

David C. Smith

Curriculum Vitae

Rutgers, The State University of New Jersey , Department of Landscape Architecture

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| Education | Master of Science in Ecology 2008-2012 <i>Rutgers, The State University of New Jersey</i> <i>School of Environmental and Biological Sciences, New Brunswick, NJ</i> |
| | Graduate Certificate in Geospatial Information Science 2008-2011 <i>Rutgers, The State University of New Jersey</i> <i>School of Environmental and Biological Sciences, New Brunswick, NJ</i> |
| | Post-baccalaureate coursework in Biology 2006-2008 <i>Rutgers, The State University of New Jersey</i> <i>College of Arts and Sciences, Camden, NJ</i> |
| | Post-baccalaureate coursework in Biology 2004-2006 <i>University of Pennsylvania</i> <i>College of General Studies, Philadelphia, PA</i> |
| | Bachelor of Arts in Visual Arts 1993-1997 <i>Antioch College</i> <i>Yellow Springs, OH</i> |
| Teaching Experience | Instructor 2013-Present <i>Rutgers, The State University of New Jersey</i> <i>Department of Landscape Architecture, School of Environmental and Biological Sciences</i> |
| | Courses Taught |
| | <i>Fundamentals of Environmental Geomatics</i> Spring 2014 Developed and taught revised introductory level geomatics course, focusing on three core areas: 1) GIS tools and concepts, 2) Data acquisition, development, and management, and 3) Broader geomatics concepts. |
| | <i>Advanced Remote Sensing</i> Spring 2014 Taught this course in focusing on digital processing and analysis of remotely sensed data, including both lecture and hands-on components. |
| <i>Intermediate Landscape Architecture</i> Fall 2013 Co-taught this five-credit regional design studio focusing on the impacts of Superstorm Sandy on Monmouth County, NJ and developing regional-scale solutions for increasing resilience in the face of future destructive storm events. | |
| <i>Fundamentals of Environmental Geomatics Lab</i> Fall 2013-Spring 2014 Revised, taught, and supervised TA and PTL in the run of introductory level GIS labs focusing on basic mapping and geoprocessing functions of ArcGIS. Redesigned exercises to provide coverage of additional tools as well as encourage independent learning and test understanding. | |
| Management Supervised Teaching Assistant and Part Time Lecturer in run of the Fundamentals of Environmental Geomatics Lab course. | |
| Committees Undergraduate Curriculum Committee 2013 - Present | |

Teaching Experience (Contd.)

Teaching Assistant
Rutgers, The State University of New Jersey
Department of Landscape Architecture, School of Environmental and Biological Sciences 2009-2011

Courses Taught

Intermediate Environmental Geomatics Lab Spring 2011 & 2010
Fundamentals of Environmental Geomatics Lab Fall 2010
Field Techniques in Ecology and Natural Resources Spring 2010 & 2009

Guest Lectures

"A guide, a story, and a work of art: Basic map design" Spring 2011
"Maps!: Understanding basic cartography" Fall 2010
"Here there be monsters: Map design and geovisualization" Spring 2010

Single Lessons

Advanced Environmental Geomatics Spring 2010 & 2011
Advanced Remote Sensing Spring 2011
Aerial Photo Interpretation Fall 2010 & 2013

Labs Developed

"Hunting the elusive wild shapefile: An introduction to geographic data acquisition" Spring 2011
"ModelBuilder" Spring 2011

Projects

Research

"Application of Light Detection and Ranging (LiDAR) Data to Support Science-Based Management of Salt Marsh and Barrier Island Habitat in Marine Protected Networks." 2013

Developed a methodology for using high-resolution aerial photography and LiDAR data, along with object-based image analysis techniques, to produce highly detailed maps of coastal and barrier island habitat to support management of Marine Protected Areas, and applied existing models to determine the potential impact of sea level rise on the distribution of target species habitat.
<http://crssa.rutgers.edu/projects/coastal/slrhabitat/>

"Succession dynamics of Pine Barrens riverside savannas: a landscape-survey approach" 2012

Master's Thesis: An analytical survey of the declining distribution of a group of endangered wetland communities in the New Jersey Pine Barrens, and the underlying ecological processes driving those declines in the absence of direct anthropogenic disturbance within the past century.

Other Projects

New Jersey State Parks Brochure Map Design 2013 - Present
Working with the NJ Department of Environmental Protection Division of Parks and Forestry to develop a standardized map design standard to be used in creating free brochure maps for New Jersey's over 40 state parks and forests.

New Jersey Boater's Pumpout Guide 2010 - 2011
Produced 2011 update to this map and guide to marinas and vessels equipped with sewage pumpout facilities, funded by the NJDEP Division of Fish and Wildlife under the Clean Vessel Act (1992), to help reduce pollution in New Jersey's waterways.

COOL Classroom 2010

Developed interactive modules in Flash for a teacher-guided online educational unit on the role and process of spatial analysis in resource management decisions.
<http://new.coolclassroom.org/adventures/explore/seagrass>

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| Grants | Small Grants for Graduate Student Research in Ecology and Evolution 2010 <i>Rutgers University – Graduate Program in Ecology and Evolution</i> |
| | Ted Stiles Memorial Award for Ecological Research and Conservation 2010 <i>Rutgers University – Ecology and Evolution Graduate Student Association</i> |
| Outreach and Volunteer Work | <i>GISCorps Volunteer: Niassa National Reserve, Mozambique</i> 2012 Worked with management of this 42,000 km ² wildlife reserve in Mozambique to develop a series of versatile map templates which allow managers to quickly and easily create custom thematic maps of key management-related data as needed. http://www.giscorps.org/index.php?option=com_content&task=view&id=103&Itemid=62 |
| Design Experience | Web Designer/Developer 2002-2003 <i>Freelance</i> |
| | Junior Graphic Designer/Consultant – Usability Design Group 2000-2001 <i>Broadreach Consulting - Wayne, PA</i> |
| | Web Designer/Production Artist 1999 - 2000 <i>First USA Bank - Wilmington, DE</i> |
| Technical Proficiencies | <p>GIS, GNSS and Remote Sensing Techniques</p> <ul style="list-style-type: none"> o Geoprocessing, spatial analysis, and modeling techniques o Acquiring, generating, and editing geographic data o Cartography, designing sophisticated map products o Designing geodatabases and relational databases o Generating metadata o GNSS/GPS for navigation and data collection o Pixel- and object-based image processing and analysis o Aerial photo interpretation (from both digital and hardcopy materials) <p>GIS, GNSS and Remote Sensing Technology</p> <ul style="list-style-type: none"> o ESRI ArcGIS Desktop 9.x and 10.x o ArcGIS extensions, including Spatial Analyst, Geostatistical Analyst, and 3D Analyst o ModelBuilder o Python, ArcPy o Other spatial analysis tools: Geospatial Modelling Environment, Geoda, Fragstats, CrimeStat o Google Maps JavaScript API o ESRI ArcPad o ERDAS Imagine o eCognition o SQL, MySQL, Access <p>Other proficiencies</p> <ul style="list-style-type: none"> o Industry standard graphics software, including Photoshop, Illustrator, and Flash o Basic web design and development tools including HTML, CSS, Flash, and Dreamweaver o General office software including MS Word, PowerPoint, Excel, Access, and Adobe Acrobat o Standard statistical techniques and software including SAS, R, and JMP o Developing visualizations of qualitative and quantitative data |