

Holocene spatio-temporal evolution of Oueme Delta in Benin in response to the variations of the eustatic level

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The deltas are transitional sedimentary environments whose morphology and stratigraphic architecture of deposits depend on several factors including eustatism, submarine slope, subsidence, tectonics, sedimentary inputs... The present work aims to reproduce the Holocene spatio-temporal dynamics of the Ouémé delta in the face of sea level variations. Low and medium depth geological sections (3.4-10 m) from the holes were subjected to sedimentological, pollen and geochronological analyzes. Sedimentological analyzes have made it possible to specify the origins of the sediments and to describe their environments of their deposit; pollen analyzes provided information on vegetation, and ¹⁴C peat-level dating helped to date the sediment.

It appears that, around 7200 ± 67 BP, the sea entered the Ouémé valley and accumulated fine to coarse sand. Due to a slowdown in the seaward rise, it is noted a fluvial spreading and the development of vegetation consisting of *Rhizophora*, *Alchornea* lagoon border. A positive impulse from the sea was recorded around 4980 BP years. After 3885 ± 50 BP, the sea retreated, sedimentation evolved into a fluvio-lagoon and deltaic context. Species of marshy meadow including *Cyperaceae*, *Poaceae* and *Eriosema griseum* testify to an open environment under anthropic influence.

Keywords: Ouémé Delta, eustatism, Holocene, sedimentary environments