

CAROL F. SAWYER

Department of Earth Sciences, University of South Alabama
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EDUCATION

- 2007 Ph.D., Geography (Environmental Geography Concentration), Texas State University-San Marcos
Dissertation: Frost Heaving and Surface Clast Movement in Alpine Tundra in Eastern Glacier National Park, Montana Advisor: Dr. David R. Butler
- 2003 M.S., Geography, Southwest Texas State University (now Texas State University-San Marcos)
Thesis: Aerial-photographic Inventory and Analysis of Landslides in Northeastern Yellowstone National Park, Wyoming Advisor: Dr. David R. Butler
- 2001 B.S., Earth Sciences with honors, Montana State University-Bozeman
Major: Geography Minor: History

EMPLOYMENT

- 2008 – Present Assistant Professor, Geography, Department of Earth Sciences, University of South Alabama
- 2007 Instructor, Geography, Department of Earth Sciences, University of South Alabama
- 2003 – 2007 Graduate Student Instructor, Department of Geography, Texas State University-San Marcos
- 2002 – 2003 Graduate Research Assistant, Department of Geography, Southwest Texas State University

COURSES PREPARED & TAUGHT

Atmospheric Processes and Patterns (undergraduate level)
Environmental Earth Sciences (undergraduate level)
Field Methods (undergraduate and graduate level)
Geography Orientation (undergraduate level)
Introduction to GIS (undergraduate and graduate level)
Introduction to Physical Geography (undergraduate level)
Landscape Processes and Patterns(undergraduate level)
Natural Hazards and Disasters (undergraduate level)
Physiographic Regions of North America (undergraduate level)
Research Methods in Geography (undergraduate level)
Seminar in Zoogeomorphology (undergraduate level)

AWARDS, GRANTS, HONORS, SCHOLARSHIPS

Grants

- University of South Alabama Faculty Development Council Grant, \$5020.70. “Grizzly Bear Diggings Above the Alpine Treeline in Glacier National Park, Montana”, 2011.
- NSF Geography and Spatial Sciences & Geomorphology and Land Use Dynamics, \$30,080. “Zoogeomorphology and Ecosystem Engineering: 42nd Annual Binghamton Geomorphology Symposium”, 2011.
- College of Arts and Sciences Support and Development Award, \$1,500. “Binghamton Geomorphology Symposium on Zoogeomorphology”, 2011.
- College of Arts and Sciences Summer Professional Development Award, \$4,778. “Characteristics of Snow Avalanche and Debris Flow Paths, Olympic National Park, WA”, 2010
- Research Grant, Charles Redd Center for Western Studies, \$2,200. 2008.
- Summer Grant for Upper Division and Graduate Students, Charles Redd Center for Western Studies \$800. 2007.
- Geological Society of America Graduate Student Research Grant, \$1,800. 2006.
- Binghamton Geomorphology Symposia Travel Grant, \$250. 2006.
- Preparing for an Academic Career in the Geosciences Travel Grant, \$100. 2006.
- College of Liberal Arts Travel Grant, Texas State University-San Marcos, \$250. 2004.

Honors and Awards

- University of South Alabama College of Arts & Sciences Academic Advising Award, 2011.
- Outstanding College of Liberal Arts Graduate Student, 2007.
- Prentice-Hall Graduate Student Publication Award, 2007.
- Outstanding Graduate Student in the Department of Geography, 2007.
- Preparing for an Academic Career in the Geosciences, a National Science Foundation-sponsored Workshop, Stanford, CA, 2006.
- Graduate Award for Outstanding Service, Department of Geography, Texas State University, 2006.
- Rand McNally Graduate Award, Southwest Texas State University, 2003.

Scholarships

- Sally Ann Karnau Geography Research Dissertation Scholarship, Department of Geography, Texas State University, 2006-2007
- Liberal Arts College Graduate Scholarship, Texas State University, 2004-2007
- Ray and Marian Butler Environmental Geography Scholarship, Department of Geography, Texas State University, 2005-2006
- Natural Hazards Scholarship, Department of Geography, Southwest Texas State University, 2003-2004

PUBLICATIONS

Refereed Publications

- Sawyer, Carol F., Donald Brinkman, Vincent D. Walker, Tyler D. Covington, Elizabeth A. Stienstraw. In press. The Zoogeomorphic Characteristics of Burrows and Burrowing by the Nine-banded Armadillo (*Dasypus novemcinctus*). *Geomorphology*, forthcoming.

- Sawyer, Carol F. In Press. Classics Revisited: Washburn's Classification of Patterned Ground and Review of Suggested Origins. *Geological Society of America Bulletin* 67, 823-865 (1956). *Progress in Physical Geography*, forthcoming.
- Butler, David R. and Carol F. Sawyer. In press. Introduction to the Special Issue - Zoogeomorphology and Ecosystem Engineering. *Geomorphology*, forthcoming.
- Sawyer, Carol F., David R. Butler, and Mary Curtis. 2010. Using Webcams to Show Change and Movement in the Physical Environment. *Journal of Geography* 109(6): 251-263.
- Butler, David R., Carol F. Sawyer, and Jacob A. Maas. 2010. Tree-ring dating of snow avalanches in Glacier National Park, Montana, USA In: *Tree Rings and Natural Hazards* (Markus Stoffel, Michelle Bollschweiler, David R. Butler, and Brian H. Luckman, eds.) Dordrecht: Springer, 33-44.
- Butler, David R., Jacob A. Maas, and Carol F. Sawyer. 2009. Traumatic Resin Ducts in Tree Rings: Advancing Tree-Ring Dating of Snow Avalanches in Glacier National Park, Montana. *Papers and Proceedings of the Applied Geography Conferences* 32, October 2009, Baton Rouge, LA, 181-88.
- Butler, David R., George P. Malanson, Lynn M. Resler, Stephen J. Walsh, Forrest D. Wilkerson, Ginger L. Schmid, and Carol F. Sawyer. 2009. Geomorphic Patterns and Processes at Alpine Treeline. In: *The Changing Treeline of Glacier National Park, Montana, U.S.A.* (D. R. Butler, G. P. Malanson, S. J. Walsh, and D. B. Fagre, ed.), Amsterdam: Elsevier, 63-84.
- Butler, David R. and Carol F. Sawyer. 2008. Dendrogeomorphology and High Magnitude Snow Avalanches: A Review and Case Study. *Natural Hazards and Earth System Sciences*, 8: 303-309.
- Sawyer, Carol F. and David R. Butler. 2006. The Use of Historical Picture Postcards as Photographic Sources for Examining Environmental Change: Promises and Problems. *Geocarto International*, 21 (3): 73-80.
- Sawyer, Carol F. and David R. Butler. 2006. A Chronology of High-Magnitude Snow Avalanches Reconstructed from Archived Newspapers. *Disaster Prevention and Management: An International Journal*, 15 (2): 313-24.
- Sawyer, Carol F. and David R. Butler. 2004. Landslide Aspect: A Methodological Approach to Circular Data for Hazard Analysis. *Papers of the Applied Geography Conferences* 27, October 2004, St. Louis, MO, 67-74.
- Viertel, David C., Carol F. Sawyer, J. Ronald Eyton, and David R. Butler. 2003. The Application of Artificially Induced Stereo Visualization for Landslide Identification in Yellowstone National Park. *Papers and Proceedings of the Applied Geography Conferences* 26, November 2003, Colorado Springs, CO, 307-12.

Edited Special Issues of Journals

- Butler, David R. and Carol F. Sawyer. In Press. Zoogeomorphology and Ecosystem Engineering. *Geomorphology*, forthcoming.

Book Reviews

- Sawyer, Carol F., 2010. Book review of "Soils: Genesis and Geomorphology", by R. Schaetzl and S. Anderson. *Geomorphology*, 114 (4): 642-43.
- Sawyer, Carol F., 2006. Book review of "Mountain Geomorphology", by P. Owens and O. Slaymaker, editors. *Geomorphology*, 83 (1-2): 195-96.

Published Abstracts

- Sawyer, Carol F. 2012. Characteristics of Snow Avalanche and Debris Flow Paths, Olympic National Park, Washington. 108th Annual Meeting of the Association of American Geographers, New York City, NY. (on CD)
- Sawyer, Carol F., Donald C. Brinkman, Vincent D. Walker, Tyler D. Covington, and Elizabeth A. Stienstraw. 2011. Nine-banded Armadillo (*Dasyopus novemcinctus*) Burrow Characteristics in Southern Alabama: Their Possible Zoogeomorphic Effects. 42nd International Binghamton Geomorphology Symposium, Mobile, AL, 2011, 16.
- Whitesides, Clayton J., Melanie Stine, and Carol F. Sawyer. 2011. Processes Responsible for Solifluction Tread and Riser Deterioration in Glacier National Park, Montana. 42nd International Binghamton Geomorphology Symposium, Mobile, AL, 2011, 36.
- Sawyer, Carol F., Donald C. Brinkman, Tyler D. Covington, Vincent D. Walker, and Elizabeth A. Stienstraw. 2011. The Characteristics, Spatial Distribution, and Zoogeomorphic Effects of Gopher Tortoise and Armadillo Burrows in Southern Alabama. 107th Annual Meeting of the Association of American Geographers, Seattle, WA. (on CD)
- Whitesides, Clayton J., Carol F. Sawyer, and Melanie Stine. 2011. Grizzly Bear Diggings Within a Solifluction Tread and Riser Environment, Glacier National Park, MT. 107th Annual Meeting of the Association of American Geographers, Seattle, WA. (on CD)
- Sawyer, Carol F. and David R. Butler. 2010. Using Repeat Photography in Micro-Scale Research in Alpine Regions. 106th Annual Meeting of the Association of American Geographers, Washington, D.C. (on CD)
- Fearn, Miriam and Carol F. Sawyer. 2009. Why Don't Geography Majors Participate in Field Trips? 105th Annual Meeting of the Association of American Geographers, Las Vegas, NV. (on CD)
- Sawyer, Carol F. and David R. Butler. 2009. Rates of Frost Heaving in a Periglacial Environment: Factors Influencing Movement and Considerations for Seedling Growth at the Alpine Treeline. 105th Annual Meeting of the Association of American Geographers, Las Vegas, NV. (on CD)
- Sawyer, Carol F. and David R. Butler. 2008. Effects of Frost Heaving on the Distribution of Surficial clasts on Solifluction Treads Glacier National Park, MT. 104th Annual Meeting of the Association of American Geographers, Boston, MA. (on CD)
- Maas, Jacob, David R. Butler, and Carol F. Sawyer. 2008. Traumatic Resin Ducts as Indicators of Geomorphic Processes in Douglas Fir (*Pseudotsuga menziesii*) and Subalpine Fir (*Abies lasiocarpa*). 104th Annual Meeting of the Association of American Geographers, Boston, MA. (on CD)
- Sawyer, Carol F. and David R. Butler. 2007. Heave Rates and Distribution in Periglacial Pans, Eastern Glacier National Park, Montana. 38th International Binghamton Geomorphology Symposium, Durham, NC.
- Sawyer, Carol F. and David R. Butler. 2007. Patterns of Seasonal Frost Feaving and Surface Clast Movement in Turf-banked Terraces, Eastern Glacier National Park, Montana. 103rd Annual Meeting of the Association of American Geographers, San Francisco, CA.
- Sawyer, Carol F. and David R. Butler. 2006. Soil Disturbances and Infiltration Rates in Glacier National Park, Montana. 37th International Binghamton Geomorphology Symposium, Columbia, SC.

- Sawyer, Carol F. 2006. Observations of Seasonal Movement of Surface Clasts in Turf-Banked Terraces, Eastern Glacier National Park, Montana. 102nd Annual Meeting of the Association of American Geographers, Chicago, Illinois, 474.
- Sawyer, Carol F. and David R. Butler. 2005. Comparison of a Tree-Ring Chronology of Snow Avalanches Occurrence with a Historically Based Avalanche Record, Glacier National Park, Montana. Program, Southwestern Division of the Association of American Geographers, Fayetteville, AR.
- Butler, David R., George P. Malanson, Stephen J. Walsh, Lynn M. Resler, Daniel B. Fagre, and Carol F. Sawyer. 2005. Multi-scale Geomorphic Impacts and Controls on Alpine Treeline. 36th International Binghamton Geomorphology Symposium, *Abstracts Proceedings, Geomorphology and Ecosystems*, Buffalo, NY, 49.
- Sawyer, Carol F. and David R. Butler. 2005. Snow-avalanches in Southern Glacier National Park, Montana: Revisiting a Historical Account using Newspaper Reports. *Abstracts, Association of American Geographers Annual Meeting*, Denver, CO. (on CD)
- Sawyer, Carol F. 2004. Landscape Change in Mountain Environments: Using Antique Picture Postcards to Observe 100 years of Landscape Change. *Abstracts, Association of American Geographers Annual Meeting*, Philadelphia, PA. (on CD)
- Sawyer, Carol F. and David R. Butler. 2003. Aerial-photographic Inventory and Analysis of Landslides in Northeastern Yellowstone National Park, Wyoming. *Abstracts, Papers and Proceedings of the Applied Geography Conferences 26*, November 2003, Colorado Springs, CO, 558.
- Sawyer, Carol F. 2003. Landslide Mapping using Aerial Photographs in Yellowstone National Park, Wyoming. *Abstract, Association of American Geographers Annual Meeting*, New Orleans, LA. (on CD)
- Crowe, Joanna C. and Carol F. Sawyer. 2002. Canyon Lake Dam Flood of July, 2002. 33rd International Binghamton Geomorphology Symposium, Bloomsburg, IN.

Non-refereed Publications

- Sawyer, Carol F. 2011. The Gulf Coastal Plain: Sand, Hurricanes, and Alligators (42nd Annual Binghamton Geomorphology Symposium Fieldtrip Guidebook). Department of Earth Sciences, University of South Alabama.
- Bailey, Rachel, Carol F. Sawyer, and Rebecca P. Brown. 2005. GEO 2410 Lab Manual: Labs and Materials for Introduction to Physical Geography, Department of Geography, Texas State University.

SERVICE

University and College-level

- Academic Programs and Planning Committee, College of Arts and Sciences, University of South Alabama, 2010-present
- Undergraduate Scholarship Committee, College of Arts and Sciences, University of South Alabama, 2008–2010
- Mariel Muir Excellence in Mentoring Award Committee, Texas State University-San Marcos, 2006–2007
- University Council, Texas State University-San Marcos, 2005–2006
- Presidential Award in Excellence in Service Committee, Texas State University-San Marcos, 2005–2006

Departmental

- Human Geography Search Committee, Department of Earth Sciences, University of South Alabama, 2011-12
- Faculty advisor, Gamma Theta Upsilon (Geography Honor Society) and Geography Club, 2009–present
- Curriculum Committee, Department of Earth Sciences, University of South Alabama, 2008–2011 (committee chair 2009–present)
- Field Trip/Safety Committee (Ad-hoc), Department of Earth Sciences, University of South Alabama, 2009–present
- Chair, Future Space Committee (Ad-hoc), Department of Earth Sciences, University of South Alabama, 2008–present
- Geography Assessment Committee, Department of Earth Sciences, University of South Alabama, 2007–present
- Chair, Library Committee, Department of Earth Sciences, University of South Alabama, 2007–2009
- Human Geography Search Committee, Department of Earth Sciences, University of South Alabama, 2008
- Lab Space Users Committee (Ad-hoc), Department of Earth Sciences, University of South Alabama, 2007–2009
- Ph.D. Student Representative to the Faculty, Department of Geography, Texas State University, 2005–2007
- Ph.D. Student Representative to the Graduate Studies Committee, Department of Geography, Texas State University, 2005–2007
- Organizer, Graduate Forum's Von Humboldt Brown Bag Speaker Series, Department of Geography, Texas State University, 2006–2007
- Master's Student Representative to the Mentoring Committee, Department of Geography, Southwest Texas State University, 2002–2003
- Alumni Reunion and Student Celebration Committee, Department of Geography, Southwest Texas State University, 2001–2003

Disciplinary

- Co-organizer and Local Host, 2011 Binghamton Geomorphology Symposium on Zoogeomorphology and Ecological Engineering
- Member, Binghamton Geomorphology Symposium Steering Committee, 2008–2013
- Secretary-Treasurer, Mountain Geography Specialty Group, Association of American Geographers, 2012-2014
- Awards Committee, Mountain Geography Specialty Group, Association of American Geographers, 2008–2010 (chair 2009-10)

ORGANIZATIONS

Association of American Geographers

- Biogeography Specialty Group
- Cryosphere Specialty Group
- Geomorphology Specialty Group
- Hazards Specialty Group
- Mountain Geography Specialty Group

Geological Society of America

- Geosciences Education
- Quaternary Geology & Geomorphology

Southeastern Division of the Association of American Geographers

Gamma Theta Upsilon Geographic Honor Society

Golden Key International Honor Society

PAPERS PRESENTED AT CONFERENCES

Characteristics of snow avalanche and debris flow paths, Olympic National Park, Washington. 108th Annual Meeting of the Association of American Geographers, New York City, NY. (poster)

Nine-banded Armadillo (*Dasypus novemcinctus*) Burrow Characteristics in Southern Alabama: Their Possible Zoogeomorphic Effects. 42nd Annual Binghamton Geomorphology Symposium, Mobile, AL, 2011.

The Characteristics, Spatial Distribution, and Zoogeomorphic Effects of Gopher Tortoise and Armadillo Burrows in Southern Alabama. 107th Annual Meeting of the Association of American Geographers, Seattle, WA. (poster)

Using Repeat Photography in Micro-Scale Research in Alpine Regions. 106th Annual Meeting of the Association of American Geographers, Washington, D.C., 2010

Rates of Frost Heaving in a Periglacial Environment: Factors Influencing Movement and Considerations for Seedling Growth at the Alpine Treeline. 105th Annual Meeting of the Association of American Geographers, Las Vegas, NV, 2009.

Effects of Frost Heaving on the Distribution of Surficial clasts on Solifluction Treads Glacier National Park, MT. 104th Annual Meeting of the Association of American Geographers, Boston, MA, 2008.

Heave Rates and Distribution in Periglacial Pans, Eastern Glacier National Park, Montana. 38th Annual Binghamton Geomorphology Symposium, Durham, NC, 2007.

Patterns of Seasonal Frost Heaving and Surface Clast Movement in Turf-banked Terraces, Eastern Glacier National Park, Montana. 103rd Annual Meeting of the Association of American Geographers, San Francisco, CA, 2007.

Soil Disturbances and Infiltration Rates in Glacier National Park, Montana. 37th International Binghamton Geomorphology Symposium, Columbia, SC, 2006. (poster)

Observations of Seasonal Movement of Surface Clasts in Turf-Banked Terraces, Eastern Glacier National Park, Montana. 102nd Annual Meeting of the Association of American Geographers, Chicago, IL, 2006. (illustrated poster).

Comparison of a Tree-Ring Chronology of Snow Avalanches Occurrence with a Historically based Avalanche Record, Glacier National Park, Montana. Southwestern Division of the Association of American Geographers, Fayetteville, AR, 2005.

Snow-avalanches in Southern Glacier National Park, Montana: Revisiting a Historical Account using Newspaper Reports. 101st Annual Meeting of the Association of American Geographers, Denver, CO, 2005.

Landslide Aspect: A Methodological Approach to Circular Data for Hazard Analysis. Applied Geography Conference, St. Louis, MO, 2004.

Landscape Change in Mountain Environments: Using Antique Picture Postcards to Observe 100 years of Landscape Change. 100th Annual Meeting of the Association of American Geographers, Philadelphia, PA, 2004.

- Aerial-photographic Inventory and Analysis of Landslides in Northeastern Yellowstone National Park, Wyoming. Applied Geography Conference, Colorado Springs, CO, 2003.
- Landslide Mapping using Aerial Photographs in Yellowstone National Park, Wyoming. 99th Annual Meeting of the Association of American Geographers, New Orleans, LA, 2003.
- Preliminary Aerial-Photo Inventory of Landslides in the Northeast Quadrant of Yellowstone National Park, Wyoming. Southwestern Division of the Association of American Geographers, Laredo, TX, 2002. (poster)