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Robust Sahel drought due to the Interdecadal Pacific Oscillation in CMIP5 simulations.

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Many studies address the Interdecadal Pacific Oscillation (IPO) as a modulator of climate in several regions all over the globe. However very few suggest it has an impact on Sahel rainfall low-frequency variability. This work shows the relevance of such connection, supported by a robust response of state-of-the-art global climate models. Our results reveal that the positive phase of the IPO has a negative impact on Sahel rainfall anomalies regardless of the externally forced changes induced by anthropogenic gases. Such relationship is stronger for those models in which sea surface temperatures associated with the positive phase of the IPO show warmer anomalies over the Tropical Pacific. Therefore, we suggest the importance of a skillful simulation of IPO to improve decadal prediction of Sahel rainfall and to better understand its variability.