

West Africa Seasonal Monitor

2021 Season



vam
food security analysis

World Food Programme, Regional Bureau Dakar

June Update, 2021

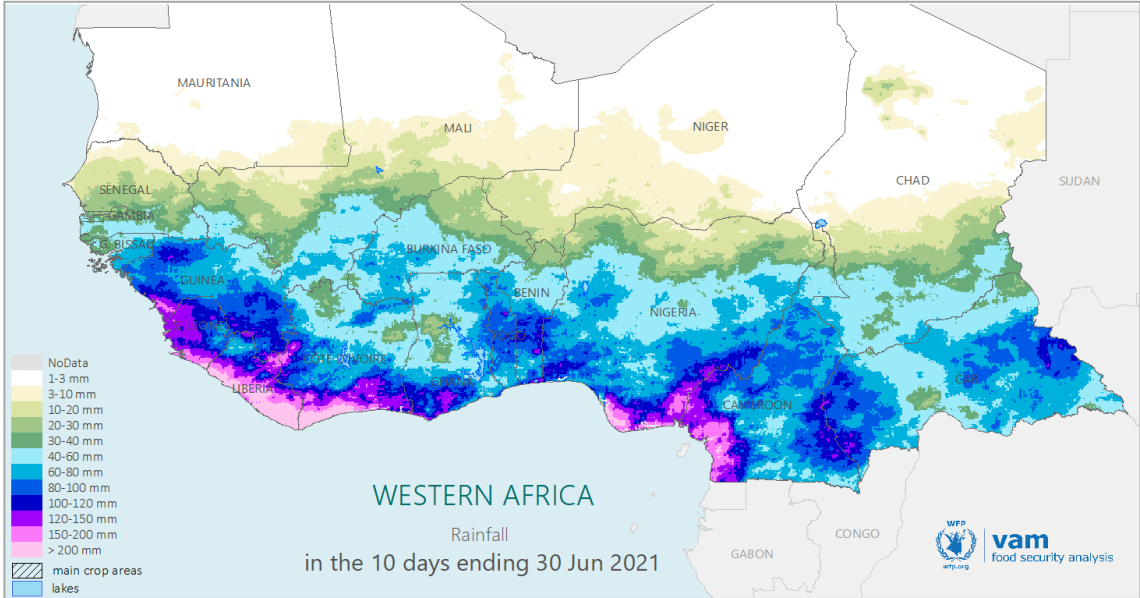
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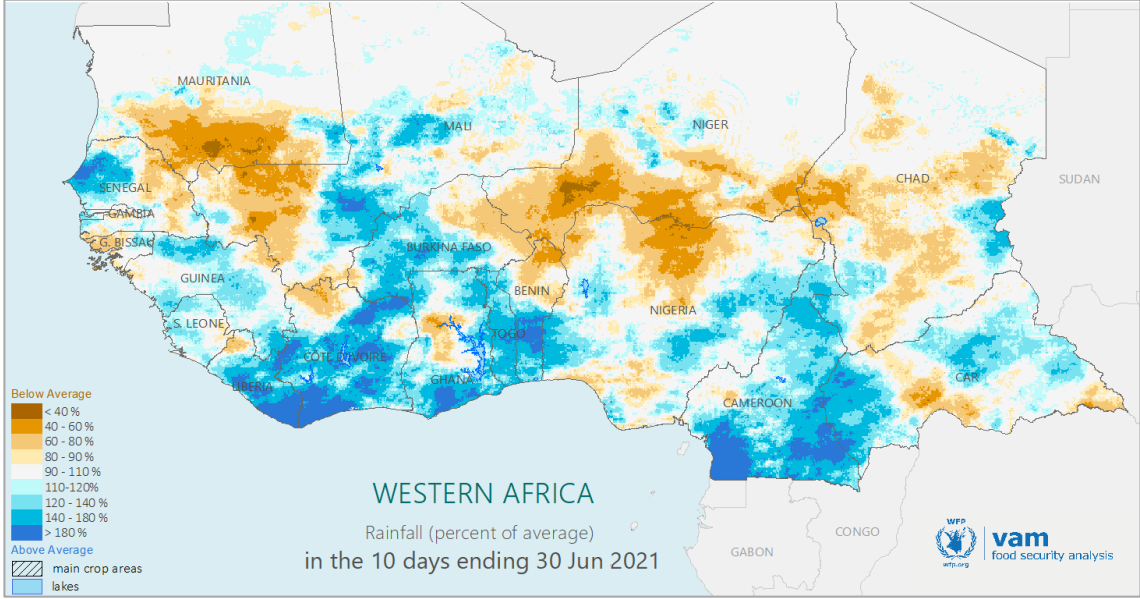
Highlights

- **By the end of June the early stages of the rainfall season** are coming to an end, the West Africa region is characterised by variable conditions and rainfall deficits are noticeable in Niger, north-central Nigeria, western Chad (in the Lac region), southern Mauritania, the border areas between Senegal and Mali, across the central belt of Mali, Guinea Bissau, western Guinea and south-western Ghana. June provided respite in some areas of the region and the above average rainfall in western Senegal, Côte d'Ivoire, eastern CAR and eastern Chad offset early season deficit. Burkina Faso, Liberia, southern Cameroun and western CAR benefitted from favourable conditions. Despite the below average rainfall recorded in Gambia, heavy windstorms from June to date have caused significant destructions to public infrastructure and individual properties. So far, from the National Disaster Management, flash flooding, windstorms, fire outbreaks affected over 3,000 people across the country, with 10 deaths reported.
- **In the past three (3) months (between 1 April and 30 June)**, overall this early stage of the season is characterised by variable conditions across the region. Over the eastern Sahel rainfall deficits mainly affected Niger, northern Nigeria western Chad and Northern Cameroon. Furthermore, in the westernmost areas of the region below average rainfall was recorded over southern Mauritania, eastern and southern Senegal, north-western Mali, Guinea Bissau and western Guinea as well as northern Cote d'Ivoire. In contrast seasonal rainfall is above average in western Senegal. Burkina Faso, Liberia, Sierra Leone, eastern Guinea, southern Cameroon, western CAR and pockets in eastern Chad and central Mali. Early rainfall deficits has had a significant impact on the vegetation conditions that are currently below average in the western parts of the region (south-eastern Senegal, south-western Mali), in southern Burkina Faso, northern Ghana, northern Benin, in central Nigeria, central Cameroon (north Region) and south-western Chad. It can be noted that the vegetation is slowly recovering in some areas linked to rainfall improvement, but in the areas where rainfall deficits persist – particularly in northern Nigeria. Central Cameroon (North Region) and south-western Chad – below average vegetation conditions are most pronounced
- **According to short-term forecasts** covering the period until 20 July 2021, an improvement of seasonal rains will likely be observed across most of the region with wetter than normal conditions across Guinea, Liberia, Côte d'Ivoire Ghana, Benin, Togo, south-western Mali, south-western Nigeria and the wider Lake Chad Basin, including in central Chad. However, in coastal areas of the region over Senegal, South-western Mauritania, Guinea-Bissau and far western Guinea, as well as in pockets over northern Mali, western Niger, North-western Cote d'Ivoire, and parts of Cameroon and CAR and south coastal Nigeria, rainfall is expected to be drier than normal.
- **According to the PRESASS 2021 seasonal forecast June Update**, average to above average seasonal rainfall (in June-August 2021) is expected over most of the Sahelian and Sudanian belt, except for the coastal areas of southern Mauritania, Senegal, The Gambia, Guinea Bissau, Guinea and Sierra Leone. These conditions are associated with an early to normal **onset of seasonal rains** in the western parts of the region (Mauritania, Senegal, Guinea Bissau, Guinea, western Mali and western Burkina Faso), and normal to late in the eastern sector (eastern Burkina Faso, Niger, northern Nigeria and Chad) and **long to medium dry spells** throughout most of the region. This could mean that the region might be affected by more irregular and extreme rainfall during the 2021 season, with an increased risk of prolonged dry spells affecting crop development, and intense rainfall leading to floods.

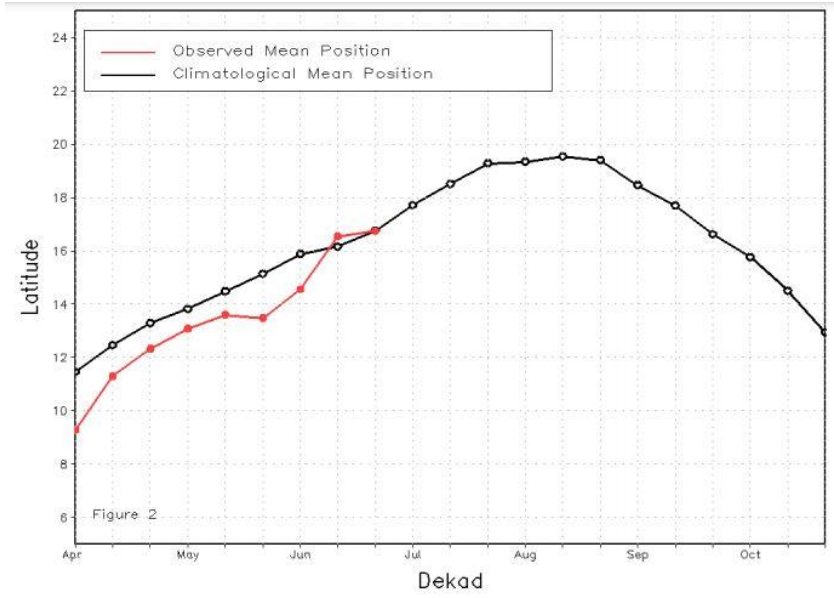
Rainfall: latest developments (20-30 June 2021)



Cumulative rainfall (20-30 June 2021): The map to the left shows the total rainfall received over the last dekad, based on CHIRPS satellite rainfall estimates.



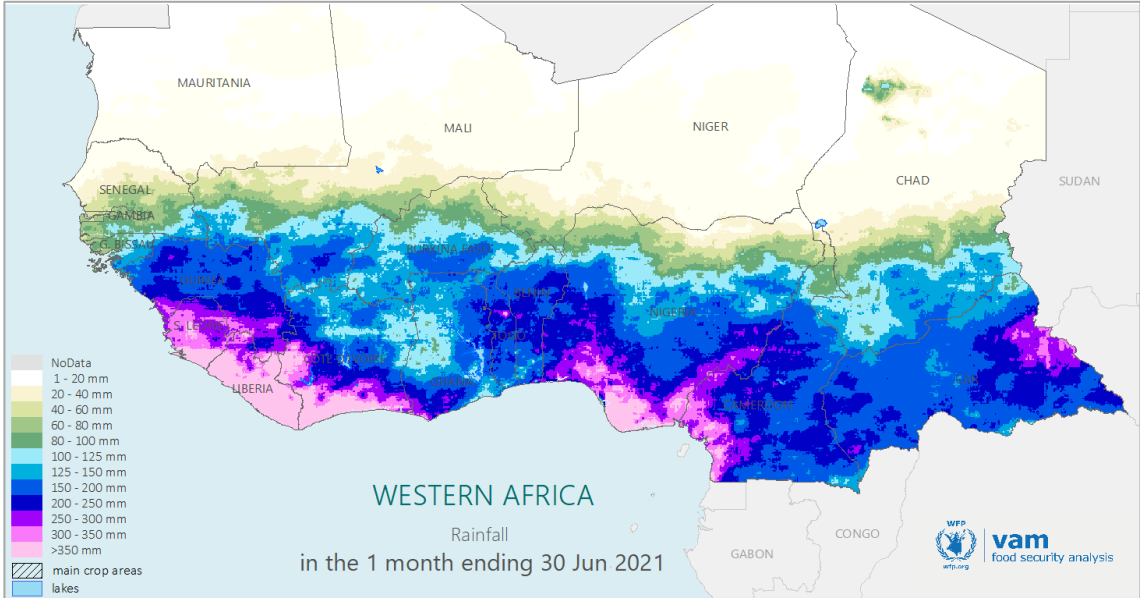
Rainfall anomaly (20-30 June 2021): The map to the left shows the rainfall anomaly over the last dekad in percentage of long-term average, based on CHIRPS satellite rainfall estimates.



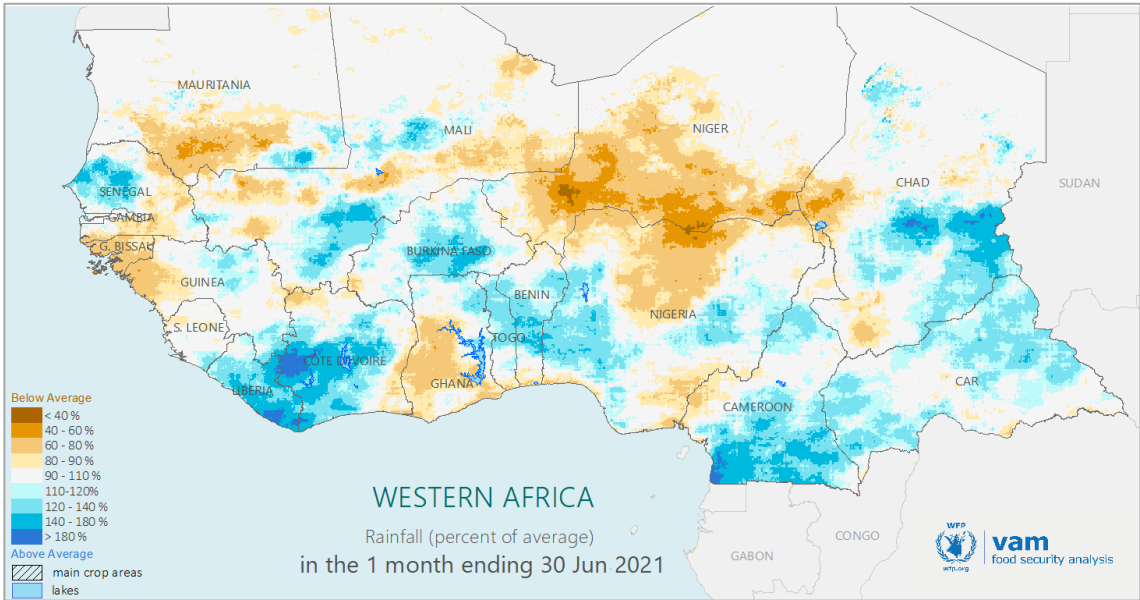
Current ITCZ position (red) vs long term average position (black) as of 30 June 2021: ITCZ: the Inter-Tropical Convergence Zone (ITCZ) is the border between dry areas and areas where the rainfall season is ongoing. It moves northwards as the monsoon advances, backtracking southwards as the monsoon wanes. Delays (advances) in this movement lead to drier (wetter) conditions on the ground.

- **Cumulative rainfall:** Late June seasonal rainfall moved further north in the West Africa region reaching most of the Sahel. Over the Sahelian belt, light to moderate seasonal rains were recorded along the south-north gradient. In contrast during this period the heaviest rains were recorded in southern areas of the region (Guinea Bissau, Guinea, Liberia, Sierra Leone, Ghana, Cote d'Ivoire, Togo, Benin, most of Nigeria, Cameroon, and CAR).
- **Rainfall anomaly:** Rainfall remained below normal levels over north-western Mali, southern Mauritania, eastern Senegal, most of Niger and northern Nigeria. Below normal rainfall was also recorded over eastern Burkina Faso, most of Chad, northern Cameroon and central CAR. On the other hand, average to above average rainfall was received in western Senegal, Guinea, Liberia, Côte d'Ivoire, southern Ghana, central Benin as well as most of Cameroon and eastern and western CAR.
- **ITCZ:** in the western parts of the region, the ITCZ moved further north and is now located around the 16.4N, in line with the long-term average. This explains the ongoing moderate seasonal rainfall in some areas over northern Senegal and southern Niger. Over the eastern part of the region the location of the ITCZ north of the average position explains continuing favourable seasonal rainfall in eastern Nigeria, Cameroon, and eastern CAR.

Rainfall: the last month (1-30 June 2021)



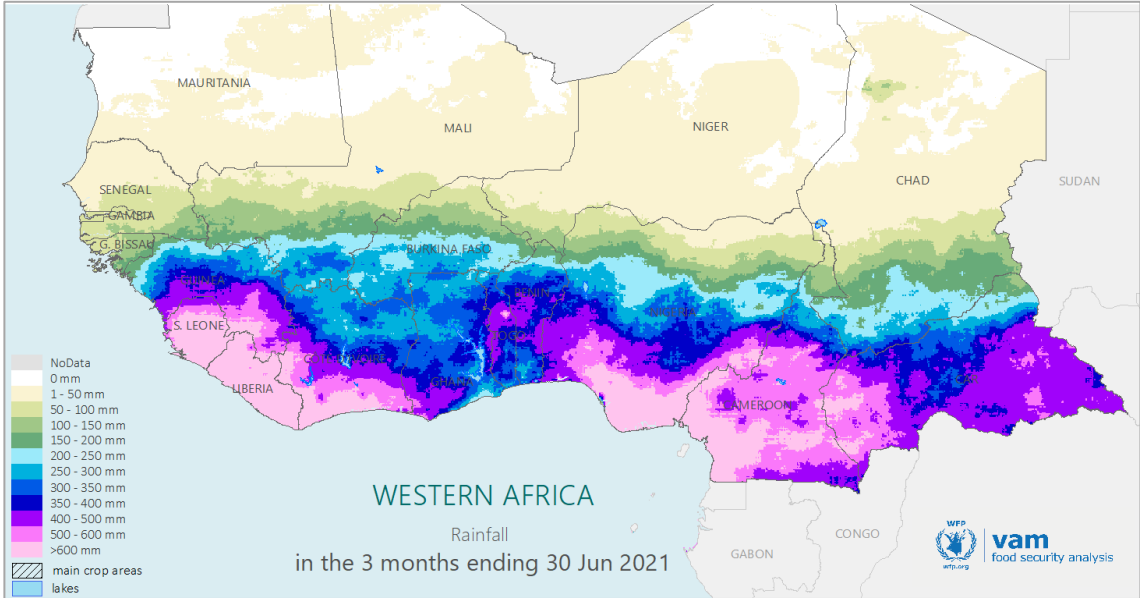
Cumulative rainfall (1-30 June 2021): The map to the left shows the total rainfall received over the last decade, based on CHIRPS satellite rainfall estimates.



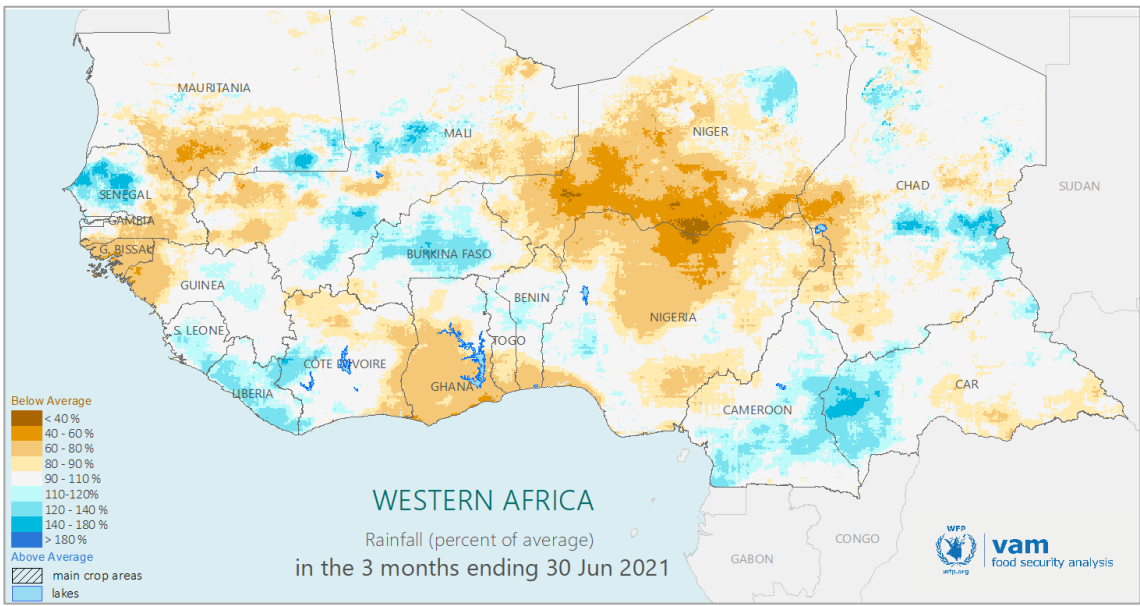
Rainfall anomaly (1-30 June 2021): The map to the left shows the rainfall anomaly over the last decade in percentage of long-term average, based on CHIRPS satellite rainfall estimates.

- **Cumulative rainfall:** During June, the heaviest seasonal rains were received in the southern parts of the region. The Sahel continued to receive little rainfall. Only the far southern Sahelian belt received moderate rains up to 100 mm. In the region the highest cumulative rainfall amounts (over 350 mm) were recorded in Sierra Leone, Liberia, south-eastern Guinea, southern Nigeria and eastern CAR. Important seasonal rainfall was also observed over Guinea, Cote d'Ivoire, southern and eastern Ghana, in Togo, Benin, central Nigeria, southern Cameroon and the whole of CAR, as well as in pockets of south-eastern Burkina Faso.
- **Rainfall anomaly:** By end of June the early stages of the rainfall season are coming to an end the West Africa Region is characterised by variable conditions. Rainfall deficits are noticeable in Niger, north-central Nigeria, western Chad (in the Lac region), southern Mauritania, the border areas between Senegal and Mali. Below average rains are also continuing across the central belt of Mali, Guinea Bissau, western Guinea and south-western Ghana.
- **Summary:** June provided respite in some areas over the region and the above average rainfall in Western Senegal, Cote d'Ivoire, eastern CAR and eastern Chad offset early season deficits. Burkina Faso, Liberia, Southern Cameroun and western CAR benefitted from favourable conditions. Despite the below average rainfall recorded in Gambia, heavy windstorms from June to date have caused significant destructions to public infrastructure and individual properties, resulting in the displacement of people, injuries and deaths. Information received from the National Disaster Management structures have indicated flash flooding, windstorms, fire outbreaks affect over 3,000 people across the country, with 10 deaths reported.

Rainfall: the season so far (1 April – 30 June 2021)



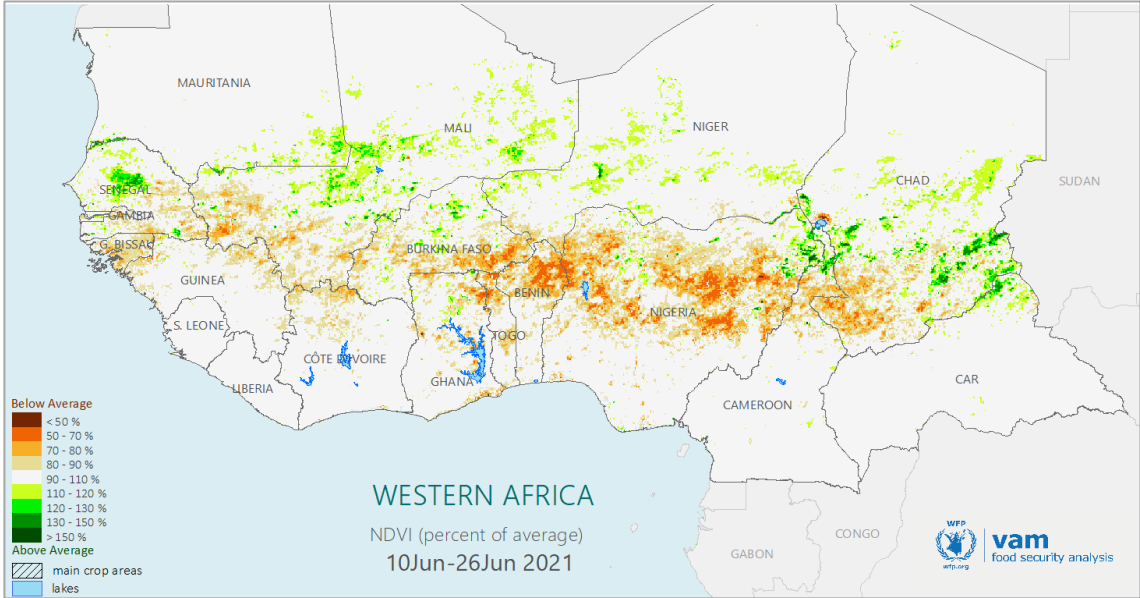
Cumulative rainfall (1 April – 30 June 2021): The map to the left shows the total rainfall received over the last two months, based on CHIRPS satellite rainfall estimates.



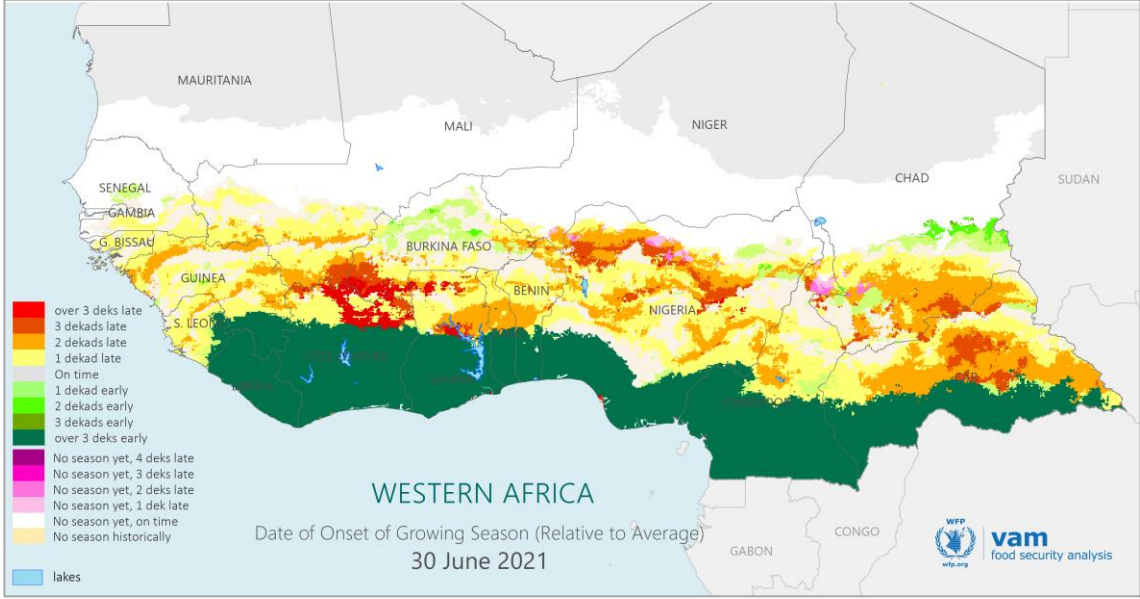
Rainfall anomaly (1 April – 30 June 2021): The map to the left shows the rainfall anomaly over the last two months in percentage of long-term average, based on CHIRPS satellite rainfall estimates.

- **Cumulative rainfall:** By end of June the early stages of the rainfall season are coming to an end, as the region enters the core period of the rainy season from July to September. So far, over the past three months heavy rains (above 600 mm) have been recorded over some coastal countries in the south-western parts of the region (Sierra Leone, Liberia), as well as over southern coastal Nigeria in Gulf of Guinea, south-central Cameroon and CAR. Meanwhile, moderate seasonal rainfall (up to 250 mm) was received over southern Mali, northern Côte d'Ivoire, southern Burkina Faso, Togo, Benin, central Nigeria, northern Cameroon and far southern Chad. Further north of the region where the rainy season has not yet started in many areas, very little rains were received across most of the Sahelian belt, from northern Senegal in the west, through central Mali, Niger, northern Nigeria and central Chad.
- **Rainfall anomaly:** Overall this early stage of the season is characterized by variable conditions across the region. Over the eastern Sahel rainfall deficits mainly affected Niger, northern Nigeria, western Chad and northern Cameroon. Furthermore, in the westernmost areas of the region below average rainfall was recorded over southern Mauritania, eastern and southern Senegal, north-western Mali, Guinea Bissau and western Guinea as well as northern Cote d'Ivoire, southern Ghana and in some pockets over eastern CAR. In contrast, seasonal rainfall is above average in western Senegal. Burkina Faso, Liberia, Sierra Leone, eastern Guinea, southern Cameroon, western CAR and pockets in eastern Chad and central Mali.
- **Summary:** So far these deficits are of no great significance given the *early stage of the season*. In the western parts of the region, as well as over Niger and northern Nigeria, are unlikely to result in a significant impact on agricultural activities, given that planting activities in these areas usually start in early July. However, the developments over the coming weeks will need to be monitored closely, as they coincide with the start of the sowing window in most of the Sahel. The current situation points towards a higher risk of a delayed start of the rainy season in the northern parts of the region. It is also important to note the abnormal dryness recorded in Ghana, southern Togo, southern Benin and south-western Nigeria over the last 3 months.

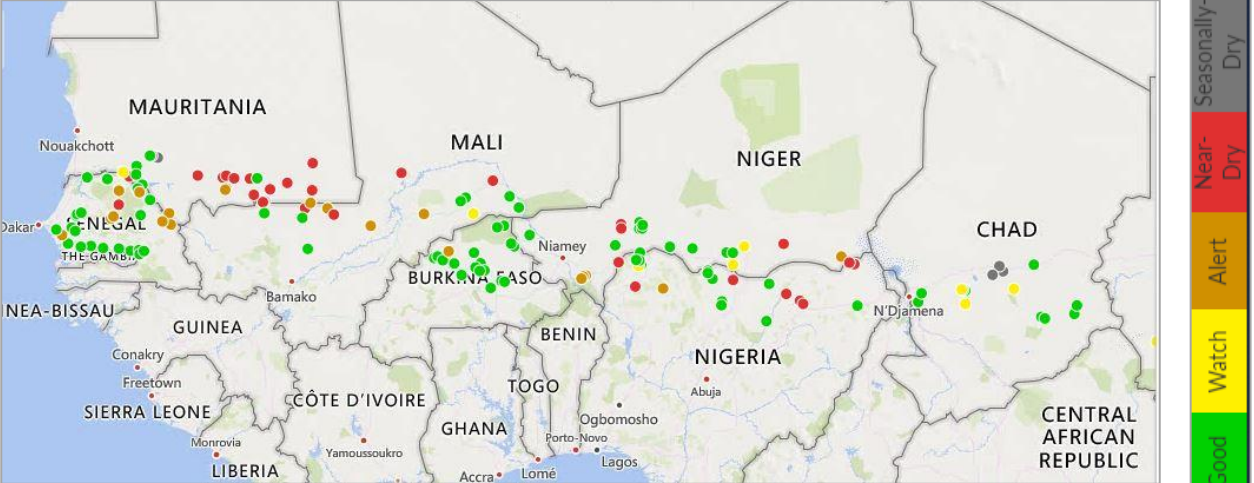
Vegetation: current conditions (as of 30 June 2021)



NDVI (June 10 - June 26, 2021): the map on the left shows the vegetation anomaly as a percentage of the average, based on the MODIS NDVI



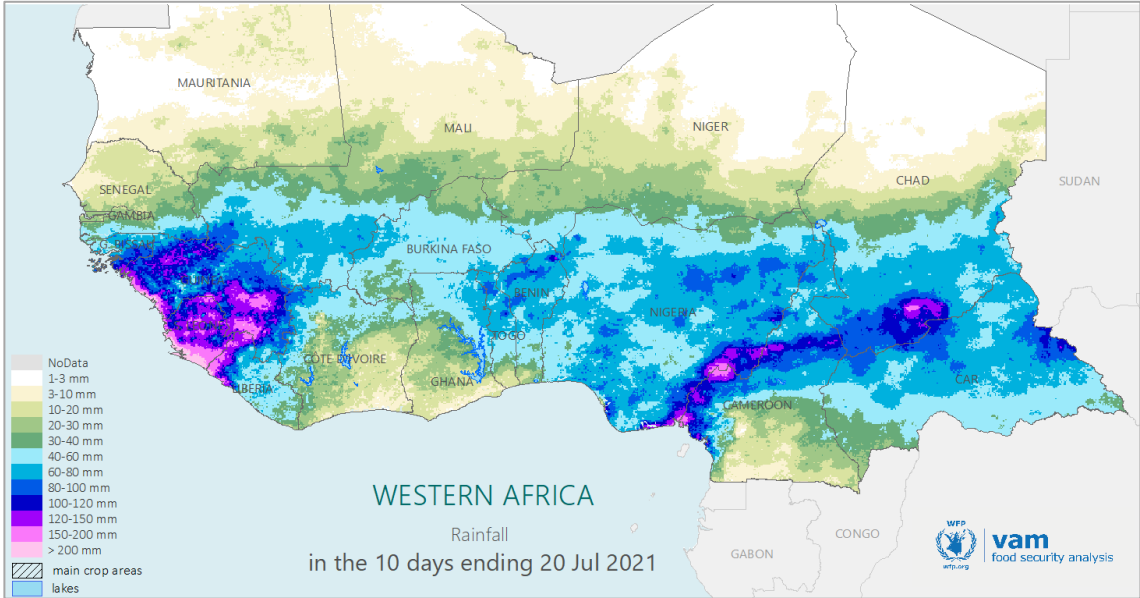
2021 Onset of growing season anomaly (as of June 30th, 2021): The map on the left shows the start of the growing season anomaly, using the vegetation phenological cycle to show the possible start of sowing activities.



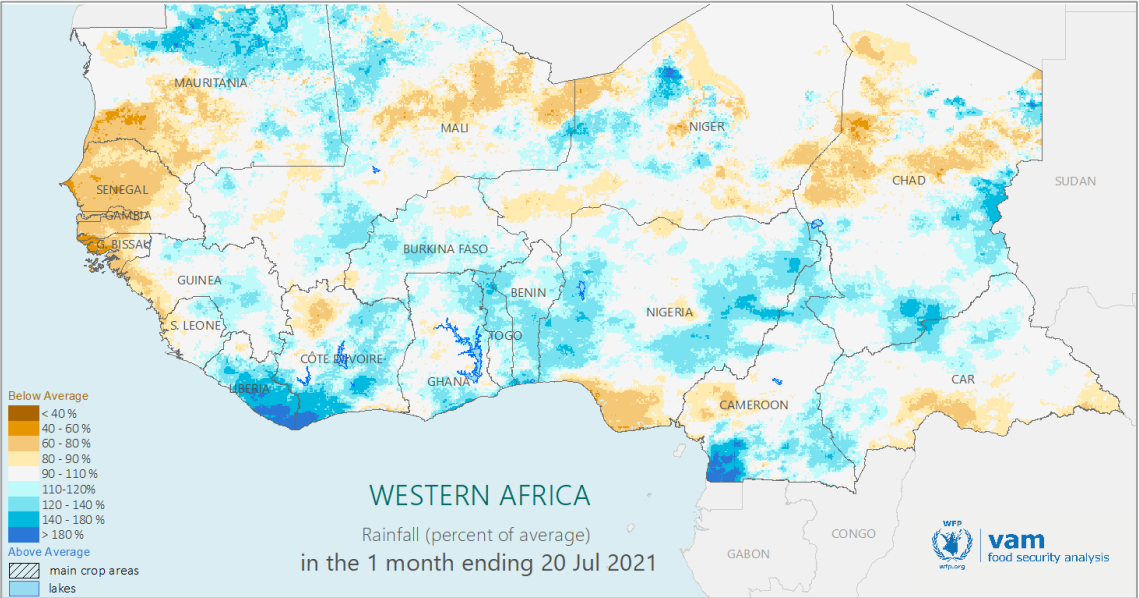
Water point status (as of 30 June 2021): Good: Higher than long term level (LTL), Watch: Between 50 to 100% of LTL, Alert: Between 3% and 50% of LTL, Near-Dry: Below 3% of LTL (<https://earlywarning.usgs.gov/fews/waterpoint/index.php>)

- Start of season:** The growing season onset map suggests that the 2021 growing season started early in the southern, coastal parts of West Africa. In the central parts of the region (from Guinea and Sierra Leone through northern Côte d'Ivoire, southern Mali, central Nigeria, southern Chad and northern CAR), the season started slightly later than normal (10-30 days), while an earlier than normal start of the season was recorded in Burkina Faso, central Senegal and eastern Chad . The conditions for the potential start of planting activities have not yet been met in the Sahelian band, whose conditions are neutral
- Vegetation:** Early rainfall deficits have had an significant impact on the vegetation conditions that are currently below average in the western parts of the region (south-eastern Senegal, south-western Mali), in southern Burkina Faso, northern Ghana, northern Benin, in central Nigeria, central Cameroon (north Region) and south-eastern CAR. It can be noted that the vegetation is slowly recovering in some areas linked to rainfall improvement, but in the areas where rainfall deficits persist – particularly in northern Nigeria. Central Cameroon (North Region) and south-western Chad – below average vegetation conditions are most pronounced. Above average vegetation can be seen in the northern part of the Sahel (northern Mali, northern Burkina Faso, Niger, as well as north-eastern Nigeria and most of Chad. This can be linked to the above average 2020 rainy season.
- Water resources:** The availability of water resources in the region is generally favourable. However, in the eastern part of the Sahel (eastern Mali, southern Niger, northern Nigeria and Chad) as well as southern Mauritania the situation is deteriorating, with some water points in near-dry conditions.

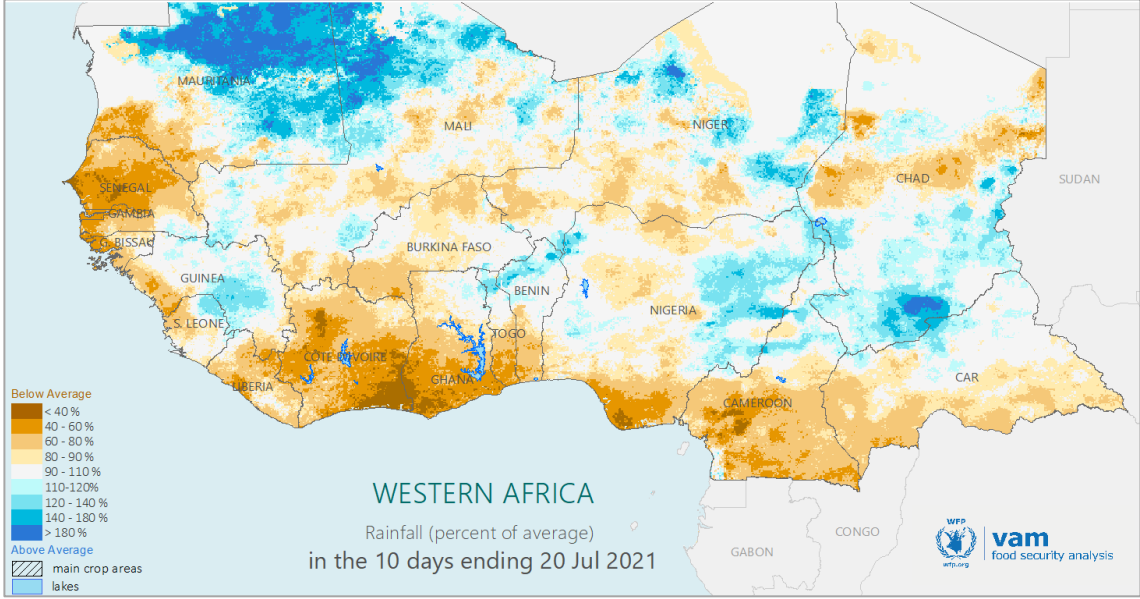
Rainfall: short-term forecasts (10-20 July 2021)



Rainfall forecast (11 - 20 June 2021): The map to the left shows the short-range CHIRPS-GEFS forecasts for the period 21-30 June 2021, expressed in cumulative rainfall total.



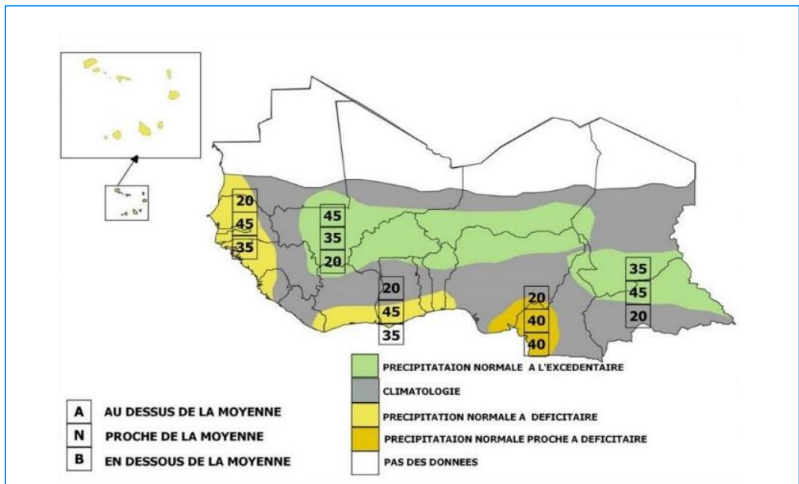
Rainfall forecast (11 June -20 July 2021): The map to the left shows the short-range CHIRPS-GEFS forecasts for the period 1-30 June 2021, expressed in percentage of long-term average.



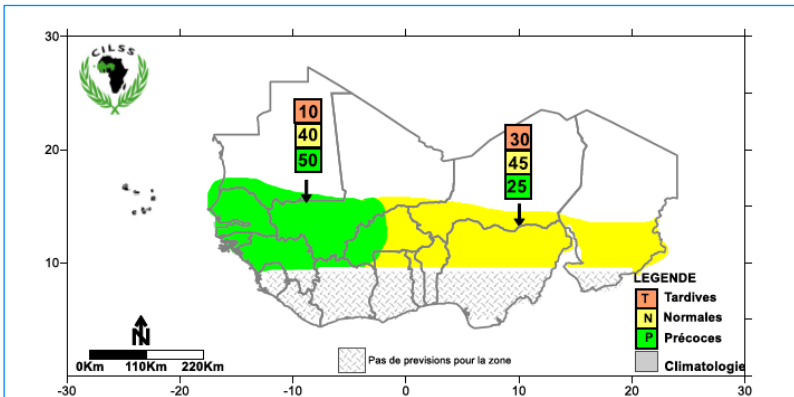
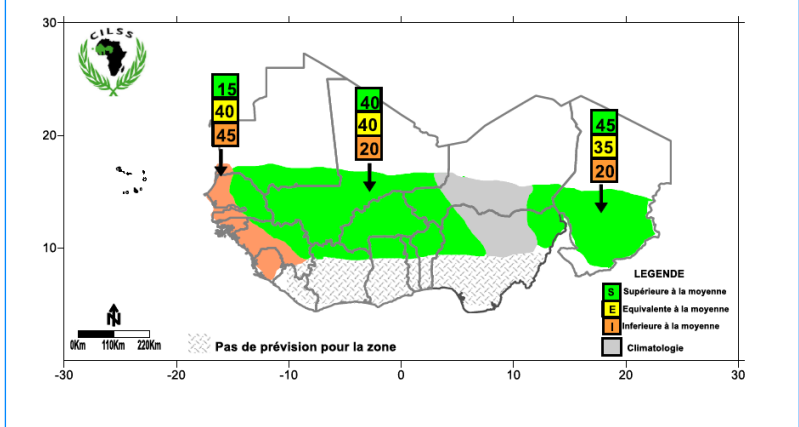
Rainfall forecast (11 - 20 June 2021): The map to the left shows the short-range CHIRPS-GEFS forecasts for the period 21-30 June 2021, expressed in percentage of long-term average.

- **Cumulative rainfall forecast:** Over the forecast period (10-20 July 2021) heavy rains (over 150 mm and up to 200 mm) are expected over coastal areas in the south-western parts of the region (Sierra Leone, Liberia, Guinea and Guinea Bissau) and pockets of south-eastern Nigeria, central Cameroon, and far southern Chad. Moderate rains of up to 80 mm are likely to be received in south-western Mali, Burkina Faso, northern Côte d'Ivoire, Ghana, Togo, Benin, Nigeria, Cameroon, southern Chad and CAR. The rest of the region is expected to receive light to moderate rains, including most of the Sahel.
- **Rainfall anomaly forecast (10-20 July):** Considering the rainfall anomaly most of the region will be drier than average. Only southern of Chad, eastern Nigeria, Central Guinea eastern Niger, and western Mali will likely be above average as well as the northern parts of Cameroon.
- **The one-month forecast ending on 20 July** suggests that drier than normal conditions will be recorded in coastal areas of the region over Senegal, south-western Mauritania, Guinea-Bissau and western Guinea, as well as in pockets of northern Mali, western Niger, north-western Côte d'Ivoire, and parts of Cameroon, CAR and southern Nigeria (see map above). Wetter than normal conditions are expected in most of the region across Guinea, Liberia, Côte d'Ivoire, Ghana, Benin, Togo, south-western Mali, south-western Nigeria and the wider Lake Chad Basin, including in central Chad.

Rainfall: long-term forecasts June Update (July-September 2021)

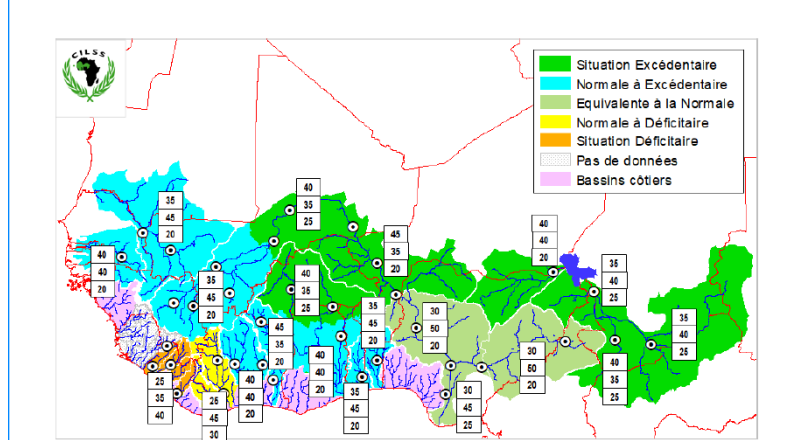
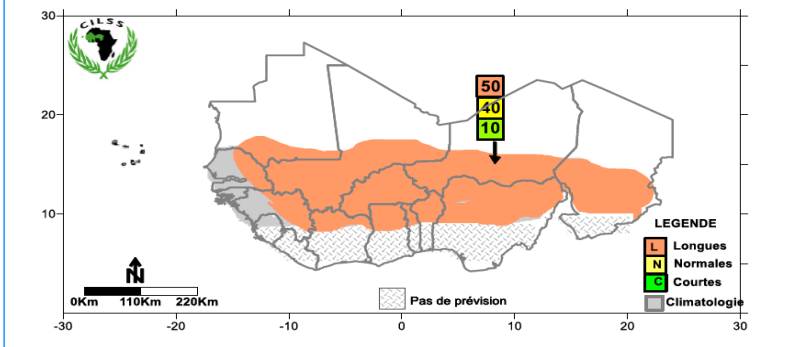


According to the June 2021 update PRESASS seasonal forecast, average to above average seasonal rainfall (in June-August 2021) is expected over most of the Sahelian and Sudanian belt, except for the coastal areas of southern Mauritania, Senegal, The Gambia, Guinea Bissau, Guinea and Sierra Leone. In the central and eastern Sahel, central Niger and north-central Nigeria are expected to receive normal rains, while there is an increased likelihood of above normal rains in most of Chad (see map below).



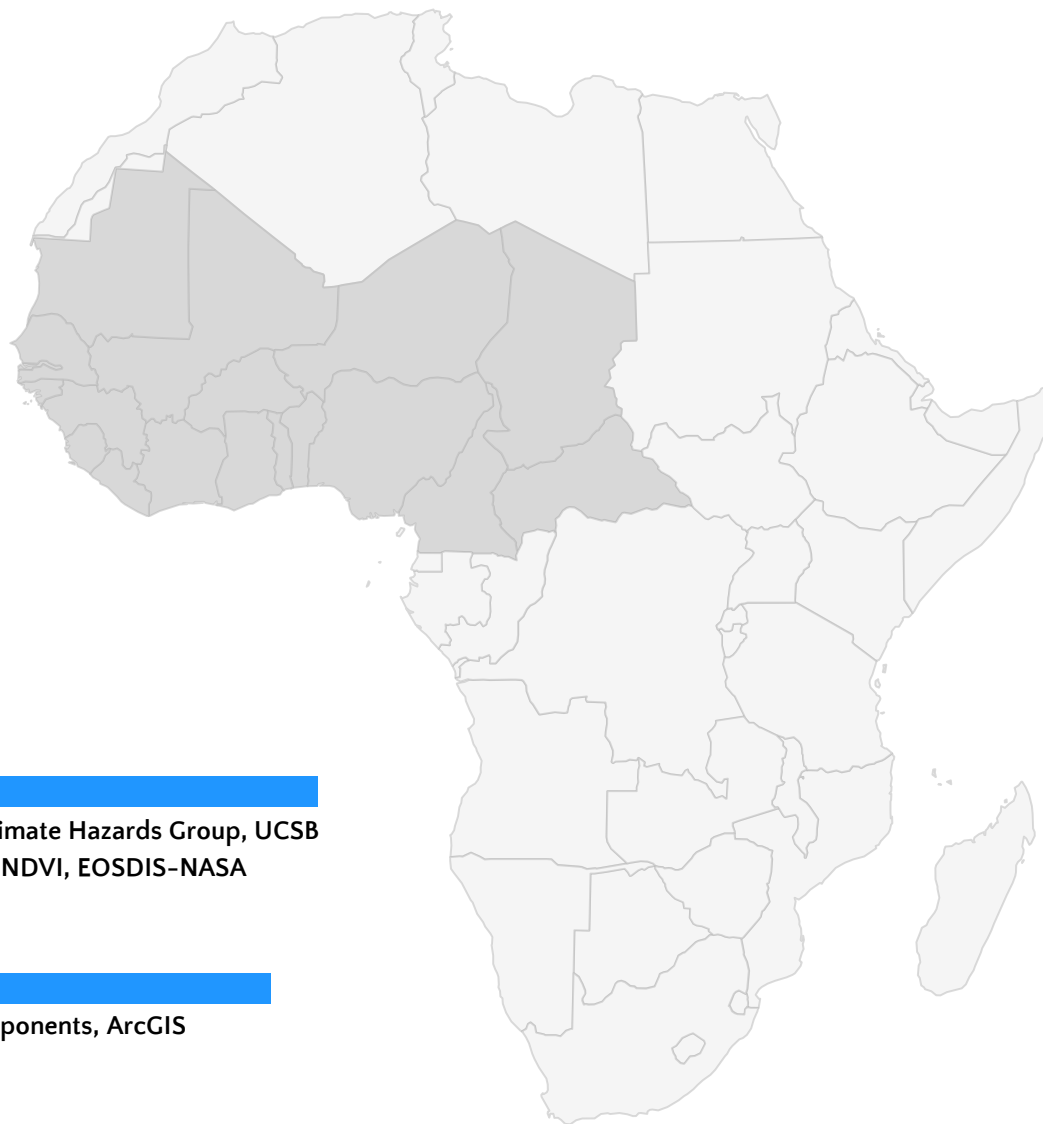
An early to normal **onset of seasonal rains** is expected (see map above) in the western parts of the region (Mauritania, Senegal, Guinea Bissau, Guinea, western Mali and western Burkina Faso), and normal to late in the eastern sector (eastern Burkina Faso, Niger, northern Nigeria and Chad).

At the beginning of the season **long to medium dry spells** are expected throughout most of the region, except for the coastal areas of Senegal, The Gambia, Guinea Bissau and Guinea., There is no clear spatial pattern in terms of dry spells at the end of the season, except for the border areas between Mali, Burkina Faso, Niger and Nigeria, where short to normal dry spells are projected, as well as north-eastern Ghana, northern Togo, northern Benin and over a fringe of the far western Nigeria, where dry spells could be long to normal.



In terms of the **hydrological situation**, normal to above normal river levels are expected for most river basins in the region, with the exception of the south-western parts of the region (Mano river basin). Particularly the middle Niger river basin, the Komadougou-Yobé, Chari, Logone and the upper Volta river basins are likely to experience above normal river levels during the 2021 rainy season. Normal to above normal conditions are also expected in the western and central parts of the region, including the Senegal, Gambia, Bandama, Comoé, Ouémé, Mono, upper Niger and lower Volta river basins. Given the above normal expected rainfall in 2021, the risk of flooding in the region is heightened.

***For internal users:** The newly released Automated Disaster Analysis and Mapping of Floods (ADAM Floods) system provides flood forecast, monitoring and impact analysis services. Internal WFP users can subscribe to ADAM Floods through [the following link](#). In case of a specific risk event, WFP COs can also access flood-related information through the new [Flood Hotline](#).*



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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