

*Geography at the University of Maryland dissolves the boundary between social and biophysical sciences as we explore the human dimensions of global change. Our goal is to better understand the Earth's land surface and the way humans interact with it.*



Doctoral student Jessica McCarty researches the impact of crop burning in a sugarcane field in Louisiana. Her research is focused on quantifying greenhouse gas emissions for crop residue burning.

## **RESEARCH FACULTY**

- **Dr. Luigi Boschetti**
- **Dr. Joseph Cirrincone**
- **Dr. Ivan Csiszar**
- **Dr. Ruth DeFries**
- **Dr. Jan Dempewolf**
- **Dr. Catherine Dibble**
- **Dr. Ralph Dubayah**
- **Dr. Martha Geores**
- **Dr. Samuel Goward**
- **Dr. Michelle Hofton**
- **Dr. Chengquan Huang**
- **Dr. Christopher Justice**
- **Dr. Eric Kasischke**
- **Dr. Michael Kearney**
- **Dr. Stefania Korontzi**
- **Dr. Shunlin Liang**
- **Dr. Stephen Prince**
- **Dr. Guoqing Sun**
- **Dr. John Townshend**
- **Dr. Eric Vermote**
- **Dr. In-young Yeo**
- **Dr. Naijun Zhou**

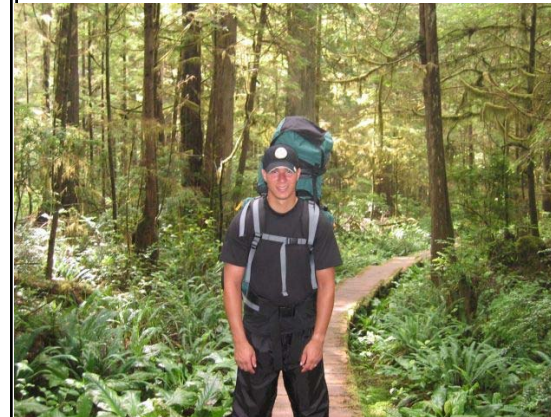
## **ACADEMICS**

The Geography Department at the University of Maryland is one of the largest research geography departments in the USA and is undergoing rapid expansion and evolution, which reflects the growing importance of geographical issues in public policy and research. Coupled with the Department's internationally recognized research activities, there is a lively graduate teaching program.

The research staff outnumber teaching faculty with approximately 40 research staff in residence and 15 faculty.

### **PROGRAMS OFFERED:**

- Undergraduate
- Graduate
  - Ph.D.
  - M.A.
  - MPS-GIS



Doctoral student Chris Neigh doing field research in Olympic, Washington



## **RESEARCH AT THE DEPARTMENT OF GEOGRAPHY**

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**Web-page: [www.geog.umd.edu](http://www.geog.umd.edu)**

## AREAS OF CONCENTRATION

The Department of Geography at the University of Maryland has as its core aims research instruction in the following:

- The science of spatial relationships of all aspects of the Earth's surface
- An integrated study of human & biogeophysical processes & their interactions
- The mathematical and statistical analysis of spatial data and mathematical modeling of Earth system processes
- Global observation systems for monitoring properties and processes of the Earth's surface using Earth-observing satellites
- Fundamental & applied aspects of major Earth phenomena, emphasizing current topics with major policy implications

### FIRE AND THE ENVIRONMENT

- Fire and carbon cycling
- GOF-C-GOLD fire mapping & fire monitoring
- MODIS Rapid Response
- Fire product development

### MARYLAND & MID-ATLANTIC RESEARCH

- Wetland change analysis
- Coastal marsh loss and sea level rise
- Watershed impairment & watershed surface hydrology
- Mid-Atlantic regional simulation

### SPATIAL ASPECTS OF BIODIVERSITY

- Quantifying tropical deforestation
- Central Africa Regional Project for the Environment (CARPE)
- Vegetation Dynamics in drylands

### GLOBAL OBSERVING SYSTEMS

- Landsat
- Global Land Cover Facility (GLCF)
- Mapping canopy structure
- VIIRS environment data
- Land cover change

## RECENT GRANTS & AWARDS

**Dr. Stephen Prince:** "Vegetation dynamics in drylands and implications for regional climate: analysis of two decades of observations in the African Sahel," \$888,096 over a three-year period.

**Dr. Ralph Dubayah:** "3D vegetation structure using L-band insar and lidar," \$288,353 over a two-year period.

**Dr. John Townshend:** "Earth science data records of global forest cover change," NASA award of \$3.5 million over a five-year period.

**Dr. Samuel Goward:** "Role of North American forest disturbance and regrowth in NACP: Integrated analyses of Landsat and US forest FIA data," \$750,000 over a three-year period.

**Dr. Eric Kasischke:** "Assessing the impacts of fire and insect disturbance on the terrestrial carbon budgets of forested areas in Canada, Alaska and the Western United States," \$562,000 over a three-year period.

**Dr. Shunlin Liang,** Principal Investigator, and **Dr. John Townshend,** Co-Investigator: "Land surface thermal infrared emissivity database development and modeling for operational weather prediction and climate models," NOAA award of \$414,000 over a three-year period.

**Dr. Naijun Zhou:** "Developing a visual semantic query system to enhance search capability of geospatial data portals," NSF award for \$63,191.

**Dr. Chenquan Huang** and **Dr. John Townshend:** "Developing algorithms for updating LANDFIRE vegetation data sets using MODIS and Landsat data," USGS award for \$60,000.

**Dr. Ivan Csiszar** with co-investigators **Dr. Guoqing Sun** and **Tatiana Loboda:** "Evaluation of habitat availability for large carnivores under a changing climate and disturbance regime: the Amur Tiger and Amur Leopard case study," \$322,000 over a three-year period.

**Dr. Eric Vermote,** Principal Investigator, and **Dr. Christopher Justice,** Co-Principal Investigator: "A surface reflectance standard product from LDCM and supporting activities," USGS award of \$100,000 per year for up to 5 years.

**Dr. Samuel Goward** and Co-Investigator **Dr. Darrel Williams:** "The Landsat Data Continuity Mission (LDCM) Long-Term Acquisition Plan (LTAP): Extending and enhancing the Landsat 7 LTAP approach," \$2.5 million over a five-year period.

**Timothy Heleniak,** a graduate student in the department, and **Dr. Catherine Dibble,** Co-Investigator: "Comparative study of development and settlement in the Circumpolar North," multi-year NSF award of \$331,000 over a four-year period.

**Dr. Eric Kasischke:** "Remote monitoring of changes in forest functional types after disturbance from fire in the North American boreal region," NASA award of \$768,000 over a three-year period.

**Robert Sohlberg** "Inter-operable sensor architecture to facilitate sensor webs in pursuit of Global Earth Observing System of Systems (GEOSS)," NASA award of \$525,000 over a four-year period.

Image: **MODIS Fire Map,** January 2006, visit <http://maps.geog.umd.edu/firms/>