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## **Contribution of fluvial and marine sediment to the Senegal estuary (West Africa): a geochemical evaluation**

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Located at the doors of the Sahara Desert, the Senegal is an allogenic river originating in the Fouta Djallon (Guinea) in the Guinean subclimate (rainfall greater than 1000mm), crosses the Sudanian (900-1000mm), and Sahelo-Sudanian (500-900mm) influences before reaching the Atlantic Ocean under Sahelian (around 350mm) climate. This terminal section of the Senegal estuary is well known for its hydroclimatic variabilities, where the interaction between continental driving forces (ITCZ movements, harmattan winds, rainfalls) and Atlantic drivers (trade-winds, local wave climate conditions) influence the estuarine hydrodynamics. Results from geochemical analysis (grain size, elemental composition (XRF)) of the sediment cores collected during the flooding and dry seasons (August 2021 and February 2022) may give a better understanding of the alternating dominance of fluvial and marine hydrodynamics (including swells) dominance in the Senegal estuary over the recent period. Coupling this analysis with earth observation products may highlight the seasonality of the Langue Barbarie (sand spit) accretion/erosion cycles according to local variations such as bathymetry, wave climate variations, river discharges and human infrastructures.