens for above average, browns for below average

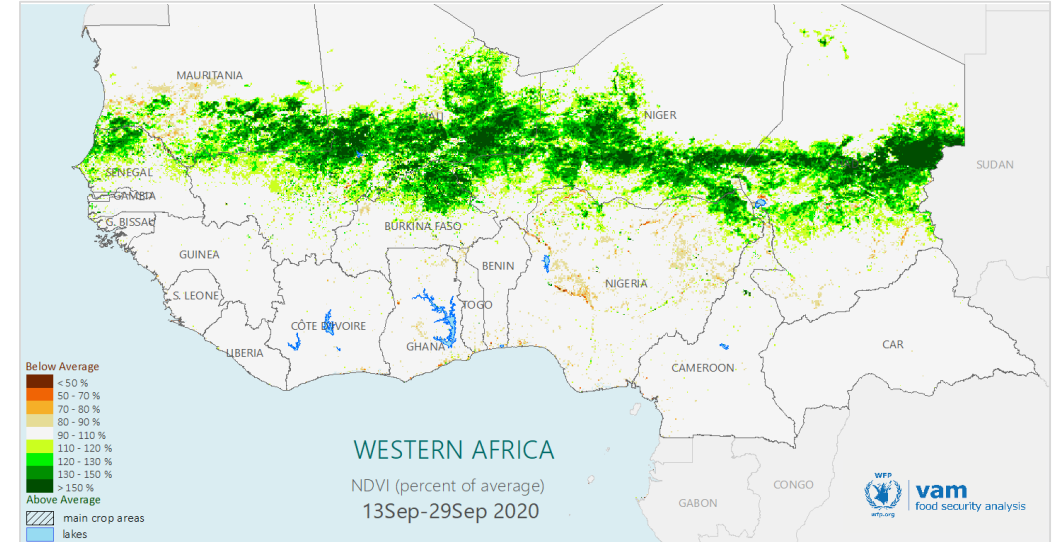
West Africa: Rainfall Season 2020

The Season: month by month

End of the Peak Season - September



Rainfall in a One months up to September 30 as a percent of the average. Blues for wetter than average conditions, browns for drier than average conditions.



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

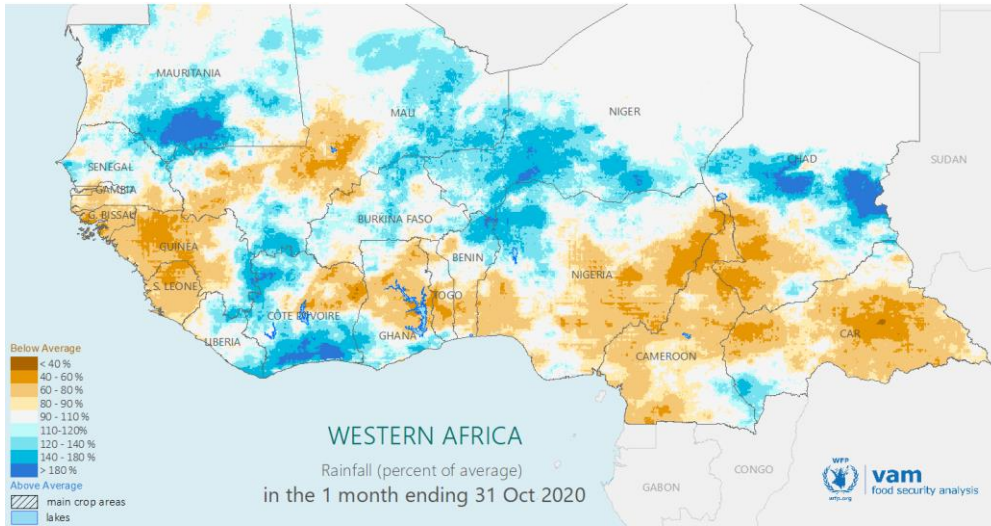
September (end of the core months of the season announcing at the same time the end of the rainy season in many areas across the Sahel), the rainy season across West Africa has been generally characterized by mostly adequate and well distributed rains, resulting widespread average to above average seasonal rainfall.

A pattern of strongly above average vegetation emerged during September: this is particularly noticeable in the whole Sahel. This development is due to a better than average overall rainfall season. It mostly results from increase and improvement in rainfall since late July, and wetter conditions in August and September led to a continuous, vigorous response from grasslands resulting in significantly above average vegetation levels.

West Africa: Rainfall Season 2020

The Season: month by month

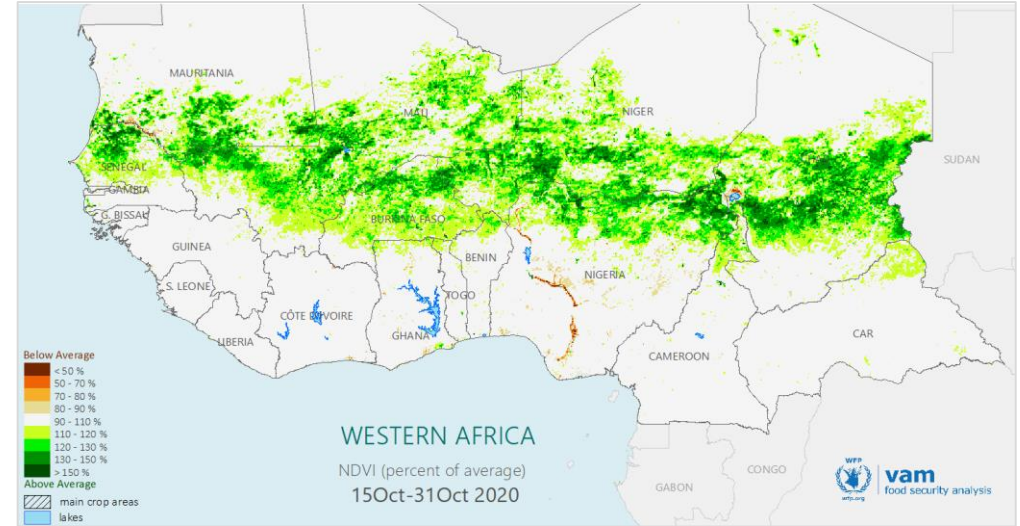
End of Season - October



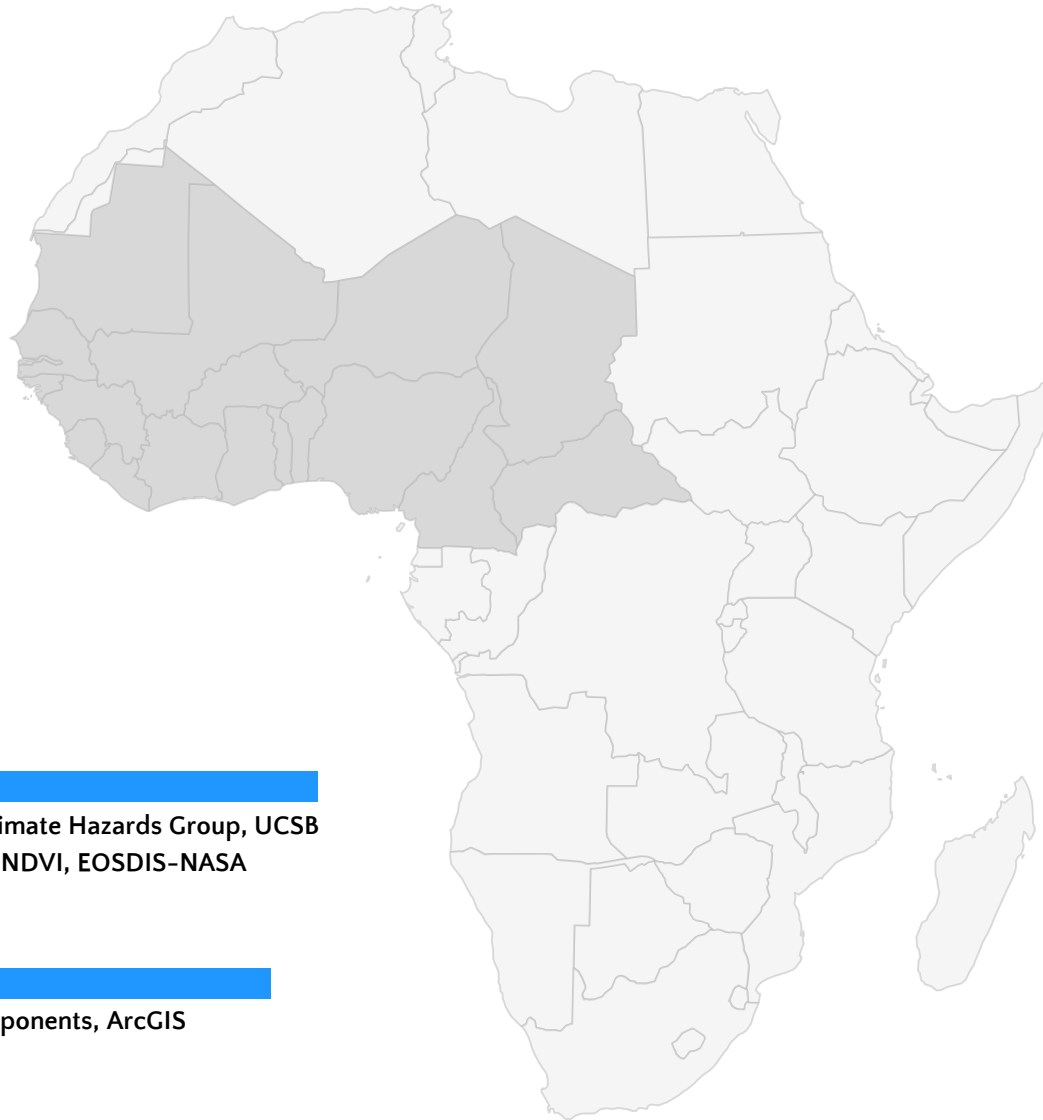
Rainfall in a One months up to October 31 as a percent of the average. Blues for wetter than average conditions, browns for drier than average conditions.

October was exceptionally very wetter than average for Sahel except Central Mali while below average rainfall is observed over southernmost areas (except Cote d'Ivoire). October usually contributes little to the seasonal rainfall – in western areas this has much helped the agro-pastoral activities and crops reaching the end of the season.

A pattern of strongly above-average vegetation emerged during September and October: this is particularly noticeable in the whole Sahel across Senegal, Mauritania, Mali, Burkina Faso, Niger, and Chad. An improvement in rainfall since late July, and wetter conditions in August, September and early October led to a continuous, vigorous response from grasslands causing above-average vegetation levels. Agricultural areas benefitted from very good seasonal conditions. Production prospects are expected to show an increase this year in the region considering biomass yield and crop production.



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



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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