



Bill Cooke

Associate Professor
GIS

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Dr. Cooke holds a joint appointment as a research scientist at the Geosystems Research Institute (GRI). He has over 18 years of experience in Remote Sensing and GIS research at MSU and with the USDA Forest Service. Cooke has published and presented on various Remote Sensing and GIS modeling efforts including landscape risk assessment for fire and vector-borne diseases, GIS-based site suitability modeling for biofuel production, and sub-pixel analysis techniques for forest inventory. He chairs the committee tasked with developing the GIS disaster plan for the Mississippi Emergency Management Agency.

Education

Ph.D., Mississippi State University, Department of Forest Resources, 1992-1997

Dissertation: A Methodology for Quantitatively Testing the Applicability and Implementation of Landscape Partitioning Systems for AVHRR Data.

M.S., Mississippi State University, Department of Forest Resources, 1989-1991

Thesis: Use of Temporal Landsat Data for the Discrimination of Selected Forest Species Composition Groups.

B.S., Mississippi State University, Department of Forest Resources, 1975-1978

Experience

Development of GIS curriculum for MSU Geosciences Department

Over \$4 million in research funding

Co-coordinator: Geospatial and Remote Sensing Technologies Certificate Program

Leader of the USDA Forest Service National Remote Sensing Band

Visiting Scientist Wageningen Agricultural University, The Netherlands. RADAR analysis, Sumatra, Indonesia.

Publications (+ = Journal publications, * = Conference proceedings)

+Choi, J., Cooke, W.H., and Stevens, M.D., 2009, Development of a Water Budget Management System for Fire Potential Mapping, *GIScience & Remote Sensing*, Vol. 46, No. 1, p. 39-53. [[Abstract](#)]

+Rodgers, J.C., III, Murrah, A.W. and Cooke, W.H., 2009. The Impact of Hurricane Katrina on the Coastal Vegetation of the Weeks Bay Reserve, Alabama from NDVI Data. *Estuaries and Coasts*, 32(3): 496-507. [[Abstract](#)] [[Full Text](#)]

+Cooke, W.H., Grala, K. and Wax L.C., 2008. A Method for Estimating Pan Evaporation for Inland and Coastal Regions of Southeastern U.S. *Southeastern Geographer*, 48(2): 149-171.

+Dixon, P.G., Goodrich, G.B. and Cooke, W.H., 2008. Using teleconnections to predict wildfires in Mississippi. *Monthly Weather Review*, 136(7): 2804-2811. [[Abstract](#)]

*Cooke, W.H., Anantharaj, V., Wax L.C., Choi, J., Grala, K., Jolly, M., Dixon, P.G., Dyer, J., Evans, D.L. and Goodrich, G.B., 2007. Integrating climatic and fuels information into National Fire Risk Decision

- Support Tools. In Proceedings of the Fire environment--innovations, management, and policy. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station., Destin, FL, pp. 555-569. [\[Full text\]](#) [\[Conference Presentation\]](#)
- +Cooke, W.H., Grala, K., Evans, D.L. and Collins, C., 2007. Assessment of pre- and post-Katrina fuel conditions as a component of fire potential modeling for southern Mississippi. *Journal of Forestry*, 105 (8): 389-397. [\[Abstract\]](#)
 - +Cooke, W.H., Grala, K. and Wallis, R.C., 2006. Avian GIS models signal human risk for West Nile virus in Mississippi. *International Journal of Health Geographics*, 5(36). [\[Full Text\]](#)
 - *Cooke, W.H. and Jacobs, D.M., 2005. Rapid Classification of Landsat TM Imagery for Phase 1 Stratification using the automated NDVI threshold supervised classification (ANTSC) methodology. In Proceedings of the Fourth annual forest inventory and analysis symposium. USDA Forest Service, North Central Research Station, St. Paul, MN, pp. 81-86. [\[Full Text\]](#)
 - *Cooke, W.H., Prabhu, C., Wallis, R., Morris, J., Smith, B. and Gilreath, J., 2005. Assessment of current field plots and lidar 'virtual' plots as guides to classification procedures for multitemporal analysis of historic and current landsat data for determining forest age classes. In Proceedings of the 2005 International Workshop on the Analysis of Multi-Temporal Remote Sensing Images. IEEE, pp. 67-70. [\[Full Text\]](#) [\[Conference Presentation\]](#)
 - *Evans, D.L. and Cooke, W.H., 2004. LiDAR - the future of remote forest assessments? . In Proceedings of the Tenth Biennial Forest Service Remote Sensing Applications Conference. USDA Forest Service, Salt Lake City, UT. [\[PDF\]](#)
 - *Cooke, W.H., 2002. Overview of Remote Sensing in Support of Forest Inventory and Analysis Annual Inventories In Proceedings of the Ninth Forest Service Remote Sensing Applications Conference. USDA Forest Service, San Diego, CA [\[PDF\]](#) [\[Conference Presentation\]](#)
 - *Huang, C., Yang, L., Homer, C., Coan, M., Rykhus, R., Zhang, Z., Wylie, B., Hegge, K., Zhu, Z., Lister, A., Hoppus, M., Tymcio, R., DeBlander, L., Cooke, W.H., McRoberts, R.E., Wendt, D. and Weyermann, D., 2002. Synergistic use of FIA plot data and Landsat 7 ETM+ images for large area forest mapping. In Proceedings of the Thrid Annual Forest Inventory and Analysis Symposium. USDA Forest Service, St. Paul, MN, pp. 50-55. [\[Full Text\]](#)
 - *Cooke, W.H. and Hartsell, A.J., 2001. Landsat TM classifications for SAFIS using FIA field plots. In Proceedings of the Second annual Forest Inventory and Analysis symposium. USDA Forest Service, Salt Lake City, UT, pp. 15-18. [\[Full Text\]](#)
 - +Lannom, K.B., Evans, D.L. and Cooke, W.H., 2001. Forest mapping of Central America and Mexico with AVHRR data Geocarto International, 16(1): 45-53. [\[Full Text\]](#)
 - *Cooke, W.H., 2000. Forest/non-forest stratification in Georgia with Landsat Thematic Mapper data. In Proceedings of the First Annual Forest Inventory and Analysis Symposium. USDA Forest Service, St. Paul, MN, pp. 28-30. [\[Full Text\]](#)
 - *Cooke, W.H. and Hartsell, A.J., 2000. Wall-to-wall Landsat TM classifications for Georgia in support of SAFIS using FIA plots for training and verification In Proceedings of the Eighth Forest Service Remote Sensing Applications Conference USDA Forest Service, Albuquerque, New Mexico. [\[Full Text\]](#)
 - *Cooke, W.H., 1996. Evaluating the utility of partitioning remotely sensed data. In: J.D. Greer (Editor), Remote Sensing: People in Partnership with Technology: Proceedings of the Sixth Forest Service Remote Sensing Applications Conference. CRC Press, pp. 191-195. [\[PDF\]](#)

Publications In Review (+ = Journal publications)

- + Ashworth, A., Evans, D.L., Cooke, W.H., Londo, A.J., Collins, C. and Neuenschwander, A., Predicting Southeastern Forest Canopy Heights and Fire Fuel Models Using GLAS Data. Photogrammetric Engineering & Remote Sensing. In review.
- +Grala, K. and Cooke, W.H., Spatial and temporal characteristics of wildfires in Mississippi, USA. *International Journal of Wildland Fire*. In review.

Invited Presentations

Capturing Hurricane Katrina Data for Analysis and Lessons-Learned Research Department of Homeland Security Semi-Annual Project Review Meeting, Southeast Region Research Initiative, Marriott Crystal City, Arlington, VA, August 22-23, 2007.

Capturing Hurricane Katrina Data for Analysis and Lessons-Learned Research, Session: All Hazards Emergency Response, Department of Homeland Security: Annual University Network Summit on Research and Education , L'Enfant Plaza, S.W., Wasington D.C., March 15-16, 2007 [\[Presentation\]](#)

Quantifying fuels by Modeling Stand Structure in QuickBird and Landsat TM Data for Development of a Dynamic Fire Risk Prediction System Enterprise for Innovative Geospatial Solutions Research Symposium, Stennis Space Center, MS, August 10, 2006 [\[Presentation\]](#)

A Dynamic System for Monitoring and Predicting Occurrence and Spread of West Nile Virus in Mississippi, Agromedicine Research Forum, NC Cooperative Extension Pitt County Center, Greenville, NC, June 13-

GIS and Economic Development, MSU Economic Outreach Forum, Bost Extension Center, MSU; Sponsored by The Tennessee Valley Authority, Coca Cola Bottling Company, and the North Mississippi Industrial Development Association, April 27-28, 2005 [[Presentation](#)]

A Dynamic System for Monitoring and Predicting Occurrence and Spread of West Nile Virus in Mississippi, Presentation and Poster, Mississippi Department of Health, Mills McNiell, State Epidemiologist and Epidemiological staff, UMCC, August 11, 2004, [[Presentation](#)]

A Dynamic System for Monitoring and Predicting Occurrence and Spread of West Nile Virus in Mississippi, 2004 National Symposium on Agricultural Health and Safety, Keystone Resort, Colorado, June 20-24, 2004, [[Presentation](#)]

Geospatial Technologies in Applied Forest Inventory Procedures, Creating Futures Through Technology Conference, Mississippi Institutions of Higher Learning, Biloxi, MS, February 26-28, 2003 [[Presentation](#)]

*Mapping: A tiered Approach*The Fourth Annual FIA Symposium and the 2002 Southern Mensurationists' Conference, New Orleans, LA, November 19-21, 2002 [[Presentation](#)]

Service

USFS –WFAS Wildland Fire Assessment System

<http://www.wfas.net/content/view/50/73/>

Success Stories (20 minute video)

[GeoSpatial Video](#) ~164Megs (Large) MP4 File

Geosciences Department

[Bill Cooke](#) (43.8 Mbytes)

<http://www.gri.msstate.edu/os/eid/geosol.php>

Geospatial and Remote Sensing Technologies Certificate Program

<http://www.msstate.edu/dept/geosciences/pdf/GeospatialCertificate.pdf>

Affiliations

American Society for Photogrammetry and Remote Sensing
Association of American Geographers

Curriculum Vita

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