

## ABSTRACTS OF RECENT LITERATURE

DYE, A.H., 1983. Oxygen consumption by sediments in a southern African mangrove swamp. *Estuarine, Coastal and Shelf Science*, 17, 473-478.

Total chemical and biological oxygen demand of intertidal sediment cores from 12 stations in a mangrove swamp in southern Africa were measured under mean temperature and salinity conditions. In addition to measuring oxygen removed from water overlying cores, the uptake of oxygen from air overlying sealed cores was also determined. Total oxygen consumption ranged from 2.9 to 37.0 ml O<sub>2</sub> m<sup>-2</sup>h<sup>-1</sup> in water and from 22.1 to 81.6 ml O<sub>2</sub> m<sup>-2</sup>h<sup>-1</sup> in air. Chemical oxygen demand usually equalled or exceeded the total, underlining problems in the measurement of this parameter. Since oxygen is not present below a few millimeters in the sediment, it is concluded that oxygen diffusing from the overlying water or air is rapidly utilized at the surface and its uptake rate does not give any measure of metabolic activity deeper down. The oxygen content of the overlying water present during high tide may drop to relatively low levels due to this demand.

SHABICA, S.V.; DOLAN, R.; MAY, S., and MAY, P., 1984. Shoreline erosion rates along barrier islands of the north central Gulf of Mexico. *Environmental Geology*, 5(3), 115-126.

Rates of shoreline change and overwash penetration distances were calculated for barrier islands along the Louisiana, Mississippi, and Alabama coasts with the orthogonal grid mapping system (OGMS). Average rates of shoreline change are exceptionally high in Louisiana, being of the order -4.7 to -7.4 m yr<sup>-1</sup>. Mississippi and Alabama recession rates are lower and range from -2.0 to -3.1 m yr<sup>-1</sup> over the period of record. Erosion rates along the shorelines of these islands have remained relatively constant over the period of study with five exceptions in coastal Louisiana and the Chandeleur-Breton Islands Arc, and two exceptions along the Mississippi-Alabama barrier islands where they have accelerated. Mean overwash penetration is greatest along Dauphin Island, Alabama and Cat Island, Mississippi: 207.6 and 197.9 m, respectively. The Chandeleur-Breton Islands Arc range from 88.1 m at the central barrier to 180.4 along the flanks. The Mississippi islands range from 105.2 m on Ship Island to 200.5 m along central Horn Island. Mean overwash penetration along the Louisiana barriers is highly variable: 46.3 to 211.4 m.

SENTEN, J.R. and CHARLIER, R.H., 1984. Composition of waters and sediments in the Antwerp Harbor. *Environmental Geology*, 5(3), 159-165.

Industrial expansion in the harbor areas of Antwerp has altered environmental conditions to a great extent. This study examines the relation between the water economy of the port of Antwerp docks and the composition of dock waters, sediments, and interstitial waters, with emphasis on trace metals and chlorides. Some conclusions are reached as to the possible use of the dredged deposits in agriculture.