

Keith M. Endres, Ecologist, in EPA's National Exposure Research Laboratory

Exposure Methods and Measurements Division

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Area of Expertise: Present and future research will involve: utilizing NAIP, MODIS, and LANDSAT satellite imagery for Earth Observing System evaluations in the Sustainable and Healthy Communities Research Project (SHCRP) areas with special focus on EnviroAtlas Urban Land Cover classification.

The SHCRP project aims to help stakeholders make informed decisions through full accounting of environmental (ecological and human health), economic, and social consequences and inter-relationships. Stakeholders include, for example: communities, decision makers, local government officials, the public, research scientists, businesses and non-profit organizations, and citizen leaders. SHCRP will help communities and other stakeholders take stock of current conditions and contributing factors, set objectives, understand and appreciate impacts or weigh consequences of alternative actions, and track progress. This project aims to break new ground, build on existing ORD efforts, and better connect with the broader scholarly community to improve decision analysis and support for priority areas, including building and infrastructure, land-use planning, transportation, and waste management and site remediation. SHCRP plans to shape this work in the context of multiple stressors, including for example: air, soil, and water pollution, population growth and migration, land-use change, loss and lack of natural habitat, competition for water resources, climate change, and extreme events.

Present and future work also includes supporting Branch research and administrative efforts and serving as Acting Branch Chief in the absence of the Sensing and Spatial Analysis Branch Chief.

Select Publications:

Pilant, A.N., J. Baynes, M. Dannenberg, J. B. Riegel, C. Rudder, and K. Endres. Meter-scale Urban Land Cover Mapping for EPA EnviroAtlas Using Machine Learning and OBIA Remote Sensing Techniques. December 2013. AGU San Francisco.

Smith, W. P., and Endres, K. M., [Raccoon Use of Den Trees and Plant Associations in Western Mesophytic Forests: Tree Attributes and Availability or Landscape Heterogeneity?](#) ^[EXIT] *Natural Resources*, 2012, 3, 75-87. Published Online Sept. 2012

Endres, K.M., and L.D. Worthy. Coastal Carolinas Ecosystem Services Research Initiative. May 2009 Peer Review. Las Vegas.

Pilant, A. N., K. M. Endres, L. D. Worthy, and D. Wilhelm. *Environmental Feature Finder Demonstration: A Remote Sensing Decision Support Tool*. Presented at 2008 Science

Forum, Washington, DC, May 20 - 22, 2008.

Endres, K. M., R. S. Lunetta, A. Pilant, D. J. Williams, and J. Edirwickrema. *Southern Lake Michigan Beach Closures: Using Satellite Images to Identify Areas At Risk*. Presented at Office of Science Policy Remote Sensing Workshop, Chicago, IL, November 01 - 03, 2005 (by Lunetta)

Williams, D. J., K. M. Endres, and A. N. Pilant. *Great Lakes Beach Closures: Using Satellite Images To Identify Areas At Risk*. Presented at EPA Science Forum 2004, Washington, DC, June 1-3, 2004.

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Education:

- M.S. in Biology (Wildlife Ecology) 1989, Tennessee Technological University
- B.S. in Wildlife Management/Biology, 1985, University of Wisconsin-Steven Point

Professional Experience:

- Supervisory Ecologist, U.S. EPA NERL/ESD Detail (Temporary) Acting Branch Chief
May 2008 – September 2008
- Ecologist, U.S. EPA, NERL/ESD, Research Triangle Park, NC, October 1994 – present
- Biologist, U.S. Fish & Wildlife Service, Ecological Services, Raleigh, NC, August 1991 – September 1994
- Biologist, SUNY-Adirondack Ecological Center, Huntington Forest, Newcomb, NY, May 1990 – August, 1991

Honors and Awards:

- Bronze Medal – Development of EnviroAtlas interactive web-based tool of ecosystem benefits, demographics, and stressors that informs assessments and decisions at national to community scales. (2014)
- Silver Medal – Successful inter-agency production and application of the first continental, satellite-derive land cover database Environmental Protection Agency Administrator, Christine Todd Whitman, Washington, D.C. (2001)
- Second Place – Environmental System Research Institute (ESRI) 2000 International User Conference, San Diego, CA Multi-media exhibition, *Effects of Excess Nitrogen in the Neuse River Basin, NC USA*.