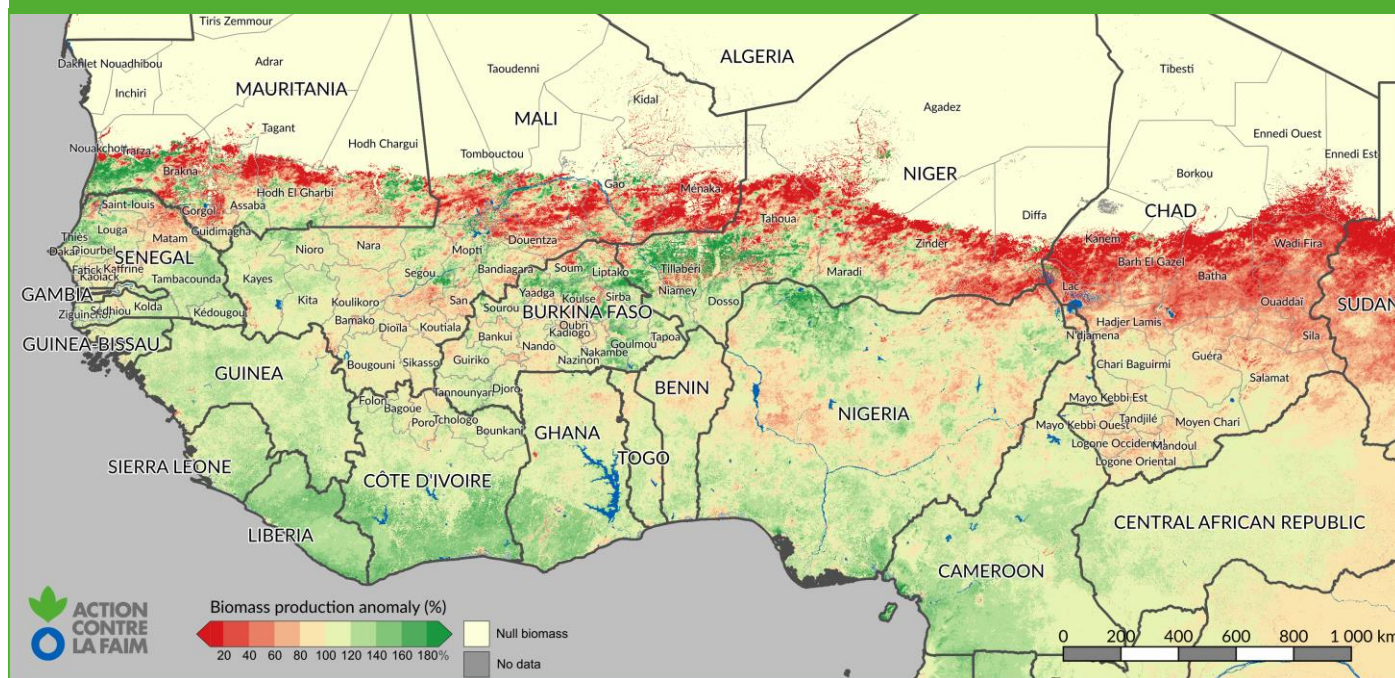


BIOMASS PRODUCTION AT RAINY MID-SEASON 2026

SAHEL REGIONAL BULLETIN

MAP 1: ANOMALY OF BIOMASS PRODUCTION AT END OF AUGUST 2026



HIGHLIGHTS

- Delayed onset of the rainy season and persistent rainfall deficits across the Sahel.
- Fodder production is lower than during the exceptional 2024 and 2025 seasons.
- Significant biomass deficits are observed in Mauritania, Mali, Niger and Chad, affecting major pastoral areas.
- Sudanian and Gulf of Guinea zones remain generally above average.
- Increased risk of fodder shortages, pressure on pastoral resources, and early transhumance movements.

INTRODUCTION

This document provides an interim assessment of vegetation production in the Sahelian zone of West Africa at mid-season of the 2026 rainy season, covering conditions up to the end of August.

The 2026 season follows a year marked by generally very favourable rainfall conditions across most of the Sahel. These conditions supported good biomass production and helped alleviate difficulties during the pastoral lean season.

In 2026, the global climate context has been characterized by the development of an El Niño event, which is generally associated with drier conditions in West Africa. In this context, the onset of the rainy season was delayed across the Sahel, while remaining close to normal in the Sudanian-Sahelian and Guinean zones. By the end of August,

cumulative rainfall remained below average across a large part of the Sahel, directly affecting vegetation development and biomass production prospects.

At this stage of the season, rainfall performance appears generally unfavourable for pastoral and agropastoral populations across the Sahel. This situation compounds existing vulnerabilities, including the impacts of climate change and the gradual degradation of pastoral ecosystems.

In addition, the effective use of pastoral resources continues to be constrained by insecurity and socio-economic challenges. Persistent tensions and mobility restrictions limit herders' access to grazing lands, water points, and markets, further undermining pastoral livelihoods.

DESCRIPTION OF THE SYSTEM

WHAT IS BIOMASS AND HOW IS IT MEASURED?

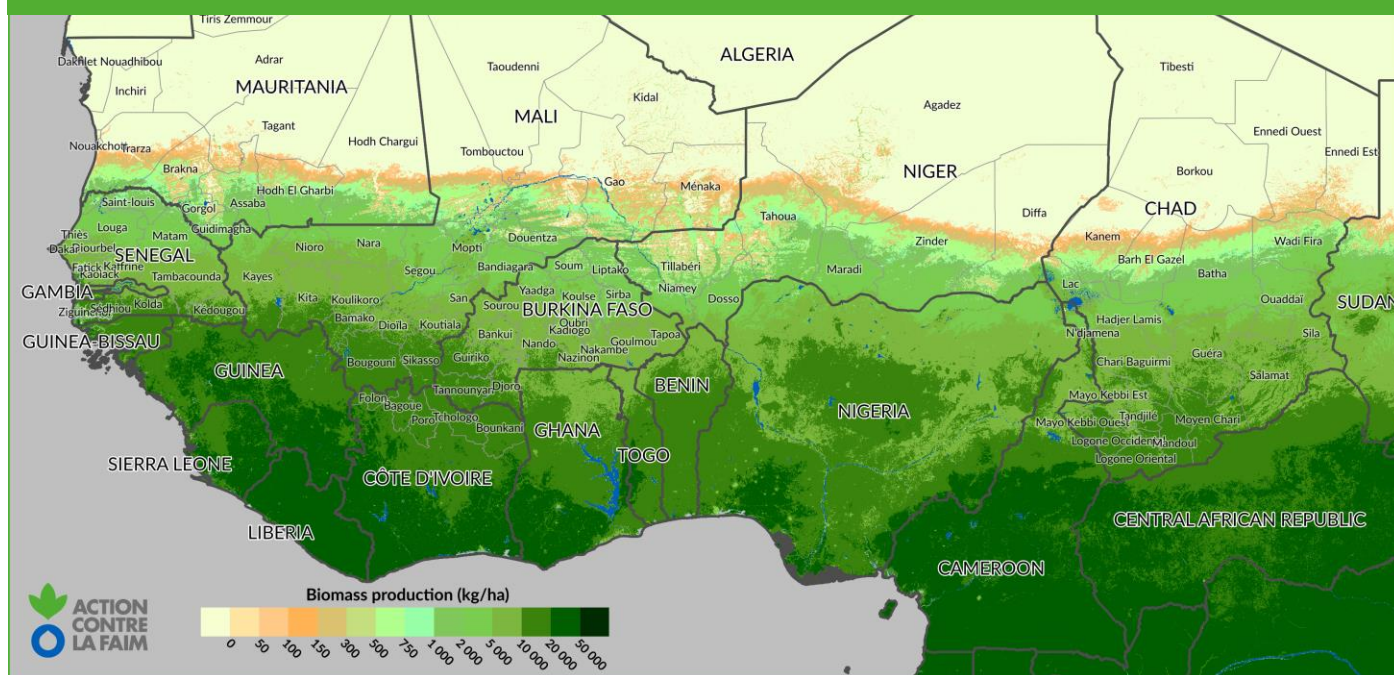
Biomass is the total production of vegetal matter measured in kilograms of dry matter per hectare (kg/ha). The term dry matter is used to describe any form of vegetation above the ground regardless of its water/moisture content. For an analysis of the pastoral situation, biomass is an effective way to measure the availability of fodder resources.

Biomass production is calculated from satellite images collected by the European Space Agency's **SPOT-VEGETATION**, **PROBA-V** and **SENTINEL-3** satellites and provided, in form of 10-day products, by the European **Copernicus Land Monitoring Service** CLMS programme.

The method for calculating daily biomass productivity (kg/ha/day) is based on an algorithm integrating biophysical parameters obtained from satellite images as well as climatic parameters of temperature and solar irradiance.

The **BioGenerator** tool developed by ACF integrates all these data to produce an annual biomass production map calculated over the growing season coinciding with the rainy season in the Sahel. The spatial resolution is 300 m, which corresponds to that of the satellite products used. The period covered is the one of the available satellite archives from 1999 to the present.

MAP 2: AVERAGE ANNUAL BIOMASS PRODUCTION 1999-2025



WHAT ARE THE INDICATORS GENERATED?

The first indicator is the annual biomass production calculated over the growing season:

- **Annual production in kg/ha**

The annual biomass production is compared to the average calculated over all the years since 1999 in order to highlight the anomaly which is represented in two ways:

- **Anomaly expressed as a percentage of the mean value %**
- **Normalised anomaly expressed as the number of standard deviations σ from the mean**

A vulnerability index linked to biomass availability, named « VI » (Vulnerability Index), is calculated recursively by weighting the most recent years in order to take into account the sequence of dry or rainy events:

- **Vulnerability Index VI**

Indicators are visualisable and downloadable at the following links:

- geosahel.info
- data.humdata.org/organization/acf-west-africa

BIOMASS PRODUCTION AT MID-SEASON 2026

MAPPING THE BIOMASS PRODUCTION ANOMALY

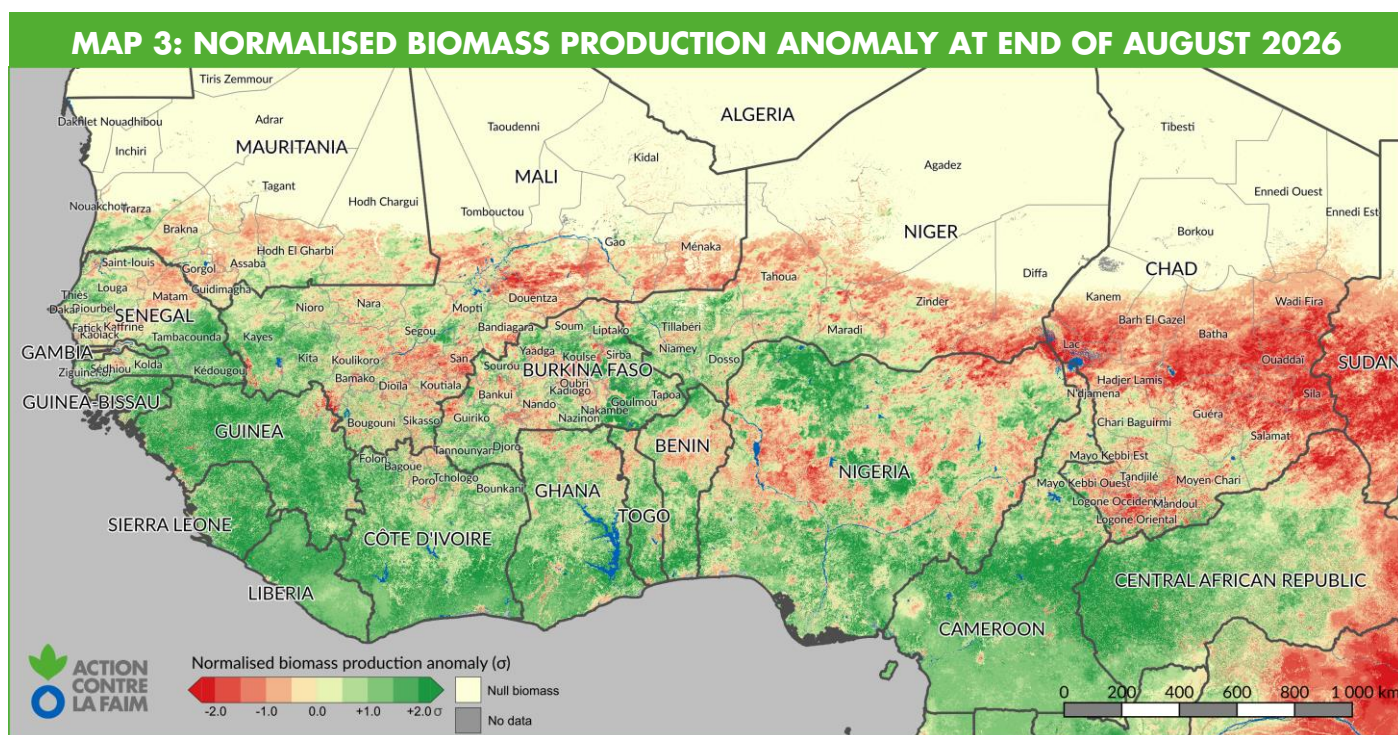
Map 1 shows the biomass production anomaly at mid-season of the 2026 rainy season across the Sahelian belt, expressed as a percentage of the reference average. It highlights the absolute differences in production observed compared to normal conditions. Map 3 presents the same information in the form of standardized anomalies (Z-scores), expressed as the number of standard deviations from the mean. This provides a better assessment of the relative intensity of the anomalies and helps identify exceptionally deficit or surplus conditions.

The analysis reveals a strong contrast between the Sahelian zones and the Sudanian and Guinean zones. A broad belt of biomass deficit extends from Mauritania to Chad, passing through northern Mali, Niger, and much of Burkina Faso. This pattern

reflects below-average fodder production across a large share of the Sahel's pastoral areas.

The most severe deficits are observed in northern Mali, central and eastern Niger, and Chad, where pasture regeneration conditions appear particularly concerning. These poor performances are mainly explained by the delayed onset of the rainy season, persistent rainfall deficits, and the succession of prolonged dry spells that have limited vegetation growth and the replenishment of pastoral resources.

Conversely, several areas located further south are experiencing more favourable conditions. The coastal countries of the Gulf of Guinea, as well as parts of southern Burkina Faso, southern Niger, and Nigeria, are recording biomass surpluses, reflecting vegetation growth conditions that are generally better than average for this time of year.



THE 2026 GROWING SEASON

The figure on page 5 presents instantaneous biomass production profiles for several representative regions across West Africa.

In Matam (Senegal) and Hodh El Gharbi (Mauritania), the season started under generally favourable conditions. However, a decline in rainfall from late July onwards significantly slowed pasture regeneration.

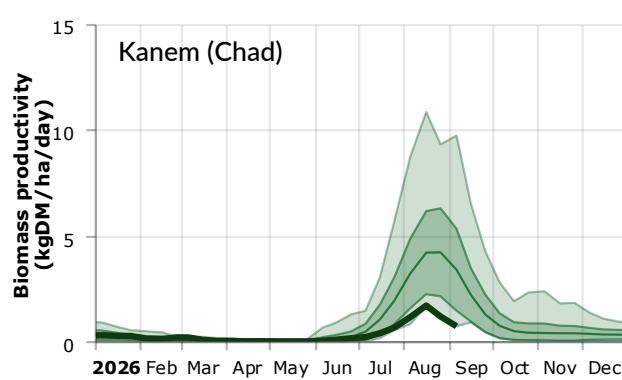
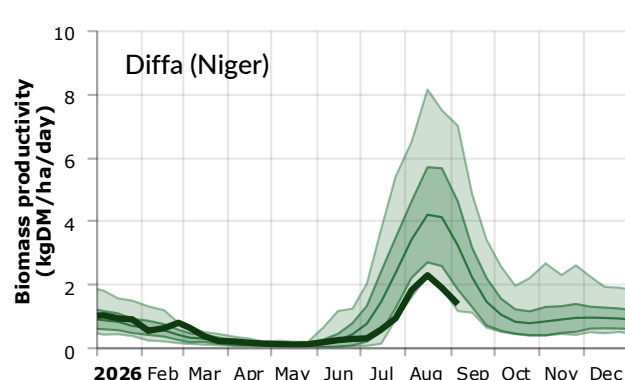
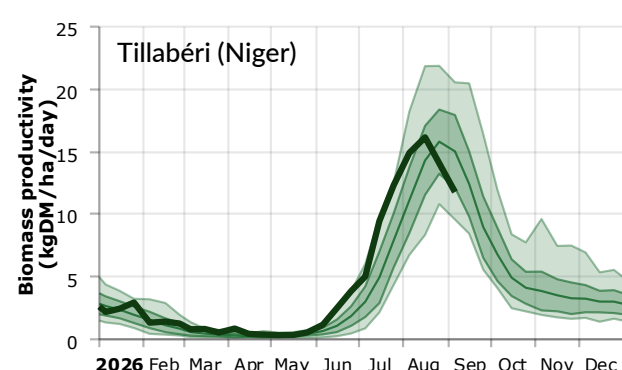
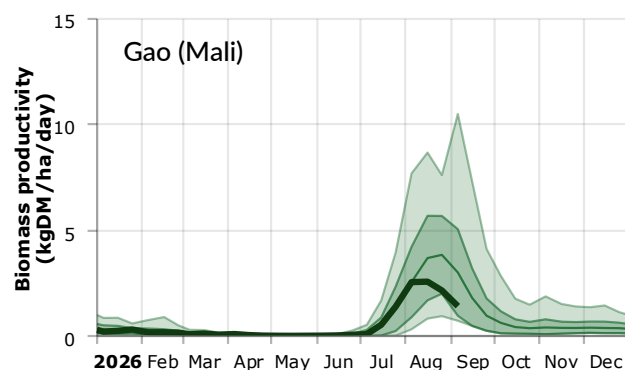
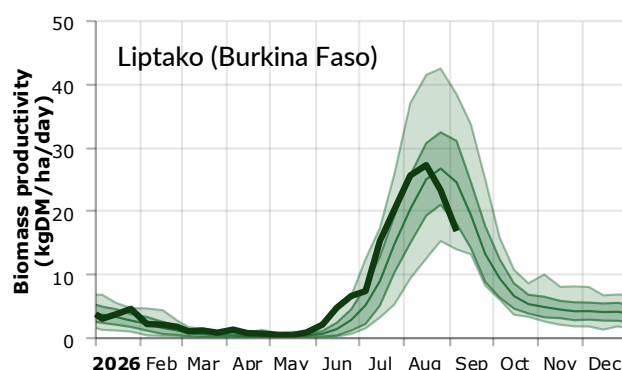
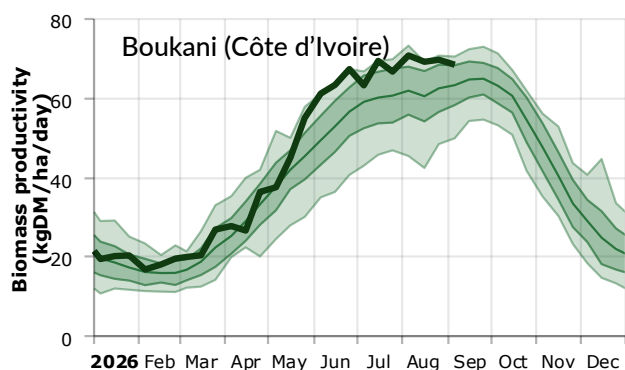
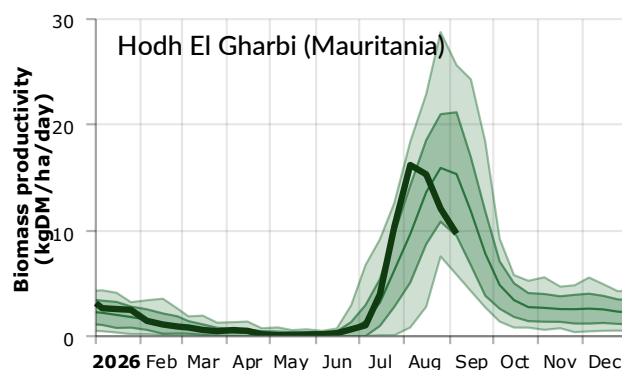
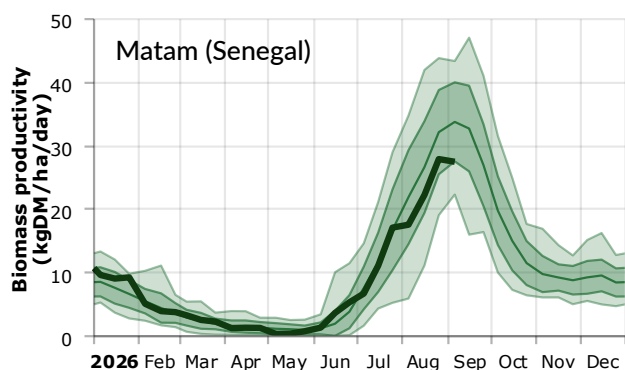
This mid-season deterioration is also observed in the Liptako region (Burkina Faso), in Gao (Mali), and in Tillabéri (Niger), where a relatively satisfactory start to the season was followed by a marked slowdown in vegetation growth during August because of rainfall interruptions.

Conversely, in Bounkani (Côte d'Ivoire), as in most regions of the Gulf of Guinea, the season has been progressing under favourable conditions. Vegetation

regeneration accelerated as early as May, resulting in biomass production levels above average.

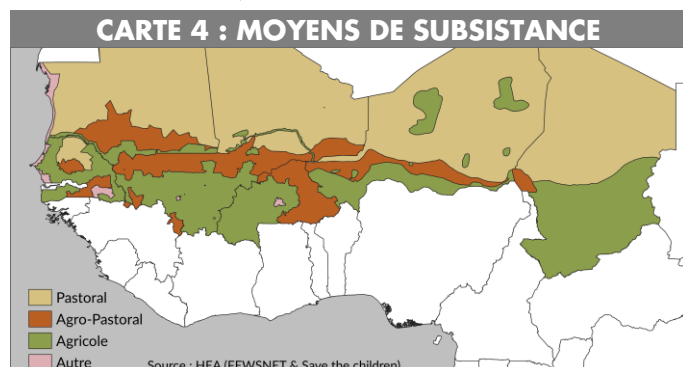
The most concerning situations are observed in eastern Niger and Chad, where rainfall deficits have

led to a delayed start of the season, limited vegetation growth, and an early interruption of pasture regeneration. These conditions have resulted in some of the lowest biomass production levels recorded in the historical time series.



INTER-ANNUAL VARIATION IN BIOMASS PRODUCTION

Building on the livelihood zone classification (Map 4), it is possible to analyse interannual variations in biomass production according to land-use systems: Agricultural, Pastoral, and Agropastoral (source: Household Economy Analysis (HEA) / FEWS NET & Save the Children).

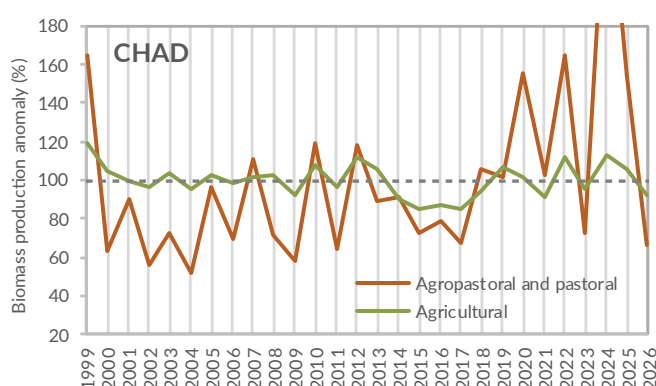
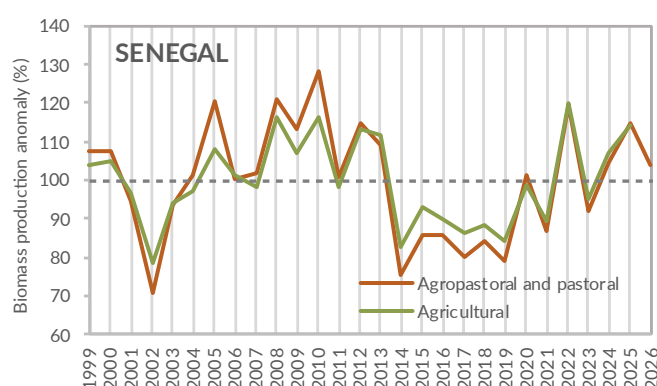
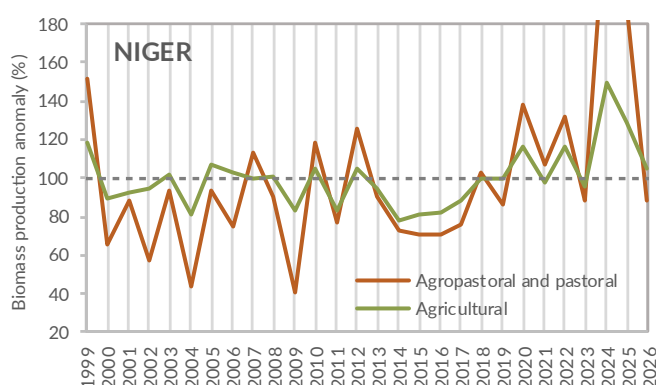
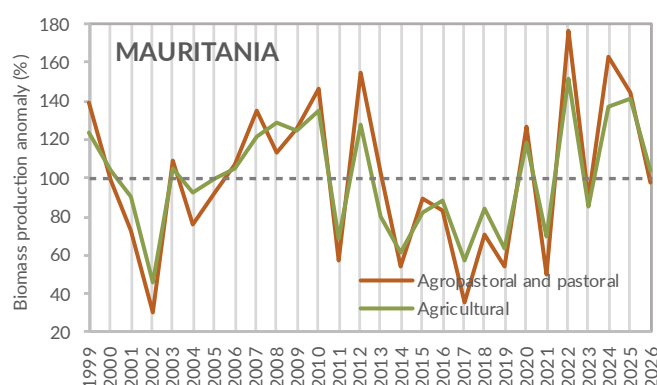
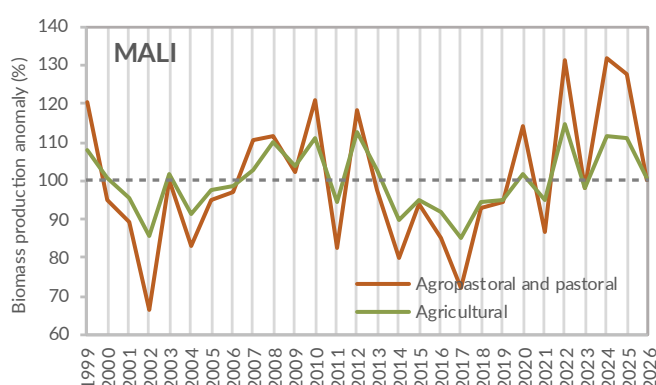
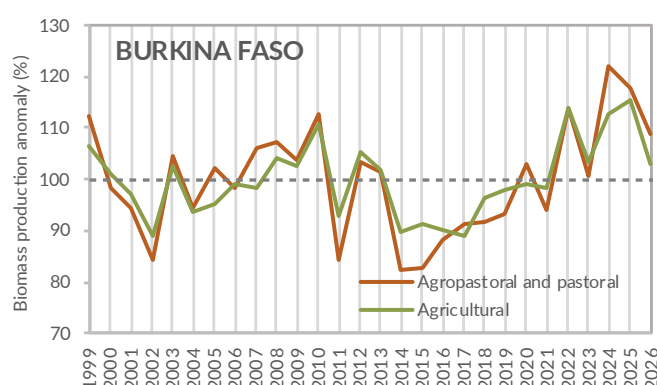


To these comparisons, the original Agropastoral and Pastoral classes were merged to generate statistics representative of the entire pastoral land-use zone.

The graphs show a decline in biomass production in 2026 compared with the particularly favourable years of 2022, 2025, and especially 2024. This decrease occurs in the context of the return of an El Niño event, following several years influenced by La Niña, which generally brings more favourable rainfall conditions across the Sahel.

In most countries, biomass production levels observed in 2026 are closer to the long-term average and to those recorded in 2023. Burkina Faso, Mali, Senegal, and Mauritania are therefore experiencing overall biomass production levels that remain near normal, although below the exceptional levels observed in recent years.

The situation is more concerning in Niger and particularly in Chad, where pastoral and agropastoral areas are experiencing significant biomass deficits, comparable to or even lower than those recorded in 2023.



COMPARISON OF 2026 WITH RECENT YEARS

The biomass-related Vulnerability Index (VI), presented in Map 5, is sensitive to biomass production variations recorded over recent years and highlights areas that have experienced successive biomass deficits.

The VI calculated at the end of August 2026 indicates a very high level of exposure to vulnerability across the entire area under analysis. This situation results from a widespread decline in biomass production throughout West Africa when compared with the exceptionally favourable seasons of recent years.

A broad zone of significant deficit extends from Mauritania to Chad, passing through Senegal, Mali, northern Burkina Faso, northern and eastern Niger, and northern Nigeria. The highest vulnerability levels are observed in Mauritania, northern Mali, large parts of Niger, and Chad, reflecting biomass production that is well below normal and markedly lower than in previous years. Conversely, the Sudanian and Guinean zones display more mixed conditions, with a few localized areas showing moderate deficits.

MAP 5: BIOMASS VULNERABILITY INDEX END OF AUGUST 2026



The following table presents biomass production anomalies, expressed both as the number of standard deviations from the 1999-2025 average and as a percentage of that average, for the eight countries monitored at the first administrative level (regions, provinces, or wilayas). The results reveal a highly contrasting situation across regions, although overall biomass production remains below the levels observed in recent years.

The analysis highlights a pronounced contrast between the Sahelian agroecological zones and the more southern regions. Agricultural areas in the south generally display favourable conditions, with biomass production levels often exceeding the long-term average. In contrast, pastoral areas across the Sahel are characterized by a greater prevalence of negative anomalies or values close to normal.

The largest surpluses are concentrated in the Gulf of Guinea regions and certain Sudanian zones, where anomalies frequently range between +1 and +2 standard deviations, corresponding to 120% to 180% of the average biomass production. However, despite these positive anomalies, the decline in production compared with the exceptionally favourable years of the recent past results in a negative Vulnerability Index (VI) across the region.

Conversely, pastoral areas in Niger, Chad, Mauritania, and northern Mali record numerous negative anomalies, in some cases falling below -1.5 standard deviations and associated with production levels of less than 80% of the long-term average. These results confirm the difficulties observed during the 2026 rainy season and suggest limited fodder availability in several regions that are already highly vulnerable.

Country	Region/Wilaya	Area (km2)	Anomaly 2022	Anomaly 2023	Anomaly 2024	Anomaly 2025	Anomaly 2026	VI 2026
Burkina Faso	Bankui	17380	+0.9σ (111%)	-0.3σ (097%)	+1.2σ (115%)	+1.1σ (115%)	-0.1σ (098%)	-0.01
	Djoro	16529	+1.5σ (117%)	+0.9σ (111%)	+0.7σ (109%)	+1.0σ (112%)	+0.6σ (110%)	-0.01
	Goulmou	17904	+0.9σ (111%)	-0.2σ (097%)	+1.5σ (119%)	+0.8σ (110%)	+1.3σ (123%)	+0.02
	Guiriko	25369	+0.9σ (110%)	+0.0σ (100%)	+1.0σ (111%)	+1.1σ (112%)	+0.3σ (103%)	-0.01
	Kadiogo	2988	+1.5σ (120%)	+0.2σ (100%)	+0.5σ (104%)	+0.4σ (103%)	-0.1σ (096%)	-0.01
	Koulse	19740	+1.0σ (124%)	+0.3σ (111%)	+1.4σ (135%)	+1.6σ (142%)	+0.5σ (115%)	-0.01
	Liptako	22892	+0.7σ (126%)	+0.2σ (107%)	+1.5σ (154%)	+1.7σ (160%)	+0.4σ (111%)	-0.03
	Nakambe	14491	+0.9σ (110%)	+0.2σ (102%)	+1.1σ (113%)	+0.4σ (105%)	+0.8σ (113%)	+0.00
	Nando	21709	+0.8σ (111%)	-0.1σ (099%)	+0.8σ (110%)	+0.7σ (109%)	-0.2σ (097%)	-0.01
	Nazinon	11612	+1.0σ (111%)	+0.2σ (102%)	+1.1σ (113%)	+1.0σ (111%)	+0.6σ (109%)	-0.00
	Oubri	8593	+1.5σ (121%)	-0.2σ (097%)	+0.8σ (111%)	+0.5σ (107%)	-0.6σ (090%)	-0.03
	Sirba	14342	+0.6σ (109%)	-0.2σ (096%)	+0.9σ (116%)	+1.1σ (120%)	+0.7σ (115%)	+0.02
	Soum	12474	+1.0σ (138%)	+0.4σ (118%)	+1.6σ (163%)	+1.7σ (166%)	+0.2σ (106%)	-0.04
	Sourou	17074	+1.3σ (124%)	+0.4σ (109%)	+1.3σ (125%)	+1.7σ (132%)	+0.3σ (106%)	-0.02
	Tannounyan	18294	+1.3σ (115%)	+0.8σ (110%)	+0.8σ (110%)	+1.4σ (116%)	+0.9σ (114%)	-0.00
	Tapoa	15349	+0.8σ (110%)	-0.3σ (095%)	+1.2σ (115%)	+0.2σ (102%)	+0.6σ (109%)	+0.00
	Yaadga	16488	+1.2σ (128%)	+0.2σ (109%)	+1.0σ (128%)	+1.4σ (135%)	+0.2σ (108%)	-0.01
	Pays entier	273231	+1.0σ (117%)	+0.1σ (104%)	+1.1σ (122%)	+1.1σ (123%)	+0.4σ (108%)	-0.01
Cameroun	Far-North	25369	+0.7σ (114%)	+0.1σ (101%)	+1.4σ (125%)	+0.5σ (111%)	-0.0σ (098%)	-0.02
	North	19740	+0.5σ (104%)	+0.5σ (104%)	+0.5σ (104%)	+0.6σ (105%)	+0.8σ (108%)	+0.01
	Pays entier	465297	+1.0σ (114%)	+1.0σ (113%)	+1.0σ (114%)	+1.3σ (116%)	+1.2σ (117%)	-0.00
Côte d'Ivoire	Bagoue	17904	+0.7σ (105%)	+0.1σ (100%)	-0.1σ (098%)	+0.6σ (105%)	+0.7σ (108%)	+0.01
	Bounkani	19740	+1.3σ (113%)	+0.9σ (109%)	-0.0σ (100%)	+0.9σ (109%)	+0.9σ (112%)	+0.01
	Folon	11612	+0.4σ (103%)	-0.3σ (096%)	-0.7σ (093%)	+0.9σ (107%)	+1.0σ (111%)	+0.03
	Poro	3249	+0.4σ (103%)	-0.0σ (099%)	-0.4σ (095%)	+0.5σ (105%)	+0.3σ (103%)	+0.01
	Tchologo	3230	+0.9σ (110%)	+0.5σ (105%)	-0.0σ (100%)	+1.0σ (110%)	+0.6σ (108%)	+0.00
	Pays entier	321684	+0.9σ (113%)	+0.5σ (108%)	+0.3σ (105%)	+1.7σ (122%)	+1.2σ (124%)	+0.01
Mali	Bamako	17380	-0.0σ (091%)	-1.1σ (075%)	-0.5σ (084%)	-0.5σ (084%)	-1.2σ (074%)	+0.01
	Bandiagara	16529	+1.7σ (148%)	+0.4σ (113%)	+1.5σ (143%)	+1.2σ (137%)	-0.2σ (095%)	-0.06
	Bougouni	17904	+1.4σ (111%)	-0.1σ (099%)	+0.3σ (103%)	+0.5σ (105%)	+0.2σ (102%)	-0.00
	Dioila	25369	+1.4σ (116%)	-0.4σ (096%)	+1.0σ (111%)	+1.0σ (111%)	-0.3σ (096%)	-0.01
	Douentza	2988	+1.0σ (140%)	+0.2σ (111%)	+1.2σ (148%)	+1.5σ (158%)	-0.7σ (068%)	-0.11
	Gao	19740	+0.7σ (147%)	-0.1σ (091%)	+2.7σ (194%)	+1.2σ (163%)	-0.4σ (070%)	-0.23
	Kayes	22892	+1.3σ (122%)	-0.3σ (093%)	+0.3σ (107%)	+1.0σ (116%)	+0.6σ (110%)	+0.01
	Kidal	14491	+0.5σ (121%)	+0.1σ (083%)	+3.0σ (190%)	+0.8σ (131%)	-0.3σ (048%)	-0.33
	Kita	21709	+1.2σ (114%)	-0.3σ (098%)	+0.4σ (105%)	+0.5σ (106%)	+0.8σ (110%)	+0.01
	Koulikoro	11612	+1.1σ (115%)	-0.7σ (092%)	+0.9σ (114%)	+0.8σ (112%)	-0.1σ (097%)	-0.01
	Koutiala	8593	+1.2σ (115%)	+0.2σ (103%)	+1.3σ (117%)	+1.2σ (115%)	-0.3σ (095%)	-0.02
	Ménaka	14342	+0.3σ (121%)	+0.1σ (110%)	+3.1σ (197%)	+1.1σ (171%)	-0.7σ (031%)	-0.34
	Mopti	12474	+1.1σ (143%)	+0.3σ (116%)	+1.4σ (150%)	+1.5σ (152%)	+0.0σ (102%)	-0.06
	Nara	17074	+1.6σ (141%)	-0.2σ (094%)	+1.1σ (128%)	+0.7σ (118%)	-0.1σ (096%)	-0.04
	Nioro	18294	+1.5σ (134%)	-0.2σ (093%)	+0.8σ (119%)	+0.9σ (121%)	+0.3σ (107%)	-0.01
	San	15349	+1.3σ (123%)	+0.6σ (112%)	+1.5σ (128%)	+1.3σ (125%)	-0.7σ (087%)	-0.05
	Segou	16488	+1.1σ (130%)	+0.1σ (103%)	+1.6σ (146%)	+1.3σ (139%)	-0.1σ (100%)	-0.04
	Sikasso	26736	+1.1σ (110%)	+0.1σ (100%)	+0.6σ (105%)	+0.6σ (106%)	+0.0σ (100%)	-0.01
	Taoudenni	20752	+1.3σ (186%)	-0.6σ (019%)	+1.9σ (182%)	+1.2σ (176%)	-0.1σ (090%)	-0.21
	Tombouctou	3129	+1.2σ (170%)	-0.1σ (086%)	+1.7σ (178%)	+1.2σ (167%)	-0.5σ (070%)	-0.20
	Pays entier	1254743	+1.1σ (133%)	-0.1σ (098%)	+1.3σ (142%)	+1.0σ (135%)	-0.1σ (088%)	-0.09
Mauritanie	Adrar	17380	+1.5σ (147%)	+0.2σ (080%)	+1.2σ (125%)	+0.3σ (070%)	+0.7σ (101%)	-0.28
	Assaba	16529	+1.8σ (174%)	-0.3σ (086%)	+0.9σ (141%)	+1.2σ (157%)	-0.2σ (079%)	-0.10
	Brakna	17904	+1.4σ (175%)	+0.6σ (146%)	+0.8σ (139%)	+0.6σ (136%)	-0.3σ (065%)	-0.17
	Dakhlet Nouadhibou	25369	-0.4σ (030%)	-0.5σ (027%)	-0.4σ (031%)	-0.3σ (032%)	-0.4σ (028%)	-0.01
	Gorgol	2988	+1.3σ (162%)	-0.1σ (092%)	+1.2σ (161%)	+1.0σ (152%)	-0.4σ (073%)	-0.11
	Guidimagha	19740	+2.0σ (169%)	-0.1σ (098%)	+1.4σ (149%)	+1.1σ (143%)	-0.3σ (088%)	-0.07
	Hodh Chargui	22892	+1.0σ (151%)	-0.5σ (060%)	+1.1σ (152%)	+0.7σ (144%)	-0.1σ (090%)	-0.09
	Hodh El Gharbi	14491	+1.4σ (166%)	-0.3σ (087%)	+1.5σ (169%)	+0.9σ (140%)	-0.1σ (080%)	-0.13
	Inchiri	21709	+1.3σ (153%)	-0.4σ (028%)	+0.6σ (098%)	+0.2σ (065%)	-0.5σ (003%)	-0.08

Country	Region/Wilaya	Area (km2)	Anomaly 2022	Anomaly 2023	Anomaly 2024	Anomaly 2025	Anomaly 2026	VI 2026
	Nouakchott	14342	+0.8σ (151%)	+0.8σ (162%)	+0.4σ (110%)	-0.2σ (067%)	-0.4σ (021%)	-0.21
	Tagant	12474	+1.8σ (180%)	+0.4σ (133%)	+1.3σ (174%)	+1.4σ (177%)	-0.2σ (059%)	-0.23
	Tiris Zemmour	17074	-0.3σ (001%)	-0.3σ (000%)	-0.2σ (007%)	-0.3σ (002%)	-0.5σ (003%)	+0.01
	Trarza	18294	+1.1σ (159%)	+0.4σ (126%)	+0.5σ (129%)	+0.1σ (103%)	+0.4σ (121%)	-0.06
	Pays entier	1036670	+1.3σ (164%)	-0.1σ (095%)	+1.1σ (151%)	+0.8σ (140%)	-0.1σ (085%)	-0.11
Niger	Agadez	17380	+0.2σ (116%)	-0.1σ (073%)	+3.1σ (194%)	+1.3σ (172%)	-0.4σ (047%)	-0.31
	Diffa	16529	+1.0σ (154%)	-0.5σ (065%)	+2.4σ (178%)	+1.1σ (155%)	-0.8σ (047%)	-0.22
	Dosso	17904	+0.3σ (103%)	-1.0σ (075%)	+1.3σ (129%)	+1.0σ (124%)	+0.4σ (108%)	+0.00
	Maradi	25369	+0.7σ (126%)	+0.1σ (104%)	+2.4σ (178%)	+1.4σ (151%)	+0.3σ (107%)	-0.06
	Niamey	2988	-0.3σ (077%)	-0.5σ (072%)	+0.1σ (093%)	+0.3σ (102%)	+0.3σ (108%)	+0.09
	Tahoua	19740	+0.3σ (119%)	-0.3σ (081%)	+2.2σ (184%)	+1.4σ (168%)	-0.2σ (078%)	-0.16
	Tillabéri	22892	-0.1σ (090%)	-0.2σ (095%)	+1.5σ (150%)	+1.2σ (150%)	+0.5σ (120%)	-0.02
	Zinder	14491	+0.7σ (140%)	-0.1σ (085%)	+2.7σ (187%)	+1.5σ (170%)	-0.4σ (072%)	-0.18
	Pays entier	1182311	+0.4σ (121%)	-0.2σ (084%)	+2.2σ (174%)	+1.3σ (159%)	-0.1σ (084%)	-0.14
Sénégal	Dakar	17380	+0.0σ (090%)	-0.2σ (083%)	-0.3σ (081%)	-0.2σ (084%)	-0.4σ (077%)	+0.05
	Diourbel	16529	+1.4σ (128%)	-0.1σ (098%)	+1.0σ (121%)	+0.7σ (113%)	+0.3σ (108%)	-0.01
	Fatick	17904	+1.5σ (128%)	+0.1σ (103%)	+0.9σ (117%)	+0.7σ (113%)	+0.1σ (102%)	-0.02
	Kaffrine	25369	+1.3σ (124%)	-0.5σ (090%)	+0.3σ (106%)	+0.2σ (103%)	-0.3σ (093%)	-0.01
	Kaolack	2988	+2.1σ (134%)	-0.0σ (100%)	+0.7σ (113%)	+0.5σ (108%)	-0.1σ (097%)	-0.02
	Kédougou	19740	+1.2σ (112%)	-0.3σ (096%)	+0.3σ (103%)	+1.5σ (115%)	+1.2σ (115%)	+0.02
	Kolda	22892	+1.4σ (116%)	-0.5σ (094%)	+0.4σ (105%)	+1.2σ (113%)	+0.8σ (113%)	+0.01
	Louga	14491	+0.8σ (123%)	-0.3σ (090%)	+0.5σ (113%)	+0.5σ (115%)	+0.3σ (107%)	-0.00
	Matam	21709	+1.2σ (133%)	-0.2σ (094%)	+0.5σ (114%)	+0.9σ (122%)	-0.5σ (082%)	-0.03
	Saint-Louis	11612	+0.4σ (118%)	-0.1σ (095%)	+0.1σ (102%)	+0.6σ (124%)	+0.0σ (102%)	-0.00
	Sédhiou	8593	+1.6σ (120%)	-0.2σ (099%)	+0.7σ (110%)	+1.2σ (116%)	+0.5σ (107%)	-0.00
	Tambacounda	14342	+1.4σ (122%)	-0.5σ (093%)	+0.2σ (103%)	+1.1σ (118%)	+0.9σ (115%)	+0.02
	Thiès	12474	+1.1σ (121%)	+0.2σ (105%)	+1.0σ (121%)	+0.6σ (112%)	+0.7σ (119%)	-0.00
	Ziguinchor	17074	+1.4σ (117%)	-0.1σ (101%)	+0.7σ (109%)	+1.5σ (118%)	+0.9σ (114%)	+0.00
	Pays entier	196629	+1.2σ (123%)	-0.3σ (095%)	+0.4σ (109%)	+0.9σ (116%)	+0.4σ (105%)	+0.00
Tchad	Barh El Gazel	17380	+1.1σ (165%)	-0.2σ (081%)	+2.7σ (187%)	+1.0σ (153%)	-0.8σ (048%)	-0.26
	Batha	16529	+1.4σ (168%)	-0.6σ (058%)	+2.5σ (182%)	+1.0σ (152%)	-1.2σ (040%)	-0.24
	Borkou	17904	+0.2σ (106%)	-0.4σ (016%)	+3.1σ (160%)	+0.2σ (103%)	-0.4σ (009%)	-0.46
	Chari Baguirmi	25369	+1.0σ (119%)	+0.2σ (104%)	+1.5σ (129%)	+0.7σ (115%)	-0.2σ (097%)	-0.03
	Ennedi Est	2988	+0.3σ (134%)	-0.2σ (045%)	+4.3σ (199%)	+0.8σ (142%)	-0.5σ (004%)	-0.47
	Ennedi Ouest	19740	+0.2σ (120%)	-0.3σ (030%)	+4.2σ (199%)	+0.7σ (151%)	-0.5σ (008%)	-0.48
	Guéra	22892	+1.1σ (118%)	-0.2σ (097%)	+0.8σ (114%)	+0.4σ (109%)	-0.8σ (085%)	-0.04
	Hadjer Lamis	14491	+1.4σ (137%)	+0.1σ (102%)	+2.2σ (159%)	+1.2σ (132%)	-1.0σ (075%)	-0.10
	Kanem	21709	+1.1σ (169%)	-0.3σ (065%)	+2.8σ (182%)	+0.8σ (153%)	-0.9σ (027%)	-0.34
	Lac	11612	+1.1σ (144%)	-0.4σ (088%)	+1.5σ (148%)	+0.4σ (116%)	-1.5σ (048%)	-0.15
	Logone Occidental	8593	-0.5σ (093%)	+0.1σ (099%)	-0.5σ (094%)	-0.7σ (091%)	-1.0σ (085%)	-0.01
	Logone Oriental	14342	+0.2σ (100%)	+0.3σ (101%)	-0.0σ (099%)	-0.1σ (098%)	-0.3σ (094%)	-0.01
	Mandoul	12474	+0.5σ (103%)	-0.3σ (096%)	-0.3σ (096%)	-0.4σ (095%)	-0.4σ (093%)	-0.00
	Mayo Kebbi Est	17074	+0.3σ (103%)	+0.1σ (101%)	+0.9σ (111%)	+0.1σ (101%)	-0.2σ (096%)	-0.01
	Mayo Kebbi Ouest	18294	+0.2σ (101%)	+0.2σ (101%)	+0.4σ (103%)	-0.3σ (096%)	-0.1σ (097%)	-0.00
	Moyen Chari	15349	+0.9σ (108%)	-0.5σ (095%)	+0.2σ (102%)	+0.2σ (102%)	-0.1σ (099%)	-0.00
	N'Djamena	16488	+0.3σ (105%)	+0.1σ (102%)	+1.1σ (128%)	+0.4σ (108%)	-0.6σ (085%)	-0.04
	Ouaddaï	26736	+1.5σ (144%)	-0.4σ (089%)	+1.5σ (146%)	+0.8σ (127%)	-1.6σ (054%)	-0.13
	Salamat	20752	+0.6σ (107%)	-0.7σ (090%)	+0.2σ (102%)	+0.2σ (101%)	-1.0σ (085%)	-0.02
	Sila	3129	+1.0σ (119%)	-0.5σ (090%)	+0.8σ (117%)	+0.3σ (107%)	-1.8σ (063%)	-0.07
	Tandjilé	25446	-0.1σ (098%)	-0.2σ (097%)	+0.3σ (102%)	-0.4σ (095%)	-0.4σ (094%)	-0.00
	Tibesti	14084	-0.2σ (017%)	+0.3σ (083%)	+3.7σ (183%)	+0.5σ (090%)	+0.1σ (049%)	-0.37
	Wadi Fira	2447	+0.9σ (164%)	-0.4σ (061%)	+3.0σ (195%)	+1.4σ (183%)	-1.0σ (035%)	-0.28
	Pays entier	1269454	+0.9σ (133%)	-0.3σ (083%)	+1.5σ (143%)	+0.6σ (126%)	-0.8σ (065%)	-0.13

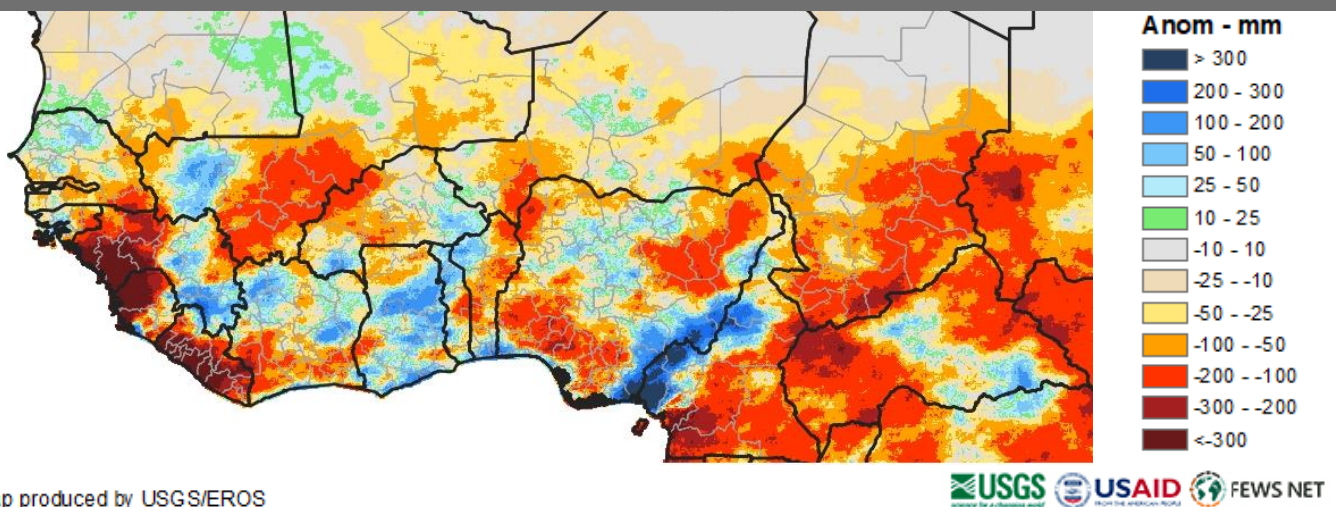
RAINFALL CONTEXT

West Africa and the Sahel, a region that is highly dependent on seasonal rainfall, is facing significant climate variability that directly affects agricultural and pastoral systems, as well as the livelihoods of local populations.

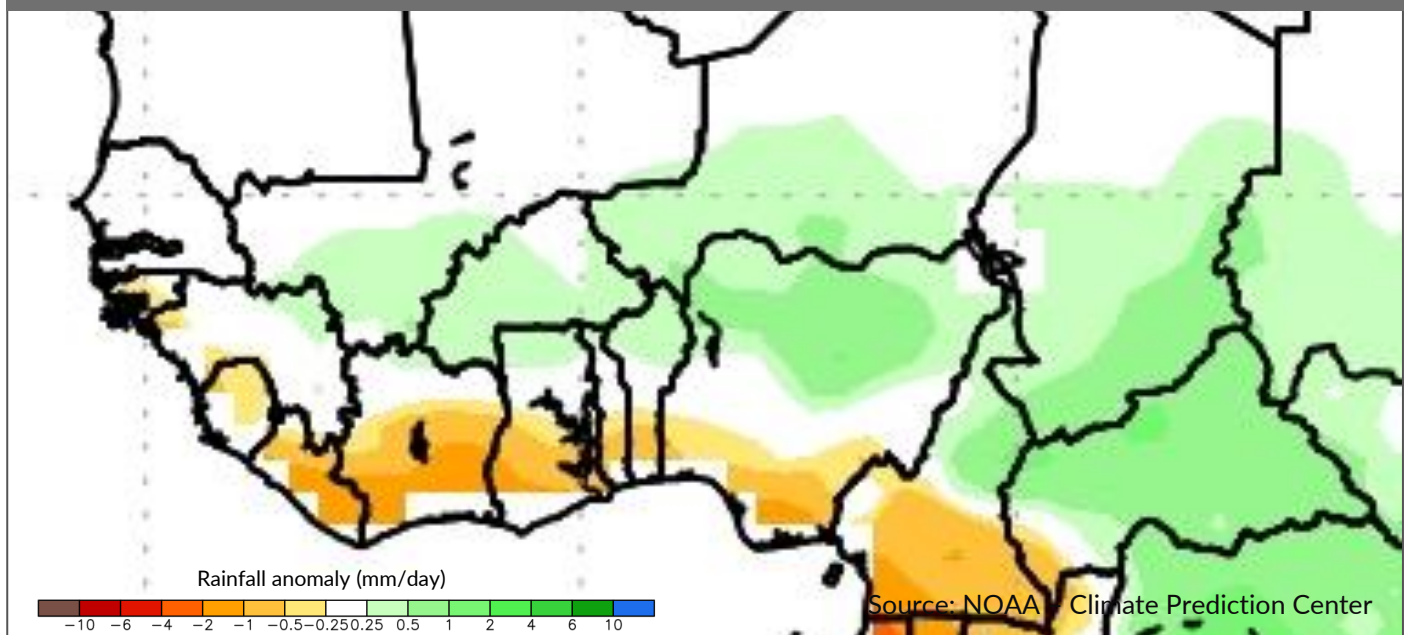
The first half of the 2026 rainy season has been characterized by a delayed onset of rainfall and generally below-average cumulative precipitation across much of the region. This situation coincides with the return of an El Niño event, as discussed in the introduction.

Map 6 highlights particularly severe rainfall deficits in Chad, eastern Niger, and southwestern Mali. Meanwhile, Map 7 suggests near-average to slightly above-average rainfall for the remainder of the season across parts of the Sahelian belt, while below-average precipitation is expected in the Gulf of Guinea countries. Nevertheless, the forecast rainfall over the Sahel is unlikely to fully compensate for the deficits accumulated since the beginning of the season, particularly in the most affected areas.

MAP 6: RAINFALL ANOMALIES MAY-SEPTEMBER 2026 (USGS)



MAP 7: RAINFALL FORECAST FOR OCTOBER 2026 (NOAA-CPC)



CONCLUSION

2026 RAINY SEASON

At mid-season 2026, the pastoral situation in West Africa and the Sahel appears generally less favourable than during recent seasons. Rainfall deficits observed since the onset of the rainy season, within the context of a return of El Niño conditions, have significantly constrained pasture regeneration across much of the Sahelian belt. While some agricultural areas in coastal countries continue to benefit from relatively favourable conditions, the pastoral regions of Mauritania, Mali, Niger, and especially Chad are experiencing concerning biomass deficits.

Rainfall forecasts for the remainder of the season may lead to localized improvements in vegetation conditions; however, they are unlikely to fully offset the accumulated delays and deficits. Consequently, strengthened monitoring of pastoral resources, transhumance movements, and fodder deficit risks remains essential in order to anticipate potential further deterioration of the livelihoods of the most vulnerable pastoral and agropastoral populations.

RECOMMENDATIONS

- Strengthen pastoral monitoring and early warning systems, including the regular monitoring of pastoral resources (biomass and water resources), transhumance movements, and livestock concentration areas to detect emerging pastoral deficits at an early stage.
- Trigger response mechanisms and anticipatory actions in a timely manner in areas where alert thresholds have been reached or are likely to be reached, to mitigate the impacts of fodder deficits on pastoral livelihoods.
- Implement conflict prevention and management measures related to pastoral mobility, particularly in livestock concentration areas and along major transhumance routes, through the strengthening of local consultation frameworks and mediation mechanisms.
- Facilitate and secure national and cross-border transhumance movements, notably through advocacy efforts with governments and local authorities to ensure access to transhumance corridors, grazing areas, and water points in host zones.
- Enhance the availability and accessibility of pastoral resources, notably through the rehabilitation, development, and maintenance of pastoral water points in deficit areas and livestock reception zones.
- Anticipate fodder shortages and strengthen the resilience of pastoral households, notably through the establishment of strategic feed reserves, support to rapid response mechanisms, and targeted interventions in the most affected areas.
- Strengthen pastoral support services, including animal health services, vaccination campaigns, pastoral information systems, and essential pastoral infrastructure to safeguard pastoral livelihoods.
- Strengthen regional coordination and preparedness for pastoral crises, particularly in high-risk areas such as the Liptako-Gourma region, the Lake Chad Basin, and major livestock concentration zones, while integrating the findings of national and regional end-of-season assessments.

The data used for the calculation of biomass production comes from the data generated by the COPERNICUS ground service, the European Commission's Earth observation programme. The research that led to the current version of the product was funded by various European Commission research and technical development programmes. The product is based on data from the SENTINEL-3, PROBA-V and SPOT-VEGETATION satellites of the European Space Agency ESA.

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