

L. V. Zuquette, J. Q. dos Santos Collares and O. J. Pejon, 2007. Proposal for selection of control, preventive and rehabilitation measures based on degradation land level and geoindicators in the Fortaleza metropolitan region, State of Ceará, Brazil

Abstract

Preventive, controlling, rehabilitative and corrective measures to improve the environmental quality of the hydrographic basins of the Fortaleza metropolitan region in the state of Ceará (Brazil) are presented based on geological and geotechnical data, land degradation rates and sources, and other geoindicators. The region is affected by coastal and stream erosion, gravitational mass movement, dunes, silting, and water pollution, sanitary landfills in inappropriate sites, decommissioned and abandoned aggregate mining, and swamp areas. Geoindicators were used to classify each of the 12 hydrographic basins as possessing low (4), intermediate (3), or high (5) degradation levels. A group of 59 environmental management measures related to ecological, bioengineering, mechanical, policy and administrative, agricultural and clean-up methods was selected. From this general group a set of 31 measures was chosen considering goals, efficacy for specific environmental problems, suitability for large or small areas, behavior under different annual climatic conditions, environmental problems of the region, geological and geotechnical limitations and degradation level of the basins. A set of the more suitable geoindicators was selected for monitoring efficiency of the measures for each basin.