

MICHAEL M. BENEDETTI

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University of North Carolina Wilmington
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SPECIALTIES

Physical geography and Quaternary geology; geomorphology, geoarchaeology, soils.

EDUCATION

Ph. D., Geography, University of Wisconsin-Madison, 2000.

M. S., Geography, University of Wisconsin-Madison, 1993.

A. B., Geography (Honors), University of Chicago, 1991.

APPOINTMENTS

2006-Pres.: Associate Professor, Geography & Geology, Univ. of North Carolina Wilmington.

2000-2006: Assistant Professor, Earth Sciences, Univ. of North Carolina Wilmington.

1997-2000: Lecturer, Geography, Univ. of Wisconsin-Madison.

1998-1999: Acting Climatologist, Wisconsin Geological and Natural History Survey.

1991-1997: Graduate Research/Teaching Assistant, Univ. of Wisconsin-Madison.

PROFESSIONAL AFFILIATIONS

Association of American Geographers (Geomorphology Specialty Group, Paleoenvironmental Change Specialty Group, Southeastern Division)

Geological Society of America (Quaternary Geology & Geomorphology Division)

American Quaternary Association

North Carolina Geographical Society

PUBLICATIONS (* student co-author)

Peer-Reviewed Journal Articles

Haws, J.A., **Benedetti, M.M.**, Funk, C.L., Bicho, N.F., Daniels, J.M., Hesp, P.A., Minckley, T.A., Forman, S.L., Jeraj, M., Gibaja *, J.F., and Hockett, B.S., in review. Coastal wetlands and the Neanderthal settlement of Portuguese Estremadura. *Geoarchaeology* special issue: From Landscape to Laboratory (M. Bateman, G. Ayala, J. Wainwright, eds.).

Benedetti, M.M., Haws, J.A., Funk, C.L., Daniels, J.M., Hesp, P.A., Bicho, N.F., Minckley, T.A., Ellwood, B.B., and Forman, S.L., in press. Late Pleistocene raised beaches of coastal Estremadura, central Portugal. *Quaternary Science Reviews*
doi:10.1016/j.quascirev.2009.09.029.

Rauscher, S.A., Pal, J.S., Diffenbaugh, N.S., and **Benedetti, M.M.**, 2008. Future changes in runoff timing over the western United States. *Geophysical Research Letters* 35: L16703.

Jenkins *, S.B., Gamble, D.W., **Benedetti, M.M.**, and Willey, J., 2007. The effects of local weather patterns on nitrate and sulfate rainwater concentrations in Wilmington, NC. *The North Carolina Geographer* 14: 29-38.

Benedetti, M.M., Daniels, J.M., and Ritchie, J.C., 2007. Predicting vertical accretion rates at an

archaeological site on the Mississippi River floodplain: Effigy Mounds National Monument, Iowa. *Catena* 69: 134-149.

Benedetti, M.M., Raber *, M.J., Smith, M.S., and Leonard, L.A., 2006. Mineralogical indicators of alluvial sediment sources in the Cape Fear River basin, North Carolina. *Physical Geography* 27: 258-281.

Benedetti, M.M., 2003. Controls on overbank deposition in the Upper Mississippi River. *Geomorphology* 56: 271-290.

Jacaruso *, J., Gamble, D.W., and **Benedetti, M.M.**, 2001. Hurricanes and snow: a common occurrence in eastern North Carolina. *The North Carolina Geographer* 9: 13-23.

Other Peer-Reviewed Publications

Haws, J.A., Funk, C.L., Daniels, J.M., **Benedetti, M.M.**, and Bicho, N.F., in preparation. Paleolithic landscapes and seascapes of Portuguese Estremadura. To appear in Bicho, N.F., Haws J.A. and Davis, L. (eds.), *Trekking the Shore: Changing Coastlines and the Antiquity of Coastal Settlement*. Book contract signed with Springer.

Benedetti, M.M., Haws, J.A., Funk, C.L., Daniels, J.M., Hesp, P.A., Bicho, N.F., Minckley, T.A., Ellwood, B.B., Forman, S.L. 2009. Late Quaternary landscapes and seascapes of Portuguese Estremadura: geomorphic response to environmental change during MIS 3 and 2. Livro de Resúmenes, VII Reunião do Quaternário Ibérico. Universidade do Algarve, Faro, Portugal, pp. 79-82.

Haws, J.A., Funk, C.L., **Benedetti, M.M.**, Bicho, N.F., Daniels, J.M., Hockett, B.S., Jeraj, M. 2009. Late Quaternary landscapes and seascapes of Portuguese Estremadura: Middle and Upper Paleolithic settlement. Proceedings VII Iberian Quaternary Union. Livro de Resúmenes, VII Reunião do Quaternário Ibérico. Universidade do Algarve, Faro, Portugal, pp. 190-192.

Other Publications

Benedetti, M.M., 2007. *Student Workbook for Physical Geography (2e)*. Dubuque: Kendall/Hunt. 179 p.

Benedetti, M.M., 2005. *Sedimentation Study at Sny Magill Unit of Effigy Mounds National Monument, Iowa: Final Project Report*. Submitted to National Park Service, Southeast Regional Office, Cooperative Ecosystems Study Unit.

Benedetti, M.M., 1990. Urban municipal development, 1836-1900. In Conzen, M.P., and Daniel, A.R. (eds.), *Lockport Legacy: Themes in the Historical Geography of an Illinois Canal Town*. Chicago: University of Chicago, Committee on Geographical Studies, 6-13.

ABSTRACTS AND PRESENTATIONS

Association of American Geographers

Benedetti, M.M., Daniels, J.M., Haws, J.A., Funk, C.L., Hesp, P.A., and Bicho, N.F., 2009.

Late Quaternary landscapes of Portuguese Estremadura: Climate-driven geomorphic change during MIS3. Annual Meeting of the Association of American Geographers, Las Vegas, NV.

Haws, J.A., Funk, C.L., Bicho, N.F., **Benedetti, M.M.**, and Daniels, J.M., 2009. Paleolithic landscapes and seascapes of the west coast of Portugal. Annual Meeting of the Association of American Geographers, Las Vegas, NV.

- Daniels, J.M., Haws, J.A., Funk, C.L., **Benedetti, M.M.**, Bicho, N.F., 2009. Geomorphology and geoarchaeology of coastal Leiria, central Portugal. Annual Meeting of the Association of American Geographers, Las Vegas, NV.
- Benedetti, M.M.**, Daniels, J.M., Haws, J.A., Funk, C.A., and Hesp, P.A., 2008. Geomorphic Adjustments to Quaternary Climate and Sea Level Change, Estremadura Dune Field, Portugal. Annual Meeting of the Association of American Geographers, Boston, MA.
- Daniels, J.M., **Benedetti, M.M.**, Haws, J.A., and Funk, C.A., 2008. Soil-geomorphic relationships in coastal Estremadura, Portugal: implications for paleoenvironmental reconstruction and archaeological survey. Annual Meeting of the Association of American Geographers, Boston, MA.
- Neal *, L.T., and **Benedetti, M.M.**, 2007. Streamflow response to tropical and extra-tropical storm systems on the Carolina coastal plain. Annual Meeting of the Association of American Geographers, San Francisco, CA.
- Benedetti, M.M.**, Daniels, J.M., Haws, J.A., and Funk, C.L., 2006. Geomorphic interpretation of late Paleolithic occupation in the Estremadura region of Portugal. Annual Meeting of the Association of American Geographers, Chicago, IL.
- Benedetti, M.M.**, Raber *, M.J., Smith, M.S., and Leonard, L.A., 2005. Physical and mineralogical characteristics of floodplain sediments in the Cape Fear River basin, North Carolina. Annual Meeting of the Association of American Geographers, Denver, CO.
- Benedetti, M.M.**, and Daniels, J.M., 2004. Estimation, prediction, and monitoring of vertical accretion rates at a cultural resource site: Effigy Mounds National Monument, Iowa. Annual Meeting of the Association of American Geographers, Philadelphia, PA.
- Benedetti, M.M.**, 2002. Recent floods and suspended sediment transport in the Upper Mississippi River. Annual Meeting of the Association of American Geographers, Los Angeles, CA.

Other Conferences

- Benedetti, M.M.**, Haws, J.A., Funk, C.L., Daniels, J.M., Hesp, P.A., Bicho, N.F., Minckley, T.A., Ellwood, B.B., and Forman, S.L., 2009. Late Quaternary landscapes and seascapes of Portuguese Estremadura: geomorphic response to environmental change during MIS 3 and 2. VII Iberian Quaternary Union, Faro, Portugal, October 2009.
- Haws, J.A., Funk, C.L., **Benedetti, M.M.**, Bicho, N.F., Daniels, J.M., Hockett, B.S., and Jeraj, M., 2009. Late Quaternary landscapes and seascapes of Portuguese Estremadura: Middle and Upper Paleolithic settlement. VII Iberian Quaternary Union, Faro, Portugal, October 2009.
- Benedetti, M.M.**, Haws, J.A., Funk, C.L., Daniels, J.M., Hesp, P.A., and Bicho, N.F., 2009. Late Quaternary landscapes of Portuguese Estremadura: environmental change during Marine Isotope Stages 3 and 2. Geoarchaeology 2009, University of Sheffield, UK.
- Haws, J.A., Funk, C.L., Bicho, N.F., Daniels, J.M., **Benedetti, M.M.**, Hockett, B.S., and Jeraj, M., 2009. Palaeolithic landscapes and seascapes on the Atlantic coast of Portugal. Geoarchaeology 2009, University of Sheffield, UK.
- Gray *, C.M., and **Benedetti, M.M.**, 2009. Buried soils as stratigraphic marker horizons on the Cape Fear River floodplain, Bladen County, NC (Poster). 58th Annual Meeting, Southeastern Section Geological Society of America, Tampa, FL.
- Gray *, C.M., and **Benedetti, M.M.**, 2008. Buried soils as stratigraphic marker horizons on the Cape Fear River floodplain, Bladen County, NC. The State of NC Undergraduate Research and Creativity Symposium, Appalachian State University, Boone, NC.

- Haws, J.A., Hockett, B.S., Funk., C.L., Daniels, J.M., **Benedetti, M.M.**, and Bicho, N.F., 2006. Neandertals at the Beach: Late Pleistocene Coastal Settlement, Central Portugal. Meeting of the Paleoanthropology Society and Society of American Archaeology, San Juan, Puerto Rico.
- Raber, M.J.*, Leonard, L.A., **Benedetti, M.M.**, and Smith, M.S., 2004. Characteristics of sediments transported and deposited in the Cape Fear River estuary, southeastern North Carolina. *Geological Society of America Abstracts with Programs* 36.
- Raber, M.J.*, Leonard, L.A., **Benedetti, M.M.**, and Smith, M.S., 2003. Characteristics of sediments entering and retained in the lower Cape Fear River estuary, North Carolina. 17th Biennial Conference of the Estuarine Research Foundation, Seattle, WA.
- Benedetti, M.M.**, 2002. Decreasing suspended sediment concentrations in the Upper Mississippi River. *Geological Society of America Abstracts with Programs* 34.

AWARDS AND GRANTS

External Sources

- Pending: National Science Foundation Standard Research Grant, Geography and Spatial Science Program. Collaborative research: Human and landscape responses to late Pleistocene environmental change in the coastal zone of Portuguese Estremadura. Requesting \$195,008 for 2010-2012.
- Awarded: Association of American Geographers Research Grant. Geomorphic Response to Climate and Sea Level Change: Estremadura Dune Field, Portugal. \$1,000.
- Awarded: National Park Service Grant, Cooperative Ecosystems Study Unit, 2003-2005. Sedimentation study at the Sny Magill Unit, Effigy Mounds National Monument. \$19,994.48.

UNCW Sources

- Summer Research Initiative, UNCW College of Arts & Sciences, 2009. Landscape Response to Climate Change: New Evidence from Oxygen Isotope Stage 3. \$3,500.
- Research Reassignment, UNCW College of Arts & Sciences, Spring Semester 2009. *Late Quaternary environmental change and geoarchaeology of central Portugal*.
- Charles L. Cahill Award, UNCW Graduate School, 2008. *Geomorphic response to climate and sea level change, Estremadura dune field, Portugal*. \$3,000.
- International Travel Support, UNCW Office of International Programs, 2006, 07, 09.
- Charles L. Cahill Award, UNCW Graduate School, 2005. *Field and laboratory analysis of Bh horizons in sandy soils of New Hanover County, North Carolina*. \$2,500.
- Summer Research Initiative, UNCW College of Arts & Sciences, 2005. *Geomorphic response to environmental change: depositional history of the Cape Fear River*. \$3,500.
- Marine Science Pilot Project, UNCW Center for Marine Science, 2003-2004. *From source to sea: an analysis of fluvial sediment delivery to the Cape Fear River estuary*. M.M. Benedetti, L.A. Leonard, and M.S. Smith, co-investigators. \$18,885.
- Summer Pedagogy Development Stipend, UNCW Center for Teaching Excellence, 2002. *New teaching strategies for physical geography labs*. \$3,000.
- Summer Research Initiative, UNCW College of Arts & Sciences, 2001. *Measuring floodplain sedimentation rates in response to environmental change*. \$3,000.
- Charles L. Cahill Award, UNCW Graduate School, 2000. *Quaternary environments of the lower Cape Fear River valley*. \$2,500.
- Friends of UNCW, 2000. *New stream table for physical geography and geology laboratories*.

ADVISING

Undergraduate Honors Students

- Primary advisor, B.A. Honors (Geography). Carla Gray, 2009. *Post-settlement deposition and buried soils on the Cape Fear River floodplain, Bladen County, NC.*
- Primary advisor, B.A. Honors (Geography). Laura Neal, 2007. *Streamflow response to tropical and extra-tropical storms on the Carolina Coastal Plain.*
- Committee member, B.A. Honors (Geography). David Johnson, current. *Detailed GPS survey and elevation model for Masonboro Island, Southeastern NC.*
- Committee member, B.A. Honors (Geography). Sara Beth Jenkins, 2006. *Effects of local weather patterns on nitrogen analyte rainwater concentrations in Wilmington, NC.*
- Committee member, B.S. Honors (Biology). Katie Day, 2003. *Geographic variability in mitochondrial DNA of the eastern field mouse (*Peromyscus maniculatus*).*
- Committee member, B.S. Honors (Geology). Kemp Burdette, 2003. *Correlating trade routes and ballast stone provenance: Campbell Island, Cape Fear River.*

Graduate Students

- Primary advisor, M.S. (Geology). Carolyn Gomes, 2008. *Spatial distribution of subsurface horizons in a pine flatwood landscape, New Hanover County, NC.*
- Primary advisor, M.S. (Geology). Maverick Raber, 2004. *Characteristics of sediments transported to and deposited in the Cape Fear River estuary, southeastern North Carolina.*
- Committee member, M.S. (Geology). Devon Olivola, 2008. *Short-term sediment deposition rates in riparian marshes and swamps along the lower Cape Fear River, NC.*
- Committee member, M.S. (Marine Science). Sara Althof, 2007. *Effects of *Spartina alterniflora* on flow and turbulence in a tidal marsh: a field experiment of biophysical interactions.*
- Committee member, M.S. (Geology). Luke Davis, 2006. *Sediment dynamics of a fluvially influenced inner shelf environment, Long Bay, NC.*
- Committee member, M.S. (Geology). Lauren Saal, 2005. *The impact of rainfall on suspended sediment concentrations in an urbanized tidal creek, Bradley Creek, NC.*
- Committee member, M.S. (Marine Science). Alisha Renfro, 2004. *Sedimentation processes in riparian wetland systems of the Cape Fear River, NC.*

SERVICE

Professional Service

- Editorial board member, *North Carolina Undergraduate Research Journal – Explorations.*
- Joint editor for physical geography submissions, *The North Carolina Geographer* (2004-08).
- Grant Proposal Technical Committees: Water Resources Research Institute of North Carolina; U.S. Environmental Protection Agency.
- Grant Proposal Reviews, National Science Foundation program areas: Earth Sciences Instrumentation and Facilities, Geography and Regional Science, Hydrologic Sciences, Research Experiences for Undergraduates.
- Journal Manuscript Reviews: *Applied Geography, Catena, Explorations, Geomorphology, Geoarchaeology, Journal of the American Water Resources Association, Journal of Latin American Geography, The North Carolina Geographer, Southeastern Geographer.*

UNCW Service

Departmental representative, UNCW Faculty Senate (2008-09).

Board member, Center for the Support of Undergraduate Research and Fellowships (2008-10).

Member, UNCW Admissions Committee (2003-05, 2009-10).

Member, Summer Research Initiative Committee, UNCW Arts & Sciences (2002; 2009).

Supervisor, Soil & Sedimentology Laboratories, UNCW Geography & Geology (2000-08).

Chair, Scholarships and Awards Committee, UNCW Geography & Geology (2004-07).

Faculty Advisor, Geography Club, UNCW Geography & Geology (2001-02, 2005-06).

Community Service

Volunteer Official, Regional Science Fair (2003).

Event Leader (*Dynamic Planet*), Regional Science Olympiad (2002-07).

Volunteer admissions interviews, University of Chicago Alumni Schools Committee (2001-08).