



Geography, Environment, & Sustainability

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Introduction to Geography

The discipline of geography cultivates informed and engaged global citizens through an emphasis on integrative problem solving, spatial analysis, and communication skills. Geographers bridge the natural sciences, social sciences, and the humanities to provide a better understanding of the earth's cultural and biological diversity. Students find geography's interdisciplinary nature combines well with other programs and fields of study, such as global studies, environmental studies, biology, health studies, and economics.

Why Geography?

Global need

Geographical theory and geospatial technology are increasingly important on a threatened planet facing a changing climate, growing populations, dwindling resources, lethal pandemics, and increasingly complex information flows.

Interdisciplinarity

Geography's interdisciplinary nature is ideal for addressing complex problems as diverse as climate change, economic inequality, and territorial conflict.

Geographical understanding

Geographical understanding is a critical component of sound foreign policy, effective environmental stewardship, and successful international business.

Internationalization

Geography's global curriculum contributes to internationalization and is a core discipline in our partner institutions abroad. Geography students are encouraged to study internationally.

Tradition

The discipline of geography has roots in the Greek and Roman worlds and counts Eratosthenes, Ptolemy, and Humboldt as some of its most influential early thinkers.

Technology and Spatial Analysis

Geographic Information Systems (GIS) and other geospatial technologies are increasingly prevalent worldwide. The geography department is home to the Spatial Analysis Laboratory (SAL), a hub for interdisciplinary collaboration on campus. The lab features 16 dual-monitor computer workstations and the latest GIS and Remote Sensing software programs. The SAL also houses an extensive map collection and a rapidly growing library of digital data.

The Lab Director and GIS Operations Manager along with student interns support student use of the lab for assignments and projects, learning the underlying principles of spatial analysis and getting hands-on experience with the latest technology. Geography majors also use the SAL to pursue advanced research projects under the guidance of geography professors and community partners. Every year, select students present their research at the Association of American Geographers' annual conference.

Applied Courses/Active Learning

Geography classes often include applied components where students conduct fieldwork or address real-world problems. Several department courses connect geographic theory and application with a local focus, including Geography of the James River Watershed and Ecotourism. These courses follow an active learning model through a combination of field trips, community-based independent projects, and discussions with local practitioners to explore the human-environment connections within our community.

Other courses have a more global focus. For example, in Global Sustainability, students conducted fieldwork in a dry lakebed near Santiago, Chile with local university students and designed multimedia research summaries for a Climate Change Atlas of the Americas project.

Sustainability

Core tenets of sustainability are infused throughout the geography curriculum. The department also offers a minor in sustainability that focuses on systems thinking, justice, sustainability knowledge, integration, and acting for positive change. Applied project work is coordinated closely with the university's and city's Offices of Sustainability.

Employers of Recent Graduates

- Advanced Technology Solutions, Inc.
- Connor Strong & Buckelew
- EcoVadis
- Federal Emergency Management Agency
- GEODecisions
- Geographic Technologies Group
- Lockheed Martin
- National Aeronautics & Space Administration (NASA)
- National Oceanic & Atmospheric Administration (NOAA)
- New York City Department of City Planning
- United States Peace Corps
- United States Department of State
- Southern Environmental Law Center
- Timmons Group
- Tucson Electric Power
- Virginia Department of Transportation

Recent Graduate School Acceptances

- Boston University
- Columbia University
- Duke University
- London School of Economics
- Oxford University
- Pratt Institute
- Rutgers University
- University of California Santa Barbara
- University of Michigan
- University of Montana
- University of Pennsylvania
- University of Virginia
- Yale University

Student Co-Authored Publications

- Spera SA, Franklin MS, Zizzamia EA, Smith RK. 2022. Recovering a Black Cemetery: Automated Mapping of Hidden Gravesites using an sUAV and GIS in East End Cemetery, Richmond, VA. *International Journal of Historical Archaeology*.
- Lookingbill, T., E.S. Minor, C.S. Mullis, G.C. Nunez-Mir, P. Johnson. 2022. Connectivity in the urban landscape (2015–2020): who? where? what? when? why? and how? *Current Landscape Ecology Reports*
- Saverino, K, E. Routman, T. Lookingbill, A. Eanes, J. Hoffman & R. Bao. 2021. Thermal inequity in Richmond, VA: The effect of an unjust evolution of the urban landscape on urban heat islands. *Sustainability* 13, 1511
- Reygadas Y, Spera SA, Galati V, Salisbury DS, Silva S, Nova S. 2021. Mapping forest disturbances across the Southwestern Amazon: tradeoffs between open-source, Landsat-based algorithms. *Environmental Research Communications*, 3, 091001.
- Sibilia, S., G. Carter, & T. Lookingbill. 2019. Registering English battlefields: The constructive conservation of historic environments. Pages 37-76 in Lookingbill, T. & P. Smallwood (eds). *Collateral Values: The Natural Capital Created by Landscapes of War*. Springer Nature, Switzerland.
- Finley-Brook, M, T Williams, JA Sheppard, and MK Jaromin. 2018. Critical Energy Justice in US Natural Gas Infrastructuring. *Energy Research and Social Science*. 41: 176-190.
- Velasco Alarcón, C. Melissa, Salisbury, David S., Groth, Aaron A. 2017. La Religión de la Infraestructura en las Fronteras Amazónicas: El Caso del Purús. *Journal of Latin American Geography* 16, no 3: 107-134.
- Finley-Brook, M. and A. Krass. 2016. Higher ed's carbon addiction. *Human Geography* 9(1): 83-87

Recent Grants

- Andrew W. Mellon Foundation
- John D. and Catherine T. MacArthur Foundation
- National Park Service
- NASA
- Pan American Institute of Geography and History
- United States Agency for International Development (USAID)

Faculty Areas of Specialty

- Amazonia
- Biogeography
- Climate change & climate policy
- Economic geography
- Environmental justice
- Forest ecology & management
- GIS & geospatial analysis
- Globalization
- Indigenous peoples
- Invasive species
- Land-change-science
- Landscape ecology
- Protected areas
- Regional climate modelling
- Renewable energy
- Social movements
- Socio environmental impacts of roads
- Sustainability
- Terrestrial remote sensing
- Territoriality
- Transboundary conservation and development
- Urban geography
- Urban water systems
- Watershed science

