**HUMAN IMPACTS TO COASTAL ECOSYSTEMS IN PUERTO RICO (HICE-PR): THE GUÁNICA AND MANATÍ WATERSHEDS IN PUERTO RICO**

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For several decades Puerto Rico’s coastal and marine ecosystems (CMEs) have suffered the effects of anthropogenic stresses associated to population growth and varying land use. Here we present an overview of the first year of findings of a NASA-funded project that studies human impacts in two priority watersheds (Manatí and Guánica). The project includes remote sensing analysis and hydrological, ecological and socio-economic modeling to provide a multi-decadal assessment of change of CMEs. The project’s main goal is to evaluate the impacts of land use/land cover changes on the quality and extent of CMEs in priority watersheds in the north and south coasts of Puerto Rico. This project will include imagery from Landsat 8 to assess coastal ecosystems extent. Habitat and species distribution maps will be created by incorporating field and remotely-sensed data into an Ecological Niche Factor Analysis. The social component will allow us to study the valuation of specific CMEs attributes from the stakeholder’s point of view. A preliminary assessment shows a range in coral cover from 0.2-30% depending on the site (Guánica) whereas apparently healthy corals dominate the reef in the north coast (Manatí). Historic and current imagery is being collected for land cover/land use change analysis, and a database of inputs for hydrological modeling is underway. Preliminary results show dynamic historical shoreline changes in beaches located west of the Manatí river mouth, and a degradation of water quality in Guánica possibly being one of the main factors affecting the actual condition of its CMEs.

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