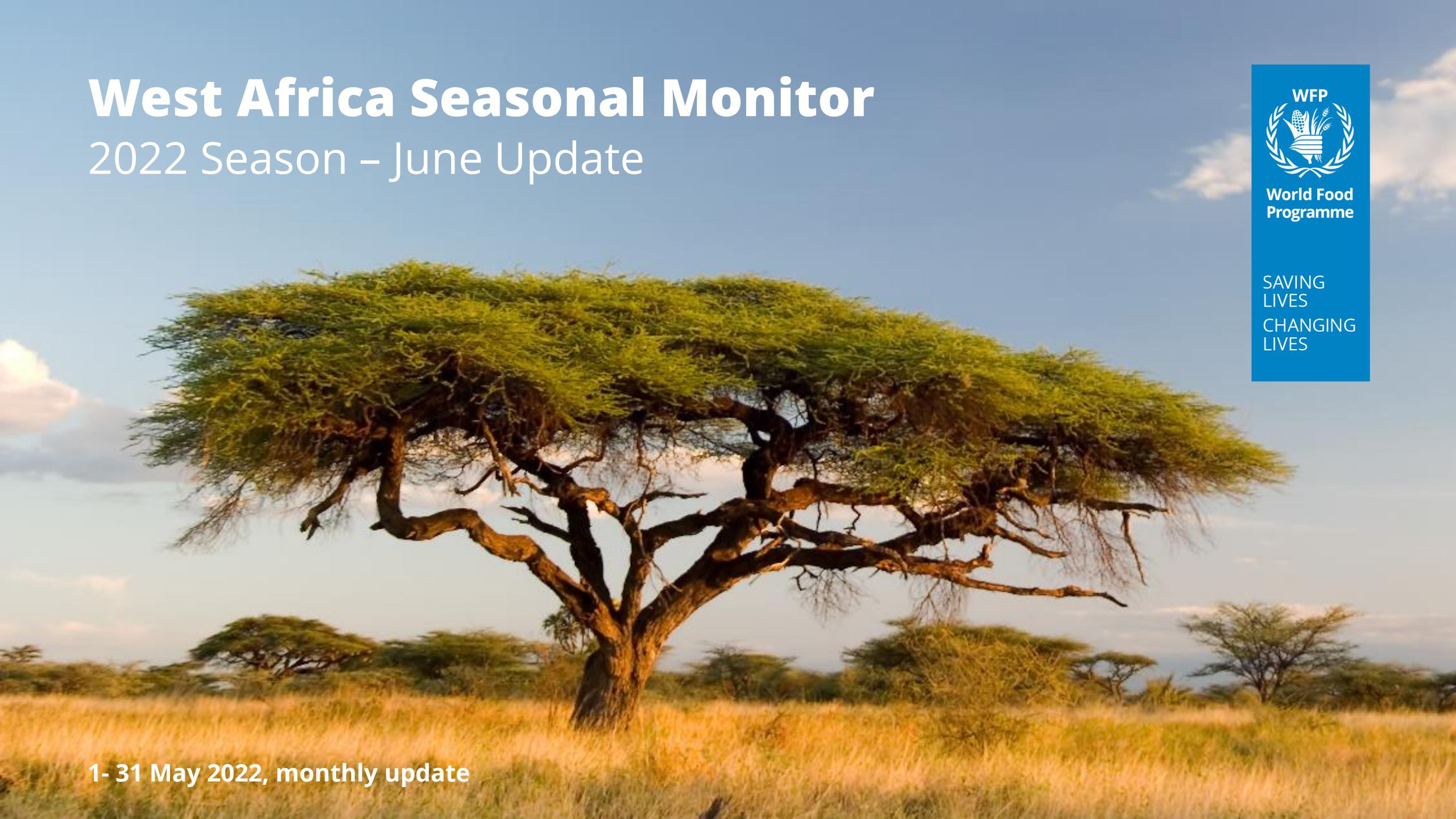
West Africa Seasonal Monitor

2022 Season – June Update



World Food Programme

SAVING LIVES

CHANGING LIVES

1- 31 May 2022, monthly update

Highlights

- **May marks the beginning of the season** in most countries in West Africa. Over the course of the month, the seasonal rains progressed northwards from Central Africa and coastal areas of West Africa towards the Sahel region. Most of the region was characterised by below average and erratic rainfall during this period. Particularly the western parts (Senegal, Guinea-Bissau, western Mali and northern Guinea) and most of the eastern parts of the region (northern Nigeria, southern Chad and Cameroon) experienced below average rainfall. These drier than normal conditions are confirmed by the Standard Precipitation Index (SPI). Some coastal areas (Liberia, Sierra Leone, southern Côte d'Ivoire, southern Ghana and Togo), as well as some central parts of the region (central Burkina Faso) experienced average to above average rains in May.

- **Vegetation conditions** are below average across most of the southern parts of the Sahel, from southern Senegal across Burkina Faso, northern Ghana and northern Nigeria (particularly over the country's Central Belt). These below normal vegetation conditions can be linked to a later than normal start of the 2022 rainy season, as well as the remnants of a difficult season in 2021, which ended early in some areas. **Water resources** are at very low levels across most of the Sahel.

- **The short-term forecasts** indicate that by mid-June (20 June 2022), rainfall improvement will likely be observed across West Africa Region, in particular over the Sahel with widespread wetter conditions. This may alleviate the impacts of the early season dryness and lead to more favourable conditions for the start of the growing season.

- **According to the 2022 PRESASS seasonal forecast**, average to above average seasonal rainfall is expected in most of the Sahelian Belt (from Senegal through to Chad), including Cabo Verde. Average to below average rainfall is expected in south-eastern Nigeria and south-western Cameroon. The seasonal forecast also suggests that the start of the season will be early to normal, with shorter than normal dry spells during the first half of the rainy season across the Sahelo-Sudanian zone.

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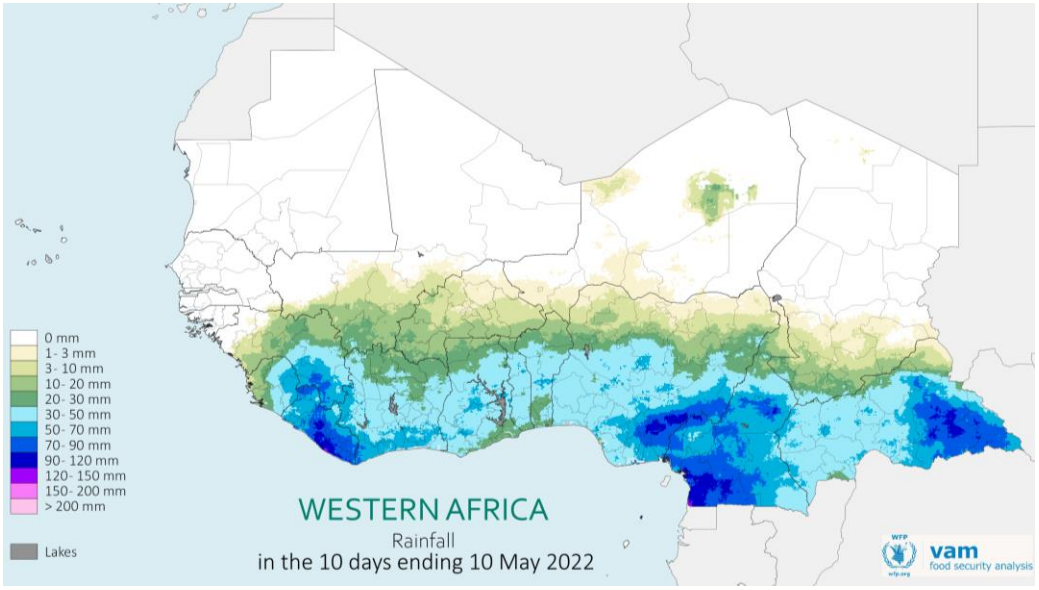
Contents

Note: *this document is the monthly update of the Seasonal Monitor for West Africa. The Seasonal Monitor will be updated in full every month during the 2022 rainy season (May-October)..*

SECTION 1:

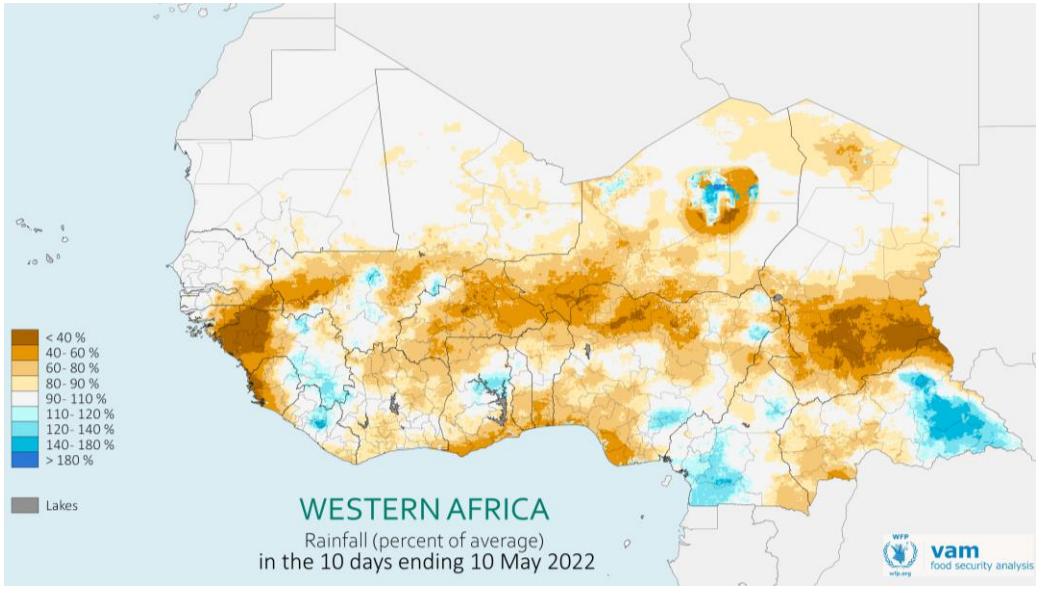
DEKADAL TRENDS

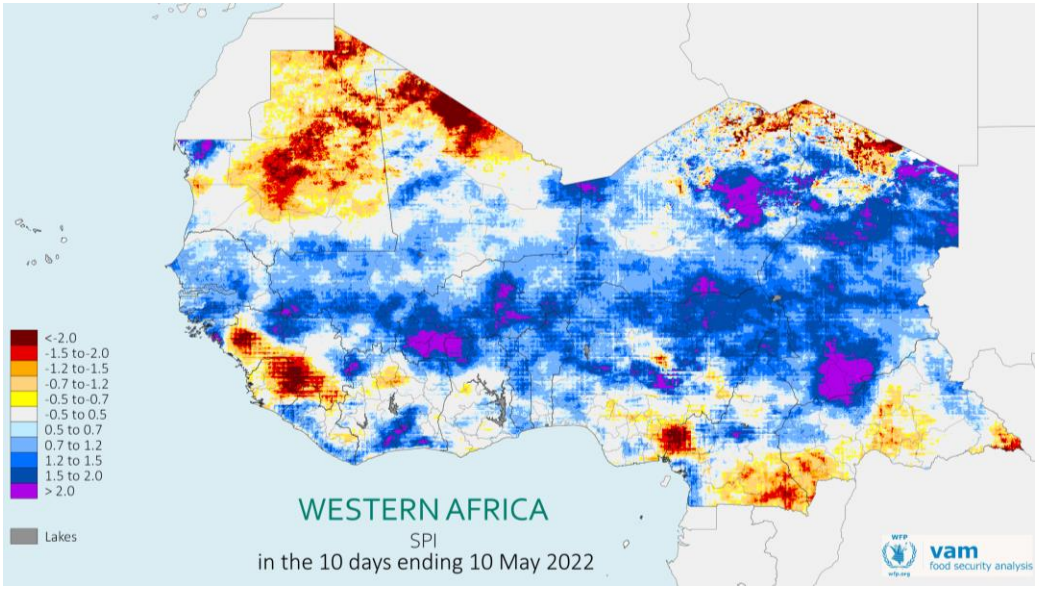
Rainfall patterns: 1-10 May 2022



*The **map to the left** shows the **total rainfall received** over the first dekad of may (1-10 May 2022), based on CHIRPS satellite rainfall estimates. Areas highlighted in light green have received little rainfall, while areas in dark blue or pink have received moderate to intense rains.*

*The **map to the right** shows the **rainfall anomaly** over the first dekad of May, expressed in percentage of the long-term average, based on CHIRPS satellite rainfall estimates. Areas in light to dark brown have received below average rains, while areas in dark blue have experienced above normal rainfall over the past 10 days.*





*The **map to the left** shows the **Standard Precipitation Index (SPI)** for the first dekad of May, based on CHIRPS satellite rainfall estimates. This simultaneously shows the experience of wet conditions on one or more time scales, and dry conditions on other time scales. Blues - dark purple for wetter conditions , Yellow – Browns for drier conditions.*

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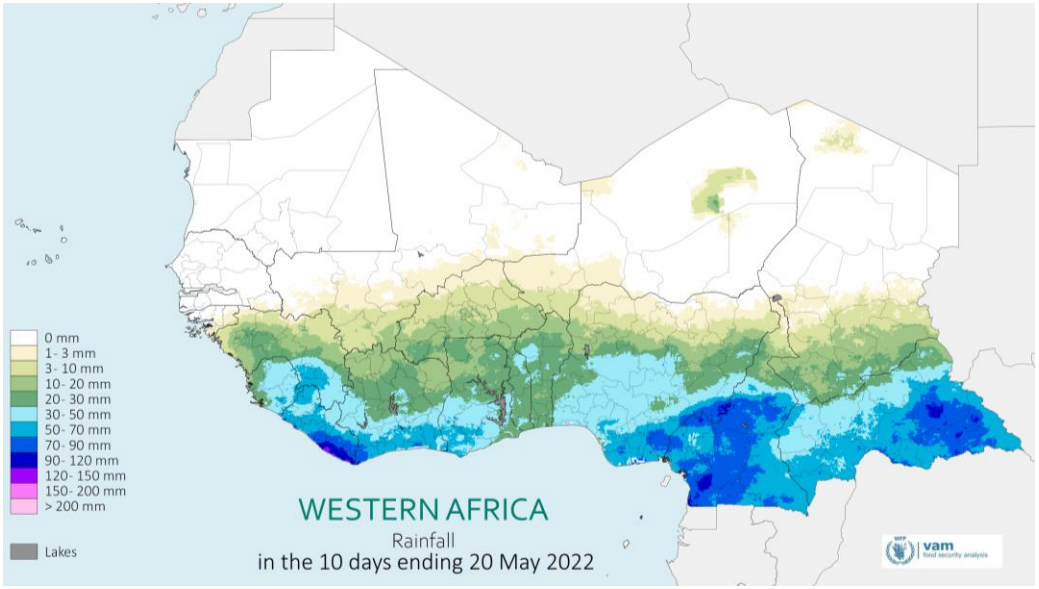
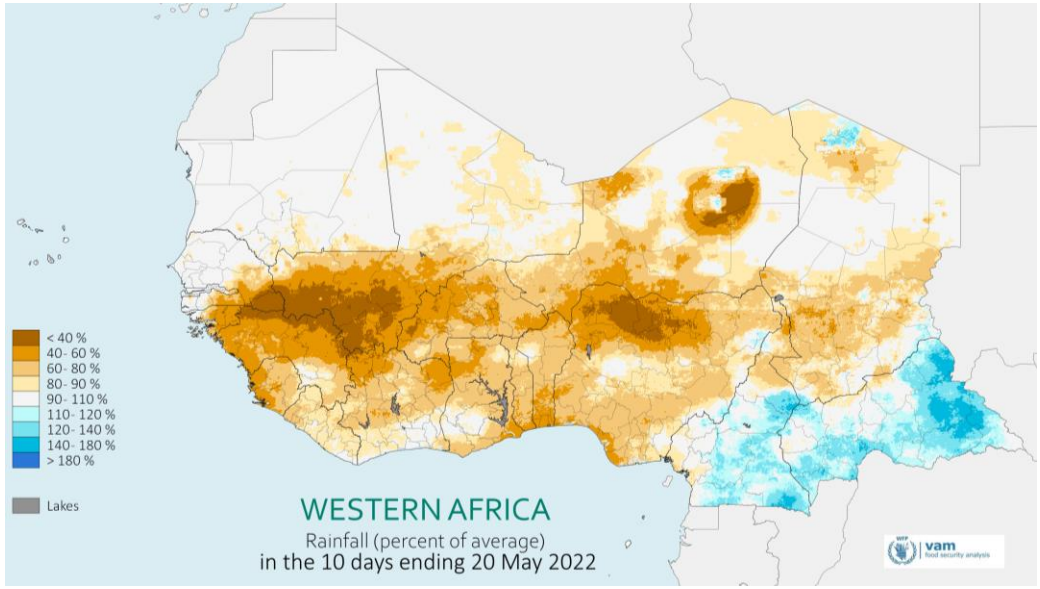
- **Cumulative rainfall**: Early May, during the first dekad of May (1-10 May), the rainy season started in the southernmost regions of Western Africa Region. Light to moderate rainfall was observed across most coastal countries, with the heaviest rainfall totals recorded in Eastern CAR, Southern Cameroon, South-eastern Nigeria, Sierra Leone, Liberia and South-eastern Guinea,
- **Rainfall anomaly**: At this stage, rainfall remained below average in western Africa except some located pockets of above average in eastern CAR, southern Cameroon and south-eastern Guinea.
- **Standard Precipitation Index (SPI):** During the second decade of May, the Standard Precipitation Index (SPI), shows that the West Africa region remains characterized by positive signal. In 10 days, drought remains localized in pockets in costal areas over Central and South-western CAR, South-eastern Cameroon, in southern Nigeria, southern and western Guinea and Sierra Leone. So, it is important to note that the SPI is slightly less accurate or relevant at the beginning of the season, when many areas normally experience dry conditions in West Africa. For further information on the SPI, see this factsheet

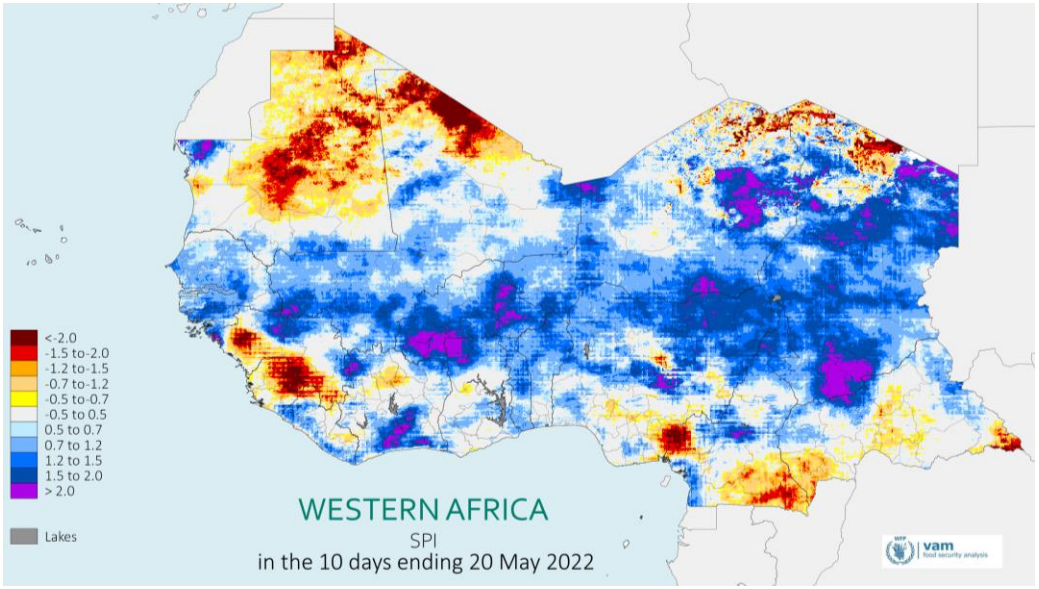
Rainfall patterns: 11-20 May 2022



*The **map to the left** shows the **total rainfall received** over the second dekad of May (11-20 may 2022), based on CHIRPS satellite rainfall estimates. Areas highlighted in light green have received little rainfall, while areas in dark blue or pink have received moderate to intense rains.*

*The **map to the right** shows the **rainfall anomaly** over the second dekad of May, expressed in percentage of the long-term average, based on CHIRPS satellite rainfall estimates. Areas in light to dark brown have received below average rains, while areas in dark blue have experienced above normal rainfall over the past 10 days.*





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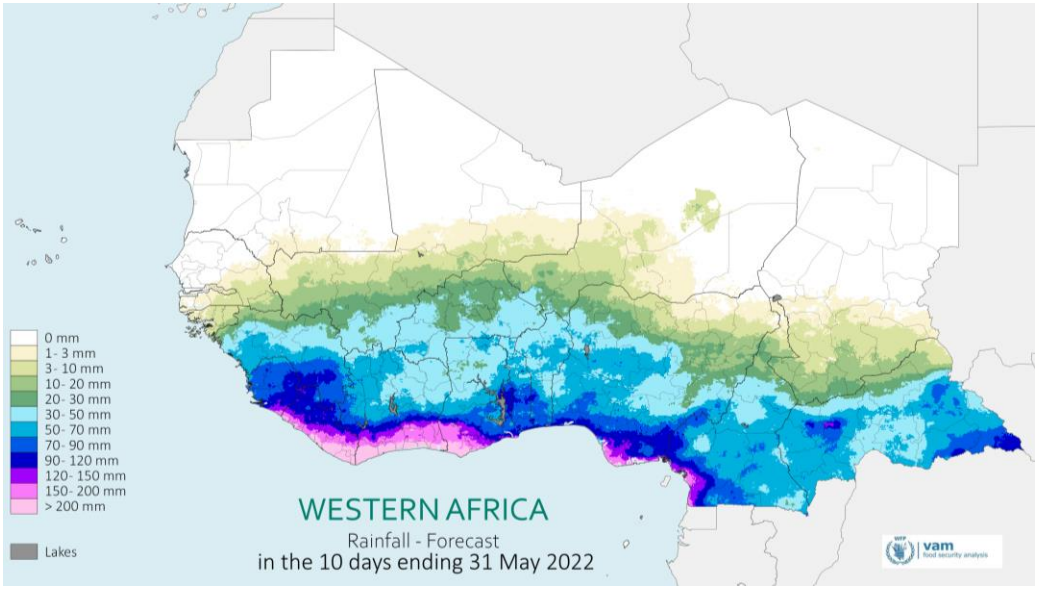
- **Cumulative rainfall**: During the second dekad of May (11-20 May), seasonal rainfall remain located in the southernmost regions of Western Africa Region. Light to moderate rainfall was observed across most coastal countries, with the heaviest rainfall totals recorded in CAR, Southern Cameroon, South-eastern Nigeria, Southern Cote d'Ivoire, Sierra Leone, and South-eastern Guinea, Elsewhere, rainfall was light and scattered. Over the Sahel region neutral conditions remain.
- **Rainfall anomaly**: Rainfall remained below average in western Africa except CAR, Southern Cameroon with above average conditions.
- **Standard Precipitation Index (SPI):** During the second decade of May, the Standard Precipitation Index (SPI), shows that the West Africa region remains characterized by positive signal. In 10 days, drought remains localized in pockets in costal areas over Central and South-western CAR, South-eastern Cameroon, in southern Nigeria, southern and western Guinea and Sierra Leone. . So, it is important to note that the SPI is slightly less accurate or relevant at the beginning of the season, when many areas normally experience dry conditions in West Africa. For further information on the SPI, see this factsheet

Rainfall patterns: The last dekad (21-31 May 2022)



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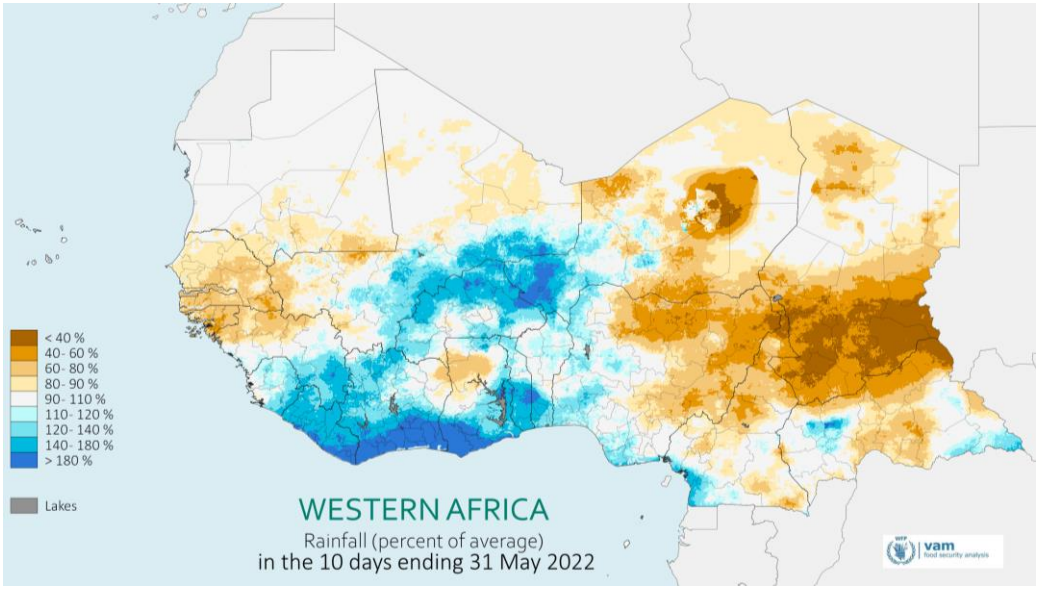
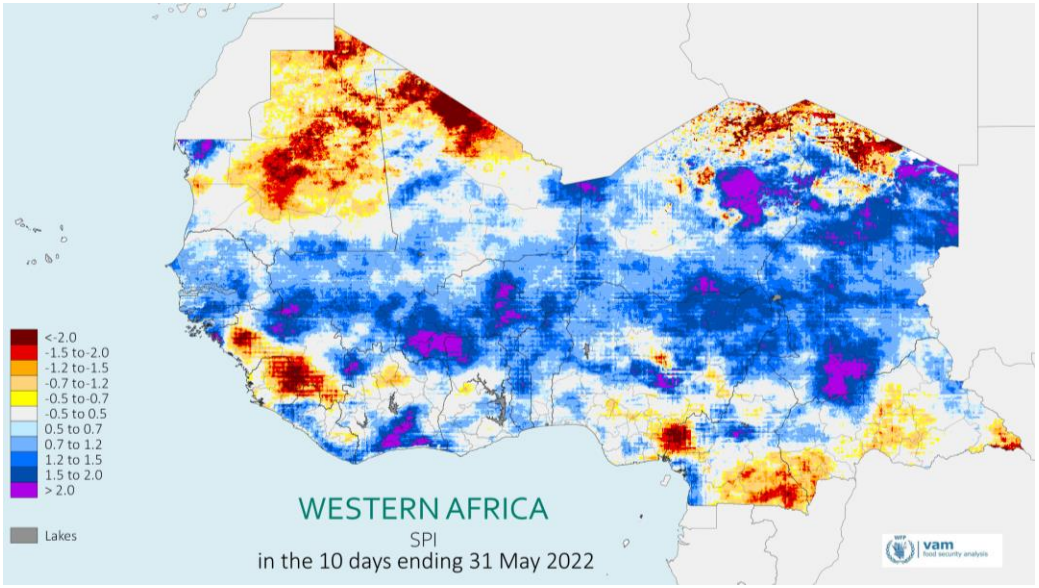


- **Cumulative rainfall:** Late May, during the last dekad of May (21-31 May), in west Africa, seasonal rainfall moved further north reaching some regions of Southern Sahel as well as rainfall amounts increased over the southernmost parts of the region. Moderate rains (up to 200 mm) have been recorded over the southmost parts of the region in CAR, Benin, Togo, Ghana, Cote d'Ivoire, Liberia, Sierra Leone, Guinea, over most of Cameroon and Nigeria as well as Southern Burkina Faso.
- .

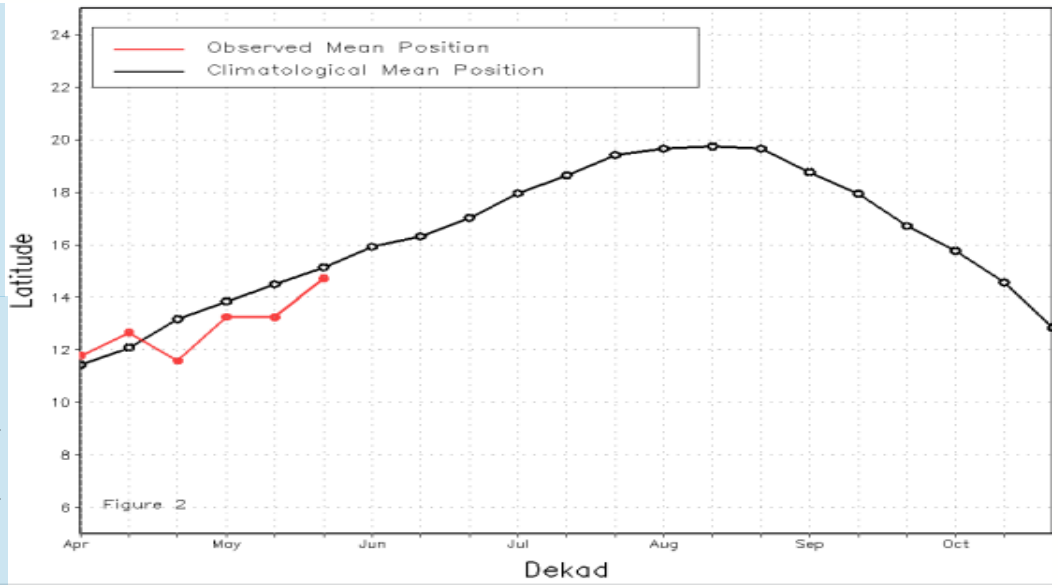
- **Rainfall anomaly:** Rainfall remained below average over the Eastern part of the region in Eastern Niger, Eastern Nigeria, in Cameroon, Chad and Central CAR as well as over the western areas of the region in Senegal, western Mali, Guinea Bissau and western Guinea. Only the central part of the region experienced above average conditions (Western Niger, Burkina Faso, Western Nigeria, Benin, Togo, Cote d'Ivoire and southern costal Ghana)

Rainfall patterns: The last dekad (21-31 May 2022)



*The **map to the left** shows the **Standard Precipitation Index (SPI)** for the last dekad of May (21-31 May 2022), based on CHIRPS satellite rainfall estimates. This simultaneously shows the experience of wet conditions on one or more time scales, and dry conditions on other time scales. Blues - dark purple for wetter conditions , Yellow – Browns for drier conditions.*

*The **graph to the right** shows the **current ITCZ position** (red) compared to the long-term average (black). The ITCZ is the border between dry areas and areas where the rainy season is ongoing. Delays in the ITCZ progression lead to drier than normal conditions, while an above average ITCZ position is associated with above normal rains.*



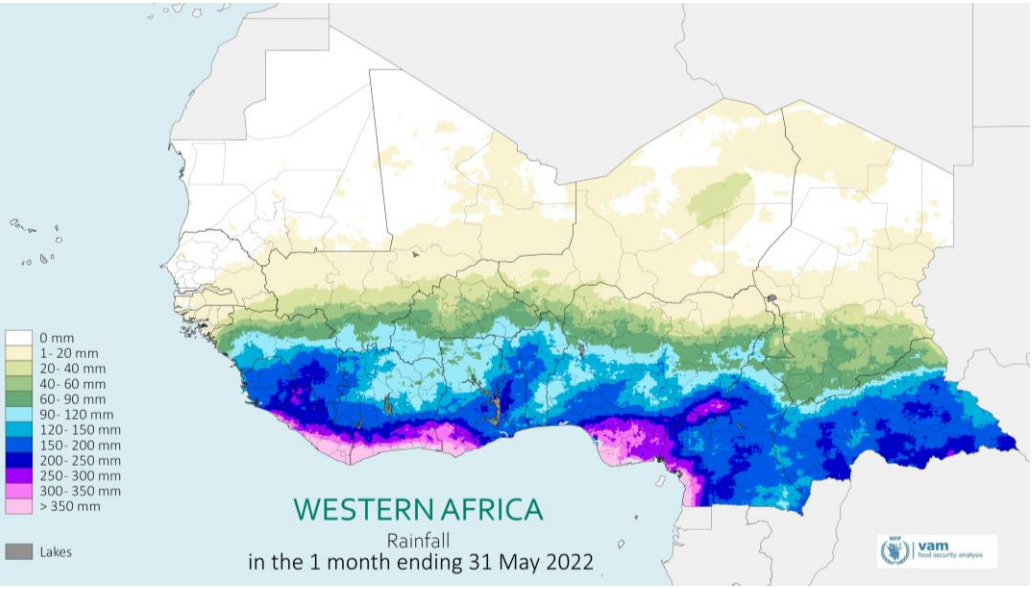
- **Standard Precipitation Index (SPI):** During the last decade of May (21-31 May), in 10 days, over Western Africa region, drought remains localized in pockets in costal areas over Central and South-western CAR, South-eastern Cameroon, in southern Nigeria, southern and western Guinea and Sierra Leone. So, it is important to note that the SPI is slightly less accurate or relevant at the beginning of the season, when many areas normally experience dry conditions in West Africa. For further information on the SPI, see this factsheet

- **ITCZ**: The ITCZ across Western Africa progressed northwards and remain located approximately at 14.7N, south of the long-term average since late April . This Anomalous positions of the ITCZ are usually associated with broad drier than average conditions across West Africa – particularly in the Sahel, monsoon is not yet favorable for seasonal rainfall and neutral conditions remain.

SECTION 2:

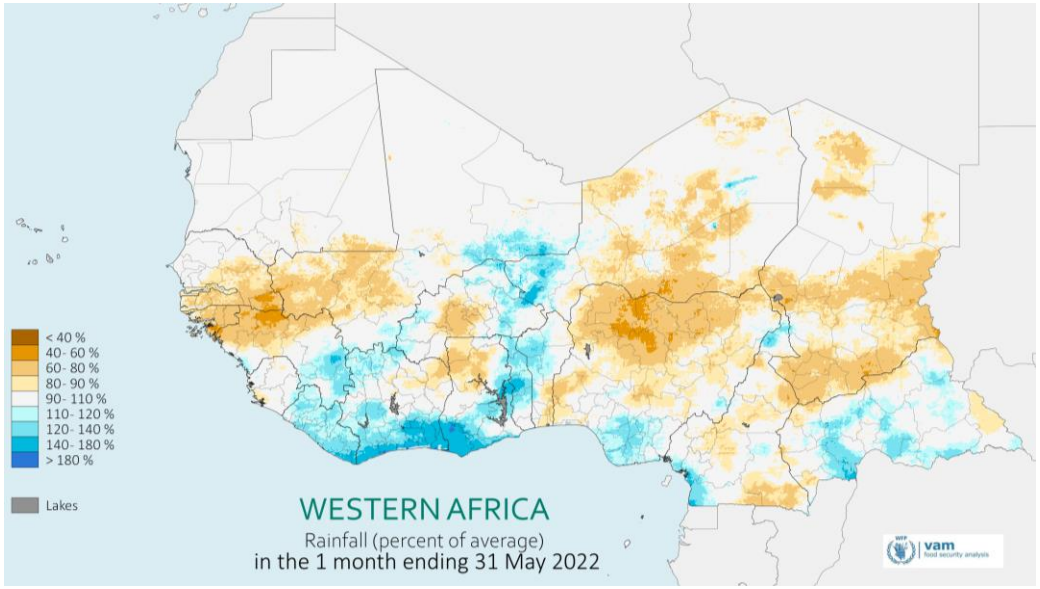
MONTHLY TRENDS

Rainfall patterns: The last month (1-31 May 2022)



*The **map to the left** shows the **total rainfall received** over the last month (1-31 May 2022), based on CHIRPS satellite rainfall estimates. Areas highlighted in light green have received little rainfall, while areas in dark blue or pink have received moderate to intense rains.*

*The **map to the right** shows the **rainfall anomaly** over the last month (1-31 May 2022), expressed in percentage of the long-term average, based on CHIRPS satellite rainfall estimates. Areas in light to dark brown have received below average rains, while areas in dark blue have experienced above normal rainfall over the past month.*



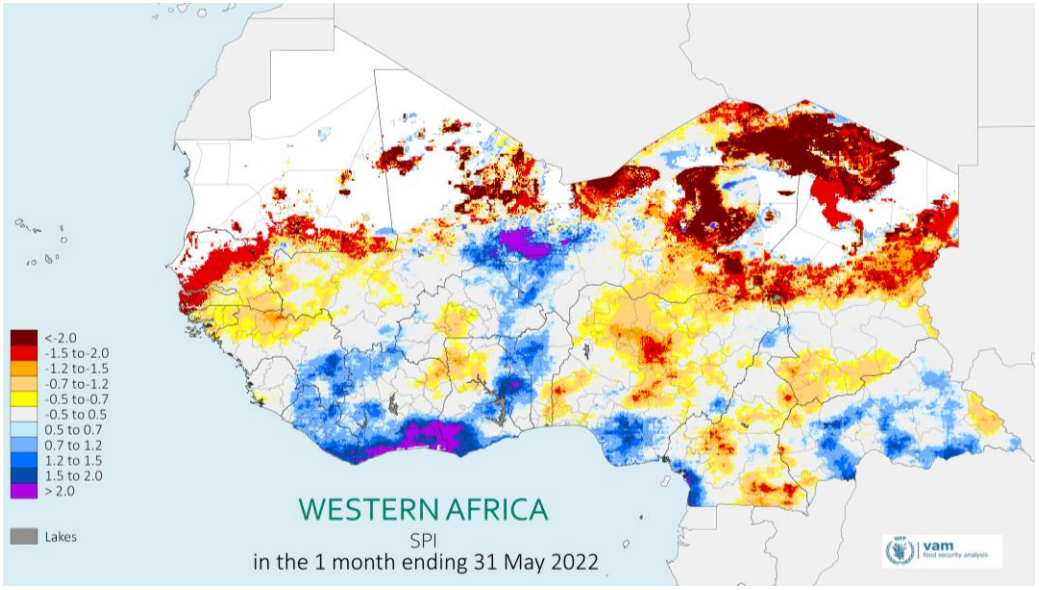
Cumulative rainfall:

- Over the course of the last month, the seasonal rains progressed from the southern parts of the region towards the north.
- During the first two dekads, only the southernmost areas along the Gulf of Guinea, as well as the south-eastern parts of the region (Cameroon, CAR) received moderate to significant rainfall (above 50 mm). Areas further north received little to no rains, including most of the Sahel.
- In the third dekad (21-31 May), rainfall intensified in coastal areas, with rains of over 90 mm in most of southern Liberia, southern Côte d'Ivoire, south-western Ghana, as well as south-eastern Nigeria and south-western Cameroon. Further north, moderate rainfall of above 50 mm were received across most coastal countries, as well as in Cameroon and CAR during this period.
- Overall, in May 2022, the most important seasonal rainfall was recorded in the Mano River countries (south-eastern Guinea, Sierra Leone, Liberia, southern Cote d'Ivoire), in Gulf of Guinea (in southern Ghana, Togo, Benin , southern Nigeria and Southern Cameroon) as well as in CAR.
- In the southern Sahel, seasonal rains were light and scattered while over further northern areas, monsoon conditions is not yet favourable for seasonal rainfall.

Rainfall anomaly:

- Compared to the long-term average, drier than normal conditions were recorded across most of the region during the first two dekads of May.
- Rainfall deficits were particularly pronounced during the second dekad (11-20 May) in western Mali, south-eastern Senegal and northern Nigeria. However, it is important to note that these early season deficits are unlikely to have a significant impact given that planting activities in these areas usually start later in the season.
- The last dekad of May saw a reversal of this trend, with above average rains in the western half of the region, particularly in southern Liberia, southern Côte d'Ivoire and south-western Ghana.
- Drier than normal conditions were recorded during this period over the eastern half of the region, with Chad recording the most significant deficits.
- The overall rainfall anomaly for the month of May suggests that the north-western and eastern parts of West Africa recorded below normal rains. Rainfall was above normal in the south-western parts of the region, particularly over Liberia, southern Côte d'Ivoire, southern Ghana and Togo.
- The evolution of the ITCZ confirms the erratic evolution of the seasonal rains, and currently remains slightly below the long-term average.

Rainfall patterns: The last month (1-31 May 2022)



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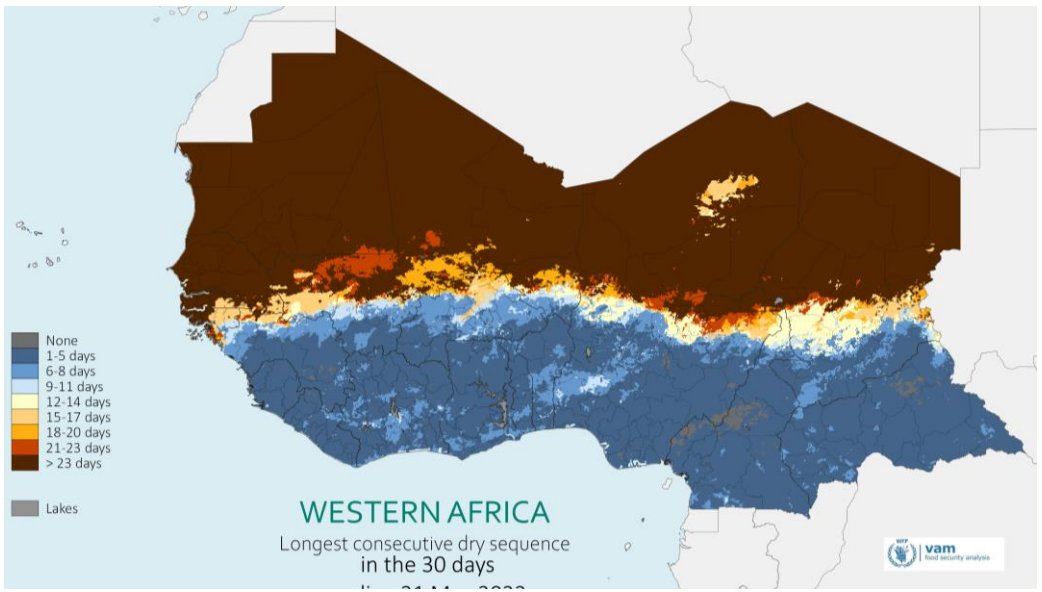
*The **map to the right** shows the **longest consecutive dry sequence** over the past month (1-31 May 2022), based on CHIRPS satellite rainfall estimates. Araes in blue have experienced shorter dry sequences, while areas in brown have experienced longer ones. Note that in some areas, this is linked to the fact that the season has not started yet.*



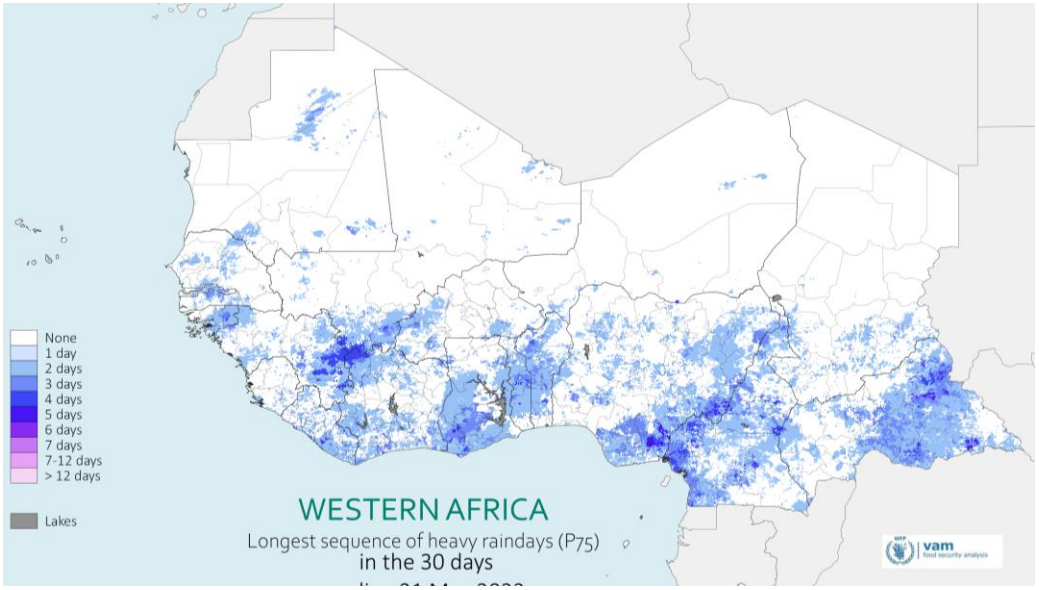
Standard Precipitation Index (SPI):

- As mentioned above, the SPI is less accurate or relevant at this stage of the season, when many areas normally experience dry conditions in West Africa and received very little seasonal rainfall.
- This explains the somewhat contradictory picture given by the dekadal SPI for the three dekads of May 2022 compared to the rainfall anomaly maps. The accuracy and relevance of the monthly SPI is higher, and the indicator will become more accurate once the season progresses. For further information on the SPI, see this factsheet.
- The monthly SPI for May 2022 suggests that mostly dry conditions prevailed across the north-western and eastern parts of the region. On the other hand, the southern, central and south-eastern parts of West Africa experienced drier than normal conditions (incl. Liberia, southern Côte d'Ivoire, southern Ghana, Togo, south-eastern Nigeria and CAR).

Dry Sequences:

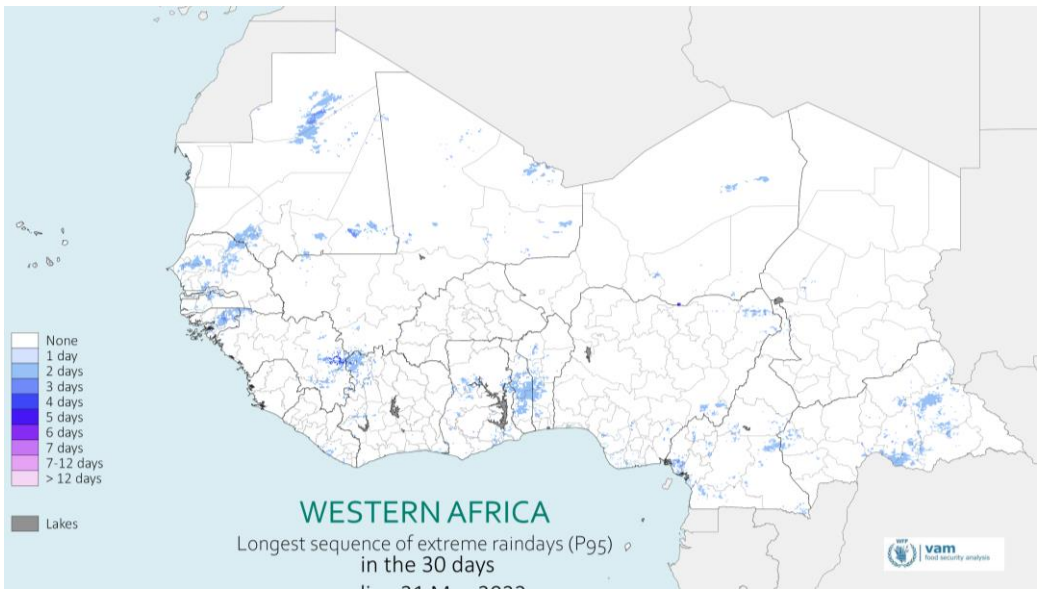
- Over the month of May, the northern part of the season experienced long dry spells, which is due to the fact that the rainy season has not started yet.
- In the southern parts of the region, dry-spells were generally short (1-5 days). However, some areas including central Benin, western Nigeria, as well as the southernmost areas of the Sahel experienced slightly longer dry sequences of up to 11 days.
- While it is unlikely that these moderate dry spells had any significant impact on agricultural activities at this very early stage of the season in the region, the progression of the rains, and particularly their spatial and temporal distribution should be monitored closely, as erratic rainfall at the start of the season could negatively impact sowing activities.

Rainfall patterns: The last month (1-31 May 2022)



*The **map to the left** shows the **longest sequence of heavy raindays** over the past month (1-31 May 2022), based on CHIRPS satellite rainfall estimates. Areas highlighted in dark blue and purple have experienced longer sequences of intense raindays (defined as days with a 75th percentile of rain received) over the last 30 days.*

*The **map to the right** shows the **longest sequence of extreme raindays** over the past month (1-31 May 2022), based on CHIRPS satellite rainfall estimates. Areas highlighted in dark blue and purple have experienced longer sequences of intense raindays (defined as days with a 95th percentile of rain received) over the last 30 days.*



Heavy raindays:

- Overall, the region experienced short to moderate sequences of heavy raindays (defined as days with a 75th percentile of rain received) during the month of May.
- The longest sequences of heavy raindays were observed over parts of south-eastern Guinea, southern Mali, as well as along the border between Nigeria and Cameroon and in eastern CAR.
- In most other parts of the region, the sequences of heavy raindays remained relatively short (0-3 consecutive days). It is important to note that over the northern parts of the region, the rainy season has not yet started.

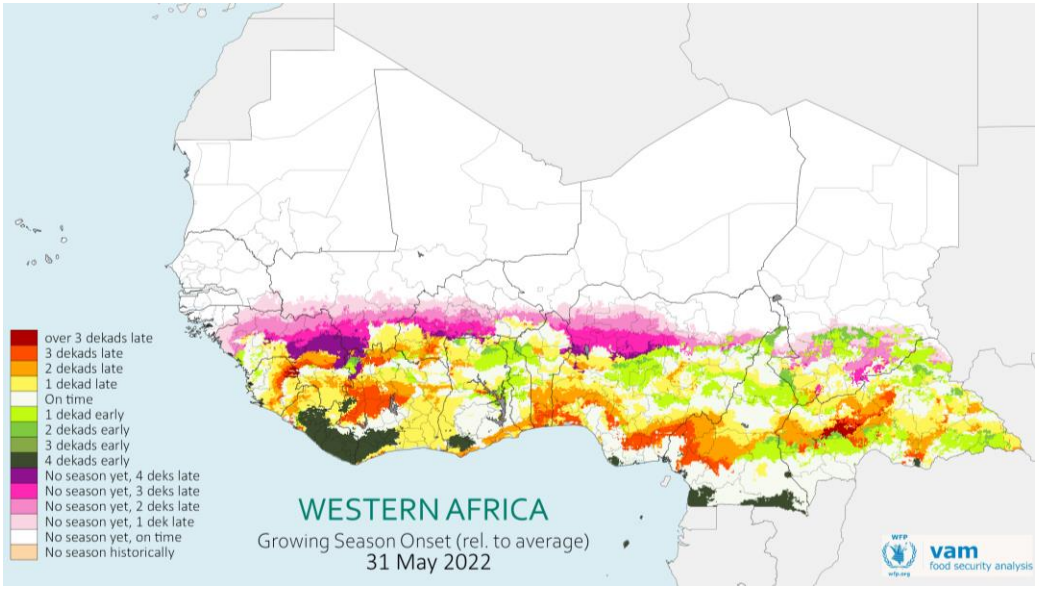
Extreme raindays:

- The occurrence of extreme raindays (defined as days with a 95th percentile of rain received) was relatively limited in May 2022.
- It is expected that the likelihood of extreme rainfall events, which can potentially lead to river floods and flash floods, increases as the rainy season progresses in the region.

SECTION 3:

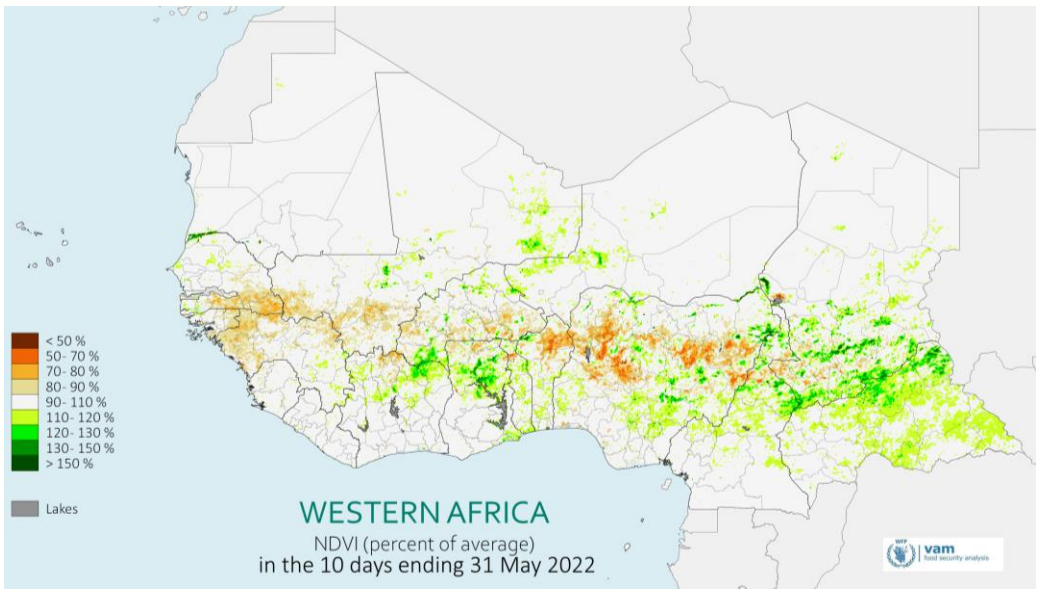
THE SEASON SO FAR

The progression of the season so far



*The **map on the left** shows the **start of the growing season anomaly** (as of 31 May 2022), using the vegetation phenological cycle to show the possible start of sowing activities. Areas with delays in the onset of growing season are highlighted in yellow and red, while areas where the season has started earlier than normal are presented in green.*

*The **map on the right** shows the vegetation anomaly as a percentage of the average (as of 31 may 2022), based on the MODIS NDVI. Green for above normal vegetation, yellows and browns for vegetation production deficit.*



Start of season:

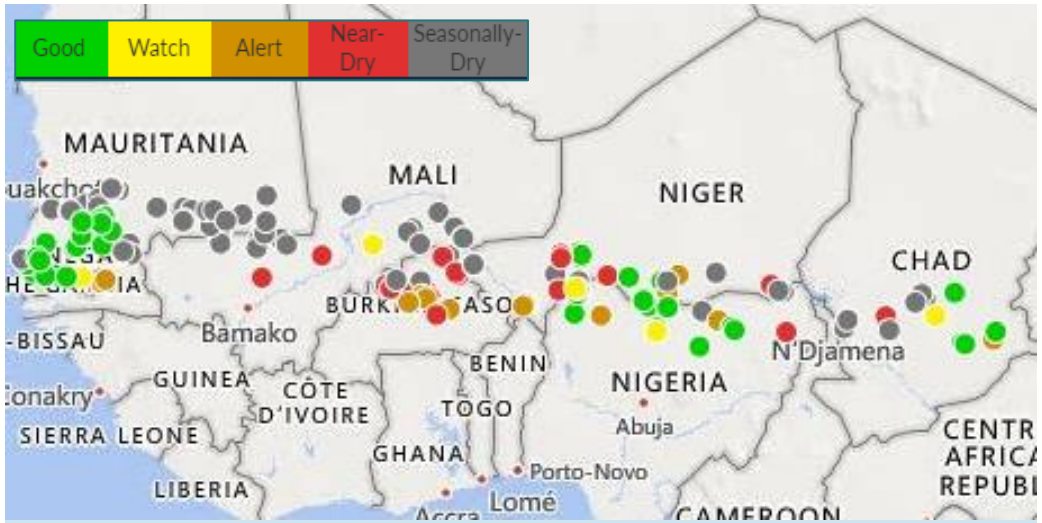
- The growing season onset map suggests that the 2022 season has started later than normal (1-4 dekads) in most of the region, except for parts of CAR, Cameroon, central Nigeria and Togo, as well as south-western coastal areas where the season started early.
- In areas affected by a late start of the season (mapped in yellow to red above), the delayed start of the season can be attributed to erratic and poor rains in the early stages of the season. In most of the southern Sahel, the conditions for the potential start of planting activities have not yet been met.

Vegetation:

- As a result of early season dryness, vegetation conditions are below average across the southern parts of the Sahel, from Senegal across Burkina Faso to northern Nigeria. Vegetation deficits are particularly pronounced in northern Benin and Nigeria's Central Belt.
- On the other hand, better than normal vegetation conditions can be observed in parts of northern Côte d'Ivoire and Ghana, as well as over most of northern Cameroon and southern Chad, despite poor rainfall in the latter areas in May.

Water resources:

- The availability of water resources is favourable Senegal, as well as in parts of Niger, northern Nigeria and Chad. However, over most of the central Sahel and Mauritania, water points are dry or near dry at the end of May.

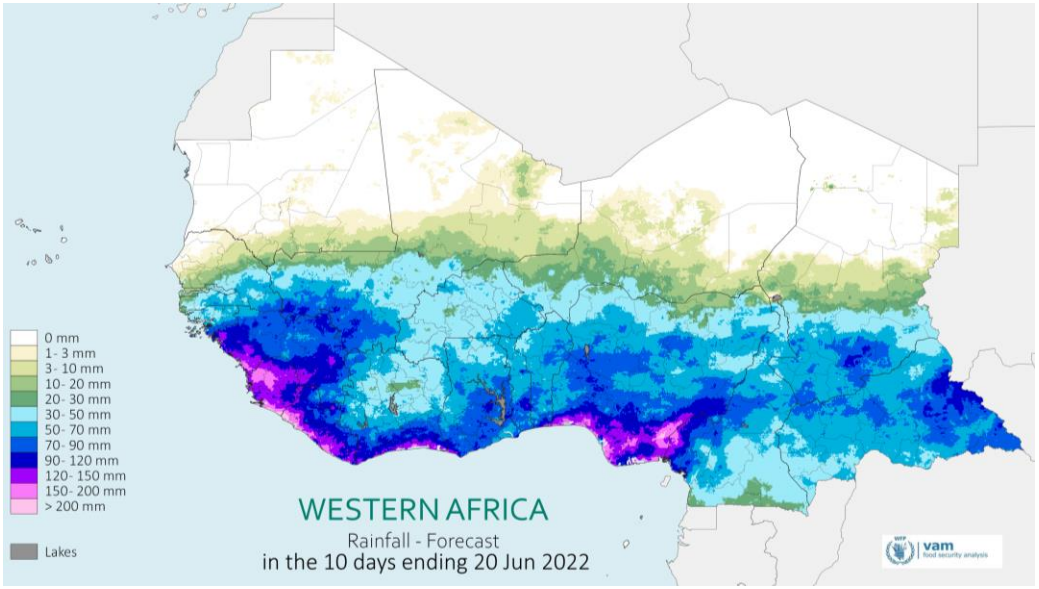


***Water point status (as of 31 May 2022):** Good: Higher than long term level (LTL), Watch: Between 50 to 100% of LTL, Alert: Between 3% and 50% of LTL, Near-Dry: Below 3% of LTL (https://earlywarning.usgs.gov/fews/waterpoint/index.php)*

SECTION 4:

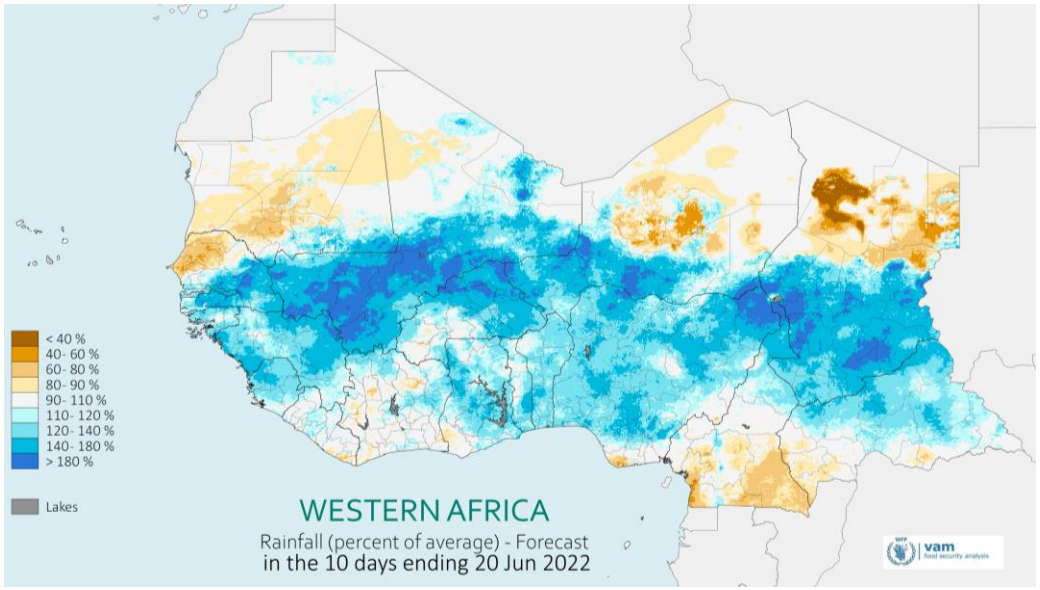
THE SHORT- AND MEDIUM-TERM OUTLOOK

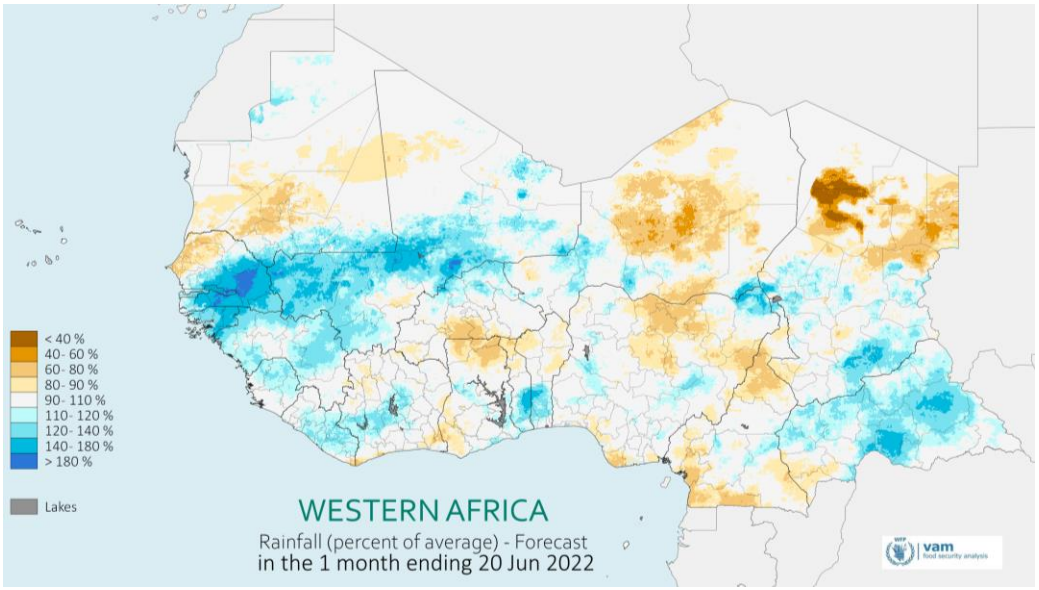
The short-term outlook



*The **map on the left** shows the **short-range CHIRPS-GEFS forecasts** of the total rainfall expected for the upcoming dekad,. Blues for wetter than average conditions, browns for drier than average conditions.*

*The **map on the right** shows the **short-range CHIRPS-GEFS forecasts** for the upcoming dekad, expressed in percentage of the long-term average. Blues for wetter than average conditions, browns for drier than average conditions.*





*The map to the right shows the **short-range CHIRPS-GEFS forecasts in one-month** for the upcoming month, expressed in percentage of the long-term average. Blues for wetter than average conditions, browns for drier than average conditions.*

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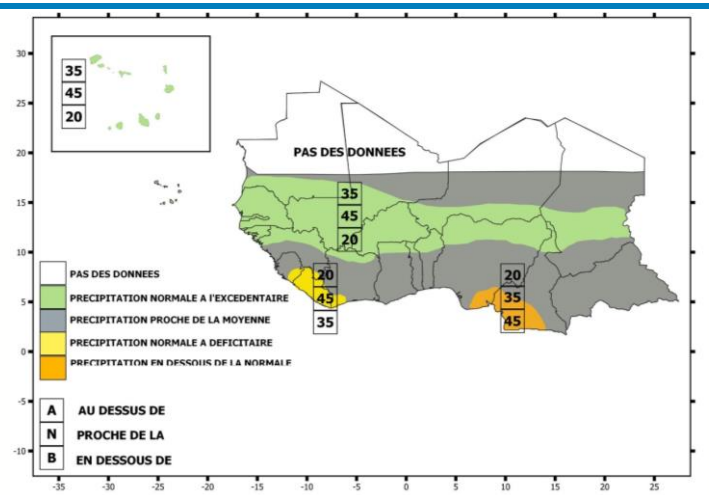
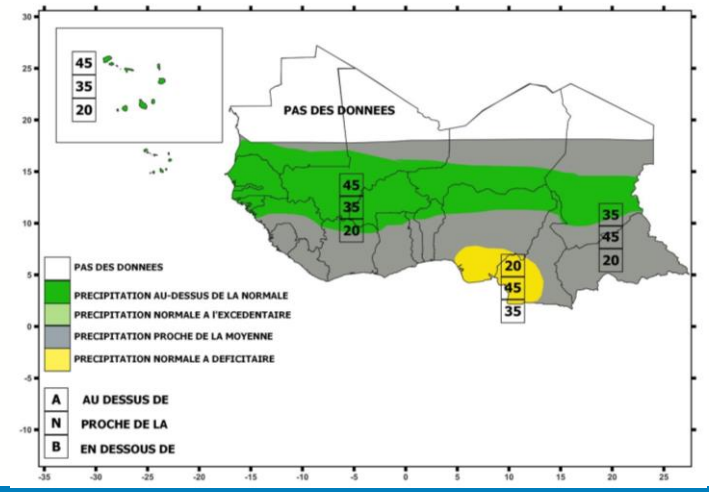
- **Short range forecasts** provide estimates of rainfall up to June 20. In mid-June, rainfall improvement will likely be observed across West Africa Region, in particular over the Sahel with widespread wetter conditions.

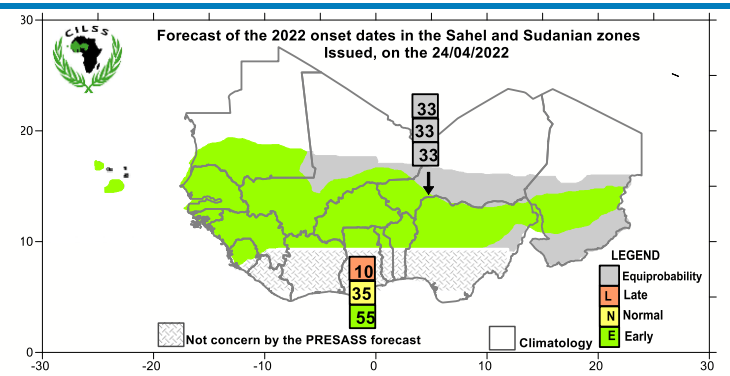
- **If the forecasts are verified**, we might see an alleviation of the rainfall deficits in these regions and the onset of more favourable conditions for the early stages of the growing season. However, areas over far westernmost of Sahel (north-western Senegal and southern Mauritania) could remain drier than average.

The medium-term outlook: the April 2022 PRESASS seasonal forecast



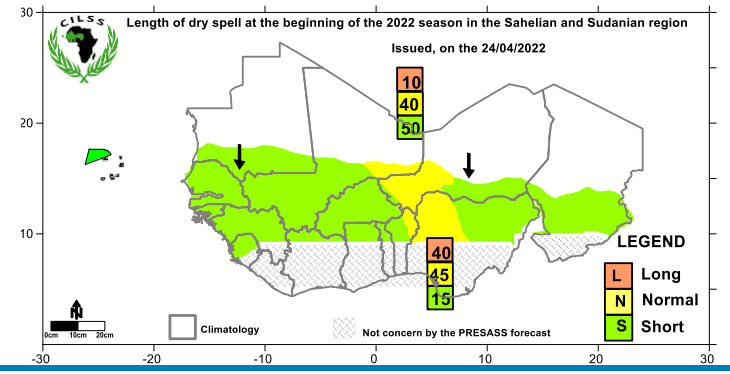
According to the April 2022 PRESASS seasonal forecast, average to above average seasonal rainfall (in May-July 2022, map above) is expected in most of the Sahelian belt including Cabo Verde. Rainfall in some coastal areas (Sierra Leone, Liberia) is expected average to below-average during the same period, while rainfall will likely be below average in coastal areas of Cameroon and south-western Nigeria throughout the season (May-July and Jul-Sep, map below).

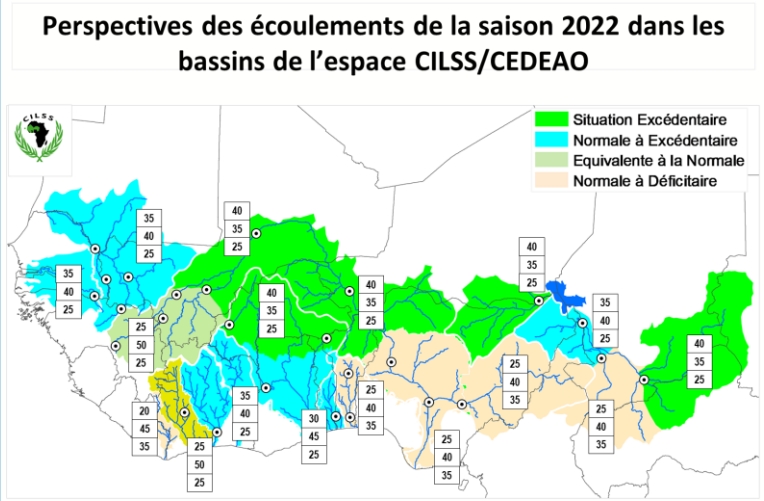




An early to normal onset of seasonal rains is expected (map above) in the Sahelo-Sudanian zone covering Senegal, Gambia, Guinea Bissau, Guinea, Sierra Leone, Burkina Faso, some Cabo Verde islands, southern parts of Mauritania, Mali, southwestern Niger, northern parts of Côte d'Ivoire, Ghana, Togo, Benin, Nigeria and central Chad.

At the beginning of the season **shorter to medium dry spells** are expected over the Sudanian and Sahelian belts of West Africa and Chad, except in south-west Niger, north-east Benin and north-western Nigeria where medium to long dry spells are expected (map below). Towards the end of the season, dry spells are expected to be shorter in the western half of the Sudano-Sahelian belt and normal to long on the eastern half.





*The **map above** shows the **river basin levels** expected in 2022. Green indicates above normal river levels, blue normal to above normal levels, grey normal levels and pink below normal river levels compared to the long-term average.*

In terms of the **hydrological situation**, normal to above normal river levels are expected in the Sahelo-Sudanian zone, apart from the Lower Niger, Logone, Ouémé and Cavally basins. River levels are expected to be:

- Above average in the Inner Delta (in Mali) and the middle basin of the Niger River, the Komadougou Yobé and the upper basins of the Chari and the Volta (Burkina Faso).
- Average to above average in the basins of Senegal, Gambia, Comoé, Bandama (Côte d'Ivoire), Mono (Togo and Benin), Lower Volta (Ghana) and the downstream part of the Chari-Logone.
- And average in the Sassandra basin in Côte d'Ivoire, the upper Niger River basin (in Guinea and Mali) and iv) below average in the Lower Niger basins integrating the Bénoué, Logone (Chad), Ouémé (Benin) and Cavally (Côte d'Ivoire).

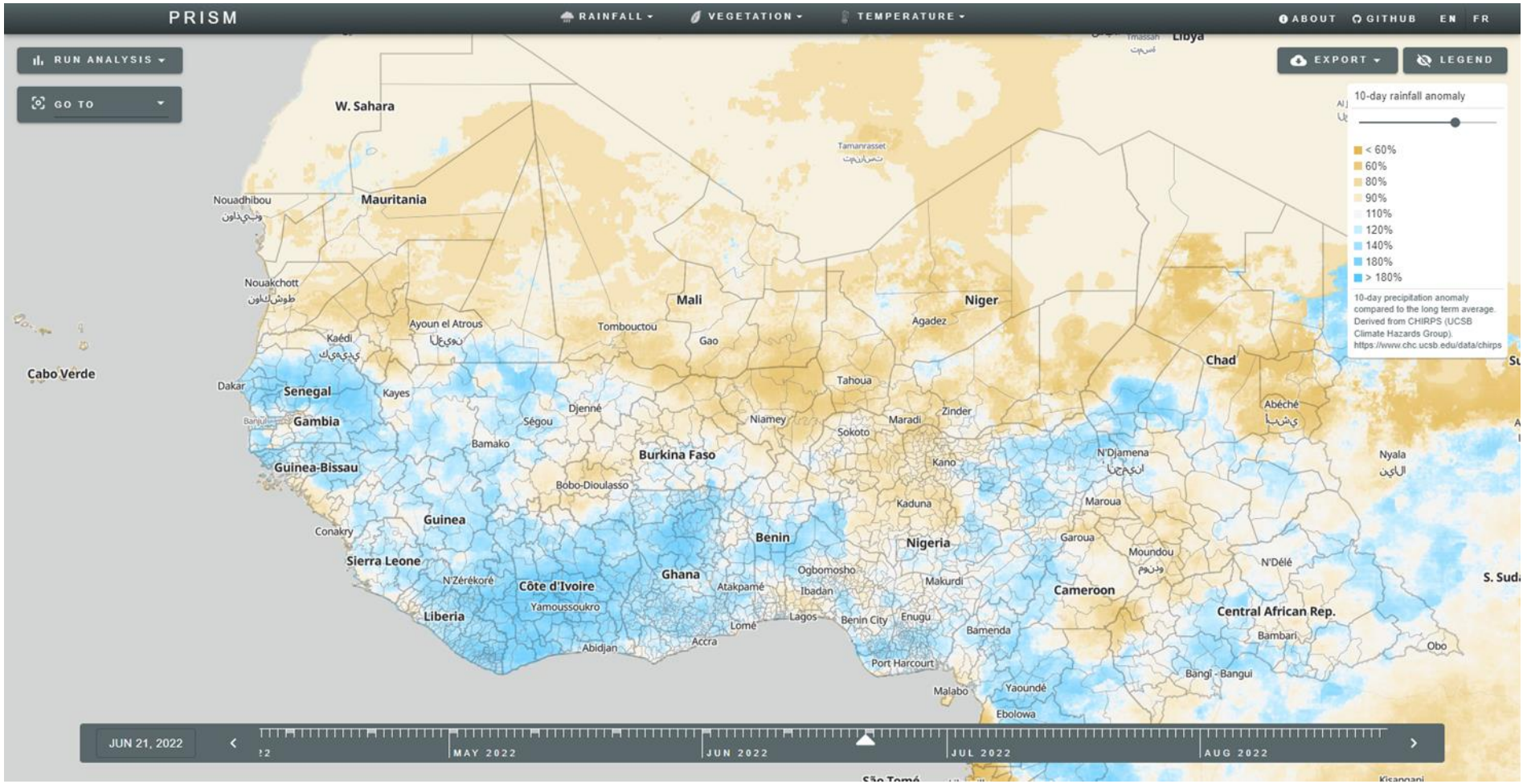
SECTION 5:

THE PLATFORM FOR REAL-TIME IMPACT AND SITUATION MONITORING (PRISM)

The Platform for Real-time Impact and Situation Monitoring (PRISM)

RBD RAM is pleased to announce the launch of the **PRISM platform for West Africa**. In its first deployment phase, PRISM will allow users to visualise and download all key climate data used in this seasonal monitor. PRISM allows for near real-time monitoring of the progression of the rainy season, and to the explore historical rainfall, vegetation and temperature data.

In the coming months, additional hazards such as conflicts, as well as vulnerability layers including the historical Cadre Harmonisé (CH) and Integrated Food Security Phase Classification (IPC) data will be incorporated into the platform. The integration of these layers will also allow users to run risk impact analyses. Further functionalities and impact analytics will be built into the platform in the future. RBD RAM will also explore the integration of external data generated by national and regional partners.



*You can **access the RBD PRISM Platfom** (internally and externally) by clicking on the map above, or through the following link: **https://prism.dakar.wfp.org/**.*

*For **more information on PRISM**, please visit this website: https://innovation.wfp.org/project/prism. For any specific enquiries about RBD RAM's Geospatial Analysis workstream and the roll-out of the PRISM Platform in West Africa, please contact the RBD RAM Team (rbd.ram@wfp.org).*

WFP World Food Programme

Data sources:
Rainfall: CHIRPS, Climate Hazards Group, UCSB
Vegetation: MODIS NDVI, ESODIS-NASA

Data Processing:
RAM software components, ArcGIS, QGIS

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