

CHRISTOPHER V MAIO

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PROFESSIONAL STATEMENT

I am a coastal geographer and educator applying the principles of geomorphology and stratigraphy integrated with high resolution geophysical, geospatial, and sedimentary tools to research and educate about earth surface processes specifically related to the coastal response to climate change, natural hazards, and human impacts.

EDUCATION

2014	<i>PhD. Environmental Science</i> University of Massachusetts Boston Guest Student Woods Hole Oceanographic Institution	Boston, MA
2009	<i>M.S. Environmental Science</i> University of Massachusetts Boston Graduate Certificate of Geographic Information Technology	Boston, MA
2007	<i>B.S. Earth and Geographical Science</i> University of Massachusetts Boston Summa cum Laude	Boston, MA
2002 – 2005	University of Alaska, Anchorage Biological Science Program	Anchorage, AK

PROFESSIONAL EXPERIENCE

CURRENT

2014 – Present

<i>Assistant Professor Coastal Geography</i>	University of Alaska Fairbanks Department of Geosciences	Fairbanks, AK
<i>Adjunct Researcher</i>	Alaska Pacific University Fisheries Aquatic Science & Technology Laboratory	Anchorage, AK

PREVIOUS

2011 – 2014 <i>Guest Student</i>	Woods Hole Oceanographic Institution Department of Geology and Geophysics Sponsored by Dr. Jeff Donnelly	Woods Hole, MA
2007 – 2014 <i>Teacher's Assistant</i>	University of Massachusetts Boston School for the Environment courses and field trips	Boston, MA
2012 – 2013 <i>Research Fellow</i>	University of Massachusetts Boston School for the Environment	Boston, MA
2011 – 2012 <i>Adjunct Faculty</i>	University of Massachusetts Boston Navitas International Education Program EEOS 101: Introduction to the Global Environment EEOS 478: Academic Skills for Multicultural Students	Boston, MA
2009 – 2011 <i>GIS Consultant</i>	Massachusetts Board of Underwater Archeological Resources Geospatial analysis of historical landscapes	Boston, MA
2005 – 2011 <i>Owner/Contractor</i>	Sandy Shores Home Improvement Services Owned and operated small carpentry business	Sandwich, MA
2000 – 2005 <i>Fisheries Technician III</i>	Alaska Department of Fish and Game Supervised the remote collection, laboratory processing and analysis of fisheries related data	Homer, AK

PEER REVIEWED PUBLICATIONS

PUBLISHED

1. Whitley, A.M., Frost, V.G., Jorgenson, M.T., Macander, M.J., **Maio, C.V.**, and Winder, S.G., 2016. Assessment of LiDAR and Spectral Techniques for High-Resolution Mapping of Sporadic Permafrost on the Yukon-Kuskokwim Delta, Alaska. *Remote Sensing*, 10(258), 1-20.
2. Overbeck, J., Buzard, R., and Maio, C., 2017. Storm impacts in western Alaska documenting shoreline change and flooding through remote sensing and community-based monitoring, *OCEANS 2017 – Anchorage*, Anchorage, AK, 2017, pp. 1-6.
<http://ieeexplore.ieee.org/document/8232159/authors>
3. Mastone, V.T., Brown, C.J., and **Maio, C.V.**, 2015. The Revolutionary war battle of Chelsea Creek grounding the historical narrative through cultural landscape analysis. *Northeast Anthropology* No. 83-84, 2015, pp. 155–176

4. **Maio, C.V.**, Gontz, A.M., Sullivan, R.M., Madsen, S.M., Weidman, C.R. and Donnelly, J.P., 2014. Subsurface Evidence of Storm-Driven Breaching along a Transgressing Barrier System, Cape Cod, USA. *Journal of Coastal Research*, 32(2), 264-279.
5. **Maio, CV**, Gontz, AM, Weidman, C, and Donnelly, JP, 2014. Late Holocene marine transgression and the drowning of a coastal forest: Lessons from the past, Cape Cod, Massachusetts, USA. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 393(C), 146-148.
6. Gontz, AM, **Maio, CV**, and Rueda, L., 2013. The Duxbury sunken forest - constraints for local, late Holocene environmental changes resulting from marine transgression, Duxbury Bay, Eastern Massachusetts, USA: *Journal of Coastal Research*, 29(6A), 168-176.
7. Brown, C, Mastone, VT, and **Maio, CV**, 2013. The Battle of Chelsea Creek May 27-28, 1775: America's Forgotten Revolutionary War Battle. *New England Quarterly*, 86(2), 1-36.
8. **Maio, CV**, Tenenbaum, DE, Brown, C, Mastone, VT, and Gontz, AM, 2012. Application of geographic information technologies to historical landscape reconstruction and military terrain analysis of an American Revolution battlefield: preservation potential of historic lands in urbanized settings, Boston, Massachusetts, USA: *Journal of Cultural Heritage*, 14(4), 317-331.
9. **Maio, CV**, Gontz, AM, and Tenenbaum, D, 2012. Coastal hazard vulnerability assessment of sensitive historical sites on Rainsford Island, Boston Harbor, Massachusetts: *Journal of Coastal Research*, 28(1), 20-33.
10. Gontz, AM, **Maio, CV**, Berkland, EP, and Wagenknecht, EK, 2011. Assessment of the colonial through industrial aged cemetery on Rainsford Island, Boston Harbor, Massachusetts: *Journal of Cultural Heritage*, 12, 451-458.

*Student Research

IN PREPARATION (*Student Research)

1. **Maio, CV.**, Sullivan, R.M., *Buzard, R., *Whitley, M., and *Bogardus, R., Dynamic coastal change associated with great earthquakes and Little Ice Age glaciation, Kenai Fjords, Alaska. *Journal of Coastal Research*, (In Prep).
2. Gonnee, M.E., **Maio, CV.**, Madsen, S., Sullivan, R., Hawkes, A.D., Kroeger, K., Moira, J., Vadman, K., and Donnelly, JP. Saltmarsh response to accelerated rates of sea-level rise: Implications for global carbon budgets. *Nature Geoscience*, (In Prep).
3. *Buzard, R., **Maio, C.V.**, Kinsman, N., and Verbyla, D., Shoreline change analysis of Goodnews Bay, Alaska. *Journal of Coastal Research*, (In Prep).
4. Wooller, M.J., Fields, S., Bigelow, N.H., Reuther, J.D., and **Maio, C.V.**, Creating a 10,000-year record of lake level fluctuations Lost Lake, Alaska. (In Prep).

PUBLISHED CONFERENCE ABSTRACTS

1. Wallace, L., Donnelly, J., McKeon, K., Wiman, C., LaBella, A., van Hengstrum, P., Sullivan, R., Winkler, T., Toomey, M., **Maio, C.V.**, Hawkes, A., and Woodruff, J., Sedimentary reconstructions of tropical cyclone activity over the past 1500 years from blue holes in the Caribbean. Submitted for 2017 Fall Meeting, AGU, New Orleans, LA., 11-15 Dec.
2. Lenz, J., Anthony, K.M.W., **Maio, C.V.**, Matuszewski, F., and Grosse, G., Thermokarst lake dynamics and its influence on biogeochemical sediment characteristics: A case study from the discontinuous permafrost zone in Interior Alaska. Submitted for 2017 Fall Meeting, AGU, New Orleans, LA., 11-15 Dec.
3. **Maio, C.V.**, Bigelow, N., and Combs, E., 2017. Sand, peat, and sediment cores: addressing unanswered questions at Cape Espenberg to provide environmental context to the Birnirk-Thule transition. 44th Annual Meeting of the Alaska Anthropological Association, February 27th – March 2nd, 2017. Fairbanks, Alaska.
4. **Maio, C.V.**, Overbeck, J., and *Buzard, R., 2017. Stakes for Stakeholders: Community-Based Shoreline Change Assessment, Bristol Bay, Alaska. Presentation given at Alaska Forum on the Environment, Anchorage, AK. February 6-10.
5. *Buzard, R., **Maio, C.V.**, Verbyla, D., and Kinsman, N., 2016. Historic and contemporary shoreline change rates at the community of Goodnews Bay, Alaska. Abstract [EP13C-1042] presented at 2016 Fall Meeting, AGU, San Francisco, Calif., 12-16 Dec.
6. *Buzard, R., Overbeck, J., and **Maio, C.V.**, 2016. Raising the Stakes for Stakeholders. Poster Presented at the Arctic Observing Summit, University of Alaska Fairbanks, 17-18 March.
7. **Maio, C.V.**, and Sullivan R., 2016. Paleo-perspectives on dynamic coastal change, James Lagoon, Kenai Fjords National Park. Abstract [EP13C-1047] presented at 2016 Fall Meeting, AGU, San Francisco, Calif., 12-16 Dec.
8. *Whitley, M.A., Frost, G.V., **Maio, C.V.**, and Jorgenson, T.M., 2016. Thermokarst-induced landscape change in the Yukon Kuskokwim (YK) Delta, Alaska. Poster presented at the International Conference on Permafrost, Potsdam Germany, June.
9. **Maio, C.V.**, Overbeck, J., and *Buzard, R., 2016. Investigating coastal change through space and time, Southwest, Alaska. Presentation given at Alaska Forum on the Environment, Anchorage, AK. February.
10. **Maio, C.V.**, Balazs, M., Noordeloos, J., Harris, B., Sethi, S., and Olsen, J., 2015. Cumulative impacts assessment of non-fishing stressors on fish habitat, Norton Sound, Alaska. Presented at the 42nd Annual American Fisheries Society Alaska Chapter, Homer, AK. No. 8, November.
11. **Maio, C.V.**, Donnelly, J.P., Sullivan, R., Weidman, C.R., and Sheremet, V., 2014, Surge driven return flow results in deposition of coarse grain horizons archiving a 4000 year record of extreme storm events, Cape Cod, Massachusetts, Abstract NH52A-07 presented at 2014 Fall Meeting, AGU, San Francisco, Calif., 15-19 Dec
<http://abstractsearch.agu.org/meetings/2014/FM/NH52A-07.html>

12. McDermott, K.J., Hawkes, A.D., Donnelly, J.P., Sullivan, R.M., **Maio, C.V.**, Toomey, M.R., and Madsen, S.M., 2014. Reconstructing high-latitude storm events from a fjord in Newfoundland., Geological Society of America Programs with Abstracts, Paper No 311-19. <https://gsa.confex.com/gsa/2014AM/webprogram/Paper247133.html>
13. **Maio, C.V.**, Gontz A.M., Weidman C., and Donnelly, J., 2014. A drowned paleoforest along a Cape Cod Barrier Beach: Lessons from the past, Mashpee, Massachusetts, USA. Geological Society of America Programs with Abstracts, 58-2. URL: <https://gsa.confex.com/gsa/2013NE/webprogram/Paper214818.html>.
14. **Maio, CV**, Donnelly, JP, Wagenknecht, EK, Weidman, C., and Gontz, AM., 2012. Geologic evidence for paleo inlets, ancient forests, and coastal change along a Cape Cod barrier beach, South Cape Beach, Massachusetts. Geological Society of America *Abstracts with Programs*, Vol. 44, No. 2, p. 89.
15. Gontz, AM, Gosselin, DA, **Maio, CV**, and Wagenknecht, EK, 2011, Sunken forests and submerged landscapes in eastern Massachusetts – records of sea-level rise and Human-landscape interactions: American Geophysical Union Chapman Conference on Society and Climate Change, Santa Fe, NM 20-25 Mar 2011.
16. **Maio, CV**, Gontz, AM, Mastone, VT, 2010, Preliminary non-invasive site assessment and GIS mapping of the Chelsea Creek Battlefield, the first naval engagement of the America Revolution: Combined Northeastern/Southeastern Section, Geological Society of America, *Abstracts with Programs*, Vol. 42, No. 1 p. 142.
17. Gontz, AM, **Maio, CV**, and Gosselin, DG, 2010, Paleo-Landscapes of the Boston Harbor Islands National Park – Former Channels of the Neponset River: Combined Northeastern/Southeastern Section, Geological Society of America, *Abstracts with Programs*, Vol. 41, No. 1, p. 103.
18. **Maio, CV** and Gontz, AM, 2009, A high-resolution examination of coastal trends through the use of orthorectified aerial photographs spanning 67 years, Rainsford Island, Boston Harbor, Massachusetts: Northeastern Section of the Geological Society of America *Abstracts with Programs*, Vol. 41, No. 3, p. 23.
19. Wagenknecht, EK, Gontz, AM, Berkland, EP, and **Maio, CV**, 2009. The search for a late-Colonial through Industrial age cemetery on Rainsford Island, Boston Harbor, Massachusetts: Northeastern Section of the Geological Society of America Annual Meeting, Paper No. 45-7.
20. **Maio, CV** and Gontz AM, 2007, Geophysical site assessment of the wreck of the USS Niagara, Boston Harbor, MA: Northeastern Section, Geological Society of America, *Abstracts with Programs*, Vol. 39, No. 1, p.58.
21. Gontz, A.M., Anderson, C., Berkland, E., Goldstein, E., **Maio, C.V.**, and Wagenknecht, E.K., 2009. Forgotten Landscapes – geophysical based reconstruction of the Northern Declivity during the Revolutionary War Battle of Bunkers Hill, Charlestown, Massachusetts. Geological Society of America, Paper No. 5-1.

NON-PEER REVIEWED

1. Maio, C.V., Buzard, R.M., and Bogardus, R.C., 2017. Coastal Resilience Research: Developing Long-Term Records of Sea Level Fluctuations and Barrier Beach Evolution To Enhance Understanding Of Ongoing And Future Coastal Change. Final Completion Report, Submitted to Alaska Sea Grant.
2. Overbeck, J., *Buzard, R., and **Maio, C.V.**, 2017. Community-Based Methods for Monitoring Coastal Erosion. Alaska Sea Grant, p 44.
3. **Maio, C.V.**, Sullivan, R., *Buzard, R., *Bogardus, R., and *Whitley, M., 2017. Protecting Cultural Resources through Geomorphological and Archeological Investigations in Kenai Fjords National Park, Geology Field Component Final Report. Kenai Fjords National Park, Seward, AK, p 83.
4. **Maio, C.V.**, Sullivan, R., and Kim S.H., 2016. The core of the matter: Adventures in Coastal Geology at Kenai Fjords National Park. Alaska Park Science, 15(1), 74-76.
5. **Maio, C.V.**, Balazs, M., Noordeloos, J., Sethi, S., and Harris, B., 2015. Geospatial datasets applicable to an essential fish habitat non-fishing vulnerability assessment: Norton Sound, Alaska. 2015 Final Report to NOAA-NMFS Habitat Division.
6. **Maio, CV**, Berman, G, 2013. What is that sticking out of the sand? *Marine Extension Bulletin*, Woods Hole Sea Grant Program-Cape Cod Cooperative Extension, June (2013), pp. 1-8.
7. Mastone, VC, Brown, C, and **Maio, CV**. 2011. Chelsea Creek – First naval engagement of the American Revolution, Chelsea, East Boston, Revere, and Winthrop, Suffolk County, Massachusetts. Final Technical Report, National Park Service American Battlefield Protection Program Grant Agreement No. GA-2255-09-018.
<http://www.mass.gov/eea/agencies/czm/buar/battle-of-chelsea-creek.html>.
8. **Maio, C.V.**, 2009. The Rainsford Island Shoreline Evolution Study (RISES) Graduate Master’s Thesis, University of Massachusetts, Boston, Paper 86.
http://scholarworks.umb.edu/masters_theses/86.
9. Gontz, AM and **Maio, CV**, 2007. Geophysical Site Assessment of the Area Reported as the Wreck of the *USS Niagara*: Massachusetts Board of Underwater Archaeological, Department of Coastal Zone Management, Technical Report.

RESEARCH PROJECTS

Stakes for Stake Holders: Community-based shoreline erosion monitoring

Ongoing – Alaska Sea Grant and Borough of Indian Affairs funded research to develop community based shoreline erosion monitoring sites utilizing time-lapse photography in 10 Bristol Bay communities. Collaborators include the State of Alaska Division of Geological and Geophysical Surveys, UAF, the Environmental Protection Agency, and the Bristol Bay Native Association.

Holocene storm activity in the Caribbean Sea derived from sediment and microfossil proxies.

Ongoing – Dalio Foundation sponsored research in collaboration with WHOI, Texas A&M Galveston, and others. The research seeks to develop paleo-storm records based on sediment cores collected in Caribbean blue holes. The field work took place aboard the M/V Alucia during the summer of 2016 where over 300 m of sediment cores were collected. These records will help to answer whether Hurricane Irma is anomalous in the geologic record and aid in accurate risk assessments in the future.

Sea-level and storm impacts on the landscape and cultural resources associated with an ancient Inupiaq house site in northwestern Alaska.

Ongoing – NSF-Arctic Social Science sponsored research focused on deciphering paleoenvironmental conditions impacting early humans living in the region approximately 1000 years ago. Research includes the development of sediment derived sea-level and storm records and the mapping of paleo shorelines in the vicinity of an ancient Inupiaq village site. Collaboration between UAF, the University of Paris, the National Park Service, and others.

Coastal Resiliency Assessment, Goodnews Bay, Alaska

Ongoing – Alaska Sea Grant Funded research focused on assessing the coastal resiliency of Goodnews Bay. The project includes the development of baseline high resolution topographical data, the reconstruction of a late Holocene sea-level history, and a determination of the paleo-evolution of a coastal barrier beach. The project includes a community outreach program.

Coastal geologic evolution and archeology of James Lagoon, Kenai Fjords National Park

2016 – Collaborative research between UAF, the Kenai Fjords National Park, the Smithsonian Institution Arctic Studies Center, and the Woods Hole Oceanographic Institution (WHOI) aimed at determining the coastal geographic evolution of the landscape surrounding cultural resources vulnerable to coastal erosion.

Reconnaissance survey of sediment archives of storms and tsunamis along the Kodiak Archipelago and Katmai National Park.

2016 – Collaborative research between UAF and the Woods Hole Oceanographic Institution aimed at identifying coastal lagoons and ponds having preservation potential of tsunami and storm sediment archives. The work was carried out within coastal ponds, lagoons, and fjords along the Kodiak Archipelago and Katmai National Park.

Development of quantitative geospatial model to determine non-fishing impacts to Essential Fish Habitat (EFH) in Alaska. 2015 – A collaborative research project between Alaska Pacific University’s Fisheries Aquatic Science, and Technology (FAST) laboratory, NOAA National Marine Fisheries Service Habitat Conservation Division and UAF. The research is aimed at developing a framework for a cumulative impact model to quantify and visualize the risks associated with the interactions between non-fishing impacts and EFH.

Strategic Environmental Research and Development Program (SERDP): Climate change and impacts of sea-level rise on Ronald Reagan Ballistic Missile Defense Test Site, U.S. Army, Kwajalein Atoll (USAKA). 2014 – Assisted in research conducted by WHOI-CSG under PI Jeff Donnelly to acquire high resolution topographic, bathymetric, and marine/terrestrial geophysical datasets to assist in the development of climate models able to assess coastal change under varying climate conditions.

Reconstruction of Holocene sea-level and storm records in the North Atlantic, Newfoundland. Ongoing – Participation under the direction of WHOI’s Jeff Donnelly to collect long sediment cores from within deep fjord basins (70 m) located along the north, south, and east coasts of Newfoundland. The cores may provide valuable datasets that will contribute towards deciphering the linkages between climate change, ocean circulation, sea-level fluctuations, and increased/decreased storminess.

Geological investigations of the Waquoit Bay estuarine system, Mashpee, Massachusetts
Ongoing and Completed – Collaboration with the UMass Boston School for the Environment, the Waquoit Bay National Estuarine Research Reserve (WBNERR) and the Woods Hole Oceanographic Institution’s Coastal Systems Group (WHOI-CSG) to utilize high resolution geophysical, geospatial, and sedimentary methods to identify and map the framework geology and evolution of the area during the late Pleistocene to Holocene time periods. The research elucidates past coastal landscape response to climate fluctuations allowing for a more comprehensive understanding and context to current and future change.

Late Pleistocene abrupt climate change in the Beaufort Sea deciphered through deep-ocean sediment cores and microfossil analysis. Summer, 2013 – Participation under the direction of WHOI’s senior scientist Lloyd Keigwin in collaboration with Scripps University on board the U.S Coast Guard Cutter Healy NSF sponsored sediment coring mission 1302. The largest archive of Beaufort Sea sediment cores was collected on the cruise between Point Barrow and Banks Island. Ongoing analysis of sediment cores and geophysical data will greatly enhance understanding of the triggers of Late Pleistocene abrupt climate change.

RESEARCH FUNDING

1. University of Alaska Fairbanks, 2015 and 2017 URSA Technology Award: **\$17,500**
2. National Science Foundation Polar Programs - Arctic Social Science, 2016-2018: **\$90,000**
3. Alaska Sea Grant, 2016-2018: **\$147,191**
4. Alaska Sea Grant, 2015-2017: **\$95,530**
5. National Park Service 2015-2017: **\$19,856**
6. University of Alaska Fairbanks Office of the Provost Travel Grant, 2015, 2016, 2017: **\$2400**
7. NOAA-NMFS, 2014-2015: **\$70,000**
8. University of Alaska Fairbanks, 2014 URSA Mentor Award: **\$10,000**
9. Woods Hole Oceanographic Institution Department of Geology and Geophysics Guest Student Program, 2012 through 2014: **\$30,000**
10. University of Massachusetts, School for the Environment Research Fellowship, 2012 and 2013: **\$30,000**
11. National Park Service American Battlefield Protection Program & Massachusetts Board of Underwater Archaeological Resources, The Battle of Chelsea Creek, 2009-2011: **\$19,525**
12. University of Massachusetts, Graduate School Assembly Bollinger Research Grant, **\$1,930**, June 2013.
13. University of Massachusetts-Boston, Graduate Studies Doctoral Dissertation Research Grant, 2011 and 2012: **\$4500**
14. Geological Society of America Graduate Student Research Grant, 2012: **\$1960**

DECLINED PROPOSALS

1. National Science Foundation – Arctic Natural Science – CAREER, July 2016. *Late Holocene frequency of Bering Sea storm activity and coastal science education programs to promote informed decision making and pathways to higher education.* Funding Request \$634,601. Resubmitted on July 10, 2017.
2. National Science Foundation – Marine Geology and Geophysics, January 2017. *Collaborative Research: Developing high-resolution records of storminess from the southern Bering Sea.* In collaboration with WHOI and UNCW. Funding Request \$480,787
3. National Fish and Wildlife Foundation – Alaska Fish and Wildlife Fund, December 2016. *Development of stressor assessment of essential fish habitat in Cook Inlet.* In Collaboration with NOAA Fisheries. Funding Request \$125,000.
4. North Pacific Research Board, December 2016. *BeringWatch: Enhancing the Capacity of Tribal Environmental Programs in Western Alaska.* In collaboration with the Alaska Division of Geological and Geophysical Surveys and the Aleut Community of St. Paul Island. Funding Request \$47,706.

5. UAF-URSA, March 2016. Getting Muddy with Coastal Education and Research: Dynamic Alaskan Coastlines Spring 2016 Field Trip. Funding Request \$5,000.
6. UAF-URSA Mentor Award, February 2016. Building on Success: Mapping Our Path into the Future with Real-Time Kinematic GPS. Funding Request \$5,000.
7. North Pacific Research Board, January 2016. Flooding and Erosion on the Yukon-Kuskokwim Delta: Community Coastal Geohazard Assessment of Tununak, Alaska. Funding Request \$16,945
8. National Park Service – Alaska Region Natural Resource Project, December 2016. *Unlocking sediment archives containing 10,000 years of environmental change, James Lagoon, Kenai Fjords National Park.* Funding Request \$81,879.
9. Coastal Marine Institute, May 2015. *Development of sedimentary, geophysical, and geospatial datasets to decipher extreme storm event chronology, frequency, and environmental impact, Norton Sound Alaska.* Funding Request \$799,550.
10. National Science Foundation, December 2014. Pre-Proposal: *A Science & Technology Center (STC) for Sustainable Ecosystems in Ice-bound Coastal Environments (SE-ICE).* Funding Request \$250,000.

EDUCATIONAL ACTIVITIES

CURRENT TEACHING

Undergraduate and Graduate – UAF Department of Geosciences

- GEOG 111, *Elements of Physical Geography w/Lab*
- GEOG/GEOS 339, *Change Detection in Arctic Systems*
- GEOG/GEOS 483, *Research Design, Writing, and Presentation Methods*
- GEOS/GEOG 460/660, *The Dynamic Alaskan Coastline*
- GEOS 488/697, *Undergrad/Grad Research*

COURSES TAUGHT

Undergraduate – UMass Boston School for the Environment

- EEOS 101, *Introduction to the Global Environment*, Navitas International Education Program, 2011-2012
- EEOS 478, *Academic Skills for Multicultural Students*, 2011-2012

COURSES AS TEACHER'S ASSISTANT

Undergraduate – UMass Boston School for the Environment

- EEOS 203, *Field Trips in Environmental Science*, 2010-2014
- EEOS 402, *Sedimentology & Stratigraphy*, 2011
- EEOS 380, *Applications of Geographic Information Systems*, Spring 2010
- EEOS 327, *Estuarine Geography*, Fall 2010
- EEOS 115, *Environmental Geology*, Fall 2009, Fall 2008, Fall 2007
- EEOS 260, *Global Environmental Change*, Spring 2009, Spring 2008

SYNERGISTIC ACTIVITIES

CURRENT & RECENT COLLABORATORS

- Alix, Claire, Professor, Arctic Archeology, University of Paris
- Bigelow, Nancy, Director, Alaska Quaternary Center, University of Alaska Fairbanks
- Brown, Craig, PhD Candidate, University of Edinburgh, School of History, Archaeology
- Brubaker, Michael, Director, Alaska Native Tribal Health Consortium
- Crowell, Aron, Director, Smithsonian Institution Arctic Studies Center
- Donnelly, Jeffrey, Tenured Professor, WHOI - Coastal Systems Group
- Gonneea, Meagan, NSF Postdoctoral Scholar, USGS at WHOI
- Gontz, Allen, Chair, Department of Geological Sciences, San Diego State University
- Harris, Bradley, Associate Professor, Alaska Pacific University –FAST Lab
- Hawkes, Andrea, Professor of Coastal Geology, University of North Carolina at Wilmington
- Keigwin, Lloyd, Senior Scientist, Woods Hole Oceanographic Institution's Geology and Geophysics Department
- Kinsman, Nicole, Alaska Regional Advisor, NOAA/NOS/National Geodetic Survey
- Kletetschka, Gunther, Charles University in Prague Czech Republic.
- Lenz, Josephine, Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research, Potsdam, Germany
- Mason, Owen, Research Affiliate, INSTAAR, University of Colorado
- Mastone, Victor, State Underwater Archaeologist, Massachusetts Board of Underwater Archeological Resources
- Overbeck, Jacquelyn, Coastal Hazards Program Manager, Alaska Division of Geological and Geophysical Surveys
- Suresh, Sethi, Biostatistician, USFWS
- van Hengstum, Pete, Assistant Professor, Department of Marine Sciences, Texas A&M Galveston
- Walter Anthony, Katie M. University of Alaska Fairbanks
- Wooller, Matthew, Director, Alaska Stable Isotope Facility

SERVICE

PROFESSIONAL

- National Science Foundation *ad hoc* Reviewer, 1 Proposal Fall 2016
- State of Alaska Department of Natural Resources Division of Geological and Geophysical Surveys:
 - *Fall 2016: Review of Geologic Map of Shaktoolik, Alaska.*
 - *Summer 2017: Storm surge feature extraction from digital elevation models using intra-storm photographs*
- Marine Science Member, Alaska Quaternary Center Board of Directors, Ongoing

- Journal of Coastal Research: *1 Manuscript 2014, 1 Manuscript 2016*
- Scientific Participant and Observer aboard R/V Sikuliaq: SKQ201602S Sediment Coring Test Cruise, San Diego, CA. *March 2016.*
- Coastal Erosion Specialist, Alaska Native Tribal Health Consortium Local Environmental Observer Network (<https://anthc.org/what-we-do/community-environment-and-health/leo-network/>)

PUBLIC

- Shishmaref Community Workshop – Archeological and Geological findings from Cape Espenberg field work. Shishmaref, AK. August 2017
- Bering Land Bridge National Preserve Visitor Center, Presentation on summer field work discoveries. Nome, AK. August 2017
- REACH Up Project, Alaska Native Education Program, February 2017
<https://player.vimeo.com/video/213903529>
- Moving Meshik – Alaska Native Tribal Health Consortium video May 2017.
<https://www.youtube.com/watch?v=xPV2BEAGJ4E>
- North Pole Middle School, Anna Creamer ELP Teacher, Class visit focused on permafrost in Alaska, February 2017
- National Geographic Years of Living Dangerously, November 2016
<http://channel.nationalgeographic.com/years-of-living-dangerously/episodes/gathering-storm/>
- Stakes for Stakeholders: coastal erosion monitoring training workshop, Dillingham, AK. August 2016
- Rocky Mountain School, Goodnews Bay, Alaska public coastal science outreach program 2015-2017
- USGS in partnership with the Mashpee Wampanoag Tribe and WBNERR, *Native Youth in Science – Preserving Our Homelands* program – educational consultant, 2012

INVITED SPEAKER

- *Adventures in Coastal Geography*, Institute of Marine Science Seminar Wednesday, November 23, 2016.
- *The use of Continuous Flow AMS radiocarbon aging on carbonate shells from areas having preservation potential of cultural resources.* Massachusetts Historic Preservation Conference, October 2013
- *Ancient Forests, Native American Midden Piles, and Climate Change, Native American interaction with dramatic environmental change during the late Holocene.* Massachusetts Archeological Society, December 2012
- *Developing a Paleo-Hurricane Record of Waquoit Bay Massachusetts.* Teachers on the Estuary (TOTE) workshop, Waquoit Bay NERR, June 2011, June 2012
- *Researching the Past to Understand the Future, Sea-Level Rise and a Submerged Ancient Forest,* Waquoit Bay NERR Coffee House Series, Fall 2011, Summer 2012
- *The Battle of Chelsea Creek: GIS recreation of Boston's Historical Landscape* Revere Historical Society, 2011
- *Geophysics and Archaeology*, Boston Museum of Science, Summer 2008
- *Applications of Geophysics in Archaeology*, Paul Revere House, 2008

FIELD TRIPS CONDUCTED

- *Glacial Geology of the Alaska Range*. UAF GEOG 339. 2017
- *Dynamic Alaskan Coastlines, Homer, Alaska*. UAF GEOS 460/660
- *Fox Permafrost Tunnel, Alaska*. UAF GEOG 111. 2014-2015
- *Museum of the North, Alaska*. UAF GEOG 111. 2014-2015
- *Poker Flat Research Range, Alaska*. UAF GEOG 339. 2015
- *Field Trips in Environmental Science*. UMass Boston School for the Environment 3 day 1 credit field trips. 2010-2014
- *Geographical and historical evolution of Boston's coastal environment*. National Science Foundation supported Coastal Research in Environmental Science and Technology - Experience for Undergraduates (CREST-REU) program at UMass Boston, July 2012, July 2013
- *Cape Cod paleo-ecosystems*. Waquoit Bay National Estuarine Research Reserve TIDAL Quest: Teens Investigating Diversity of Aquatic Life, July 2013
- *The Story of the Past Yields Clues to the Future*, Woods Hole Oceanographic Institution's Ocean Science Journalism Fellowship program, August 2012

PUBLIC NEWS OUTREACH

- Daily News Miner, *Students highlight amazing geology of Interior Alaska*. http://www.newsminer.com/features/sundays/community_features/students-highlight-amazing-geology-of-interior-alaska/article_aaacd262-32ee-11e7-8cc5-cb6fc2eba594.html
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AFFILIATIONS

- Alaska Anthropology Association
- Alaska Quaternary Center
- Alaska Native Tribal Health Consortium
- American Geophysical Union
- American Fisheries Society
- Coastal Education and Research Foundation
- Geological Society of America
- Local Environmental Observer Network
- Trimble University Partnership Program
- University of Alaska Museum of the North