

TAMMY M. RITTENOUR, Ph.D

Associate Professor, Department of Geology, Utah State University
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EDUCATION

Ph.D., University of Nebraska, Lincoln, 2004, Geomorphology and Geochronology
Dissertation title: Fluvial Evolution of the Lower Mississippi Valley over the Last Glacial Cycle.

M.S., University of Massachusetts, Amherst, 1999, Quaternary Geology and Geomorphology
Thesis title: Drainage History of Glacial Lake Hitchcock, Northeastern USA.

B.A., University of Minnesota, Morris, 1996, Geology and Biology major, Chemistry minor
Undergraduate Research title: Evidence for Glacial Lake Benson, west-central Minnesota.
Undergraduate Research title: Diatom analysis of late Pleistocene lake sediments in Edmunds Co., SD.

RESEARCH SYNOPSIS

My research combines geomorphology, sedimentology/stratigraphy and geochronology to reconstruct paleoclimate and landscape evolution from fluvial, eolian and lacustrine records. I am the Director of the USU Luminescence Lab and use luminescence dating in my research to provide age control for the deposits I study.

PROFESSIONAL EXPERIENCE

<u>2014- present</u>	Associate Professor , Utah State University
<u>2008 – present</u>	USU Luminescence Laboratory Director , Utah State University
<u>2008 – 2014</u>	Assistant Professor , Utah State University
<u>2007 – 2008</u>	Research Assistant Professor , Utah State University
<u>2006 – 2008</u>	USU Luminescence Laboratory Manager , Utah State University
<u>2005 – 2006</u>	Post-Doctoral Associate , Utah State University
<u>2004 – 2005</u>	Post-Doctoral Associate , Lund University, Sweden
<u>1995-1996</u>	Assistant Field Geologist , Minnesota Geological Survey

ADJUNCT AND ASSOCIATE FACULTY POSITIONS

- Associate, Utah State University Ecology Center, 2011-present
- Adjunct, Idaho State University, Department of Geosciences, 2010-present
- Adjunct, Boise State University, Department of Geosciences, 2009-present

HONORS AND AWARDS

- 2015 **Invited Review Paper** for a Utah Geological Survey Special Publication
- 2011 **NSF CAREER Award**, most prestigious award given by the NSF, limited to young investigators
- 2008 **Invited Review Paper** in special issue of Boreas
- 2000 **J. Hoover Mackin Award**, GSA, QG&G Division. Highest honor to a PhD Student in Quaternary Geology and Geomorphology
- 1999 **Masters Thesis Defense with Honors**, University of Massachusetts, Amherst, MA
- 1998 **Arthur D. Howard Award, Honorable Mention**, GSA, Quat. Geology and Geomorph. Division.
- 1996 **Scholar of the College**, University of Minnesota, Morris, MN

RESEARCH

GRANT FUNDING SUMMARY

- 22 research grants awarded totaling over \$3.2M (includes a NSF CAREER grant)

PENDING Proposals --

2018-2020 NSF-EAR (Pazzaglia, Rittenour, Gasparini) "Collaborative Research: ESPRESSO: Encoding, Shredding, and Propagation of Environmental Signals as Surficial Observables" (**\$630k total, \$218k USU portion**)

GRANTS AND FUNDING -- \$3.2M total, \$1.5M USU portion

2017-2020 NSF-EAR (Yanites, Rittenour) "FACET: Collaborative Research: Quantifying the topographic response to tectonic processes in southern Taiwan" (**\$614,550 total, \$292,786 USU portion**)

2015-2016 **NSF-DDIG** (Rittenour and Riley) "Doctoral Dissertation Research: Using Cosmogenic Nuclides to Understand the Interrelationship between Erosion Rates, Environmental Factors, and Landscape Response" (**\$16,000 total**)

2015-2016 **SCEC** (Rittenour) "Geochronology infrastructure for Southern California Earthquake Center" (**\$8,000 total**)

2015-2017 **ARC-DP150101513** (Shulmeister, Rittenour et al) "Climate and environmental history of SE Queensland dunefields" (**\$364,900 AUS total, USU is a research partner**)

2014-2016 **NSF-ES** (Flowers, Arrowsmith, Rittenour et al) "Collaborative Research: EarthScope Geochronology: A Student Research and Training Program and EarthScope Institute" (**\$363k total, \$22,312 USU portion**)

2013-2015 **USBR-WaterSmart** (Wang and Rittenour et al) "WaterSMART: Building decadal prediction of extreme climate for managing water supply in Intermountain West" (**\$294,992 total, \$147,495 USU portion**)

2013-2014 **SCEC** (Rittenour) "Geochronology infrastructure for Southern California Earthquake Center" (**\$7,997 total**)

2011-2016 **NSF-EAR 1057192** (Rittenour) "CAREER: Understanding Processes related to Arroyo systems, southern Utah" (**\$497,932**)

2010-2013 **NSF-EAR 1024657** (Thackray and Rittenour) "Collaborative Research: Interhemispheric linkages of Late Pleistocene climate change in the circum-Pacific region" (**\$410,457 total, \$160,594 USU portion**)

2010-2011 **SCEC** (Rittenour) "Geochronology infrastructure for Southern California Earthquake Center" (**\$10,500 total**)

2010-2011 **ExxonMobil Research Grant** (Rittenour), "Understanding the link between fluvial-geomorphic response to climate, sea level and tectonics and the resulting chronostratigraphic geometry of deepwater fans, Golo River, Corsica" (**\$29,996**)

- 2009-2010 **USGS EDMAP G09AC00141** (Rittenour), "Surficial mapping along the upper Escalante River, southern Utah" (**\$13,802**)
- 2008-2011 **NSF-EAR 744455, Instrumentation and Facilities** (Pederson and Rittenour), "Technician Support: New Utah State University Luminescence Geochronology Laboratory" (**\$183,021**)
- 2008-2009 **USGS EDMAP 08HQAG0041** (Rittenour), "Surficial mapping along the Kanab Creek alluvial corridor, southern Utah: Evidence for multiple cycles of arroyo cutting and filling" (**\$14,079**)
- 2007-2010 **NSF-EAR 0720391** (Rittenour, Peirce, Sharp), "Collaborative Research: Assessing climatic controls on intervals of stability and deposition on alluvial fans" (**\$294,391 total, \$82,158 USU portion**)
- 2013-2014 **USU Ecology Center** (Rittenour and Riley) "Landscape response to Holocene Climate variability, southern Utah" (**\$2500**)
- 2012-2013 **USU Research Catalyst** (Kjelgren, Rittenour et al) "Tree ring chronologies: development for novel reconstruction of northern Utah paleoclimate to aid water managers and risk assessment under climate change" (**\$19,557**)
- 2011-2012 **USU Ecology Center** (Rittenour and Allen) "Northern Utah Douglas-fir climate sensitivity as evidenced by tree-rings" (**\$3500**)
- 2009-2012 **USU Water Initiative Research Grant** (Rittenour et al), "Extending the Record of Drought and Discharge Variations in the Bear River Drainage through Tree-ring Reconstructions: Collection of initial data from the Logan River basin" (**\$19,930**)
- 2009-2010 **USU GEM Seed grant** (Rittenour), "Reconstructing drought and fire activity on the high plateaus of southern Utah" (**\$4804**)
- 2000-2003 **NASA Earth System Science Fellowship** (Rittenour and Blum), "Landform Evolution of the Lower Mississippi River valley in Response to Deglaciation" (**\$66,000**)
- 2001-2003 **NSF- SES 0082226 Dissertation Research Improvement Grant** (Rittenour and Blum) "Late Pleistocene and Early Holocene Evolution of the Lower Mississippi Valley" (**\$10,000**)

PUBLICATIONS

- 64 peer-review publications [Google Scholar report](#)
- *h*-index = 18, *i*10-index = 26, >1300 citations (Google Scholar, Aug 2017)

IF = 5-yr Impact Factor, * = Graduate student, ** = Undergraduate student

PEER-REVIEWED JOURNAL PUBLICATIONS – *In Review:*

Schaetzl, R.J., Larson, P.H., Faulkner, D.J., Running, G.L., Jol, H.M., **Rittenour, T.M.**, *in revision*. Eolian sand and loess deposits indicate westerly paleowinds during the Late Pleistocene in western Wisconsin, USA.

Quaternary Research.

Shulmeister, J., Thackray, G.D., **Rittenour, T.M.**, Hyatt, O.M., *in revision*. Multiple glacial advances in the Rangitata Valley, South Island, New Zealand, imply roles for Southern Hemisphere westerlies and summer insolation in MIS 3 glacial advances. **Quaternary Science Reviews.**

PEER-REVIEWED PUBLICATIONS IN JOURNALS AND VOLUMES – *Published or in press: (63)*

64. **Rittenour, T.M.**, 2017-accepted. Dates and Rates of Earth-Surface Processes using Luminescence Dating. **Elements**, TBD.
63. Clift, P.D., Zheng, H., Carter, A., Boening, P., *Jonell, T., Schorr, H., Shan, X., Pahnke, K., Wei, A., **Rittenour, T.**, 2017. Controls on erosion in the western Tarin Basin: Implications for the uplift of northwest Tibet and the Parmir. **Geosphere** 13(5) 1-9, doi:10.1130/GES01378.1
62. Finley, J.B., *Ideker, C.J., **Rittenour, T.**, 2017. Single-grain optically stimulated luminescence ages of Brownware pottery in the central Rocky Mountains and the Spread of Numic Ceramic technology. **American Antiquity** doi:10.1017/aaq.2017.38
61. *Ideker, C.J., Finley, J.B., **Rittenour, T.M.**, Nelson, M.S., 2017. Single-grain optically stimulated luminescence dating of quartz temper from prehistoric intermountain ware ceramics, northwestern Wyoming, USA. **Quaternary Geochronology** 42, 42-55.
60. Levy, J., **Rittenour, T.**, Fountain, A., O'Connor, J., 2017 Luminescence dating of paleolake deltas and glacial deposits in Garwood Valley, Antarctica: Implications for climate, Ross ice sheet dynamics, and paleolake duration. **Geological Society of America Bulletin** 129, 1071-1084.
59. Munyikwa, K., **Rittenour, T.M.**, Feathers, J.K., 2017. Temporal constraints for the Late Wisconsinan deglaciation of western Canada using eolian dune luminescence chronologies from Alberta. **Palaeogeography, Palaeoclimatology, Palaeoecology** 470, 147-165.
58. *Jonell, T., Clift, P., Van Hoang, L., Hoang, T., Carter, A., Wittmann, H., Boening, P., Pahnke, K., **Rittenour, T.**, 2017, Controls on Erosion Patterns and Sediment Transport in a Monsoonal, Tectonically Quiescent Drainage, Song Gianh, Central Vietnam. **Basin Research** 29, 659-683 (IF = 2.8)
57. *Layzell, A., Mandel, R.D., **Rittenour, T.M.**, Smith, J.J., Harlow, H., Ludvigson, G.A., 2016, Stratigraphy, morphology, and geochemistry of late Quaternary buried soils on the High Plains of southwestern Kansas, USA. **Catena**, 144, 45-55. (IF = 3.097)
56. *Perkins, J.P., Finnegan, N.J., Hengesh, J.V., **Rittenour, T.M.**, 2016. Topographic constraints on magma accumulations below the actively uplifting Uturuncu and Lazufre volcanic centers in the Central Andes. **Geosphere** 12, 1078-1096. (IF = 2.573)

55. *Gavillot, Y., Meigs, A., Yule, D., Heermance, R., **Rittenour, T.**, Madugo, C., Malik, M., 2016, Shortening rate and Holocene surface rupture on the Riasi fault system in the Kashmir Himalaya: Active thrusting within the Northwest Himalayan orogenic wedge. **GSA Bulletin** 128, 1070-1094. (IF = 4.73)
54. *Knabb, K.A., Erel, Y., Tirosh, O., **Rittenour, T.**, Laparidou, S., Najjar, M., Levey, T.E., 2016, Environmental impacts of ancient copper mining and metallurgy: Multi-proxy investigation of human-landscape dynamics in the Fayan valley, southern Jordan. **Journal of Archaeological Science** 74, 85-101. (IF = 2.406)
53. Huckleberry, G., Ferguson, T.J., **Rittenour, T.M.**, Banet, C., Mahan, S., 2016, Identification and Dating of Indigenous Water Storage Reservoirs at Laguna Pueblo, New Mexico, USA. **Journal of Arid Environments** 127, 171-186. (IF = 2.056)
52. *Layzell, A. L., Mandel, R. D., Ludvigson, G. A., **Rittenour, T. M.**, Smith, J. J. 2015. Forces driving late Pleistocene (ca. 77–12 ka) landscape evolution in the Cimarron River valley, southwestern Kansas. **Quaternary Research** 84, 106-117.
51. Pazzaglia, F.J., Carter, M., Berti, C., Counts, R., Hancock, G., Harbor, D., Harrison, R., Heller, M., Mahan, S., Malenda, H. and McKeon, R., Nelson, M., Prince, P., **Rittenour, T.**, Spotila, J., Whittecar, R. 2015. Geomorphology, active tectonics, and landscape evolution in the Mid-Atlantic region. **GSA Field Guides**, 40, pp.109-169.
50. *Gray, H.J., Mahan, S.A., **Rittenour, T.M.**, Nelson, M.S., 2015, Invited Paper: Guide to Luminescence dating techniques and their application to paleoseismic research. Proceedings of the Basin and Range Province Seismic Hazards Summit III. Utah Geological Survey Special Publication.
49. **Rittenour, T.M.**, Cotter, J.F.P., Arends, H.E., 2015. Application of Single-grain OSL dating to ice-proximal deposits, glacial Lake Benson, west-central Minnesota, USA. **Quaternary Geochronology** 30, 306-313 (IF = 3.431)
48. Nelson, M.S., **Rittenour, T.M.**, 2015, Using grain-size distribution to calculate soil water content: application to dose-rate calculation for luminescence dating. **Radiation Measurements** 81, 142-149 (IF = 1.14)
47. *DeJong, B.D., Bierman, P.R., Newell, W.L., **Rittenour, T.M.**, Mahan, S.A., Balco, G., Rood, D.H., 2015, Pleistocene relative sea levels in the Chesapeake Bay region and their implications for the next century, **GSA Today** 25, 4-10 (IF = 21.8)
46. Pelletier, J. D., Murray, B.A., Pierce, J. L., Bierman, P. R., Breshears, D. D., Crosby, B. T., Ellis, M., Fofoula-Georgiou, E., Heimsath, A. M., Houser, C., Lancaster, N., Marani, M., Merritts, D. J., Moore, L. J., Pederson, J. L., Poulos, M. J., **Rittenour, T. M.**, Rowland, J. C., Ruggiero, P., Ward, D. J., Wickert, A. D. and Yager, E. M., 2015, Forecasting the response of Earth's surface to future climatic and land use changes: A review of methods and research needs. *Earth's Future*. doi:10.1002/2014EF000290
45. Nelson, M.S., *Gray, H.J., *Johnson, J.A., **Rittenour, T.M.**, Feathers, J.K., Mahan, S., 2015, User guide for luminescence sampling in archaeological and geological context. **Advances in Archaeological Practice**. 3, 166-177
44. DeRose, R.J., Bekker, M.F., Wang, S.-Y., Buckley, B.M., Kjelgren, R., Bardsley, T., **Rittenour, T.M.**, *Allen, E.B., 2015, A millennium-length reconstruction of Bear River streamflow, Utah. **Journal of Hydrology** 529, 524-534 (IF = 3.678).
43. Mahan, S.A., Nelson, M.S., **Rittenour, T.M.**, Hanson, P., Rhodes, E., 2015. The 9th New World Luminescence Dating Workshop: Aim of the community and scope of the conference proceedings. *Quaternary International* 362, 1-2 (IF = 2.446)

42. **Rittenour, T.M.**, Coats, L.L., Metcalfe, D., 2015. Investigation of late and post-Fremont alluvial stratigraphy of Range Creek, east-central Utah: Use of OSL when Radiocarbon Fails. **Quaternary International** 362, 63-76 (IF = 2.446)
41. Rich, J., **Rittenour, T.M.**, Nelson, M.S., **Owen, J., 2015. OSL chronology of middle to late Holocene aeolian activity in the St. Anthony dune field, southeastern Idaho, USA, **Quaternary International**, 362, 77-86. (IF = 2.446)
40. *Wyshnytzky, C. E., **Rittenour, T. M.**, Nelson, M. S., Thackray, G. 2015. Luminescence dating of late Pleistocene proximal glacial sediments in the Olympic Mountains, Washington. **Quaternary International** 362, 116-123. (IF = 2.446)
39. Pederson, J. L., *Chapot, M. S., Simms, S. R., Sohbaty, R., **Rittenour, T. M.**, Murray, A. S. 2014. Reply to Simon and Reed: Independent and converging results rule out historic disturbance and confirm age constraints for Barrier Canyon rock art. **Proceedings of the National Academy of Sciences** DOI:10.1073/pnas.1421319112 (IF = 9.81)
38. *Huff, W.M., and **Rittenour, T.M.**, 2014, Holocene alluvial stratigraphy of Kitchen Corral Wash, southern Utah, in MacLean, J.S., Biek, R.F., and Huntoon, J.E., editors, **Geology of Utah's Far South: Utah Geological Association Publication 43**, p. 77-96.
37. *Hayden-Lesmeister, A., and **Rittenour, T.M.**, 2014, Chronostratigraphy of Holocene valley-fill alluvium and arroyo cut-fill events in the upper Escalante River, southern Utah, in MacLean, J.S., Biek, R.F., and Huntoon, J.E., editors, **Geology of Utah's Far South: Utah Geological Association Publication 43**, p. 57-76.
36. *Nelson, M.S., **Rittenour, T.M.**, 2014, Middle to late Holocene chronostratigraphy of alluvial fill deposits along Kanab Creek in southern Utah, in MacLean, J.S., Biek, R.F., and Huntoon, J.E., editors, **Geology of Utah's Far South: Utah Geological Association Publication 43**, p. 97-116.
35. Pederson, J. L., *Chapot, M. S., Simms, S. R., Sohbaty, R., **Rittenour, T. M.**, Murray, A. S., Cox, G. 2014. Age of Barrier Canyon-style rock art constrained by cross-cutting relations and luminescence dating techniques. **Proceedings of the National Academy of Sciences** 111, 12986-12991. (IF = 9.81)
34. *Kenworthy, M.K., **Rittenour, T.M.**, Pierce, J.L., Sutfin, N.A., Sharp, W.D., 2014, Luminescence dating without sand lenses; An application to coarse-grained alluvial fan deposits of the Lost River Range, Idaho, USA. **Quaternary Geochronology** 23, 9-25. (IF= 3.128)
33. Link, P.K., Crosby, B.T., *Lifton, Z.M., *Eversole, E.A., **Rittenour, T.M.**, 2014, The Late Pleistocene (17ka) Soldier Bar landslide and Big Creek Lake, Frank Church-River of No Return Wilderness, Central Idaho: **Rocky Mountain Geology** 49, 59-73.
32. Munyikwa, K., Gilliland, K., Gibson, T., Mann, E., **Rittenour, T.M.**, Grekul, C., Blaikie-Birkigt, K., 2014, Late Holocene temporal constraints for human occupation levels at the Bodo archaeological locality, east-central Alberta, Canada using radiocarbon and luminescence chronologies. **Plains Anthropologist** 59, 109-143.
31. *Gunderson, K.L., Pazzaglia, F.J., Picotti, V., Anastasio, D.A., Kodama, K.P., **Rittenour, T.**, Frankel, K.F., Ponza, A., Berti, C., Negri, A., Sabbatini, A., 2014. Unraveling tectonic and climatic controls on synorogenic growth strata (Northern Apennines, Italy). **Geological Society of America Bulletin** 126, 532-552. (IF= 4.494)

30. Umhoefer, P.J., *Maloney, S.J., Buchanan, B., Arrowsmith, J. R., Martinez-Gutiérrez, G., Kent, G., Discoll, N., Harding, A., Kaufman, D., **Rittenour, T.**, 2014 Late Quaternary faulting history of the Carrizal and related faults, La Paz region, Baja California Sur, Mexico: **Geosphere** **10**, GS924R1 (IF= 2.373).
29. Huckleberry, G., **Rittenour, T.M.**, 2014 Combining Radiocarbon and Single-Grain Optically Stimulated Luminescence Methods to Accurately Date Pre-ceramic Canals, Tucson, Arizona. **Journal of Archaeological Science** **41**, 156-170. (IF=2.142)
28. *Allen, E.B., **Rittenour, T.M.**, DeRose R.J., Bekker, M.F., Kjelgren, R., Buckley, B.M. 2013 A tree-ring based reconstruction of Logan River streamflow, northern Utah. **Water Resources Research** **49**, 1-10 (IF = 2.957).
27. Pederson, J.L., *Hidy, A.J., Gosse, J.C., **Rittenour, T.M.**, 2013 Reply to Comment: Colorado River chronostratigraphy at Lee's Ferry, Arizona, and the Colorado Plateau bull's-eye of incision. **Geology** **41**, e304. doi:10.1130/G34937Y.1 (IF = 4.660)
26. Pederson, J., Burnside, N., Shipton, Z., **Rittenour, T.**, 2013 Rapid river incision across an inactive fault - implications for patterns of erosion and deformation in the central Colorado Plateau. **Lithosphere** **5**, 513-520 (IF = 2.216)
25. *McAuliffe, L., Dolan, J., Kirby, E., Rollins, C., Haravitch, B., Alm, S., **Rittenour, T.M.**, 2013. Paleoseismology of the southern Panamint Valley fault: Implications for regional earthquake occurrence and seismic hazard in southern California. **Journal of Geophysical Research, Solid Earth** **118**, 5126-5146. (IF = 3.021)
24. Gran, K.B., Finnegan, N., *Johnson, A.L., Belmont, P., Wittkop, C., **Rittenour, T.**, 2013, Landscape evolution, valley excavation, and terrace development following abrupt postglacial base level fall. **Geological Society of America Bulletin** **125**, 1851-1864. (IF= 4.494)
23. Pederson, J.L., *Cragun, W.S., **Hidy, A.J. **Rittenour, T.M.** Gosse, J.C. 2013, Colorado River chronostratigraphy at Lee's Ferry, Arizona and the central Colorado Plateau bullseye of incision. **Geology** **41**, 427-430 (IF = 4.660)
22. **Chapot, M.S, Sohpati, R., Murray, A.S., Pederson, J.L., **Rittenour, T.M.**, 2012, Constraining the age of rock art by dating a rockfall event using sediment and rock-surface luminescence dating techniques. **Quaternary Geochronology** **13**, 18-25 (IF= 3.913)
21. *Summa-Nelson, M., **Rittenour, T.M.**, 2012, Application of OSL dating to middle to late Holocene arroyo sediments in Kanab Creek, Southern Utah, USA. **Quaternary Geochronology** **10**, 167-174 (IF= 3.913)
20. **Rittenour, T.M.**, Riggs, N.R., **Kennedy, L.E., 2012, Application of single-grain OSL to date quartz xenocrysts within a basalt flow, San Francisco volcanic field, northern Arizona, USA. **Quaternary Geochronology** **10**, 300-307 (IF= 3.913)
19. Connor, S., van Leeuwen, J., **Rittenour, T.M.**, Knapp, P., Ammann, B., Björck, S., 2012, The ecological impact of oceanic island colonisation - a palaeoecological perspective from the Azores. **Journal of Biogeography** **39**, 1007-1023 (IF= 4.863)
18. *Harvey, J.E., Pederson, J.L., **Rittenour, T.M.**, 2011, Exploring relations between arroyo cycles and canyon paleoflood records in Buckskin Wash, Utah: reconciling scientific paradigms. **Geological Society of America Bulletin** **123**, 2266-2276. (IF= 4.494)
17. Pierce, J.L., Meyer, G.A., **Rittenour, T.M.**, 2011, The relation of Holocene fluvial terraces to changes in climate and sediment supply, South Fork Payette River, Idaho. **Quaternary Science Reviews** **30**, 628-645. (IF = 5.040)

16. Munyikwa, K., Feathers, J., **Rittenour, T.M.**, Shrimpton, H., 2011, Constraining the chronology of the Late Wisconsinan retreat of the Laurentide Ice Sheet from western Canada using luminescence ages from postglacial aeolian dune sequences. **Quaternary Geochronology** 6, 407-422. (IF= 3.128)
15. Janecke, S.U., Dorsey, R.J., Steely, A.N., Kirby, S.M., Lutz, A., Housen, B.A., Belgarde, B., Langehein, V. Forand, D. **Rittenour, T.** 2011, High Geologic Slip Rates since Early Pleistocene initiation of the San Jacinto and San Felipe Fault Zones in the San Andreas fault systems: Southern California, USA. **GSA Special Paper** 475, 48 p.
14. *Harvey, J.E., Pederson, J.L., **Rittenour, T.M.**, 2010, The alluvial records of Buckskin Wash, Utah. In, **Geology of South-Central Utah**, Carney, S.M., Tabet, D.E. and Johnson, C.L. Eds, Utah Geological Association Publication 39, 19-37.
13. **Rittenour, T.M.**, 2008, Luminescence dating of fluvial deposits: applications to geomorphic, palaeoseismic and archaeological research. **Boreas** 37, 613-635. (IF= 2.457)
12. Pitblado, BL, **Jackson, MS, Pederson, JL, **Rittenour, TM**, 2008, OSL Dating the Paleoamerican Heath Site (5GN3418), Gunnison Basin, Colorado. **Current Research in the Pleistocene** 25, 130-132.
11. **Rittenour, T.M.**, Blum, M.D., Goble, R.J., 2007, Fluvial evolution of the lower Mississippi River valley during the last 100-kyr glacial cycle: Response to glaciation and sea-level change. **Geological Society of America Bulletin** 119, 586-608. (IF= 4.494)
10. Björck, S., **Rittenour, T.M.**, Rosén, P., Bennike, O., Kromer, B., Möller, P., Sandgren, P., and Westegård, 2006, A Holocene lacustrine record in the central North Atlantic: proxies for volcanic activity, short-term NAO mode variability, and long-term precipitation changes. **Quaternary Science Reviews** 25, 9-32. (IF = 5.040)
9. Holbrook, J.M., Autin, W., **Rittenour, T.M.**, and Marshak, S., and Goble, R., 2006, Stratigraphic evidence for millennial-scale temporal clustering of earthquakes on a continental-interior fault: Holocene Mississippi River floodplain deposits, New Madrid seismic zone, USA. **Tectonophysics** 420, 431-454. (IF = 2.947)
8. Pederson, J.L., *Anders, M.D., **Rittenhour[#], T.M.**, Sharp, W.D., Gosse, J.C., Karlstrom, K.E., 2006, Using fill terraces to understand incision rates and evolution of the Colorado River in eastern Grand Canyon, Arizona. **Journal of Geophysical Research** 111, F02003, doi: 10.1029/2004JF000201. (IF= 3.465) (#name misspelled)
7. Goble, R.J. and **Rittenour, T.M.**, 2006, A Linear Modulation OSL Study of the Unstable Ultrafast Component in Samples from Glacial Lake Hitchcock, Massachusetts, USA. **Ancient TL** 24, 37-46.
6. **Rittenour, T.M.**, Goble, R.J., and Blum, M.D., 2005, Development of an OSL chronology for late Pleistocene channel belts in the lower Mississippi valley. **Quaternary Science Reviews** 24, 2539-2554. (IF = 5.040)
5. *Anders, M.D., Pederson, J.L., **Rittenour, T.M.**, Sharp, W.D., Gosse, J.C., Karlstrom, K.E., Crossey, R.C., Goble, R.J., Stockli, L., and Guang, Y., 2005, Pleistocene geomorphology and geochronology of eastern Grand Canyon: linkages of landscape components during climate changes. **Quaternary Science Reviews** 24, 2428-2448. (IF = 5.040)
4. van Leeuwen, J.F.N., Schäfer, H., van der Knapp, W.O., **Rittenour, T.M.**, Björck, S., Ammann, B., 2005, Native or introduced? Fossil pollen and spores may say. An example from the Azores Islands. **NEOBIOTA**, v. 6, p. 27-34

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3. **Rittenour, T.M.**, Goble, R., and Blum, M. 2003, An Optical Age Chronology of Late Pleistocene Fluvial Deposits in the Northern Lower Mississippi Valley. **Quaternary Science Reviews** 22, 1105-1110. (IF = 5.040)
2. **Rittenour, T.M.**, Brigham-Grette, J., and Mann, M.E., 2000, El Nino-like Climate Teleconnections in New England during the Late Pleistocene. **Science**, v. 288, p. 1039-1042. (IF = 31.052)
1. **Rittenour, T.M.**, Geiger, K.L., and Cotter, J.F.P., 1998, Glacial Lake Benson, west-central Minnesota. *In*: C.J. Patterson and H.E. Wright Jr. eds., **Contributions to Quaternary Studies in Minnesota**, Minnesota Geological Survey Reports of Investigations No. 49, p. 97-102.

NON-PEER REVIEWED FIELD TRIP GUIDEBOOKS, MAPS AND OTHER PUBLICATIONS/REPORTS (10)

- Rittenour, T.M.**, Riley, K. 2016, Geomorphology of the Grand Staircase Region of the Colorado Plateau. 2016 Rocky Mountain cell Friends of the Pleistocene Field Trip, Oct 14-16.
- Huckleberry, G., **Rittenour, T.**, 2012, Dating Prehistoric Irrigation Canals in Southern Arizona. **Archaeological Geology Division Newsletter**, Nov. 2012 issue.
- Hall, S.A., **Rittenour, T.M.**, 2010, Optical Dating and New Mexico Prehistory. **Papers of the Archaeological Society of New Mexico** 36, 101-110
- *Hayden, A., **Rittenour, T.M.**, 2010, Preliminary Geologic Map of a portion of the Escalante Quadrangle, Garfield County, Utah, 1:24,000 scale. USGS EDMAP project, Utah Geological Survey.
- *Hayden, A., **Rittenour, T.M.**, 2010, Preliminary Geologic Map of a portion of the Wide Hollow Reservoir Quadrangle, Garfield County, Utah, 1:24,000 scale. USGS EDMAP project, Utah Geological Survey.
- *Hayden, A., **Rittenour, T.M.**, 2010, Preliminary Geologic Map of a portion of the Canaan Creek Quadrangle, Garfield County, Utah, 1:24,000 scale. USGS EDMAP project, Utah Geological Survey.
- *Hayden, A., **Rittenour, T.M.**, 2010, Preliminary Geologic Map of a portion of the Upper Valley Quadrangle, Garfield County, Utah, 1:24,000 scale. USGS EDMAP project, Utah Geological Survey.
- *Summa, M.C. and **Rittenour, T.M.**, 2009, Surficial Geologic Map of part of the Kanab Quadrangle, Kane County, Utah. 1:12,000 scale. USGS EDMAP project, Utah Geological Survey.
- *Summa, M.C. and **Rittenour, T.M.**, 2009, Surficial Geologic Map of part of the White Tower Quadrangle, Kane County, Utah. 1:12,000 scale. USGS EDMAP project, Utah Geological Survey.
- Rittenour, T.M.** and Brigham-Grette, J., 2000, A Drainage History for Glacial Lake Hitchcock: Varves, Landforms, and Stratigraphy: *In*, J. Brigham-Grette Ed., FOP Field Guidebook, UMass Dept of Geosciences Contrib. No. 7
- Blum, M.D., **Rittenour, T.M.**, et al., 2001, The Lower Mississippi Valley and Texas Coastal Plain, Field Trip Guidebook: International Conference on Fluvial Sedimentology, Lincoln, NE.

INVITED PROFESSIONAL ABSTRACTS

- Rittenour, T.M.**, 2017. Centennial-Scale Holocene Fluvial Dynamics in the Southwest US; Linkages to Geomorphic Thresholds and External Forcing. *In: Conference Programme and Abstracts Volume, 11th International Conference on Fluvial Sedimentology* (Eds. S.M. Hubbard, P.R. Durkin, D.A. Leckie, and C.J. Simpson), p. 101. Calgary, CANADA
- Rittenour, T.M.**, 2012. Plumbing of the Laurentide Ice Sheet: Meltwater Discharge Records from the Lower Mississippi Valley. *Geological Society of America Abstracts with Programs* v 44, n 7, p 455.
- Rittenour, T.M.**, 2012. Holocene Arroyo Records in Southern Utah: A balance between climate forcing and geomorphic thresholds. *American Geophysical Union Meeting, Program with Abstracts*. Eos
- Rittenour, T.M.**, Stone, B., Mahan, S., 2012. Application of OSL dating to glacial deposits in southern Massachusetts: Refining the chronology and addressing questions related to solar resetting in glacial environments, *Geological Society of America Abstracts with Programs* v. 44, n. 2, p. 86.

TEACHING AND EDUCATIONAL ACTIVITIES

My teaching schedule affords me the pleasure of interacting with students from a number of different levels (undergraduate and graduate) and backgrounds.

Course number	Course name	Type of course
Geol 3600	Geomorphology	lecture and lab
Geol 5680/6680	Paleoclimatology	lecture
Geol 6100/7100	Grad Seminar in Geomorphology	seminar
Geol 6650/7650	Quaternary Geochronology	lecture
Geol 6800	OSL Short Course	lecture and lab

STUDENT MENTORING

Graduate Advisor (12 students, expected defense date in parentheses)

- Brianna Hill, MS Applied Environmental Geosciences, 2016-in progress "Analysis of the Parkway Drive and Springhill Drive landslides, North Salt Lake City, Utah"
- Harriet Cornachione, PhD Geology, 2016-in progress "Dune fields and weathering in southern Utah"
- Alex Short, MS Geology, 2016-in progress "Pleistocene gravel (Qag) units, Grand Staircase, southern Utah"
- Kirk Townsend, MS Geology, 2013-2015 "Arroyo cutting history of Kanab Creek, UT"
- Kerry Riley, PhD Geology, 2012-in progress (Spring 2016) "Investigating geomorphic and hydrologic controls on Arroyo dynamics, southern Utah"
- Carlie Ideker, MS Archaeology, 2012-2015 "Application of OSL dating to Shoshone pottery in Wyoming"
- Cianna Wyshnytzsky, MS Geology, 2011-2013 "Interhemispheric MIS 3-4 glacial records from the Olympic Mountains, Washington and the Southern Alps, New Zealand"
- William Huff, MS Geology, 2011-2013 "Investigating Arroyo cycles in Kitchen Corral Wash, southern Utah"
- Eric Allen, MS Geology, 2010-2013 "Extending the Record of Drought and Discharge Variations in the Bear River Drainage through Tree-ring Reconstructions"
- Emilee Skyles, MS Geology, 2009-2014 "Geomorphology of the Golo River, Corsica, France"
- Anne Hayden, MS Geology, 2008-2011, "Arroyo history of the upper Escalante River, Utah."
- Michelle Summa, MS Geology 2007-2009, "Geologic mapping, alluvial stratigraphy and optically stimulated luminescence dating of the Kanab Creek area, southern Utah "

Undergraduate Mentor (11 students)

- Chris Semler, 2017 "Alluvial fan and paleosol sequence, Kanab Utah"
- Nathan Gunnell, 2016. "Ghost dunes of the Snake River Plain, Idaho"
- Sayge Wooldridge, 2015, "REU Project: Timing and source of Loess, Big Stone Moraine, Minnesota"
- Sayge Wooldridge, 2014, "REU Project: History of Glacial Lake Benson, west-central Minnesota"
- Ranchel Karlov, 2013, "REU Project: A comparative application of OSL dating loess overlying basalt on the SP and Strawberry flows in the San Francisco Volcanic Field in Northern Arizona"
- Heidi Landis, 2013, "REU Project: Dating Quartz Xenocrysts from the Strawberry Crater basalt flow, San Francisco Volcanic Field, northern Arizona using luminescence dating"
- Benjamin Lariviere, 2012, "Reconstructing the environmental setting on the central Snake River Plain: Analysis of the sediment intervals in the Kimama HotSpot Drilling Core, ID"
- Michelle Williams, 2011, " Constraining the History of Glacial Lake Grantsburg, WI"
- Melissa Jackson, 2007-2010, "Senior Honors Thesis: Bracketing the age of the Great Gallery Rock Art panel in Horseshoe Canyon, Utah by OSL dating of associated alluvial terraces"
- Heidi Koonz-Pearce, 2008-2009, "Senior Thesis: Study of the sand dunes on the Snake River Plain"
- Robyn Krohn, 2009, "Independent Research Report: Study of Pleistocene alluvial fans within the Sevier River valley, south-western Utah"