

West Africa: The 2015 Season



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- The West Africa growing season of 2015 is developing under an **evolving El Nino** event that will peak in late 2015. Historically, this region shows **significant linkages** between El Nino events and **seasonal rainfall deficits** particularly in the more marginal areas.
- The **first stages** of the season were marked by **rainfall deficits** across the entire region that have led to delays in the start of the growing season and poor conditions for early crop development.
- **Worst affected** areas extend from northern **Cote d'Ivoire**, northern **Ghana**, **Burkina Faso** and across into northern **Nigeria**. South-eastern **Niger**, central **Senegal** and western **Mali** are also facing difficult conditions.
- While there is still time to recover, well distributed **July and August rainfall** is now **essential** to improve current prospects. Recent good rainfall in western areas of the region (Senegal, Mali) has improved conditions but elsewhere the situation remains difficult.
- Seasonal **forecasts** are **moderately unfavourable** with indications of below average rainfall during July to September for Senegal-Mali and Niger-Chad regions. Agrhymet Centre also issued predictions of **shorter than average growing season** for the Sahelian region.



Current Status and near Future Perspectives



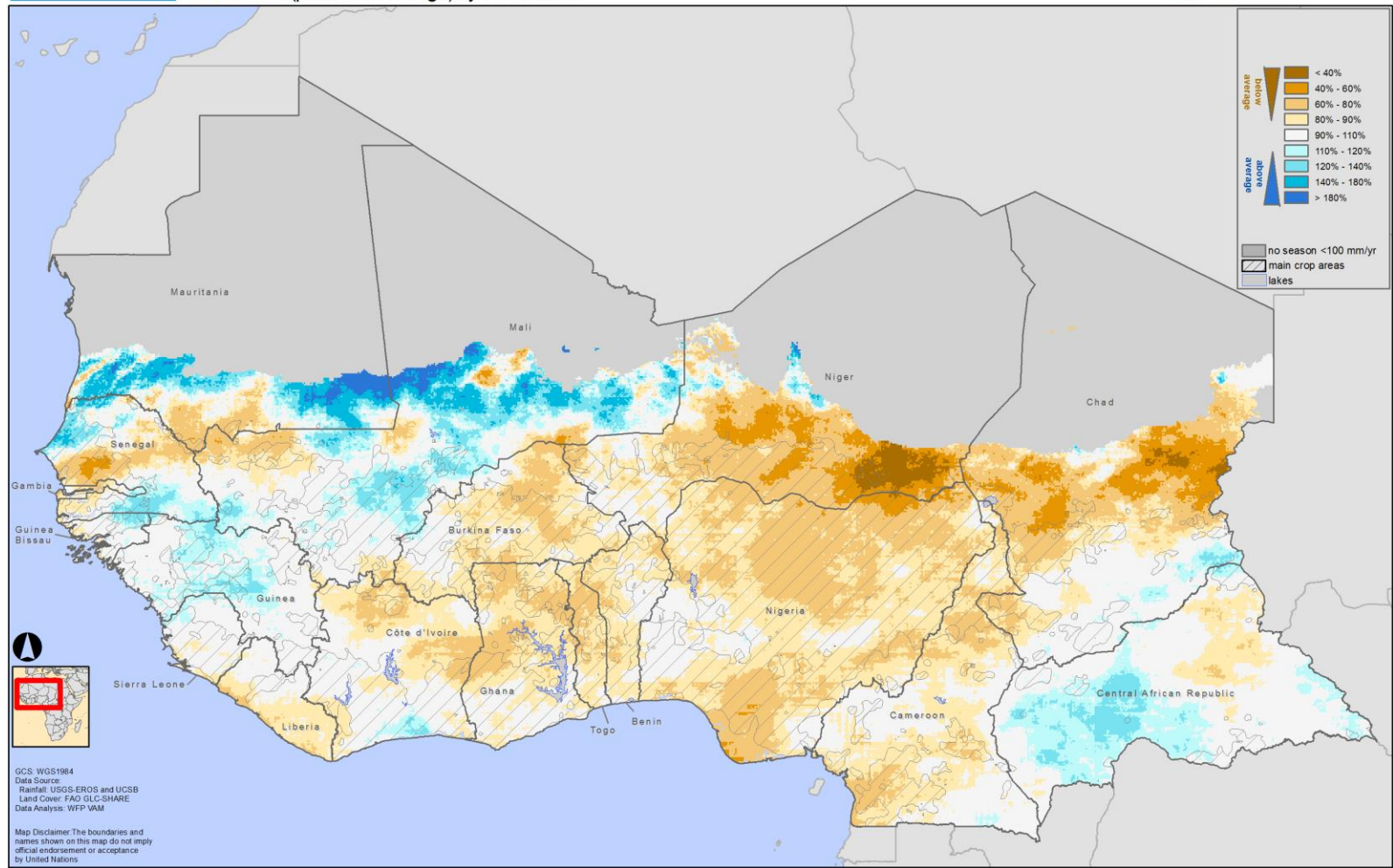
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10 Jul 2015

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Total Rainfall (percent of average) by 10 Jul 2015



Seasonal rainfall performance

The early stages of the growing season in West Africa have been dominated by significant rainfall deficits across most of the region.

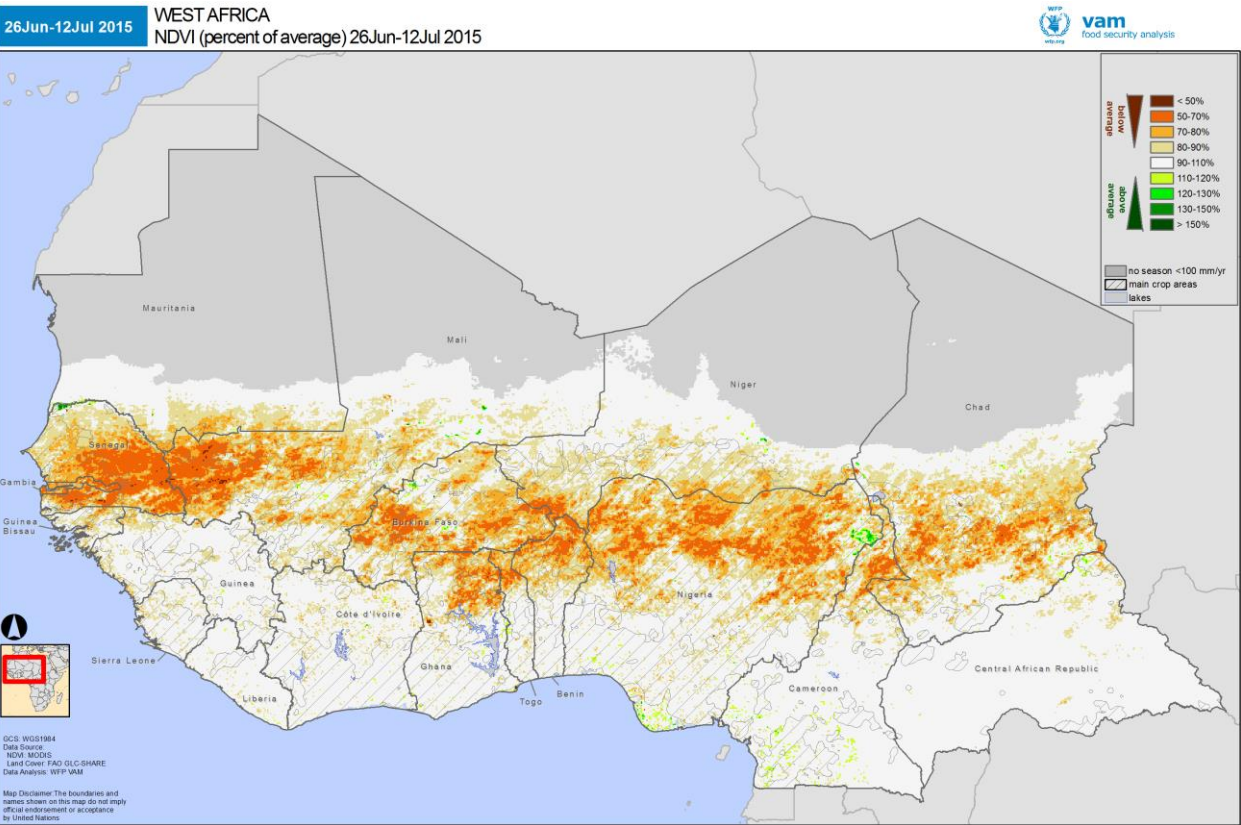
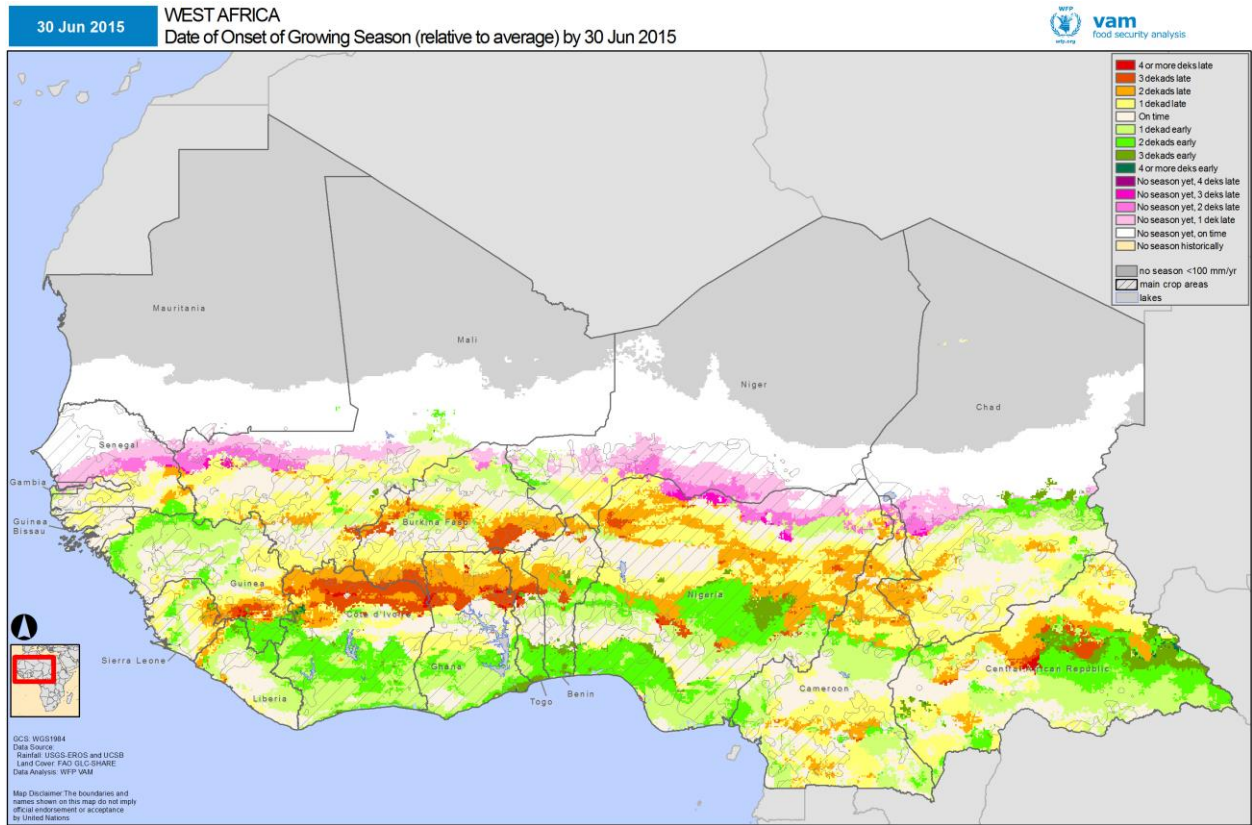
Until late June, central areas of Senegal, southern Mauritania and western Mali had received less than half of the usual rainfall – these are areas that were already affected by a very severe drought in 2014. However, wetter than average conditions in early July improved this situation.

A similar situation developed in eastern Niger, northern Nigeria and Chad—regions also affected by a poor growing season in 2014. There has been no reprieve in the first half of July which has further deepened seasonal rainfall deficits. Rainfall has also been irregular and poorly distributed across northern Cote d'Ivoire, northern Ghana and Togo-Benin.

This situation can however still change, rapidly and substantially, since most of the seasonal rainfall occurs during July to September.

*Seasonal cumulative rainfall until early July 2015, as a percentage of the 20-year average.
Hashed pattern indicates main agricultural areas.
Brown shades indicate below-average rainfall; blue shades indicate above-average seasonal rainfall.*

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Left: Date of onset of the growing season compared to average. Pinks and yellows to reds for delayed growing seasons, green shades for earlier than average growing seasons.

Right: early July 2015 Vegetation Index as a percentage of the 12-year average. Hashed pattern indicates main agricultural areas.

Orange shades for below-average vegetation; green shades for above-average vegetation

Onset of Season and Vegetation Status

The rainfall deficits extending across the Sahel have led to generalized delays in the onset of the growing season. Most delays are of 10-20 days, occasionally reaching up to 30 days. This is also reflected in sharply below average vegetation across the whole Sahelian zone. Consequently, there are delays in the start of the agricultural activities, as well as replanting and stressed early crop development where the season had started on time.

Planting in the more marginal areas occurs in July. Therefore, a recovery is still possible—in fact, conditions in the wider Senegal-Mali region should now improve in response to favourable rainfall in the first half of July. Still, no such improvements are yet expected for the wider Niger-Chad-northern Nigeria region. The situation is likely to further worsen for the most vulnerable populations if the July rainfalls are below average.

The El Nino Event of 2015-2016

An El Nino event is officially active since March 2015. After remaining at relatively weak levels until May 2015, it is now intensifying and should peak in the last quarter of 2015.

Historically, El Nino events have a significant impact on the Sahel region leading to growing season rainfall deficits and poor vegetation development.

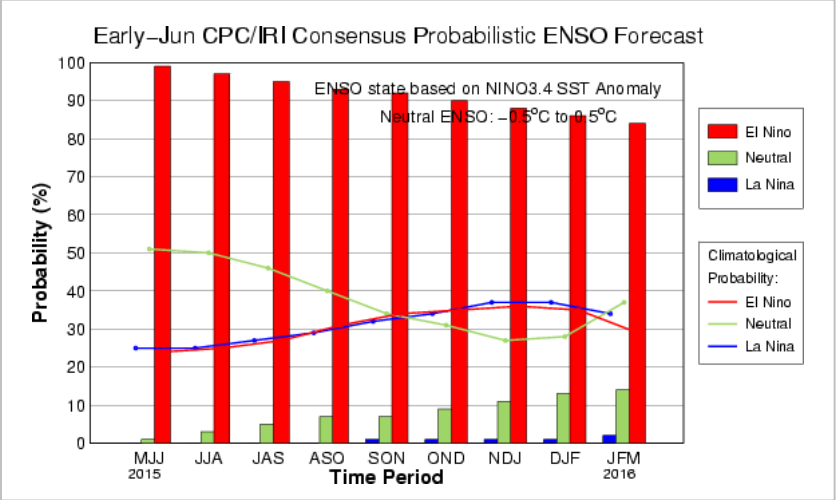
The early stages of the growing season have been unfavourable and conforming to the historical patterns: the dominant features are below average rainfall, delayed onset of the planting season and depressed vegetation levels, as the monsoon-like northward movement of the rains has been slower than usual.

Current forecasts for July-September

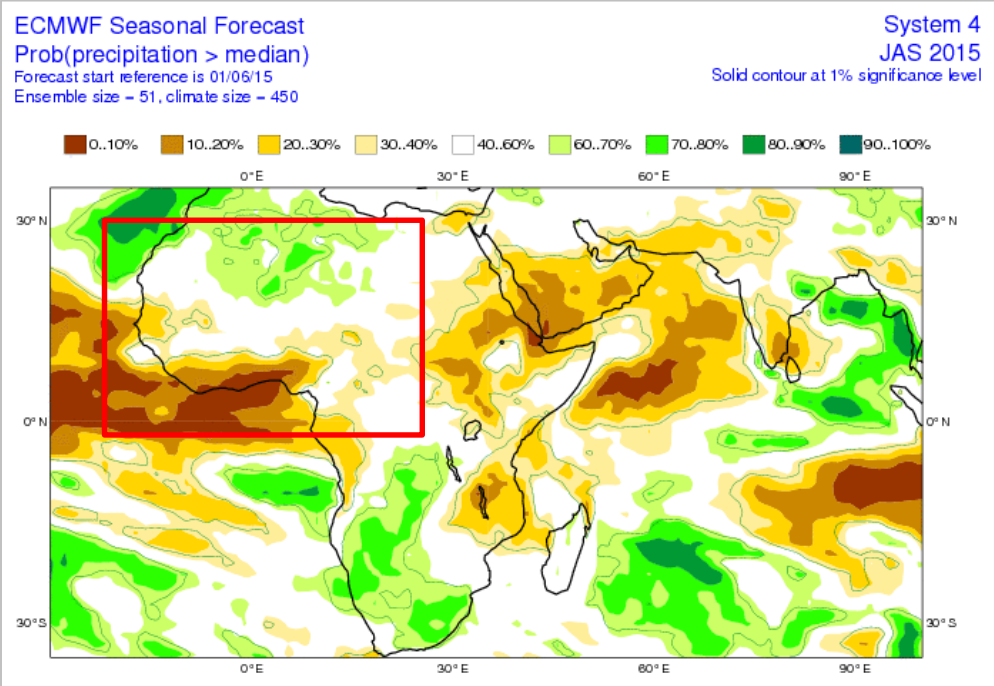
July to September is the crucial period of the Sahelian rainfall season. Most forecasts predict moderately drier than average conditions in the Senegal and Mauritania region. Similar conditions are also forecast for the Niger-Chad areas.

The Agrhymet Centre has recently released forecasts for shorter than average growing seasons across the Sahel.

Possibility of a region wide poor cropping season may have to be considered depending on the quantity and distribution of rainfall in July and August.



Probability of an El Nino event (red bars) vs neutral conditions (green) and La Nina (blue). El Nino probabilities remain above 90% throughout the Sahelian growing season.



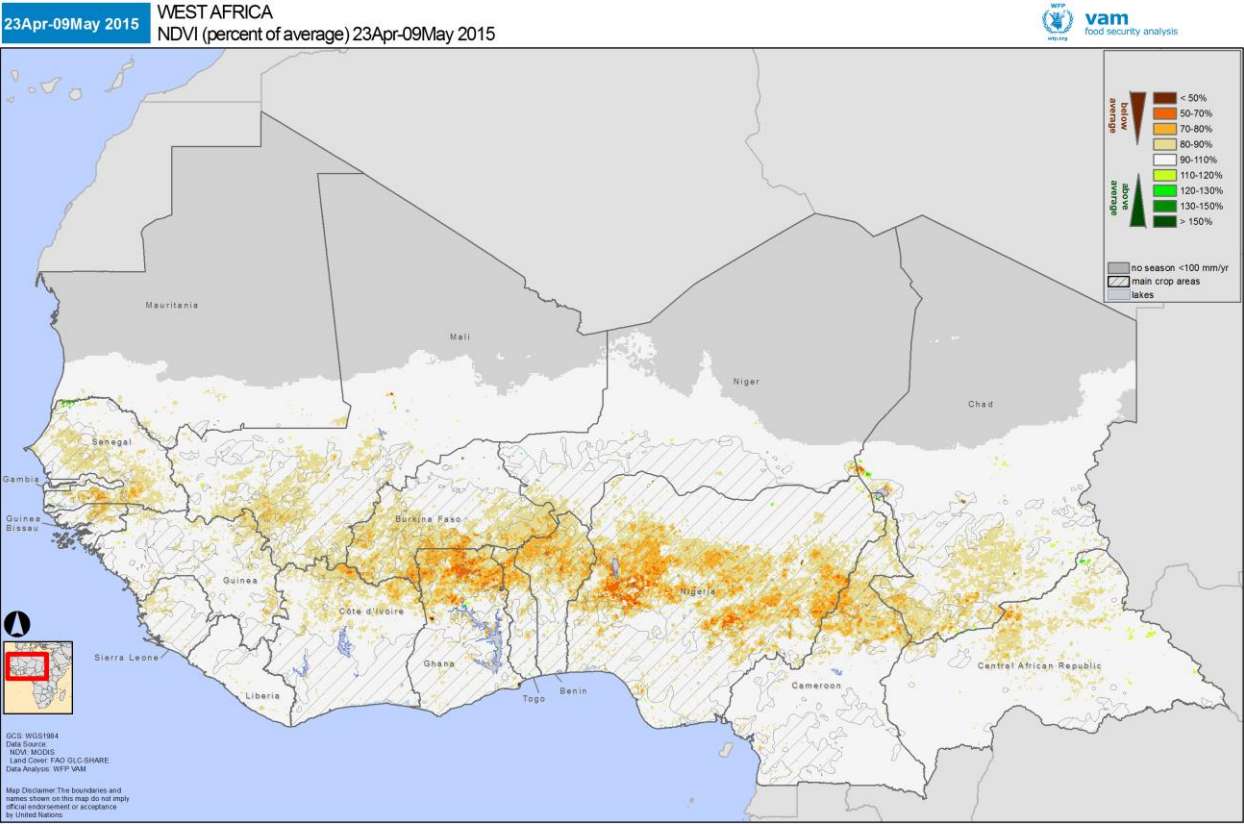
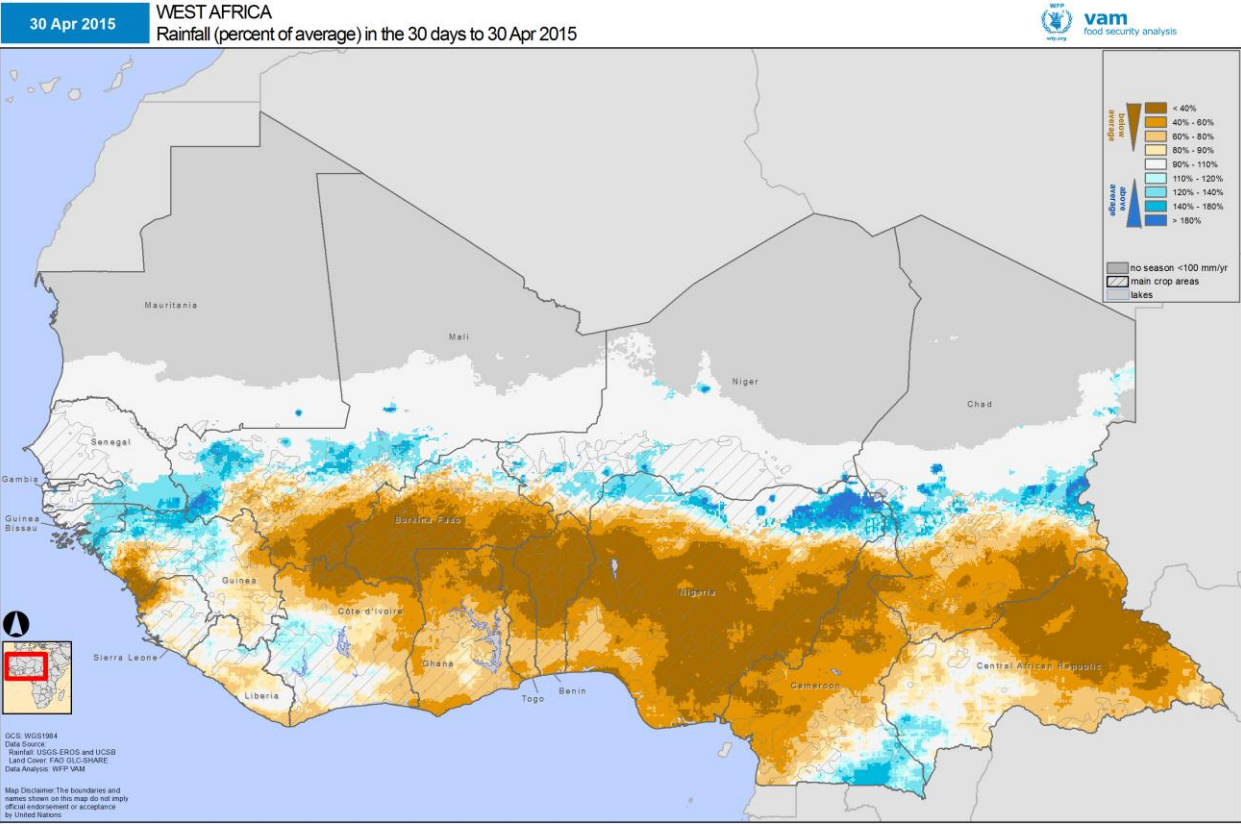
Seasonal forecasts for July to Sept rainfall; orange to browns, drier than average, green shades wetter than average.

The season month by month



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April 2015 rainfall as a percentage of the 20-year average (left). Brown shades for below-average rainfall; blue shades for above-average seasonal rainfall.

Early May 2015 vegetation index as a percentage of the 12-year average (right). Orange shades for below-average vegetation; green shades for above-average vegetation.

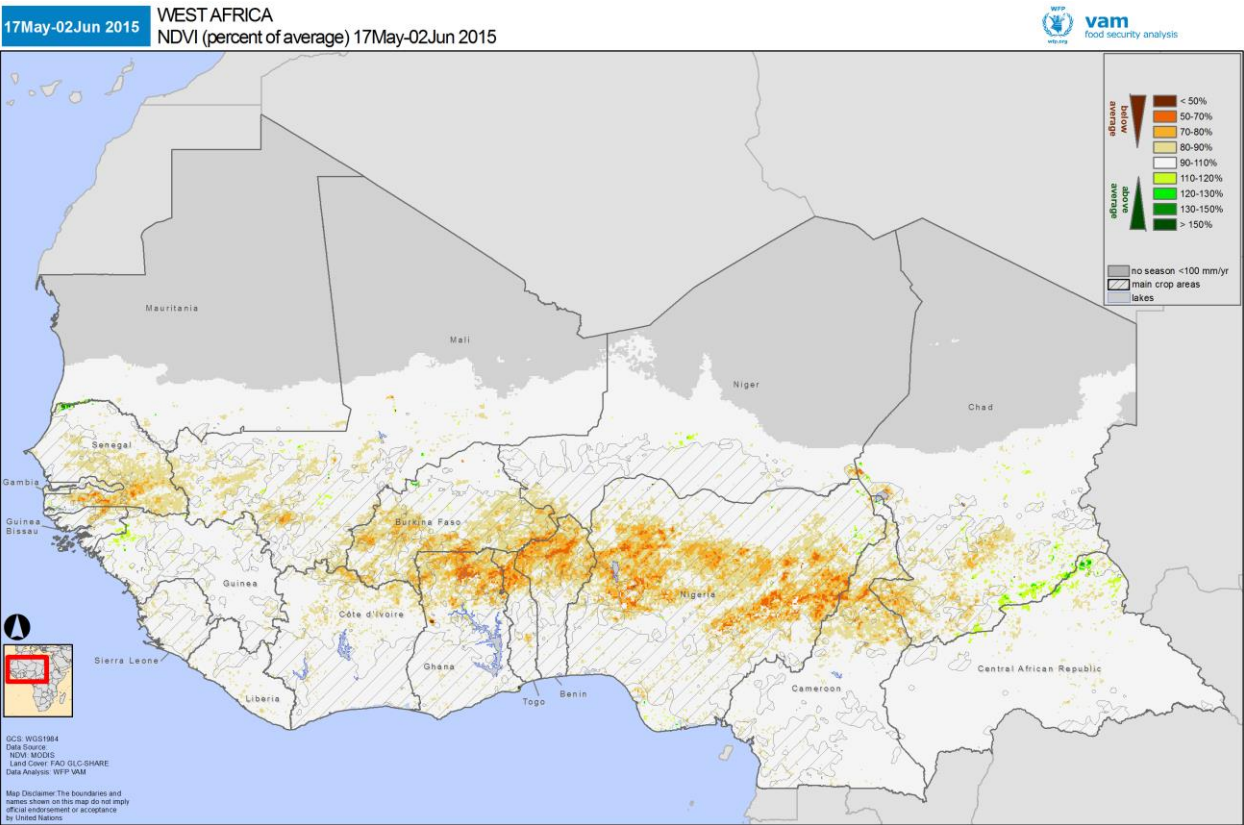
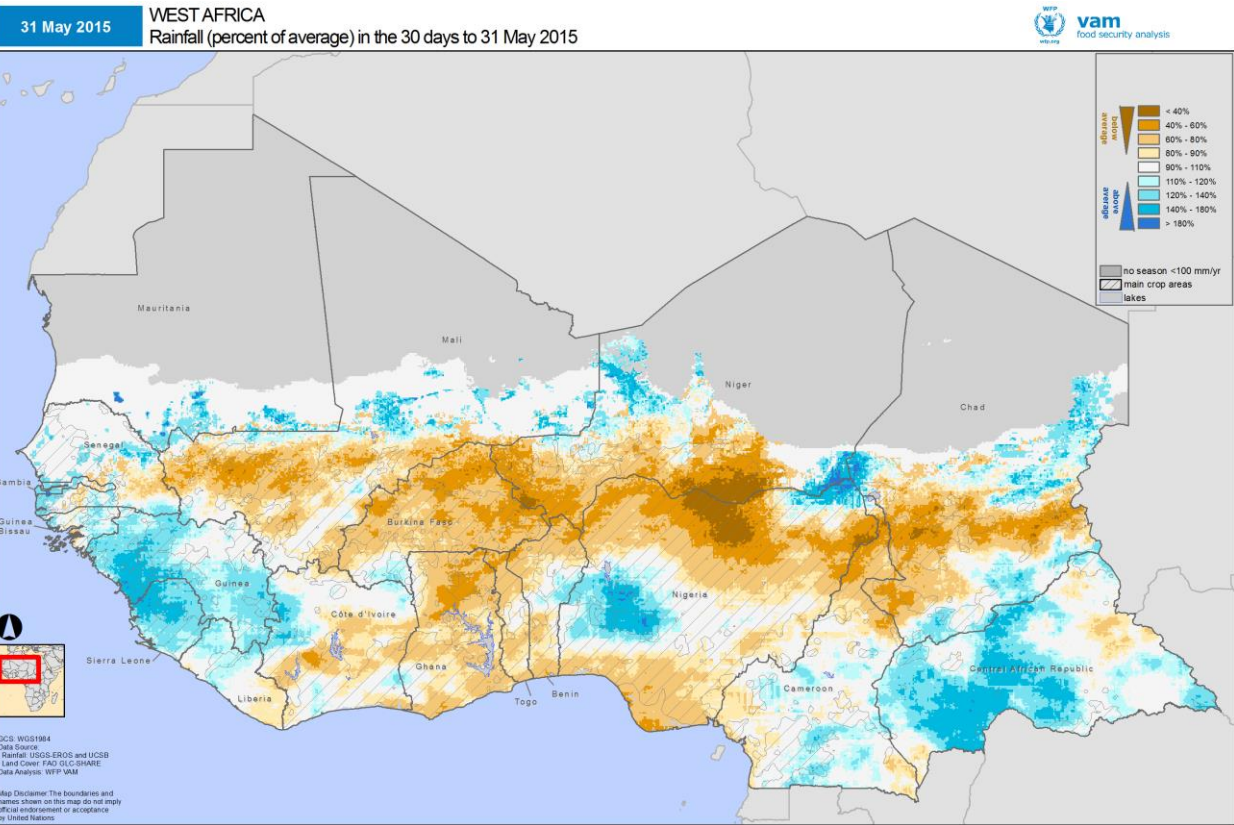
Hashed pattern indicates main agricultural areas.

April 2015

This month marks the very early stages of the growing season in West Africa. Normally by the end of the month, the growing season has extended northwards up to northern Cote d'Ivoire across to central Nigeria and over into CAR.

This year, severe rainfall deficits in these regions delayed this progression of the growing season by 20-30 days which is reflected in lower than average vegetation.

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May 2015 rainfall as a percentage of the 20-year average (left). Brown shades for below-average rainfall; blue shades for above-average seasonal rainfall.

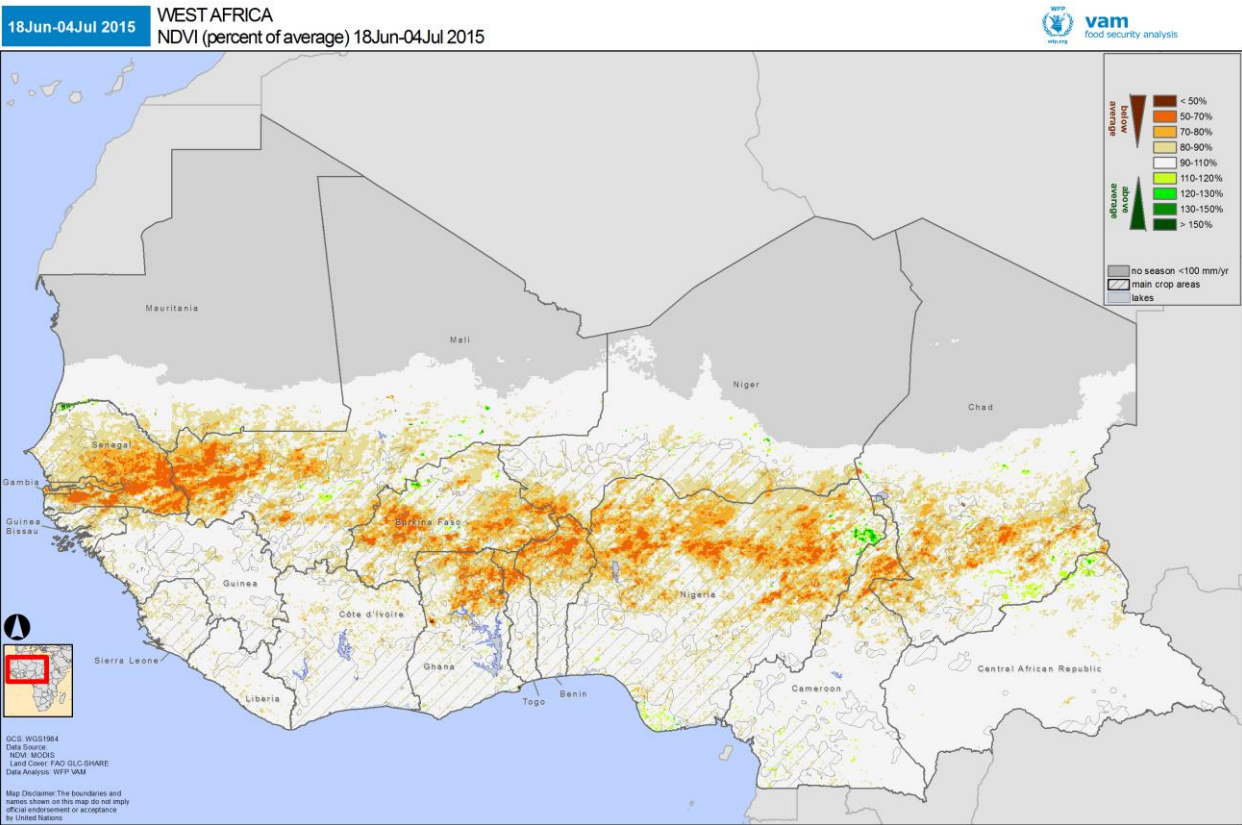
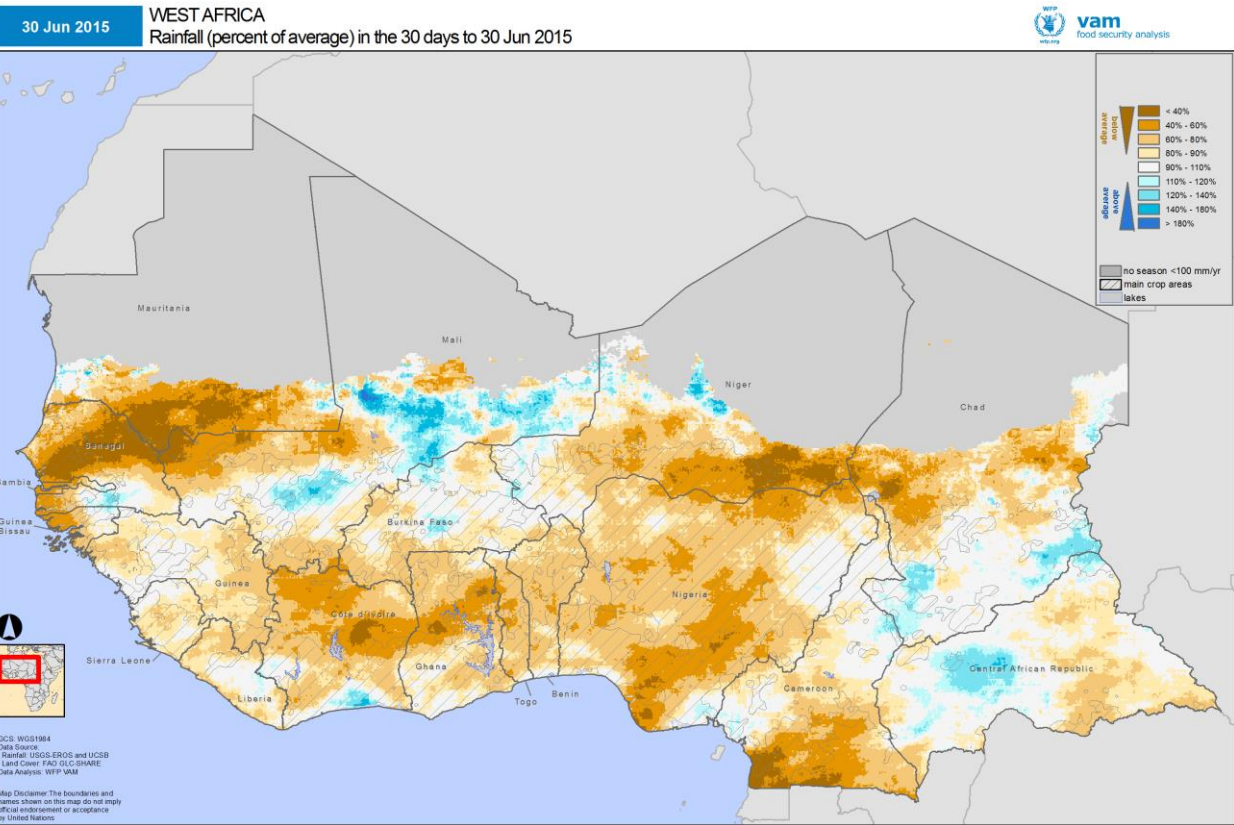
Late May 2015 vegetation index as a percentage of the 12-year average (right). Orange shades for below-average vegetation; green shades for above-average vegetation.

Hashed pattern indicates main agricultural areas.

May 2015

This month rainfall arrives in the Sahelian zone. The growing season usually starts in southern Mali, Burkina Faso, northern Nigeria and southern Chad. This year rainfall deficits have spread across the regions, leading to a predominance of delayed starts to the season. Vegetation deficits have intensified which is a clear indication of a poor start to the season and early crop development.

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June 2015 rainfall as a percentage of the 20-year average (left). Brown shades for below-average rainfall; blue shades for above-average seasonal rainfall.

Late June 2015 vegetation index as a percentage of the 12-year average (right). Orange shades for below-average vegetation; green shades for above-average vegetation.

Hashed pattern indicates main agricultural areas.

June 2015

This month rains arrive further into the Sahelian zone. This marks the start of the cropping season in south and central Senegal, and the main agricultural areas of Mali, Niger and Chad.

Rainfall deficits continued to be the norm across most of West Africa, except for some areas in Mali. Elsewhere, there were either delays in the start of the season or very poor conditions for the early crop development. Vegetation deficits are now very severe. Well distributed and plentiful July and August rainfall is now essential to improve current prospects.

Data Sources:

Rainfall: CHIRPS, Climate Hazards Group, UCSB

Vegetation: MODIS NDVI, EOSDIS-NASA

Land Cover: FAO GLC-Share

Processing:

VAM software components, ArcGIS

For more information, please contact:

Rogério Bonifacio

rogerio.bonifacio@wfp.org

+39 06 6513 3917



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