

Study of the Morpho-Sedimentary Evolution of Tidal Mouths on the Southern Fringe of the Gulf of Gabes, Southeast of Tunisia: Hydrodynamic Circulation and Associated Sedimentary Movements

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Abstract : This work consists of a morphological study of the coastal domain at the central fringe of the Gulf of Gabes, Southeast of Tunisia, belonging to the structural domain of the maritime Jeffara. The diachronic study of tidal mouths in the study area and the observation of morphological markers revealed the existence of hydro-sedimentary processes leading to sedimentary accumulation and filling of the estuarine system. This filling process is materialized by the genesis of a sandy cord and the lateral migration of the tidal mouth. Moreover, we have been able to affirm, by the use of satellite images, that the dominant and responsible current at this particular coastal morphology is directed to the North, having constituted a controversy on the occurrence of what is previously mentioned in the literature. The speed of the lateral displacement of the channel varies as a function of the hydrodynamic forcing. Wave-dominated sites recorded the fastest speed (18 m/year) in the image of the mouth of Wadi el Melah. Tidal dominated sites in the Wadi Zerkine satellite image recorded a very low lateral migration (2 m / year). This variation in speed indicates that the intensity of the coastal current is uneven along the coast. This general pattern of hydrodynamic circulation, to the north, of the central fringe of the Gulf of Gabes, is disturbed by hydro-sedimentary cells.

Keywords : tidal mouth, direction of current, filling, sediment transport, Gulf of Gabes

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