

## **Graduate Research Opportunity Wildland fire in Puerto Rico**

USDA Forest Service International Institute of Tropical Forestry (IITF)

Posted: January 22, 2010.

Position available: For a MS graduate student. The successful applicant will have a strong interest in ecology, statistical analyses and modeling, GIS and remote sensing analyses, and the interaction of humans with the environment.

Background: The fire regime in Puerto Rico has shifted from one of no natural fires to one of an increasing number of small to intermediate scale human-induced fires occurring in a wide range of forests and grasslands. The cumulative impact of this current wildfire regime, up to 5000 fires seasonally, is unknown. The objectives of this research are to develop fire danger rating zones for Puerto Rico and a fire danger rating system that integrates information on current weather conditions with climatic and fuels characteristics. Fire danger rating zones will be defined based on current understanding of the island's climate, weather, land cover and land use patterns and tested and refined by developing a Geographic Information Systems (GIS) database to map and track the spatial and temporal pattern of wildfire occurrence in Puerto Rico. This study will allow us to assess the cumulative impacts of these fires seasonally, and to determine the degree of recurrence annually.

The student will develop a GIS database of fire occurrences, extent, and severity to serve as a tool for defining and evaluating a fire danger rating system for Puerto Rico. The student will make contacts with people and agencies throughout the island involved in wildland fire management, control, and ecology. The student will develop GIS databases of fuels, topography, fire history, climate, and weather conditions in order to estimate fire risk.

The goal of these analyses are to put in place a useable fire danger rating system to assist land managers in allocating resources and to serve as a public educational tool regarding the risks of wildland fire.

The student will work with Dr. William Gould (US Forest Service) and the research team in the IITF GIS and Remote Sensing Laboratory in Río Piedras, Puerto Rico.

Candidates should have the following skills:

- Educational background in ecology, environmental studies, or related disciplines;
- Proficiency and experience in GIS software and analyses;
- Motivation to work independently; and
- Excellent computing and writing skills, motivation to publish in peer-reviewed journals.

Candidates should ideally be current students, accepted applicants, or planning to apply to the UPR-Río Piedras Graduate School but other circumstances will be considered.

Applicants should submit the following to William Gould at [wgould@fs.fed.us](mailto:wgould@fs.fed.us):

- Cover letter summarizing research interests and academic and professional background.
- Resume/CV.
- Copies of transcripts (unofficial transcripts acceptable).
- GRE scores, if available.
- Names and contact information for three references (no letters needed at this time).