

# **MULTI-CRITERIA EVALUATION AND GEOGRAPHIC INFORMATION SYSTEMS FOR LAND-USE PLANNING AND DECISION MAKING**

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Forest ecosystems are increasingly being influenced by human activity which may alter forest processes, functions, and the services forests provide. Land-use planning is one of the policy instruments that may be used for the conservation of natural resources. Effective land-use planning includes the identification of geographical areas that are important for the support of ecosystem functions and services. In the case of El Yunque National Forest, urban expansion has been identified as one of the main factors affecting the forest and its services. In this presentation we demonstrate how we combined Multi-criteria Evaluation analysis and GIS tools to develop a map that shows areas in which protection against urban expansion would help to ensure the continued provision of El Yunque ecosystem services. The use of these techniques and resulting geographic data can assist land-use planners, forest managers, and natural resources specialists, among others, in making land-use decisions around El Yunque. More generally, it provides GIS users working with natural resources and environmental topics with a tool to conduct geographic analysis and produce maps to assist in the management and planning of land use and natural resources.