

3 September 2020 Curriculum Vitae

Sheryl Luzzadder Beach, Ph.D.

<http://www.utexas.edu/cola/depts/geography/>

Department of Geography and the Environment

305 E. 23rd Street • RLP 3.306 • A3100

E-mail: slbeach@austin.utexas.edu

University of Texas at Austin, Austin, TX 78712 USA **Office Ph:** 512-232-1583

EDUCATION

Ph.D., Geography 1990. **University of Minnesota-Minneapolis.** Specialty: Water Resources, Physical Geography, Spatial Analysis. *Dissertation: Geographic Sampling Strategies for Ground Water Quality Evaluation.*

M.A., Geography 1984. **University of Minnesota-Minneapolis.** Minor: Related Fields- Geology and Statistics. *Thesis: Comparative Geographic Evaluation of Water Quality in the Alturas & Surprise Valley Ground Water Basins, 1982-83.*

B.A., Geography 1982. **California State University-Chico.** Minors: History of Classical Civilizations, and Art History.

ACADEMIC AND ADMINISTRATIVE APPOINTMENTS

The University of Texas at Austin:

2019-present Raymond Dickson Endowed Centennial Professor #1, College of Liberal Arts. Appointed 1 September 2019.

2014-present Professor with Tenure, Geography and the Environment

2014-2018 Chair, Department of Geography and the Environment

2014-2019 Fellow of the C.B. Smith, Sr. Centennial Chair in U.S. -Mexico Relations #2, College of Liberal Arts.

2014-present Founder and Director, Water Quality and Environmental Hydrology Lab, Geography & the Environment

2014-2015 Acting Graduate Advisor, Department of Geography and the Environment; 1 December 2014-31 August 2015

2015-present Affiliated Faculty, the Bernard and Audrey Rapoport Center for Human Rights and Justice

2014-present Associate Faculty, the Teresa Lozano Long Institute of Latin American Studies

2014-present Affiliated Faculty, Center for European Studies

George Mason University:

Department of Geography & GeoInformation Science

2010-2014 Professor with Tenure

7/2013-1/2014 Acting Department Chair; Director of Academic Programs

2008-2013 Associate Chair; Director of Academic Programs

2008-2014 Director, PhD in Earth Systems & GeoInformation Sciences

Office of the Provost

2000-2003 Associate Provost for General Education

*Department of Earth Systems & GeoInformation Sci., School of Computational Sciences
(formerly Department of Geography and Earth Sci., College of Arts and Sciences)*

1993-2010 Assistant (1993-99) to Associate (1999-2010) Professor with
Tenure
2007-2010 Director and Coordinator, BS Global and Environmental Change
2006-2007 Associate Chair
Summer 2001 Interim Chair, Department of Geography
1993-97; 1999-2000 Undergraduate Coordinator, Geography

College of Science

2011-2014 Chair, College of Science Faculty (elected). *Oversee Faculty
Governance Activities at the College Level. 277 Full-time Faculty.*
2003-2014 Faculty, Center for Global Studies
2002-2015 Research Faculty Affiliate, Center for Earth Observing and Space
Research

Environmental Science and Policy

1994-2014 Faculty and PhD Program Board Appointments

Women and Gender Studies

1996-2014 Faculty and Board Appointments

Center for Field Studies

2007-2014 Board of Directors

Other University and Research Appointments:

1991-1993 Temp. Asst. Prof. Leave Replacement, Geography, Univ. of Georgia

1990-1991 Temporary Assistant Professor, Leave Replacement, Geography,
Humboldt State University, CA

1989 Graduate Research Assistant, MN Dept. of Natural Resources

1987-1989 Instructor, Geography Department, University of Minnesota

1986-1988 Instructor, Composition Program, University of Minnesota

1983; 1986-1989 Graduate Research Assistant, Geography Dept., U. of Minnesota

1982-1986 Graduate Teaching Assistant, Geography Dept., U. of Minnesota

1979-1987 Student Research Assistant, CA Dept. Water Resources

HONORS AND AWARDS

Post-Graduate:

2019-pres. **Raymond Dickson Endowed Centennial Professor #1.** UT Austin,
College of Liberal Arts.

2019-20. UT Austin, *College of Liberal Arts, and Office of the Provost. College
Research Fellowship Award, and Special Faculty Assignment.* Two
semesters of paid academic research leave, with 100% teaching relief.

2019-20. **Past President, American Association of Geographers; Executive
Committee and Council.**

2018-19. Elected **President, American Association of Geographers.**

2018. **Distinguished Alumni, College of Behavioral and Social Sciences,
California State University at Chico.** Awarded 9 March 2018.

2017-18. Elected **Vice President, American Association of Geographers.**

2014-2019. **Fellow of the C.B. Smith Sr. Centennial Chair in U.S.-Mexico
Relations #2, University of Texas at Austin, College of Liberal Arts.**

2013. **2012 George Mason University College of Science Publication
Excellence Award.** (Presented 3 September 2013). For 2012 PNAS Article.

2013. **Evelyn L. Pruitt Annual Lecturer. Louisiana State University Department of Geography and Anthropology.** "A Mirror for the Maya: Using Geoarchaeology to Understand Ancient Maya Wetland Interactions". 15 March 2013, Baton Rouge, LA. Annual Invited Lecture in honor of Dr. Evelyn Pruitt (1918-2000), national pioneer in Remote Sensing, Coastal Science, & Geography.
- 2011-pres. **Full membership, Sigma Xi, the Scientific Research Society.**
2010. **Promotion, Full Professor, GMU.** 25 August 2010.
2010. **Grove Karl Gilbert Award for Excellence in Geomorphological Research. Association of American Geographers Geomorphology Specialty Group.** The Grove Karl Gilbert Award is presented to the author(s) of a single significant contribution to the published research literature in geomorphology during the past three years. To: Sheryl Luzzadder-Beach and Timothy Beach, 2009, "Arising from the Wetlands: Mechanisms and Chronology of Landscape Aggradation in the Northern Coastal Plain of Belize." *Annals of the Association of American Geographers*. 99(1):1-26.
2009. **Fifteen Year Service Award,** George Mason University. April 2009.
2005. **Recognized in GMU President's Spring Faculty Convocation,** 6 April 2005.
2004. **Ten Year Service Award,** George Mason University. April 2004.
2002. **Phi Beta Delta.** International Education Honor Society.
- 1999-2010. **Promotion, Associate Professor without Term (Tenured).**
1999. **Five Year Service Award,** George Mason University. April 1999.
1998. **Featured as one of 5 Geoscientists** in a children's middle school book, *Women in Earth Science Careers*, part of a biographical series on scientists by Jetty Kahn, University of Minnesota. Mankato: Capstone Press. November 1998.

Graduate:

1989. **Ralph Hall Brown Outstanding Graduate Student Publication Award,** University of Minnesota Geography Department.
1988. **Summer Research Fellowship,** Univ. of Minnesota Geography Department.
1987. **Ralph Hall Brown Outstanding Graduate Student Publication Award,** University of Minnesota Geography Department.

Undergraduate:

- 1982 **Gamma Theta Upsilon International Geographical Honor Society,** Beta Omega Chapter, California State University, Chico.
- 1980-82 **Dean's List,** California State University, Chico.
- 1979-82 **California State Scholarship.**
- 1979 **California Scholarship Federation Life Member, Seal Bearer.**

RESEARCH

PUBLICATIONS

Edited Volumes (Peer Reviewed) and Editorials:

C. Harden, **S. Luzzadder-Beach**, G. MacDonald, R. Marston, J. Winkler. 2020. Editorial: "Physical geography contributes." *Progress in Physical Geography: Earth and Environment*. (Sage) 44(1):5-13.

T. Beach, **S. Luzzadder-Beach**, C. Cordova, Eds. 2019. Special Issue: "Human Geomorphological Interactions and the Legacy of Karl Butzer." *Geomorphology*. 331, pp. 1-190. (Elsevier). 12 papers. 15 April 2019.

T. Beach, **S. Luzzadder-Beach**, C. Cordova. 2019. "Editorial: Human impacts on geomorphic systems and the legacy of Karl W. Butzer." *Geomorphology*. 331, pp. 1-3.

S. Luzzadder-Beach. Section Editor, *Hydrology*. 2017. *The International Encyclopedia of Geography: People, the Earth, Environment and Technology*. Douglas Richardson, Editor-in-Chief (American Association of Geographers and Wiley- Blackwell). 15 Volumes. ISBN 9780470659632 (cloth and digital).

A. Chin, T. Beach, **S. Luzzadder-Beach**, W. Solecki, Eds. 2017. Special Issue "Challenges of the Anthropocene," *Anthropocene*. (Elsevier). 20, pp. 1-90. December 2017.

A. Chin, T. Beach, **S. Luzzadder-Beach**, W. Solecki. 2017. "Editorial, Challenges of the Anthropocene." *Anthropocene*. 20, pp. 1-3.

Refereed Journal Articles and Book Chapters (Students underlined)

2020

S. Luzzadder-Beach, T. Beach, N. Dunning. (In press). "Wetland Farming and the Early Anthropocene: Globally Upscaling from the Maya Lowlands with Lidar and Multiproxy Verification" *Annals of the American Association of Geographers*. Accepted for publication 14 July 2020.

N. Dunning, J. Jeffrey Brewer, C. Carr, A. Anaya Hernandez, T. Beach, J. Chmilar, L. Grazioso Sierra, R. Griffin, D. Lentz, **S. Luzzadder-Beach**, K. Reese-Taylor, W. Saturno, V. Scarborough, M. Smyth, F. Valdez. (Accepted). "Harvesting Ha: Ancient Water Collection and Storage in the Elevated Interior Region of the Maya Lowlands." In: Jean T. Larmon, Lisa J. Lucero, Fred Valdez (eds). *Sustainability and Water Management in the Maya World and Beyond*. University Press of Colorado. Accepted August 2020.

D. Lentz, N. Dunning, P. Sheets, T. Beach, **S. Luzzadder-Beach**, C. Robin. (Accepted). "Intensive Agriculture and Water Management Practices of the Ancient Maya." In: Jean T. Larmon, Lisa J. Lucero, and Fred Valdez (eds). *Sustainability and Water Management in the Maya World and Beyond*. University Press of Colorado. Accepted August 2020.

N. P. Dunning, T. Ruhl, C. Carr, T. Beach, C. Brown, **S. Luzzadder-Beach**. 2020. "The Ancient Maya wetland fields of Acalán." *Mexicon*. 42(4): 91-105. August Issue. Accepted for publication 8 February 2020.

T. Beach, T., **S. Luzzadder-Beach**, N. Dunning, S. Krause. 2020. "Paleoecology, Soil, and Water in Maya History." Chapter 13. In: Scott Hutson and Traci Ardren (eds.) *The Maya World*. Routledge. Abingdon, UK. Pp. 229-249. ISBN: 9781138492837. Published 16 June 2020.

N. Dunning, T. Beach, **S. Luzzadder-Beach**. 2020. "Ancient Maya Agriculture." Chapter 27. In: Scott Hutson and Traci Ardren (eds.) *The Maya World*. Routledge. Abingdon, UK. Pp. 501-518. ISBN: 9781138492837. Published 16 June 2020.

W. Delgado, T. Beach, **S. Luzzadder-Beach**. 2020. "Solar desalination: Cases, synthesis, and challenges." *WIRES Water*. May/June 2020. 7(3): e1434. <https://doi.org/10.1002/wat2.1434>. Published 27 April 2020.

W. Delgado, T. Beach, **S. Luzzadder-Beach**. 2020. "Solar rich and water poor: The case for solar desalination in El Paso, Texas." *The Professional Geographer*, 72(1): 9-21. DOI: 10.1080/00330124.2019.1653776. Published February 2020.

Guderjan, T., J. Kwoka, C. Hanratty, T. Beach, **S. Luzzadder-Beach**, S. Krause, S. Eshleman, T. Ruhl, C. Doyle. 2020. "Early Onset Anthropocene: Control of the Landscape by the Ancient Maya in Northwestern Belize." *Research Reports in Belizean Archaeology* 17, 105-117.

2019

T. Beach, **S. Luzzadder-Beach**, S. Krause, T. Guderjan, F. Valdez, Jr., J. C. Fernandez-Diaz, S. Eshleman, C. Doyle. 2019. "Ancient Maya wetland fields revealed under tropical forest canopy from laser scanning and multiproxy evidence." *Proceedings of the National Academy of Sciences*. 116(43):21469–21477. DOI: 10.1073/pnas.1910553116. (covered in 20 media features in 7 countries). 10/22/19.

S. Luzzadder-Beach, T. Beach. 2019. "Using Water Chemistry to Understand Ancient Maya Land and Water Use Interactions." Keynote Chapter in H. Chenchouni et al. (Eds.): *Exploring the Nexus of Geoecology, Geography, Geoarcheology and Geotourism: Advances and Applications for Sustainable Development in Environmental Sciences and Agroforestry Research. Proceedings of the 1st Springer Conference of the Arabian Journal of Geosciences (CAJG-1), Tunisia 2018*. Springer Nature Switzerland AG, pp. 3-4.

T Beach, **S. Luzzadder-Beach**, S. Krause, C. Doyle. 2019. "An Early Anthropocene Analog: the Geomorphology and Hydrology of the Rio Bravo Watershed in the Belize Tropics." Keynote Chapter in Boughdiri et al (Eds.): *Paleobiodiversity and Tectono-Sedimentary Records in the Mediterranean Tethys and Related Eastern Areas: Proceedings of the 1st Springer Conference of the Arabian Journal of Geosciences (CAJG-1), Tunisia 2018* Springer Nature Switzerland AG, pp. 11-14.

T. Beach, **S. Luzzadder-Beach**, N. Dunning. 2019. "Out of the Soil: Soil (Dark Matter Biodiversity) and Societal 'Collapses' from Mesoamerica to Mesopotamia and Beyond." Ch. 5 in Partha Dasgupta, Peter Raven, Anna McIvor (Eds.), *Biological Extinction: New Perspectives*. Cambridge University Press, UK, pp. 138-174.

Heckbert, C. Isendahl, J. Gunn, S. Brewer, V. Scarborough, A.F. Chase, D.Z. Chase, R. Costanza, N. Dunning, T. Beach, **S. Luzzadder-Beach**, D. Lentz and P. Sinclair. 2019. "Growing the ancient Maya social-ecological system from the bottom up." Chapter in: *Handbook of Historical Ecology and Applied Archaeology*, C. Isendahl & D. Stump, eds. Oxford University Press, UK, pp. 302-322.

S. Krause, T. Beach, **S. Luzzadder-Beach**, T. Guderjan, F. Valdez, S. Eshleman, C. Doyle, S. Bozarth. 2019. "Ancient Maya Wetland Management in Two Watersheds in Belize: Soils, Water, and Paleoenvironmental Change." *Quaternary International*. 502: 280-295.

S. Krause, T. Beach, **S. Luzzadder-Beach**, D. Cook, G. Islebe, M.R. Palacios-Fest, S. Eshleman, C. Doyle, T. Guderjan. 2019. "Wetland geomorphology and paleoecology near Akab Muclil, Rio Bravo floodplain of the Belize coastal plain." *Geomorphology*. 331: 146-159.

N.P. Dunning, A. Anaya Hernández, T. Beach, C. Carr, R. Griffin, J. Jones, D. Lentz, **S. Luzzadder-Beach**, K. Reese-Taylor, I. Šprajc. 2019. "Margin for Error: Anthropogenic Geomorphology of Bajo Edges in the Maya Lowlands." *Geomorphology*. 331: 127-145.

2018

T. Beach, **S. Luzzadder-Beach**, C. Doyle, W. Delgado. 2018. "Environments of El Zotz: Water and Soil Chemistry, the El Zotz Dam, and Long-Term Environmental Change." Ch. 7.

in: Thomas G. Garrison and Stephen Houston (Eds.) *An Inconstant Landscape: The Archaeology of El Zotz, Guatemala*, University Press of Colorado, Boulder, CO, pp. 163-188.

N. Dunning, T. Beach, E. Graham, **S. Luzzadder-Beach**. 2018. "Maize, Manioc, Mamey and More: Precolumbian Lowland Maya Agriculture." Ch. 14 in: *The Archaeology of Caribbean and Circum-Caribbean Farmers (5000 BC - AD 1500)*, Edited by Basil A. Reid. Routledge: New York, NY: pp. 329-352.

T. Beach, **S. Luzzadder-Beach**, D. Cook, S. Krause, C. Doyle, S. Eshleman, G. Wells, N. Dunning, M. Brennan, N. Brokaw, M. Cortes-Rincon, G. Hammond, R. Terry, D. Trein, S. Ward. 2018. "Stability and instability on Maya Lowlands tropical hillslope soils." *Geomorphology*. 305(2018):185-208.

T. Beach, A. Ulmer, D. Cook, M.L. Brennan, **S. Luzzadder-Beach**, C. Doyle, S. Eshleman, S. Krause, M. Cortes-Rincon, R. Terry. 2018. "Geoarchaeology and Tropical Forest Soil Catenas of Northwestern Belize." *Quaternary International*. 463 (Part A): 198-217.

2017

S. Luzzadder-Beach, T. Beach, T. Garrison, S. Houston, J. Doyle, E. Roman, S. Bozarth, R. Terry, S. Krause, J. Flood. 2017. "Paleoecology and Geoarchaeology at El Palmar and the El Zotz Region, Guatemala." *Geoarchaeology*. 32(2017): 90-106.

T. Beach, **S. Luzzadder-Beach**, J. Flood. 2017. "Synthesis of Geoarchaeological Research around Kinet Höyük, Hatay, Turkey." Chapter 39 in: Kozal, E., M. Akar, Y. Heffron, Ç. Çilingiroğlu, T.E. Şerifoğlu, C. Çakırlar, S. Ünlüsoy, É. Jean (eds.). *Questions, Approaches, and Dialogues in Eastern Mediterranean Archaeology: Studies in Honor of Marie-Henriette and Charles Gates*. Ugarit- Verlag, Germany, pp. 771-802.

D. Hixson, T. Beach, **S. Luzzadder-Beach**, B.H. Dahlin. 2017. "Environmental Heterogeneity in the Chunchucmil Economic Region." Chapter 6 in: Scott Hutson (Editor), *Ancient Maya Commerce: Multidisciplinary Research at Chunchucmil*, University Press of Colorado, CO, pp. 139-155.

S. Luzzadder-Beach, T. Beach. 2017. "Hydrology on the Edge of the Chicxulub Crater: Chunchucmil and Ucí-Cansahcab Groundwater Resources." Chapter 7 in: Scott Hutson (Editor), *Ancient Maya Commerce: Multidisciplinary Research at Chunchucmil*, University Press of Colorado, CO, pp. 157-167.

T. Beach, **S. Luzzadder-Beach**, R.V. Sweetwood, P. Farrell, D. Mazeau, R.E. Terry. 2017. "Soils and Agricultural Carrying Capacity." Chapter 9 in: Scott Hutson (Editor), *Ancient Maya Commerce: Multidisciplinary Research at Chunchucmil*, University Press of Colorado, CO, pp. 197-219.

T.H. Guderjan, **S. Luzzadder-Beach**, T. Beach, S. Bozarth, S. Krause. 2017. "Production of Ancient Wetland Agricultural Commodities in the Maya Lowlands." Ch. 2 in: J.P. Mathews and T.H. Guderjan, (Eds.), *The Value of Things: Prehistoric to Contemporary Commodities in the Maya Region*. The University of Arizona Press, Tucson, AZ, pp. 30-48.

2016

T. Beach, **S. Luzzadder-Beach**, N. Dunning, D. Cook. 2016. "Climatic changes and collapses in Maya history." *Past Global Changes (PAGES) Magazine*, 24(2):66-67.

S. Luzzadder-Beach, Timothy Beach, Scott Hutson, Samantha Krause. 2016. "Sky-earth, Lake-sea: climate and water in Maya history and landscape." *Antiquity*. 90:426- 442.

L. Aebersold, T. Beach, **S. Luzzadder-Beach**, T. Guderjan, F. Valdez. 2016. "The Blue Creek Rejollada Revisited: Transitional Imprints on Sedimentological Records." *Center for Archaeological and Tropical Studies Occasional Papers*. 21: 33-48.

S. Krause, T. Guderjan, T. Beach, **S. Luzzadder-Beach**. 2016. "Sixty Years of Remote Sensing in the Maya Lowlands: A Review of Techniques and Tools." *Center for Archaeological and Tropical Studies Occasional Papers*. 21: 61-80.

T. Guderjan, S. Krause, **S. Luzzadder-Beach**, T. Beach, C. Brown. 2016. "Visualizing Maya Agriculture Along the Rio Hondo: a Remote Sensing Approach." In: *Perspectives on the Ancient Maya of Chetumal Bay*, edited by Debra Walker. University Press of Florida, FL, pp. 92-106.

2015

T. Beach, **S. Luzzadder-Beach**, D. Cook, N. Dunning, D. Kennett, S. Krause, R. Terry, D. Trein, F. Valdez. 2015. "Ancient Maya Impacts on the Earth's Surface: An Early Anthropocene Analog?" *Quaternary Science Reviews*. 124(2015): 1-30.

T. Beach, **S. Luzzadder-Beach**, S. Krause, S. Walling, N. Dunning, J. Flood, T. Guderjan, F. Valdez. 2015. "Mayacene' Floodplain and Wetland Formation in the Rio Bravo Watershed of Northwestern Belize." *The Holocene*. 25(10):1612-1626.

T. Beach, **S. Luzzadder-Beach**, T. Guderjan, S. Krause. 2015. "The Floating Gardens of Chan Cahal: Soils, Water, and Human Interactions." *Catena*. 132(2015): 151-164.

T. Beach, **S. Luzzadder-Beach**, J. Flood, S. Houston, T. Garrison, E. Román, S. Bozarth, J. Doyle. 2015. "A Neighborly View: Water and Environmental History of the El Zotz Region." Ch. 12 in D. Lentz, N. Dunning, V. Scarborough eds. *Tikal: Paleoeology of an Ancient Maya City*. Cambridge University Press, UK, pp. 258-279.

2014

N. Dunning, D. Wahl, T. Beach, J.G. Jones, **S. Luzzadder-Beach**, C. McCane. 2014. "The End of the Beginning: Drought, Environmental Change, and the Preclassic to Classic Transition in the Maya Lowlands." Ch. 6 in: *The Great Maya Droughts in Cultural Context: Case Studies in Resilience and Vulnerability*, Gyles Iannone (ed.) University Press of Colorado, CO, pp. 107-126.

2013

N.P. Dunning, T. Beach, L. Grasiozo Sierra, J.G. Jones, D.L. Lentz, **S. Luzzadder-Beach**, V.L. Scarborough, M.P. Smyth. 2013. "A Tale of Two Collapses: Environmental Variability and Cultural Disruption in the Maya Lowlands." *Dialogo Andino*. 41:171-183.

A.B. Owusu, G. Cervone, **S. Luzzadder-Beach**. 2013. "Analysis of Desertification in the Upper East Region (UER) of Ghana Using Remote Sensing, Field Study and Local Knowledge." *Cartographica*. 48(1):22-37.

T. Beach, **S. Luzzadder-Beach**, J.C. Lohse. 2013. "Landscape formation and agriculture in the wetlands of Northwestern Belize." Ch. 3 in *Classic Maya political ecology: Resource management, class histories, and political change in northwestern Belize*. Jon C. Lohse (ed.). Cotsen Institute of Archaeology Press, UCLA: Los Angeles CA. pp. 43-67.

T. Beach, **S. Luzzadder-Beach**. 2013. "Precolumbian people and the wetlands in Central and South America." Ch. 6 in *The Oxford Handbook of Wetland Archaeology*, Francesco

Menotti and Aidan O'Sullivan (eds.). Oxford University Press: UK, pp. 83-103.

2012

S. Luzzadder-Beach, T.P. Beach, N.P. Dunning. 2012. "Wetland fields as mirrors of drought and the Maya abandonment." *Proceedings of the National Academy of Sciences*. 109(10):3646-3651.

N.P. Dunning, T.P. Beach, **S. Luzzadder-Beach**. 2012. "Kax and Kol or Collapse and Resilience in Lowland Maya Civilization." *Proceedings of the National Academy of Sciences*. 109(10):3652-3657.

D. Howard, **S. Luzzadder-Beach**, T. Beach. 2012. "Field evidence and hydraulic modeling of a large Holocene Jokulhlaup at Jokulsa a Fjollum channel, Iceland." *Geomorphology*. 147-148:73-85.

2011

S. Luzzadder-Beach, T.P. Beach, R.E. Terry, K.Z. Doctor. 2011. "Elemental Prospecting and Geoarchaeology in Turkey and Mexico." *Catena*. 85(2):119-129.

T. Beach, **S. Luzzadder-Beach**, R. Terry, N. Dunning, S. Houston, T. Garrison. 2011. "Carbon Isotopic Ratios of Wetland and Terrace Soil Sequences in the Maya Lowlands of Belize and Guatemala." *Catena*. 85(2):109-118.

2010

S. Luzzadder-Beach, D. Wong. 2010. "The Roles of GIS in Studying Global Climate and Environmental Change." Section 8.4 of Ch. 8 ("Environmental and Related Applications", J.L. Aron, **S. Luzzadder-Beach**, M. Sun, F. Wang, L.E. Jackson, G. Susanke, E. Washburn, J. White, D. Wong, C. Yang, and S. Young, pp. 303-349). In book: *Advanced GeoInformation Science*, D. Wong, P. Yang, R. Yang Eds. (GMU), CRC/Taylor and Francis, LLC, pp. 328-337.

T.H. Guderjan, J.W. Barrett, T. Beach, S. Bozarth, W.T. Brown, B. Dickson, P. Greaves, **S. Luzzadder-Beach**, T. Preston, S. Reichardt, R. Warden, M. Wolf. 2010. Current Research in Northwestern Belize in 2008 and 2009. *Research Reports in Belizean Archaeology*, Vol. 7, 2010, pp. 219-228.

T.H. Guderjan, T. Beach, S. Bozarth, C. Hanratty, **S. Luzzadder-Beach**, T. Preston. 2010. "New Information about the Demise of a Maya City: Fieldwork at Blue Creek, Belize, 2006 and 2007." *Mexicon: Journal of Mesoamerican Studies*. 32(1/2):15-22.

2009 and Before

T. Guderjan, T. Beach, **S. Luzzadder-Beach**, S. Bozarth. 2009. "Understanding the Causes of Abandonment in the Maya Lowlands." *Archaeological Review from Cambridge*. Vol. 24(2): 99-121.

S. Luzzadder-Beach and T. Beach. 2009. "Arising from the Wetlands: Mechanisms and Chronology of Landscape Aggradation in the Northern Coastal Plain of Belize." *Annals of the Association of American Geographers*. 99(1):1-26. (**G.K. Gilbert Award 2010**)

T. Beach, **S. Luzzadder-Beach**, N. Dunning, J. Jones, J. Lohse, T. Guderjan, S. Bozarth, S. Millspaugh, T. Bhattacharya. 2009. "A Review of Human and Natural Changes in Maya Lowlands Wetlands over the Holocene." *Quaternary Science Reviews*. 28(17-18): 1710-1724.

- N. Dunning, T. Beach, **S. Luzzadder-Beach**, J.G. Jones. 2009. "Creating a stable landscape: soil conservation and adaptation among the ancient Maya." Chapter 4 in book: *The Archaeology of Environmental Change: Socionatural Legacies of Degradation and Resilience*. Chris. T. Fisher, J. Brett Hill, and Gary M. Feinman (eds.), University of Arizona Press, Tucson AZ, pp. 85-105.
- S. Luzzadder-Beach**, T. Beach. 2008. "Water Chemistry Constraints and Possibilities for Ancient and Contemporary Maya Wetlands." *The Journal of Ethnobiology*. 28(2): 211-230.
- T.P. Beach, **S. Luzzadder-Beach**. 2008. "Geoarchaeology and Plain Aggradation around Kinet Höyük, an Archaeological Mound in the Eastern Mediterranean, Turkey." *Geomorphology*. 101(3): 416-428.
- T. Beach, **S. Luzzadder-Beach**, Nicholas Dunning, Duncan Cook. 2008. "Human and Natural Impacts on Fluvial and Karst Depressions of the Maya Lowlands." *Geomorphology*. 101(1-2): 308-331.
- S. Luzzadder-Beach**, T. Beach. 2006. "Wetlands as the Intersection of Soils, Water, and Indigenous Human Society: Patterns in the Americas." Chapter 5 in book: *Soils and Societies: Perspectives from Environmental History*. John McNeill and Verena Winiwarter (eds), The White Horse Press: Isle of Harris, UK., pp. 90-117. (Book reissued in Second Printing 2010).
- T. Beach, **S. Luzzadder-Beach**, N.P. Dunning. 2006. "A Soils History of Mesoamerica and the Caribbean Islands." Chapter 4 in book: *Soils and Societies: Perspectives from Environmental History*. John McNeill and Verena Winiwarter (eds), The White Horse Press, Isle of Harris, UK., pp. 51-90. (Book reissued in Second Printing 2010).
- N. Dunning, T. Beach, **S. Luzzadder-Beach**. 2006. "Environmental Variability Among Bajos in the Southern Maya Lowlands and its Implications for Ancient Maya Civilization and Archaeology." Chapter 5 in book *PreColumbian Water Management: Ideology, Ritual, and Power*. Lisa Lucero and Barbara Fash (eds.), University of Arizona Press, Tucson AZ, pp. 81-99.
- T. Beach, N. Dunning, **S. Luzzadder-Beach**, J. Lohse, D.E. Cook. 2006. "Impacts of the Ancient Maya on Soils and Soil Erosion in the Central Maya Lowlands." *Catena* 65 (2): 166-178.
- B. Dahlin, T. Beach, **S. Luzzadder-Beach**, S. Hutson, A Magnoni, D. Mazeau, G. Mansell. 2005. "Reconstructing Agricultural Self-Sufficiency at Chunchucmil, Yucatan, Mexico." *Ancient Mesoamerica*. 16(2): 229-247.
- J.C. Lohse, T. Beach, **S. Luzzadder-Beach**, Nicole Little. 2005. "Political Ecology in Upper Northwestern Belize." *Research Reports in Belizean Archaeology*, Vol. 2: 387-403. Institute of Archaeology, NICH, Belize.
- J.C. Lohse, T. Beach, L. Kosakowsky, and **S. Luzzadder-Beach**. 2004. Regional Views on the Late Classic from the Blue Creek Area of Northwestern Belize." *Research Reports in Belizean Archaeology*, Vol. 1:211-222. Institute of Archaeology, NICH, Belize.
- N. Dunning, J. Jones, T. Beach, **S. Luzzadder-Beach**. 2003. "Physiography, Habitats, and Landscapes of the Three Rivers Region." Ch. 2 in book *Heterarchy, Political Economy, and the Ancient Maya: The Three Rivers Region of the East-Central Yucatan Peninsula*, V. Scarborough, F. Valdez, Jr., and N. Dunning. (eds.) University of Arizona Press, Tucson

AZ, pp. 14-24.

T.P. Beach, **S. Luzzadder-Beach**, N. Dunning, V. Scarborough. 2003. "Depression Soils in the Lowland Tropics of NW Belize: Anthropogenic and Natural Origins." Ch. 8 in book *Lowland Maya Area: Three Millennia at the Human-Wildland Interface*, Arturo Gómez-Pompa, Michael F. Allen, Scott L. Fedick, & Juan J. Jiménez-Osornio (eds.), The Haworth Press, Binghamton NY, pp. 139-174.

T. Beach, **S. Luzzadder-Beach**, J. Hageman, J. Lohse. 2002. "Upland Agriculture in the Maya Lowlands: Ancient Conservation in Northwestern Belize." *The Geographical Review*. 92(3): 372-397.

N.P. Dunning, **S. Luzzadder-Beach**, T. Beach, J.G. Jones, V. Scarborough, T.P. Culbert. 2002. "Arising from the *Bajos*: The Evolution of a Neotropical Landscape and the Rise of Maya Civilization." *Annals of the Association of American Geographers*. 92(2): 267-283.

S. Luzzadder-Beach. 2000. "Water Resources of the Chunchucmil Maya." *The Geographical Review*. 90(4): 493-510

S. Luzzadder-Beach, Allison Macfarlane. 2000. "The Environment of Gender and Science: Progress in Physical Geography." *The Professional Geographer*. 52(3): 407-424.

T. Beach, **S. Luzzadder-Beach**. 2000. "The Physical Geography and Environmental Archaeology of the Alanya Region (Turkey)." Chapter 4 in *Landscape and the State in Medieval Anatolia: Seljuk Pavilions and Gardens of Southern Turkey*. Scott Redford (ed.), Archaeopress, Oxford UK, pp. 115-136; 286-293.

1987-1999

N. Dunning, V. Scarborough, F. Valdez, **S. Luzzadder-Beach**, T. Beach, J. Jones. 1999. "Temple Mountains, Sacred Lakes, and Fertile Fields: Ancient Maya Landscapes in northwestern Belize." *Antiquity*. 73(281):650-660.

Macfarlane, **S. Luzzadder-Beach**. 1998. "Achieving Equity Between Women and Men in the Geosciences." *Geological Society of America Bulletin*. 110(12):1590-1614.

Dahlin, A. Andrews, T. Beach, C. Bezanilla, P. Farrell, **S. Luzzadder-Beach**, V. McCormick. 1998. "Punta Canbalam in Context: A peripatetic coastal site in northwest Campeche, Mexico." *Ancient Mesoamerica*. 9(1):1-15.

N. Dunning, T. Beach, P. Farrell, **S. Luzzadder-Beach**. 1998. "Prehispanic Agrosystems and Adaptive Regions in the Maya Lowlands." *Culture and Agriculture*. 20(2/3):87-101.

S. Luzzadder-Beach. 1997. "Spatial Sampling Strategies for Detecting a Volcanic Ground Water Plume in Sierra Valley, California." *The Professional Geographer*. 49(2):179-192.

S. Luzzadder-Beach. 1995. "Evaluating the Effects of Spatial Monitoring Policy on Ground Water Quality Portrayal." *Environmental Management*. 19:383-392.

S. Luzzadder-Beach. 1992. "Come Taste this Cool, Clean Water: History of California's Ground Water Quality Monitoring Program." *California Geographer*. 32: 51-60.

S. Luzzadder Beach. 1989. "Comparison and Evaluation of Ground Water Quality in Surprise Valley and Alturas Basin using Thornthwaite's Evapotranspiration Model." *California Geographer*. 29: 103-117.

S. Luzzadder Beach. 1987. "Ground Water Data Collection for a Water Resources Geographic Information System." Chapter 14 in *File Structure Design and Data Specifications for Water Resources Geographic Information Systems*, D. Brown & P. Gersmehl (eds.), Water Resources Research Center (WRRC), University of Minnesota, St. Paul MN, pp. 14-1 to 14-22.

Published Monograph:

S. Luzzadder-Beach, P. Gersmehl, C. Gersmehl, M. Solem, S. Gallagher, J. Lee, W. Boykin, C. West, D. Howard. 2008. *Teacher's Guide, Project Geo-START: Geo-Spatial Thinking Activities and Resources for Teachers of Geography and Earth Science*. Association of American Geographers, Washington DC, Guide & Activities, 48pp.

Encyclopedia Entries Published:

S. Luzzadder-Beach. 2017. Aquifers. *The International Encyclopedia of Geography: People, the Earth, Environment, and Technology*. Association of American Geographers Washington DC and Wiley, pp. 194-198. ISBN: 978-0-470-65963-2

S. Luzzadder-Beach and J. Flood. 2017. Water Banking. *The International Encyclopedia of Geography: People, the Earth, Environment, and Technology*. Association of American Geographers Washington DC and Wiley, pp. 7604-7606. ISBN: 978-0-470-65963-2

S. Luzzadder-Beach. 2016. Groundwater/water table. *The Encyclopedia of the Ancient Maya*, Walter Witschey, Editor. Rowman & Littlefield, pp. 164-165. ISBN: 978-0759122840

S. Luzzadder-Beach. 2016. Chicxulub Crater (and the Cenote Zone). *The Encyclopedia of the Ancient Maya*, Walter Witschey, Editor. Rowman & Littlefield, pp. 85-86. ISBN: 978-0759122840

AAG Presidential Columns (Creative Works/Editorials/Op-Eds):

Sheryl Luzzadder-Beach. 2019. (Op-Ed). "Postcard from Mesoamerica." *President's Column, American Association of Geographers Newsletter*. 4 June 2019. DOI: 10.14433/2017.0055

Sheryl Luzzadder-Beach. 2019. (Op-Ed). "Geography, Green Resolutions, and Graduation." *President's Column, American Association of Geographers Newsletter*. 16 May 2019. DOI: 10.14433/2017.0054

Sheryl Luzzadder-Beach. 2019. (Op-Ed). "Harassment-Free AAG: Moving Forward." *President's Column, American Association of Geographers Newsletter*. 23 April 2019. DOI: 10.14433/2017.0053

Sheryl Luzzadder-Beach and Lorraine Dowler. 2019. (Op-Ed). "Harassment-Free AAG: What to expect at the Washington D.C. Meeting." *President's Column, American Association of Geographers Newsletter*. 5 March 2019. DOI: 10.14433/2017.0052

Sheryl Luzzadder-Beach. 2019. (Op-Ed). "AAG Election Underway and Looking Forward to the Annual Meeting in Washington DC in April!" *President's Column, American*

Association of Geographers Newsletter. 1 February 2019. DOI: 10.14433/2017.0051

Sheryl Luzzadder-Beach. 2019. (Op-Ed). “Share Your Science, and Make a Difference with Geography at the AAG Annual Meeting in April 2019.” *President's Column, American Association of Geographers Newsletter*. 8 January 2019. DOI: 10.14433/2017.0050

Sheryl Luzzadder-Beach. 2018. (Op-Ed). “Paradise Lost, Global Warming Report, and Geographers Speak Up.” *President's Column, American Association of Geographers Newsletter*. 30 November 2018. DOI: 10.14433/2017.0048

Sheryl Luzzadder-Beach. 2018. (Op-Ed). “Geography and Climate Change in the 21st Century: Keeping our Eyes on the Prize.” *President's Column, American Association of Geographers Newsletter*. 2 October 2018. DOI: 10.14433/2017.0045

Sheryl Luzzadder-Beach. 2018. (Op-Ed). “Watershed Moments.” *President's Column, American Association of Geographers Newsletter*. 6 November 2018. DOI: 10.14433/2017.0047

Sheryl Luzzadder-Beach. 2018. (Op-Ed). “A New Academic Year.” *President's Column, American Association of Geographers Newsletter*. 1 September 2018. DOI: 10.14433/2017.0043

Sheryl Luzzadder-Beach. 2018. (Op-Ed). “Postcards from the Mediterranean: Groundwater, Glaciers, and Geoparks.” *President's Column, American Association of Geographers Newsletter*. 1 August 2018. DOI: 10.14433/2017.0039

Sheryl Luzzadder-Beach. 2018. (Op-Ed). “Toddlers and Tears on the Texas Border.” *President's Column, American Association of Geographers Newsletter*. 1 July 2018. DOI: 10.14433/2017.0037

Published Archaeological Reports:

N. Brokaw, S. Ward, T. Beach, **S. Luzzadder-Beach**, M. Cortes-Rincon, S. Walling. (2017). 2015 Field Season Report: The Maya Forest Project, Rio Bravo Conservation and Management Area, Belize. *Research Reports from the Programme for Belize Archaeological Project, Vol. 10. F. Valdez and L. Sullivan (Eds). Center for Archaeological and Tropical Studies Occasional Papers, No. 22.* The University of Texas at Austin. Pp. 155-158.

Book Reviews in Journals:

S. Luzzadder-Beach. 1997. Review of J. E. Barbash & E. A. Resik (1996), *Pesticides in Ground Water: Distribution, Trends, and Governing Factors*. MI: Ann Arbor Press. *Journal of the American Water Resources Association* 33(2):499-500.

S. Luzzadder-Beach. 1992. Review of A. Dzurik, (1990) *Water Resources Planning*. Rowman & Littlefield Publishers, Inc. *Professional Geographer* 44:116.

Peer Reviewed Articles, Book Chapters, and Edited Volumes Submitted or in Preparation:

S. Krause, T. Beach, **S. Luzzadder-Beach**, D. Cook, S. Bozarth, F. Valdez, T. Guderjan (Submitted). Tropical Wetland Persistence through the Anthropocene: Multiproxy reconstruction of environmental change in a Maya agroecosystem. *Anthropocene*.

Submitted 18 August 2020.

J.J. Kwoka, T.H. Guderjan, S. Eshleman, T. Ruhl, J. Telepak, T. Beach, **S. Luzzadder-Beach**, W. McClatchey, and G. Bascopé. (In Review). A Multimethod Approach to the Study of Classic Maya Houselots and Land Tenure: Preliminary Results from the Three Rivers Region, Belize. *Journal of Archaeological Science: Reports*. Submitted 13 August 2020.

J. Flood, **S. Luzzadder-Beach**, T. Beach. (In Revision). “Groundwater Geochemistry and Oracular Phenomena at the Temples of Apollo at Delphi, Didyma and Claros.” Revising to resubmit August 2020.

T. Beach, **S. Luzzadder-Beach**. (In Review). “The Kinet Höyük region and coastline: geography, geomorphology, climate, maritime environment.” Chapter 1.2 in: *Kinet Final Reports vol. 1: Journal of Eastern Mediterranean Archaeology and Heritage Studies*. With Editor. Submitted January 2019.

T. Beach, **S. Luzzadder-Beach**, and B.L. Turner, II. (In progress) Special Issue of *Progress in Physical Geography* on Long-Term Human Environmental Change of the Maya Lowlands. This has eight articles with 15 authors from Geography, Geology, Ecology, Archaeology, and Engineering from Mexico, Puerto Rico, the US, Nicaragua, and Australia. Articles due for review: 30 December 2020. Special issue accepted 2/20.

GRANTS AND CONTRACTS

Extramural Grants, Funded:

2020. *American Association for the Advancement of Science: Science and Human Rights Coalition Rapid Response Project Grant*. **S. Luzzadder-Beach, PI** (UT, AAG); **Co-PIs** Gary Langham (AAG), Coline Dony (AAG), and Emile Fetke (AAG). “Uncharted Territory: Geographers Respond to the Health and Human Rights Crisis of COVID-19.” **\$3000** in support of software license fees for online meeting platforms for April 2020 AAG Virtual Annual Meeting Breaking Theme Sessions. Performance Period: 3/30/20-8/31/20.

2019-21. *National Science Foundation- BCS Archaeology*. Award # 1821932. **S. Luzzadder-Beach, Senior Personnel**, Co-Director of Paleoenvironmental Investigations. (PI: T. Garrison, Ithaca College). “Military Origins of Middle America.” **Total Funded: \$137,575**. UT Portion: Field Research Travel for 2 faculty, and Lab Analyses for 2 years. Performance Period: 9/1/18-8/31/21.

2019-21. *National Endowment for the Humanities*. **S. Luzzadder-Beach, Participant**, Paleoenvironmental Specialist. (Director: S. Houston, Brown U.; Co-Director: T. Garrison, Ithaca College) “Citadels and Surveillance: State Defense of the Classic Maya Fortresses of La Cuernavilla.” **Total Funded: \$217,026**. UT Portion: Field Research Travel for 2 faculty, and Lab Analyses for 3 years. Performance Period: 5/1/19-12/31/21.

2018-20. *Australian Research Council*. **S. Luzzadder-Beach, Partner Investigator (co- PI)**. (Chief Investigators/PI's: Dan Penny, Sydney University and Duncan Cook, Australian Catholic University; Partner Investigators/co-PI's: T. Beach UT, L. Graham U.C. London, D. McGee MIT, Q. Hua, ANSTO). “Disruption and persistence: resolving the Maya climate-collapse hypothesis.” Amount awarded:

- 2018: AUD\$104,000; 2019: AUD\$50,000; 2020: AUD\$58,846. **Total funded: AUD \$208,846 (=USD \$158,263.)** UT Portion; field and lab support for 2 faculty. Performance Period: 1/1/18-12/31/20.
- 2009-16. *National Science Foundation- BCS-Geography and Geospatial Sciences Grants*. Award # 0924501 (GMU 2009-15) and New Award # 1550204 (UT 2015-16). **S. Luzzadder-Beach, PI.** (Collaborating PI: T. Beach, University of Texas/Georgetown U.: #0924510). "Collaborative Research: Perennial Wetland Formation and Human Adaptation in NW Belize" Awarded 14 September 2009 (GMU). Total Budget Awarded: **\$322,520.00. GMU Portion: \$281,782.00** (Lab support, field expenses, 2 yr. GRA). **\$76,257.00** transferred to UT 6/2015. Performance Period: 9/1/2009-8/31/2016.
- 2011-16. *National Science Foundation- GEO- Dynamic Coupled Natural-Human Systems* #1114947. **S. Luzzadder-Beach, Co-PI.** (PI: N. Brokaw, Univ. of Puerto Rico; other Co-PIs; M. Cortes-Rincon Humboldt State; S. Walling Com. Coll. Philadelphia; S. Ward UPR). "CNH-Ex: The Collapse of the Ancient Maya: Multi-Disciplinary Research on Society and the Environment". GMU Portion (**S. Luzzadder-Beach subcontract PI**): **\$59,308.00**, contract ended 12/13. Remaining Funding used while at UT to acquire LiDAR, 2016. Total Budget: **\$249,770.00**. Awarded 12/2011. Performance Period: 9/1/2011-9/31/2016.
- 2014-16. *National Science Foundation. EAR- RAPID* #1461529. **S. Luzzadder-Beach, Co- PI.** (Dr. D.A. Howard PI, SFS/STIA Georgetown University; Dr. T. Beach Co-PI, UT GRG; Dr. J. McNeill Co-PI, History and SFS Georgetown U.). "RAPID: Monitoring the glacial-outburst flood (jökulhlaup) resulting from the eruption of Barðarbunga Volcano, Iceland". Awarded 11/5/14. Total Budget: **\$25,735.00**. Performance Period: 11/15/14-10/16/16.
- 2014-16. *National Geographic Society Committee for Research and Exploration*. #9536-14. **S. Luzzadder-Beach, Consulting Scientist.** (Dr. B. Faust, PI, Centro de Investigacion Cientifica de Yucatan, Recursos Naturales) "Research on Irrigation and Drainage Functions of Maya Canals at Cauich, Campeche, Mexico." Total budget: **\$19,837.00**. Awarded 31 May 2014. Performance Period: 1 July 2014-15 August 2016.
- 2011-15. *National Science Foundation- BCS- Archaeology Grants*. GMU Award # 1063691 and UT Award #1456310. **S. Luzzadder-Beach, PI.** "Collaborative Research: Uci-Cansahcab Regional Integration Project." GMU Portion: **\$27,700.00.** (GMU Lab support, Yucatan Mexico field expenses). Collaborating Institutions PIs: Scott Hutson, University of Kentucky; Richard Terry, BYU. **Total collaborative budget: \$218,743.00.** Performance Period: 6/1/2011-5/31/2015. Awarded 1/11/11 (GMU) transferred to UT 2/2015, UT portion \$24,365.
- 2010-12. *National Science Foundation- ARC- Arctic Sciences Grants*. **S. Luzzadder-Beach, PI/Lab Director** (GMU Co PI Dr. L. Perry, CEOSR-GMU). ARC 1058103 "EAGER: Linking archaeological starch residues with ancient behaviors". George Mason University. Awarded 08/31/2010. Performance period 9/1/10-8/31/12. Total award to GMU: **\$82,348.00.** Special Subcontract (\$70,080) to *Foundation for Archaeobotanical Research in Microfossils*, Dr. Linda Perry, PI and *FARM* Director, is conducting this research in my GMU lab.
- 2009-11. *National Science Foundation- BCS-Archaeology Grants*. Award # 0840930. **S. Luzzadder-Beach, Senior Scientist-Hydrologist.** (PIs: S. Houston, T. Garrison, Brown U.). "Landscape Succession in Lowland Maya Archaeology."

- Awarded November 2008. Budget Awarded: **\$247,664.00. GMU Portion:** Lab support + field travel expenses. Performance Period: 1 March 2009-31 July 2011.
- 2008-09. *National Science Foundation- BCS-Geography Dissertation Improvement Grants*. Award # 0825621. **S. Luzzadder-Beach, PI.** (D. Howard, student Co-PI) “Doctoral Dissertation Research: Quantitative Hydraulic Models for Jokulhlaup- Type Outflow Channels on Mars: Application of Earth Analogues, Geomorphology, and Remote Sensing.” Awarded 1 June 2008. Budget awarded: **\$11,343.00.** Performance Period: 1 June 2008-31 May 2009.
- 2008-09. *National Geographic Society CRE. S. Luzzadder-Beach, Co-Investigator.* (Investigator: T. Guderjan, Maya Research Program; Co-Is: T. Beach, Georgetown University, S. Bozarth, U. Kansas) “Excavation and Analysis of a Well-Preserved Ancient Maya Fieldhouse Associated with Ancient Ditched Field Agricultural Systems at the Classic Maya City of Blue Creek, Belize.” *Blue Creek Archaeological Project, Maya Research Program*. Awarded January 2008. **\$23,160.00.** Performance Period: 1 May 2008-1 May 2009.
- 2007-09. *Borlaug-LEAP Foundation, Regents of the University of California/USAID, S. Luzzadder-Beach, PI,* Fellowship for GMU PhD Student A. Owusu (**Co-I**): “Detection and Quantification of the Extent of Desertification and its Impacts in Semi-Arid, Sub-Saharan Africa: Case Study of the Upper Region of Ghana.” Awarded 15 November 2007. **\$19,660.50.** Performance Period: 11/15/07-04/15/09.
- 2006-07. *National Aeronautics and Space Administration Award #NNG06GF76G.* “Project Geo-START: Geo-Spatial Thinking Activities and Resources for Teachers of Geography and Earth Science” *NN-H-04-Z-YO-006-N: Inspiring the Next Generation of Earth Explorers: Integrated Solutions for K-16 and Informal Education, Diversity Focus. S. Luzzadder Beach, PI (AAG and GMU);* M. Solem, Co-I (AAG); Collaborators at Howard University and Hunter University, + GRAs. Awarded 16 March 2005; Funding allocated 1 April 2006: **\$93,000.00** (AAG); **GMU share: \$21,000.00** (includes GRA support). Performance period 1 April 2006-31 December 2007.
- 2005-06. *National Geographic Society. CRE GRANT 7861-05. S. Luzzadder-Beach, Co- Investigator.* (Investigator: T. Beach, Georgetown University, Co-I: J. Lohse, UT Austin Arch. Lab). “Natural and Ancient Maya Factors in Patterned Ground Formation in Wetlands of the Maya Lowlands” *Blue Creek Archaeological Project. Ancient Maya Wetland Agricultural Investigation*. Awarded May 2005. **\$19,955.00.** Performance Period: 15 May 2005-1 April 2006.
- 2003-04. *National Geographic Society. CRE GRANT 7506-03. S. Luzzadder-Beach, Co- Investigator.* (Investigator: T. Beach, Georgetown University; Co-Is: J. Lohse, UT Austin Arch. Lab and J. Jones, Central Washington U.) “Environmental change in the wetlands of northwestern Belize” *Blue Creek Archaeological Project. Ancient Maya Wetland Agricultural Investigation*. Awarded July 2003. **\$18,900.00.**
2003. *National Science Foundation, Archaeology. S. Luzzadder-Beach, Collaborating Scientist: Hydrologist.* (PI Dr. M. Masson, Anthropology Dept., SUNY Albany.). Mayapan- Maya Archaeology Program. Field and Lab Expenses.

- 1999-2002. *National Science Foundation, Archaeology*. **S. Luzzadder-Beach, Senior Scientist: Hydrologist**. (PI B. Dahlin, Soc./Anth. Dept., Howard Univ.). Chunchucmil Regional Economic and Environmental Project- Maya Archaeology. Field and lab expenses.
1998. *National Geographic Society*. **S. Luzzadder-Beach, Co-Investigator**. Geoarchaeology field project in Yucatan MX. "Environmental Investigation of Maya Archaeological Site, Chunchucmil, MX." (PI B. Dahlin, Soc./Anth. Dept., Howard Univ., Co-I Dr. T. Beach, Georgetown Univ.) Total: **\$21,597.00**.
1998. *National Aeronautics and Space Administration*. **S. Luzzadder-Beach, Research Faculty Contract**. (Co-Investigator: D. Wong; PI: M. Kafatos, Dir., CEOSR, GMU) "Protocol for Packaging and Disseminating TRMM and DAAC Global Change Data for Use by Earth Science, GIS and Remote Sensing Communities." GMU GES Total: **\$12,000**. Summer 1998.
1998. *A. W. Mellon Foundation*. "Geography, Exploration, and Observation." **S. Luzzadder-Beach, Discussant, Mellon Seminar Georgetown University** (PI: Dr. J. Collins, History Dept. Georgetown University). GMU: **\$500** Stipend. 30 June 1998.
- 1997-1998. *National Science Foundation, Archaeology*. **S. Luzzadder-Beach, Senior Scientist: Hydrologist**. La Milpa Archaeological Site, Belize, Central America. "An Accretive Model of Ancient Maya Land and Water Use." (PIs: Dr. N. Dunning, V. Scarborough, U. Cincinnati Geography & Anth. Depts.). Total: \$249,514. GMU: ca. **\$3,000**.
1997. *National Geographic Society*. **S. Luzzadder-Beach, Co-Investigator**. Geoarchaeology field project in Yucatan MX. "Environmental Investigation of Maya Archaeological Site, Chunchucmil, MX." (PI B. Dahlin, Soc./Anth. Dept., Howard Univ; Co-I Dr. T. Beach, Georgetown Univ.) Total: **\$20,122**.
1996. *National Geographic Society*. **S. Luzzadder-Beach, Senior Scientist: Hydrologist**. Environmental Archaeology field project (Bronze Age site Tell Um Al Marra) in Aleppo, Syria. "Archaeological Survey of Jabbul Plain, Western Syria." (PI Dr. G. Schwartz, Nr. Eastern Studies, Johns Hopkins Univ.) Total: **\$18,479**. GMU: ca **\$1,000**. Field expenses.
1996. *National Geographic Society*. **S. Luzzadder-Beach, Senior Scientist: Hydrologist**. Geoarchaeology field project in Alanya, Turkey. "Agricultural and Hydrologic Potentials of 14th Century Seljuk Walled Gardens of Alanya." (PI S. Redford, SFS, Georgetown Univ.) Total: **\$9,000**. GMU: ca **\$2,000**. Field expenses.
- 1995-96. *Association of American Geographers, Anne U. White Fund*. **S. Luzzadder-Beach, PI**. (Co-PI, Dr. T. Beach, Georgetown U.). "Dry Season Investigation of Ancient Maya Land and Water Resources in Northwestern Yucatan, Mexico." Field work funding award. Total \$500. GMU: **\$500**.
1995. *AAG/Gamma Theta Upsilon*. Visiting Geographical Scholar Program. **S. Luzzadder-Beach, PI**. (Co-PI, Dr. D. Davis, UDC.) Visit and Lecture, Dr. L. Brown Ohio State U, for Geography Awareness Week. GMU: ca **\$300**.
1994. *National Science Foundation, Archaeology*. **S. Luzzadder-Beach, Senior**

Scientist: Hydrology and GIS. Geoarchaeology field project in Yucatan MX. "Environmental Investigation of Maya Archaeological Sites Canbalam and Chunchucmil, MX." (PI B. Dahlin, Soc./Anth., Howard U.) GMU: ca. **\$2,000.**

Intramural Grants and Contracts, Funded:

- 2019-20. UT Office of the Provost Cluster Hire Initiative. **S. Luzzadder-Beach Co-PI.** (co PI's David Stuart ARTH, Tim Beach GEOG, Fred Valdez ANTH, Virginia Garrard LLILAS, Danny Law LING, Astrid Runggaldier ARTH). *Cluster Hire in Maya Environment, Religion, and Archaeology.* 4 Tenure Track Faculty Positions and \$500,000 startup. ~ **\$1,000,000 total budget.** Funded by *Office of the Provost and VP for Research Bridging Barriers Program.* (Original Proposal had 3 positions).
- 2019-pres. **Endowed Professorship, Raymond Dickson Centennial Professor #1,** University of Texas - Austin. 1 September 2019- Present. \$20,000/year, plus support for 1 Graduate Research Assistant per year.
- 2019-20. *UT Austin, College of Liberal Arts, and Office of the Provost. Faculty research Award, and Special Faculty Research Assignment.* **PI.** Two long semesters of paid academic research leave, full salary with 100% teaching relief. "Geoarchaeology of the Ancient Maya, Raised Fields and Remote Sensing." **Total budget ~\$192,000 plus fringe.**
- 2017-pres. *UT Austin VP for Research. Bridging Barriers Research Initiative.* "Planet Texas 2050: Planning for a Resilient Texas." **S. Luzzadder-Beach Participating Investigator.** (Principal Investigators: J. Banner, M. Corsi, H. Houser, K. Lieberknecht, A. Rabinowitz, L. Rodriguez, M. Young). Initial Funding: \$1 million for 2018. Participating in 3 sub-themes: Past Societies; Urban Watershed Evolution; and Communications, Arts, & Culture. Total Internal Funding: \$7 Million over 5-7 years. ***DETAILS:**
***2017-2020.** UT Austin: PT 2050. *Resources, Stress, and Population Dynamics in Premodern Urban Societies* (PI Adam Rabinowitz); **S. Luzzadder-Beach, Past Societies Project Team Member,** with Faculty T. Beach, R. Taylor, A. Runggaldier, F. Valdez, and S. Krause. Belize, Romania, Rome, Texas. Overall 17-19 budget (Rabinowitz PI) = \$149,946. Overall new 19-20 budget = \$65,978. **GRG Portion (Beach and Luzzadder-Beach) 2017-2020: \$39,389.**
***2017-2019.** UT Austin: PT 2050. *Urban Long-Term Watersheds: Sicily Italy and Texas History (ULTWITH)* (PI Heather Houser); **ULTWITH Team member** with T. Beach, graduate students Leila Donn GRG and Jane Millar CLAS; and faculty Alex Walthall (CLAS). Total Award (PI Houser) \$119,834. **GRG Amount funded (Beach and Luzzadder-Beach): \$36,642.**
- 2014-2019. **Endowed Fellow, C.B. Smith Sr. Centennial Chair in U.S.- Mexico Relations #2,** University of Texas - Austin. 16 January 2014- 31 August 2019. \$20,000 plus support for 1 Graduate Research Assistant per year.
- 2012-13. *Georgetown University- Georgetown Environmental Initiative.* "Jökulhlaups in the Modern World: Implications of Catastrophic Flooding on the Environment". **S. Luzzadder-Beach, Co-I.** (Dr. D.A. Howard PI, SFS/STIA; Dr. T. Beach Co-I, SFS/STIA; Dr. J. McNeill Co-I, Department of History and SFS). Total Budget: \$24,800.00. Awarded 04/2012. Field and lab support, plus 2 GU undergrads and 1 GMU PhD student field research support. Performance Period: 6/1/2012-6/1/2013.
- 2011-12. *COS Curricular and Pedagogical Innovation Grant. George Mason University.* **S. Luzzadder-Beach, PI.** "Developing General Education Course Modules in Science and Human Rights". **\$3,000 and 1 course release.** Performance Period: 9/2011-8/2012. Awarded 8/15/11.
- 2005-06. *George Mason University Global Studies Faculty research grant, Office of the Provost.* **S. Luzzadder-Beach, PI.** "Ancient Maya Wetland Investigation in Northwestern Belize". Support for summer field and laboratory research. **\$2,000.**

- Awarded May 2005.
- 2003-04. *George Mason University Faculty Study Leave*. **S. Luzzadder-Beach, P.I.** Support for one-half time sabbatical leave. Research projects: "Reconstructing the Environmental History of Southern Turkey" and "Gender and Earth Science." Half-year course reduction, salary, benefits. (Awarded 12/99 for 2000-01, Postponed until 2003-2004, due to 3-year Administrative Appointment). Combined with half-time Administrative leave (Office of the Provost) for one year leave replacement, salary, benefits.
- 1999-2000. *George Mason University Summer Faculty Research Award*. **S. Luzzadder- Beach, PI.** Support for Summer 1999 research project: "Reconstructing the Environmental History of Southern Turkey: Paleo-Hydrology of the Delicay River System." Amount awarded: **\$3,750**. Awarded 12/98.
- 1998-99. *George Mason University. Faculty Graduate Research Assistant*. **S. Luzzadder- Beach, PI.** "GIS/Geoarchaeology/Paleoecology Research." 10 hr/week RA, 9 months plus tuition.
- 1998-99. *George Mason University, College of Arts and Sciences*. **S. Luzzadder-Beach, Co-PI**, with J. Crampton and D. Wong, GES. Revision of GEOG 110 into a Technology Across the Curriculum Section. Teaching with Technology Working Group. **\$1,000** Stipend, 1 Course Release, and 1 Graduate Teaching Assistant.
1998. *George Mason University, College of Arts and Sciences*. **S. Luzzadder-Beach. Summer Stipend** for "Teaching with Technology Summer Working Group." **\$500**.
1997. *George Mason University CAS Summer Junior Faculty Research Award*. **S. Luzzadder-Beach, PI.** Support for summer research projects: 1. *Ancient Maya Land & Water Use* (Continue field work, lab analyses, & writing) and 2. Completion of manuscript on *Gender & Science: Physical Geography*. **\$2,000**.
1996. *George Mason University, College of Arts and Sciences, Program for the Curriculum*. **S. Luzzadder-Beach, Co-PI.** (A. Macfarlane, Co-PI). "Women & Men in Earth Sciences Research Project." Research support funds. **\$750**.
- 1995-96. *George Mason Univ. Faculty Graduate Research Assistant*. **S. Luzzadder-Beach, PI.** "GIS/Geoarchaeology/Paleoecology Research Proposal." Awarded 10 hr/week RA, 9 months.
1995. *George Mason University, College of Arts and Sciences, Program for the Curriculum*. **S. Luzzadder-Beach, Co-PI.** (Allison Macfarlane, Co-PI). "Women in Earth Sciences Research Project." Research support and conference travel funds. **\$2,530**.
1994. *George Mason University Summer Faculty Research Award*. **S. Luzzadder-Beach, PI.** Support for summer research project: "Hydrologic Modeling of Ancient Maya Water Use at La Milpa Archaeological Site, Belize." **\$3,500**.
1994. *George Mason University College of Arts and Sciences*. **S. Luzzadder-Beach.** Summer Stipend for General Education Working Group. Nominated by GESS. ca. **\$500**.
1993. *University of Georgia Humanities Center Pilot Program Grant*. **S. Luzzadder-Beach, PI.** Field research support for research in Belize. Project: "Environmental Effects of Ancient Maya Land and Water Use in La Milpa, Belize." **\$1,250**.
- 1990-91. *Humboldt State University Foundation Grant*. **S. Luzzadder-Beach, PI.** Support for travel to and participation in professional meetings. **\$530**.

Press-- Research News and Interviews:

2020. *Advanced Science News*. 4/24/20. "Low-carbon solar energy for water desalination." **Covering 4/7/20 WIREs Water Article.**
<https://www.advancedsciencenews.com/low-carbon-solar-energy-could-power-water-desalination/>

2020. **PV Magazine**. 4/15/20. "The life of brine." **Covering 4/7/20 WIREs Water Article**. <https://www.pv-magazine.com/2020/04/15/the-life-of-brine/>
2019. **Multiple Press Sources covering 10/22/19 PNAS Article**. <https://pnas.altmetric.com/details/67880504>
2018. **Swedish/Sverige Radio Interview**. Sheryl Luzzadder-Beach. "The Maya civilization and antimatter meet in Austin." AAAS Meetings. Reported by Sara Sallstrom, Science Department, Sverige Radio. Broadcast Posted on 2/16/18. <http://sverigesradio.se/sida/artikel.aspx?programid=406&artikel=6888238>
2018. **AAAS Meeting Press Briefing**. Sheryl Luzzadder-Beach, Juan C. Fernandez-Diaz, Chris Fisher, Timothy Beach. "Airborne Mapping Reveals a Far More Populated pre-Columbian Mesoamerica." Reported by Kathleen O'Neill, AAAS. 2/15/18. <https://www.aaas.org/news/airborne-mapping-reveals-far-more-populated-pre-columbian-mesoamerica>
2015. **Voice of America Radio Interview and Youtube podcast**. Timothy Beach and Sheryl Luzzadder-Beach "Ancient Mayan Civilization Adapted to Climate Change." Broadcast/posted on 9/17/15. Interviewed by: Greg Flakus, VOA Reporter. https://www.youtube.com/watch?v=TWj_4jmhTzk
2012. **VoiceAmerica Radio Interview**. Sheryl Luzzadder-Beach and Timothy Beach "Who Were the Ancient Maya?" Broadcast on the 9/12/12 episode of "Indiana Jones: Myth, Reality, and 21st Century Archaeology" Interviewed by: Dr. Joseph Schuldenrein, geoarchaeologist. <http://www.voiceamerica.com/episode/64353/who-were-the-ancient-maya>
2012. **Physics Today**. *Down to Earth*, Daily Edition. Published online 24 August 2012. "The Old Maya and the Sea" Reported by: Rachel Berkowitz. (News item on Luzzadder-Beach, Beach & Dunning 2012 PNAS Papers) http://www.physicstoday.org/daily_edition/down_to_earth/the_old_maya_and_the_sea
2010. **Nature**. doi:10.1038/news.2010.587 Published online 5 November 2010. "Mayans converted wetlands to farmland: The sophistication of the civilization's agricultural systems rivalled their pyramids" Reported by: Amanda Mascarelli. (Based on Beach & Luzzadder-Beach GSA Paper, 11/3/10 in Denver CO). <http://www.nature.com/news/2010/101105/full/news.2010.587.html>

Other Media/Instructional Materials/Publications in public venues:

2011. S.L. Beach's and Doug Howard's *Iceland Megaflood Research* featured in: "Digging for Clues with Geological Phenomena" Reported by: Tara Laskowski. Published March 17, 2011. **2011 Mason Research Magazine**, in print and online. <http://masonresearch.gmu.edu/2011/03/digging-for-clues-with-geological-phenomena/>
and <http://masonresearch.gmu.edu/2011/03/sidebar-howards-research-is-out-of-this-world/>
2010. "Ancient Earth Flood Created Martian-Like Landscape, Researchers Find" Feature Story on S. Beach (GGS Faculty) and D. Howard (ESGS PhD, 2009) Icelandic Geomorphology and Hydrology Research, in GMU University News (7/12/10). <http://news.gmu.edu/articles/3416>

2010. "Climate Change — An Ancient and Ongoing Challenge for Humans-How do humans adapt to unprecedented climate change?" Story on research of COS Faculty Sheryl Luzzadder Beach (p. 6) and Susie Crate (p. 7), in *COS Periodic Elements: Special Biodiversity Issue*. Vol. 3, Fall 2010.
http://cos.gmu.edu/sites/default/files/periodic_elements/current.pdf
2008. S. Luzzadder-Beach. "Studying Past Environments to Understand Our Global Environmental Future." *Global Studies Review*. 4(3):8-10. GMU Center for Global Studies. ISSN 1558-8947.
1994. S. Luzzadder-Beach. "The Geographer's Role in Geoarchaeology: Late Classic Maya Land and Water Use at La Milpa, Belize and Chunchucmil, Yucatan Archaeological Sites." **Video** Filmed for *Archaeology Television Course*, Prof. Pat Curry.

SELECTED PRESENTATIONS

2010-2020 Conference Keynotes, Papers, Invited Lectures, Posters, & Panels: **2020.**

William Delgado, Timothy Beach, Sheryl Luzzadder-Beach. "Solar Rich and Water Poor: The Case for Solar Desalination in El Paso, Texas. Paper presented at AAG (Virtual) Annual Meeting, 9 April 2020.

Co-Organizer and Presenter. UT Austin Planet Texas 2050 Maya LiDAR Workshop. (Co-Organizers S. Luzzadder-Beach, GRG; A. Runggaldier, D. Stuart CFA; T. Beach, S. Krause GRG; F. Valdez ANTH). 28-29 February 2020.

Invited. AAG Past President's Lecture. S. Luzzadder-Beach. "Hydraulic Societies and Water Management: From the Ancient Maya of Mesoamerica to the Ancient Romans of the Mediterranean." Geography and Geospatial Sciences Dept., Kansas State University. 14 February 2020.

2019.

Co-Chair and Organizers: S. Luzzadder-Beach, T. Beach, E. Perry. "The Geological Substrate on Which Maya Civilization Developed." Phoenix Geological Society of America (GSA) Organized Session of 12 papers, 9-24-2019.

Presenter. S. Luzzadder-Beach, T. Beach, N. Dunning. "The Hydrology and Hydrogeology of the Ancient Maya: Yucatan Mexico, Northern Belize, and Peten Guatemala." GSA Meetings, Phoenix, AZ, 9-24-19.

N. Dunning, T. Beach, C. Carr, S. Luzzadder-Beach, E. Perry. "Sak Lu'um: Ancient Maya Interactions with Environmental Gypsum." GSA Meetings, Phoenix, AZ, 9-24-19.

D. Cook, T. Beach, S. Luzzadder-Beach, and R. Terry. "Mercury and the Ancient Maya of Lowland Central America." GSA Meetings, Phoenix, AZ, 9-24-19.

T. Beach, S. Luzzadder-Beach, N.P. Dunning, and Jed Dale. "Ancient Maya Wetland Management and the Early Anthropocene: A Preliminary Synthesis from Lidar and Multiple Proxies." GSA Meetings, Phoenix, AZ, 9-24-2019.

Presenter. S. Luzzadder-Beach, T. Beach. "Building resilient hydrologic systems for the future using lessons from past societies: from Ancient Rome to the Maya Lowlands." International Quaternary Sciences Association (INQUA) 2019 Meeting, Dublin, Ireland. 29 July 2019.

T. Beach, S. Luzzadder-Beach. "Ancient wetland agroecosystems based on multiproxy excavation and LiDAR Imagery of the Maya tropical forest." INQUA 2019 Meeting, Dublin, Ireland. 29 July 2019.

G. Wells, S. Luzzadder-Beach, T. Beach. Geomorphologic and geochronological reconstruction of Holocene jökulhlaups along the Hvítá River and Gullfoss waterfall, Iceland. INQUA 2019 Meeting, Dublin, Ireland. 29 July 2019.

Invited Keynote Presenter: S. Luzzadder-Beach (co-author Doug Richardson). "The American Association of Geographers Serving Society and the Environment in the 21st Century: Trajectories in Geography 2002-2018 and Beyond". Forum on the Development and Governance of Science and Technology Societies. Chinese

- Association of Science and Technology (CAST), Harbin, China. 27 June 2019.*
- 2 Invited Lectures: S. Luzzadder-Beach (Presenter), Timothy Beach. "Hydraulic Societies and Water Management: from the Ancient Maya of Mesoamerica to the Ancient Romans of the Mediterranean."*
Harbin Normal University Department of Geography, Harbin, China, 29 June 2019, and
Tibetan Plateau Institute, Chinese Academy of Sciences. Beijing, China. 1 July 2019.
- S. Luzzadder-Beach, T. Beach, C. Doyle, G. Wells. "Three Rivers Watersheds: Regional Water Resources of Northwestern Belize and Beyond." *Society for American Archaeology (SAA) 84th Annual Meeting*, Albuquerque NM. April 2019.
- Invited.* T. Beach, S. Luzzadder-Beach, N. Dunning. "Ancient Maya Water Control, Wetlands, and the Fiery Pool." *Society for American Archaeology (SAA) 84th Annual Meeting*, Albuquerque NM. April 2019.
- C. Doyle, T. Beach, S. Luzzadder-Beach, J. Dale. "Multiproxy and LiDAR Evidence for Intensive Maya Wetland Agriculture along the Rio Bravo River." *Society for American Archaeology (SAA) 84th Annual Meeting*, Albuquerque NM. April 2019.
- S. Eshleman, T. Beach, S. Luzzadder-Beach, C. Doyle, F. Casal. "Soil and Water Chemistry: Aguada Fenix, Tabasco and Northern Belize." *Society for American Archaeology (SAA) 84th Annual Meeting* Albuquerque NM. April 2019.
- Organizer and President/Chair*, S. Luzzadder-Beach. AAG Presidential Plenary, "The Intersection of Geography, Environmental Science, Human Health, and Human Rights" *American Association of Geographers (AAG) Annual Meeting*. 3 April 2019.
- Invited Panelist.* S. Luzzadder-Beach. "Physical geography contributes, retrospect and prospect." Organized by G. Malanson. Featured in Theme: Physical Geography in Environmental Science, Sponsor: Routledge, Taylor and Francis Group. *American Association of Geographers Annual Meeting*. 3 April 2019.
- Greta Wells, Sheryl Luzzadder-Beach, Timothy Beach. "Geomorphologic and Geochronological Reconstruction of Holocene Jökulhlaups along the Hvítá River and Gullfoss Waterfall, Iceland." *2019 AAG Annual Meeting* Washington, DC. 4/3-4/5/19.
- Timothy Beach, Sheryl Luzzadder-Beach. "The perpetuation of error in the Science of Wetlands." *2019 AAG Annual Meeting* Washington, DC. 4/3-4/5/19.
- Duncan Cook, Dan Penny, Timothy Beach, Sheryl Luzzadder-Beach, David McGee, Quan Hua. "The Maya Resilience Project: climate variability and human response in the Maya lowlands of Central America." *2019 AAG Annual Meeting* Washington, DC. 4/3-4/5/19.
- Leila Donn, Tim Beach, Sheryl Luzzadder-Beach, Jason Yaeger. "Long-Term Human Impact on a Neotropical Fluvial System in the Belize-Guatemala Transboundary Area." *2019 AAG Annual Meeting* Washington, DC. 4/3-4/5/19.
- Jedidiah Dale, Samantha Krause, Sheryl Luzzadder-Beach, Timothy Beach. "Production and Pollution: Geoarchaeological and Paleoenvironmental Potential of a Northwest Belize Laguana." *2019 AAG Annual Meeting* Washington, DC. 4/3-4/5/19.
- Samantha Krause, Timothy Beach, Sheryl Luzzadder-Beach, Luisa Aebersold, Colin Doyle, Sara Eshleman. "Earth, Wetlands, and Fire: Late Holocene fire reconstructions from lowland swamps in Northwestern Belize." *2019 AAG Annual Meeting* Washington, DC. 4/3-4/5/19.
- Jonathan Flood, Tim Beach, Sheryl Luzzadder-Beach, Alex Walthall, Jane Millar, Leila Donn. "The Fluvial Evolution of the Catania Plain and Rivers of Central Sicily." *2019 AAG Annual Meeting* Washington, DC. 4/3-4/5/19.
- Colin Doyle, Timothy Beach, Sheryl Luzzadder-Beach. "Modeling Wetland Hydrology with LiDAR in Northwest Belize." *2019 AAG Annual Meeting* Washington, DC. 4/3-4/5/19.

- Invited AAG Presidential Keynote.* S. Luzzadder-Beach, T. Beach, & Beach Labs. “Hydraulic Society, Water and Land Management in the Ancient Maya Lowlands of Mesoamerica.” *50th Annual South Dakota State University Geography Convention*, Brookings, SD. 15 March 2019.
- Invited.* T. Beach, S. Luzzadder-Beach. “Maya Wetlands in Global Context over the Late Holocene: Controversies and Consiliences from Multi-Proxy Evidence.” *Texas A&M Geography Colloquium Series*, College Sta. TX. 25 January 2019.
- Invited.* Sheryl Luzzadder-Beach, Timothy Beach, S. Krause, G. Wells, C. Doyle, S. Eshleman, L. Donn. “Water Matters: Using Water and Soil Interactions to Understand the Geoarchaeology of Wetlands in the Maya Lowlands.” *Soil Science Society of America International Meetings*. San Diego CA. 7 January 2019.
- Invited.* Timothy Beach, Sheryl Luzzadder-Beach, S. Krause, S. Eshleman, C. Doyle, L. Donn. “Soil and Archaeology in the Maya Tropical Forest.” *Soil Science Society of America International Meetings*. San Diego CA. 7 January 2019.

2018.

- Invited* S. Luzzadder-Beach and Timothy Beach, and Beach Labs. 2018. “Resilient Past Societies: Ancient Water Management from Roman Aqueducts to Mayan Reservoirs”. *Georgetown University History Department Colloquium: Digging up the Mediterranean: Landscape and Human History Over the Longue Durée*. Washington, DC. 11 December 2018.
- Invited Keynote.* Sheryl Luzzadder-Beach, Timothy Beach, Beach Labs. “Using Water Chemistry to Understand Ancient Maya Land and Water Use Interactions.” *10th Anniversary Conference of the Arabian Journal of Geosciences*. Tunis, Tunisia. 13 November 2018.
- Invited Keynote.* Timothy Beach, Sheryl Luzzadder-Beach, Samantha Krause, Colin Doyle. “An Early Anthropocene Analog: the Geomorphology and Hydrology of the Rio Bravo Watershed in the Belize Tropics.” *10th Anniversary Conference of the Arabian Journal Of Geosciences*. Tunis, Tunisia. 13 November 2018.
- Invited, AAG Presidential Keynote.* Sheryl Luzzadder-Beach, Timothy Beach, and Beach Labs. “Bridging Barriers: Interdisciplinary Research on Water and Land Management in the Ancient Maya Lowlands.” Presented at MAD-AAG Regional Division Annual Meeting, Morgan State University, Baltimore, MD. 2 November 2018.
- Invited, AAG Presidential Keynote.* Sheryl Luzzadder-Beach, Timothy Beach, and Beach Labs. “Resilience through Water and Land Management in the Ancient Maya Lowlands of Mesoamerica.” Presented at NESTVAL-AAG Regional Division Annual Meeting, Keene State College, Keene NH. 13 October 2018.
- Invited, AAG Presidential Keynote.* Sheryl Luzzadder-Beach, Timothy Beach, and Beach Labs. “Hydraulic Society, Water and Land Management in the Ancient Maya Lowlands of Mesoamerica.” Presented at SWAAG Regional Division Annual Meeting, LSU, Baton Rouge, LA. 4 October 2018.
- T. Beach, S. Luzzadder-Beach, Leila Donn, Colin Doyle, Sara Eshleman. “Ground-truthing the First LiDAR Imagery of Ancient Maya Wetland Fields: Twenty Years of Field Work and Two Days of LiDAR” *Presentation at NCALM, University of Houston*. 9-26-2018.
- Timothy Beach, Sheryl Luzzadder-Beach, and Richard Terry. The Maya Anthropocene: Soils, Paleosols, and ancient Agriculture (but no Terra Preta) in the Maya Lowlands.” *21st World Congress of Soil Science*, 17 August 2018, Rio De Janeiro, Brazil.
- T. Beach, S. Luzzadder-Beach, Fred Valdez, Tom Guderjan, Sam Krause, Colin Doyle. “Ground verifying the first LiDAR imagery of ancient Maya wetland fields: twenty years of fieldwork and two days of LiDAR.” Presentation at the *Association of American Geographers Annual Meeting*, New Orleans, LA. April 2018.

- S. Krause, T. Guderjan, T. Beach, S. Luzzadder-Beach. “Canals, Sacbeob and defining space in ditched agricultural fields in the Three Rivers Region.” Presentation at the *Society of American Archaeology (SAA) Annual Meeting*, Washington, DC. April 2018.
- Invited Speakers*. Sheryl Luzzadder-Beach and Timothy Beach. “The Re-enchantment of Traditional Wetland Agriculture around the World.” *California State University Chico, College of Behavioral and Social Sciences*. 8 March 2018. Chico CA.
- Speaker*. Sheryl Luzzadder-Beach. Session on “Science and Technology for Human Rights: Opportunities to Make an Impact”. *2018 Annual Meeting, American Association for the Advancement of Science*. 18 February 2018. Austin TX.
- Presentations and Co-Organizers*. Timothy Beach and Sheryl Luzzadder-Beach. “Two Days of LiDAR and Two Decades of Multiproxy Geoarchaeology in Northwestern Belize”. In Scientific Session: Airborne Laser Mapping Research in Tropical Forests and Archaeological Sites. *2018 Annual Meeting, American Association for the Advancement of Science (AAAS)*. 16 February 2018. Austin TX.
- 2017.
- Invited Keynote*: Sheryl Luzzadder-Beach and Timothy P. Beach. “Hydraulic Society and Water Management in the Ancient Maya Lowlands of Mesoamerica,” *Shanghai Archaeology Forum*, hosted by the Institute of Archaeology, Chinese Academy of Social Sciences. Shanghai, China. 8th-14th December 2017.
- Invited*: Timothy Beach and Sheryl Luzzadder-Beach. “Stability and Instability on Maya Lowlands Tropical Toposequences.” *2017 Binghamton Geomorphology Symposium*, Texas State University, San Marcos TX. 15 October 2017.
- Invited*: Sheryl Luzzadder-Beach and Tim Beach. “Sensing a Revolution in Ancient Maya Studies: Leveraging Airborne Imagery and Other Proxies of the Past.” In *Maya Peoples Making History: Founding a Civilization, Adapting to Empire, and Engaging Capitalism*. Hosted by The Georgetown University Americas Initiative and Center for Latin American Studies, and The Mexican Cultural Institute. Washington DC. 8 September 2017.
- Invited*: Timothy Beach and Sheryl Luzzadder-Beach. “Environmental History of the Maya from Soils, Ecology, and Airborne Mapping, Presentation at the *Maya Peoples Making History Symposium* Hosted by The Georgetown University Americas Initiative and Center for Latin American Studies, and The Mexican Cultural Institute. Washington DC. 8 September 2017.
- Sheryl Luzzadder-Beach, and Timothy Beach. “The Legacy of Karl Butzer in Physical Geography and Beyond.” *Keynote Butzer Legacy Session, American Association of Geographers Annual Meeting*. Boston MA. 5 April 2017.
- Sheryl Luzzadder-Beach. “Teaching Human Rights in Science and Engineering Courses: Geography Science & Human Rights Lab Assignment.” Panelist and Organizer, *Mainstreaming Human Rights in Geomorphology and Water Resources Panel*. Annual Meeting Theme, *American Association of Geographers Annual Meeting*. Boston MA. 6 April 2017.
- Samantha Marie Krause, Timothy Beach, Sheryl Luzzadder-Beach, Colin Doyle, Daniela Florez. “The Importance of Maya Wetlands for Human Ecology and Environmental History: Multi-Scaler Case Studies from Northwestern Belize.” Paper presented at *American Association of Geographers Annual Meeting*. Boston MA. 7 April 2017.
- Greta Wells, and Sheryl Luzzadder-Beach. “Using Water Geochemistry to Forecast Volcanically-Triggered Glacial Lake Outburst Floods in Iceland.” Paper presented at *American Association of Geographers Annual Meeting*. Boston MA. 8 April 2017.
- Sara Elizabeth Eshleman, Colin Doyle, Samantha Krause, Timothy Beach, Ann-Marie Jacoby, Sheryl Luzzadder-Beach, and Thomas Guderjan. “Exploring the Rio Hondo: traversing an understudied river and borderland.” Paper presented at *American Association of Geographers Annual Meeting*. Boston MA. 9 April 2017.

- Colin Doyle, Timothy Beach, Samantha Krause, and Sheryl Luzzadder-Beach. “LiDAR and Multiproxy Evidence for Spatial and Temporal Human Impacts in a Fluviokarst Watershed in Central America.” Paper presented at *American Association of Geographers Annual Meeting*. Boston MA. 9 April 2017.
- Sheryl Luzzadder-Beach, Timothy Beach, Nicholas Dunning, Vernon Scarborough and Fred Valdez. “A Quarter-Century of Exploring the Three Rivers Watersheds in Belize.” Symposium at *Annual Meetings of the Society for American Archaeology*. Vancouver BC. 30 March 2017.
- Timothy Beach, Sheryl Luzzadder-Beach (Presenter), Colin Doyle, Nicholas Dunning and Nicholas Brokaw. “The Critical Zone Revolution from 2016 Lidar and Two Decades of Multiproxy Geoarchaeology around the Programme for Belize.” Symposium at *Annual Meetings of the Society for American Archaeology*. Vancouver BC. 30 March 2017.
- Samantha Krause, Timothy Beach, Sheryl Luzzadder-Beach, Thomas Harold Guderjan and Colin Doyle. “New Frontiers in Wetland Archaeology: Mapping Maya Agricultural Systems with Lidar.” Symposium at *Annual Meetings of the Society for American Archaeology*. Vancouver BC. 31 March 2017.
- Invited*: Timothy Beach (Attended and Presented) and Sheryl Luzzadder-Beach. “Societal Collapses from the Maya to Mesopotamia and Beyond” at the Vatican Workshop on Biological Extinction. *Sponsored by the Pontifical Academy of Sciences and Pontifical Academy of Social Sciences*, Vatican City 28 February 2017.
- Tim Beach, Sheryl Luzzadder-Beach, Samantha Krause, and Colin Doyle. “Maya Wetland Systems from Earth and Sky and Holocene to Anthropocene.” Paper Presented at *Conference of Latin Americanist Geographers*, New Orleans LA, 4 January 2017.
- 2016.
- Timothy Beach, Sheryl Luzzadder-Beach, Samantha Krause, Colin Doyle, Nicholas Dunning, Nicholas Brokaw, and Richard Terry. “Tropical Forest Soil Catenas of Northwestern Belize”. Presented at *QUASAP Pedogenesis-Workshop, "The Route of Humboldt: Rates of Pedogenesis in the Dynamic landscapes of Central Mexico"*, at UNAM, Mexico City, MX, 8 December 2016.
- Samantha Krause, Tim Beach, Sheryl Luzzadder-Beach, Betty Faust, and Luisa Aebersold. “Anthropogenic and Natural Formation Patterns of Soil Sequences in Tropical Karst Sinks and Slopes, Northwestern Belize and Campeche, MX”. Presented at *QUASAP Pedogenesis-Workshop, "The Route of Humboldt: Rates of Pedogenesis in the Dynamic landscapes of Central Mexico"*, at UNAM, Mexico City, MX, 8 December 2016.
- Tim Beach, Leila Donn, Sheryl Luzzadder-Beach (Presenter), Sam Krause, and Colin Doyle. “Reconstructing Ancient Maya Wetland Fields and Alluvial Fans in the Neuendorf Wetlands, Belize.” Paper presented at the *Geological Society of American Annual Meeting*. Denver CO. 26 September 2016
- Tim Beach, Sheryl Luzzadder-Beach, and Samantha Krause. “The Geoarchaeology and Geomorphology of Maya Wetlands from the Late Holocene to the Anthropocene” *International Geographical Union Conference*, Beijing, China, 8-22-2016.
- Invited Paper*. Timothy Beach, Sheryl Luzzadder-Beach and Samantha Krause. “Ancient Maya impacts on the Earth's surface: An Early Anthropocene analog?” *American Quaternary Association*. Santa Fe NM. 2 July 2016.
- Invited Discussant*. “Changes in Latitudes, Changes in Attitudes: Transitions and thresholds throughout Central American and Beyond”. Symposium at *Annual Meetings of the Society for American Archaeology*. Orlando FL. 8 April 2016.
- Sheryl Luzzadder-Beach and Tim Beach. 2016. “The Constraints and Conditions of Water Chemistry for Human Use of Maya Tropical Wetland Fields.” Paper presented at *Annual Meetings of the Society for American Archaeology*. Orlando FL. 9 April 2016.
- Timothy Beach, Sheryl Luzzadder-Beach and Nicholas Dunning. 2016. “Equifinalities and

- the Limits of Soil, Ecology, and Climate Knowledge in Maya History.” Paper presented at *Annual Meetings of the Society for American Archaeology*. Orlando FL. 7 April 2016.
- Luisa Aebersold, Tim Beach, Sheryl Luzzadder-Beach, Tom Guderjan and Fred Valdez. 2016. “The Blue Creek Rejollada Revisited: Transitional Imprints on Sedimentological Records.” Paper presented at *Annual Meetings of the Society for American Archaeology*. Orlando FL. 8 April 2016
- Samantha Krause, Timothy Beach, Sheryl Luzzadder-Beach and Thomas Guderjan. 2016. “Understanding Environmental Thresholds through Geoarchaeology: Case Studies from the Maya Lowlands.” Paper presented at *Annual Meetings of the Society for American Archaeology*. Orlando FL. 8 April 2016.
- Nicholas Dunning, Jeffrey Brewer, Timothy Beach, Sheryl Luzzadder-Beach and Vernon Scarborough. 2016. “Ancient Water Collection and Storage in the Elevated Interior Region of the Maya Lowlands. Paper presented at *Annual Meetings of the Society for American Archaeology*. Orlando FL. 8 April 2016.
- Sheryl Luzzadder-Beach and Tim Beach. 2016. “Traces on the Wooded Shore: reconstructing past geographies using geochemistry”. Paper presented at *Annual Meetings of the American Association of Geographers*. San Francisco CA. 29 March 2016.
- Jonathan Flood, Sheryl Luzzadder-Beach and Tim Beach. 2016. “The interlocking of human and natural systems on the Mochlos Plain: five thousand years of settlement, land-use, and landscape coevolution.” Paper presented at *Annual Meetings of the American Association of Geographers*. San Francisco CA. 29 March 2016.
- Samantha Krause, Tim Beach, D. Cook, G. Islebe, C. Doyle, S. Eshleman, S. Luzzadder-Beach, and T. Guderjan. 2016. “Geochemical analysis of ancient wetland soils near the Maya site of Akab Muklil, Belize.” Paper presented at *Annual Meetings of the American Association of Geographers*. San Francisco CA. 29 March 2016.
- 2015.
- Invited Panelist*. Sharing our Vision Reclaiming our Dreams: Advancing Human Rights 2015. “AAAS Meet A Scientist Panelist.” *American Association for the Advancement of Science booth, US Human Rights Network*. 12 December 2015, Austin TX.
- Tim Beach, Sheryl Luzzadder-Beach, and Samantha Krause. “A Tale of Three Neotropical Wetlands of Belize.” Paper presented at *Geological Society of America Meetings*. Baltimore MD, 2 November 2015.
- Tim Beach and Sheryl Luzzadder-Beach. “A Review of Late Holocene Fluvial Systems in the Karst Maya Lowlands with Focus on the Rio Bravo, Belize.” Paper Presented at the *American Geophysical Union Meetings*. San Francisco CA, 18 December 2015.
- Sheryl Luzzadder-Beach and Timothy Beach. “Paleohydrologic Records for Holocene Environmental Change in Maya Lowland Wetlands, Central America” Paper Presented at XIX International Union for Quaternary Research Congress (INQUA). Nagoya Japan. 2 August 2015.
- UT Workshop Panelist. Environmental Cooperation Across Borders. “Water Quality Research Challenges In South Asia.” UT Austin 5 May 2015. GRG and GOVT Hosted.
- Association of American Geographers Annual Meeting, Chicago IL 2015:*
- Sheryl Luzzadder-Beach, Tim Beach, Samantha Krause. “‘Mayacene’ Floodplain and Wetland Formation in the Rio Bravo Watershed of Northwestern Belize.” AAG Paper Presented 21 April 2015.
- Jonathan M Flood, Sheryl Luzzadder-Beach, Tim Beach. “Humans and Hydrology from Crete to Caracol: A Comparative Study of Ancient Maya and Minoan Water Management.” AAG Paper Presented 21 April 2015.
- Sheryl Luzzadder-Beach. “Past and Present Environmental Science of the Neotropics and

Beyond.” AAG Panelist (and co-Organizer). 24 April 2015.

Society for American Archaeology Annual Meeting, San Francisco CA, 2015:

Cook, Duncan (Australian Catholic University), Timothy Beach (The University of Texas at Austin), Sheryl Luzzadder-Beach (The University of Texas at Austin) and Thomas Guderjan (The University of Texas at Tyler) [176]. “Mercury Pollution and the Ancient Maya: Where, Why and How.” SAA Paper Presented 17 April 2015.

Krause, Samantha (University of Texas at Austin), Timothy Beach (University of Texas at Austin), Sheryl Luzzadder-Beach (University of Texas at Austin) and Thomas Guderjan (University of Texas at Tyler) [350] “Maya Wetlands: Natural and Anthropogenic” SAA Paper Presented 18 April 2015.

Hanratty, Colleen (Maya Research Program), Thomas Guderjan (University of Texas at Tyler), Sheryl Luzzadder-Beach (University of Texas at Austin), Timothy Beach (University of Texas at Austin) and Samantha Krause (University of Texas at Austin) [350]. “Understanding the Paleogeography and Maya Ditched Fields along the Rio Hondo, Belize and Mexico”. SAA Paper Presented 18 April 2015.

2014.

Invited. Sheryl Luzzadder-Beach *American Association for the Advancement of Science-Science and Human Rights Coalition 5th Anniversary*. “Applying Article 15, and EIR Working Group Activities.” *Presentation and Panelist, AAAS Headquarters, Washington DC. October 2014.*

Invited. Sheryl Luzzadder-Beach, and Timothy Beach. “Human and Natural Changes in Maya Lowlands Wetlands Over the Holocene.” Paper 150-11, presented at *Geological Society of American Meetings*, Vancouver BC. 20 October 2014.

Invited. Sheryl Luzzadder-Beach *American Association for the Advancement of Science: Science and Human Rights Coalition Meeting*. “Teaching Human Rights in Science and Engineering Courses: GGS 121 Science and Human Rights Lab Assignment”. *Presentation and Workshop Leader. AAAS Headquarters, Washington DC. July 2014.*

Invited. Sheryl Luzzadder-Beach, Timothy Beach, Jenny Devine, Nicholas Dunning, Vernon Scarborough, and Scott Heckbert. “Channeling Chaac: Communicating Collapse, Climate, and Complex Society through the Ancient Maya.” Paper Presented at New Perspectives on Past Climate Change and Societal Disruption – Hosted by Yale University, Cal Tech, Tulane, and the University of Urbino, in Urbino Italy. 6/19/14. See: <http://climate.yale.edu/news/new-perspectives-past-climate-change-and-societal-disruption#sthash.OiYPGMMG.dpuf>

Invited. Timothy Beach and Sheryl Luzzadder-Beach. “The Mayacene: Environmental Change and Maya Impacts on Soils and Earth Surfaces of the Maya Lowlands compared with Eastern Mediterranean Turkey”. Paper Presented at New Perspectives on Past Climate Change and Societal Disruption - Hosted by Yale University, Cal Tech, Tulane, and the University of Urbino, in Urbino Italy. 6/19/14. See: <http://climate.yale.edu/news/new-perspectives-past-climate-change-and-societal-disruption#sthash.OiYPGMMG.dpuf>

Invited. T. Beach and S. Luzzadder-Beach (Presenter). “The Mayacene: an Ancient Maya Microcosm for the Anthropocene”. Paper Presented at *The Anthropocene in the Longue Duree Workshop*, hosted by U. Texas Austin Anthropology 4/22/14.

Society for American Archaeology Annual Meeting, Austin, TX April 2014:

SAA Discussant:

S. Luzzadder-Beach, Discussant. SAA Symposium- Societal Stability and Environmental Change: Papers in Honor of Karl W. Butzer. 4/23/14.

SAA Papers:

Sheryl Luzzadder-Beach, Timothy Beach, Steven Bozarth, Thomas Guderjan and

- Samantha Krause. "Wetland Agricultural Commodities in the Maya Lowlands." 4/27/14.
- Timothy Beach, Sheryl Luzzadder-Beach, Thomas Guderjan, Samantha Krause. "Maya Wetland and Floodplain Formation: Societal Stability and Environmental Change" 4/23/14
- Samantha Krause, Thomas Guderjan, Sheryl Luzzadder-Beach, Timothy Beach. "Visualizing Maya Agriculture Along the Rio Hondo: a Remote Sensing Approach." 4/23/14.
- Association of American Geographers Annual Meeting, Tampa FL 2014:*
AAG Papers, Session 2515 Geoarchaeology of the Maya World 4/9/14:
- Sheryl Luzzadder-Beach, Timothy P Beach, Nicholas P Dunning, Thomas Guderjan, Tanya Catignani, Samantha Krause, Eric Weaver. "Beyond the Fields of Paradise: Geoarchaeological Field Investigations of Ancient Maya Wetland Agriculture."
- Duncan Cook, Tim Beach, Sheryl Luzzadder-Beach. "Mercury pollution and the ancient Maya."
- Timothy Beach, Sheryl Luzzadder-Beach, Nicholas Brokaw, Samantha Krause. "Geoarchaeology of a Maya Tropical Forest Transect."
- Thomas Guderjan, Timothy Beach, Sheryl Luzzadder-Beach, Samantha Krause. "New Information about the Extent of Ditched Field Agriculture in the Rio Hondo Valley."
- 2013.
- Sheryl Luzzadder-Beach. "Using Geoarchaeology to Observe the Ancient Human-Environment Complex." Presentation at *GMU Center for Earth Observing and Space Research Annual Research Workshop*. Fairfax VA. 9/12/13.
- Sheryl Luzzadder-Beach, Timothy Beach, Nicholas Dunning, Vernon Scarborough, Scott Heckbert. "Communicating Collapse, Climate, and Complex Society: the Case of the Ancient Maya." *AGU Chapman Conference on Communicating Climate Change: A Historic Look to the Future*. Granby CO 8-13 June 2013.
- Sheryl Luzzadder-Beach, Timothy P. Beach, Stephen Houston, Thomas Garrison, James Doyle, Jonathan Flood Steven Bozarth. "Paleoecology and Geoarchaeology in the Central Petén of Guatemala at Zotz and Palmar." Paper presented at *Association of American Geographers Annual Meeting*, Los Angeles CA. 4/10/13.
- Timothy Beach, Sheryl Luzzadder-Beach (presenter), Thomas H. Guderjan, Nicholas V. Brokaw. 2013. "Geoarchaeology and Paleoecology of Wetlands in Northwestern Belize." Paper presented at *Association of American Geographers Annual Meeting*, Los Angeles CA. 4/10/13.
- Jonathan Flood, Jeffrey S. Soles, Sheryl Luzzadder-Beach. 2013. "Groundwater Chemistry and Agricultural Potential at Ancient Farmhouses on Crete, Greece: A case study of the Chalinomouri archaeological sites and their context within the Mochlos Plain." Paper presented at *Association of American Geographers Annual Meeting*, Los Angeles CA. 4/10/13.
- Nicholas Brokaw, Sheila Ward, Colin Doyle, Marisol Cortes-Rincon, Timothy Beach, Sheryl Luzzadder-Beach, Stanley Walling. 2013. "Consequences of Long-Term Change in the Maya Environment." Paper presented at *Association of American Geographers Annual Meeting*, Los Angeles CA. 4/10/13.
- Sheryl Luzzadder-Beach, Timothy P. Beach, Nicholas V. Brokaw, Stanley Walling, Jonathan M. Flood. "Hydrological Investigations of the La Milpa, Dos Hombres, and Chawak But'o'ob Archaeological Sites." Paper presented in Symposium 213, *Society for American Archaeology 78th Annual Meetings*, Honolulu HI, 4/6/13.
- Timothy Beach, Sheryl Luzzadder-Beach (presenter), Nicholas Brokaw, Stanley Walling, 2013. "Wetland Field Systems at Chan Cahal, Chawak, and Ojos de Agua Northwestern Belize." Paper presented in Symposium 213, *Society for American*

- Archaeology 78th Annual Meetings*, Honolulu HI, 4/6/13.
- Timothy Beach, Sheryl Luzzadder-Beach. 2013. "Soil and Human Interactions in Maya Wetlands." Solicited Paper in Symposium SSS5.3 –Soil as a record of the past *European Geosciences Union General Assembly*, Vienna Austria, 4/10/13. Abstract in *Geophysical Research Abstracts*: Vol. 15 2013-5007. <http://meetingorganizer.copernicus.org/EGU2013/EGU2013-5007.pdf>
- Timothy Beach, Sheryl Luzzadder-Beach, Nicholas Dunning. 2013. Geomorphic Impacts of Maya Civilization. *8th IAG International Conference on Geomorphology* - Paris France, August 27th to 31st, 2013. Abstract: <http://www.geomorphology-iag-paris2013.com/en/detailed-programme>
- 2012.
- Sheryl Luzzadder-Beach, Timothy P. Beach, Thomas H. Guderjan, Nicholas V. Brokaw, Stanley Walling, Katarina Z. Doctor, Jonathan M. Flood, Samantha M Krause. 2012. "Tracing Wetland Formation by Geological and Anthropogenic Factors in the Maya Lowlands." Paper in Session No. 145-T109. Wetlands: Form, Function and History I, *Geological Society of America Annual Meeting*, Charlotte NC 11/7/12.
- Timothy Beach, Sheryl Luzzadder-Beach. 2012. "Anthropocene Analog: Ancient Maya Impacts on the Earth's Surface." Paper in Session No. 8-T24. Geomorphology of the Anthropocene: The Surficial Legacy of Past and Present Human Activities, *Geological Society of America Annual Meeting*, Charlotte NC 11/4/12.
- Sheryl Luzzadder-Beach, Timothy Beach, Jonathan Flood and Scott Hutson. 2012. "Living on the Edge of the World: Hydrogeoarchaeology of the Chunchucmil and Uci-Cansahcab Maya Sites." Paper in Symposium 167 Bruce H. Dahlin Memorial Session Part 2 Adaptations and Maladaptations to Environmental Change, *Society for American Archaeology 77th Annual Meetings*, Memphis TN 4/20/12
- Jonathan Flood, Tim Beach, Sheryl Luzzadder-Beach, Steve Houston and Tom Garrison. 2012. "Paleoecology at Zotz and its Surroundings." Paper in Symposium 66, An Inconstant Landscape: Archaeological Investigations at El Zotz, Guatemala. *Society for American Archaeology 77th Annual Meetings*, Memphis TN 4/19/12
- Nicholas Dunning, Kenneth Tankersley, Robert Griffin, Timothy Beach and Sheryl Luzzadder-Beach (Reader). 2012. "Ak'alche: On the Origins and Maya Use of Petén Bajo Soils". Paper in Symposium 167, *Society for American Archaeology 77th Annual Meetings*, Memphis TN 4/20/12
- Timothy Beach, Sheryl Luzzadder-Beach, Richard Terry and David Hixon. 2012. "Bruce Dahlin and Subsistence in Maya Soil Research." Paper in Symposium 167, *Society for American Archaeology 77th Annual Meetings*, Memphis TN 4/20/12
- Sheryl Luzzadder-Beach, Timothy P Beach, Stanley L Walling, Fred Valdez, Douglas A Howard, Jonathan M Flood, and Katarina Z Doctor. 2012. "Tracing Paleoenvironmental Change in the Maya Lowlands: The Chawak But'o'ob and Sierra de Agua Wetland Field Complexes." Paper in Session 1501, New Perspectives to Paleoenvironmental Change and Geoarchaeology II. *Association of American Geographers Annual Meetings*, New York NY 24 February 2012.
- Katarina Doctor, Sheryl Luzzadder-Beach, Timothy Beach, and Ronald Resmini. 2012. "Mapping the Extent of Ancient Maya Wetland Canals using High Resolution Imagery". Paper in Session 1601, New Perspectives to Paleoenvironmental Change and Geoarchaeology III. *Association of American Geographers Annual Meetings*, New York NY, 24 February 2012.
- 2011.
- Sheryl Luzzadder-Beach, Timothy Beach, Katarina Z. Doctor, Jonathan M. Flood, Scott Hutson, and Richard E. Terry. 2011. "Geoarchaeology and Hydrology of the Chunchucmil and Uci-Cansahcab Maya Archaeology Sites, Yucatan, Mexico". Paper in Session 161-T132, The History of Humans and the Hydrologic System: Exploring Relationships between Cultures, Climate, and Hydrology through Time

- I, *Geological Society of America Annual Meeting*, Minneapolis MN. 11 October 2011.
- Timothy Beach, Sheryl Luzzadder-Beach, and Douglas A. Howard. 2011. "Ground Water interactions in Natural and Ancient Maya Wetland Formation and Use". Paper in Session 161-T132, The History of Humans and the Hydrologic System: Exploring Relationships between Cultures, Climate, and Hydrology through Time I, *Geological Society of America Annual Meeting*, Minneapolis MN. 11 October 2011.
- Timothy Beach and Sheryl Luzzadder-Beach. 2011. "Tropical Wetland Formation in Belize: Ancient Maya and Natural Interactions in the Late Holocene". Poster 710 in session 34: "Geoarchaeology: Paleoenvironments and Human Interactions", *XVIII INQUA-Congress* (International Quaternary Union) Bern Switzerland, 21-27 July 2011.
- Sheryl Luzzadder-Beach, Timothy Beach, Douglas Howard, Katarina Doctor, and Jonathan Flood. 2011. "Tracing Ancient Human Terrain in the Maya Lowlands" Paper in session: Sedimentary Perspectives on Paleoenvironmental Change III - *Annual Meetings of the Association of American Geographers*. Seattle WA. 4/15/11.
- Katarina Doctor, Ron Resmini, and Sheryl Luzzadder-Beach. 2011. "Identification of Subsurface Water Channels Using Hyperspectral Imagery in Shenandoah Valley, VA" Paper in session: Methods to Identify Landscape Features-- *Annual Meetings of the Association of American Geographers*. Seattle WA. 4/15/11.
- Sheryl Luzzadder-Beach, Timothy Beach, Stephen Houston, and Thomas Garrison. 2011. "Investigating Water Management Structures at El Zotz, Petén." Paper in: Symposium 148: Ancient Maya Water and Land Management: Inquiry into the Organization of Community in the Eastern Petén. *Society for American Archaeology 76th Annual Meeting*, Sacramento CA. 30 March- 3 April 2011.
- Timothy Beach and Sheryl Luzzadder-Beach. 2011. "Soil Evidence for Use and Formation of Wetland Fields and Canals in Northern Belize." Paper in Symposium 223 Approaches to Prehispanic Agricultural Soils in the New World. *Society for American Archaeology 76th Annual Meeting*, Sacramento CA. 30 March- 3 April 2011.
- Samantha Krause, Thomas Guderjan, Sheryl Luzzadder-Beach, and Timothy Beach. 2011. "Identifying the extent of ancient Maya ditched field systems in the Rio Hondo valley of Belize and Mexico" Paper in Session 238 Agriculture, Water, and Anthropogenic Landscapes in Mesoamerica: Part 2. *Society for American Archaeology 76th Annual Meeting*, Sacramento CA. 30 March- 3 April 2011.
- Timothy Beach and Sheryl Luzzadder-Beach. 2011. "Perennial Wetlands of the Ancient Maya: Testing Models of Human-Nature Interaction". Poster P-25. AGU Chapman Conference on "Climates, Past Landscapes and Civilizations", 21-26th March 2011, Santa Fe, New Mexico.
- 2010.
- Timothy Beach and Sheryl Luzzadder-Beach. 2010. "Wetland Formation and Ancient Maya Land Uses in the Maya Lowlands". Paper presented at Geological Society of America Annual Meetings, Denver CO. 234-9, 11/3/10, Session No. 234 "Reconstructing Interactions between Humans and the Natural Environment during the Holocene". Abstract published in: *Geological Society of America Abstracts with Programs*, Vol. 42, No. 5, p. 553.
http://gsa.confex.com/gsa/2010AM/finalprogram/abstract_180770.htm
- Sheryl Luzzadder-Beach and Tim Beach (Presented by Scott Hutson, U KY). 2010. "Wetlands Agriculture Research". Paper presented at *Soc. for Amer. Archaeology*, St. Louis MO. 4/15/10.
- Sheryl Luzzadder-Beach and Timothy Beach. 2010. "Testing Wetland Formation Models in the Maya Lowlands" Paper presented at *Association of American Geographers*

- Annual Meetings*, Washington DC. 4/16/10.
- Nicholas P. Dunning, Timothy Beach, David Wahl, Sheryl Luzzadder-Beach, Carmen McCormick, and John G. Jones. 2010. "The End of the Beginning: Reflections on the Preclassic Maya Collapse" Paper presented at *Association of American Geographers Annual Meetings*, Washington DC. 4/16/10.
- Timothy Beach and Sheryl Luzzadder-Beach. 2010. "Collapse and Depressions: Maya Lowlands Transitions through the Prism of Wetlands." Paper presented at *Association of American Geographers Annual Meetings*, Washington DC. 4/16/10.
- 1987-2009 PRESENTATIONS: list available on request.**

2001-2017 (Selected). Additional Invited Lectures and Readings at Universities, Professional Societies, Outreach, Agencies & Field Schools:

2017. "A Mirror for the Maya: Using Water Chemistry to Understand Ancient Maya Wetland Interactions" *Chemistry Club* (ACS Student Chapter), *University of Texas at Austin*, Austin, TX. 19 April 2017. (With Tim Beach.)
2017. "Human Rights in Science and Engineering Courses: Geography Science & Human Rights, a Brief Overview for Students" Guest Lecture in *GRG 356/Honors 350, Global Sustainability/Soil*, *University of Texas at Austin*, Austin, TX. 4/17/17.
2016. "Re-enchantment of the Maya Lowlands Wetlands". *Maya Research Program Field School, UT Tyler, Twilight Lecture Series*. Blue Creek, Belize. 6/3/16.
2015. "Ancient Water Management Strategies and Water Quality of the Maya Lowlands". *Maya Research Program Field School, UT Tyler, Twilight Lecture Series*. Blue Creek, Belize. 6/5/15.
2014. "Human and Natural Changes in the Maya Lowlands Wetlands." Department of Geography, Texas State University. San Marcos, TX. 11/7/14.
2013. "A Mirror for the Maya: Using Geoarchaeology to Understand Ancient Maya Wetland Interactions" *Evelyn L. Pruitt Annual Lecturer. Louisiana State University Department of Geography and Anthropology*. 15 March 2013, Baton Rouge, LA. See 'Honors' for details.
2012. "Geoarchaeology" Guest Lecture in *GG550 Geospatial Science Fundamentals*, *George Mason University*, Fairfax VA. 9/6/12.
2012. "Physical Geography and Groundwater Resources of the Yucatan Peninsula" *University of Texas-Austin/Programme for Belize Archaeology Project Field School*, Rio Bravo Conservation Area, Belize. 6/30/12.
2012. "The Geology of Central America" *Maya Research Program Field School*. Blue Creek, Belize. 6/6/12.
2012. "Wetlands and Water Quality Issues" with Tim Beach; *IHOPE-Maya Issues on Sustainability Workshop*, University of Cincinnati, Cincinnati OH. 5/17/12.
2011. "Hydraulic Society and Water Quality: Constraints and Possibilities in the Ancient and Contemporary Maya Worlds". *Maya Research Program Field School*. Blue Creek, Belize. 6/10/11.
2011. "Geography and Natural Resources of North America" Featured speaker, Digital Video Conference with Bratislava University. *U.S. Department of State*, Washington DC. 28 April 2011. The U.S. Embassy in Slovakia hosted a series of digital video conferences (DVCs) to support Slovakia's new North American Studies Center at the University of Economics in Bratislava. Honorarium.
2011. "Careers in Geography and Earth Sciences," 2 STEM Panel discussions presented for *Girls Inspired and Ready to Lead, Inc.* Fairfax VA. 10/15/11.
2011. "Clean Water for a Green Planet," 2 Workshops presented for *Sally Ride Science Festival for Girls*. *George Mason University*, Fairfax VA. 9/17/11.
2011. "Ecosystems and Soils". Guest Lecturer in STIA Environmental Science class, *Georgetown University*, Washington DC. 3/24/11.
2010. "Water Economics". Guest Hosted and Led Discussion In STIA Hydrology seminar, *Georgetown University*, Washington DC. 11/2/10.

2010. "Geoarchaeological Investigation of Fluvial Systems in the Maya Lowlands." in *GGS 900 ESGS Colloquium, GMU*. 10/13/10.
2010. "Geoarchaeology in Yucatan". *GMU Osher Lifelong Learning Institute*, Course on Mexico. 4/21/10.
2009. "Karst Geomorphic Systems; Glacial Geomorphology; and Ecol. Restoration." 3 Guest Lectures/seminar discussion in STIA 311 Geomorphology and STIA 408 Environ. Reconstruction, *Georgetown University School of Foreign Service*, Washington DC. 11/17 and 11/24/09.
2009. "Clean Water for a Green Earth," 2 Workshops presented for *Sally Ride Science Festival for Girls*. *George Mason University*, Fairfax VA. 4/18/09.
2009. "Geoarchaeology, Hydrology, and Wetland Morphology in the Belize Coastal Plain." *Potomac Geophysical Society*. Ft. Myer Officers' Club, Arlington VA, 3/19/09.
2008. "Hydraulic Society and Water Quality: Constraints and Possibilities in the Ancient and Contemporary Maya Worlds." *Brown University, Joukowsky Institute for Archaeology and the Ancient World, and Material Worlds Seminar*, Providence RI. 11/13/08.
2007. "Complexity in Geomorphology: Deciphering Patterned Ground in the Maya Lowlands Using a Multi-Proxy Approach." *Computational and Data Sciences Lecture Series, George Mason University*, Fairfax VA, October 2007.
2006. "Water Quality, Treatment, and Resources of the Eastern Mediterranean Region: Turkey's Environmental Case for EU Accession." Class Lecture at *Georgetown University's Center for Eastern Mediterranean Studies, McGhee Center*, Alanya, Turkey. May 2007.
2004. "Water Resources of Northwestern Belize." Lecture given to *Field School, Blue Creek Archaeology Programme*, TCU and UT Austin, Blue Creek Village, Belize. 13 June 2004.
2004. "Saving the Planet's Water, One Drop at a Time!" 2 Workshops presented for *Sally Ride Science Festival for Girls*. *George Mason University*, Fairfax VA. 17 April 2004.
2004. "The Geography of Ondjatte's *The English Patient*: Making Sense of Place." Faculty Panel Presentation for ENGL 325 course, *George Mason University*, 14 April 2004.
2004. "Global Atmospheric Energy Budget and Circulation." Guest Lecturer in STIA 102, Environmental Science, *Georgetown University School of Foreign Service*, Washington DC. 29 January 2004.
2004. "Wetland Environmental Change in Belize." *Georgetown University Center for the Environment Distinguished Lecture Series*. *Georgetown University*, Washington DC. 28 January 2004.
2003. "Geoarchaeology: Exploring Ancient Maya Land and Water Use in Mesoamerica." Lecture presented at *Global Affairs Brown Bag Lecture Series*, Office of the Provost, *George Mason University*, Fairfax VA. 3 December 2003.
2003. "Review of Sagan's *Demon Haunted World: Science as a Candle in the Dark*; and Mann's *1491*" 2 Guest Lectures in STIA 100, Freshman Proseminar in Environmental Science, *Georgetown University School of Foreign Service*, Washington DC. 21-23 October 2003.
2003. "Hydrology and Fluvial Geomorphic Processes." 2 Guest Lectures in Geomorphology (STIA/SFS course), *Georgetown University School of Foreign Service*, Washington DC. 21-23 October 2003.
2003. "Wetlands as the Intersection of Soils, Water, and Complex Human Society: Patterns in the Americas" Book Chapter presented at *Wasan Island Soils and History Conference*. *Breunenger Foundation* support, Wasan Island, Ontario Canada. 19-26 August.
2003. "Water Resources Investigation of the Chunchucmil Maya, Yucatan Mexico." *Geography Department, University of Cincinnati*, 18 April 2003.

2002. "Exploring Our World with Geography." 2 Workshops presented for *Sally Ride National Capital Science Festival for Middle School Girls*. George Mason University, Fairfax VA. 11 May 2002.
2002. "Water Resources Research in the Maya Lowlands" *Department of Geography, University of South Florida*, Tampa FL. 1-2 April 2002.
2001. "GMU's New General Education Program." Presented to *Visiting Chinese Scholars Delegation*. George Mason University. November 2001.

1998-2000. Additional list available by request.

FIELD RESEARCH

2020. Field Research Travel suspended/cancelled by Earthquakes, COVID, UT, and Field Stations. Quake: **Puerto Rico** 1/20; COVID-19: **Campeche MX** 3/20; **Belize** 5/20; **Guatemala** 6/20; **Italy & Romania** 7/20; **Iceland** 7/20.
2019. **Romania**. July 2019. Geoarchaeological field research in human-induced landscape changes and water use at the Histria Archaeology Project, **Romania**. (Dr. Adam Rabinowitz, UT Classics, PI), Planet Texas 2050 Projects.
- 2017-19. **NW Belize**. May and June 2017-19. Ground truthing NSF funded LiDAR data sets of archaeological and hydrologic features at the La Milpa/Programme for Belize, Blue Creek/MRP, Crooked Tree Project, and Belize River Valley Maya Archaeology sites. **Supervising student research**. Planet Texas 2050, C.B. Smith Sr. Endowment funding. Collaboration with UT Austin's Mesoamerican Center, PfbAP, UT Tyler MRP, and UT San Antonio BRV projects.
- 2017-18. **Italy and France**. July 2017-18. Geoarchaeological field research in human-induced landscape changes at the Morgantina Archaeology Project, **Sicily**. (Dr. Alex Walthall, UT Classics, PI), and Roman Aqueduct study, **Rome**, with Dr. Rabun Taylor (UT Classics). Planet Texas 2050 Projects. **France**: Alps, Glacial retreat zone environmental restoration project. C.B. Smith Endowment funding. **Supervising student research**.
2018. El Zotz, Petén, **Guatemala**. June 2018: International Field Research Team in Guatemala (Thomas Garrison, Ithaca U., PI). Hydrology, Geoarchaeology, and sedimentology focus. Season 1 of Field validating LiDAR Imagery with excavations and GPS mapping of ancient Maya reservoir and wetland sites, to reconstruct past environments at El Zotz Archaeological site. Collaborated with researchers and students from Ithaca U., Brown U., and Australian Catholic U. C.B. Smith Sr. Endowment funding.
2017. **Iceland**. June-July 2017. **Supervised PhD Student Greta Wells' hydrologic and geomorphic field research**: glacial, flood, and volcanic hazard landscapes of Iceland. C.B. Smith Sr. Endowment funding. (T. Beach UT Co-PI).
- 2009-16. **Belize, Central America**. Director NSF-funded International Field Research Team in Belize (Luzzadder-Beach and Beach, Collaborative **PI's**). Hydrology, Geoarchaeology, Geomorphology, Ecology, and Aerial Photography focus. Excavations and GPS mapping of ancient Maya Wetland field sites in New River Basin/Lamanai Archaeology site Belize, Programme For Belize Archaeology Project/Rio Bravo Conservation Area, and Blue Creek/Maya Research Program; aerial photography flights and regional water and sediment sampling survey of wetlands, rivers, and ground water in a transect across northern Belize to the offshore Cayes; water and soil sampling at Marco Gonzales Maya Site, Caye Caulker; and ecological profile of Programme for Belize Archaeology site. Collaborating with researchers and students from Georgetown U. UT Austin and UT Tyler, U of Puerto Rico (PI & Co PI), and University College, London (Senior Scientist and former Director of Archaeology for Belize).
2015. **Iceland**. July-August 2015. **Supervised MA Student in hydrologic and geomorphic field thesis research and co-PI of NSF funded** glacial, fluvial,

- and volcanic hazard landscapes of Iceland. “*RAPID: Monitoring the glacial-outburst flood (jökulhlaup) resulting from the eruption of Barðarbunga Volcano, Iceland.*” NSF EAR- RAPID #1461529 (D. Howard and J. McNeill co-PIs Georgetown U.; T. Beach UT Co-PI).
2015. **Pich, Campeche, MX.** March 2015. NGS Consulting Scientist, Water Resources. (Dr. Betty Faust, PI, Centro de Investigacion Cientifica de Yucatan, Recursos Naturales) “Research on Irrigation and Drainage Functions of Maya Canals at Cauich, Campeche, Mexico.” NGS funding, B. Faust PI)
- 2011-15. **Yucatan, Mexico.** Co-Director NSF-funded International Field Research Team in Mexico (Luzzadder-Beach, PI). Hydrology, Geoarchaeology and Economic focus. Excavations and GPS mapping of ancient Maya causeway linking archaeology sites Uci and Cansahcab, near Motul MX, and investigation of water and soils resources of the sites. Collaborating with researchers and students from University of Kentucky Archaeology (Collaborating PI), BYU Plant and Wildlife Dept. (Collaborating PI) and Georgetown U. Sch. Foreign Svc. (Senior Scientist).
- 2009-11. **Guatemala, Central America.** 3 May 2010 - 12 May 2010: Senior Scientist, co-Director of Environmental Studies. NSF-funded International Field Research Team in Guatemala (Stephen Houston, Brown U., PI). Hydrology, Geoarchaeology, and sedimentology focus. Season 2 of Excavations and GPS mapping of ancient Maya reservoir and wetland sites to reconstruct past environments at El Zotz Archaeological site, Petén, Guatemala. Collaborated with researchers from Georgetown U. (co Director) Brown University, and students from Brown U and Guatemalan Graduate Students.
- 2008 and 2012. **Iceland. Supervised PhD Student hydrologic and geomorphic field research** in glacial, fluvial, and volcanic landscapes of Iceland. In support of *Quantitative Hydraulic Models for Jokulhlaup-Type Outflow Channels on Mars: Application of Earth Analogues, Geomorphology, and Remote Sensing.* NSF (D. Howard, co-PI, 2008) GMU and Georgetown (Faculty, 2012) Funding.
- 2000-09. **Belize, Central America. Blue Creek Archaeological Project.** Ancient Maya Wetland Agricultural Investigation. Water chemistry and soil samples, measure ground water table depths, map, and excavate archaeological wetland agricultural site. Guest Lecture in field school. May-June. Co P.I.s Dr. T. Beach Georgetown U.; Dr. Tom Guderjan, UT-Tyler, Maya Research Program Dir.; Dr. John Lohse, U.T. Austin; National Geographic Society Committee for Research and Exploration Funding (3 grants, Co-I).
2003. **Yucatan, Mexico.** Mayapan Archaeological Site. Ancient Maya Land and Water Use. June 2003. Water and soil samples, measure ground water table depths, map, and excavate archaeological site. Explore Ring of Cenotes. ecological investigation to continue ongoing reconstruction of past environment. NSF funding, Dr. Marilyn Masson, SUNY Albany, PI.
- 1994, 1996-1998, 2000, 2001. **Yucatan, Mexico.** Chunchucmil “Pak-Beh” Archaeological Site. Ancient Maya Land and Water Use. Water and soil samples collected, measured ground water table depths, mapped, and excavated archaeological site. Survey and map beach ridge formations and solar salt ponds. Explored Ring of Cenotes. NSF, NGS, AAG and GMU funding, funded & took 2 GMU students. see funding above.
- 1999-2000. **Adana, Turkey.** June-July. Hydrologic Investigation of Kinet Hoyuk Archaeological Site and Delicay River Plain. GMU Funding.
- 1993-1995, 1997-1998. **Belize, Central America.** La Milpa Archaeological Site. Ancient Maya Land and Water Use. Water and soil samples collected to confirm lab results, new lake cores and water samples, mapping, excavating archaeological site. NSF (U. Texas and U. Cincinnati PIs) and GMU funding.
1996. **Aleppo, Syria.** Geoarchaeology: Environmental Investigation of Bronze Age Site Tell Um-al-Marra. June-July. Collect soil and water samples, survey of water

- resources, collect agricultural data from agency (ICARDA), excavate Bronze-age mound, reconnaissance of Lake Jabbul as future coring site. NGS funding (PI G. Schwartz, Johns Hopkins U.).
1996. **Alanya, Turkey.** Geoarchaeology: Agricultural Potentials of 14th Century Walled Seljuk Gardens of Southern Anatolia. July. Mapping historic garden and pavilion sites, exploring water control structures (I discovered an unrecorded Roman aqueduct), interviewing farmers, field testing water samples, soil samples taken, collecting data and air photos from agencies. NGS funding (PI S. Redford, Georgetown U.).
1995. **Taiwan, R.O.C.** U.S. East Coast Scholars Delegation to Taiwan. International Relations Dept., Chengchi Univ., Sponsors & Funding. January. Participated in seminars with government agencies (including Taiwan EPA), university, trade organizations, and public institutions to hear case for United Nations membership for Taiwan. Chengchi U. Hosts.
- 1980-1987. **Northern California.** Surface and ground water quality field sampling and hydrologic measurements. California Dept. of Water Resources.

TEACHING, ADVISING, and CURRICULUM

COURSES TAUGHT:

University of Texas-Austin, 2014-present:

GRG 410C Spatial Data and Analysis with Lab. Undergraduate.

GRG 310C Spatial Data and Analysis. Undergraduate.

GRG 396T Environmental Hydrology and Hydraulic Society. Graduate Seminar.

GRG 390K Issues in Geog.: Geographic Thought and Methodology. Required Grad Sem.

George Mason University, 1993-2013:

EOS/GGS 121 The Dynamic Atmosphere and Hydrosphere (Gen Ed Lab Science)

EOS 656/GEOG 570/EVPP 652 The Hydrosphere/Environmental Hydrology

GGG 316/533 Geography of Latin America (Co-taught with Ian Ward)

GGG 398/575 Seminar in Reconstructing Past Environments: Geoarchaeology

GGG 689 Geographic Thought and Methodology Seminar

GGG/EVPP 792 Seminar: History of Earth Systems Science

EOS 900 Colloquium in Earth Systems & GeoInformation Sciences

GEOG 102 Physical Geography (Gen Ed, Non-Lab Science)

GEOG 103 Human/Cultural Geography (Gen Ed Social Science)

GEOG 300 Geographical Analysis-Quantitative Methods

GEOG 415 Senior Seminar in Geography (Gen Ed Writing Intensive)

University of Georgia, Athens GA, 1991-1993:

GGY 104 Earth Science Survey

GGY 120 Weather and Climate

GGY 801 Geographic Thought and Methods (Graduate)

Humboldt State University, Arcata CA, 1990-1991:

GEOG 104 Human/Cultural Geography

GEOG 110 Physical Geography

GEOG 320 American/ Canadian East

GEOG 321 American/ Canadian West

GEOG 350 Water Resources

University of Minnesota, 1982-1989:

COMP 1011 Freshman Writing Practice

GEOG 1301L Human Geography Recitations

GEOG 1401 & 1401L Physical Geography Lecture and Labs

GEOG 3985 Sr. Proj. Writing Seminar (Writing Across the Curriculum Pilot) linked with:

COMP 3014 Writing in the Quantitative Social Sciences (Writing Across the Curric. Pilot)

**UNIVERSITY of TEXAS STUDENT ADVISING 2014- Present:
11/2014- 8/2015. Acting Graduate Advisor, Dept. Geog. and the Environment.**

UT Doctoral Dissertation Director (1 Completed):

Jonathan Flood, PhD, GEOG (July 2016). Dissertation: “*Groundwater Geochemistry and Human Ecology In The South Aegean: A Diachronic Investigation Of The Human-Hydrologic Relationship From Prehistory To The Present.*” Currently: Asst. Prof. (Tenure-track) Geography, Frostburg State University, Maryland.

UT Master’s Thesis Director (2 Completed):

William Delgado, MA, GEOG (Co-Director; completed August 2017). Thesis: “*Incorporating Renewable Energy in a Desalination Plant – Case Study in El Paso, Texas.*”

Greta Wells, MA, GEOG (Director; completed May 2016). Thesis: “*Timeline Reconstruction of Holocene Jökulhlaups along the Jökulsá á Fjöllum Channel, Iceland, 2014-16.*” Currently: Fulbright and NSF Fellowship, Iceland, 2019-20.

UT Ph.D. Dissertation and MA Thesis Committee Memberships (7 Completed):

Samantha Krause, PhD, GEOG (2018). Dissertation: “*Wetland Agroecosystems in the Maya Lowlands of Belize: LiDAR and Multi-Proxy Environmental Change.*”

Leila Donn, MA, (GEOG, (2018). Thesis: “*Long-Term Human Impact on a Neotropical Watershed in the Belize-Guatemala Transboundary Area.*”

Sara Eshleman, MA, GEOG, (2018). Thesis: “*Soil characteristics associated with cohune palm (*Attalea cohune*) forests.*”

Colin Doyle, MA, GEOG (2017). Thesis: “*Leveraging Geospatial Technologies for Flood Management and Disaster Assessment in the Lower Mekong River Basin.*”

Edward Park, PhD, GEOG (2017) Dissertation: “*Tributary Impacts, Hydrological Connectivity and Distribution of Sediment Sinks Along the Middle-Lower Amazon River.*”

Debora Trein, PhD, ANTH (2016) Dissertation: “*Variable Use of a Monumental Space at the Ancient Maya Site of La Milpa, Belize.*”

Jannie Scott, PhD, ANTH (2016) Dissertation: “*Constructing Place, Building Community: The Archaeology and Geography of African American Freedmen’s Communities in Central Texas.*”

UT Ph.D. Advising and Committees (9 In Progress):

Greta Wells (PhD Candidate, ABD, GEOG) Advisor.

Anwar Sounny-Slitine (PhD Candidate, ABD, GEOG) co-Advisor.

Colin Doyle, (PhD Candidate, ABD, GEOG) co-Advisor.

William Delgado, (PhD Candidate, ABD, GEOG) co-Advisor.

Anais Zimmer, (PhD Candidate, ABD, GEOG) Committee Member.

Patricia Neuhoff, (PhD Candidate, ABD, ANTH) Committee Member.

Sara Eshleman, (PhD Student, GEOG) Committee Member.

Leila Donn, (PhD Student, GEOG) Committee Member.

Byron Smith, PhD Student (GEOG), Committee Member.

UT MA Advising and Committees (2 In Progress):

Jedediah Dale, MA Student (GEOG) Co Advisor, Committee Member.

Danielle Ruffe, MA Student (GEOG) Co-Advisor, Committee member.

GMU STUDENT ADVISING AND COMMITTEES 1993-2017:

Program and Advising Coordination:

2008-2014. Director of Academic Programs, PhD Director, and Graduate Director, Geography and Geoinformation Science Department.
Enrollment, Sp. 2012: 77 PhD (Earth Systems and Geoinformation Sciences), 108

MS (Geography; Geospatial Intelligence and Informatics, and Earth Systems Science) and 30 Graduate Certificate (Geospatial Intelligence, GIS, Remote Sensing) Students as Director of Graduate Studies; 96 BS and BA majors (Global and Environmental Change, and Geography).

2007-2010. BS in Global and Environmental Change, Director and Undergraduate Coordinator, Earth Systems & Geoinformation Sci./GGS/ESP Departments. New Degree in 2007.

1993-97, 1999-2000. Geography & Earth Science Undergraduate Program Coordinator: BA & BS, GEOG. CAS & GMU student recruiting, advising, and orientation; course scheduling, student advising, coordinate GES Major & Minor advising, transfer credit evaluations.

Undergraduate Advising: 1993-2010. Appointments as Undergraduate Coordinator for BA GEOG, BS GEOG; and BS GLEC, George Mason University. 2010-2012.

GMU PhD Advisor thru 2013, and Committees 2014-2017 (2 Completed):

Tanya Catignani, PhD, Earth Systems and Geoinformation Sciences. (May 2017). "*Geospatial Analysis of the Ancient Maya Wetland Agricultural Fields of Northern Belize*". (I was Advisor at GMU, Paul Houser was Advisor after I left GMU, I remained on her Committee).

Federico Solano PhD, Earth Systems and GeoInformation Sciences (May 2016). "*A Study of Clays and Debris Flows by Integrating Remote Sensing and In-Situ Measurements in Virginia, USA*." (I was Advisor at GMU, John Qu was Advisor after I left GMU, I remained on his Committee).

GMU Doctoral Advisor/Dissertation Director (6 Completed):

Larissa Mark, PhD, Environmental Science and Public Policy (August 2012) "*Moderating the Influence of Uncertainty on the Adoption of Green Building Practices in Response to Climate Change*."

David Allen, PhD, Earth Systems and GeoInformation Sciences (May 2012): "*Spectral Discrimination of Coral Disease for the Advancement of Non-Invasive Field Diagnostic Techniques*."

Alex Owusu, PhD, Earth Systems and GeoInformation Sciences (May 2009): "*Detecting and Quantifying the Extent of Desertification and its Impact in the African South of the Sahara: A Case Study of the Upper East Region of Ghana*." (USAID-Borlaug LEAP and GMU Funding). Co-advisor with Dr. Guido Cervone.

Douglas Howard, PhD, Earth Systems and GeoInformation Sciences (January 2009): "*Quantitative Hydrologic and Hydraulic Modeling for Jokulhlaup-type Outflow Channels on Mars: Application of Earth Analogues, Comparative Geomorphology, and Remote Sensing*." (GMU, NSF, NASA, GSA, and Cosmos Club Funding).

Judith Buchino, PhD, Environmental Science and Public Policy (January 2005): "*Impact of Land Use on Fecal Coliform Levels in Surface Waters of Fairfax County, Virginia*." (GMU Funding).

Craig Ashbrook, Doctor of Arts, Community College Education, (May 2002): "*Soil Attributes as Viable Agents in Red Spruce Mortality Along the Southern Appalachian Highlands with Applications as Field and Laboratory Exercises for Community College Science Courses*."

GMU Master's Thesis/Project Advisor thru 2013, and Committee 2014-15 (1 Completed)

Joleen Keen, (MS GECA, 2015) Thesis in Geoarchaeology. "*A Comparison of Vector Based*

and Raster Based Analyses of Historic Records for the Identification of Archaeological Sites.”

GMU Master’s Thesis/Project Advisor (7 Completed):

Eric Rosenberger, Earth Systems Science (MS, 2008) *Project: “Tornado Intensity and Temperature Changes United States, 1950-2004.”*

Julie Obloy Sarshar, Earth Systems Science (MS, 2007) *Project: “Analysis of Factors Affecting Hurricane Intensity.”*

Matt Cheyne, Earth Systems Science (MS, 2005) *Project: “Spatial Analysis of Impact Craters in North America.”*

Todd Fagan, Geographic and Cartographic Sciences (MS, 2002), *Thesis: “A Spatio-Temporal Analysis of Breeding Bird Surveys in Northern Virginia (1997-2001).”*

Hillary Barbour, Cultural Ecology (MAIS, 1998) *Project: “A Preliminary Examination of the Effects of Decentralization on Biodiversity in Ria Celestun and Ria Lagartos, Yucatan, Mexico.”*

Jonathan Moore, Geographic and Cartographic Sciences (MS, 1997, co-advisor w/J. Wood) *Thesis: “The Changing Cultural Landscape of Saint Martin/Sint Maarten.”*

Eleni Vasilakopoulou, Environmental Science and Policy (MS, 1994) *Thesis: “Land Use/Cover Changes and Wetland Quality in a Western Peloponnese Coastal Plain (Greece).”*

M.S. Earth Systems Sci. and M.S. Geographic & Cartographic Science Advisor (non-thesis): 25+ Completed

GMU MS and Ph.D. COMMITTEE MEMBERSHIPS (35 Completed):

MS (n=17):

Heather Hunter, Earth Systems Science (MS, 2013) *Thesis: “Analyzing the Influence of African Dust Storms on the Incidence of Coral Disease in the Caribbean Sea using Remote Sensing and Association Rule Data Mining.”*

Amber Siegel, Geographic and Cartographic Sciences (MS, 2012) *Thesis: “NO₃ Concentrations in Public Water Supply Wells: Using Interpolation to Identify Local Contamination Zones.”*

Steven Otto, Geospatial Intelligence (MS, 2012) *Thesis: “On the Use of Written Historical Records to Geo-Locate Historical Events”*

Andrew J. Gallagher, Earth Systems Science (MS, 2012) *Thesis: “Implementation of a Hydrological Model Based on Full Resolution 3D LIDAR Point Clouds”*

Kyle Foster, Earth Systems Science (MS, 2012) *Thesis: “Measurements of the Opposition Effect in the Visible and Near-infrared Using an Improvised Imaging Spectropolarimeter.”*

Melissa Soriano, ESS (MS, 2009) *Thesis: “Estimation of Soil Moisture in the Southern United States in 2003 Using Multi-Satellite Remote Sensing Measurements.”*

Staci Cayci, GECA (MS, 2005). *Thesis: “Modeling Spatially and Economically Efficient Bus Routes for the Fairfax County Connector System.”*

Peter Renz, ESP (MS, 2004) *Project: “Dept. of Defense Properties and BRAC Environmental Policies.”*

Ryan Hansen, ESP (MS, 2003) *Thesis: “Aquatic Macroinvertebrate Communities in an Agriculturally Impacted Stream in Northern VA and an Evaluation of Fencing as a Best Management Practice.”*

James S. Bucko, (MAIS, 2002) *Project: A Study of Water Management by the Ancient Inhabitants of Aperlae Turkey and the Application of Geographic Information Systems (GIS) to the Hosting and Analysis of Archaeological Survey Data from Aperlae.”*

Nathaniel Herold, GECA (MS, 2001) *Thesis: “Integration of Radar and Optical Data for Land Cover Classification in the Presence of Speckle Noise.”*

Dianna Hogan, ESP (MS, 2000) *Thesis: “The Effect of Soil Organic Matter on*

- Phosphorous Retention and Transformation in Constructed and Natural Freshwater Wetlands.*”
- Matthew Bechdol GECA (MS, 1999) Thesis: “An Evaluation of Texture Analysis in Spaceborne Radar Imagery.”
- Sheila Young, EMP (MS, 1999) Thesis: “Sustainable Development Activities of USAID/Indonesia: Measuring Change in the Energy Sector.”
- Kristin Fitzgerald, ESP (MS, 1999): Thesis: “Microbial Community Dynamics During the Bench-Scale Bioremediation of Petroleum Contaminated Soil.”
- Rebecca Martin ESP (MS, 1996) Thesis: “Phosphorous Concentrations in Surface, Subsurface, and Ground Water of Six Virginia Piedmont and Coastal Plain Wetlands.”
- Beth Rundstrom, GECA. (MS, 1994) Thesis: “Woman is Home in Willa Cather’s *O Pioneers!*”

Ph.D. (n=18):

- Brutus Cooper, PhD ESPP (2012) *"Identification, Quantification, and Distribution of Polychlorinated Biphenyls (PCBs) in Sediments of the York and Rappahannock River Watersheds, Virginia USA."*
- Trent Richardson, PhD ESPP (2012) *"Historical Coastal Morphodynamics of Cedar & Parramore Islands and Wachapreague Inlet, Virginia (1852-2009): Evolution of a Barrier-Island System along the Outer Shoreline of the Delmarva Peninsula."*
- Muffarah Jahangeer, PhD Physical Sciences (2011) *"Biogenic Trace Gases in the Atmosphere of Mars."*
- Roz Maccracken, PhD ESGS (2010) *"Impact of Climate on Eastern U.S. Wine Production."*
- George Lu, PhD ESGS (2007) *"Soil Erosion and Slope Stability Models."*
- Marci Robinson, PhD, ESPP (2007) *"Geomorphic History of Old Currituck Island VA Barrier Islands."*
- Tom Hollowell, PhD ESPP (2005) *"Plant Community Structure, Fire Disturbance, and Succession in Mangrove Swamps of the Waini Peninsula, Guyana."*
- Mark Strong, PhD ESPP (2004) *"An Electron Microscopy Study of the Outer Pericarp Surface of Achenes (Fruits) of Rhynchospora (Cyperaceae) in the Guianas South America, Bearing on the Delimitation of Species and Sections, and to Clarify the Taxonomy and Distribution of Species Occurring in the Guianas."*
- Scott Thomas, PhD ESPP (2004) *"Developing an Ecosystem Management Framework for the Department of Defense."*
- Bill Kirby, PhD ESPP (2003) *"Benthic Macroinvertebrate Response to Post-Development Stream Hydrology."*
- John Wilder, PhD ESPP (2002) *"GIS-based Historical Time Sequence Analysis, Spatial Decision Support System: A tool for Formerly Used Defense Site (FUDS) Characterization and Area of Concern Prioritization."*
- Sue Cohen, PhD ESPP (2001) *"A Comparative Study of the Fungal Pathogen Discula umbrinella (syn = Discula quercina), on Quercus alba and Quercus rubra."*
- Kay Briggs, PhD ESPP (2001) *"Identification and Isolation of Anoxygenic, Photosynthetic, Purple Sulfur-Oxidizing Bacteria in an Estuarine Microbial Community."*
- Sue Norton, PhD ESPP (2000) *"Using Biological Monitoring Data to Distinguish Among Types of Stress in the Eastern Cornbelt Plains Ecoregion."*
- Rebecca Wright, PhD ESPP (1998) *"The Effects of Experimental and Natural Flooding on the Distribution and Availability of Soil Phosphorus in a Southeastern Floodplain Forest."*
- David Guggenheim, PhD ESPP (1998) *"Management of Forest Fires to Maximize Carbon Sequestration in the Boreal Forest of North America."*
- Julie Mann, PhD ESPP (1997) *"Riverine Wetland Function and Human-Induced Ecological Disturbance: a Watershed Perspective."*
- Kirk Havens, PhD ESPP (1995) *"The Formation of Hypertrophied Lenticels, Adventitious*

Water Roots, and Oxidized Rhizosphere by Acer Rubrum Seedlings Over Time in Three Different Hydrologic Regimes.”

New Curriculum and Courses Developed, GMU:

2000-2003 New George Mason University General Education Curriculum
2001 MS Earth Systems Science. (in collaboration with GEOG, ESGS, and EVPP Depts.)
2007 Geo-START: Geo-Spatial Thinking And Resources for Teachers of Earth Sciences and Physical Geography (NASA, AAG, Hunter Univ., Howard Univ. and GMU)
2007 BS Global and Environmental Change (in collaboration with GEOG, ESGS, EVPP)
2012 Curriculum Framework, Geography Science & Human Rights Module (COS Funded)
Environmental Hydrology/The Hydrosphere (Grad level, GGS 656)
Reconstructing Past Environments: GeoArchaeology (Grad & Undergrad, GGS 575/398)
Seminar in the History of Earth Systems Science (Grad Level, GGS 792)
Dynamic Atmosphere and Hydrosphere (Undergrad Gen Ed Lab Science, GGS 121)
Dynamic Geosphere and Ecosphere (Undergrad Lab Science, GGS 122)

New Curriculum Developed, UT:

2014-2016. Bachelor of Arts in Sustainability Studies, degree development team.
2018-2019. GRG 410C New 4 credit “Lab Version” of GRG 310C Spatial Data & Analysis.

SERVICE

MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS

American Association for the Advancement of Science
American Association of Geographers (AAG)
Middle Atlantic Division AAG Life Member
Association of Pacific Coast Geographers, AAG
Society for American Archaeology
Geological Society of America Life Member
Conference of Latin Americanist Geographers Life Member
American Association of University Women
American Geophysical Union
Sigma Xi
American Quaternary Association (AMQUA)

SERVICE, PROFESSIONAL ORGANIZATIONS and UNIVERSITIES

Academic Program Review:

Fall 2016. **External Reviewer**, Geography and Atmospheric Science Department Programs at the University of Kansas.
Fall 2015. **External Reviewer**, Geography Department Graduate Programs at University of Colorado at Denver.

Editorships:

2017-2019. **Guest Editor**. T. Beach, S. Luzzadder-Beach, and C. Cordova. Special Issue: "Human Impacts on Geomorphic Systems and the Legacy Karl W. Butzer." *Geomorphology*. Vol. 331, pp. 1-190. (Elsevier). 12 papers. 15 April 2019. Special Issue based on the 2017 AAG Physical Geography Symposium of 25 papers.
2016-2017. **Guest Editor**. A. Chin, T. Beach, S. Luzzadder-Beach, and W. Solecki. Special Issue “Challenges of the Anthropocene,” *Anthropocene*. (Elsevier). Vol. 20, pp. 1-90. December 2017.
2012-pres. **Section Editor**, Hydrology. *The International Encyclopedia of Geography*. (American Association of Geographers and Wiley-Blackwell). 15 Volumes.
2016-pres. **Associate Editor**, Geoarchaeology, Hydrology, and Geomorphology, *Arabian Journal of Geosciences* (Springer, Germany).
2012-2016. **Section Co-Editor**, Geomorphology and Hydrology. *Geography Compass* (Wiley, Online Library ISSN: 1749-8198). Co-Editor with Paul Hudson.

National and International Leadership, Elected Offices, and Committees:

American Association of Geographers **Past President**. Term 7/1/2019-6/30/2020. To give *Past Presidential Address* at AAG April 2021 Annual Meeting, Seattle WA. **(2020 In Person AAG Meeting Cancelled, and Presidential Address Delayed 1 year due to COVID-19)**

American Association of Geographers **President**. Term 7/1/2018-6/30/2019. **Elected 2/28/18.**

American Association of Geographers **Vice President**. Term 7/1/2017-6/30/2018. **Elected 2/6/17.**

American Association of Geographers **Executive Committee**. Term 7/1/2017-6/30/2020. **Elected 2/6/17.**

American Association of Geographers **Council**. Term 7/1/2017-6/30/2020. **Elected 2/6/17.**

American Association of Geographers **COVID-19 Rapid Response Task Force Co-Chair, Members Sub-Committee**. **Appointed, 4/30/2020-5/31/2020. 2 Proposals funded.**

Shanghai Archaeology Forum Advisory Committee, **Corresponding Member**. **Invited. 2017-pres.**

National Geographic Society Committee for Research and Exploration Grants **Reviewers Circle**, 2018.

National Geographic Society Committee for Research and Exploration Grants **Advisory Board**, 2017-2018.

AAAS Science & Human Rights Coalition **Council (AAG Rep.)**. 2013-pres.

AAAS Science & Human Rights Coalition **Steering Committee (AAG Rep.)**. 2013-17.

AAAS Education and Information Resources Working Group **Co-Chair (AAG Rep.)**, Science & Human Rights Coalition, 2013-16. Committee member: 2011-16.

American Association of Geographers **Awards Committee**. 2015-2018.

Association of American Geographers **Nominations Committee**. 2008, **Elected**.

Association of American Geographers **Finance Committee**. 2006-09.

Association of American Geographers **-IGU Travel Grant Committee**. May 2004.

Chair, Middle Atlantic Division-Assoc. of American Geographers. 2005-06. **Elected**.

Vice Chair, Middle Atlantic Division-AAG. 2004-05. **Elected**.

AAG Regional Councilor, Representing Middle Atlantic Division. 2001-04. AAG Council, **Elected**.

Chair of Regional Councilors, 2003-04. AAG Council (AAG board of directors). **Elected**.

AAG Committee on Committees, **Elected** by AAG Councilors. 2003-04.

Director, Water Res. Spec. Group, **AAG**. 1998-2000, 2001-2003. **Elected**.

AAG-National Geographic Soc. Joint Comm., Appointed by AAG Council. 2001-04.

AAG Constitution and Bylaws Committee. 1996-1999.

AAG Tellers Committee. 2001 National Elections.

Secretary, and Editor, *Newsletter of the Middle Atlantic Division, AAG*. 1999-2001. **Elected**.

Chair, Finance Committee, **MAD-AAG**, 1999 Annual Meeting.

Program and Planning Committee, **MAD-AAG** 1999 Annual Meeting.

Treasurer, Middle Atlantic Division, AAG. 1998-99. **Elected**.

Events Chair, Middle Atlantic Division, AAG. 1996-97. **Elected**.

Steering Committee, Binghamton Geomorphology Symposium, 2008-pres. **Elected**.

GMU Representative. Consortium of Universities for the Advancement of Hydrologic Sciences, Inc. (CUAHSI). 2006-2014.

GMU **PI and Technical Representative**, Chesapeake Watershed--Cooperative Ecosystems Study Unit (**CW-CESU**). Coordinate GMU Cooperative Federal CESU Grant and Contract activities. 2003-2014.

Other Professional Meeting Service (Selected, 2001-2019):

2019. AAG Presidential Plenary, *Organizer and President/Chair*, "The Intersection of Geography, Environmental Science, Human Health, and Human Rights" *American Association of Geographers (AAG) Annual Meeting*. 3 April 2019.
2018. AAG Annual Meeting, Panel Organizer and Host, Department Chairs' Luncheon: "Developing Geography: Sharing ideas and innovations for program fundraising and entrepreneurship in a climate of shrinking state and federal support." 11 April 2018. New Orleans, LA.
- 2017-18. AAAS Annual Meeting Panel Session Co-Organizer and Moderator, Title: "Airborne Laser Mapping Research in Tropical Forests and Archaeological Sites." 16 February 2018. Austin, TX.
- 2016-17. AAG Annual Meeting Theme Co-Organizer, "Mainstreaming Human Rights in Geography and Beyond" (with Doug Richardson AAG, Audrey Kobayashi Queens College, Jessica Wyndham and Theresa Harris AAAS). April 2017, Boston, MA.
2017. Co-Organizer and Co-Host (with Dr. P. Newberg, GOVT-UT, and Dr. T. Beach GEOG-UT). "Climate Vulnerability and Coastal Cities of South Asia Workshop." UT and Georgetown U. Joint Hosts. Doha, Qatar. 9-11 January 2017.
- 2016 Co-Organizer, and Session II Chair. "AAG Symposium on Physical Geography: Challenges of the Anthropocene." *American Association of Geographers Annual Meeting*, San Francisco CA. 30 March-1 April 2016.
- 2015 Workshop Co-Organizer and Co-Host (with Dr. P. Newberg, GOVT-UT, and Dr. T. Beach GEOG-UT). "Cross-Border Cooperation on Climatesheds and Watersheds in South Asia". UT Austin GOVT and GEOG Hosts. Austin, TX. 5-7 May 2015.
- 2014 Workshop Co-Organizer and Co-Host (with Dr. Fred Valdez, UT Austin) *IHOPE-Maya*. Two Day workshop preceding SAA Meetings, ATT Center, U-Texas Austin.
- 2012 Symposium Co-Organizer, Bruce H. Dahlin Memorial Session Part 2: "Adaptations and Maladaptations to Environmental Change." *Society for American Archaeology*. Memphis TN. April 2012.
- 2012 Session Moderator, "Breakout Workshop 15: Urban Water Security." 12th annual *National Council for Science and the Environment National Conference*, Washington DC. January 2012.
- 2009 Symposium Organizer, "Wetlands and Archaeology in Northern Belize and Beyond." *Society for American Archaeology*. Atlanta GA.
- 2007 Meeting Organizer and Host, *Chesapeake Watershed--Cooperative Ecosystems Study Unit (CESU)*. Federal Managers and Executive Committee. 34 Participants; Presentations. George Mason University.
- 2006 Co-Organizer, (MAD portion), *AAG Middle Atlantic Division and Southeastern Division Joint Annual Meeting*, Morgantown WV.
- 2005 Co-Organizer, *AAG Middle Atlantic Div. Annual Meetings*, USGS, Reston VA. 2005 Sessions Co-Organizer and Chair. "Geoarchaeology and Geomorphology I-IV." 4 paper sessions, *AAG Annual Meetings*, Denver CO.
- 2003 Session Co-Organizer. "Soils in Cultural Context: Mesoamerica." *AAG Annual Meetings*, New Orleans LA.
- 2001 Session Co-Organizer and Chair. "Soils in Archaeological Context." 4 paper sessions, *AAG Annual Meetings*, NY, NY.

Grant Proposal Reviewer and Panelist:

- NASA IDS Space Archaeology Panel*. Dulles VA, 2020.
- National Science Foundation*: FY07-09 Research Experience for Undergraduates Panel.
- National Science Foundation*: FY04 Human & Social Dynamics Panel- Spatial Dynamics.
- National Science Foundation*: Geography and Regional Science; Archaeology; & Geosciences Divisions; REU.
- National Geographic Society*: *Committee for Research and Exploration*, reviewer.
- Indo-US Science & Technology Forum Grant*.

Journal Manuscript Reviewer:

<i>Global and Planetary Change</i>	<i>Journal of Archaeological Science</i>
<i>Geomorphology</i>	<i>Geoarchaeology</i>
<i>Proceedings of the National Academy of Sciences</i>	<i>PLoS One</i>
<i>The Geographical Review</i>	<i>Annals of the Association of American Geographers</i>
<i>The Professional Geographer</i>	<i>Georgetown Journal of International Affairs</i>
<i>Applied Geographic Studies</i>	<i>Applied Geography Conference Volume</i>
<i>Physical Geography</i>	<i>Yearbook of the Association of Pacific Coast Geographers</i>
<i>Environmental Management</i>	<i>Water Resources Bulletin</i>
<i>Catena</i>	<i>Arabian Journal of Geosciences</i>

SELECTED ACADEMIC ADMINISTRATIVE COMMITTEE SERVICE

UNIVERSITY of TEXAS at AUSTIN (Selected):

2020. Bridging Disciplines Program Student Internship Supervisor. Spring 2020.
2019-2020. Search Committee for Maya Studies Faculty Cluster Hire.
2019-2020. Geography and the Environment Merit Review Committee.
2014-2018. College of Liberal Arts Academic Affairs Cttee. (Chairs & Center Directors).
2014-2018. Graduation Marshall, CoLA Convocation, UT Graduation.
2016- Present. Steering Committee, BA in Sustainability Studies.
2014- Present. Curriculum Committee, BA in International Relations and Global Studies.
2014-2015. Bachelor of Arts in Sustainability Studies Curriculum Committee.

GEORGE MASON UNIVERSITY (Selected)

2013. Search Comm., Coll. of Science Associate Dean for Academic and Student Affairs.
2010-2013. College of Science Promotion & Tenure Comm., 2012-13 Co-Chair (Level 2).
2012-2013. Search Comm. for GMU Senior Vice President, Finance and Administration.
2011-2012. Sergeant-at-arms, GMU Faculty Senate.
2010. AOES Faculty Promotion and Tenure Committee Level I, Fall 2010.
2009-10. GMU President's NCAA Academic Compliance Review Committee.
2009-13. Faculty Senate Academic Policies Committee (elected).
2008-2014. College of Science Deans and Chairs Group.
2008. Faculty Awards Committee, Senior Faculty Study Leave Grants.
2008. Faculty Awards Committee, Provost's Summer Faculty Research Grants.
2008-10. Faculty Senate Member, Athletic Council (elected).
2008-11. Faculty Senate Member, Vice Provost's Interdiscipl. Undergrad. Curric. Comm.
2008. Faculty Senate Member, Research Records Committee.
2008. Faculty Senate Member, Provost's Learning Environments Group.
2007. Faculty Senate Member, President's Faculty Appeal Committee.
2006-2013. Faculty Senate, College of Science Senator (elected).
2006. Grant Application Review Committee, Global Studies Faculty Grants.
2002, 2004, 2006, 2009, 2011. GMU Organizer, Sally Ride Science Festival for Girls.
2002-2003. University Standing Comm. External University Relations. Provost's Rep.
2002-2003. Faculty Senate Committee on Academic Standards. Provost's Rep.
2002-2003. Transfer Articulation Review Comm., GMU- Northern VA Comm. College.
2001. Search Committee for Director, PhD Program in Env. Science and Public Policy.
2001. Promotion & Tenure Committee, Sch. of Computational Sciences. Provost's Rep.
2001-02. Promotion & Tenure Review Comm., Climate Dynamics (COLA), Provost's Rep.
2001-2003. GMU Rep., State Council of Higher Ed. In VA, Transfer Committee.
2000-2003. Chair, University General Education Committee.
2000-2003. GMU President's Council (Vice Presidents, Provosts, Deans).
2000-2003. Provost's Office, Deans and Directors Group.
2000-2003. Provost's Office, Promotion and Tenure Review Committee.

2000-2003. Provost's Office, University Catalogue Review Team.
2000-2003. Provost Office Liaison for VA State Council of Higher Ed./GMU Assessment Committees: Written Comm.; Info. Tech.; Sci.; & Quantitative Reasoning.
2000-2003. Provost's Office Academic Support Council.
2000-2002. Provost's Computational Social Sciences Committee.
2000-2001. College of Arts & Sciences New Century College Transition Curric. Comm.
2000. Search Comm. for Asst. Director, PhD Prog. in Environmental Sci. & Public Policy.
1999-2000. Elected, Curriculum Committee, College of Arts and Sciences.
1999-2000. Reappointment Committee, Director of PhD Prog. Env. Sci. & Public Policy.
1999; 2002-2003; 2004-2007. Executive Committee, Women's Studies Program.
1998. Chair, Reappointment Committee, ESPP Asst. Director.
1998-2000. ESPP Subcommittee on Undergraduate Curriculum in the Environment.
1997. Faculty Awards Comm., Coll. of Arts & Sciences Prog. for the Curriculum Grants.
1995-2000. Executive Committee, Env. Science & Public Policy Ph.D. Program (ESPP).
1995-2000. Graduate Admissions Committees, Ph.D., ESPP and MS, Env. Sci. & Policy.
1995-2000. Faculty, Graduate Program in Global Change and Environmental Studies.