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Is there a link between the Atlantic Cold Tongue and the African Monsoon?

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The Atlantic Cold Tongue is the most important seasonal signal which affects the Eastern Equatorial Atlantic Basin. During its emplacement, sea surface temperatures decrease significantly, specially South of the Equator. Cooling generally starts close to 10°W and spreads quickly throughout the southern Golf of Guinea between May and August. At the time of its maximum extent, the cooling occupies an oceanic surface equivalent to roughly a quarter that of the Sahara. Correlations between the set up of the Atlantic Cold Tongue and the African Monsoon jump computed over the last 20 years, suggest that this oceanic event plays a key role on the African Monsoon flow. The physical processes at play are discussed and concern both the set up of the Atlantic Cold Tongue, the disturbances induced by this cold anomaly on the marine atmospheric boundary layer and its potential role on the onset of the African Monsoon.