

Publications

Refereed Journals

- Szantoi, Z., S. Malone, F. Escobedo, O. Misas, S. Smith and B. Dewitt, *A Tool for Rapid Post-Hurricane Urban Tree Debris Estimates Using High Resolution Aerial Imagery*, International Journal of Applied Earth Observation and Geoinformation, doi:10.1016/j.jag.2011.10.009. 2011.
- Tuma, J., S. Smith, and Z. Szantoi, *Dynamics of Land Use Change in the Florida Panhandle Using GIS Optimization Models: A Framework to Determine the Impact of Climate Change on the Florida Panhandle*, World Applied Sciences Journal, 14, 2011, pp. 1428-1437, ISSN 1818-4952, IDOSI Publications.
- Genc, L., Ü. Kızıll, N. M. Müftüoğlu and S. Smith, *Identification of Phosphorus-Sensitive Regions Using Field Data, Remote Sensing Imagery and Kriging Techniques to Mitigate Overuse of Fertilizer in a Northwestern Town of Turkey*, Fresenius Environmental Bulletin, 20, 2011, pp. 2555-2561.
- Abd-Elrahman, A., M. Croxton, R. Pand-Chettri, G. Toor, S. Smith and J. Hill, *In-situ Estimation of Freshwater Aquaculture Pond Water Quality Parameters Using Hyperspectral Image Analysis*, International Journal of Photogrammetry and Remote Sensing, 66, 2011, pp. 463-472.
- Genc, L. and S. Smith, *Determination of Plant Water Stress Using Spectral Reflectance Measurements in Watermelon (Citrullus vulgaris) American-Eurasian*, Journal of Agriculture and Environmental Science, 11, 2011, pp. 296-304, 2011ISSN 1818-6769, IDOSI Publications.
- Smith, S., Z. Szantoi, J. Perry and B. Evers, *Design Considerations for Remote Sensing Payloads on Inexpensive Unmanned Autonomous Aerial Vehicles*, Surveying and Land Information Science Journal. American Congress on Surveying and Mapping, 70, 2010, pp.131-137.
- Genc, L., H. Turhan, A. Burak and S. Smith, *Comparison of Spectral Indices Derived from QUICKBIRD and Ground Based Hyper-Spectral Data for Winter Wheat*, World Applied Sciences Journal, 7, 2009, pp. 756-762.
- Smith, S., and H. Monsef, *Geographic Assessment of Public Libraries in Egypt*, World Applied Sciences Journal, 6, 2009, pp. 861-887.
- Hersey, D. and S. Smith, *Analysis of Watershed Vulnerability to Flooding in Haiti*, World Applied Sciences Journal, 4, 2008, pp. 869-885.
- Monsef, H., S. Smith and J. Aufmuth, *Site Selection for Mangrove Plantations along the Egyptian Red Sea Coast*, World Applied Sciences Journal, 3, 2008, pp. 641-649.

- Turhan, H., L. Genc, S. Smith, B. Bostanci and S. Turkmen, *Assessment of the Effect of Salinity on the Early Growth Stage of the Common Sunflower (Sanay cultivar) Using Spectral Discrimination Techniques*, African Journal of Biotechnology, 2008, pp. 750-756.
- Genc, H., L. Genc, H. Turhand, S. Smith and J. Nation, *Vegetation Indices as Indicators of Damage by the Sunn Pest (Hemiptera scutelleridae) to Field-Grown Wheat*, African Journal of Biotechnology, 7, 2008, pp. 173-180.
- Genc, L. and S. Smith, *Assessment of Principal Component Analysis for Interpretation of Moderate and High Resolution Satellite Imagery*, Trakya Journal of Science, 18, 2005, pp. 32-41.
- Princz, P., J. Olah and S. Smith, *Complex Analytical Procedure for the Characterization of Modified Zeolites and for the Assessment its Effects on Biological Wastewater Treatment*, Measurements Journal, October 2005. pp. 345-351.
- Smith, S., J. Nunley, B. Dewitt, and L. Genc, *“Use of Remote Sensing for Locating Ordinary High Water Level in Florida Lakes,”* American Congress on Surveying and Mapping, Journal of Surveying and Land Information Sciences, 2004.
- Pearlstine, L., K. Portier, and S. Smith, *“Textural Discrimination of an Invasive Plant, Schinus terebinthifolius, from Low Altitude Aerial Digital Photography,”* Journal of the American Society for Photogrammetry and Remote Sensing, 2004.
- Monsef, H., S. Smith, and M. El Ghawaby, *“Design and Application of a Geographic Information System for Assessing Sulphide Mineralization,”* American Congress on Surveying and Mapping, Journal of Surveying and Land Information Sciences, 64: 280-291. 2004.
- Genc, L., B. Dewitt, and S. Smith, *“Wetland Vegetation Classification with LIDAR,”* Turkish Journal of Agricultural Forestry, 78: 63-71. 2004.
- Barnes, G., A. Agrawal, L. Genc, B. Ramachandran, V. Sivaraman, B. Pudi, M. Binford and S. Smith, *“Developing a Spatio-Temporal Cadastral Database Using County Appraisal Data from Northern Florida,”* American Congress on Surveying and Mapping, Journal of Surveying and Land Information Sciences, 63: 243-251. 2003.
- Genc, L., and S. Smith, *“Forest Cover Change Assessment in North Central Florida Using Landsat Thematic Mapper Images,”* American Congress on Surveying and Mapping, Journal of Surveying and Land Information Systems, 63: 149-154. 2003.
- Monsef, H., M. El Ghawaby, and S. Smith, *“A Geographic Information System of Development Planning. A Case Study of the Wadi Watir Valley in Sinai,”* American Congress on Surveying and Mapping, Journal of Surveying and Land Information Systems, 63: 37-45. 2003.

- Abdelrahman, A., L. Pearlstine, and S. Smith, “*Detection of Positional Errors in Systems Utilizing Small-Format Digital Aerial Imagery and Navigation Sensors Using Area-Based Matching Techniques*,” *Journal of the American Society for Photogrammetric Engineering and Remote Sensing*, 67: 825-831. 2002.
- Benhanifia, K., A. Bekradda, and S. Smith, “*Multitemporal Remote Sensing and GIS: A Useful Tool for Detecting and Mapping Forest Changes*,” *American Congress on Surveying and Mapping, Journal of Surveying and Land Information Systems*, 62: pp. 180-188. 2002.
- Pearlstine, L., S. Smith, L. Brandt, C. Allen, W. Kitchens, and J. Stenberg, “*Assessing State-Wide Biodiversity in Florida*,” *Journal of Environmental Management*, 66: 127-144. 2002.
- Smith, S., L. Pearlstine, and J. Stenberg, “*A Comparison of Aerial Videography and Digital Camera Imagery for Improving Land Cover Classification*,” *American Congress on Surveying and Mapping, Journal of Surveying and Land Information Systems*, 62: 163-170. 2002.
- Smith, S., F. Szilagyi, and L. Horvath, “*Environmental Impacts of the Gabcikov Barrage System to the Szigetkoz Region*,” *Journal of Clean Technologies and Environmental Policy*, 4: 54-64. July 2002.
- Monsef, H., and S. Smith, “*Enhancing Landsat Thematic Mapper Imagery for Wetlands Mapping*,” *American Congress on Surveying and Mapping, American Congress on Surveying and Mapping Journal of Surveying and Land Information Systems*, 60: pp. 138-146. December 2000.
- Smith, S., L. Horvath, F. Szilagyi, G. Büttner, and J. Aufmuth, “*Assessment of the Environmental Impacts of the Gabcikov Barrage System Using Satellite Remote Sensing Techniques*,” *American Society of Civil Engineers (ASCE) Journal of Water Resources Planning and Management*, 126: 128-137. 2000. [The same article was published (with permission from ASCE) in the *Water Resources Journal of the United Nations, ST/ESCAP/SER.C/207*, and pp. 32-44. December 2000].
- Smith, S., H. Monsef, and H. Fawzy, “*Assessment of the Need for New Land Development in Egypt: A Case Study and Prototype for Site Selection and Land Registration Procedure in the Sinai Peninsula*,” *American Congress on Surveying and Mapping, Journal of Surveying and Land Information Systems*, 60: pp. 121-129. 2000.
- Smith, S., and H. El-Monsef, “*Locating Regions of High Probability for Groundwater in Wadi El Arish Basin, Sinai, Egypt*,” *Journal of African Earth Sciences*, 25: pp. 88-95. 1997.
- Smith, S., B. Dewitt, P. Gonzalez, and W. Hurt, “*Georeferencing of Satellite Imagery for Digital Soil Mapping*,” *American Congress on Surveying and Mapping, Journal of Surveying and Land Information Systems*, 55: 13-20. 1995.

- Shrestha, R., A. Nazir, B. Dewitt, and S. Smith, “*Surface Interpolation Techniques to Convert GPS Ellipsoid Heights to Elevations,*” American Congress on Surveying and Mapping, *Journal of Surveying and Land Information Systems*, 53: 133-144. 1993.
- Smith, S., and D. Gibson, “County Level Geographic Information Systems in Florida,” *Journal of Geodetical Info*, 7: 55-58. 1993.
- Moussa, O., S. Smith, and R. Shrestha, “*A Hydrologic Regression Sediment Yield Model for Two Ungaged Watershed Outlet Stations in Africa,*” *Journal of Environmental Geology and Water Resources*, 17: 177-183. 1991.
- Smith, S., and H. Al-Rawahy, “*Water Allocation in Egypt—A Contemporary Assessment of an Ancient Problem,*” *Journal of Current World Leaders*, 34: 589-608. 1991.
- Shrestha, R., R. Taylor, S. Smith, and L. Stanislawski, “*Preliminary Results for the Florida High Precision GPS Network,*” American Congress on Surveying and Mapping, *Journal of Surveying and Land Information Systems*, 50: 299-302. 1990.
- Smith, S., “*A Revised Estimate of the Life Span of Lake Nasser,*” *Journal of Environmental Geology and Water Resources*, 15: 123-129. 1990.
- Smith, S., and H. Al-Rawahy, “*The Blue Nile: Potential for Conflict and Alternatives for Meeting Future Demands,*” *Journal of Water Resources International*, 15: 217-222. 1990.
- Smith, S., and M. McCord, “*Ocean Current Mapping – An Historical Perspective and Preview of the Future,*” American Congress on Surveying and Mapping, *Journal of Surveying and Mapping*, 49: 189-194. 1989.
- Smith, S., and A. Abdel-Kader “*Coastal Erosion along the Egyptian Delta,*” *Journal of Coastal Research*, 4: 245-255. 1988.
- Smith, S., “*An Assessment of Structural Deterioration of Ancient Egyptian Monuments and Tombs in Thebes,*” *Journal of Field Archaeology*, 4: 71-85. 1987.
- Smith, S., “*Effect of the Sahaelian Drought on Water Management in Egypt,*” *Journal of Soil and Water Conservation*, 41: 297-300. 1986.
- Smith, S., “*General Impacts of the Aswan High Dam,*” *ASCE Journal of Water Resources Planning and Management*, 112: 551-562. 1986.

Research

- *Collection of Digital Imagery in Support of Aquatic Invasive Species Program and CERP*
Sponsor: U.S. Army Corps of Engineers, \$100,000, 2011-2012. CESU Agreement W912HZ-10-2-0032.
- *Development of a Geospatial Soil-Crop Inference Engine for Smallholder Farmers:*
Sponsor: National Science Foundation. \$300,000. 2011-2013.
- *Development of an Unmanned Autonomous Vehicle for Wildlife and Ecological Research.*
Sponsor: The US Army Corps of Engineers. \$330,000. 2006-Present.
- *Development of the IFAS Vegetation Mobile Mapping System for Natural Resources, Agriculture, and Water Quality Applications”,* Sponsor: IFAS. \$100,000. 2008-2011.
- *Rapid Assessment of the Urban Forest Following a Hurricane: Damage, Removal and Restoration,* Sponsor: US Forest Service, \$320,000. 2007-2010.
- *Assessment of Tree Cover Change between 1986 and 1996 in Miami-Dade and Broward Counties,* Sponsor: US Forest Service, \$98,000. 2006-2008.
 - *Improvement of the Biological Degradability of Wastewater using Activated Zeolites.*
Sponsor: NATO. \$240,000. 1998-2006.
 - *Assessment of the Use of Remote Sensing Techniques for Locating and Mapping of Ordinary High Water Line for the Kissimmee Chain of Lakes.* Sponsor: Pickett and Associates and Florida Department of Environmental Protection. \$130,000. 2001-2002.
 - *Mapping and Monitoring of Sedimentation and Sand Dune Encroachment in Lake Nasser Using Remote Sensing Techniques.* Sponsor: National Science Foundation, \$30,000. 2001-2002.
 - *Land-Use and land-Cover Change: Decadal-Scale Dynamics of Carbon Storage Patterns as a Function of Land Ownership in the Southeastern Lower Coastal Plain Region of the U.S.* Sponsor: NASA. \$370,000. 1999-2002.
 - *Biological Diversity in Florida: An Evaluation of Potential Species in Relationship to Habitat and Existing Reserves.* Sponsor: U.S. Geological Survey. \$1 million. 1992-2000.
 - *Natural and Human Resources Assessment of Wadi Watir, South Sinai, Egypt.* Sponsor: U.S. Agency for International Development. \$50,000. 1997-1999.
 - *Aerial Sampling for Brazilian Pepper on Canaveral National Seashore.* Sponsor: National Park Service. \$5,000. 1997.

- *Aerial Sampling of St. Johns River Water Management District Natural Vegetation Using Digital Photography and Analog Videography.* Sponsor: St. Johns River Water Management District, \$25,000. 1997-1998
- *Landcover and Change Analysis of Florida using Landsat Thematic Mapper Imagery.* Sponsor: Florida Game and Fresh Water Fish Commission. \$124,000. 1996-1998
- *Field and Image Processing Support for Land Cover Classification of South Florida.* Sponsor: National Oceanographic and Atmospheric Administration. \$18,000. 1996-1997
- *Analysis of Land Use/Cover Change in the Szigetkoz Area since Construction of the Gabcikovo Barrage System.* Sponsor: National Science Foundation, the Hungarian Academy of Sciences and the Hungarian Ministry of Environmental Protection. \$100,000. 1995-1999.
- *Update and Change Detection Mapping of Potential Wildlife Habitat.* Sponsor: Florida Game and Fresh Water Fish Commission. \$100,000. 1995-1996.
- *Enhanced Community College Interface, SUCCEED: A National Engineering Education Coalition.* Sponsor: National Science Foundation. \$350,000. 1992-1999.
- *Visualization and Imaging across the Disciplines, Shared University Research Program.* Sponsor: International Business Machines Corporation. \$128,000. 1995.
- *Coast of Florida GIS Project.* Sponsor: U.S. Army Corps of Engineers. \$42,000. 1994.
- *Mapping of a Preliminary Route for a Central American Biological Corridor.* Sponsor: Caribbean Conservation Corporation. \$7,500. 1993-1994.
- *Geographic and Resource Mapping of Miskito Cays* Sponsor: \$5,786, Caribbean Conservation Corporation. \$6,000. 1993-1994.
- *Technology Transfer Program for Local Transportation Agencies - Research Implementation Plan.* Sponsor: Florida Department of Transportation. \$27,000. 1991-1992.
- *Land Use/Cover Accuracy Assessment.* Sponsor: Southwest Florida Water Management District. \$27,000. 1992.
- *Terminal Interconnected Equipment and Protocol Development for a GPS Monitoring Base Station.* Sponsor: National Aeronautics and Space Administration. \$29,000. 1991-1992.
- *Identification of Land Use/Transportation Network Change.* Sponsor: National Oceanographic and Atmospheric Administration. \$79,000. 1990-1991.

- *Site Verification Using Global Positioning System.* Sponsor: Florida Department of Environmental Regulation. \$65,000. 1990-1991.
- *Expanded Geodetic Control Along the Primary Road System by Use of Satellite Surveying Technology* Sponsor: Florida Department of Transportation. \$214,000. 1990-1991.
- *Satellite Remote Sensing Imagery.* University of Florida Libraries Sponsor: State Lottery Grant. \$58,000. 1991.
- *Soils Mapping by Use of Satellite Imagery.* Sponsor: U.S. Department of Agriculture. \$20,000. 1990.
- *Georeferencing of Landsat Thematic Mapper and SPOT Data to Universal Transverse Mercator Coordinates.* Sponsor: Southwest Florida Water Management District. \$17,000. 1990.