

## William A. Gould

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### Expertise and interests:

Research and teaching in ecology with a focus on vegetation and plant community ecology, fire ecology, biodiversity patterns and ecosystem consequences, vegetation change, remote sensing analysis, hierarchical GIS spatial analyses, and mapping vegetation and ecosystem properties.

### Education:

Ph.D. EPO Biology, University of Colorado–Boulder 1998

M.S. Plant Biology, University of Minnesota

B.S. Biology, University of Minnesota 1988

### Current positions:

- Research Ecologist, International Institute of Tropical Forestry, USDA Forest Service, Río Piedras, Puerto Rico. 2001-2006
- Research Associate, University of Alaska Fairbanks, Institute of Arctic Biology 1999-2006
- Instructor, University of Minnesota, Dept. of Ecology, Evolution and Behavior, Lake Itasca Forestry and Biological Station. 1998-2006

### Ongoing research:

- USGS Biological Resource Division *Modeling GAP habitats (PRGAP)*. 2006-2008
- USGS Biological Resource Division *PR-USVI Gap Analysis Project*. 2006-2008
- USFS *The ecology and distribution of shade coffee in Puerto Rico* 2005-2006
- USGS Biological Resource Division *Puerto Rico Gap Analysis Project (PR-GAP)* 2002-2006
- NSF Biocomplexity in the Environment *Biocomplexity of frost-boil ecosystems* 2002-2006

### Recent publications:

- 1) **Gould, W.** Puerto Rico Gap Analysis Project. In Maxwell J., editor. 2005. *Gap Analysis Bulletin* No. 13. Moscow, Idaho. 13: 68-71.
- 2) Martinuzzi, S., **W.A. Gould**, O. M. Ramos, and B. Edwards. 2006. Development of a landform model for Puerto Rico. *Caribbean Journal of Sciences*. In press.
- 3) Martinuzzi, S., **Gould, W.A.**, & Ramos González, O. 2006. Land development, land use, and urban sprawl in Puerto Rico integrating remote sensing and population census data. *Landscape and Urban Planning*. In press.
- 4) Walker, D.A., F. Daniels, A. Elvebakk, **W. Gould**, A. Katenin, C. Markon, M. Reynolds, S. Talbot. 2005. The Circumpolar Arctic vegetation map. *JVS* 16:267-282.
- 5) Epstein, H.E., J. Beringer, **W.A. Gould**, A.H. Lloyd, C.D. Thompson, F.S. Chapin III, G.J. Michaelson, C.L. Ping, T.S. Rupp, D.A. Walker. 2004. The Nature of Spatial Transitions in the Arctic. *Journal of Biogeography*. 31:12 1917.
- 6) Walker DA, Epstein HE, **Gould, WA**, Kelley AM, Kade AN, Knudson JA, Krantz W, Michaelson G, Peterson RA, Ping CL, Reynolds MK, Romanovsky VE, Shur Y. 2004. Frost-boil ecosystems: complex interactions between landforms, soils, vegetation, and climate. *Permafrost and Periglacial Processes*. 15: 171-188.
- 7) **Gould, W.A.**, D.A. Walker, and D. Biesboer. 2003. Combining research and education: Bioclimatic zonation along a Canadian Arctic transect. *Arctic*. Volume 56 No. 1. pp 45-54.
- 8) **Gould, W.A.**, D.A. Walker, M. Reynolds, and H. Maier. 2003. Vegetation, plant biomass, and net primary productivity patterns in the Canadian Arctic. *Journal of Geophysical Research-Atmospheres*, VOL. 108, NO. D2, 8167, doi:10.1029/2001JD000948, 2003.
- 9) **Gould, W.A.**, D.A. Walker, M. Reynolds, H. Maier, S. Edlund, and S. Zoltai. 2002. Canadian Arctic Vegetation Mapping. *International Journal of Remote Sensing*. 23:4597-4609.
- 10) **Gould, W.A.** 2000. Remote sensing of vegetation, plant species richness, and regional diversity hotspots. *Ecological Applications*. 10:1861-1870.

## **Synergistic Activities**

**Peer review:** Manuscripts for Arctic, Arctic and Alpine Research, Biodiversity and Conservation, Canadian Journal of Botany, Caribbean Journal of Science, Chemosphere, Conservation Biology, Ecological Applications, Journal of Ecology, and the Journal of Vegetation Science and grant applications for the National Science Foundation, the Swiss National Science Foundation, and the University of Puerto Rico.

Assist in promotional panels for the USDA Forest Service and serve on the Woody Biomass Utilization work group for the USFS.

**Consultations provided by request to:** The Puerto Rico Department on Natural and Environmental resources on biodiversity, conservation, land use, and geospatial and remote sensing technologies; The Puerto Rico Planning board on land use, land cover, and conservation priorities; USFS State and Private Forestry on GIS applications, US department of state on GIS information for Haiti; the Smithsonian Institute on GIS courses offered in Puerto Rico; the Kitikmeot Inuit association on planning for youth elder camps and on research activities; and to information requests from students, researchers, and the public on GIS and remote sensing of ecological attributes in Puerto Rico.

**Outreach and educational activities:** Developed and teach Arctic Field Ecology through the University of Minnesota Itasca Field Biology Program; developed Youth-Elder-Science camps in collaboration with the Kitikmeot Inuit Association; lead the Puerto Rico Gap Analysis Project analyzing biodiversity, conservation, and management for Puerto Rico and the US Virgin Islands and develop outreach in English and Spanish for this program; direct the IITF GIS and remote sensing laboratory: A center for tropical landscape analyses; Teach occasional courses and seminars at the University of Puerto Rico – Río Piedras; Initiated and direct the monthly IITF Science Seminar Series offering talks on ecological research in Puerto Rico and the tropics at the International Institute of Tropical Forestry conference center; conduct occasional media interviews on conservation related issues in Puerto Rico; and serve as a research associate with the Alaska Geobotany Center, IAB-UAF.

### **Recent Collaborators:**

DA Walker, (University of Alaska Fairbanks), CL PING (UAF), V Romanovsky (Palmer Research Station University of Alaska Fairbanks), HE Epstein (University of Virginia), W Krantz (University of Cincinnati), G González (USFS), A Hudak (USFS), L Vierling (University of Idaho), D Biesboer (University of Minnesota), J Berrios (Puerto Rico Department of Natural and Environmental Resources), J Chabert (Puerto Rico Department of Natural and Environmental Resources), J Collazo (USGS-North Carolina State University), C Trejos (Ciudadanos del Karso), TM Aide (University of Puerto Rico-Río Piedras), and J Luvall (Marshall Space Center NASA).

### **Graduate and Postdoctoral Advisors:**

Postdoctoral Advisor: DA Walker (University of Alaska Fairbanks).

Ph.D.: MD Walker (USFS) and H Nichols (Colorado University).

M.S.: C Wetmore (University of Minnesota).

### **Mentoring, M.S. and Ph.D. Thesis Advisees, Supervision:**

G Potts (FS International volunteer intern, England), S Martinuzzi (FS International volunteer intern, Argentina), M Solórzano (FS volunteer intern), L Cray (FS volunteer intern), and NP Anderson (FS volunteer intern), Isabel Pares (UPR undergraduate), 3 Cartographic technicians, one Biological Science Aide.