

Dr. M.C. Eppes

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Research Interests: Soils and surficial processes with applications to paleoclimatology, active tectonics, and physical weathering processes. Current research includes physical weathering studies in southern California, North and South Carolina Piedmonts and Southwestern deserts, as well as soil-tectonic-geomorphology studies in southern California, western Nevada, Italian Apennines.

Professional Preparation:

BS Geology Washington and Lee University, June 1993, David Harbor Advisor.

MS Geology, New Mexico Tech, December 1996. Bruce Harrison Advisor.

Ph.D. Earth and Planetary Sciences, University of New Mexico, Summer 2002. Les McFadden Advisor.

Appointments:

2003-Present - Assistant Professor of Earth Sciences, University of North Carolina at Charlotte

1997, 1999 - Instructor, UNM, 1999; Limestone College, South Carolina, 1997

1995-present Contract Geologist

- Hubble Springs Fault Trench Project, URS Corporation
- New Mexico State Map Project, Cundiyo Quad, NM
- University of Vermont, cosmogenic nuclide sediment transport study, Ft. Irwin, CA
- Geohaz Inc., West Mesa Trenching Project, NM
- University of Missouri, Dead Sea Seismic Hazard Project, Jordan;
- New Mexico State Map Project, Mt. Washington Quad, NM
- William Lettis & Assts. Inc, Tijeras Fault Trench Project, NM;
- Zuni Cultural Resource Enterprise, Alamo Project, NM;
- Office of Contract Archaeology, New Mexico, El Paso Project, TX.
- Soil laboratory installation, Lehigh University, PA.
- Well log analyses, PNM San Ysidro Gas Storage Reservoir project, NM

Publications (last 6 years)

Griffing, D. Eppes, M., Marble grus: insights into physical weathering processes in arid climates. Submitted for review. *Geology*.

Eppes, M.C., McFadden, L., Drainage Basin Response to Holocene Climate Changes: Importance of Rock Type and Soil Development. Accepted and in Press. *The Holocene*.

Eppes, M.C., Bierma, R., Pazzaglia, F., Vinson, D., Soil Geomorphology of the Reno Valley, Italy. Accepted pending revisions. *Geoderma*.

McAuliffe, J., Hamerlynck, E., Eppes, M. 2007. Landscape Dynamics Fostering the Development and Persistence of Long-Lived Cresotebush (*Larrea tridentata*) Clones in the Mojave Desert. *Journal of Arid Environments* (0.878), 69. Pg. 96-126.

Nichols, K.K., Bierman, P.R., Eppes, M.C., Caffee, M.W., Finkel, R., and Larsen, J.. 2007 Long-term erosion and deposition of a Mojave Desert piedmont:

Implications of sediment supply and climate change. *Quaternary Research* (2.32), v. 68, p. 151-161.

McFadden, L., Eppes, M., Hallet, B., Gillespie, A., 2005. Physical weathering in arid landscapes due to diurnal variation in solar heating, *Geological Society of America Bulletin*, V. 117, p. 161-173.

Newland, S., Pazzaglia, F., Eppes, M.C., 2004. Ephemeral channel response to growing folds, *Geological Society of America Bulletin*, V. 116, p. 1223-1239.

Eppes, M. C.; McFadden, L. D.; Matti, J., and Powell, R., 2002, Influence of soil development on the geomorphic evolution of landscapes; an example from the Transverse Ranges of California. *Geology*, v. 30, n. 3, p. 195-198.

Synergistic Activities, last 5 years:

- NSF Geomorphology & Land Use Dynamics Division Panel Member 2005-2006
- GSA Quaternary Geology and Geomorphology Division Panel Member 2004 – 2006
- Invited speaker: Duke, UNC Chapel Hill, Appalachian State University, Rutgers University, College of Charleston
- Co-convenor of 2003 INQUA conference field trip in San Bernardino Mountains, CA.

Professional Affiliations: Geological Society of America, Ongoing since 1994; GSA Quaternary Geology and Geomorphology Division, Ongoing since 2000; Graduate Faculty Appointment, UNC Charlotte, Ongoing since 2003; Faculty Fellow Appointment, GIEES, UNC Charlotte, Ongoing since 2003

Research Collaborators (last 4 years):

Warren, K., Willis, A., (UNC Charlotte)Griffing, D., (Hartwick University), Hallet, B., and Gillespie, A. (University of Washington); Pazzaglia, F. (Lehigh University); Powell, R.(USGS); John Geissman (University of New Mexico); John Oldow (University of Idaho); Daryl Granger (Perdue); Harrison, B. (NMT); Koning, D. (New Mexico Bureau of Geology); McAuliff, J. (Desert Botanical Research Center); McFadden, L. (UNM); Nichols, K. (Skidmore University); Susan Olig, URS Co.; Personious, S. (USGS); Matteo Spagnolo (Pisa University, Italy)

Graduate Students Advised:

- **M.S. students:** Eckert, I. (in progress), Bierma, R., (in progress), Lehman, L. (in progress), Solis, K. (in progress), Michele Flowers (in progress), J. Garbini (in progress)
- **PhD students** (total 2): Johnson, B., (in progress), Allen Cottingham (in progress)

Awards (last 3 years):

Geological Society of America Gladys W. Cole Memorial Research Award 2007