

Dr. Yeqiao (Y.Q.) Wang

Professor in Terrestrial Remote Sensing

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Research Interests

My research interests and teaching responsibilities are in terrestrial remote sensing and quantitative modeling in natural resources analysis and mapping. Particular areas of interests include remote sensing of the dynamics of landscape and land-cover/land-use change (LCLUC). LCLUC is an interdisciplinary scientific theme that includes to perform repeated inventories of landscape change from space; to develop scientific understanding and models necessary to simulate the processes taking place; to evaluate consequences of observed and predicted changes; and to further understand consequences on environmental goods, services and managements. LCLUC research is critical to improve our understanding of human interaction with the environment, and provide a scientific foundation for sustainability, vulnerability and resilience of land systems and their use. One of my research focuses is the development of modeling mechanisms to bridge driving forces and the consequences of land-cover changes so that the human impacts on ecosystems can be effectively modeled.

Education

- Ph.D., Natural Resources Management & Engineering: Univ. of Connecticut, 1995.
- M.Sc., Natural Resources Management & Engineering: Univ. of Connecticut, 1992.
- M.Sc., Remote Sensing & Mapping: Chinese Academy of Science, 1987.
- B.Sc., Physics/Geography: Northeast Normal University, China, 1982.

Professional Experience

- 2005-Present: Professor; 2001-2005: Assoc. Professor; 1999-2001: Asst. professor
Department of Natural Resources Science, University of Rhode Island
- 07/05-07/06: Visiting Scientist (*sabbatical*), USGS EROS Data Center, Sioux Falls, SD
- 08/95-08/99: Assistant Professor, Program in Geography, Department of Anthropology,
University of Illinois at Chicago, Chicago
- 10/97-09/99: Adjunct Environmental Scientist, Center for Environmental Restoration
Systems, Energy Systems Division, Argonne National Laboratory (DOE)
- 07/98-07/03: Adjunct Research Associate, Environmental and Conservation Program, The
Field Museum of Natural History, Chicago
- 07/87-08/90: Research Associate, Northeast Institute of Geography and Agroecology,
Chinese Academy of Sciences.

Selected Awards

- 2008: *Research Scientist Excellence Award*, College of Environment and Life Science, URI
- 2003: *Outstanding Contributions to Research*, University of Rhode Island
- 2002: *1st place* winner of the *ESRI Award for Best Scientific Paper in Geographic Information System*, American Society for Photogrammetry and Remote Sensing
- 2000: *Presidential Early Career Award for Scientists and Engineers* by President Clinton
- 2000: Recognition of the *PECASE* by NASA Headquarters
- 1999: *NASA New Investigator Award*

Selected Representative Projects

- PI: "A decision support system for monitoring, reporting and forecasting the ecological conditions of the Appalachian National Scenic Trail" funded by NASA (2009-2013)
- PI: "Impacts of Land Cover Change on the National Parks of the Northeast Temperate Network", funded by the National Park Service (2004-2008)
- PI: "Remote Sensing of Terrestrial and Submerged Aquatic Vegetation in Fire Island National Seashore: Towards Long-term Resource Management and Monitoring", funded by the NPS (2004-2008)
- PI: "Multiple Innovative Models in Regional Land Cover Change Study", NASA (1999-2004)
- Co-PI: "Geographic Information for Sustainable Development: Tanzania/Kenya Coastal Land Cover Change Study", funded by the United States Agency for International Development (USAID) (2002-2004)

Selected Representative Publications

- Wang, Y. 2009. Remote Sensing of Coastal Environments. A Taylor & Francis Series in Remote Sensing Applications, CRC Press, New York, 452p. (ISBN: 978-1-4200-9441-1)
- Wang, Y., B.R. Mitchell, J. Nugranad-Marzilli, G. Bonyng, Y. Zhou, G. Shriver, 2009. Remote sensing of land-cover change and landscape context of the National Parks: A case study of the Northeast Temperate Network, *Remote Sensing of Environment*. 113: 1453-1461.
- Wang, Y., Z. Wu, J. Feng, X. Yuan, H. Zhang, J. Zhang, J. Xu, 2009. Earth Observation and Ecological Security: An Integrated Multidisciplinary Approach towards a Regional Inventory and Monitoring, *IEEE Xplore*, pp. .
- Zhou, Y. and Y. Wang, 2008. Extraction of Impervious Surface Areas from High Spatial Resolution Imagery by Multiple Agent Segmentation and Classification, *Photogrammetric Engineering & Remote Sensing*, 74(7): 857-868.
- Wang, Y., M. Traber, B. Milestead, and S. Stevens, 2007. Terrestrial and Submerged Aquatic Vegetation Mapping in Fire Island National Seashore Using High Spatial Resolution Remote Sensing Data, *Marine Geodesy*, 30:1, 77-95.
- Zhou, Y. and Y. Wang, 2007. An assessment of impervious surface areas in the state of Rhode Island using high spatial resolution remote sensing data, *Northeast Naturalist*, 14(4): 643-650.
- Wang, Y., J. Tobey, G. Bonyng, J. Nugranad, V. Makota, A. Ngusaru, M. Traber, 2005. Involving Geospatial Information in the Analysis of Land Cover Change along Tanzania Coast, *Coastal Management*, 33(1):89-101.
- Wang, Y. and K. Zhang, 2004. A SPLIT Model for Extraction of Subpixel Impervious Surface Information, *Photogrammetric Engineering & Remote Sensing*, 70(7): 821-828.
- Wang, Y., A. Ngusaru, J. Tobey, V. Makota, G. Bonyng, J. Nugranad, M. Traber, L. Hale, and R. Bowen, 2003. Remote Sensing of Mangrove Change along the Tanzania Coast, *Marine Geodesy*, 26(1-2): 35-48.
- Wang, Y. and D.K. Moskovits, 2001. Tracking Fragmentation of Natural Communities and Changes in Land Cover: Applications of Landsat Data for Conservation in an Urban Landscape (Chicago Wilderness), *Conservation Biology*, 15(4): 835-843.
- Zhang, X. and Y. Wang, 2001. Spatial Dynamic Modeling for Urban Development, *Photogrammetric Engineering & Remote Sensing*, 67(9): 1049-1057.