AGRHYMET CCR-AOS Regional Centre

2026 Rainy Season in West Africa and the Sahel: What Outlook in the Context of a Major El Niño Event?

AGRHYMET RCC-WAS Technical Note

31-05-2026

Introduction

The El Niño–Southern Oscillation (ENSO) is one of the major drivers of interannual climate variability worldwide. Its different phases influence tropical atmospheric circulation and modulate rainfall regimes in many regions of the world, including West Africa and the Sahel. Historically, El Niño events have often been associated with reduced precipitations in the Sahel, longer dry spells, and higher temperatures. However, recent scientific evidence shows that the relationship between ENSO and rainfall in West Africa is neither constant nor systematic. The impact of El Niño depends strongly on the state of other ocean basins, particularly the tropical Atlantic, the Mediterranean Sea, and the Indian Ocean. For 2026, a major EL NINO event is under development, what would be its impact on the rainy season in our sub-region?

Key Message

The presence of a strong El Niño event in 2026 does not automatically lead to a below-normal rainy season across the entire Sahel and West Africa. Analysis of current oceanic conditions suggests a contrasted regional response, resulting from the interaction of several climate forcing that may push in opposite directions.

Why El Niño Does Not Explain Everything

Recent studies (Suárez-Moreno et al., 2018) show that the influence of ENSO on Sahelian rainfall varies considerably from one decade to another. Some periods exhibit a strong relationship between El Niño and Sahel drought, whereas others show a much weaker teleconnection. This evolution highlights the need for a multi-basin approach that simultaneously considers conditions in the Pacific, tropical Atlantic, Mediterranean, and Indian Ocean. The figure below illustrates the main oceanic basins that contribute to the outcome of the rainy season in West Africa and the Sahel.

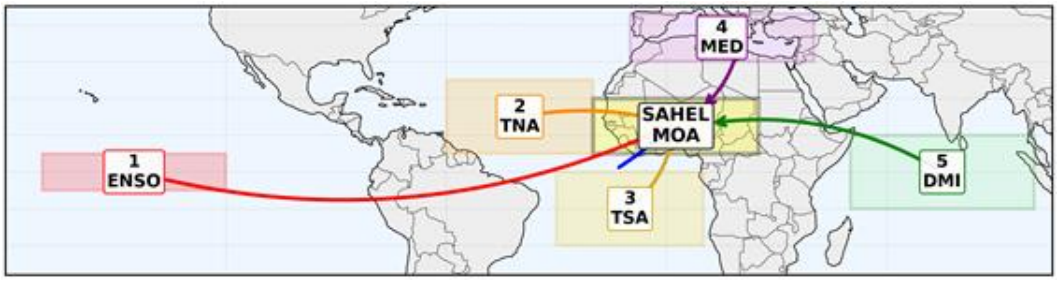


Figure 1: Teleconnection influencing the West African monsoon

Lessons from the 2015–2016 Super El Niño

The exceptional 2015–2016 event demonstrated that the Niño 3.4 index alone is not sufficient to anticipate the regional impacts of El Niño. Despite an intensity comparable to the major events of 1982–1983 and 1997–1998, rainfall across the Sahel displayed strong spatial heterogeneity and was not generally below normal. Favorable conditions in the tropical Atlantic and the Mediterranean partly offset the drying effect associated with the Pacific Ocean.

Tables: Seasonal changes in the values of the 2015-2016 ocean indices compared to those of 2025-2026

Niño3.4

	DJF	JFM	FMA	MAM	AMJ	MJJ	JJA	JAS	ASO	SON	OND
2015	0.58	0.64	0.98	1.38	2.07	2.23	2.29	2.37	2.41	2.45	2.34
2016	2.28	2.33	2.21	1.69	0.83	-0.21	-0.59	-0.72	-0.71	-0.64	-0.54
2025	-0.57	-0.39	-0.18	-0.05	-0.09	-0.09	-0.22	-0.40	-0.50	-0.56	-0.57
2026	-0.47	-0.28	0.17	0.94	1.63	1.90					

TNA

	DJF_TNA	JFM_TNA	FMA_TNA	MAM_TNA	AMJ_TNA	MJJ_TNA	JJA_TNA	JAS_TNA	ASO_TNA	SON_TNA	OND_TNA
2015	-0.30	-0.60	-0.70	-0.69	-0.64	-0.27	0.17	0.92	1.34	1.30	0.95
2016	0.80	0.80	0.56	0.55	0.53	0.65	0.78	0.77	0.71	0.78	1.02
2025	1.93	1.36	0.67	0.41	0.37	0.68	0.96	1.28	1.34	1.48	1.22
2026	0.80	0.65	0.54	0.38	0.37	0.52					

TSA

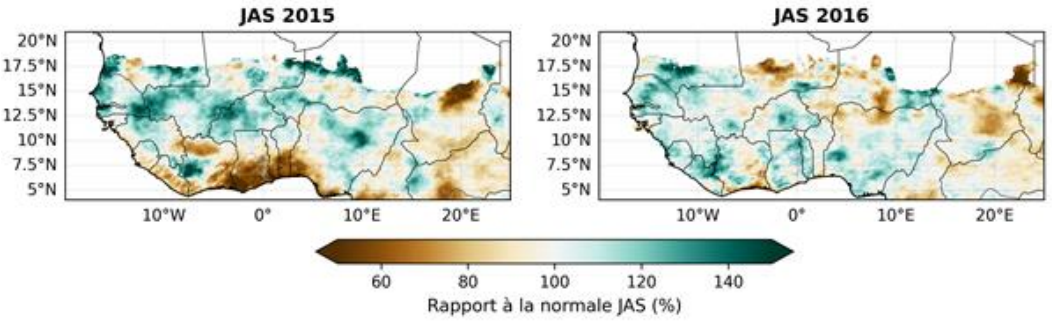
	DJF_TSA	JFM_TSA	FMA_TSA	MAM_TSA	AMJ_TSA	MJJ_TSA	JJA_TSA	JAS_TSA	ASO_TSA	SON_TSA	OND_TSA
2015	0.05	0.45	0.36	0.22	0.17	-0.05	-0.43	-0.69	-0.57	0.11	0.83
2016	1.58	1.47	1.15	0.80	0.90	1.17	1.64	1.59	1.38	1.02	1.09
2025	1.10	0.94	0.82	0.62	0.50	0.47	0.46	0.61	0.60	0.37	0.29
2026	0.94	1.22	1.44	1.29	1.30	1.14					

DMI

	DJF_DMI	JFM_DMI	FMA_DMI	MAM_DMI	AMJ_DMI	MJJ_DMI	JJA_DMI	JAS_DMI	ASO_DMI	SON_DMI	OND_DMI
2015	-1.27	-0.73	0.10	0.52	0.49	0.38	0.84	1.20	1.22	0.95	0.45
2016	-1.10	-1.09	-0.54	-0.68	-1.11	-1.85	-1.68	-1.69	-1.24	-1.02	-0.50
2025	-1.44	-0.36	0.66	0.93	0.71	0.11	-0.63	-0.99	-1.45	-1.43	-1.39
2026	1.10	1.38	1.13	0.02	0.06	-0.41					

MEDITERRANEAN BASIN

	DJF_MED	JFM_MED	FMA_MED	MAM_MED	AMJ_MED	MJJ_MED	JJA_MED	JAS_MED	ASO_MED	SON_MED	OND_MED
2015	0.42	0.51	0.63	0.74	0.88	1.02	1.18	1.31	1.24	1.06	0.91
2016	0.83	0.79	0.68	0.57	0.49	0.44	0.62	0.86	0.93	0.88	0.95
2025	1.10	1.16	1.23	1.32	1.46	1.72	1.94	2.08	1.95	1.71	1.48
2026	1.22	1.28	1.35	1.47	1.62	1.74					



Figures 2: Spatial distribution of cumulative rainfall in JAS 2025 and 2016

Note: The Niño 3.4 index alone is insufficient to explain the evolution of the rainy season across West Africa and the Sahel. A comprehensive assessment that incorporates the influence of other ocean basins is essential for accurately interpreting and anticipating seasonal rainfall variability.

Expected Climate Configuration in 2026

Analyses of available data, including information from global and regional climate centres, indicate for 2026 a strong El Niño event, overall warm sea-surface temperatures in the tropical Atlantic, a warmer-than-normal Mediterranean Sea, and an Indian Ocean that is also favourable to convective activity. However, the North Atlantic exhibits a contrasted pattern, with relatively cool waters near the Mauritanian and Senegalese coasts and warmer waters farther northwest.

This configuration may limit moisture supply over the western Sahel while maintaining more favourable conditions over the central and eastern Sahel.

Outlook for the 2026 Rainy Season

The El Niño situation and the current climate signals suggest a contrasted rainy season across the Sahel and West Africa in 2026:

- Western Sahel (Senegal, Mauritania, western Mali): increased risk of rainfall deficits, prolonged dry spells, and agricultural drought.
- Central and Eastern Sahel (Niger, Chad, central-eastern Burkina Faso, eastern Mali): near-normal to above-normal rainfall totals, with risks of flooding and dry spells.
- Gulf of Guinea countries: generally normal to above-normal rainfall, with potential for heavy rainfall events and localized flooding.
- Entire region: strong spatial and temporal variability in rainfall, with possible alternation between long dry breaks and extreme rainfall events.

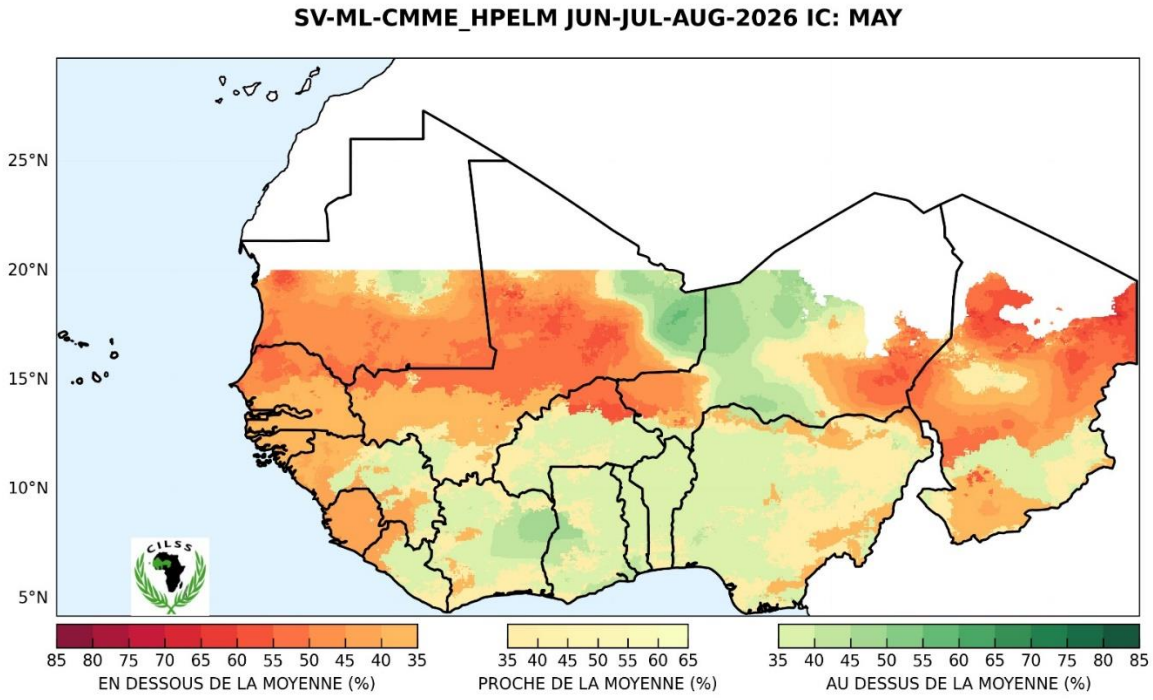


Figure 3: AGRHYMET RCC-WAS Seasonal Precipitation Forecast update for June–July–August (JJA) 2026

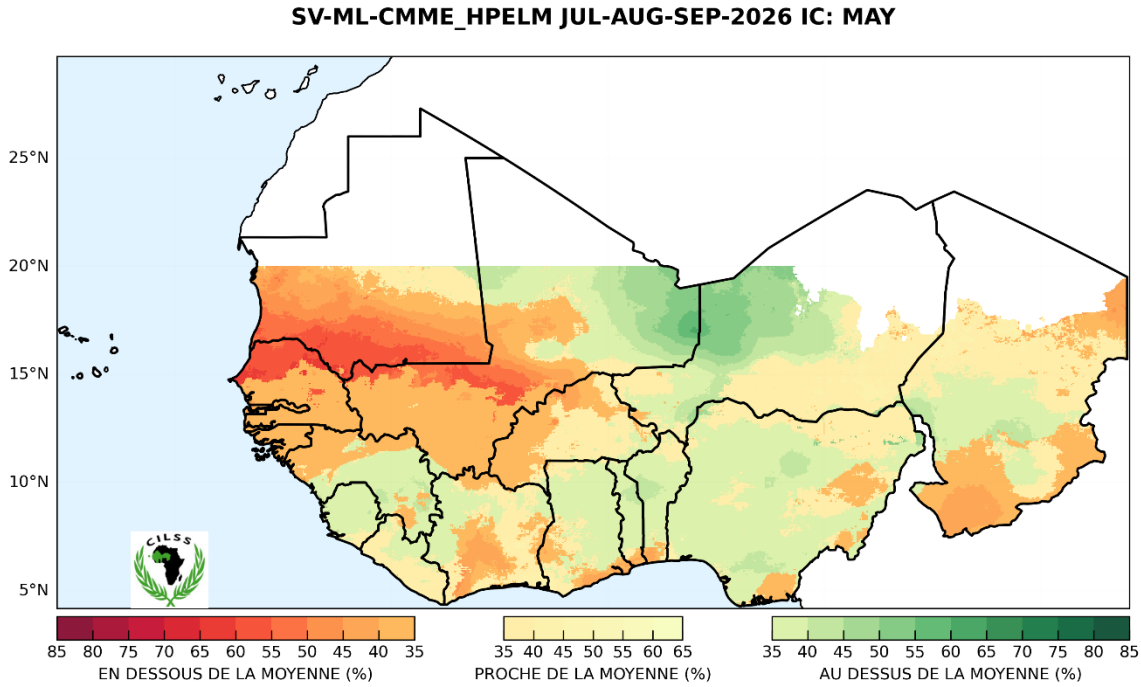


Figure 4: AGRHYMET RCC-WAS Seasonal Precipitation Forecast update for July–August–September (JAS) 2026

Recommendations

Strengthen the monitoring of oceanic and atmospheric indicators, particularly those of the tropical Atlantic that may change rapidly; regularly update of the seasonal forecasts; promote a proper interpretation of climate forecasts and their use in the agriculture, livestock, water, health, and disaster-risk-management sectors.

Conclusion

For 2026, El Niño should be considered an important risk factor, but not the sole determinant of the rainy season. Conditions observed in the tropical Atlantic, the Mediterranean, and the Indian Ocean may significantly modulate its influence. The season is expected to be characterized by pronounced regional contrasts, with the likely coexistence of areas exposed to rainfall deficits and areas at risk of flooding. Continuous vigilance and regular forecast updates will be essential throughout the season.