**Andrew (Drew) N. Pilant, Research Physical Scientist, in EPA's National Exposure Research Laboratory**

Exposure Methods and Measurements Division
Mailing Address

pilant.andrew@epa.gov

**Area of Expertise:** My areas of expertise are in remote sensing, image analysis, and geoscience. My education is in geology, geophysics and imaging science, and my research area is using information from satellite and aircraft data for exposure science. My work supports many types of EPA geospatial and GIS analysis: design and perform exposure research using remote sensing data and techniques, image analysis, aerial imaging, pattern recognition, photointerpretation, land cover mapping, mission/flight planning, imaging spectroscopy, in-situ field calibration-validation studies, GPS data collection, sensor development, and science communication. Current research focuses on high resolution (one meter scale) urban land cover mapping for EPA EnviroAtlas, and automated algorithms to search for features of interest in large image databases using machine learning methods and object-based image analysis.

**Select Publications:**

JS Iiames, R G Congalton, TE Lewis, AN Pilant, 2015. Uncertainty Analysis in the Creation of a Fine-Resolution Leaf Area Index (LAI) Reference Map for Validation of Moderate Resolution LAI Products. Remote Sensing; 7(2):1397-1421. DOI: 10.3390/rs70201397.

J Baynes, M Dannenberg, A Pilant (2015). Hierarchical, Machine Learning Approach to Meter-scale Urban Land Cover Mapping. International Association of Landscape Ecologists Annual Meeting, 2015.

Russell, M., A. Teague, F. Alvarez, D. Dantin, M. Osland, J. Harvey, J. Nestlerode, J. Rogers, L. Jackson, D. Pilant, F. Genthner, M. Lewis, A. Spivak, M. Harwell, and A. Neale. 2013. Neighborhood scale quantification of ecosystem goods and services. U.S. Environmental Protection Agency, Office of Research and Development, Gulf Ecology Division, Gulf Breeze, Florida. EPA/600/R-XX/XXX. November 2013

JS Iiames, RG Congalton, TE Lewis, AN Pilant, 2008. Leaf area index (LAI) change detection analysis on Loblolly pine (Pinus taeda) following complete understory removal. Photogr. Eng. Remote Sens; 74(11):1389-1400.

John S. Iiames, Russell Congalton, Andrew Pilant, Timothy Lewis, (2008). Validation of an Integrated Estimation of Loblolly Pine (Pinus taeda L.) Leaf Area Index (LAI) Using Two Indirect Optical Methods in the Southeastern United States Southern Journal of Applied Forestry; 32(3):101-110.

Validation of global moderate-resolution LAI products: a framework proposed within the CEOS Land Product Validation subgroup. IEEE Trans. Geosci. Remote Sensing. J.T. Morisette

· F. Baret · J.L. Privette · R.B. Myneni · J.E. Nickeson · S. Garrigues · N.V. Shabanov · M. Weiss · R.A. Fernandes · S.G. Leblanc · A.Pilant · J.S. Iiames · R. Colombo · M. Meroni · L. Busetto · W.B. Cohen · D.P. Turner · E.D. Warner · G.W. Petersen · G. Seufert · R. Cook, IEEE Transactions Geoscience Remote Sensing 08/2006; 44(7)(7-44):1804 - 1817. DOI:10.1109/TGRS.2006.872529 · 3.51 Impact Factor

View more research publications by Andrew Pilant.

**Education:**

- Ph.D. in Geology, 1996, Michigan Technological University
- M.S. in Geology, 1990, The Pennsylvania State University
- B.S. in Geology, 1982, University of Puget Sound

**Professional Experience:**

- Interim Chief, Sensing and Spatial Analysis Branch (2016)
- Research Physical Scientist. U.S. EPA, ORD/NERL/ESD, 2001-Present
- Postdoctoral Researcher, U.S. EPA, ORD/NERL, 1999-2001
- Research Assistant Professor, Michigan Technological University, Dept of Physics, 1996-1999
- Visiting Scientist, Polar Science Center, Applied Physics Lab., U. Washington, Seattle, 1997
- Exploration Geologist, California, Nevada, Panama, Guinea, 1982-1984

Honors and Awards:

- 2014 ORD Honor Award Bronze Medal for EnviroAtlas team
- Special Recognition Accomplishment Award for contributions to identification of major gas and petroleum leaks and spills following Hurricanes Katrina and Rita 2006
- EPA Award for Excellence 2005-2006 for Hurricane Katrina Support
- STAA Level 3 2005 Lunetta, R.S., J. Ediriwickrema, Iiames, J.S, Johnson, D., Lyon, J.G., McKerrow, A., and Pilant, D., 2003. A quantitative assessment of a combined spectral and GIS rule-based land-cover classification in the Neuse River Basin of North Carolina, Photogrammetric Engineering and Remote Sensing, 69 (3): 299-310.
- 2004 ESRI Award for Best Scientific Paper in Geographical Information Systems, American Society for Photogrammetry and Remote Sensing, Bethesda, MD 2004