At this early stage of the season, seasonal rains remain located over the southernmost regions of Western Africa. Light to moderate rainfall was recorded across several parts with heaviest amount observed over southern Guinea, Liberia, Cote d’Ivoire, Ghana, southern Nigeria and Cameroun, far south-eastern CAR and south-western Burkina. Meanwhile, southern Chad, Northern Nigeria, most of CAR, half northern Burkina Faso, western Guinea and Guinea Bissau received light rain resulting below average rainfall.

In mid May at early stage of the season, west Africa region continue to be dominated by drier than average conditions. Rainfall deficits extend across Sahelian areas from Guinea across Mali and Burkina to Nigeria and Togo. These deficits also affect vegetation development, leading to poor vegetation cover across central Nigeria, pockets over Benin, Togo, Ghana, Cote d’Ivoire and Sothern Burkina Faso.

Short-term forecasts indicate that drier than average conditions will continue to dominate the region until June 10. Only some areas of central Mali, NE Burkina and SE Niger may experience good rainfall.

According PRESASS seasonal forecasts, above average rainfall is expected over the Sahelian and Sudanian belt from Chad to the Atlantic coast while below-average rainfall will likely be observed over Liberia and Sierra Leone during July-August-September. These conditions should lead to early to normal seasonal rainfall onset and shorter to normal dry spell length in the central and eastern parts of the Sahel.

However, ECMWF forecasts (for June–August 2020) point to below-average rainfall in the western areas of the Sahel, Mauritania, Senegal, western Mali and along the Gulf of Guinea and Cameroon. Below-average rainfall is also expected in Central and south eastern Cameroun, and over most parts of CAR. Elsewhere conditions are mostly near average (Burkina, Niger and Chad). The two sets of forecasts are not particularly consistent at the moment, with ECMWF being more pessimistic.
West Africa: Rainfall Season 2020

Latest Developments, May 10 - 20 2020

At this early stage of the season, seasonal rains remain located over the southernmost regions of Western Africa. Light to moderate rainfall was recorded across several parts with heaviest amount observed over southern Guinea, Liberia, Cote d’Ivoire, Ghana, southern Nigeria and Cameroun, far south-eastern CAR and south-western Burkina.

Meanwhile, southern Chad, Northern Nigeria, most of CAR, half northern Burkina Faso, western Guinea and Guinea Bissau received light rain resulting below average rainfall.

Over western and eastern West Africa regions, the ITCZ has made moderate progress northwards, still remaining south of the long-term average. This anomalous south position to the average position may have contributed to the limited rainfall observed over the Gulf of Guineas countries and poor early seasonal monsoon development over Sahel region.

(1) 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 10 to 20 May 2020 (above). Same as a proportion of the long term average (below). Blues for wetter than average, browns for drier than average.
In mid-May at early stage of the season, west Africa region continue to be dominated by drier than average conditions. Rainfall deficits extend from Guinea across southern Mali, Burkina and into Nigeria and Benin. Cote d’Ivoire, Ghana and Togo are also affected by drier than average conditions.

Only Sierra Leone and neighbouring areas of Guinea and Liberia and parts of central Cameroon and far western C.A.R. have so far enjoyed above average rainfall.

These are early days in the seasonal development, so these conditions are not of particular significance, but will continue to be monitored.
West Africa: Rainfall Season 2020

Seasonal Development

The early season dryness affects the vegetation conditions (map upper left) leading to below average vegetation cover across central Nigeria, pockets over Benin, Togo, Ghana, Cote d’Ivoire and Southern Burkina Faso.

Over southern Chad favorable vegetation conditions are still observed, and already some earlier than usual starts of the season can be seen in northern Nigeria and Cameroun.

This is also reflected in the availability of water resources. Across extensive areas just southern half of the Sahel from Mali to Chad in Central Mali, Southern Niger and Far eastern Sahelian belt of Chad water availability has recovered.

However, in the regions further west including Senegal and Mauritania, water resources are in very low levels and conditions may not change in the immediate future according to the forecasts (see next slides) and the monsoon conditions.
Short-term Forecasts

Short range CHIRPS-GEFS forecasts provide estimates of rainfall up to June 10. In early June, West Africa region, will likely be dominated by drier than average conditions. Only in pockets over Central Mali, NE Burkina Faso and SW Niger do we expected above average rainfall.

This pattern is also reflected in the one month rainfall anomaly to early end of June – we can still see drier than average patterns spreading across most of the region since the second half of May makes a greater contribution to the seasonal rainfall.

NOTE: The short range CHIRPS-GEFS forecasts are a bias-corrected and downscaled version of the NCEP Global Ensemble Forecast System precipitation forecasts from the Climate Hazards Centre (CHC/UCSB). They are consistent with the CHIRPS rainfall estimate used in this Bulletin and provide a short range outlook on rainfall.

Forecast information should be considered carefully since these products always have a margin of error.
West Africa: Rainfall Season 2020

Seasonal Forecasts (2020, PRESASS, ECMWF)

According to PRESASS seasonal forecast, above average rainfall is expected over the Sahelian and Sudanian belt from Chad to the Atlantic coast, particularly over the southern part of Chad, Niger agricultural belt, Burkina Faso, the agricultural areas of Mali, southern Mauritania, Senegal, Gambia, Guinea Bissau, Cape Verde, northern Guinea, far northern parts of Côte d’Ivoire, Ghana, Togo, Benin and Nigeria. However during July-August-September are expected below-average rainfall over Liberia and Sierra Leone.

Early to normal seasonal rainfall onset is expected in the central and eastern parts of the Sahel, from south-eastern Mali to Chad and in the northern parts of Côte d’Ivoire, Ghana, Togo, Benin and Nigeria while normal to late seasonal rainfall onset are expected in Western part of the Sahel (southern Mauritania, Senegal, south-western Mali, Guinea, Guinea Bissau, Sierra Leone and northern Liberia), with the possibility of an early onset in some places due in particular to the ongoing warming of the Senegalese and Mauritanian coasts.

Shorter to normal dry spell length after the onset of the season are expected in the Central and Eastern Sahel and in some localities in the northern parts of Ghana, Togo, Benin and Nigeria and towards the end of the season, shorter dry spells are expected over the entire Sahelian and Sudanian belt, except in the Lake Chad area (Niger, Nigeria and Chad) where longer to normal dry spell durations could be observed.

Latest seasonal forecasts from ECMWF suggest Gulf of Guinea countries will face drier than average conditions from June to August 2020.

For the rest of the region, they point to below-average rainfall in the western areas of the Sahel, Mauritania, Senegal, western Mali and along the Gulf of Guinea and Cameroon. Below-average rainfall is also expected in Central and south eastern Cameroun, and over most parts of CAR. Elsewhere conditions are mostly near average (Burkina, Niger and Chad).

ECMWF forecasts are more pessimistic than those of PRESASS (see next) so the two sets of forecasts are not particularly consistent at the moment.
WEST AFRICA : THE 2020 SEASON

DATA SOURCES:
Rainfall: CHIRPS, Climate Hazards Group, UCSB
Vegetation: MODIS NDVI, EOSDIS–NASA

PROCESSING:
VAM software components, ArcGIS

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