

Associate Research Scientist, Michigan Technological University  
Great Lakes Research Center, Houghton, MI

[pwernett@mtu.edu](mailto:pwernett@mtu.edu)

## EDUCATION

- Ph.D.** Department of Geography, Texas A&M University  
September 2013 – May 2017  
*Thesis:* Assessing the Role of Framework Geology on Barrier Island Geomorphology  
*NSF Doctoral Dissertation Research Improvement Award (NSF DDRI)*  
*High-Impact Learning Experiences Grant*  
*Excellence in Teaching Award*
- M.S.** Department of Geography, Michigan State University  
January 2011 – August 2012  
*Thesis:* Coastline Change at Four Sites in Lower Michigan
- B.S.** Department of Fisheries and Wildlife, Michigan State University  
August 2005 – May 2010  
*Minor:* Geographic Information Science (GIS)

## ACADEMIC AND RESEARCH POSITIONS

**Associate Research Scientist, February 2024 – present** Houghton, MI, United States  
Michigan Technological University, Great Lakes Research Center (GLRC)

### *Responsibilities*

- Develop collaborative research program to address real-world, complex challenges in environmental monitoring and change, human-environment interactions, and machine learning and computation in the Great Lakes and beyond.
- Research at the nexus of multiple disciplines, including geography, geology, geophysics, GIS and remote sensing, computer science (machine learning and AI).
- Collaborate with researchers and managers from different academic institutions, community organizations, non-governmental organizations, and local, state, and federal agencies.

**Adjunct Professor, January 2020 – present** Windsor, ON, Canada  
University of Windsor, School of the Environment

### *Responsibilities*

- Co-advise graduate and undergraduate student thesis projects.

**Research Geologist, January 2020 – January 2024** Santa Cruz, CA, United States  
United States Geological Survey, Pacific Coastal and Marine Science Center (PCMSC)

### *USGS Mendenhall Postdoctoral Fellowship – “3-D Modelling of Coastal Cliff Retreat”*

- “Improve our understanding of processes and rates controlling seasonal and annual coastal cliff change by (1) quantifying the effect of geologic variations on coastal cliff/bluff slope failures and (2) quantifying rates and processes of subsequent talus erosion by marine processes.”

- “Aim to further improve the accuracy of current coastal cliff retreat models by quantifying 3-D coastal cliff geology and marine erosion processes.”

### ***Accomplishments***

- Developed remote sensing workflows and machine learning techniques to help engage community stakeholders in coastal cliff and bluff research to address significant data gaps.
- Collaborated closely with Great Lakes Science Center and PCMSC to improve benthic mapping using long-range autonomous underwater vehicles (AUVs), multibeam (MBES), and other remote sensing technologies coupled with emerging machine learning techniques.
- Collaborated closely with National Oceanic and Atmospheric Administration (NOAA), Michigan Technological University (MTU), and industry partners on a multi-year project to develop high accuracy benthic maps of the entire Laurentian Great Lakes.
- Expanded survey capabilities of the PCMSC via coordinated acquisition of ground penetrating radar (GPR) systems.
- Developed improved permafrost mapping techniques by using GPR and high-accuracy GPS systems to generate 3D permafrost maps along the North slope of Alaska.
- Co-led Coastal Cliff and Bluff Working Group within USGS Coastal Change Hazards.
- Co-developed and led “Machine Learning Mondays” workshop series on machine learning techniques and applications.
- Active member of:
  - Coastal Change Hazards
  - Coastal Cliff and Bluff Hazards Working Group (co-lead)
  - Remote Sensing Coastal Change
  - Great Lakes Science Center Advanced Technology Research Group

### **Post-Doctoral Fellow, June 2019 – December 2019**

Quebec City, QB, Canada

Laval University, Department of Geomatic Sciences

### ***Achievements***

- Developed new approaches to identifying and mitigating systematic and random errors in multibeam echosounder systems (MBES) from autonomous underwater vehicles (AUVs).

### **Post-Doctoral Fellow, September 2017 – December 2019**

Windsor, ON, Canada

University of Windsor, Department of Earth and Environmental Sciences

### ***Responsibilities***

- Mentor graduate and undergraduate students on independent multidisciplinary research projects.
- Address complex issues in coastal geomorphology through collaborative and independent research projects using geospatial technologies (GIS, artificial intelligence, machine learning), geophysics, and geology.
- Develop and conduct geoarchaeology geophysical surveys and GIS analyses in support of a wide variety of community-outreach and engagement projects.

**Chair of UWill Discover! Research Conference, September 2017 – December 2019** Windsor, ON, Canada  
University of Windsor, Office of the Provost and Office of Research and Innovation Services

***Responsibilities***

- Organize an interdisciplinary conference for undergraduate students to showcase discovery and inclusivity across all University of Windsor Faculties and programs.
- Collaborate with faculty, administrators, graduate students, and undergraduate students from all Faculties and programs to promote the integration of all students and facilitate cross-disciplinary collaborations.
- Coordinate with major gift officers to develop corporate sponsorships and promote student opportunities and supplement internal conference funding.
- Enhance professional development opportunities for undergraduate and graduate students by integrating students into the organizing committee as volunteer, judging, accommodations, abstract, social media, marketing/communications, and general conference coordinators.
- Enhance professional development and student experience through pre-, mid-, and post-conference workshops by developing an online conference platform.
- Develop an adaptive and innovative marketing strategy to promote the conference and student achievements through social media and other online platforms.

***Accomplishments***

- Extended conference from 1 day in 2015-2017, to 2 full days in 2018, and 4 full days in 2019.
- Increased undergraduate student submissions from 2017 by 37% to 104 presentations.
- Engaged local high school students in special session to integrate with University-wide undergraduate recruitment and undergraduate research strategic priorities.
- Engaged community sponsors to connect students with potential employers.
- Increased the conference budget by 55% (+\$11,894.25) from 2017 to 2018 through external community sponsorships and partnerships.

**Program Director, January 2017 – May 2017**

College Station, TX, USA

Texas A&M University, Aggie Research Programs

***Responsibilities***

- Develop the Aggie Research Leadership Program to promote effective communication strategies, conflict resolution, and overall mentorship skills in graduate students, postdoctoral fellows, and high-achieving undergraduate students.
- Develop the Aggie Research Scholars Program to promote effective communication, research, and peer-to-peer mentorship skills in undergraduate students.
- Collaborate with the Texas A&M University Center for Teaching Excellence (CTE), Office of Graduate and Professional Studies (OGAPS), and the Undergraduate Research Office (LAUNCH) to provide professional development opportunities to research team leaders.
- Supervise undergraduate student program coordinators to improve and institutionalize the Aggie Research Programs.
- Facilitate team leader meetings to improve team leader effectiveness.

**Textbook Contributor, September 2012 – January 2014**

New York, NY, USA

John Wiley & Sons, Inc

***Responsibilities***

- Contributor for Alan F. Arbogast (editor) Discovering Physical Geography, 3rd Edition.

- Update lecture presentations, pre-lecture questions, post-lecture questions, and test bank questions.
- Apply Bloom's Taxonomy to formulate new high-level questions.
- Develop new geoDiscovery material for online course instruction.

**GIS Technician, August 2012 – December 2013**

East Lansing, MI, USA

Remote Sensing &amp; GIS Research and Outreach Services

**Responsibilities**

- Supervise project integrating utility mapping and LiDAR processing.
- Develop custom geoprocessing algorithms for GIS applications.
- Develop GIS curriculum for students and professionals with a variety of experiences.
- Process and orthorectified large volumes of aerial imagery.

**GIS Intern, January 2011 – April 2012**

East Lansing, MI, USA

Michigan State University, Campus Planning and Administration

**Responsibilities**

- Collaborate with local and state emergency responders on the Ingham County Emergency Dispatch Consolidation Project aimed at improving interdepartmental emergency response communication.
- Generate and maintained extensive database with thousands of new addresses for MSU campus buildings to improve location accuracy for emergency responders.
- Maintain spatial and non-spatial Oracle and PostgreSQL databases for multiple projects.

**TEACHING AND ADVISING****Adjunct Professor, January 2020 – present**

Windsor, ON, Canada

University of Windsor, School of the Environment

**Sessional Instructor, January 2019 – May 2019**

Windsor, ON, Canada

University of Windsor, Department of Earth and Environmental Sciences

**Responsibilities**

- Develop and instruct a Special Topics in Geographic Information Science and Technology (GIST) for graduate students focused on a variety of technologies and techniques, including programming, open-source GIS, and machine learning approaches.

**Programme Aide, July 2017 – August 2017**

College Station, TX, USA

Texas A&amp;M University, Department of Geography

**Responsibilities**

- Teach *GNSS in the Geosciences* by immersing students in a multi-cultural study abroad through Europe.
- Facilitate a three-week study abroad through Poland, Germany, and Denmark focused on developing applied geospatial skills using GNSS.

**Aggie Research Leader, January 2016 – May 2017**

College Station, TX, USA

Texas A&amp;M University, Aggie Research Leadership Program

***Responsibilities***

- Mentor two diverse multi-disciplinary teams of 15 total undergraduate researchers. Research projects are independent of my dissertation research and heavily student-driven, with my guidance.

***Accomplishments***

- 14 Undergraduate student researchers presented research as posters and papers at local, regional, national, and international conferences.

**Course Instructor, January 2014 – December 2016**

College Station, TX, USA

Texas A&amp;M University, Department of Geography

***Responsibilities***

- Develop new content integrate theory with practical applications of GPS and GIS.
- Develop high-level test questions using Bloom's Taxonomy.

***Accomplishments***

- Flipped a traditional course (*GNSS in the Geosciences*) to a hybrid and online course structure to more effectively engage students in active learning.
- Revised course content to emphasize theory through real-world applications.
- Student enrollment increased from 41 students in 2014 to 98 students in 2016.

**Graduate Teaching Assistant, June 2016 – August 2016**

College Station, TX, USA

Texas A&amp;M University, Department of Geography

***Responsibilities***

- Teach *GNSS in the Geosciences* to 10 undergraduate students about geospatial concepts during a two-week trip through Poland, Germany, and Denmark.
- Guide students in developing and presenting independent research projects throughout Europe field trip.

**Course Instructor, August 2015 – December 2015**

College Station, TX, USA

Texas A&amp;M University, Department of Geography

***Responsibilities***

- Develop a freshman seminar on *To Interpret the Earth: 10 Ways to be Wrong* to teach students about the scientific method, common pitfalls, and ways to avoid those pitfalls.
- Facilitate weekly in-class discussions about interdisciplinary scientific research.

**Graduate Teaching Assistant, August 2013 – December 2013**

College Station, TX, USA

Texas A&amp;M University, Department of Geography

***Responsibilities***

- Instruct and graded labs for GPS in the Geosciences and Field Geography.
- Assist in updating course content and resources.

**Graduate Teaching Assistant, January 2012 – May 2012**  
 Michigan State University, Department of Geography  
**Responsibilities**

East Lansing, MI, USA

- Assist with locating new course content and resources.
- Meet with struggling students to help them better understand course content.

## PUBLICATIONS

**h-index: 12    i10-index: 21**

(Undergraduate student authors are double-underlined>

### Articles in Prep (within 6 months of submission)

- (32)        **Wernette, P.**, J. Geisz, and P. Esselman. (In Prep) Landscape-scale prediction of lakebed geologic substrate from autonomously collected imagery linked to LIDAR bathymetry. Planned submission to *International Journal of Remote Sensing*.

### Articles in Review

- (31)        **Wernette, P.** (In Review) Machine Learning Vegetation Filtering of Coastal Cliff and Bluff Point Clouds. Submitted to *Remote Sensing*.

### Articles Accepted and In Press

### Published Articles

2024

- (30)        Geisz, J., **P.A. Wernette**, and P. Esselman. (2024) Classification of lakebed geologic substrate in autonomously collected benthic imagery using machine learning. *Remote Sensing*, 16(7), [doi.org/10.3390/rs16071264](https://doi.org/10.3390/rs16071264).
- (29)        Lehner, J., **P.A. Wernette**, A. Smith, and C. Houser. (2024) Multi-dimensional approach for interpreting the structure of barrier island morphology. *Geomorphology*, 447, [doi.org/10.1016/j.geomorph.2023.109006](https://doi.org/10.1016/j.geomorph.2023.109006).

2023

- (28)        **Wernette, P.**, I. Miller, A. Ritchie, and J. Warrick. (2023) Crowd-sourced photogrammetry: Best practices for high resolution monitoring of coastal cliffs and bluffs. *Continental Shelf Research*, 245, [doi.org/10.1016/j.csr.2022.104799](https://doi.org/10.1016/j.csr.2022.104799).
- (27)        Lehner, J., **P. Wernette**, A. Smith, and C. Houser. (2023) Multi-dimensional approach for interpreting the structure of barrier island morphology. *Geomorphology*, 447, 109006. <https://doi.org/10.1016/j.geomorph.2023.109006>.

- (26) Buscombe, D., **P.A. Wernette**, S. Fitzpatrick, J. Favela, E.B. Goldstein, and N.M. Enwright. (2023) A 1.2 billion pixel human-labeled dataset for data-driven classification of coastal environments. *Scientific Data*, 10(1). [doi.org/10.1038/s41597-023-01929-2](https://doi.org/10.1038/s41597-023-01929-2).
- (25) Sherwood, C.R., A.C Ritchie, J.S. Over, C.J. Kranenburg, J.A. Warrick, J.A. Brown, C.W. Wright, A.L. Aretxabaleta, S.L. Zeigler, **P.A. Wernette**, D.D. Buscombe, and C.A. Hegermiller. (2023) Sound-side inundation and seaward erosion of a barrier island during hurricane landfall. *JGR Earth Surface*, 28, e2022JF006934. [doi.org/10.1029/2022JF006934](https://doi.org/10.1029/2022JF006934).
- 2022
- (24) **Wernette, P.** and C. Houser. (2022) Short Communication: Evidence for geologic control of rip channels along Prince Edward Island, Canada. *Physical Geography* 43(2), 145-162. [doi.org/10.1080/02723646.2021.1923389](https://doi.org/10.1080/02723646.2021.1923389).
- (23) Buscombe, D., E.B. Goldstein, C.R. Sherwood, C. Brodie, J.A. Brown, J. Favela, S. Fitzpatrick, C.J. Kranenburg, J.R. Over, A.C. Ritchie, J.A. Warrick, and **P.A. Wernette**. (2022) Human-in-the-loop segmentation of Earth surface imagery. *Earth and Space Science*, [doi.org/10.1029/2021EA002085](https://doi.org/10.1029/2021EA002085).
- 2021
- (22) Over, J.S. J.A. Brown, C.R. Sherwood, C. Hegermiller, **P.A. Wernette**, A.C. Ritchie, and J.A. Warrick. (2021) A survey of storm-induced seaward-transport features observed during the 2019 and 2020 hurricane seasons. *Shore and Beach* 89(2), 31-40. [doi.org/10.34237/1008924](https://doi.org/10.34237/1008924).
- (21) Goldstein, E.B., D. Buscombe, E.D. Lazarus, S.D. Mohanty, S.N. Rafique, K.A. Anarde, A.D. Ashton, T. Beuzen, K.A. Castagno, N. Cohn, M.P. Conlin, A. Ellenson, M. Gillen, P.A. Hovenga, J.S.R. Over, R.V. Palermo, K.M. Ratliff, I.R.B. Reeves, L.H. Sanborn, J.A. Straub, L.A. Taylor, E.J. Wallace, J. Warrick, **P. Wernette**, H.E. Williams. (2021) Labeling poststorm coastal imagery for machine learning: Measurement of inter-rater agreement. *Earth and Space Science*. [doi.org/10.1029/2021EA001896](https://doi.org/10.1029/2021EA001896).
- (20) George, E., B. Lunardi, A. Smith, J. Lehner, **P. Wernette**, and C. Houser. (2021) Short Communication: Storm impact and recovery of a beach-dune system in Prince Edward Island. *Geomorphology* 384, 107721. [doi.org/10.1016/j.geomorph.2021.107721](https://doi.org/10.1016/j.geomorph.2021.107721).
- (19) Over, J.R., A.C. Ritchie, C. Kranenburg, J.A. Brown, D.D. Buscombe, T. Noble, C.R. Sherwood, J. Warrick, and **P.A. Wernette**. (2021) Processing coastal imagery with Agisoft Metashape Professional Edition, version 1.6—Structure from motion workflow documentation: U.S. Geological Survey Open-File Report 2021-1039, 46 p. [doi.org/10.3133/ofr20211039](https://doi.org/10.3133/ofr20211039).
- (18) Micallef, A., R. Marchis, N. Saadatkhah, P. Pondthai, M.E. Everett, A. Avram, A. Timar-Gabor, D. Cohen, R.P. Trapani, B.A. Weymer, and **P. Wernette**. (2021) Groundwater erosion of coastal gullies along the Canterbury coast (New Zealand): A rapid and episodic process controlled by rainfall intensity and substrate variability. *Earth Surface Dynamics* 9, 1-18. [doi.org/10.5194/esurf-9-1-2021](https://doi.org/10.5194/esurf-9-1-2021).
- 2020
- (17) **Wernette, P.**, C. Houser, A. Evans, and J. Lehner. (2020) Barrier island resiliency and human impacts: Lessons from Hurricane Harvey. *Geomorphology* 358, 107119. [doi.org/10.1016/j.geomorph.2020.107119](https://doi.org/10.1016/j.geomorph.2020.107119).
- \*Invited Research Article.**

- (16) **Wernette, P.**, J. Lehner, and C. Houser. (2020) What change is ‘real’? A probabilistic approach to accounting for uncertainty in environmental change analysis. *Geomorphology*, 355, 107083. [doi.org/10.1016/j.geomorph.2020.107083](https://doi.org/10.1016/j.geomorph.2020.107083).
- (15) Weymer, B., **P. Wernette**, M. Everett, P. Pondthai, M. Jegen, and A. Micallef. (2020) Multi-layered high permeability conduits connecting onshore and offshore coastal aquifers. *Frontiers in Marine Science* 7, 903. [doi.org/10.3389/fmars.2020.531293](https://doi.org/10.3389/fmars.2020.531293).
- 2019
- (14) Houser, C., J. Lehner, and **P. Wernette**. (2019) Machine learning analysis of lifeguard flag decisions and recorded rescues. *Natural Hazards and Earth System Sciences*, 19, 2541-2549. [doi.org/10.5194/nhess-19-2541-2019](https://doi.org/10.5194/nhess-19-2541-2019).
- (13) Houser, C., B. Vlodarchyk, and **P. Wernette**. (2019) Short Communication: Public Interest in rip currents relative to other natural hazards: Evidence from Google Search data. *Natural Hazards*, 97, 1395-1405. [doi.org/10.1007/s11069-019-03696-z](https://doi.org/10.1007/s11069-019-03696-z).
- 2018
- (12) **Wernette, P.**, C. Houser, B. Weymer, M.P. Bishop, M. Everett, and B. Reece. (2018) Directional dependency and coastal framework geology: Implications for barrier island resilience. *Earth Surface Dynamics*, 6, 1139-1153. [doi.org/10.5194/esurf-6-1139-2018](https://doi.org/10.5194/esurf-6-1139-2018).
- (11) Weymer, B., M. Everett, **P. Wernette**, and C. Houser. (2018) Statistical modeling of the long-range-dependent structure of barrier island framework geology and surface geomorphology. *Earth Surface Dynamics*, 6, 431-450. [doi.org/10.5194/esurf-6-431-2018](https://doi.org/10.5194/esurf-6-431-2018).
- (10) **Wernette, P.** (2018) PhDs and undergraduate research projects. *Inside Higher Education*, Published 5 June 2018. <http://www.insidehighered.com/advice/2018/06/05/advantages-phds-supervising-team-based-undergraduate-research-projects-opinion>.
- (9) **Wernette, P.**, C. Houser, B. Weymer, M.P. Bishop, M. Everett, and B. Reece. (2018) Influence of a spatially complex framework geology on island geomorphology. *Marine Geology*, 398, 151-162. [doi.org/10.1016/j.margeo.2018.01.011](https://doi.org/10.1016/j.margeo.2018.01.011).
- (8) **Wernette, P.**, S. Thompson, R. Eyler, H. Taylor, C. Taube, C. Decuir, A. Medlin, and C. Houser. (2018) Defining dunes: Evaluating how dune feature definitions impact dune interpretations from remote sensing. *Journal of Coastal Research*, 34(6), 1460-1470. [doi.org/10.2112/JCOASTRES-D-17-00082.1](https://doi.org/10.2112/JCOASTRES-D-17-00082.1).
- (7) Houser, C., **P. Wernette**, and B. Weymer. (2018) Scale dependent behavior of the foredune: Implications for barrier island response to storms and sea-level rise. *Geomorphology*, 303, 362-374. [doi.org/10.1016/j.geomorph.2017.12.011](https://doi.org/10.1016/j.geomorph.2017.12.011).
- 2017
- (6) Houser, C., M.P. Bishop, and **P. Wernette**. (2017) Short Communication: Multi-scale anisotropy patterns on a barrier island. *Geomorphology*, 297(15), 153-158. [doi.org/10.1016/j.geomorph.2017.09.026](https://doi.org/10.1016/j.geomorph.2017.09.026).
- (5) **Wernette, P.**, A. Shortridge, D. Lusch, and A.F. Arbogast. (2017) Accounting for positional uncertainty in historical shoreline change analysis without ground-reference information. *International Journal of Remote Sensing*, 38(13), 3906-3922. [doi.org/10.1080/01431161.2017.1303218](https://doi.org/10.1080/01431161.2017.1303218).



## 2016

- (4) Weymer, B., M. Everett, C. Houser, **P. Wernette**, and P. Barrineau. (2016) Differentiating tidal and groundwater dynamics from barrier island framework geology: Testing the utility of portable multi-frequency EMI profilers. *Geophysics*, 81(5), E347-E361. [doi.org/10.1190/geo2015-0286.1](https://doi.org/10.1190/geo2015-0286.1).
- (3) **Wernette, P.**, C. Houser, and M.P. Bishop. (2016) An automated approach for extracting barrier island morphology from digital elevation models. *Geomorphology*, 262(1), 1-7. [doi.org/10.1016/j.geomorph.2016.02.024](https://doi.org/10.1016/j.geomorph.2016.02.024).

## 2015

- (2) Houser, C., **P. Wernette**, T. Rentschler, H. Jones, and B. Hammond. (2015) Post-storm beach and dune recovery: Implications for barrier island resilience. *Geomorphology*, 243, 54-63. [doi.org/10.1016/j.geomorph.2014.12.044](https://doi.org/10.1016/j.geomorph.2014.12.044).
- (1) Arbogast, A., M. Luehmann, B. Miller, **P. Wernette**, K. Adams, J. Waha, G. O'Neil, Y. Tang, J. Boothroyd, C. Babcock, R. Hanson, and A. Young. (2015) Late-Pleistocene paleowinds and aeolian sand mobilization in north-central Lower Michigan. *Aeolian Research*, 16, 106-116. [doi.org/10.1016/j.aeolia.2014.08.006](https://doi.org/10.1016/j.aeolia.2014.08.006).

## Book Chapters

- (4) Houser, C., A. Smith, **P. Wernette**, and J. Lehner. (2022) "Spatial frequency analysis and information synthesis for understanding coastal barriers" in Treatise on Geomorphology (John F. Schroder, ed.). Academic Press. ISBN: 978-0-128-18235-2. [doi.org/10.1016/B978-0-12-818234-5.00023-7](https://doi.org/10.1016/B978-0-12-818234-5.00023-7).
- (3) Houser, C., **P. Wernette**, and S. Locknick. (2020) "Rip currents" in Sandy Beach Morphodynamics (D. Jackson and A. Short, eds). Elsevier. ISBN: 978-0-081-02927-5.
- (2) Houser, C., P. Barrineau, B. Hammond, B. Saari, E. Rentschler, S. Trimble, **P. Wernette**, B. Weymer, and S. Young. (2018) "Role of the foredune in controlling barrier island response to sea level rise" in Barrier Dynamics and Response to Changing Climate (L. Moore and B. Murray, eds). Springer. ISBN: 978-3-319-68086-6.
- (1) Barrineau, P., **P. Wernette**, B. Weymer, S. Trimble, B. Hammond, and C. Houser. (2015) "Critical zone of coastal barrier systems" in Principles and Dynamics of The Critical Zone (C. Houser and R. Giardino, eds). Elsevier. ISBN: 978-0-444-63369-9.

## Code Releases

- (2) **Wernette, P.A.** (2024) Segmenting Vegetation from bare-Earth in High-relief and Dense Point Clouds using Machine Learning, Python package. [doi.org/10.5281/zenodo.10966854](https://doi.org/10.5281/zenodo.10966854).
- (1) Logan, J.B., **P.A. Wernette**, and Ritchie, A.C. (2022) Agisoft Metashape/Photoscan Automated Image Alignment and Error Reduction version 2.0: U.S. Geological Survey code repository, U.S. Geological Survey software release, Python package, Reston, Va., [doi.org/10.5066/P9DGS5B9](https://doi.org/10.5066/P9DGS5B9).

**Data Releases**

- (10) **Wernette, P.A.** (2024) Coastal bluff point clouds derived from SfM near Elwha River mouth, Washington [Dataset]. Dryad. <https://doi.org/10.5061/dryad.8pk0p2nww>.
- (9) Geisz, J.K., **P.A. Wernette**, P.C. Esselman, and J.M. Morris. (2023) Autonomously collected benthic imagery for substrate prediction, Lake Michigan 2020-2021: U.S. Geological Survey, <https://doi.org/10.5066/P9N32CV7>.
- (8) **Wernette, P.A.**, D.D. Buscombe, J. Favela, S. Fitzpatrick, and E. Goldstein. (2022) Coast Train--Labeled imagery for training and evaluation of data-driven models for image segmentation: U.S. Geological Survey, <https://doi.org/10.5066/P91NP87I>.
- (7) Miller, I.M., **P.A. Wernette**, A.W. Ritchie, and J.A Warrick. (2022). Crowd-sourced SfM: Best practices for high resolution monitoring of coastal cliffs and bluffs [Dataset]. Dryad. <https://doi.org/10.5061/dryad.63xsj3v4s>.
- (6) Kranenburg, C.J., A.C. Ritchie, J.A. Brown, J.R. Over, C.R. Sherwood, J.A. Warrick, and **P.A. Wernette**. (2022) Aerial imagery of the North Carolina coast: 2019-10-11: U.S. Geological Survey, <https://doi.org/10.5066/P9RRSMOJ>.
- (5) Ritchie, A.C., J.R. Over, C.J. Kranenburg, J.A. Brown, D. Buscombe, C.R. Sherwood, J.A. Warrick, and **P.A. Wernette**. (2021) Aerial photogrammetry data and products of the North Carolina coast—2018-10-06 to 2018-10-08, post-Hurricane Florence: U.S Geological Survey, <https://doi.org/10.5066/P9CA3D8P>.
- (4) Kranenburg, C.J., A.C. Ritchie, J.A. Brown, J.R. Over, C.R. Sherwood, J.A. Warrick, and **P.A. Wernette**, 2021, Aerial imagery of the North Carolina coast: 2019-09-08 to 2019-09-13, post-Hurricane Dorian : U.S. Geological Survey, <https://doi.org/10.5066/P9TPKMBB>.
- (3) Kranenburg, C.J., A.C. Ritchie, J.A. Brown, J.R. Over, C.R. Sherwood, J.A. Warrick, and **P.A. Wernette**, 2021, Aerial imagery of the North Carolina coast: 2019-08-30 and 2019-09-02, pre-Hurricane Dorian U.S. Geological Survey, <https://doi.org/10.5066/P9WR0VB1>.
- (2) Goldstein, E.B., D. Buscombe, E.D. Lazarus, A. Katherine, A.D. Ashton, B. Thomas, C. Katherine, N. Cohn, A. Ellenson, M.N. Gillen, P.A. Hovenga, J.R. Over, R.V. Palermo, K.M. Ratliff, I. Reeves, L.H. Sanborn, L. Taylor, E. Wallace, **P.A. Wernette**, and H.E. Williams. (2022) Labels for emergency response imagery from Hurricane Florence, Hurricane Michael, and Hurricane Isaias. <https://doi.org/10.5281/zenodo.7217621>.
- (1) Kranenburg, C.J., A.C. Ritchie, J.A. Brown, J.R. Over, D. Buscombe, C.R. Sherwood, J.A. Warrick, and **P.A. Wernette**. (2020) Post-Hurricane Florence aerial imagery: Cape Fear to Duck, North Carolina, October 6–8, 2018: U.S. Geological Survey, <https://doi.org/10.5066/P91KB9SF>.

**Professional Interpretive Displays**

- (3) **Wernette, P.** and A. Wernette. (2019) “Big Sable River Watershed”. On display at Ludington State Park, Ludington, MI, USA.

- (2) **Wernette, P.** and A. Wernette. (2014) “Ludington State Park Trail Map”. *Ludington Daily News*, Ludington, MI, USA.
- (1) **Wernette, P.**, A. Wernette, and E. Wolfe. (2011) “Changing Beaches: rise and fall of Lake Michigan beaches”. On display at Big Sable Point Lighthouse, Ludington State Park, Ludington, MI, USA.

### Conference Proceedings

- (16) **Wernette, P.**, C. Houser, J. Lehner, and A. Evans. (2018) Barrier island resiliency and human impacts: Lessons from Hurricane Harvey. *Geological Society of America Abstracts with Programs*, 50(6)226-3.
- (15) Lehner, J., **P. Wernette**, and C. Houser. (2018) Machine learning approach to coastal landform classification. *Geological Society of America Abstracts with Programs*, 50(6)255-1.
- (14) Houser, C., **P. Wernette**, and B. Weymer. (2018) Scale dependent behaviors of the beach and dune: Implications for barrier island response to sea level rise. *Geological Society of America Abstracts with Programs*, 50(6)255-2.
- (13) **Wernette, P.**, C. Houser, B. Weymer, M. Everett, B. Reece, and M.P. Bishop. (2017) Developing a multidisciplinary understanding of barrier island evolution. *Geological Society of America Abstracts with Programs*, 49(6):34-2.
- (12) Smart, N., L. Tuttle, D. Taylor, B. Ferguson, J. Lehner, and **P. Wernette**. (2017) Interactions between vegetation and geologic framework in barrier island evolution. *Geological Society of America Abstracts with Programs*, 49(6):72-3.
- (11) Tuttle, L., C. Mohkami, **P. Wernette**, and C. Houser. (2017) Investigating barrier island evolution through sediment core analysis and geophysical surveys. *Geological Society of America Abstracts with Programs*, 49(6):72-6.
- (10) **Wernette, P.**, C. Houser, B. Weymer, M. Everett, M.P. Bishop, and B. Reece. (2017) Assessing the role of framework geology on barrier island geomorphology. *Geological Society of America Abstracts with Programs*, 49(1):14-4.
- (9) **Wernette, P.**, C. Houser, J. Nunez, and C. Quick. (2017) Promoting diversity and inclusion in the geosciences: Recruitment, team-based multidisciplinary research scholarship, and service learning. *Geological Society of America Abstracts with Programs*, 49(1):21-2.
- (8) Tuttle, L., **P. Wernette**, and C. Houser. (2017) Mapping the geologic framework of Padre Island National Seashore using geophysical surveys. *Geological Society of America Abstracts with Programs*, 49(1):8-46.
- (7) Houser, C., **P. Wernette**, and B. Weymer. (2017) Scale dependent behavior of the foredune: Implications for barrier island response to storms and sea level rise. *19<sup>th</sup> European Geophysical Union Proceedings*, p. 2643.
- (6) **Wernette, P.**, C. Houser, B. Weymer, M.P. Bishop, M. Everett, and B. Reece. (2016) The role of geologic framework in barrier island geomorphology at Padre Island National Seashore, Texas. *Geological Society of America Abstracts with Programs*, 48(7):271-3.

- (5) Lehner, J., **P. Wernette**, M.P. Bishop, and C. Houser. (2016) Application of topographic anisotropy for assessing barrier island morphology. Geological Society of America *Abstracts with Programs*, 48(7):333-7.
- (4) Smart, N., **P. Wernette**, L. Tuttle, D. Taylor, B. Ferguson, and J. Lehner. (2016) Establishing relationships between vegetation dynamics in context of geologic framework along Padre Island National Seashore, Texas, USA. Geological Society of America *Abstracts with Programs*, 48(7):333-12.
- (3) Decuir, C., R. Eyler, H. Taylor, **P. Wernette**, C. Taube, and S. Thompson. (2016) What is a dune? Evaluating current methods of extracting coastal dunes from DEMs. Geological Society of America *Abstracts with Programs*, 48(7):333-13.
- (2) **Wernette, P.**, A. Shortridge, D. Lusch, and A. Arbogast. (2013) Accounting for positional uncertainty in shoreline change analysis. Geological Society of America *Abstracts with Programs*, 45(7):472.
- (1) Arbogast, A., M. Luehmann, B. Miller, and **P. Wernette**. (2012) Late-Pleistocene wind-flow patterns and dune formation in north-central Lower Michigan. Geological Society of America *Abstracts with Programs*, 44(7):106.

## AWARDS, HONORS, AND GRANTS

Community for Data Integration

2021                **\$61,740**

United States Geological Survey

Mendenhall Research Fellowship

2019-2021        **\$50,220**

United States Geological Survey

Doctoral Dissertation Research Improvement (DDRI) Award

2016-2018        **\$15,444**

National Science Foundation – Geography and Spatial Sciences Program

High-Impact Learning Experiences Grant

2016-2017        **\$20,000**

Texas A&M University College of Geosciences

Graduate Grant-in-Aid of Research

2016-2017        **\$1,700**

Texas Sea Grant

Excellence in Teaching Award

2016                **\$400**

Texas A&M University Department of Geography

Conference Travel Award

2015                **\$500**

Texas A&M University Graduate and Professional Student Council

1<sup>st</sup> Place Earth Sciences Graduate Division

2014 **\$300**

Texas A&M University Student Research Week

1<sup>st</sup> Place Graduate Student Paper Competition

2014 **\$280**

11<sup>th</sup> International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences

## PROFESSIONAL AND TEACHING DEVELOPMENT WORKSHOPS

ORCID: Getting Started and Getting Connected	Office of Research and Innovation Services, University of Windsor	Oct. 2018
Teaching Dossier Academy	Centre for Teaching and Learning, University of Windsor	May 2018
High impact experiences are not just for the benefit of the student	Centre for Teaching and Learning, University of Windsor	Dec. 2017
Presence and presentation: Engaging your students in the classroom	Centre for Teaching and Learning, University of Windsor	Nov. 2017
Pedagogy Workshop – Using hand-held technology in the classroom	Undergraduate Studies, Texas A&M University	Apr. 2017
Teaching methods and approaches to engage students	Center for Teaching Excellence, Texas A&M University	May 2016
Facilitating effective group work and projects	Center for Teaching Excellence, Texas A&M University	Apr. 2016
Dean of Faculties Mentoring Series – Expanding and implementing mentorship at Texas A&M	Center for Teaching Excellence, Texas A&M University	Apr. 2016
Online course design (2-part workshop)	Center for Teaching Excellence, Texas A&M University	Mar. 2016
Lecturing well	Center for Teaching Excellence, Texas A&M University	Feb. 2016
Feel free to use your phone in class: Leveraging mobile devices for teaching and learning	Center for Teaching Excellence, Texas A&M University	Nov. 2015
Simple, free, and easy ways to integrate technology into your teaching	Center for Teaching Excellence, Texas A&M University	Nov. 2015
Technology-enhanced approaches for engaging students in large classes	Center for Teaching Excellence, Texas A&M University	Nov. 2015
Designing writing assignments with a lower workload and better results	Center for Teaching Excellence, Texas A&M University	Sept. 2015
Syllabus design	Center for Teaching Excellence, Texas A&M University	Aug. 2015
Learning outcomes and teaching strategies	Center for Teaching Excellence, Texas A&M University	July 2015
Mentoring undergraduate researchers: A workshop for graduate students	Honors and Undergraduate Research, Texas A&M University	Sept. 2014

8 easy ways to integrate technology in your classroom	Center for Teaching Excellence, Texas A&M University	June 2014
Philosophy of teaching statement	Center for Teaching Excellence, Texas A&M University	May 2014
Teaching assistant training	Center for Teaching Excellence, Texas A&M University	Aug. 2013

## STUDENTS MENTORED

(Undergraduate students mentored as part of the Texas A&M University Aggie Research Programs are underlined)

Jenny Gharib, University of Windsor, School of The Environment		2020 - present
Elizabeth George, University of Windsor, School of The Environment		2020 – present
<u>Alexander Medlin</u>	2017	<u>Caleb Taube</u> 2016 - 2017
<u>Cassie Mohkami</u>	2017	<u>Jacquelyn (Bri) Ferguson</u> 2015 - 2017
<u>Matthew Tran</u>	2017	<u>Nick Smart</u> 2015 - 2017
<u>Jessica Martin</u>	2017	<u>Aden Mohammad</u> 2016
<u>Jacob Lehner</u>	2016 - 2017	<u>Tyler Rozelle</u> 2016
<u>Dawan Taylor</u>	2016 - 2017	Adrian Curry 2016
<u>Larry Tuttle</u>	2016 - 2017	<u>Rachel Eyler</u> 2016
<u>Hannah Taylor</u>	2016 - 2017	<u>Claire Decuir</u> 2016
<u>Laura Gloria</u>	2016 - 2017	Matthew Snow 2014
<u>Stephanie Thompson</u>	2016 - 2017	Patrick Hourahan 2013

## PROFESSIONAL SERVICE

### Manuscript Reviews

Reviewed articles for multiple journals.

*Earth Surface Processes and Landforms*

*Estuaries and Coasts*

*Geocarto International*

*Geomorphology*

*Geophysics*

*Geosciences*

*International Journal of Geographical Information Science*

*Journal of Coastal Research*

*Journal of Geophysical Research: Earth Surface*

*Marine Geology*

*Ocean and Coastal Management*

*Transactions in GIS*

Internal reviewer for USGS manuscripts as part of USGS Fundamental Science Practices

### Listserv Moderator

Geomorph-List moderator, 2016 – 2020

An email distribution list connecting over 2400 worldwide professional and academic geomorphologists for the International Association of Geomorphologists (IAG).

## Book Reviews

Remote Sensing of Geomorphology

## National Science Foundation

2018 *EAR REU Reviewer*

2017 *EAR REU Panel*

## University of Windsor GIS Day

2017 Organizing Committee

## Conference Organization

2024 *International Association for Great Lakes Research*

Primary Convener and Chair: *Linking Nearshore and Onshore Sediment Transport Processes and Geomorphic Responses: Insights from Field, Laboratory, and Modeling Studies*

2023 *American Geophysical Union*

Primary Convener and Chair: *Linking Nearshore and Onshore Sediment Transport Processes and Geomorphic Responses: Insights from Field, Laboratory, and Modeling Studies*

2022 *American Geophysical Union*

Co-convener and Chair: *Linking Nearshore and Onshore Sediment Transport Processes and Geomorphic Responses: Insights from Field, Laboratory, and Modeling Studies*

2021 *American Geophysical Union*

Primary Convener and Chair: *Coastal Cliff and Bluff Morphodynamics: Observations, Monitoring, and Modelling*

Co-convener: *Linking nearshore and onshore sediment transport processes and geomorphic responses: Insights from observational and modeling studies*

2020 *American Geophysical Union*

Primary Convener and Chair: *Coastal Cliff and Bluff Morphodynamics* (cross-listed with Earth and Planetary Surface Processes & Cryosphere)

2019 *American Geophysical Union*

Primary Convener and Chair: *Coastal Geomorphology and Morphodynamics: Observations and Modelling of Coastal Environments*

*University of Windsor UWill Discover Student Research Conference*

Conference Chair

2018 *American Geophysical Union*

Co-convener and Chair: *Coastal Geomorphology and Morphodynamics: Observations and Modelling at the Coastal Margin*

*Association of American Geographers*

Co-convener and Session Chair: *Hurricanes III: Coastal Geomorphology and Paleotempestology*

Co-convener and Session Chair: *Hurricanes IV: The 2017 Hurricane Season*

*University of Windsor UWill Discover Student Research Conference*  
Conference Chair

2017 *Canadian Association of Geographers Ontario (CAGONT)*  
Coordinator and Chair: *Multidisciplinary Perspectives on Coastal Research and Management*

### **Professional Organizations**

Association of American Geographers, 2011 – 2019  
American Geophysical Union, 2014 – present  
Earth and Planetary Surface Processes Section  
Canadian Association of Geographers, 2017 – 2018  
Canadian Geophysical Union, 2017 – 2018  
Council on Undergraduate Research, 2017 – 2019  
Geological Society of America, 2011 – 2020  
Society of Exploration Geophysicists, 2013 – 2015

### **Honor Societies**

Gamma Theta Upsilon (GTU) International Geographic Honor Society  
(Beta Chi Chapter – Michigan State University)  
St. George's Geographical Society

### **Certifications**

CPR/AED, 2023 (2-year certification)  
USGS On the water training  
SSI Open Water Diver, 2008  
SSI Dry Suit Diver, 2008  
CIRTL Practitioner, 2016  
Center for Integration of Research, Teaching and Learning (CIRTL)

#### ***Responsibilities***

- Develop an integrated learning community of undergraduate research scholars through formal weekly research meetings, conference presentations, conference networking, and informal large-group meetings.
- Mentor diverse multidisciplinary teams of undergraduate students in relevant student-directed research to improve undergraduate critical thinking and problem solving.
- Mentor students in effective research communication through conference presentations, publications, and active research collaborations.
- Develop best-practices report for mentoring diverse multidisciplinary teams of undergraduate students by (1) identifying an issue, (2) collecting pre-intervention data, (3) applying a well-researched intervention to address the issue, (4) collect post-intervention data, and (5) evaluate the effectiveness of the intervention.

## **SKILLS AND EXPERIENCE**

Coastal Processes and Geomorphology  
Geomorphology

Remote Sensing and Geographic Information Science  
Machine Learning and HPC



Geophysics (EMI, GPR, ERT, seismic, etc.)  
 Programming and Algorithm Development  
 Spatial Data Analysis & Geostatistics  
 Online Course Development

Structure-from-Motion (SfM) and LiDAR  
 Geospatial Modelling & Geocomputation  
 Cartography & Web-GIS  
 Database Management

## SOFTWARE AND PROGRAMMING LANGUAGES

Python	C/C++	Tensorflow & Keras	Jupyter Notebooks
Javascript, JQuery	HTML, PHP, & CSS	PyTorch	SQL
Agisoft Metashape	Cloud Compare	Global Mapper	R
SAGA GIS	ArcGIS	Quantum GIS (QGIS)	Adobe Creative Suite

## INVITED TALKS

- (11) **Wernette, P.** (2023) Filling the gaps: Coastal and benthic mapping with SfM and machine learning. Invited talk at the Michigan State University Department of Geography, Environment, and Spatial Sciences QUIDDERS seminar series, East Lansing, MI, USA.
- (10) **Wernette, P.** (2020) Multiscale drivers of coastal evolution: An interdisciplinary approach to understanding change through space and time. Invited talk at the U.S. Geological Survey Coastal Change Hazards Group, USA.
- (9) **Wernette, P.** (2019) A multidisciplinary approach to understanding environmental change on the Great Lakes. Invited talk at the NOAA Great Lakes Environmental Research Lab (GLERL), Ann Arbor, MI, USA.
- (8) **Wernette, P., C. Houser, B. Weymer, and M. Everett.** (2018) Multidisciplinary approaches to understanding coastal geomorphology. Invited talk at the University of Windsor Department of Earth and Environmental Sciences, Windsor, ON, Canada.
- (7) **Wernette, P.** (2017) Implications of Hurricane Harvey for the Texas Coast. Invited talk at the University of Windsor GIS Day 2017, Windsor, ON, Canada.
- (6) **Wernette, P.** (2017) Toward a multidisciplinary/multiscale understanding of coastal evolution. Invited talk at Texas State University Department of Geography, San Marcos, TX, USA.
- (5) **Wernette, P.** (2017) Developing a multiscale understanding of coastal evolution. Invited talk at The University of Melbourne, Melbourne, Victoria, Australia.

- (4) **Wernette, P.**, C. Houser, B. Weymer, M. Everett, B. Reece, and M.P. Bishop. (2017) Spatially variable framework geology as a driver of barrier island development. Invited talk at the Canadian Geophysical Union Annual Meeting, Vancouver, BC, Canada.
- (3) **Wernette, P.** (2017) Undergraduate research. Seminar hosted by the Texas A&M University Supporting Women in Geography. College Station, TX, USA.
- (2) **Wernette, P.** (2017) Writing an abstract. Workshop hosted by the Texas A&M University Aggie Research Programs. College Station, TX, USA.
- (1) Weymer, B., M. Everett, C. Houser, and **P. Wernette**. (2015) Mapping large-scale barrier island hydrogeology: Why use EMI?. Invited talk at University of Kiel/GEOMAR, Germany.

## PAPERS AT PROFESSIONAL MEETINGS OR SYMPOSIA

(Undergraduate student authors are double-underlined>

- (52) **Wernette, P.A.**, J. Geisz, and P. Esselman. (2023) Machine Learning Classification of Benthic Substrate from AUV Images to Lake-wide: Challenges and Lessons Learned. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (51) **Wernette, P.A.**, J. Geisz, and P. Esselman. (2023) Machine learning classification of benthic substrate from AUV images to lake-wide: Challenges and lessons learned. Presented at the Coastal and Estuarine Research Federation, 27<sup>th</sup> Biennial Conference, Portland, OR, USA.
- (50) **Wernette, P.A.**, J. Geisz, and P. Esselman. (2023) Machine learning classification of benthic substrate from AUV images to lake-wide: Challenges and lessons learned. Presented at Lakebed 2030, Traverse City, MI, USA.
- (49) Geisz, J., P. Esselman, and **P.A. Wernette**. (2022) Large-scale prediction of nearshore substrates in Lake Michigan from LiDAR bathymetry using machine learning. Presented at the Joint Aquatic Sciences Meeting, Grand Rapids, MI, USA.
- (48) **Wernette, P.A.**, I.M. Miller, A. Ritchie, and J.A. Warrick. (2021) Vegetation identification and filtering in SfM-derived point clouds on high-relief coasts. Presented at the American Geophysical Union Fall Meeting, New Orleans, LA, USA.
- (47) Geisz, J., P. Esselman, and **P. Wernette**. (2021) Large-scale prediction of nearshore substrates in Lake Michigan from LiDAR bathymetry using machine learning. Presented at the 21<sup>st</sup> JALBTCX Airborne Coastal Mapping and Charting Technical Workshop, Kiln, MS, USA.
- (46) **Wernette, P.A.**, I.M. Miller, A. Ritchie, and J.A. Warrick. (2020) High-resolution coastal bluff monitoring through crowd-sourced SfM. Presented at the American Geophysical Union Fall Meeting, Virtual.
- (45) Lehner, J., **P.A. Wernette**, and C. Houser. (2020) Identifying foredune morphometrics through a landform extraction machine learning approach. Presented at the Young Coastal Scientists and Engineers Conference – Americas, Myrtle Beach, SC, USA.

- (44) Everett, M., A. Micallef, R. Marchis, N. Saadatkhah, P. Pondthai, A. Timar-Gabor, R.P. Trapani, D. Cohen, A. Avram, B.A. Weymer, and **P.A. Wernette**. (2020) Rapid and episodic groundwater erosion of coastal gullies controlled by rainfall intensity and substrate variability: Insights from the Canterbury coast (New Zealand). Presented at the American Geophysical Union Fall Meeting, Virtual.
- (43) Houser, C., **P. Wernette**, J. Lehner, A. Smith, and B. Lunardi. (2019) Alongshore variation in beach and dune coupling. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (42) **Wernette, P.**, C. Houser, J. Lehner, and A. Evans. (2018) Human activity, framework geology, and barrier island resiliency: Lessons from Hurricane Harvey. Presented at the American Geophysical Union Fall Meeting, Washington D.C., USA.
- (41) **Wernette, P.**, C. Houser, J. Lehner, and A. Evans. (2018) Barrier island resiliency and human impacts: Lessons from Hurricane Harvey. Presented at the Geological Society of America Annual Meeting, Indianapolis, IN, USA.
- (40) **Wernette, P.**, C. Houser, and J. Lehner. (2018) Insights into barrier island evolution: Past, present, and future. Presented at the Coastal Zone Canada Conference, St. John's, Newfoundland, Canada.
- (39) Houser, C. and **P. Wernette**. (2018) Scale-dependent behavior of the foredune: Implications for barrier island response to storms and sea-level rise. Presented at the Coastal Zone Canada Conference, St. John's, Newfoundland, Canada.
- (38) **Wernette, P.**, C. Houser, and A. Evans. (2018) Management implications of Hurricane Harvey for Padre Island National Seashore. Presented at the Association of American Geographers Annual Meeting, New Orleans, LA, USA.
- (37) **Wernette, P.** and C. Houser. (2018) Enhancing professional development through vertically-tiered undergraduate research. Presented at the Association of American Geographers Annual Meeting, New Orleans, LA, USA.
- (36) **Wernette, P.**, C. Houser, and A. Evans. (2017) Coastal erosion at Padre Island: Insights from UAV surveys after Hurricane Harvey. Presented at the American Geophysical Union Fall Meeting, New Orleans, LA, USA.
- (35) **Wernette, P.**, C. Houser, B. Weymer, M. Everett, M.P. Bishop, and B. Reece. (2017) Asymmetries in barrier island geomorphology: Controls on coastal evolution. Presented at the American Geophysical Union Fall Meeting, New Orleans, LA, USA.
- (34) **Wernette, P.**, C. Houser, B. Weymer, M. Everett, M.P. Bishop, and B. Reece. (2017) Developing a multidisciplinary understanding of barrier island evolution. Presented at the Geological Society of America Annual Meeting, Seattle, WA, USA.

- (33) **Wernette, P.**, C. Houser, B. Weymer, M. Everett, M.P. Bishop, and B. Reece. (2017) Management implications of Hurricane Harvey for Padre Island National Seashore. Presented at the Canadian Association of Geographers Ontario Meeting, Kingston, Ontario, Canada.
- (32) **Wernette, P.**, C. Houser, B. Weymer, M. Everett, B. Reece, and M.P. Bishop. (2017) Framework geology as a driver of barrier island geomorphology. Presented at the Canadian Association of Geographers Annual Meeting, Toronto, ON, Canada.
- (31) **Wernette, P.**, C. Houser, B. Weymer, M. Everett, B. Reece, and M.P. Bishop. (2017) Spatially variable framework geology as a driver of barrier island development. Presented at the Canadian Geophysical Union Annual Meeting, Vancouver, BC, Canada.
- (30) Houser, C., **P. Wernette**, and B. Weymer. (2017) Scale dependent behavior of the foredune: Implications for barrier island response to storms and sea level rise. Presented at the European Geophysical Union General Assembly, Vienna, Austria.
- (29) **Wernette, P.**, C. Houser, B. Weymer, M. Everett, M.P. Bishop, and B. Reece. (2017) Spatially variable framework geology as a driver of barrier island development. Presented at the Association of American Geographers Annual Meeting, Boston, MA, USA.
- (28) Houser, C., **P. Wernette**, and B. Weymer. (2017) Scale dependent behavior of the foredune: Implications for barrier island response to storms and sea level rise. Presented at the Association of American Geographers Annual Meeting, Boston, MA, USA.
- (27) Taylor, H., S. Thompson, T. Rozelle, C. Taube, A. Medlin, and **P. Wernette**. (2017) What is a dune: Expanding automated approaches of dune extraction and LiDAR processing. Presented at the Association of American Geographers Annual Meeting, Boston, MA, USA.
- (26) Lehner, J., **P. Wernette**, M.P. Bishop, and C. Houser. (2017) Multi-temporal assessment of barrier island evolution in context of framework geology. Presented at the Association of American Geographers Annual Meeting, Boston, MA, USA.
- (25) Tuttle, L., **P. Wernette**, and C. Houser. (2017) Updating the framework geology information at Padre Island National Seashore: Validation of Geophysical Surveys through sediment cores. Presented at the Association of American Geographers Annual Meeting, Boston, MA, USA.
- (24) Talyor, D., B. Ferguson, L. Tuttle, J. Lehner, N. Smart, and **P. Wernette**. (2017) Establishing relationships between vegetation dynamics in context of geologic framework along Padre Island National Seashore, Texas, USA. Presented at the Association of American Geographers Annual Meeting, Boston, MA, USA.
- (23) **Wernette, P.**, C. Houser, B. Weymer, M. Everett, M.P. Bishop, and B. Reece. (2017) Framework geology as a driver of barrier island development: Implications for coastal management. Presented at the Texas A&M University Student Research Week, College Station, TX, USA.

- (22) Tuttle, L., C. Mohkami, P. Wernette, and C. Houser. (2017) Updating the framework geology information at Padre Island National Seashore: Validation of geophysical surveys through sediment cores. Presented at the Texas A&M University Student Research Week, College Station, TX, USA.  
**\* First place in Geosciences – Undergraduate Division**
- (21) Ferguson, B., J. Martin, L. Tuttle, D. Taylor, N. Smart, J. Lehner, M. Tran, C. Mohkami, L. Gloria, and **P. Wernette**. (2017) Quantifying the interaction of vegetation and geologic framework along a Texas barrier island. Presented at the Texas A&M University Student Research Week, College Station, TX, USA.  
**\* Second place in Geosciences – Undergraduate Division**
- (20) Lehner, J., P. Wernette, M.P. Bishop, and C. Houser. (2017) Multi-temporal assessment of barrier island evolution in context of framework geology. Presented at the Texas A&M University Student Research Week, College Station, TX, USA.
- (19) **Wernette, P.**, C. Houser, B. Weymer, M. Everett, M.P. Bishop, and B. Reece. (2017) Evaluating barrier island geomorphology in context of framework geology. Presented at the fourth annual symposium of the Association of Geography Graduate Students, College Station, TX, USA.
- (18) **Wernette, P.**, C. Houser, B. Weymer, M. Everett, M.P. Bishop, and B. Reece. (2017) Assessing the role of framework geology on barrier island geomorphology. Presented at the Geological Society of America South-Central Section Meeting, San Antonio, TX, USA.
- (17) **Wernette, P.**, C. Houser, B. Weymer, M.P. Bishop, M. Everett, and B. Reece. (2016) The role of geologic framework in barrier island geomorphology. Presented at the American Shore and Beach Preservation Association Annual Coastal Conference, Long Branch, NJ, USA.
- (16) **Wernette, P.**, C. Houser, B. Weymer, M.P. Bishop, M. Everett, and B. Reece. (2016) The role of geologic framework in barrier island geomorphology at Padre Island National Seashore, Texas. Presented at the Geological Society of America Annual Meeting, Denver, CO, USA.
- (15) Houser, C. and **P. Wernette**. (2016) Importance of the geologic framework along the Texas coast. Presented at the American Shore and Beach Preservation Association Texas Chapter Symposium, Port Aransas, TX, USA.
- (14) **Wernette, P.**, C. Houser, B. Weymer, M.P. Bishop, and M. Everett. (2016) Wavelet decomposition to assess development of Padre Island National Seashore, Texas, USA. Presented at the American Shore and Beach Preservation Association Texas Chapter Symposium, Port Aransas, TX.
- (13) **Wernette, P.**, C. Houser, and M.P. Bishop. (2016) Automating the extraction of beaches and dunes from digital elevation models. Presented at the Texas A&M University Student Research Week, College Station, TX, USA.

- (12) **Wernette, P.**, C. Houser, B. Weymer, M.P. Bishop, and M. Everett. (2016) Wavelet decomposition to assess development of Padre Island National Seashore, Texas, USA. Presented at the third annual symposium of the Association of Geography Graduate Students, College Station, TX, USA.
- (11) Houser, C., **P. Wernette**, and M.P. Bishop. (2015) Scale dependent behavior of the foredune: implications for barrier island response to storms and sea-level rise. Invited talk at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (10) **Wernette, P.**, C. Houser, and M.P. Bishop. (2015) Extracting barrier island morphology from digital elevation models using an automated approach. Presented at the annual meeting of Southeastern Division of the Association of American Geographers, Pensacola, FL, USA.
- (9) **Wernette, P.**, C. Houser, and M.P. Bishop. (2015) Extracting barrier island morphology from digital elevation models using an automated approach. Presented at the Texas Beach and Dunes: Science and Management Forum, Corpus Christi, TX, USA.
- (8) **Wernette, P.**, B. Weymer, C. Houser, M.P. Bishop, and M. Everett. (2015) Integration of geophysics and LiDAR to assess the role of geologic inheritance in barrier island evolution. Presented at the Association of American Geographers Annual Meeting, Chicago, IL, USA.
- (7) **Wernette, P.**, B. Weymer, C. Houser, M.P. Bishop, and M. Everett. (2015) Application of GPR, EMI, and LiDAR to assess the role of antecedent geology in barrier island evolution. Presented at the 28<sup>th</sup> edition of the Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Austin, TX, USA.
- (6) Weymer, B., M. Everett, C. Houser, **P. Wernette**, P. Barrineau, and J.R. Giardino. (2015) Long-range dependence in EMI time series. Presented at the 28<sup>th</sup> edition of the Symposium on the Application of Geophysics to Engineering and Environmental Problems (SAGEEP), Austin, TX, USA.
- (5) **Wernette, P.** (2014) Vertical error propagation in digital surface model differencing. Presented at the 11<sup>th</sup> International Symposium on Spatial Accuracy Assessment in Natural Resources and Environmental Sciences, East Lansing, MI, USA.
- (4) **Wernette, P.** (2014) Vertical error propagation in digital surface model differencing. Presented at the Texas A&M University Student Research Week, College Station, TX, USA.  
*\* First place in Earth Sciences, Geosciences, and Water Resources – Graduate Division*
- (3) **Wernette, P.**, A. Shortridge, D. Lusch, and A.F. Arbogast. (2013) Accounting for positional uncertainty in shoreline change analysis. Presented at the Geological Society of America Annual Meeting, Denver, CO, USA.
- (2) **Wernette, P.**, A. Shortridge, D. Lusch, and A.F. Arbogast. (2013) Variability in shoreline position at four sites in Lower Michigan. Presented at the Michigan Academy of Science Arts and Letters Annual Meeting, Holland, MI, USA.

- (1) **Wernette, P.**, A. Shortridge, D. Lusch, and A.F. Arbogast. (2013) Variability in shoreline position at four sites in Lower Michigan. Presented at the Michigan State University Department of Geography Quaternary Landscapes Research Group Colloquium, East Lansing, MI, USA.

## POSTERS AT PROFESSIONAL MEETINGS OR SYMPOSIA

(Undergraduate student authors are double-underlined)

- (52) **Wernette, P.**, J. Geisz, and P. Esselman. (2022) Multi-scale substrate mapping from AUV imagery and LIDAR bathymetry using Machine Learning. Presented at the American Geophysical Union Fall Meeting, Chicago, IL, USA.
- (51) **Wernette, P.** and C. Houser. (2019) Geologic controls on rip current location and formation. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (50) Weymer, B., **P. Wernette**, M. Everett, P. Potpreecha, M.D. Jegen, and A. Micallef. (2019) Combining near-surface electromagnetic methods to characterize the hydrogeology of braided alluvial deposits: Canterbury Coast, New Zealand. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (49) Lehner, J., **P. Wernette**, and C. Houser. (2019) Identifying foredune morphometrics through a landform extraction machine learning approach. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (48) George, E., J. Lehner, **P. Wernette**, and C. Houser. (2019) Fuzzy boundaries: Classifying the beach-dune interface. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (47) Lunardi, B., J. Lehner, C. Houser, and **P. Wernette**. (2019) Alongshore coupling of eco-geomorphological variables of a beach-dune system. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (46) **Wernette, P.**, J. Lehner, and C. Houser. (2019) What is real? Identifying patterns of erosion and deposition in context of spatially-variable uncertainty. Presented at the Association of American Geographers Annual Meeting, Washington DC, USA.
- (45) Lehner, J., **P. Wernette**, and C. Houser. (2018) Machine learning approach to predicting foredune morphometrics. Presented at the American Geophysical Union Fall Meeting, Washington D.C., USA.
- (44) Altenhoff, S., M. Cioppa, **P. Wernette**, J. Lehner, and C. Houser. (2018) Ground-penetrating radar survey of unmarked graves. Presented at the 2018 Ontario Archaeological Society Symposium, Chatham-Kent, ON, Canada.
- (43) Lehner, J., **P. Wernette**, and C. Houser. (2018) Machine learning approach to coastal landform classification. Presented at the Geological Society of America Annual Meeting, Indianapolis, IN, USA.

- (42) Houser, C., **P. Wernette**, and B. Weymer. (2018) Scale dependent behaviors of the beach and dune: Implications for barrier island response to sea level rise. Presented at the Geological Society of America Annual Meeting, Indianapolis, IN, USA.
- (41) Lehner, J., **P. Wernette**, and C. Houser. (2018) Machine learning approach to predicting coastal geomorphology. Presented at the Association of American Geographers Annual Meeting, New Orleans, LA, USA.
- (40) Vlodarchyk, B., C. Houser, J. Lehner, and **P. Wernette**. (2018) Predicting drownings on the Great Lakes using machine learning. Presented at the Association of American Geographers Annual Meeting, New Orleans, LA, USA.
- (39) Ferguson, B., N. Smart, J. Lehner, D. Taylor, L. Tuttle, and **P. Wernette**. (2017) Relations between vegetation and geologic framework in barrier island geomorphology. Presented at the American Geophysical Union Fall Meeting, New Orleans, LA, USA.
- (38) Mohkami, C., L. Tuttle, **P. Wernette**, and C. Houser. (2017) Refining the geochronological evolution of Padre Island National Seashore through near-surface geophysical surveys and sediment core analysis. Presented at the American Geophysical Union Fall Meeting, New Orleans, LA, USA.
- (37) Tuttle, L., C. Mohkami, **P. Wernette**, and C. Houser. (2017) Investigating barrier island evolution through sediment core analysis and geophysical surveys. Presented at the Geological Society of America Annual Meeting, Seattle, WA, USA.
- (36) Smart, N., L. Tuttle, D. Taylor, B. Ferguson, J. Lehner, and **P. Wernette**. (2017) Interactions between vegetation and geologic framework in barrier island evolution. Presented at the Geological Society of America Annual Meeting, Seattle, WA, USA.
- (35) Gloria, L., N. Smart, **P. Wernette**, P. Knappett, and C. Houser. (2017) The effects of saltwater intrusion on coastal aquifers and vegetation dynamics at Padre Island National Seashore, TX. Presented at the Association of American Geographers Annual Meeting, Boston, MA, USA.
- (34) Cheetri, P., **P. Wernette**, J. Johnson, and D. Cairns. (2017) Engaging undergraduates in geoscience research: A high impact learning experience. Presented at the Texas A&M University Student Research Week, College Station, TX, USA.
- (33) Taylor, H., S. Thompson, T. Rozelle, C. Taube, A. Medlin, and **P. Wernette**. (2017) What is a dune: Expanding automated approaches of dune extraction and LiDAR processing. Presented at the Texas A&M University Student Research Week, College Station, TX, USA.
- (32) Tuttle, L., C. Mohkami, **P. Wernette**, and C. Houser. (2017) Updating the framework geology of Padre Island National Seashore: Validation of geophysical surveys through sediment cores. Presented at the fourth annual symposium of the Association of Geography Graduate Students, College Station, TX, USA.



- (31) Talyor, D., B. Ferguson, L. Tuttle, J. Lehner, N. Smart, and P. Wernette. (2017) Quantifying the interaction of vegetation and geologic framework along a Texas barrier island. Presented at the fourth annual symposium of the Association of Geography Graduate Students, College Station, TX, USA.
- (30) Taylor, H., S. Thompson, T. Rozelle, C. Taube, A. Medlin, and P. Wernette. (2017) Defining a dune: Management implications. Presented at the fourth annual symposium of the Association of Geography Graduate Students, College Station, TX, USA.
- (29) **Wernette, P.,** C. Houser, J. Nunez, and C. Quick. (2017) Promoting diversity and inclusion in the geosciences is vital to student success by developing a safe and effective learning community. Presented at the Geological Society of America South-Central Section Meeting, San Antonio, TX, USA.
- (28) Tuttle, L., P. Wernette, and C. Houser. (2017) Mapping the geologic framework of Padre Island National Seashore using geophysical surveys. Presented at the Geological Society of America South-Central Section Meeting, San Antonio, TX, USA.
- (27) **Wernette, P.,** C. Houser, B. Weymer, M.P. Bishop, M. Everett, and B. Reece. (2016) Framework geology as a driver of barrier island evolution. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (26) **Wernette, P.,** C. Houser, and C. Quick. (2016) Team-based multidisciplinary research scholarship in the geosciences. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (25) Houser, C., M.P. Bishop, and **P. Wernette.** (2016) Multi-scale topographic anisotropy patterns with post-storm barrier island recovery. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (24) Tuttle, L., P. Wernette, and C. Houser. (2016) Updating the framework geology of Padre Island National Seashore: Validation of geophysical surveys through sediment cores. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (23) Lehner, J., P. Wernette, M.P. Bishop, and C. Houser. (2016) Assessing barrier island resiliency through multi-scale topographic anisotropy distribution patterns. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (22) Ferguson, B., P. Wernette, J. Lehner, N. Smart, L. Tuttle, and D. Taylor. (2016) Establishing relationships between vegetation dynamics in context of geologic framework along Padre Island National Seashore, Texas, USA. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (21) Taylor, H., C. Decuir, P. Wernette, C. Taube, R. Eyler, S. Thompson, T. Rozelle, and A. Mohammad. (2016) What is a dune? Developing an automated approach to extracting dunes from digital elevation models. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.

- (20) Taylor, D., J. Lehner, B. Ferguson, N. Smart, L. Tuttle, and P. Wernette. (2016) Establishing relationships between vegetation dynamics in context of geologic framework along Padre Island National Seashore, Texas, USA. Presented at the American Shore and Beach Preservation Association Annual Coastal Conference, Long Branch, NJ, USA.
- (19) Taube, C., S. Thompson, H. Taylor, R. Eyler, C. Decuir, T. Rozelle, and P. Wernette. (2016) What is a dune? Evaluating current methods of extracting coastal dunes from DEMs. Presented at the American Shore and Beach Preservation Association Annual Coastal Conference, Long Branch, NJ, USA.
- (18) Lehner, J., P. Wernette, M.P. Bishop, and C. Houser. (2016) Application of topographic anisotropy for assessing barrier island morphology. Presented at the Geological Society of America Annual Meeting, Denver, CO, USA.
- (17) Smart, N., J. Lenher, L. Tuttle, B. Ferguson, D. Taylor, and P. Wernette. (2016) Establishing relationships between vegetation dynamics in context of geologic framework along Padre Island National Seashore, Texas, USA. Presented at the Geological Society of America Annual Meeting, Denver, CO, USA.
- (16) Thompson, S., H. Taylor, R. Eyler, C. Taube, C. Decuir, T. Rozelle, and P. Wernette. (2016) What is a dune? Evaluating current methods of extracting coastal dunes from DEMs. Presented at the Geological Society of America Annual Meeting, Denver, CO, USA.
- (15) Weymer, B., M. Everett, **P. Wernette**, and C. Houser. (2016) Statistical modeling of EMI spatial data series and LiDAR-derived morphometrics to understand the large-scale framework geology controls on barrier island transgression. Presented at the 23<sup>rd</sup> Electromagnetic Induction Workshop, Chiang Mai, Thailand.
- (14) Lehner, J., L. Tuttle, N. Smart, D. Taylor, J. Ferguson, and P. Wernette. (2016) Establishing relationships between vegetation dynamics in context of geologic framework on Padre Island National Seashore, Texas, USA. Presented at the Texas A&M University Student Research Week, College Station, TX, USA.
- (13) Decuir, C., R. Eyler, C. Taube, S. Thompson, H. Taylor, and P. Wernette. (2016) What is a dune? Evaluating current methods of extracting coastal dunes from DEMs. Presented at the Texas A&M University Student Research Week, College Station, TX, USA.  
**\* First place in Earth Sciences, Geosciences, and Water Resources – Undergraduate Division**
- (12) Lehner, J., L. Tuttle, N. Smart, D. Taylor, J. Ferguson, and P. Wernette. (2016) Establishing relationships between vegetation dynamics in context of geologic framework on Padre Island National Seashore, Texas, USA. Presented at the third annual symposium of the Association of Geography Graduate Students, College Station, TX, USA.
- (11) Decuir, C., R. Eyler, C. Taube, S. Thompson, H. Taylor, and P. Wernette. (2016) What is a dune? Evaluating current methods of extracting coastal dunes from DEMs. Presented at the third annual symposium of the Association of Geography Graduate Students, College Station, TX, USA.

- (10) **Wernette, P.**, B. Weymer, C. Houser, M.P. Bishop, M. Everett, and B. Reece. (2015) Wavelet decomposition to assess the development of Padre Island National Seashore, Texas, USA. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA.
- (9) Weymer, B., M. Everett, **P. Wernette**, and C. Houser. (2015) Is barrier island geologic framework fractal? Evidence from Padre Island National Seashore, Texas, USA. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (8) **Wernette, P.**, B. Weymer, C. Houser, M.P. Bishop, M. Everett, and B. Reece. (2015) Wavelet decomposition to assess the development of Padre Island National Seashore, Texas, USA. Presented at the Texas A&M University Geosciences Research Week, College Station, TX, USA.
- (7) Weymer, B., **P. Wernette**, C. Houser, and M. Everett. (2015) Is barrier island geologic framework fractal? Evidence from Padre Island National Seashore, Texas. Presented at the Texas Beach and Dunes: Science and Management Forum, Corpus Christi, TX, USA.
- (6) **Wernette, P.**, B. Weymer, C. Houser, M.P. Bishop, and M. Everett. (2014) Application of EMI and LiDAR to assess the role of antecedent geology on barrier island geomorphology. Presented at the American Geophysical Union Fall Meeting, San Francisco, CA, USA.
- (5) **Wernette, P.**, B. Weymer, C. Houser, M.P. Bishop, and M. Everett. (2014) Application of GPR, EMI, and LiDAR to assess the role of antecedent geology in barrier island evolution. Presented at the Texas A&M University Geosciences Research Week, College Station, TX, USA.
- (4) Weymer, B., **P. Wernette**, C. Houser, J.R. Giardino, P. Barrineau, M. Everett, and M.P. Bishop. (2014) The role of geologic inheritance on storm impacts along the South Texas coast, USA. Presented at the European Geosciences Union Annual Meeting, Vienna, Austria.
- (3) Arbogast, A.F., M Luehmann, B.A. Miller, and **P. Wernette**. (2012) Late-Pleistocene wind-flow patterns and dune formation in north-central Lower Michigan. Presented at the Geological Society of America Annual Meeting, Charlotte, NC, USA.
- (2) Arbogast, A.F., M. Luehmann, B.A. Miller, J. Waha, **P. Wernette**, K. Adams, G. Oneil, J. Boothroyd, Y. Tang, and C. Babcock. (2012) Late-Pleistocene wind-flow patterns and dune formation in north-central Lower Michigan. Presented at the Association of American Geographers Annual Meeting, New York, NY, USA.
- (1) **Wernette, P.** (2010) Changing beaches: Rise and fall of Lake Michigan beaches. Presented at the Improving Michigan's Access to Geographic Information Networks Student Paper and Poster Competition, Livonia, MI, USA.

## UNIVERSITY AND DEPARTMENTAL SERVICE

### UWill Discover Conference, University of Windsor

Conference Chair (2017-2019)

Collaborate with administrators, faculty, staff, and students to develop a University-wide

multidisciplinary undergraduate and graduate student conference to enhance student professional development and strengthen University connections with the broader Windsor community.

Restructure the conference to a student-organized event with an Organizing Committee, composed entirely of undergraduate and graduate students, and Steering Committee, composed of faculty, staff, and administrators.

Solicit external business and community organizations as official conference sponsors to increase community outreach and engagement and increase the conference budget to support more students.

Expand conference from 1 to 4 days to highlight undergraduate and graduate research across all programs, inside the classroom and beyond the classroom.

Create opportunities for local high school student to present at the conference in an effort to integrate the UWill Discover Conference with University of Windsor strategic priorities, recruitment, and undergraduate research.

#### **Council of Principal Investigators, Texas A&M University**

##### **Graduate Student Representative (2016-2017)**

Collaborated with administrators and Graduate and Professional Student Council to provide student input into research decisions impacting graduate and professional students throughout Texas A&M University.

#### **Center for Teaching Excellence Faculty and Student Advisory Board, Texas A&M University**

##### **Graduate Student Representative (2016-2017)**

Assessed the current state of teaching and mentorship throughout Texas A&M University through monthly meetings with representatives throughout Texas A&M.

Guided Texas A&M University Center for Teaching Excellence workshops and professional development opportunities to better meet the needs of students and faculty.

#### **Aggie Research Programs, Texas A&M University ([aggieresearch.tamu.edu](http://aggieresearch.tamu.edu))**

##### **Steering Committee (2016-2017)**

Founding member of the Aggie Research Programs.

Collaborated with faculty, postdoctoral fellows, graduate and professional students, and undergraduate students to develop the Aggie Research Programs.

Evaluated the program status in monthly meetings to ensure that the program is achieving its goals and objectives.

##### **Aggie Research Leader (2015-2017)**

Mentored two diverse teams of undergraduates to address complex Geoscience problems.

Conducted weekly team meetings to ensure research was progressing adequately and address potential issues and concerns.

Participated in monthly team leader meetings to compare team leadership issues and strategies among other team leaders.

**University Disciplinary Appeals Panel, Texas A&M University**

Graduate Student Representative (2016-2017)

*\* Appointed by the Office of the President*

Adjudicated alleged cases of unfair grades, performance evaluations, and/or suspension/disciplinary action.

**Aggie Honor System Office, Texas A&M University**

Separation Appeal Panel Member (2016-2017)

*\* Appointed by the Office of the Provost*

Served on hearing panels to assess whether or not student separation (suspension/expulsion) from the university is warranted, based on previous academic dishonesty hearing sanctions.

Honor Council Member, 2014-2016

Served on investigative and hearing panels to address cases of accused academic dishonesty.

**Graduate and Professional Student Council, Texas A&M University**

Research Committee Chair (2016-2017)

Directed team of graduate and professional students to advance graduate and professional student research.

Advocated for graduate and professional student research through multiple media outlets. Developed human-subject recruitment and collaboration matching system.

Graduate Student Representative, 2014-2017

Served on Awards Committee responsible for distributing \$10,000 in graduate travel grants.

Department of Geography representative, tasked with enhancing professional development opportunities and the student experience through decisions impacting graduate and professional students at Texas A&M University.

**College of Geosciences, Texas A&M University**

GeoX High School Recruitment Program

GPR and GPS Instructor (2014-2017)

Facilitated GPR and GPS exercises for prospective High School students interested in the Geosciences at Texas A&M University.

Served as graduate student panelist for High School students.

iGEO High School Recruitment Program

GPS and Geophysics Instructor (2013-2015)

Facilitated GPS and GPR exercises for High School students interested in the Geosciences at Texas A&M University.

**Geography Building Committee, Michigan State University**

Graduate Representative (2012-2013)

Coordinated projects designed to improve the Michigan State University Geography Building. Scanned and prepared 12 historical maps for professional printing and display.

**REFERENCES**

**Dr. Peter Esselman, U.S. Geological Survey**

Research Fish Biologist, Great Lakes Science Center  
Ann Arbor, MI, 48105  
Phone: (734) 214-7267  
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**Dr. Jon Warrick, U.S. Geological Survey**

Research Geologist, Pacific Coastal and Marine Science Center  
Santa Cruz, CA, 95060  
Phone: (831) 460-7569  
Email: jwarrick@usgs.gov

**Dr. Chris Houser, University of Waterloo**

Dean, Faculty of Science  
Professor, Department of Earth and Environmental Sciences  
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