

STEPHEN R. YOOL
Curriculum Vitae

Chronology of Education

1980-1985 University of California Santa Barbara Ph.D.
1971-1973 California State University Hayward M.P.A.
1965-1969 California State University Hayward B.S.

Doctoral Dissertation: Performance Analysis of Image Processing Algorithms in Spatially Complex Areas (Advisor: Dr. John E. Estes)

Major Fields: Geography, including Biogeography, Remote Sensing and Geographic Information Science applications to human and natural systems

Chronology of Employment

2008- Professor, Geography, The University of Arizona
2003: Interim Head of Department
2001-2008 Associate Professor, Geography, The University of Arizona
2001-2008 Adjunct Professor, Planning, The University of Arizona
2000- Arid Lands Resources Sciences Grad Interdisciplinary Program
2000- Global Change Grad Interdisciplinary Program
2000- Remote Sensing & Spatial Analysis Grad Interdisciplinary Program
1996-01: Adjunct Assistant Professor, Planning, The University of Arizona
1995-01: Assistant Professor, Geography, The University of Arizona
1992-95: Adjunct Assistant Professor, Geography, The University of Arizona
1989-92: Research Scientist, Lockheed, Sunnyvale and Palo Alto, California
1985-89: Physical Scientist, Naval Ocean Systems Center, San Diego, California
1979-85: Research Associate, Remote Sensing Unit, U.C., Santa Barbara, California

Honors and Awards

2007: Honored Faculty Address: SBS Honors Convocation
2007: Dean's Magellan Award for Excellence in Instruction
2006: Presidential Citation, American Society of Photogrammetry & Remote Sensing
2005- Marquis Who's Who in America
2004- Who's Who in Social Sciences Higher Education
2003: Environmental Systems Research Institute Award for Best Scientific Paper in GIS
2003: Research Professor, College of Social and Behavioral Sciences
1999: Presidential Citation, American Society of Photogrammetry & Remote Sensing
1996: Nominee, University of Arizona Five-Star Teaching Award
1993: Summer Faculty Fellow, Army Topographic Engineering Center, Alexandria, VA
1992: Lockheed Publication Award for "Real-time image processing"
1987: Naval Ocean Systems Center Exemplary Achievement Award
1985: California Space Institute Research Award for Doctoral Dissertation
1985: Goddard Space Flight Center Postdoctoral Research Award
1979: U.C. Santa Barbara Dean's Instructional Improvement Award

Service/Outreach (Post-Tenure)

University Appointments and Service

A. University Committees

- 2006: Provosts's NSF Major Instrumentation Review Committee
- 2006- Executive Committee, Arid Lands Resources Sciences Graduate Interdisciplinary Program
- 1996- Faculty, Arid Lands Resource Sciences Graduate Interdisciplinary Program
- 1995- Faculty, Global Change Graduate Interdisciplinary Program
- 1993- Faculty, Remote Sensing and Spatial Analysis Graduate Interdisciplinary Program

B. Departmental Committees

- 2003-2009: Director, Undergraduate Studies
- 2008: Chair, Annual Faculty Performance Review Committee
- 2008: Member: Planning Chair Search Committee
- 2008: Chair, Scott Third Year Review Committee
- 2008: Chair, Mitchneck Promotion Committee
- 2007: Co-Chair, GIS/Geostats/Geoviz Faculty Search Committee
- 2007: Member, Academic Program Review Committee
- 2007: Chair, Annual Faculty Performance Review Committee
- 2006: Chair, Physical Geography Faculty Search Committee
- 2006- Member, Annual Faculty Performance Review Committee
- 2004- Director, Undergraduate Studies, Geography & Regional Development
- 2003- Department Standing Committee on Curriculum (Chair)
- 1992- Member, Department Committee on Instructional Technology

C. College Committees

- 2001; 2002: Dean's Post-Tenure Audit Committee

Professional Service

A. Professional Society Offices Held

- 2008- Chair, Remote Sensing Specialty Group Awards Comm., Assn of American Geographers
- 2007: President, Southwest Region, American Society of Photogrammetry & Remote Sensing
- 2006: President Elect, Southwest Region, American Society of Photogrammetry & Remote Sensing
- 2005: Vice President, Southwest Region, American Society of Photogrammetry & Remote Sensing

B. Review Service

- 2008: Reviewer NSF IGERT Pre-Proposals
- 2008- Judge, AAG Geography Student Affinity Group
- 2008- Editorial Board: *GISci & Remote Sensing*
- 2007- Editorial Board: *Fire Ecology*
- 2007: NSF Geography and Regional Science
- 2007: Early Career Award Selection Committee, ASPRS
- 2006: National Science Foundation, Geography and Regional Science
- 2001- Evaluator, Fischer Memorial Scholarship, ASPRS
- 2000- Judge, AAG Remote Sensing Specialty Group Student Paper Competition
- 1998-2001: Associate Editor, *Photogrammetric Engineering & Remote Sensing*

C. Conference Sessions Organized

2007

Geography Section, Arizona-Nevada Academy of Sciences

2006

Geography Section, Arizona-Nevada Academy of Sciences

2005

Wildfire Session, Association of American Geographers

2004

Wildfire Session, Association of American Geographers

2003

Wildfire Session, Association of American Geographers

2002

Wildfire Session, Association of American Geographers

D. Tenure and Promotion Cases Reviewed

Associate Professor (6 cases)

E. Journal Reviews

Biotropica

The Science of the Total Environment

Sens.

Photogrammetric Engineering & Remote Sensing

Journal of Geography in Higher Education

Fire Ecology

Geomorphology

GIScience & Remote Sensing

Applied Geography

Remote Sensing of Environment

International Journal of Remote Sensing

Canadian Journal of Remote Sensing

International Journal of Geographic Information Science

I.E.E.E. Transactions on Geoscience & Remote Sensing

The Professional Geographer

Annals of the Association of American Geographers

GeoCarto International

Applied Optics

Computer Graphics and Image Processing

Landscape Ecology

Madrono

Ecology

Agriculture, Ecosystems, and Environment

Plant Ecology

Geoscience and Remote Sensing Letters

Journal of Biogeography

International Journal of Wildland Fire

Ethiopian Journal of Biological Sciences

Geoforum

Journal of Photogrammetry & Rem.

Computers, Envt. & Urban Systems

Envtl Modelling & Software

Asian Journal of Geoinformatics

F. Book Reviews

Yool, S.R. (2004). book review of Chuvieco, E. *Wildfire Danger Estimation and Mapping. Photogrammetric Engineering & Remote Sensing* 70(4): 391-392

G. Miscellaneous Service

2008: Book chapter review: Remote Sensing of Land Cover Change

2008: Chair: Harnessing Geotechnologies (Departmental 50th Anniversary Session)

2008: Proposal Reviewer, Kansas State Targeted Excellence Program

2008- Graduate Student Travel Award Judge (Institute for the Study of Planet Earth)

2007- Faculty Mentor to Dr. Daoqin Tong

2007- Faculty Mentor to Dr. Gary Christopherson

2007: External Examiner, Ph.D. Thesis, University of Adelaide, Australia

2006- Faculty Mentor to Dr. Willem van Leeuwen

2005: Arizona Illustrated wildfire interview

2005: Holladay Intermediate Magnet School: ‘What is the Global Positioning System?’

2004: Arizona Illustrated interview

2004: ‘A World of Music’ (Teaching geography using the music of different countries).

2003: Arizona Illustrated wildfire interview

2002: Arizona Illustrated wildfire interview

2001: Moderator, National Geographic Geography Bee

Publications/Creative Activity

A. Book Chapters

Morehouse, B., Christopherson, G., Crimmins, M., Orr, B., Overpeck, J., Swetnam, T. and Yool, S.R. (2006). Modeling interactions among wildland fire, climate, and society in the context of climate variability and change in the US Southwest. In: M. Ruth, K. Donaghy, and P. Kirshen, (eds). *Regional Climate Change and Variability: Impacts and Responses*. (Cheltenham, UK: Edward Elgar, pp. 58-78).

Yool, S.R. (2004). Wildfires, in Stoltman, J.P., Lidstone, J. and DeChano, L.M. (Eds.), *International Perspectives on Natural Disasters: Occurrence, Mitigation, and Consequences* (The Netherlands: Kluwer Academic Publishers B.V.) *International Perspectives on Natural Disasters*. (Boston: Kluwer Academic Publishers, Chapter 5)

B. Refereed Journal Articles (* designates Ph.D. work)

Iniguez, J., T. W. Swetnam, and Stephen R Yool (2008). Topography Affected Landscape Fire History Patterns In Southern Arizona, USA. *Forest Ecology and Management* 256: 295–303

Villarreal, M. and S.R. Yool. Analysis of Fire-Related Vegetation Patterns in the Huachuca Mountains, AZ and Sierra los Ajos, Sonora, Mexico (2008). *Fire Ecology* 4(1)

Sánchez Flores, E., Rodríguez Gallegos, H., and Yool, S.R. (2007). Plant Invasions in Dynamic Desert Landscapes: A Field and Remote Sensing Assessment of Predictive Modeling. *Journal of Arid Environments* (in press)

Sanchez Flores, E. and Yool, S.R. (2007). Sensitivity of change vector analysis to land cover change in an arid ecosystem. *International Journal of Remote Sensing* 28(5): 1069-1088

Clark, A.M., Monk, J., and Yool, S.R. (2007). The Impact of Computer-Assisted Instruction on GIS Learning. *Journal of Geography for Higher Education* 31(2): 225-239

All, J.D. and Yool, S.R. (2004). Indexing Endangered Species Risk in the Colorado River Delta, Mexico using AVHRR NDVI Time Series Data. *Geocarto International* 19(4): 1-9

- Lampkin, D.J. and Yool, S.R. (2004). Monitoring Mountain Snowpack Evolution using Near Surface Optical and Thermal Properties. *Hydrological Processes* 18: 3527-3542
- Sanchez Flores, E. and Yool, S.R. (2004). Site environment characterization of downed woody fuels in the Rincon Mountains, Arizona: A regression tree approach. *International Journal of Wildland Fire* 13: 467-477
- Henry, M.C. and Yool, S.R. (2004). Assessing Relationships between Forest Spatial Patterns and Fire History with fusion of Optical and Microwave Remote Sensing. *Geocarto International* 19(2): 25-38
- Lampkin, D.J. and Yool, S.R. (2004). Numerical Simulations of MODIS Sensitivity Potential for Assessing Near Surface Mountain Snow Melt. *Geocarto International* 19(2): 13-24
- Miller, J.D., Nyhan, J.W., and Yool, S.R. (2003). Modeling potential erosion due to the Cerro Grande Fire with a GIS-based implementation of the Revised Universal Soil Loss Equation. *International Journal of Wildland Fire* 12: 1-16
- Miller, J.D., Danzer, S.R., Watts, J.M., Stone, S. and Yool, S.R. (2003). Cluster analysis of structural stage classes to map wildland fuels in a Madrean ecosystem. *Journal of Environmental Management*, 68 (3): 239-252
- Henry, M. and Yool, S.R. (2002). Characterizing fire-related spatial patterns in the Arizona Sky Islands using Landsat TM Data. *Photogrammetric Engineering & Remote Sensing* 68(10): 1011-1019
- Miller, J.D. and Yool, S.R. (2002). Modeling Fire in Semi-desert Grassland/Oak Woodland: The Spatial Implications. *Ecological Modelling* 153: 229-245
- Miller, J.D. and Yool, S.R. (2002). Mapping forest post-fire canopy consumption in several overstory types using multi-temporal Landsat TM and ETM data. *Remote Sensing of Environment* 82: 481-496
- Rogan, J. and Yool, S.R. (2001). Mapping fire-induced vegetation depletion in the Peloncillo Mountains, Arizona and New Mexico. *International Journal of Remote Sensing* 22(16): 3101-3121
- Yool, S.R. (2001). Enhancing fire scar anomalies in AVHRR NDVI time series data. *Geocarto International* 16(1): 5-12
- Kolivas, K.N., Johnson, P.S., Comrie, A.C., and Yool, S.R. (2000). Environmental Variability and Coccidioidomycosis. *Aerobiologia* 17: 31-42
- Ram, S., Khatri, V., Hwang, Y., and Yool, S.R. (2000). Semantic modeling and decision support in hydrology. *Photogrammetric Engineering & Remote Sensing* 66(10): 1229-1239
- Wallace, C.S.A. Watts, J.M., and Yool, S.R. (2000). Characterizing the spatial structure of vegetation communities in the Mojave Desert using geostatistical techniques. *Computers and Geosciences* 26(4): 397-410
- Andersen, M., Watts, J., Freilich, J., Yool, S.R., Wakefield, G.I., McCauley, J.F., and Fahnestock, P.B. (2000). Regression tree modeling of desert tortoise habitat in the central Mojave Desert. *Ecological Applications* 10(3): 890-900
- Weber, S.A. and Yool, S.R. (1999). Detection of Subsurface Archeological Architecture by Computer-Assisted Airphoto Interpretation, *Journal of Geoarcheology*. 14(6): 481-493
- Yool, S.R. (1998). Land cover classification in rugged areas using moderate-resolution multi-spectral data and an artificial neural network. *International Journal of Remote Sensing* 19(1): 85-96
- Patterson, M.W. and Yool, S.R. (1998). Mapping fire-induced vegetation mortality using Landsat Thematic Mapper data: A comparison of linear transformation technique. *Remote Sensing of Environment* 65: 132-142
- Yool, S.R. (1998). Multi-Scale Analysis of Pattern and Process in the Northern Chihuahuan Desert. *Journal of Arid Environments* 40: 467-483

- Medler, M.J. and Yool, S.R. (1998). Techniques for Terrain Stratification, *Physical Geography* 19(5): 433-443
- Yool, S.R., Makaio, M.J., and Watts, J.M. (1997). Techniques for computer-assisted mapping of rangeland change. *Journal of Rangeland Management* 50: 307-314
- Medler, M.J. and Yool, S.R. (1997). Automated techniques for integrated satellite and terrain mapping of wildfire. *Geocarto International* 12(1): 49-58
- Swetnam, T. W. and Yool, S.R. (1995). Studying fire across landscapes and time. *Bajada* 3(3): 8

1986-1995

Unclassified refereed publication activity suspended during employment in federal and industrial research laboratories.

- *Yool, S.R., Star, J.L., Estes, J.E., Botkin, D.B., Eckhardt, D.W., and Davis, F.W. (1986). Performance Analysis of Image Processing Algorithms for Classification of Natural Vegetation in the Mountains of Southern California. *International Journal of Remote Sensing* 7(5): 683-702
- *Yool, S.R., Eckhardt, D.W., Estes, J.E., and Cosentino, M.J. (1985). Describing the Brushfire Hazard in Southern California. *Annals of the Association of American Geographers* 75(3): 417-430

Electronic Publications, peer reviewed

- Taunton, S. and Yool, S.R. (2008). Mapping Annual Fire Season Fuel Moisture Stress within the Highly Heterogeneous Landscapes of Southeastern Arizona. *Geography Compass* (in press)
- Henry, M.C. and Yool, S.R. (2005). The Sensitivity of SIR-C Backscatter to Fire-Related Forest Spatial Patterns. *GISci and Remote Sensing* 42(1):19-43

Work in Progress (submitted or in preparation)

- Stacy, P.K.R., Comrie, A.C. and Yool, S.R. Modeling Valley Fever Incidence in Arizona using AVHRR NDVI as a Soil Moisture Proxy. *International Journal of Biometeorology* (submitted)
- Finke, T., Moran, M.S. and Yool, S.R. Object-Oriented Classification to Map Impervious Surfaces for Hydrologic Models. *Photogrammetric Engineering & Remote Sensing* (in preparation)
- Farris, C.A., Baisan, C.H., Yool, S.R., and Swetnam, T.W. Scale and sampling considerations for estimating fire history parameters from point-based fire scar data. *Canadian Journal of Forest Research* (in preparation)
- O'Neal, K.J., J. Rogan, and Yool, S.R. Comparison of the spectral mixture analysis shade fraction to traditional topographic correction techniques for shade reduction in Landsat data. *Photogrammetric Engineering and Remote Sensing* (in preparation)
- O'Neal, K.J., J. Rogan, and Yool, S.R. Monitoring post- fire vegetation regeneration using Landsat data and spectral mixture analysis. *Remote Sensing of Environment* (in preparation)
- O'Neal, K.J., J. Rogan, and Yool, S.R. Reintroduction of fire into southeastern Arizona rangelands: The Baker Canyon and Maverick Spring prescribed burns. *International Journal of Wildland Fire* (in preparation)
- O'Neal, K.J., J. Rogan, and Yool, S.R. Rangeland restoration and management in the southwestern United States. *The Professional Geographer* (in preparation)
- Rogan, J., K.J. O'Neal, and Yool, S.R. Mapping land cover modifications in semi-arid environments using machine learning classifiers. *GIScience and Remote Sensing* (in preparation)
- Orr, B., Swetnam, T., Christopherson, G., Morehouse, B., and Yool, S.R. A Wildland Fire Decision Support System. *Annals, Association of American Geographers* (in preparation)

- Taunton, S. and Yool, S.R. Changing Rules of Engagement: Fire Futures and the Role of Remote Sensing. *Geography Compass* (in preparation)
- Iniguez, J.M., Swetnam, T.W., and Yool, S.R. Comparing Landscape Fire History Patterns in the Santa Catalina Mountains, USA. *Landscape Ecology* (submitted)

Media

Producer and Director, Promotional Video: Remote Sensing & Spatial Analysis Graduate Interdisciplinary Ph.D. program (2006)

Scholarly Presentations (invited)

- 2008: Research Colloquium: San Diego State University
- 2008: Research Seminar: University of Adelaide Dept of Soil and Land Systems (Adelaide, SA)
- 2008: Research Seminar: University of Adelaide Dept. of Geographical and Environmental Studies
- 2007: Keynote Address: International Wildfire Symposium (Thessaloniki, Greece)
- 2006: NASA Space Grant Consortium
- 2005: Distinguished Research Lecturer, The University of Arizona

Conferences & Symposia (submitted)

- Scott, C.A., Halper, E., Yool, S.R. and Comrie, A.C. The evolution of urban heat island and water demand 89th American Meteorological Society Annual Meeting, February 2009, Phoenix, AZ
- Yool, S.R., Spatio-Temporal Variations in Southwest Fuel Phenologies, Association of American Geographers, April 2008, Boston, MA
- Yool, S.R. Geovisualizing Interannual Variation Of Live Fuel Moistures In Southern Arizona, Arizona-Nevada Academy of Sciences/Southwest Region, ASPRS Technical Meeting, March 2008, Phoenix, Arizona
- Sanchez Flores, E., Rodriguez, H., and Yool, S.R. Unstable desert environments and vulnerability to plant invasions. A field and remote sensing assessment. 32nd International Symposium on Remote Sensing of Environment, April 2007, Costa Rica
- Comrie, A., Skirvin, S., Glueck, M., Pianalto, S., Johns, R., Stacy, P., and Yool, S.R. Climate and Satellite Remote Sensing Analyses of the "Grow and Blow" Hypothesis 51st Coccidioidomycosis Study Group, 31 March 2007, Tempe, AZ
- Comrie, A, Glueck, M., Skirvin, S., Pianalto, F.S., Johns, R., Stacy, P., and Yool S.R. Valley Fever Public Health Decision Support System Based on Climate and Environmental Changes for 135th Annual Meeting & Exposition, 3-7 November 2007, Washington, D.C.
- Pianalto, F.S. and Yool, S.R. An Integrated Remote Sensing and GIS Disturbance Model for Prediction of *Coccidioides* Habitat. Association of American Geographers, 17-21 April 2007, San Francisco, CA
- Stacy, P. and Yool, S.R. Exploring Relationships Between Satellite-Derived Surface Moisture and *Coccidioides* Habitat. Association of American Geographers, 17-21 April 2007, San Francisco, CA
- Mattson, S., VanLeeuwen, W., and Yool, S.R. Fire Effects on Vegetation Recovery in the Santa Catalina Mountains, AZ. International Association of Landscape Ecology, 12-13 April 2007, Tucson, AZ
- Yool, S.R. A Remote Sensing Concept for Modeling Infectious Disease, Association of American Geographers, 6-10 March 2007, Chicago, IL
- Yool, S.R. Modeling Infectious Diseases from Space, Arizona-Nevada Academy of Sciences, 8 April 2006, Tucson, AZ

- Sanchez Flores, E. and Yool, S.R. Land Cover Change in a Desert Ecosystem. A Change Vector Analysis of Landsat TM and ETM+ Derived Biophysical Variables, American Society of Photogrammetry & Remote Sensing, May 2006, Reno, NV
- Rogan, J., O'Neal, K., and Yool, S.R. Analysis of Landscape Fragmentation in the Peloncillo Mountains in Relation to Wildfire, Prescribed Burning, and Cattle Grazing, Connecting Mountain Islands and Desert Seas conference, April 2005, Tucson, AZ
- Orr, B.J., Grunberg, W, Cockerham, A.B., Thwaites, A.Y., Severson, S.H., Lerman, N.N.D., Miller, R.M., Haseltine, M., Morehouse, B.J., Overpeck, J.T., Yool, S.R., Swetnam, T.W., and Christopherson, G.L.. *An on-line interface for integrated modeling of wildfire, climate and society for strategic planning for the sky islands*. Connecting Mountain Islands and Desert Seas conference, April 2005, Tucson, AZ.
- Rogan, J., O'Neal, K.J., and Yool, S.R. Analysis of twenty years of landscape fragmentation in the Peloncillo Mountains in relation to wildfire, prescribed burning, and cattle grazing. Connecting Mountain Islands and Desert Seas conference, April 2005, Tucson, AZ
- Orr, B.J., Morehouse, B.J., Yool, S.R., Christopherson, G.L., Swetnam, T.W., and Overpeck, J.T. FIRE-CLIMATE-SOCIETY (FCS-1) 2005: Online Multicriteria Decision Support for Participatory Strategic Wildfire Planning. Connecting Mountain Islands and Desert Seas conference, April 2005, Tucson, AZ
- O'Neal, K.J., Rogan, J. and Yool, S.R.. Monitoring post-fire vegetation regeneration in a Madrean ecosystem. Connecting Mountain Islands and Desert Seas conference, April 2005, Tucson, AZ.
- Balice, R.G. and S.R. Yool. Regional fire hazard modeling efforts in the Jemez Mountains. Presented at the East Jemez Resource Council quarterly meeting, 9 September 2004, Valles Caldera National Preserve, NM
- Yool, S.R. Characterizing the Cerro Grande (Los Alamos) Conflagration, Association of American Geographers, April 2001, New York, NY
- Yool, S.R., D. Lampkin, S. Marsh, R. Davis and R. Bales. Mapping Snow-Covered Area and Vegetation in the Upper Colorado Basin, American Society of Photogrammetry and Remote Sensing, May 2001, St. Louis, MO

Grants and Contracts

- Re-Measurement of Stand Structure Plots After Wildfire in Southeastern Arizona (10%, PI, \$50,000, USDA), 2008-2009
- Cyberinfrastructure: Information technology in support of science, engineering, and environmental applications (10%, Co-PI, \$125,000, NSF), 2008
- IGERT Program in Development, Life Sciences and Society: Complexity of Innovation and Diffusion (10%, Co-PI, NSF, pending), 2008
- Geospatial Analysis of Urban Thermal Gradients: Application to Tucson Arizona's Projected Water Demand 2007 (50%, Co-PI, \$12,000, USGS), 2007
- Cyberinfrastructure: Information technology in support of science, engineering, and environmental applications (10%, Co-PI, \$125,000, NSF), 2007
- National Aeronautics and Space Administration Internship (100%, PI, \$8000, NASA), 2006
- National Aeronautics and Space Administration Internship (50%, Co-PI, \$8000, NASA), 2005
- A Valley Fever (Coccidioidomycosis) Public Health Decision Support System Based on Climate and Environmental Change (50%, Co-PI, \$265,004, EPA), 2005-2007
- National Aeronautics and Space Administration Internship (100%, \$8000, PI, NASA), 2004
- The University of Arizona GIS Minor Website (100%, PI, \$19,944, Proposition 301), 2004

Mapping Alpine Snowmelt Over the Colorado River Basin using Multiple Satellite Platforms: MODIS & AVHRR Data for Monitoring Variability in Regional Climate & Water Resources (100%, PI, \$72,000, NASA), 2002-2004

Baker-Maverick Postfire Regeneration (10%, Co-PI, \$70,500, USDA), 2003-2004

Climatic and Human Contributions to Fire Regimes Affecting Ecosystems in the U.S. Southwest (25%, Co-PI, \$275,000, EPA), 2000-2003

The University of Arizona GIS Minor Website (100%, PI, \$19,944, Proposition 301), 2003

GIS Development and Support for Fort Huachuca (50%, Co-PI, \$660,000, Army), 2000-2002

NASA Southwest Earth Science Applications Center (25%, Co-PI, \$2,500,000, NASA), 2000-2002

Fire effects on vegetation within the Baker Canyon Reburn (100%, PI, \$75,000, USDA), 2002

Fuel Risk Mapping in the Los Alamos Urban-Wildland Interface—Cerro Grande Amendment (100%, PI, \$85,000, USDA), 2000

New Learning Environments and Instructional Technologies Grants Program: Updating the Department of Geography & Regional Development's Spatial Analysis Laboratory (50%, Co-PI, \$15,000, The University of Arizona), 2000

Characterizing Fire Regimes in Conifer Forest using Optical and Microwave Remote Sensing (100%, PI, \$102,000, EPA), 1999-2001

Fuel Risk Mapping in the Los Alamos Urban-Wildland Interface (100%, PI, \$40,000, USDA), 1999

Maverick Prescribed Fire Visualization and Analysis (100%, PI, \$14,500, USDA), 1999

Peloncillo Mountains fire fuels mapping (100%, PI, \$29,000, USDA), 1998

Peloncillo Mountains fire fuels mapping (100%, PI, \$24,000, USDA), 1998

Peloncillo Mountains GIS Agave habitat and fire response model (100%, PI, \$24,000, USDA), 1997

Huachuca Mountains fire fuels mapping demonstration (100%, PI, \$75,000, USDA), 1997

Pole Bridge Canyon fuel load mapping (100%, PI, \$21,300, USDA), 1997

Fuels mapping and fire spread simulation at the Appleton-Whittell research ranch (100%, PI, \$5,000, National Audubon Society), 1997

San Mateo Fuels Inventory (100%, PI, \$4000, USDA), 1996

Mapping fire effects and patterns of the Baker Fire, Peloncillo Mountains, Arizona (100%, PI, \$27,600, USDA), 1996

Fire Effects Mapping and Modeling in the Apache Kid Wilderness, NM (100%, PI, \$17,500, USDA), 1996

Vegetation Index Variability Analysis Contract (100%, PI, \$60,000, Army), 1996

Spatial Visualization and Analysis of Fire Habitats in the Chiricahua Mountains, Coronado National Forest, Arizona, using Remote Sensing and Geographic Information System (GIS) Techniques (100%, PI, \$40,000, USDA), 1995

Spatial Analysis of Fire Effects in the Cibola National Forest, New Mexico, using Remote Sensing and Geographic Information System (GIS) Techniques (100%, PI, \$20,000, USDA), 1995

Virtual Communications/Spatial Analysis Laboratory (100%, Co-PI, \$89,000, NSF), 1995

University Instructional Computing Award (100%, Co-PI, \$20,000, The University of Arizona), 1994

Government Applications Task Force Contract (100%, PI, \$40,000, Army), 1994

Post-Summer Faculty Research Grant (100%, PI, \$26,700, Army), 1994