

Graduate Research Assistantship Ecosystem change in the Arctic

USDA Forest Service International Institute of Tropical Forestry (IITF)

Posted: January 22, 2010.

Position available: For a MS or PhD graduate student. The successful applicant will have a strong interest in field ecology, vegetation - including bryophytes and lichens, statistical analyses and modeling, GIS analyses, and ecosystem change studies.

Background: This research is part of an integrated large scale experimental study, the International Tundra Experiment (ITEX) (<http://www.geog.ubc.ca/itex/>), to look at the response of Arctic vegetation to changes in climate. It is also part of the Arctic Observing Network (AON), a large scientific program focusing ecosystem change in the Arctic. ITEX has been measuring experimentally controlled changes in productivity, phenology, vegetation composition, and nutrient fluxes within small scale vegetation plots replicated at many sites across the Arctic.

The student will continue with these long term measurements by sampling vegetation composition in natural and experimentally modified (by warming and altering snow depth) plots at the Toolik Lake Long Term Ecological Research (LTER) site in Northern Alaska and analyze vegetation change over the last two decades using data from long term monitoring. The student will also investigate techniques to integrate Lidar remote sensing into this monitoring program

The goal of these analyses are to determine real and potential responses of arctic tundra to climate in order to further our understanding of ecosystem response to climatic change and to better our response to these changes in terms of land management.

The student will work with Dr. William Gould (US Forest Service) and in cooperation with collaborators from Florida International University in the NSF funded project. The student will join 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, botany, environmental studies, GIS, and related disciplines;
- Proficiency and experience in identifying and keying plant species;
- Motivation to work independently;
- 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:

- 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).

The position start date is flexible but would ideally include field work this summer and academic work to begin Fall 2010.