Abstract

Assessing the status of tropical dry forest habitats using remote sensing technologies is one of the research priorities for Neotropical forests. We developed a simple method for mapping vegetation and habitats in a tropical dry forest reserve, Mona Island, Puerto Rico, by integrating the Normalized Difference vegetation Index (NDVI) from Landsat, topographic information, and high-resolution Ikonos imagery. The method was practical for identifying vegetation types in areas with a great variety of plant communities and complex relief, and can be adapted to other dry forest habitats of the Caribbean Islands. NDVI was useful for identifying the distribution of forests, woodlands, and shrubland, providing a natural representation of the vegetation patterns on the island. The use of Ikonos imagery allowed increasing the number of land cover classes. As a result, sixteen land-cover types were mapped over the 5,500 ha area, with a kappa coefficient of accuracy equal to 79%. This map is a central piece for modeling vertebrate species distribution and biodiversity patterns by the Puerto Rico Gap Analysis Project, and it is of great value for assisting research and management actions in the island. Rev. Biol. Trop. 56 (2): 625-639. Epub 2008 June 30.

Keywords

Tropical dry forests, Landsat, NDVI, Ikonos, vegetation mapping, topography, Puerto Rico, Caribbean.