

MICHAEL W. MAYFIELD

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WORK ADDRESS: 365 Rankin Science West
Appalachian State University
Boone, NC 28608

HOME ADDRESS: 515 Russell Beach Road, Vilas, NC 28692

EDUCATION: Ph.D. Geography, University of Tennessee, 1984
M.S. Geography, University of Tennessee, 1980
B.S. Geography, Western Carolina University, 1977

PROFESSIONAL SPECIALTIES:

Topical: Geomorphology, Hydrology, Global Change.
Regional: United States, Costa Rica, Andes.

ADMINISTRATIVE EXPERIENCE:

Faculty Director, Wilson Scholars Program 2017-
Faculty Director, College STAR Program, 2018-2021
Vice Provost for Undergraduate Education 2012-2017
Interim Vice Provost for Undergraduate Education, ASU, 2010-2012
Faculty Coordinator of General Education, ASU, 2007-2010
Chair, Dept. of GHY/PLN, ASU, 1998-2002
Interim Chair, Dept. of GHY/PLN, ASU, Spring 1996

TEACHING/RESEARCH EXPERIENCE:

Professor, Dept. of GHY/PLN, Appalachian State University, 1998-present
Associate Professor, Dept. of GHY/PLN, Appalachian State University, 1990-1998
Visiting Scientist, CATIE Research Institute, Costa Rica, Spring 1995
Assistant Professor, Dept. of GHY/PLN, Appalachian State University, 1988-90
Assistant Professor, University of North Carolina-Greensboro, 1984-88
Visiting Lecturer, UNC-Greensboro, 1983-84
Visiting Assistant Professor, University of Idaho, 1982-83
Staff Geographer, HDR Sciences, 1980-81
Research Assistant, Oak Ridge National Laboratory, 1979-1980

COURSES TAUGHT:

*=graduate course

Geomorphology	Physiography of the U.S. and Canada
Geographical Hydrology*	Global Environmental Systems
Seminar in Hydrology*	World Regional Geography
Digital Image Processing*	Seminar in Environmental Studies*
Quantitative Methods*	Global Change Seminar*
Geography of Costa Rica	Environmental Analysis Seminar*
Intro. to Earth Science	Senior Seminar in Geography
Physical Geography	Biogeography of the S. Appalachians
Environmental Change*	Mountain Geography*
Weather and Climate	Stream Restoration Seminar*
Field Methods	Ecoregions and Dynamic Landforms
Wilson Scholars Seminar	Global Climate Change Lab

STUDY ABROAD AND FIELD COURSES:

Wilson Scholars Study Abroad in Costa Rica: 2018, 2019
Mountain Geography of Costa Rica: 18 times, 1989-2010
Mountain Geography and Glacial Retreat in Ecuador: 2007, 2008, 2009
Mountain Geography and Glacial Retreat in Peru: 2010
Mountain Geography in Bolivia: 1999
Field Methods in Physical Geography: 10+ times in Utah, Colorado, California, Idaho, and Wyoming

HONORS:

W. H. Plemmons Leadership Medallion, 2017
Distinguished Alumnus, UT-Knoxville Department of Geography 2015-16
Geography Educator of the Year Award, North Carolina Geographical Society 2012
SGA Faculty Appreciation Award 2008
UNC Board of Governors Excellence in Teaching Award 2000
Nominated for W.H. Plemmons Medallion, 2013
Nominated for Academy of Outstanding Teachers at ASU 1990, 1993, 2001, 2005
Nominated for ASU Student Government Assoc. Teaching Award 1994, 1996
Nominated for Outstanding Graduate Faculty Award 1991, 1999
Nominated for Outstanding Advisor Award, ASU CAS 2007
Elected to Sigma Xi, 1981
R.G. Long Outstanding Graduate Student Award, University of Tennessee, 1983
Elected to Sigma Gamma Epsilon, 1975
Best paper, master's section, SEDAAG 1978

RESEARCH GRANTS:

"College STAR," Oak Foundation and GlaxoSmithKline, 2012-2021. PI. \$1,926,966.

"ASU Center of Excellence for Veteran Student Success," US Department of Education, 2015-2018. Co-PI. \$273,922.

"Global Change in Local Places," NASA, 1996-1999. Co-PI: responsible for scientific investigations in the Blue Ridge/Piedmont study area. \$220,000.

"The North Carolina Greenhouse Gas Emissions Inventory for 1990," US EPA 1993-1996. \$180,000. co-PI and member of the science committee.

"Multidisciplinary Integration of Meteorologic Data into Undergraduate Studies," National Science Foundation, 1990-1993. PI. \$23,407.

"Assessment of Drought in Western North Carolina through Satellite Remote Sensing," North Carolina Board of Science and Technology, June 1989. P.I. \$11,000.

"Water Quality Modeling through Satellite Remote Sensing: The New River Basin," ASU University Research Committee, 1988-89. P.I. \$1900.

"Analysis of Stream Channel Morphology through Dendrochronology and Remote Sensing," UNC Greensboro Research Council, 1989. P.I. \$750.

UNC Greensboro Excellence Foundation, Summer Fellowship Grant, 1990. \$1750.

**PROFESSIONAL
ORGANIZATIONS:**

Association of American Geographers
Southeastern Division, Association of American Geographers
North Carolina Geographical Society
Undergraduate Scholars Program Administrators Association

**REFEREED
PUBLICATIONS:**

M.W. Mayfield. 2007. "Streamflow Duration and Recreational Flows on Three Southeastern Streams," *North Carolina Geographer* 14:1-12.

M.W. Mayfield and J.T. Morgan. 2005. "The 'Oldest River' as an Appalachian Popular Region," *Journal of Geography* v.104, n.2, pp. 59-64.

R.W. Kates, M.W. Mayfield, R. D. Torrie, and B. Witcher. 1998. "Methods for Estimating Greenhouse Gas Emissions from Local Places," *Local Environment*, v. 3, n.3, pp. 279-297.

W. E. Easterling, C. Polsky, D. Goodin, M. W. Mayfield, W. A. Muraco, and B. Yarnal. 1998. "Changing Places, Changing Emissions: the Cross-Scale Reliability of Greenhouse Gas Emission Inventories in the US," *Local Environment*, v. 3, n.3, pp.247-262.

G. Hyman, M.W. Mayfield, and Sergio Velasquez. 1997. "Delineating Effective Riparian Buffer Widths for Water Quality Protection," *United Nations Awareness Package in Agricultural Research* v. 9.

M.W. Mayfield, B. Witcher and T. Dellinger. 1996. "Greenhouse Gas Emissions: Methane Released in North Carolina, 1990," *The North Carolina Geographer*, v.5.

M.W. Mayfield and J.T. Morgan. 1996. "The New River," in D. Gordon Bennett, ed., *Snapshots of the Carolinas*. Washington, D.C.: Association of American Geographers.

M.W. Mayfield and J. DeHart. 1996. "Carolina Whitewater," in D. Gordon Bennett, ed., *Snapshots of the Carolinas*. Washington, D.C.: Association of American Geographers.

H. Craig Seaver and M.W. Mayfield. 1995. "Historical Land Use and Accelerated Soil Erosion in Watauga County (1950-1988)," *The North Carolina Geographer*, v.4.

J.T. Morgan and M.W. Mayfield. 1995. "The Oldest River in the World?" *Southeastern Geographer*, v. 34, n. 2, pp. 138-144.

W.J. Holder and M.W. Mayfield. 1993. "GIS Based Determination of Effective Stream Buffers," *The North Carolina Geographer*, v.2.

M.W. Mayfield and J. DeHart. 1989. "Whitewater Rafting in the Southeastern United States: Current Status and Constraints on Future Growth," with J. DeHart, *Sport Place International*, v.3, n.3, pp.14-19.

M.W. Mayfield. 1989. "Magnitude-Frequency Relationships of Alluvial Landforms of the Cumberland Plateau," *Southeastern Geographer*, v. 29, n.2.

M.W. Mayfield. 1989. "Drought in North Carolina," *Journal of the NCCSS*, Jan. 1989

M.W. Mayfield. 1986. "Hydrologic Response of Watersheds of the Cumberland Plateau, Tennessee," *The Southeastern Geographer* 25 (1).

M.W. Mayfield. 1979. "Runoff in the Obed-Emory Basin of Tennessee," *The Southeastern Geographer* 19 (1).

BOOKS and Book Chapters:

Lineback, N.G., M.W. Mayfield, and J. DeHart. 2003. "Northwest North Carolina," Chapter 4 in *Global Change and Local Places: Estimating, Understanding, and Reducing Greenhouse Gases*, AAG Global Change and Local Places Research Team. Cambridge: Cambridge University Press.

Easterling, W.E., C. Polsky, D.G. Goodin, M.W. Mayfield, W.A. Muraco, and B. Yarnal. 2003. "Changing Places and Changing Emissions: Comparing Local, State, and United States Emissions," Chapter 7 in *Global Change and Local Places: Estimating, Understanding, and Reducing Greenhouse Gases*. Cambridge: Cambridge University Press.

Wilbanks, T.J., R.W. Kates, D.P. Angel, S.L. Cutter, W.E. Easterling, and M.W. Mayfield. 2003. "The Research Strategy: Linking the Local to the Global," Ch. 2 in *Global Change and Local Places: Estimating, Understanding, and Reducing Greenhouse Gases*. Cambridge: Cambridge University Press.

Carolina Bays: An Annotated and Comprehensive Bibliography 1844-2000. Thomas E. Ross, with contributions by Julie Bell, Jennifer DeHart, Michael Mayfield, et al. Southern Pines, N.C.: Carolinas Press. 2000.

M.W. Mayfield and R. E. Gallo. 1993. *The Rivers of Costa Rica*, revised edition. Birmingham, Alabama: Menasha Ridge Press.

M.W. Mayfield and R. E. Gallo. 1988. *The Rivers of Costa Rica*. Birmingham, Alabama: Menasha Ridge Press.

OTHER PUBLICATIONS:

M.W. Mayfield. 2004. "Hydrology of Rainfed Streams," *Lunch Video Magazine* print edition, v. 12, pp. 13-15.

L.B. Perry, M.W. Mayfield, K.A. Schroeder, and F. Bahnson. 2003. "Mountain Geography, Community Health Mapping, and Globalization in Andean Bolivia," *Teaching and Learning at Appalachian* v. 7, pp. 2-3.

M.W. Mayfield. 2000. "Biofuels Use by North Carolina Industry," *IEA Bioenergy: Greenhouse Gas Balances of Bioenergy Systems: Proceedings of the Workshop: Bioenergy for Mitigation of CO₂ Emissions: The Power, Transportation, and Industrial Sectors*. Graz, Austria: Joanneum Research.

M.W. Mayfield. 1998. "Celebrating the Life of Sherwood Horine: This Must Be the Place," *American Whitewater*, November/December.

M.W. Mayfield. 1993. "The Chattooga River: Souseholes, Banjos, and Stream Piracy," AAG 1993 Annual Meeting *Field Guide*.

- J. Morgan and M.W. Mayfield. 1993. "Promotion of the New River as the Old River, 1968-1973," *Proceedings of the New River Conference*.
- M.W. Mayfield. 1992. "Hydrology," chapter in G.V. Cooper, ed., "Growth Management Strategies, An Environmental Approach: Avery County, NC. ASU Department of Geography and Planning, December 1992.
- M.W. Mayfield and W.J. Holder. "GIS Based Stream Buffer Determination," *Proceedings of the Conference on Appalachian Geography*.
- M.W. Mayfield and G. Hyman. 1990. "Sediment Yield and Water Quality Modeling of the South Fork of the New River with TM Imagery," *Proceedings of the Conference on Appalachian Geography*.
- M.W. Mayfield. 1990. "Satellite Remote Sensing and Image Interpretation," Chapter 20 in J. Hidore and M. Roberts, *Physical Geography, A Laboratory Manual*, 4th ed. New York: Macmillan.
- M.W. Mayfield. 1990. "River Valleys," chapter in F.N. Magill, ed., *Magill's Survey of Science: Earth Science Series*. Pasadena, CA: Salem Press.
- M.W. Mayfield. "Surface Water," chapter in F.N. Magill, ed., *Magill's Survey of Science: Earth Science Series*. Pasadena, CA: Salem Press.
- R.E. Gallo and M.W. Mayfield. 1989. "The Rivers of Costa Rica," *Costa Rica International Guide*.
- M.W. Mayfield. 1988. "The Roles of Hydrology and Fluvial Geomorphology in Whitewater Recreation," *Proceedings of the Conference on Appalachian Geography*.
- M.W. Mayfield. 1987. "Kayaking in Costa Rica," *LACSA's World*, November-December.
- M.W. Mayfield and R.E. Gallo. 1987. "A Season of Paddling in Costa Rica," with Rafael Gallo, *TECHNITUR Revista Tecnica de Turismo* v. 3, n. 13.
- M.W. Mayfield. 1986. "Response of Fluvial Systems to Floods in the Southern Appalachians," *Proceedings of the Conference on Appalachian Geography*.
- M.W. Mayfield. 1982. "Streamflow Characteristics of the Cumberland Plateau," *Proceedings of the Conference on Appalachian Geography*.
- R. Robertson, A. Shepherd, C. Rosemarin, and M.W. Mayfield. 1981. "Water-related Constraints to the Development of Geothermal Electric Generating Stations, with, ORNL Technical Manuscript 7718.

PAPERS PRESENTED: M.W. Mayfield. 2016. "Critical Thinking in General Education," Panel participant at the UNC Symposium on Critical Thinking, Charlotte, N.C., October 2016.

P.J.W. Marty, Michael Mayfield, and Kristin Hyle, "Transfer Students: Balancing Efficiency and Effectiveness," Annual meeting of the Association of General and Liberal Studies, Portland, OR, September 2012.

Mayfield, M.W. "Geography in General Education Curricula," Annual meeting of the Association of American Geographers, Seattle, WA. April 2011.

Mayfield, M.W. and Jennifer DeHart, "Ten Years After: Northwestern North Carolina," Annual meeting of the Association of American Geographers, Washington, D.C. April 2010.

Gandy, W., C.A. Badurek, M. Mayfield, and W. Anderson, "GIS Analysis of Geomorphology to Improve Groundwater Modeling and Well Yield Estimates in Watauga County, NC," North Carolina GIS Conference, Raleigh, NC, February 2009.

Arnold, J., L.B. Perry, M.W. Mayfield, and J. Sugg, "A Snow-Related Flood Hydroclimatology of the Southern Appalachian Mountains of North Carolina and Tennessee," Eastern Snow Conference, Lake Morey, VT, May 2008.

Mayfield, M.W., "General Education Reform and the Case for Geography," Annual Meeting of the Southeastern Division of the Association of American Geographers, November 2007.

Mayfield, M.W., "Streamflow Duration and Recreational Flows on Three Southeastern Streams," Annual Meeting of the Southeastern Division of the Association of American Geographers, November 2006.

Degrassi, C. and M.W. Mayfield. "Snow and Ice Changes in the Glaciers of the Cordillera Real," Annual Meeting of the Southeastern Division of the Association of American Geographers, November 2005.

Hiegl, Eric, Jeffrey Scott, and Michael W. Mayfield, "Riparian Buffer Prioritization and Delineation through Remote Sensing and GIS," North Carolina Water Resources Research Institute Annual Conference, April 2003.

Salo, Jessica and Michael W. Mayfield, "Flood Frequency and Flood Policy in a Southern Appalachian Community," Annual Meeting of the Association of American Geographers, March 2003.

Morgan, John T. and Michael W. Mayfield, "From William Morris Davis to Jesse Helms: What Politicians Said about the Age of the New River," Conference on Appalachian Geography, March 2002.

Mayfield, M.W., L. Baker Perry, Andrew Klein, and Xingong Li, "Glacier Retreat in the Northern Cordillera Real, Bolivia," Annual Meeting of the Association of American Geographers, March 2001.

Mayfield, M.W. and Jennifer DeHart, "Greenhouse Gas Emissions in North Carolina: 1990 to 2000." Annual Meeting of the Association of American Geographers, March 2001.

Mayfield, M.W. "Watauga River Tour," Stream Restoration and Protection in North Carolina: NC Stream Restoration Institute, August 2000.

Mayfield, M.W. "Sources of North Carolina's Greenhouse Gases," Presented at the Greenhouse Gases in North Carolina Special Briefing Session for State and Local Leaders. Raleigh, N.C., May, 2000.

Mayfield, M.W., Robert Kates, and Tom Wilbanks, "Carolina Thunder: The North Carolina Piedmont and its Greenhouse Gas Emissions," Annual Meeting of the Association of American Geographers, March 2000.

Mayfield, M.W., "Biofuels Use by North Carolina Industry," IEA Workshop: Bioenergy for Mitigation of CO₂ Emissions: The Power, Transportation, and Industrial Sectors. September 1999.

Mayfield, M.W., Jennifer DeHart, and Walter Martin, "Major Emitters of CO₂ in the Blue Ridge/Piedmont," Annual Meeting of the Association of American Geographers, March 1999.

Mayfield, M.W., Kent Rothrock, Joel Davis, Jennifer DeHart, and Lori Felix, "The Role of Carbon Sequestration in Biomass in Global Change," Annual Meeting of the Association of American Geographers, March 1998.

Mayfield, M.W. and Brian Witcher, "Estimating Greenhouse Gas Emissions at the County Level," Applied Geography Conference: Albuquerque, NM Nov. 12-16.

Mayfield, M.W., Kent Rothrock and David Hughes, "Land Cover and Albedo Changes in the Blue Ridge/Piedmont GCLP Study Area," Annual Meeting of the Association of American Geographers, April 1997.

Mayfield, M.W. and Neal G. Lineback, "Results from the Blue Ridge/Piedmont GCLP Study Area," Annual meeting of the Association of American Geographers, April 1997.

Mayfield, M.W., W.E. Easterling, et al., "Changing Places, Changing Emissions," Annual Meeting of the American Association for the Advancement of Science, February 1997.

Seaver, H. Craig and M.W. Mayfield, "Historical Land Use and Accelerated Erosion in Watauga County, N.C. (1950-1988)," Soil and Water Conservation Society, July 1996.

Hyman, Glenn and M.W. Mayfield, "Landslides Generated by the 1991 Limon, Costa Rica Earthquake," Annual Meeting of the Association of American Geographers, April 1996.

Mayfield, M.W. and John T. Morgan, "Field Geography in Costa Rica," Appalachian Geography Conference, March 1996.

Morgan, John T. and M.W. Mayfield, "Advertising the Oldest River," Annual Meeting of the Association of American Geographers, April 1994.

Mayfield, M.W. and John T. Morgan, "Promotion of the New River as the Old River, 1968-1973," Annual New River Conference, April 1993.

Mayfield, M.W. and John T. Morgan, "The Second Oldest River in the World," Southeastern Division of the Association of American Geographers, November 1992.

Morgan, John T. and M.W. Mayfield, "Promotion of the New River as the Old River," Popular Culture Association, March 1992.

Holder, W. and M.W. Mayfield, "GIS Based Stream Buffer Determination," Conference on Appalachian Geography, March 1992.

Mayfield, M.W. and Rex, A.B., "Watershed Protection and Analysis," ERDAS Users Group Conference, October 1991.

Hyman, Glenn and M.W. Mayfield, "Modeling Sediment Production from a Wild and Scenic Watershed," Southern Man and the Biosphere Conference, Nov. 1990.

Mayfield, M.W. and Glenn Hyman, "Water Quality Assessment in the New River Basin through Thematic Mapper Imagery," Presented at the Conference on Appalachian Geography, March 1990.

DeHart, Jennifer and M.W. Mayfield, "Southeastern Hydrology and Future Growth of the Whitewater Rafting Industry," Annual meeting of the Southeastern Division of the Association of American Geographers, November 1988.

Mayfield, M.W., "The Roles of Hydrology and Fluvial Geomorphology in Whitewater Recreation," Conference on Appalachian Geography, March 1988.

Patton, J, M.W. Mayfield, and J. Bencloski, "Map Skills in the North Carolina Curriculum: Exercises for Fourth Graders," Annual meeting of the Association of American Geographers, April 1987.

Patton, J. and M.W. Mayfield, "Aerial Photographs as Aids to Understanding Scale and Spatial Relationships," Annual meeting of the North Carolina Council for the Social Sciences, February 1988.

Mayfield, M.W., J. Patton and J. Bencloski, "A Classroom Supplement for Fourth Grade Geography," Annual meeting of the North Carolina Council for the Social Sciences, February 1987.

Patton, J., J. Bencloski, and M.W. Mayfield, "The North Carolina Geography Curriculum Project," Annual Meeting of the National Council for Geographic Education, October 1986.

Mayfield, M.W., "Response of Fluvial Systems to Floods in the Southern Appalachians," Conference on Appalachian Geography, March 1986.

Mayfield, M.W., "Streamflow Characteristics of the Cumberland Plateau," Conference on Appalachian Geography, March 1981.

Mayfield, M.W., "Some Aspects of the Fluvial Geomorphology of the Western Highland Rim, Tennessee," annual meeting of the Association of American Geographers, 1980.

Mayfield, M.W., "An Examination of Runoff in the Obed-Emory River Basin in Tennessee," annual meeting of the Southeastern Division of the Association of American Geographers, 1978.

REPORTS:

North Carolina's Sensible Greenhouse Gas Reduction Strategies. 2000. Consultant for the project and the report.

The North Carolina Greenhouse Gas Emissions Inventory for 1990, North Carolina Department of Commerce, Energy Division. Raleigh, N.C. Wrote the land use change and fuel production and distribution sections. ASU Department of Geography and Planning, 1996.

"North Carolina Geography," with J.C. Patton and J.W. Bencloski. A curriculum supplement for the teaching of fourth grade geography in North Carolina, published by the UNCG Center for Social Research and Human Services, 1986.

Environmental Impact Statement, M-X Missile Deployment Area Selection and Land Withdrawal/Acquisition, HDR Sciences, 1980-81. Contributed to sections on water resources, soil erosion, socioeconomic impacts, and the existing environment.

Draft Environmental Impact Statement, Solvent Refined Coal-I Demonstration Project, U.S. Department of Energy, 1981. Wrote transportation spills analysis and appendix.

Environmental Impact Statement, Solvent Refined Coal-II Demonstration Project, U.S. Department of Energy, 1981. Wrote transportation spills analysis and appendix.

Environmental Impact Statement, Conoco Coal Development Company Pipeline Gas Demonstration Plant, HDR Sciences, 1981. Wrote transportation spills section and contributed to water resources section.

Draft Environmental Impact Statement, Illinois Coal Gasification Group Pipeline Gas Demonstration Plant, U.S. Department of Energy, 1980. Wrote transportation spills section.

GRADUATE STUDENT COMMITTEES-MAYFIELD

Theses Directed

Jennifer DeHart 1990
Glenn Hyman 1990
Jon Williamson 1990
Chuck Beatty 1990
Drew Stephens 1991
John Bridgers 1991
Bill Holder 1992
Craig Seaver 1996
Keith Smith 1998
Kent Rothrock 1998
Jess Salo 2003
Chris Degrassi 2006
Williams Gandy 2009

Non-Thesis Committees Chaired

Kevin Bengel
Jeff Divers
Kim Heinz
Chet Rhodes
Brian Witcher
William Phipps
Daniel Frey
David Hughes
Deborah McDonald
Michael Williams
Mark Andrews
Jay Bohac
Sam Mizelle
Ty Chambers
Ralph Fickel
Joel Davis
Jeffrey Scott
Nancy Nelson
Aliza Tourkow
Kirk Mantay
Jim Cook
Matt Miller
Leslie Meadows
William Draper
Laurie Bradshaw
Andi Cochran
Kevin White

Twyla McDermott
Paul Black
Dan Harris
Willard Keene
Jim Sanders
Wayne Saraphis
Jon Wilson
John Witherspoon
David Wray
Matt Zorn
Pete Blackwell
Lori Felix
Paul Hansen
David Hughes III
Cardin McLeod
Ron Hancock
Andrew Paul
Audrey Reynolds
Keith Maiden
Eric Schmidt
Ron Hancock
Scott Cechi
Keith Bosak
Amanda Todd
Eric Hiegl
Jared Eatman
Matt Eggleton
Emerson Chew
Jared Eatmon
Derek Goddard
Annie Bryant
Justin Maxwell
Josh Rizor
Carla Gray
Greg Dobson
Robin Hale
Brielle Davidson
Christopher Ely

Doctoral Committees

Jennifer DeHart (UNC-CH)
Charles Debelius (ASU)

Others (on committee—not chair)