

Patricia A. Beddows

Department of Earth, Environmental & Planetary Sciences

Northwestern University

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PROFESSIONAL FOCI

- Carbonate (karst) aquifers and cave systems - hydrogeology, geomorphology, geochemistry
- Active dynamics and paleo records of sea level, climate change, and landscape evolution
- Applied research includes water resources, contaminant transport, and geo-archaeology
- Leadership in earth and environmental science education and program development
- Problem-based learning (PBL) and experiential education beyond the classroom
- Open-source instrument hardware and software development, for underwater and remote research

EDUCATION

Post-Doctoral Fellow, School of Geography & Earth Sciences, McMaster University, Canada 2004–2008
Funding - Canadian Foundation for Climate & Atmospheric Science (CFCAS).
Mentors – Profs. Henry Schwarcz and Derek Ford
Holocene Paleotemperature Records from Stable Isotopic Analysis of Speleothems, & Fluid Inclusions

Ph.D. School of Geographical Sciences, University of Bristol, UK 1999 – 2004
Groundwater Hydrology of a Coastal Conduit Carbonate Aquifer: Caribbean Coast of the Yucatán Peninsula, México. 303 p. Mentors – Profs. Peter Smart & Fiona Whitaker

M.Sc. Geography & Geology, McMaster University, Canada. Mentor – Prof. Derek Ford 1996 – 1999

B.A. Geography & Geology, McMaster University, Canada 1991 – 1995

AWARDS, HONORS, AND FELLOWSHIPS

American Geophysical Union - Open Science Recognition Prize - Nominated 2025

Northwestern University Canvas Hall of Fame for ENVR SCI 201- Nominated w/R. Bush 2025

WCAS Community Building Award 2024
Recognition of excellence in fostering a sense of community inside and outside the classroom and making students feel valued as members of the Northwestern intellectual community.

NU Phi Beta Kappa Award for Advocacy and Mentorship – Inaugural Awardee 2023
For “inventive, indefatigable boosterism”

Women Divers Hall of Fame 2021
International professional honor society for outstanding contributions to the exploration, understanding, safety and enjoyment of our underwater world and support the underwater world.

ASG – Associated Student Government – Faculty Honor Roll 2018
Recognition for problem-based learning course, EARTH 360: Field Methods and Instrumentation

SAF Field Discovery Awards. Research team member. 2017
Proyecto Arqueológico Subacuático Hoyo Negro, Tulum, Quintana Roo (Underwater Archaeological Project Hoyo Negro, Tulum). Archaeological excavations and surveys that have yielded major discoveries significantly furthering or even altering our knowledge of the human past, locally and/or globally.

WCAS Weinberg College Arts and Sciences Alumni Teaching Award 2015
Recognized for excellence as an undergraduate teacher. \$5000 award.

2015 Hackaday Prize Quarter-Finalist: Build Something that Matters 2015
 Joint with Edward Mallon. Technology development challenge. Quarter finalist for open-source long-lived datalogger hardware +software. The Cave Pearl Project. <https://hackaday.io/project/6961-the-cave-pearl-project>

Overseas Research Studentship (ORS) Award (3 years), from *Universities UK*. £58 200 1999 – 2002

1st Place - Canadian Productivity Award – Institutional Division 1994
 Inaugural employee/developer at Custom Course Ware (CCW) – see employment section.

EMPLOYMENT & APPOINTMENTS

Northwestern University, IL, USA

Professor of Instruction, Earth Environmental & Planetary Sciences 2024 – present
 Assistant Chair, Earth & Planetary Sciences 2008 – present
 SILC - Spatial Intelligence and Learning Center (SILC) 2019 – present
 Faculty Affiliate, Trienens Institute for Sustainability and Energy 2023 – present

Director, Environmental Science Program 2019 – 2025
 Associate Professor of Instruction, Earth & Planetary Sciences 2019 – 2024
 Assistant Professor of Instruction, Earth & Planetary Sciences 2014 – 2019
 Lecturer, Earth & Planetary Sciences 2008 – 2014

Chicago Botanic Gardens, IL, USA

Research Associate, The Negaunee Institute for Plant Science and Action 2025 – present

McMaster University, ON, Canada

Post-Doctoral Research Fellow, School of Geography & Earth Sciences 2004 – 2008

Custom Course Ware (CCW), McMaster University Bookstore (full & part time)

Full time 1993 – 1999
 June 1995 – September 1996, and February 1997 - Sept. 1999
 Integral in the novel development of “course pack” printing-on-demand. Established physical and business practices: copyright contracts, scanning, compilation, meta-data management, and printing/binding. One of first few test sites for the Xerox Docutech.

RESEARCH FUNDING & SUPPORT

2023-2024 \$10,000 **Beddows P.A.**, with collaborators King, R, and Villareal, M.
Buffett Institute for Global Affairs - Global Connection Seed Grant

2015 – 2020 \$28,046 Sub-Award **Beddows P.A.**, Glover J.B. (PI with +\$232k), with Rissolo D., Smith D.M., Goodman B.
National Science Foundation – Division of Behavioral and Cognitive Science
 Collaborative Research: Investigation into Long Term Human Coastal Adaptation
 The Costa Escondida Project: An Interdisciplinary Investigation of Two Ancient Maya Ports and Their Surrounding Coastline

2019 \$1,000 Rosales-Lagarde, L. (PI), **Beddows, P.A.**
CUAHSI - Consortium of Universities for the Advancement of Hydrologic Science, sponsored by National Science Foundation. Instrumentation Discovery Travel Grant. Pedagogical exchange of problem-based instrumentation course to Nevada State College, including peer-mentoring of Rosales-Lagarde in construction of Cave Pearl data loggers.

2018 \$28,436 van Hengstum, P. (PI), Donnelly J.P., Steadman D.W., Albury N.A., **Beddows P.A.**, Feakins S.
National Geographic Society
 15,000 years of disaster, drought, and deluges on a Caribbean Island: Implications for island biogeography, future climate change, and human migration in the tropical Americas

2014 – 2015 \$14,760 Mallon E.K. (PI), **Beddows P.A.**
National Geographic Society / Waitt Grants Program #W331-14

2013 – 2015	The Cave Pearl – A DIY Submersible Data Logger for Research in Flooded Caves	
\$28,399	Beddows P.A. Booster Grant. Initiative for Sustainability and Energy at Northwestern (ISEN) Discharge of Sequestered P and Fe with Impact on Coastal Carbonate Factories	
2011	Glover J.B., Rissolo D., Beddows P.A. , Smith D.M., Goodman B.	
\$79,738	National Oceanic and Atmospheric Administration (NOAA) - Office of Ocean Exploration and Research The Costa Escondida Project: Exploring the Hidden World of the Maritime Maya	
2010	Beddows P.A. Equipment Grant. Initiative for Sustainability & Energy at Northwestern (ISEN) CR100 Climate Station	
2009 – 2011	Lucero L. (PI), Beddows P.A. National Geographic Society - Research and Exploration Grant Diving the Sacred Pool at Cara Blanca, Belize.	
2001	Smart P.L. (PI), Whitaker F.F., Beddows P.A. , Smith S.L.	
£15 000	Royal Geographical Society London Ralph Brown Expedition Award	
2001	Smart P.L. (PI), Whitaker F.F., Beddows P.A. , Smith S.L.	
£10 000	Royal Geographical Society London Gilchrist Expedition Award	
1999 – 2002	Overseas Research Student Award (3 years), from "Universities UK"	£58 200
1999 – 2002	University Research Scholarship (3 years), University of Bristol	£81 000
1999 – 2002	Special Opportunity Grant, Federal Government of Canada. 3 awards	\$ 9 000
2002	British Geomorphological Research Group, Student Opportunity Grant	£ 200
2000 – 2002	University of Bristol Geographical Contingency Fund (2 awards)	£ 1 048
2000-2002	Alumni Foundation (2 awards)	£ 750
2001	Royal Society UK, Dudley Stamp Memorial Trust Award	£ 300
2000	Ghar Parau Award, Science Research Fund, British Cave Research Ass.	£ 900
1996 – 1998	Graduate Student Scholarship, McMaster University	\$22 000
1997	Graduate Studies Travel Bursary, McMaster University	\$ 500

PUBLICATIONS – Peer Reviewed Articles & Edited Chapters

* Student contributions.

Web of Science Index = 24 underlined publications

H-Index: = 14. Average citations per item = 41

Google Scholar H Index = 21. Citations > 2300.

38. van Hengstum P.J., Little S., Sullivan R., Donnelly J.P., Winkler T., Tamalavage A., **Beddows P.A.**, Fall P., Du J., Thirumalai K., Albury N., Coat, S. (2026) Common Era time-transgressive forcing of Caribbean water balance. *Communications Earth & Environment*. 6. DOI: 10.1038/s43247-025-02905-x
37. *Clark, R., Miller, W.M., Osburn, M.R., **Beddows, P.A.**, Evans, M. & L. Egerton-Warburton (2024) Soil moisture and water redistribution patterns in white oak (*Quercus alba*) saplings and trees in fragmented urban woodlands. *Environmental Research*. 263. DOI: 10.1016/j.envres.2024.120106
36. Osburn, M.R., *Selensky, M.J., **Beddows, P.A.**, Jacobson, A., DeFranco, K., and G. Merediz-Alonso (2023) Microbial biogeography of the eastern Yucatán carbonate aquifer. *Applied and Environmental Microbiology*. 89(11): e01682-23 (co-advised Selensky on this PhD chapter project w/Osburn PI)
35. Bernal, J.P., Revolorio, F., Cu-Xi, M., Lases-Hernández, F., Piacsek, P., Lachniet, M. **Beddows, P.A.**, Lucia, G., López-Aguilar, K., Capella-Vizcaíno, S., López-Martínez, R. and O. Vásquez (2023) Variability of trace-

- elements and $\delta^{18}\text{O}$ in drip water from Gruta Rey Marcos, Guatemala: Seasonal and environmental effects and its implications for paleoclimate reconstructions. *Frontiers in Earth Sciences*. 11:1112957. DOI: 10.3389/feart.2023.1112957
34. Glover, J.B, Rissolo, D., **Beddows, P.A.**, Jaijel, R., Smith, D., Goodman-Tchernov, B. (2022) The Proyecto Costa Escondida: Historical ecology and the study of past coastal landscapes in the Maya Area. *Journal of Island and Coastal Archaeology*. DOI 10.1080/15564894.2022.2061652
 33. Little, S.N., van Hengstum, P.J., **Beddows, P.A.**, Donnelly, J.P., Winkler, T.S., Albury, N.A. (2021) Unique habitat for benthic foraminifera in subtidal blue holes on carbonate platforms. *Frontiers in Ecology and Evolution – Special Issue "Living on the Edge: Biodiversity, Adaptation, and Evolution in Extreme Groundwater Habitats"*. 9: 794728. DOI: 10.3389/fevo.2021.794728
 32. **Beddows, P.A.**, Mallon, E.K. (2018) Cave Pearl Data Logger – A flexible Arduino based logging platform for long-term monitoring in harsh environments. *Sensors*. 18, 530:1-26. DOI: 10.3390/s18020530. 9000+ pdf downloads and top 10% of publications in Altmetrics (Aug 2020).
 31. *Johnson, D.B., **Beddows, P.A.**, Flynn, T.M., Osburn, M.R. (2018) Microbial diversity and biomarker analysis of modern freshwater microbialites from Laguna Bacalar, Mexico. *Geobiology*, 16(3):319-337. DOI 10.1111/gbi.12283.
 30. Jaijel, R., Glover, J.B., Rissolo, D., **Beddows, P.A.**, Smith, D., Ben-Avraham, Z., Goodman-Tchernov, B. (2018) Coastal reconstruction of Vista Alegre, an ancient maritime Maya settlement. *Palaeogeography, Palaeoclimatology, Palaeoecology*. 487:25-36. DOI: 10.1016/j.palaeo.2018.02.003
 29. Jaijel, R., Kanari, M., Glover, J.B., Rissolo, D., **Beddows, P.A.**, Ben-Avraham, Z., Goodman Tchernov, B.N. (2018) Shallow geophysical exploration at the ancient maritime Maya site Vista Alegre, Yucatan Mexico. *Journal of Archaeological Science: Reports*. 19:52-63. DOI: 10.1016/j.jasrep.2018.02.018
 28. Chatters, J.C., Rissolo, D., Arroyo Cabrales, J., Stafford, T.W., Kemp, B.M., Alvarez, A., Nava Blank, A., **Beddows, P.A.**, Reinhardt, E., Kovacs, S., Collins, S., Morell Hart, S. Chavez Arce, R., Bird, S. and Luna Erreguerena, L. (2017) Hoyo Negro: Tapping the paleoanthropological and paleoecological potential of a deeply submerged underground chamber on the Yucatan Peninsula, Mexico (Ch.6) in Campbell, P.B. (ed) *The Archeology of Underwater Caves*. Highfield Press, p. 119-129.
 27. **Beddows, P.A.**, Glover, J., Rissolo, D., *Carter, A., Goodman, B., Jaijel, R., Smith D. (2016) Proyecto Costa Escondida: Recent interdisciplinary research in search of freshwater along the North Coast of Quintana Roo, Mexico. *Water - Wiley Interdisciplinary Reviews*. 3(5):749-761. DOI: 10.1002/wat2.1161
 26. **Beddows, P.A.**, Mandic, M., Ford, D.C., Schwarcz, H.P. (2016) Oxygen and hydrogen isotopic variations between adjacent drips in three caves at increasing elevation in a temperate coastal rainforest, Vancouver Island, Canada. *Geochimica et Cosmochimica Acta*. 172:370-386. DOI: 10.1016/j.gca.2015.08.017
 25. Chatters, J.D. Kennett, D.J., Asmerom, Y., Kemp, B.M., Polyak, V., Nava Blank, A., **Beddows, P.A.**, Reinhardt, E., Arroyo-Cabrales, J., Bolnick, D.A., Malhi, R.S., Culleton, B., Luna Erreguerena, P., Rissolo, D., Morell-Hart, S., Stafford, T.W. (2014) Late Pleistocene human skeleton and mtDNA from Mexico links Paleoamericans and modern Native Americans. *Science*. 344(6185):750-754. DOI: 10.1126/science.1252619
 24. *Torres-Talamante, O., Alcocer, J., **Beddows, P.A.**, Escobar-Briones, E., Lugo, A. (2011) Key role of the chemolimnion in meromictic cenotes of the Yucatan Peninsula, Mexico. *Hydrobiologia*. 677(1):107-127. DOI: 10.1007/s10750-011-0746-9
 23. Metcalfe, C., **Beddows, P.A.**, Gold Bouchot, G., Metcalfe, T., Li, H., Van Lavieren, H. (2011) Contaminants in the coastal karst aquifer systems along the Caribbean coast of the Yucatan Peninsula, Mexico. *Environmental Pollution*. 159(4):991-997. DOI: 10.1016/j.envpol.2010. 11.031.

22. **Beddows, P.A.** (2011) Hydrogeochemistry and geological context of the Pools of Cara Blanca, Belize, as a foundation for Holocene paleoenvironmental reconstruction; in Lucero, L. (ed) *Valley of Peace Archeological Report 2010*. 38 pp.
21. *van Hengstum, P.J., Reinhardt, E.G., **Beddows, P.A.**, Gabriel, J. (2010) Linkages between Holocene paleoclimate and paleohydrogeology preserved in a Yucatan underwater cave. *Quaternary Science Reviews* 29(19-20):2788-2798. DOI:10.1016/j.quascirev.2010.06.034
20. *van Hengstum, P.J., Reinhardt, E.G., **Beddows, P.A.**, Schwarcz, H.P., Gabriel, J.J. (2009) Foraminifera and testate amoebae (thecamoebians) in an anchialine cave: Surface distributions from Aktun Ha (Carwash) cave system, Mexico. *Limnology and Oceanography*. 54:391-396. DOI: 10.4319/lo.2009.54.1.0391
19. *Gabriel, J.J., Reinhardt, E.G., Peros, M.C., Davidson, D.E., van Hengstum, P.J., **Beddows, P.A.** (2009) Palaeoenvironmental evolution of Cenote Aktun Ha (Carwash) on the Yucatan Peninsula, Mexico and its response to Holocene sea level rise. *Journal of Paleolimnology*. 42(2):199-213. DOI: 10.1007/s10933-00809271-x
18. *van Hengstum, P.J., Reinhardt, E.G., **Beddows, P.A.**, Huang, R.J., Gabriel, J.J. (2008) Thecamoebians (testate amoebae) and foraminifera from three anchialine cenotes in Mexico: Low salinity (1.5-4.5 psu) faunal transitions. *Journal of Foraminiferal Research*. 38:305-317. DOI: 10.2113/gsjfr.38.4.305
17. *Zhang, R., Schwarcz, H.P., Ford, D.C., Serefidin-Schroeder, F., **Beddows, P.A.** (2008) Absolute palaeotemperature record from 10 to 6 ka inferred from fluid inclusion D/H ratios of a stalagmite from Vancouver Island. British Columbia. *Geochimica Cosmochimica et Acta*. 72(4):1014-1026. DOI:10.1016/j.gca.2007.12.002
16. Ufnar, D., Gröcke, D.R., **Beddows, P.A.** (2008) Assessing pedogenic calcite stable-isotope values: Can positive linear covariant trends be used to quantify paleo-evaporation rates? *Chemical Geology*. 256(1-2):46-51, 10.1016/j.chemgeo. 2008.07.022.
15. **Beddows, P.A.**, Brunton, F.R., Buck, M.J., Cowell, D.W. and Parker, S. (2008) Root Cave Project, southern Ontario; in Summary of Field Work and Other Activities 2008, Ontario Geological Survey, Open File Report 6226, p.35-1 to 35-9.
14. **Beddows, P.A.**, Schwarcz, H.P., *Zhang, R., Ford, D.C. (2008) Cave drip monitoring as a foundation for better paleo-climate reconstruction. In W.R. Elliott (ed.), *Proceedings of the 2007 National Cave and Karst Management Symposium*, St. Louis, USA. 204-211.
13. **Beddows, P.A.**, Hendrickson, M.R., Webster, K.H., Kras, S.M. (2008) Mapping flooded caves from above: Surface karst inventory of the Yucatan Peninsula. In W.R. Elliott (ed.), *Proceedings of the 2007 National Cave and Karst Management Symposium*, St. Louis, USA. 193-197.
12. **Beddows, P.A.**, Hendrickson, M.R. (2008) When the survey is not enough: Using temperature, salinity, and in-conduit dye tracing to reveal active flow paths. In W.R. Elliott (ed.), *Proceedings of the 2007 National Cave and Karst Management Symposium*, St. Louis, USA. 198-203.
11. **Beddows, P.A.**, Smart, P.L., Whitaker, F.F., Smith, S.L. (2007) Decoupled fresh-saline groundwater circulation of a coastal carbonate aquifer: Spatial patterns of temperature and specific electrical conductivity. *Journal of Hydrology*. 346(1-2): 18-32, DOI:10.1016/j.jhydrol. 2007.08.013.
10. **Beddows, P.A.** Blanchon, P., Escobar, E., Torres-Talamante, O. (2007) Los cenotes de la peninsula de Yucatán. *Arqueología Mexicana*, 16(83):32-35 (In Spanish)
9. Smart, P.L., **Beddows, P.A.**, Doerr, S., Smith, S.L., Whitaker, F.F. (2006) Cave development on the Caribbean coast of the Yucatan Peninsula, Quintana Roo, Mexico. *Geological Society of America Special Paper 404: Perspectives on Karst Geomorphology, Hydrology, & Geochemistry*, 105-128, DOI:10.1130/2006. 2404(10).

8. **Beddows, P.A.** (2003) Yucatán Phreatic, Mexico. In Gunn, J. (ed) Encyclopaedia of Cave and Karst Science, Routledge Taylor & Francis Group, New York, USA. 794-796.
7. **Beddows, P.A.** (2003) Cave Hydrology of the Caribbean Yucatan Coast, Bulletin 11, Association of Mexican Cave Studies, Houston, USA. 96 pp.
6. **Beddows, P.A.**, Smart, P.L., Whitaker, F.F. & Smith, S.L. (2002) Density stratified groundwater circulation on the Caribbean Coast of Yucatan peninsula, Mexico. In Martin, J.B., Wicks, C.M., & Sasowsky, I.D. (eds) *Karst Waters Institute Special Publication 7: Hydrogeology and Biology of Post-Paleozoic Carbonate Aquifers*, 129-134.
5. Smart, P.L., **Beddows, P.A.**, Doerr, S., Smith, L.S. & Whitaker, F. (2002) Hydrochemical processes and cave development on the Caribbean Coast, Yucatan Peninsula, Mexico. In Martin, J.B., Wicks, C.M., & Sasowsky, I.D. (eds) *Karst Waters Institute Special Publication 7: Hydrogeology and Biology of Post-Paleozoic Carbonate Aquifers*, 79-83.
4. Smith, S.L., Whitaker, F.F., Parkes, R.J., Smart, P.L., **Beddows, P.A.** & Bottrell, S.H. (2002) Geochemistry and geomicrobiology of saline groundwaters: Yucatán Peninsula, Mexico. In Martin, J.B., Wicks, C.M., & Sasowsky, I.D. (eds) *Karst Waters Institute Special Publication 7: Hydrogeology and Biology of Post-Paleozoic Carbonate Aquifers*, 135-137.
3. **Beddows, P.A.** (2002) Where does the Sewage Go? Karst groundwater system of the Municipalidad de Solidaridad, Quintana Roo, Mexico. *Association for Mexican Cave Studies Activities*, 47-52.
2. Worthington, S.R.H., Ford, D.C. & **Beddows, P.A.** (2001) Characteristics of porosity and permeability enhancement in unconfined carbonate aquifers due to the development of dissolutional channel systems. *Technical Documents in Hydrology - Present state and future trends of karst studies*. IHP-V, UNESCO, Paris 1(49): 13-29.
1. Worthington, S., Ford, D.C. & **Beddows, P.A.** (2000) Porosity and permeability enhancement in unconfined carbonate aquifers as a result of solution. In Klimchouk, A. Ford, D., Palmer, A. & Dreybrodt, W. (eds) Speleogenesis: Evolution of Karst Aquifers, Cave Books, St Louis (ISBN 978-1-57958-399-6), 463-471.

MANUSCRIPTS – in PROGRESS

39. **Beddows, P.A.**, Metcalfe, C., Merediz Alonso, G., López Tamayo, A., Lases-Hernandez, F.M., Gibb, N., and E. Monroy-Ríos. Tracking wastewater contamination in the “Maya Riviera” Region of the Yucatán Peninsula, México. *Environmental Pollution*.
40. *Monroy-Ríos, E., **Beddows, P.A.** Hydrogeothermal convective circulation model for the formation of the Chicxulub Ring of Cenotes in the Yucatan Peninsula, Mexico. *Geochemistry, Geophysics, Geosystems*.
41. *Monroy-Ríos, E., **Beddows, P.A.** Glover, J., Rissolo, D., Hendy, I., Schwartz, B., Jensen, A., Scotese, C. Tectonic displacement of the Yucatan Platform.
42. *Jenson, A.A., Schwartz, B.F., Gao, Y., Li, Y., **Beddows, P.A.** Evidence of uplift in the Yucatan Peninsula using water table folia as sea level proxies: Quintana Roo, Mexico. *Target journal - Nature Geoscience*
43. Lases-Hernandez, F.M., Bernal, J.P., **Beddows, P.A.** Prior calcite precipitation in the karst Río Secreto Cave, in the northeastern Yucatán Peninsula, México. *Target Journal - Chemical Geology*.

INVITED SEMINARS & PROFESSIONAL TALKS

USGS – Water Seminar Series	May 2026
Women Divers Hall of Fame – Voices Beneath the Waves	May 14, 2026
Nemmers Symposium Earth & Environmental Science in Action for a Rapidly Changing World	June 2025
University of Guam – NASA EPSCOR - Annual NASA Guam Research Symposium	April 2025
University of Guam w/ NASA EPSCOR – Special Seminar	July 2024
Northwestern Family Weekend	Oct 20, 2023
Blue-Green Humanities, Organized by Tracy Davis	Sept 30, 2023
Keynote – Comisión Nacional del Agua (México) Consejo de Cuenca de la Península de Yucatán	Mar, 2023
Live casted. Two-day gala event at Cancun Convention Center, with State Governor in attendance.	
NU Alumnae Associate – Women in Science course series	Fall 2022
Consejo de Cuenca de la Península de Yucatán	March 2022
Centinelas del Agua – Dia Mundial del Agua	March 2022
Red de Planetarios de Quintana Roo (16,000+ views)	March 2022
Green House, Residence Hall, Northwestern University	February 2022
Northwestern Energy Technology Group (NETG)	February 2022
NU Alumnae Association – Health of Our Planet: Past, Present and Future course series.	Spring 2021
Willard Residential Hall, Northwestern University	September 2021
TeachX – Northwestern University selected presenter. Panel coordinator.	May 2021
Nevada State College	September 2019
Grupo X-Caret (at Xel Ha)	July 2019
Chicago Scuba Meetup	June 2019
Northern Illinois University, Department of Geology and Environmental Geosciences	April 2019
TeachX – Northwestern University selected presenter	2018
Rio Secreto Nature Reserve	2017 & 2018
Geological Society of America – Invited speaker in Session - T120. Karst Processes & Speleogenesis:	
Advances in Monitoring, Modeling, & Measurements	2015
Centinelas del Agua, Playa del Carmen in Rio Secreto	2015
Northwestern Science Café - Skeletons in the Cave: Survival in a Changing World	2015
NU Knowledge at Noon	2015
Northwestern Faculty Alumni Association	2015
Comisión Nacional del Agua (CONAGUA)	2012
Northwestern University, Department of Earth and Planetary Sciences	2012
Florida International University, Civil and Environmental Engineering – WATERSCAPES Speaker	2010
University of Illinois at Chicago, Department of Earth and Environmental Sciences	2009
Northern Illinois University, Department of Geology and Environmental Geosciences	2009
Northwestern University, Department of Earth and Planetary Sciences	2008
Université de Montréal, Département de géographie	2008
Johns Hopkins University, Department of Earth and Planetary Sciences	2008
Nipissing University, Geography Department	2008
University of Toronto, Physical and Environmental Sciences	2008
University of Toronto, Department of Geology	2008
Kutztown University, Department of Geology	2008
Western Kentucky, Department of Geography and Geology	2008
University of Dayton, Department of Geology	2008
Universidad Nacional Autónoma de México. Instituto de Ciencias del Mar y Limnología (ICMyL) Puerto	
Morelos, México [in Spanish]	2007
University of Lethbridge, Geography Department	2007
Foro del Agua, Municipalidad de Solidaridad, Quintana Roo, México [in Spanish]	2006
McMaster University, School of Geography & Earth Sciences, Canada	2006

University of Victoria, Department of Geography, Canada	2006
University of Regina, Department of Geography, Canada	2006
University of Akron, Department of Geology, USA	2005
University of South Florida, Department of Environmental Science & Policy	2003
Centro de Investigación Científica y de Educación Superior de Ensenada (CICESE), Departamento de Oceanografía Física, Ensenada, México [in Spanish]	2002

CONFERENCE CONTRIBUTIONS – Oral and Poster

* Student contributions

- Beddows, P.A.**, Villareal M.J., Monroy-Ríos, E. (2026) Metals in carbonate platform and island karst rock and waters to delineate hydrogeological flow paths and anthropogenic plumes: Eastern Yucatan Peninsula, Mexico. *Goldschmidt Conference*, Montreal.
- Villareal, M.J., **Beddows P.A.**, Scott W. (2026) Groundwater Isoscape of the Northern Guam Karst Aquifer System. *Goldschmidt Conference*, Montreal.
- van Hengstum P.J., Little S.N., Sullivan R., Donnelly J.P., Winkler T.S., Tamalavage A., Beddows P.A., Fall P.L., Albury N.A., S. Coats (2024) Paleo submarine groundwater discharge through a Bahamian blue hole archives Common Era hydroclimate. *AGU Fall Meeting 2024*. PP31A-08
- Bernal J.P., Piaseck P., Cu Xi M., Revolorio F., Lachniet M.S., **Beddows P.A.**, Lucia G., Lopez Martínez R., Vázquez O. (2022) Understanding the variability of trace-elements and $\delta^{18}\text{O}$ in drip water from Gruta Rey Marcos, Guatemala. *AGU Fall Meeting 2022*, Chicago.
- Bernal J.P., Cu Xi M., Lachniet M.S., Revolorio F., Piaseck P., **Beddows P.A.**, Correa-Metro A., Corona Martinez L., Lucia G., Vázquez O. (2022) A multi-proxy paleohydrological reconstruction for Northern Central America and southern Mexico in orbital and sub-orbital timescales; speleothem $\delta^{18}\text{O}$ and trace element records from Gruta Rey Marcos, Guatemala. *AGU Fall Meeting 2022*, Chicago.
- Chatter J.C., **Beddows P.A.**, Reinhardt E., Bernal J.P. (2022) Radiometric dating in the submerged caves of the Yucatan Peninsula. *Society of American Archaeology*. March 30 – April 2, Chicago, Ill.
- Lases Hernández F., Medina Elizalde M., Bernal Uruchurtu J.P., **Beddows P.A.**, Burns S., Serrato Marks G., Travis-Taylor L., McGee D., Frappier A.B. (2021) Retos y perspectivas para la reconstrucción paleoclimática a partir de estalagmitas en la Península de Yucatán. *XV Congreso Nacional Mexicano de Espeleología: El Caribe comienza en las cuevas*. Playa del Carmen. 29 October – 2 November 2021.
- Beddows P.A.**, Rosales Lagarde L., Davis B., Mallon E.K. (2021) Jumping the institutional gulf: An Innovative course for primary data skills. Cross institutional coordinated panel discussion. *Northwestern University TEACHx*. Evanston, May 2021.
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- Beddows, P.A.**, Mallon, E.K. (2019) Global broader impacts: Reach of a web-based open-source project. *Northwestern University TEACHx*. Evanston, May 2019.
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*Van Hengstum, P.J., Reinhardt, E.G., **Beddows, P.A.**, *Gabriel, J.J. (2009) Environmental reconstruction of a Mexican flooded cave system: Evidence for climate-forced changes to the local freshwater lens, Eos Transactions AGU, 90(22), Joint Assembly Supplement, Abstract PP74A-04

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Ford, D.C., **Beddows, P.A.**, *Zhang, R., Schwarcz, H.P. (2007) Holocene environmental change on Vancouver Island: The karst record. *Geological Society of America Abstracts*. Denver, USA.

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- Worthington, S.R.H., Ford, D.C., **Beddows, P.A.** (2001) Porosity and permeability enhancement in unconfined carbonate aquifers as a result of dissolution. SPELEO Brazil 2001 - 13th International Congress of Speleology. Brasilia. Brazil.
- Beddows, P.A.**, Ford, D.C., & Worthington, S.R.H. (1998) Sustainable potable water supplies from conduit

systems: Caribbean coast, Yucatan Peninsula, Mexico. *Geological Society of America Abstracts*. 30(7). Toronto, Canada.

Beddows, P.A., & Ford, D.C. (1998) Spatial and temporal trends of groundwater velocity and water stage within the Nohoch Nah Chich System: Implications for contaminant dispersion (Yucatan Peninsula, México). *Geological Association of Canada & the Mineralogical Association of Canada Abstract Volume - Quebec 1998*, A13. Québec City, Canada.

Beddows, P.A., & Ford, D.C. (1998) Hydrological aspects of a tropical coastal karstic aquifer: North-eastern Yucatan Peninsula. *The Association of American Geographers 94th Annual Meeting, 1998 Abstract Volume*, p.19. Boston, USA.

PEER-REVIEW & RELATED ACTIVITIES LETTERS OF RECOMMENDATION

Recommendation Letters - In support of applications for professional and academic opportunities, for undergraduate students, PhD students, and peers. Count began in 2020:

2025	~60	2024	59
2023	72	2022	62
2021	51	2020	49

Women Divers Hall of Fame – Marine Conservation Scholarship Panel 2023 - present

National Science Foundation – Panel Reviewer December 2020, September 2021
REU - Research Experiences for Undergraduates Program

Northwestern Undergraduate Research Grants – URG 2011 – 2015
Reviewer of 100+ academic and summer applications annually, and additional identification of awards for ISEN funding. **ISEN Representative** – Of the funded URG projects, undertaking additional selection and presenting short-list for ISEN support.

Grant / Fellowship Reviews – last 10 years – Individual application reviews (not panels)

PAPIIT – Programa de Apoyo a Proyectos de Investigación e Innovación Tecnológica (México)	
NSF - National Science Foundation	NGS - National Geographic Society
Waitt Foundation	GWIS - Graduate Women in Science
McArthur Foundation	Women Divers Hall of Fame Fellowships

Peer Review – Journal Articles – last 10 years

Water Resources Research	
Geophysical Research Letters	Limnology and Oceanography
Hydrology and Earth System Science	Geochimica et Cosmochimica Acta
Journal of Hydrology	Hydrological Processes
Hydrogeology Journal	Journal of Paleolimnology
Hydrobiologia	Geosciences
Journal of Cave and Karst Studies	Ecohydrology
Paleogeography, Paleoclimatology, Paleoecology	

CONSULTANCIES IN THE PUBLIC & PRIVATE SECTORS

ELAW – Environmental Law Alliance Worldwide 2018 - present
Extensive consultation and advisement on environmental impact of the development plans in the Yucatán Peninsula of Mexico, with a specific focus on the Tren Maya megaproject.

Scientific Advisor ongoing 20+ years
Municipalities of: Tulum, Solidaridad, and Bacalar, Quintana Roo, México

CNA - Comisión Nacional del Agua - Consejo de Cuencas [National Water Commission of Mexico]

Non-government organizations: Amigos de Sian Ka'an (ASK), Centinelas de Agua, Centro Ecológico Akumal (CEA), Razonatura, Centro México de Derecho Ambiental (CEMDA), environmental lawyer Luis Leal, and others. Frequent consultation at nearly monthly frequency on science and technical issues related to groundwater and coastal issues. Provision of technical/educational presentations in Spanish in QR. Participation in government planning meetings.

The last 6 years include advisement on transport of organic contamination (sewage effluent) in the drinking water and cave systems, site specific development issues, review of the environmental impact assessments, establishing a monitoring network for watershed quality, and water quantity and dynamics, and the planning of a Recharge Zone Hydrological Reserve.

Scientific Advisor: The Nature Conservancy International (TNC) 2009 – 2010

Active member of panel through evaluation phase.

Contributions to writing and final editing of Plan de Conservación Akumal Tulum, 2009. 57pp.

National Geographic contracted to Sea Studios of Monterrey 2007-2008

a. Dirty Secrets Released 2008. An episode of National Geographic's Strange Days on Planet Earth. On-camera scientist and scientific advisor.

b. Coral Connections Released 2008. Scientific advisor.

BBC Natural History Unit, Bristol, U.K. 2004 - 2005

Secrets of Mayan Underworld Released 2005. Scientific advisor. (Remunerated)

BBC Natural History Unit, Bristol, U.K. 2004 - 2006

Planet Earth: Caves Released 2006. Scientific advisor. (Remunerated)

PROFESSIONAL SERVICE

Guam NASA EPSCOR – Workshop on building open-source Cave Pearl Environmental Data Loggers 2024

Development and delivery of 5 day hands on workshop in Guam on the construction and calibration of open-source inexpensive data loggers for wide ranging environmental monitoring applications. 6 participants. Co-lead support provided by PhD students Maria Villareal.

Northwestern University 2021 TeachX – Connections. Panel Coordinator 2021

Jumping the Institutional Gulf: An Innovative Course for Primary Data Skills.

Panelists: Prof. Laura Rosales Lagarde, Nevada State University. Dr. Brian Davis, Indiana University, South Bend. Mr. Edward Mallon, Triple Point Design.

ABSTRACT - In EARTH 360 at Northwestern University, students with no prior electronics or coding experience assemble, program, and gather data. Variants of the course are now offered at Nevada State College and Indiana University South Bend. This panel brings together our collaborating faculty dedicated to empowering students as knowledge 'creators' from these wide-ranging US institutions from R1 (NU), satellite campus of a large state university (IUSB), and small state college (NSC). These educators will discuss their successes, and ongoing challenges overcoming institutional, personal, and pedagogical barriers to running problem-based courses that combine aspects of engineering and environmental science. Student personal growth has been phenomenal, with often-uncomfortable development of trouble-shooting skills that are hard to teach with commercial lab equipment.

Northwestern Annual Climate Change Symposium –

Global Problems, Local Solution

March 8, 2012

Problems to Solutions

October 18, 2010

Problems to Policy - news.medill.northwestern.edu/climatechange/page.aspx?id=145853

November 4, 2009

Departmental coordinator full day symposium cosponsored by Department of Earth and Planetary Sciences, the Initiative for Sustainability and Energy at Northwestern (ISEN), Environmental Policy and Culture Program (EPC) and Environmental Sciences Program (ENVR SCI).

Organizer: International Union of Speleology Field Trip Post-congress field trip to the Yucatan Peninsula for ~20 international participants.	July 2009
Co-Chair Special Session (in absentia): American Geophysical Union - Acapulco Paleoenvironmental Records from Cave Sediments (PP07)	May 2006
Co-Organizer: Post conference field trip, Caribbean coast of Yucatan Peninsula Salt Water Intrusion & Coastal Aquifers: Monitoring, Modeling, Management. Mérida, México.	April 2003
Organizer: Conference facilities and local arrangements, Bristol, UK. British Cave Research Association Science Symposium held in the School of Geographical Sciences, University of Bristol.	8 March 2003
Chair: Biology Session & Geology Session British Cave Research Association Hidden Earth Annual Meeting, Monmouth, UK	27-29 September 2002

PROFESSIONAL AFFILIATIONS

Active

American Geophysical Union	AGU
Geological Society of America	GSA
American Association for the Advancement of Science	AAAS
National Speleological Association, including Cave Diving and Geology sections	NSS-CDS
Canadian Association of Geographers	CAG

Previous

Royal Geographical Society with Institute of British Geographers, Fellow	RGS-IBG
Geological Association of Canada	GAC
British Cave Research Association	BCRA
Canadian Geomorphology Research Group	CGRG
Canadian Geophysical Union	CGU
Canadian Quaternary Association	CANQUA
Société Québécois de Speleologie	SQS
University of Bristol Speleological Society	UBSS

TEACHING & ADVISING

TEACHING & MENTORING AWARDS & HONORS

Student Nomination – Canvas Hall of Fame for ENVR SCI 201	2024
NU Phi Beta Kappa Award for Advocacy and Mentorship – Inaugural awardee For “inventive, indefatigable boosterism”	2023
ASG – Associated Student Government – Faculty Honor Roll Recognition for work with EARTH 360: Field Methods and Instrumentation	2018-2019
WCAS Weinberg College Arts and Sciences Alumni Teaching Award Recognized for excellence as undergraduate teachers. \$5000 award.	2015

Areas of Undergraduate and Graduate Teaching

Earth & Planetary Sciences	EARTH 102, EARTH 360, EARTH 331, 390 Hydrology, EARTH 399
Environmental Science	ENVR SCI 201, ENVR SCI 203, ENVR SCI 390, ENVR SCI 399

Civil & Environmental Engineering
Environmental Policy & Culture
The Graduate School

CIV ENV 201
ENV POL 397-1 & 397-02
EARTH 519 – Responsible Conduct of Research

Specific Courses Taught

EARTH 360 | ENVR SCI 390 – Instrumentation & Field Methods

Fall 2015, 2016; Winter 2018, 2019, 2021, 2022; Fall 2023, Winter 2026

Previously co-taught with Dr. van der Lee.

Winter 2010, 2011, Spring 2012

Practicum. Problem based learning course. Enrollment - 5 – 15. Reached 19 in 2023.

Theory and practicum on electronic instrumentation for monitoring and measurement in earth sciences, including data loggers, hands-on design and construction of electronic sensors, signal processing, data management, and network design. Prerequisites: Majors/minors in EARTH or ENVR SCI, or completion of three 300-level EARTH or any other 300 level science courses, or consent of the instructor.

EARTH 390 | ENVR SCI 390 – Hydrology - Hydrogeology

Spring 2021, Winter 2023

Enrollment – 16 in 2021. 20 in 2023

Conceptual and quantitative knowledge of hydrology, limnology, and shallow hydrogeology. Standard equations and quantitative approaches include mass-balance modeling, flood frequency/recurrence intervals, Darcy's law, and Fourier transform analysis on hydrological time series. Term paper or data project on approved topic of choice, using journal quality style guide.

ENVR SCI 201 (previously x-listed w/ CIV ENV) – Earth – A Habitable Planet (Intro. Earth System Science).

Lecture based class. Enrollment of 50 - 100

Spring 2013, 2014, 2015, 2016, 2017, Fall 2019, 2024

Overview of the physical processes governing environmental systems, from lithosphere to hydrosphere to atmosphere. Physical science perspectives on current debates such as those over water resources, energy, and climate change.

ENVR SCI 203 – Humans in the Environment

Lecture based class. Enrollment ~ 30 – 60 a year

Spring 2022, 2023, 2024, 2025, 2026

Interdisciplinary study of how humans interact with the living and non-living parts of their environment. We examine current environmental challenges, such as climate change, environmental determinants of health, sustainability, energy production and conservations, environmental ethics. A case study approach and Life Cycle Assessment (LCA) will be used to emphasize the processes of scientific inquiry and discovery.

EARTH 102-6 – Climate Change: The Scientific Evidence

Winter 2015, 2016, 2017, 2018, Fall 2019

EARTH 102-6 – Voyages of Discovery

Fall 2011, Winter 2013

Freshman writing seminars. Enrollment – 15

Climate Change represents a massive global experiment with unknown consequences. In this course we will discuss the scientific evidence for modern-day global warming including melting ice sheets, long-term temperature records from ice cores and extreme weather events such as hurricanes. Current trends and the role of human activities will be examined in the context of the geologic record of natural climate variability and the feedbacks inherent in the climate system. Anticipated future impacts include droughts, floods, sea level rise, spread of infectious diseases, drinking water shortages, habitat loss, and extinctions. Given these forecasts, strategies for managing the effects of global warming will be assessed. This writing seminar specifically aims to develop effective scientific writing and visual communication for the natural and physical sciences.

EARTH 519 – Responsible Conduct of Research (RCR)

Annually from 2011 to present 2026

Weekly seminar/discussion series with material drawn from NSF, AAS, and AGU. Fulfillment of the NSF mandated RCR requirements for the EARTH and PBC programs.

Enrollment – 5 – 15, including graduate students from **Plant Biology and Conservation**

Graduate students and post-doctoral Fellows must complete the RCR Training in their first year of the

program. This course includes weekly meetings, and fulfillment of 9 online "CITI" modules.

EARTH 331 – Field Problems in Sedimentary Geology Summer/Fall 2016
26-day field camp observing and mapping sections in outcrop and core in Utah and Colorado, with Fall quarter workshop class for development of research reports.

Enrollment – 6

Field methods in stratigraphy and sedimentology; interpretation of depositional systems and paleo-environments; methods of observations, data recording and analysis, and presentation of geological information (maps, cross sections). Course involves 2.5-week field trip to Colorado/Utah in late August - mid September and meets through the Fall quarter. Prerequisite: EARTH 330.

ENVR_POL 397-1 / 397-2 – Environmental Field School Summer 2012
Field Internship with National Parks and National Forests. Summer 2013 to present (non-credit based).
Seminar sessions and guided readings.

Other Academic Courses and Programs

Yucatán Peninsula Co-curricular Experiential Field Trip – Lead Coordinator and Instructor

Carbonate hydro-geochemistry & sedimentology; Coastal environments

Field practicum. ~30% content renewal in each offering.

Video 2009 trip - www.vimeo.com/6402811

Video 2017 trip - <https://www.youtube.com/watch?v=1NdODr6YokA>

Year	Days	Students	Collaborating Instructional Staff
2026	10	20	Ms Loren Yeager. Dr Laura Rosales – Nevada State University
2024	10	20	Drs. Scott & Jurdy, Ms Yeager, Mr & Mrs Fortwengler
2023			Cancelled.
2022			Cancelled.
2020	8	17	Booked, but cancelled due to COVID
2019			Cancelled due to university financial restrictions.
2017	10	12	Dr. Sageman, Dr. Horton, Dr. Masterson, Ms. Schellinger
2015	10	15	Dr. Osburn, Dr. Rossi
2013	10	16	Sole faculty, and Mr. Fortwengler (Shell geologist & alumni)
2011	10	13	Dr. Bina, Dr. Jacobson, Mr. Fortwengler (Shell geologist & alumni)
2010	10	13	Dr. van der Lee, Dr. Jacobson, & Dr. Weiss (GSU faculty).
2009	8	18	Dr. Sageman and Dr. Jurdy.

Director – EPC Environmental Field School 2013 - 2018

Co- Director - EPC Environmental Field School 2012

Placement of summer student research interns in National Parks, National Forests and closely allied federal agencies. Supervision and mentorship in research contribution spring-boarding from the experience (see ENV POL 398 under Teaching).

Students in Tutorial or Advisory Registration 399, 499

EARTH 399-0 - INDEPENDENT STUDY

UNDERGRADUATE - STUDENT RESEARCH CREDIT

Sophie LEWIS

Spring 2026

Water sample preparation for ICP-MS to advance the method development of using metals in carbonate platform and island systems as a tracer.

Maja **ZIVOJNOVIC**

Fall 2025

In support of method development for using metals in carbonate platform groundwater as a tracer and hydrogeological test instrument, undertook literature review and data compilation of prior analysis of metals in Yucatán and parallel environments. Winter 2026 – advancing with hands on water analysis by ICP-MS.

Saskia **LINTON**

Spring 2025

Use and improvement of data logger instructions for use in workshops. Completed experiment on the micro-limate in a compost heap (that reached 50+ °C!)

David (Max) **JONES**

Summer URG mentor, 399 in Winter 2024

Effects of Predator Exclusion Devices on Green Sea Turtle Nest Conditions in Costa Rica. Building set of Cave Pearl Logger temperature sensors for use in nest and beach monitoring.

Summer 2023 Undergraduate Research Grant (URG) of \$3500.

Maddy **BAGNALL**

399 Winter 2023

Calculation of tidal damping and lag with distance inland from the Caribbean Coast, and aquifer storativity and transmissivity coefficients. Research effort started in Winter of Sophomore year.

Lucy **WEIDNER**

Three x 399 - Fall 2020 +Winter/Spring 2021

Thesis: Quantifying the Yucatan Peninsula Holocene fire history and ecological succession – Charcoal and stable isotope analysis of coastal and lake cores the Vista Alegre Maritime Maya Port

Summer 2020 Undergraduate Research Grant (URG) of \$3500 through the Baker Program in Undergraduate Research, and Lane Fund for Environmental Studies.

Winter 2021 Academic Year Research Grant (URG) of \$1000 for stable isotope analysis.

University of Edinburgh MS 2021 – 2022

Now Research Associate - Climate Risk Analyst, Resilience and Adaptation at **WTW**

Isaac **BEST**

Winter 2021

R based dynamic front end for NU Campus climate station, with climate change context.

Timothy **ELLIS**

Summer 2020

Undergraduate Research Assistant Program mentee, with \$3500 award, collaboratively with Robin Mattheus, Illinois Geological Survey – ISGS). Project - Mapping the subsurface architecture of the Zion Beach Ridge Plain, Waukegan

Katherine A. **HAILE**

Three x 399 Fall 2018, Winter & Spring 2019

Thesis: Coastal mangrove basin hydrological dynamics in response to changing boundary conditions of ocean and climate. *Department Honors*

Construction of Cave Pearl loggers with Atlas electrical conductivity + water level + temperature.

Fourier transform analysis on 20+ time series and determination of lags/damping.

Summer 2018 URAP – Skill acquisition in assembly of commercial multi-sensor Hydrolabs.

2018-2019 Academic year Undergraduate Research Grant (URG) \$1000 + 50% international travel for 13 days Dec. 2018 Yucatan Peninsula field campaign, followed by ~2 weeks March 2019.

Abigail **LAMMERS**

399 Winter 2018

a. Code “library” for the Arduino microcontroller board, for the calculation of flow direction and magnetometer corrections on the LSM303DLHC accelerometer, used as a pendulum flow meter.

b. Online open-source application written in R for visualization and statistical analysis of flow velocity data from open water and cave deployments.

Presented at the Geological Society of American Annual Meeting, October 2018

Peter **CARLIN**

Two x 399 in Winter/Spring 2016

Field permeability assessment using open-source hardware design.

URG Summer 2016

WCAS Summer Research Grant for \$3000 + 50% travel with 2 weeks field campaign in southern Mexico.

Now - Quarry Supervisor & Engineer In Training, Lehigh Hanson

Jay **LARSON**

399 in Spring 2015

Report - Yucatan Peninsula Climate Atlas.

Now - Senior Data Scientist at Zoro US

Brendan **McMANUS**

399 in Winter 2015

Report - Northwestern waste audit, including direct physical measure.

Now - Assistant Site Supervisor at Venture Outdoors

Kelly K. **CAI**

Three x 399 in Fall to Spring 2014-15

Thesis - Bacteriological assessment of vadose zone connectivity at Mammoth Cave National Park, USA

Summer field experience with Environmental Field School – Mammoth Cave National Park.

Presented at the Geological Society of American North Central Meeting, May 2015

Followed by – Associate Environmental Engineer, Parsons Corp.

Now – Data analyst, Data Group at Columbia University

Henrik **WESTERKAM**

One x 399 in Fall 2014

Independent research project, based on summer field experience with Environmental Field School

Report – Backcountry visitor impact assessment at Katmai National Park and Preserve and the Alagnak Wild River 2007-2014.

Followed by – NASA, the Nature Conservancy, National Park Service, National Audubon Society, University of South Carolina. Then MS Clark University. Now – National Audubon Society.

Zachary D. **KISFALUSI**

Three x 399, Fall 2013 to Spring 2014

Thesis - Urban hydrology of northern Cook County

Followed by - funded MSc program in hydrology at Illinois State University.

Now – Hydrologist, USGS Colorado Water Science Center

K. T. **McMONIGAL**

Four x 399 over Spring 2013 to Spring 2014

Thesis - Developing a new paleo sea level proxy: Calcite rafts of the Yucatan Peninsula, Mexico *Honors*

Undergraduate Research Grant (URG) for \$1000

WCAS Summer Research Grant for \$3000 + 50% travel.

Best Poster Award at the 2015 Northwestern University Undergraduate Research Symposium.

Presented at the Geological Society of America (GSA) Annual Meeting, Vancouver BC Fall 2014, and GSA North Central Meeting, Madison, Spring 2015

PhD 2020, Rosentiel School of Marine Sciences, Miami, in Physical Oceanography.

Post-Doctoral Fellow as of 2021 – University of South Carolina

Faculty – Assistant Professor as of 2023. University of Alaska, Fairbanks.

Ellie J. **BENSINGER**

2013 Winter

Thesis - Variation in charcoal abundance in cores from Maya Port City of Vista Alegre, Quintana Roo. 14pp.

Followed by – Performing professional actor – IMDB <https://www.imdb.com/name/nm3927723/>

Peter D. **ILHARDT**

Three x 399 in Fall 2012 to Spring 2013

Thesis - Investigation of potential microbialite formations from Yucatán Peninsula cenotes. 41pp.

Department Honors, and Phi Beta Kapa (PBK) – National Academic Honor Society

Undergraduate Research Grant (URG) for \$1000 + 50% travel.

Post Bac - Science intern at Mammoth Cave International Center for Science and Learning (organized by Beddows).

MSc program, Department of Geosciences, Penn State. Completed in Spring 2017.

Now - Research Technologist, Dept. of Plant Sciences, Penn State

Alice M. **CARTER** Three x 399 in Fall 2011 to Spring 2012
Multiproxy reconstruction of the Alegre Maritime Maya coastal archeological site using sediment cores.
 WCAS Honors. Phi Beta Kapa.
 Awarded Undergraduate Research Grant (URG) for \$1000 + 50% travel.
 Presented at the Geological Society of America
 Peer Reviewed - Beddows, P.A., Glover, J., Rissolo, D., ***Carter, A.**, Goodman, B., Jaijel, R., Smith D. (2016)
 Proyecto Costa Escondida: Recent interdisciplinary research in search of freshwater along the North Coast
 of Quintana Roo, Mexico. *Wiley Interdisciplinary Reviews – Water*. 3(5):749-761. DOI: 10.1002/wat2.1161
 Followed by – Instructor Assistant / Technician, Marine Biological Laboratories Wood's Hole +
 Field Research Technician, Toolik Field Station Alaska
 PhD at Duke University in 2022, and since 2022 Post Doctoral Researcher, University of Montana

Peter E. **CARLSON** Three x 399 in Fall 2011 to Spring 2012
Lacustrine gypsum as a paleo-precipitation indicator in inland Belize.
 Awarded Undergraduate Research Grant (URG) for \$1000
 WCAS Honors. Phi Beta Kapa.
 Followed by - PhD program at University of Texas, Jackson School of Geoscience.
 Now – Post Doctoral Fellow, Washington University in St.Louis

Violet C. **ZERBE** One x 399 in 2011 Fall
 Independent research based on primary and historical data collection over Environmental Field School.
 Thesis - Analysis of the Francis Creek Bypass project: Evolution of an engineered alpine stream (36 pp.)

EARTH 499-0 - INDEPENDENT STUDY GRADUATE - STUDENT RESEARCH CREDIT

Maria VILLAREAL	Since Winter 2024 - present
Anastasia MONTGOMERY	499 in 2020 Winter
Matthew SELENSKY	499 in 2019 Fall
Karyn DeFRANCO	499 in Winter 2019, and Fall 2019
Emiliano MONROY-RIOS	Five x 499 in 2011 Spring, 2011 Fall, 2012 Winter, 2012 Fall, 2013 Winter
Gregory O. LEHN	Two x 499 in 2011 Winter, 2010 Fall

Ph.D. ADVISING AND MENTORING

Primary PhD Advisor.

Maria VILLAREAL – PhD Student, Earth & Planetary Sciences 2023 – present
Submarine Groundwater Discharge in Small Karst Island Hydrology - Guam

Emiliano **MONROY-RIOS** – PhD Candidate, Earth & Planetary Sciences 2011- 2020
 Advancements in Our Understanding of the Yucatán Platform: Sedimentary Geology and Geochemistry,
 Speleogenesis, Chicxulub Ring of Cenotes, and Tectonic Stability. \$104 000. CONACYT Mexican Graduate
 Student Fellowship over 4 years.

Secondary Advisor (Mentoring Secondary Qualifying Exam Proposal / project)

Matthew SELENSKY – PhD Student, Earth & Planetary Sciences	2019 – 2023
Secondary advisor, with Primary advisor Prof. M. Osburn	
Anastasia MONTGOMERY – PhD Student, Earth & Planetary Sciences	2019 – 2023
Secondary advisor, with Primary advisor Prof. D. Horton	

Karyn **DeFRANCO** – PhD Student, Earth & Planetary Sciences 2018 – 2020
 Secondary advisor, with Primary advisor Prof. A. Jacobson. MSc in Spring 2020

Greg **LEHN** – PhD, Earth & Planetary Sciences 2010 – 2016
 Advisor on Second Research Proposal - Phreatic calcite rafts as a novel paleoenvironmental record of hydrochemistry and water level. Committee Member. Primary advisor Prof. A. Jacobson.

Committee Member

Esmee **KUIPER** Fall 2024 - present
 Ph.D Candidate – Earth, Environmental & Planetary Sciences
 Primary Advisor – Maggie Osburn

Ry'yan **CLARK** Spring 2021 - 2022
 MS in Plant Biology and Conservation Graduate Program
 Primary Advisor – Louise Egerton Warburton

Chuxuan **LI** – PhD Candidate Fall 2020 - present
 Primary Advisor – Daniel Horton

Fernanda **LASES FERNANDEZ** – PhD Candidate 2016 – 2020
 Universidad Nacional Autónoma de México (UNAM), Centro de Geociencias, México
 Project Title – Vadose and groundwater hydrology of the Yucatan Peninsula - Implications for paleoclimate reconstruction from speleothem archives.
 Primary Advisors – Juan Pablo Bernal Uruchurtu.
 Now Assistant Professor at UNAM - Merida

Aubri **JENSON** – PhD Candidate, 2015 – 2020
 Texas State University, Department of Biology, USA
 Project Title - Hydrogeology and speleogenesis of the Yucatan Peninsula, Mexico.
 Primary Advisor – Benjamin Schwartz
 Now Environmental consultant – Zara Environmental.

Vivian **TANG** – PhD Candidate 2016 – Sept 2020
 Primary Advisor – Suzan van der Lee
 Now Postdoctoral Fellow – University of Illinois

Chelsi **McNEILL** – PhD Candidate 2016 – 2020
 McMaster University, School of Geography and Earth Sciences, Canada
 Project Title - Holocene palaeo-environmental reconstruction from cenote and lake sediment cores in the Yucatan Peninsula of Mexico
 Primary Advisors – Eduard Reinhardt

OTHER ADVISING / MENTORING / TEACHING ROLES

DUS - Director of Undergraduate Studies – Department of Earth, Environmental & Planetary Sciences
 Supporting ~100 ENVR SCI and EARTH majors and minors Fall 2025 to present
 144 advising meetings booked. ~ 60 letters of recommendation provided.

Director, Environmental Science Program Fall 2019 to Fall 2025
 Directorship for program, including full DUS role. ~100 STEM majors in program, with 25 – 30 graduating majors. ~200 advising sessions booked/year.

Director of Undergraduate Studies – EARTH (DUS)	Winter 2011, Fall/Winter 2015-16, Winter 2018 to Fall 2019
Director of Graduate Studies (DGS) - EARTH	Fall 2012
WCAS Freshman Advisor – as instructor on Fall writing seminar	Fall 2011, Fall 2019
Curriculum Committee - EARTH - member	2009 – 2017
Redevelopment of undergraduate major program, with CRC approval received in 2017.	
Proactive – consultation as DUS on individual or cohort aspects for review.	
Ongoing review of curricular offering and scheduling, with present committee focus on PhD Program.	

SERVICE – MEMBERSHIP & OFFICES

DEPARTMENT LEVEL

Chair – Faculty Search – Environmental Science w/ focus on GIS - Geographical Information Systems	
Assistant Professor of Instruction – led to hiring of Bo Zhang	2025
Assistant Professor of Instruction – led to hiring of Elsa Anderson	2023
Full lead from submission of hiring proposal to WCAS, refining the search focus / job ad / and effective advertising. Managing the applicant pool including solicitation and collection of recommendation letters. Holding several rounds of effective search committee meetings and in 2025 also short (20 min) first zoom interviews leading to the creation of the short list from the long-short list. Campus full-day interviews including teaching seminar. Leading discussion up to full department vote, submission of selected candidate justification, negotiation with candidate+WCAS, through to their onboarding of 2025 search and their start in Fall 2025.	
Direct Line Supervisor - Research Staff	
Research Lab Manager	Ms. Loren Yeager – March 2024 – present
Research Associates / Lab Managers	
Isotope Ratio Mass Spectrometer Lab (IRMS)	Dr. Andy Masterson - To Nov 2022
Radiogenic Lab (including class 10 clean lab)	Dr. Meagan Ankney - To Dec 2021
Research Lab Manager / Technologist	Ms. Grace Schellinger - To Jun 2023
Research Associate / Geophysical Computing Research	Dr. Mitch Barklage – To Winter 2019
Staff Hiring – Search Committee	
Chair - Department Research Lab Manager	2024
Chair – Financial Assistant – Search completed by BA Collins	2023
Member - Research Assistant Professor – IRMS Lab	2023
Chair - Program Assistant – 2 positions	2023
Chair - IT Consultant	2013
Member, IRMS Lab Manager	2012, 2016
Member, Program Assistant	2015, 2017
Member, Business Manager	2015
MDAM Digital Image Database & REACH Hallway monitors	2019 - present
Work in progress – moving digital assets in MDAM with metadata, and cascade of content into hallway REACH monitors, working with Program Assistant.	
Digital Image Database - Simple but effective hard-drive collection	2008 – 2018
Collect and organize digital image assets, including recovery of historical images.	

Webpage oversight, and content contributor	2009 – present
Note that 2025 included complete redevelopment and launch of new DEEPS webpage.	
Active involvement with ongoing critical evaluation and renewal of content, working closely with PA.	
Test department for WCAS in launching new Cascade content management system with development and trial of new department level templates.	2010
Relaunch of webpage using second generation Cascade WCAS templates.	Summer/Fall 2017
EPicentreS department annual newsletter.	2008 – 2020
16 – 20 page professionally printed Department Newsletter, aimed primarily at physical mailing to alumni.	
Contributing author, editing/proof reading	
Computing – committee member	2008 – 2020
Graduate recruitment – GSA Booth, social media outreach, direct mailing initiatives	2009 – 2023
Goal is to significantly increase the number of URM applicants, in support of diversity graduate recruitment.	
6000+ emails in 2020 and 2022 to diversity communities, such as SACNA, GEM, other prospective groups.	
Undergraduate Recruitment to EARTH program	2009 – 2019
Active involvement with prospective undergraduate students in support of recruitment to EPS. Declared majors in EPS have approximately doubled since 2008, with more students declaring their major earlier in the program.	
EARTH Booth at Academic Directions (Majors's) Fair	2010 – 2015, 2017, 2018, 2019
Corporate Recruitment – Chevron and Shell	2009 – 2020
Coordinated site visits of recruiters from Shell and Chevron, both of whom are EPS Alums.	
Two EPS students full time hired and numerous summer internships due to these efforts.	
Education beyond the Classroom - Activities with EARTH undergraduate and graduate students – Organization & Instruction	
Mammoth Cave National Park weekends	2011, 2012, 2014, 2019
GSA – Group conference, with specific inclusion of non-presenting undergraduates	2018
Glacial Park + Volo Bog (Joint with ISP)	2009, 2010, 2013
Chicago water ways - Kayaking Trip through Chicago	2009, 2010
+ frequent participant on trips/activities organized by others in the department for faculty/student interaction	
GIS Training Weekends for undergraduate and graduate students (2 day sessions)	2010, 2011
Coordination with NU GIS Expert Chieko Maene for the provision of 2 day workshops in introductory GIS for earth science and plant biology and conservation science students, both undergraduate and graduate.	
Tech Infill Space Development – New office and teaching facilities	2008 – 2013
Member of the departmental Tech-Infill space committee. Principal liaison with weekly+ interaction with FM project managers and contractors. In 2011, role as departmental liaison significantly increased, with move-in completed summer/fall 2012.	
ILEPS Development – Integrated Laboratories for Earth and Planetary Sciences	2008 – 2011
Phased Move-In from Locy Hall to Hogan	2010 – 2013
Coordination of the design, construction, and commissioning of the new integrated laboratory. Intense coordination between FM, the design firm (HED), the contractors (Power Construction), and the leading research faculty within Earth and Planetary Sciences, to ensure that full operation of the facilities is achieved. In 2010, four of the 6 modules reached operation. Completion of the Clean Lab and TIMS facility (A. Jacobson) and the Mineral Physics lab (S. Jacobsen) achieved in 2011. Ribbon cutting November 2011.	

SERVICE – MEMBERSHIP & OFFICES

WCAS College Level

Director – Environmental Sciences Program Fall 2019 – 2025
[transitioned to Director of Undergraduate Studies in DEEPS in Fall 2025]

100+ STEM majors in program in through 2022 and 2025.

Responsible for all aspects of final delivery of academic, financial, and community administration. Provide group and individual mentoring. Organized development opportunities along with undergraduate representatives, including regular community building activities. Typical weeks included 5-10 meetings, with peak weeks ~20. Chairing Faculty steering committee. Leading SAB representatives. Large quarterly events/social, and

Member, Program Faculty Committee, Environmental Sciences Program ~2010 – 2025
 Member, selection committee for Visiting Assistant Professor – 2 rounds 2014, and 2017

Interim Director – Environmental Sciences Program 2014 – 2015
 80+ majors active in program. Responsible for academic administration. Provided mentoring to students on request. Organized development opportunities along with undergraduate representatives. Typical weeks included 5-10 meetings, with peak weeks ~20.

University Level – Senate, Residential College

Office of Fellowships 2008 – present
 Participant in mock interviews and mentorship activities of Northwestern students and recent alumni in their preparation for competition for national and international awards of prestige.

SILC - Spatial Intelligence and Learning Center 2022 - present
 Faculty member

International Travel Safety Advisory Board, Office of Global Safety and Security 2015 – present
 Active committee projects include Wilderness First Aid Coordination and defining international travel with respect to Northwestern graduate students and post-docs.

The Graduate School (TGS) Diversity and Inclusion Council 2019 – 2023

Faculty Fellow, Jones Residential College for the Fine and Performing Arts 2010 – 2017
 Mentorship, including interaction with residential students over meals, at special events, and supporting personal growth and educational activities within and beyond the residential college.

Faculty Senate Elected Member, Northwestern University 2011 – 2013

Faculty Senate Benefits Committee, Northwestern University 2011 – 2013

SERVICE – MEMBERSHIP & OFFICES BEYOND NORTHWESTERN

National Directory of Summer undergraduate research Experiences. ~ 2016 – present

I have been motivated by the unbelievable effort by students and myself in pairing up students with suitable opportunities – notably summer NSF-REU programs. Simply finding the basic program information of start dates was requiring our 100 ENVR SCI majors to each troll 100's of program webpages.

In ~2016 I launched a national directory of summer undergraduate research programs, that is now a heavily-used public resource, compiling key program and student characteristics: application deadline, start-end dates, year of study, source institution type, accessibility including ASL or mobility, citizenship/DACA status, and dozens of other factors. The directory reaches 200-300 entries a year now, and information is efficiently populated by program officers, and cleaned for tabular presentation using a set of scripts. See <https://deeps.northwestern.edu/undergraduate/further-opportunities/summer-programs-and-internships/nsf-reu.html>

NSF Summit on the Future of Undergraduate Geoscience Education 2014, 2016, 2017
Three-day workshop, hosted at the Jackson School of Geoscience, Austin.
Topical meetings at GSA Annual Conferences.

COMMUNITY WORK PUBLIC EDUCATION & OUTREACH

The Cave Pearl Project – Project page geared to educators and developers 2013 – present

Reached < 1,000,000 visitor counts in 2023 <https://thecavepearlproject.org/>

Ongoing reportage of the development of open-source instruments using the Arduino micro-controller platform, in support of distributed and economical environmental monitoring.

Extensive content and teaching resources to enable STEM educators in adopting the platform in educational environments.

EPS Climate Station at Northwestern University 2010 – present

PI for acquisition and establishing the Northwestern Climate Station which will support undergraduate and graduate learning and research on campus, and serve as an icon or NU's commitment to earth and environmental science. Funding from ISEN secured (\$13 800). Co-development beside NU CO₂ station, PI'ed by Dr. Jacobson.

Project Excite: Department of Earth and Planetary Sciences 2009 – 2015

Coordinator for faculty and graduate student let activities within the department, including 2 days of small group activities for select students from the 3rd and 4th grade from Chicago Public School District 86. Supported development of new activities by graduate students including "Global Warming in a Bottle", "How Big is a Dinosaur", "Deep Sea Vents", "Making Earthquakes". Project Excite is collaborative project with the Northwestern Center for Talent Development (CTD), Evanston/Skokie School District 65, and Evanston Township High School District (ETHS) 202. ~50 – 75 children a year.

Center for Talent Development – Coordinated with Dr. Steven McGee OF SESP 2010 NASA Summer Education Outreach – Chicago High Schools 2011

Lead scientific advisor, and embedded scientist for this 5-week summer effort, with 8-9 high school students from Chicago Public schools. Educational material and program development on climate change using remotely sensed and NASA data. Recruited and organized EPS graduate students to provide education extension, and pedagogical support. Ongoing work includes translation of 2010 summer experience into fixed pedagogical materials for inclusion in the Chicago Public School curriculum.

ETHS Biology internships – 7 students, 2010 & 2012
 20+ contact hours each (total 140 contact hours) providing skill developing and mentorship. Separation, cataloguing and photographic documentation, and identification of bones from cave sediments. Dendrochronology using tree sections from NU campus. Greenhouse gas in a bottle experiments.

High School Student Tours – Analytical lab facilities and collections 2010 – 2019
 Educational tours of research facilities with added discussion of careers in Earth Science. Support of minority inclusion in STEM fields. Typically, 1-5 groups per year, with 20 participants each.

EDUCATIONAL PUBLICATIONS

(general audience / not peer-reviewed)

Beddows, P.A. (2010) Yucatán Underground. *Canadian Caver* 71.

Beddows, P.A. (2007) Counting cave drips -An Exercise of global significance. *Canadian Caver* 64, 8-13.

Beddows, P., Smart, P., Whitaker, F. & Smith, S. (2005) ¿A dónde van las aguas residuales? El acuífero cárstico de la Municipalidad de Solidaridad, Quintana Roo, México: Where does the Sewage Go? The karst groundwater system of the Municipalidad de Solidaridad, Quintana Roo, Mexico. *Revista de Medio Ambiente, Turismo y Sustentabilidad*. 1(1) 121-128.

Beddows, P.A. (2004) Cave development in continental & coastal limestone regions. In Matthes, A., et al. (eds) *IANTD Cave Diver Training Manual*, IANTD, 90–96.

Beddows, P.A. (2003) Introduction to the Yucatan Peninsula hydrogeology: A World class example of a coastal carbonate density stratified aquifer. In *Cavern Guide Training Program*, Asociación de Prestadores de Servicios Acuáticos (Riviera Maya Association of Dive & Watersports Operators - APSA) 45-54.

Beddows, P.A. (2003) Introduction to the hydrogeology of the Caribbean coast of the Yucatan Peninsula. In Ward, B. (ed) *Salt-Water Intrusion & Coastal Aquifer Conference (SWICA) Field Trip to the Caribbean Coast of the Yucatan Peninsula* (April), 13-22.

PROFESSIONAL TRAINING & SKILLS

Languages: Mother tongues of French and English, although French is now rarely used.
 Fluent in Spanish as a second language.

CatalystNU – Participant

Winter-Spring 2026

SCUBA - Cave Diver, and other technical SCUBA certifications 1996 – present
 Full Cave Diving Certification and membership – Backmount, and Side Mount (lateral) - Cave Diving Section of the National Speleological Society (NSS-CDS) and National Association of Cave Diving (NACD).
 Ice Diver (ACUC). Oxygen-Provider (DAN/ACUC). Nitrox enriched air (IANTD & ACUC).
 Open water SCUBA Instructor (ACUC – License and insurance allowed to lapse in 2008).

MBA Kellogg School of Business Certificate - Management Skills for Innovative University Leaders 2013
 NU Faculty leadership program to introduce business concepts and specific tools and frameworks for effective leadership. Selected and sponsored by WCAS. Nine days.

NU Learning, Teaching, and Assessment Forum 2013
 One day event showcasing teaching and assessment innovations, strategies, practices, and outcomes.

Grantsmanship for the Research Professional, Northwestern University 2009
Two-day course instructed by Dr. Holly Falk- Krzesinski.
Enhancing skills for effective grant opportunity identification, preparation, writing, and submission for investigators and administrators.

Students in the lab: Quality-time or predictable demo? Centre for Leadership in Learning 2007
McMaster University. Designing effective experiential learning modules in the lab and field. Three days.

Making Lecture Presentations, Centre for Leadership in Learning November 2004
McMaster University Eighteen-hour enquiry-based course focused on the question of "What makes for an effective lecture?" which included development of lecture skills through active participation.

Environmental Data Acquisition Training, Observatoire Royale de Belgique May 2004
Design, construction, and implementation of data acquisition systems including data loggers and geophysical sensors. Four days.

Time Series & Tidal Analysis Methods, International Centre for Earth Tides November 2002
Observatoire Royale de Belgique. Two weeks individual training on tidal data pre-processing and analysis.

MEDIA

BBC on camera lead scientist / cave diver 2025 – present
Development of new BBC luminary series (on the earth systems of geosphere-hydrosphere-cryosphere-atmosphere, with lead on camera presence for hydrosphere unit to be filmed in 2026 with cave diving in the Yucatán Peninsula, Mexico, highlighting underground rivers and understanding of the hydrodynamics of the vast and precious water resources beneath our feet.

The Daily Northwestern April 10, 2023
Faculty, students say implementing LEDs on campus long overdue. By Kristen Axtman
<https://dailynorthwestern.com/2023/04/10/campus/faculty-students-say-implementing-leds-on-campus-long-overdue/>

Northwestern Now Nov. 10, 2023
Behold the underwater caves of Yucatán, home to diverse microbial communities: New study constructs most extensive map yet of the cave system's microbiome. By Amanda Morris
<https://news.northwestern.edu/stories/2023/11/yucatans-underwater-caves-host-diverse-microbial-communities/?linkId=249600499>
Derivative articles:

PhysOrg <https://phys.org/news/2023-11-yucatn-underwater-caves-host-diverse.html>

Science Daily https://www.spacedaily.com/reports/Yucatan_underwater_caves_host_diverse_microbial_communities_999.html

El Pais

De la taza del baño al cenote: así llega desde cocaína hasta viagra al acuífero de Yucatán July 15, 2022
By Teresa de Miguel. <https://elpais.com/mexico/2022-07-15/de-la-taza-del-bano-al-cenote-asi-llega-desde-cocaína-hasta-viagra-al-acuífero-de-yucatan.html>

HELIX – Northwestern Science in Society July 22, 2019
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#CitizenScience #underwater #arduino

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<http://magazine.awis.org/i/330312-summer-2014/34> pgs. 34-37

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Fall 2014

<http://www.northwestern.edu/magazine/fall2014/feature/cave-woman.html>

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Connecting Caves to Coral Reefs, pgs. 30-34.

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NOAA Ocean Exploration - Signature Exploration

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<http://oceanexplorer.noaa.gov/explorations/11maya/welcome.html>

International Research Press Coverage - 5 newswires by United Nations University

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e.g. <http://www.sciencedaily.com/releases/2011/02/110206132900.htm>

- Press "Who knew Northwestern University had its own glacier? And now it's melting fast"** 2011
 Instigated and supported writing of article on the Northwestern Glacier by Chris Bentley, for Medill Report
<http://news.medill.northwestern.edu/chicago/news.aspx?id=178796>
- National Geographic "Diver Vanishes into Portal to the Maya Underworld"** 2010
 Video - <http://video.nationalgeographic.com/video/player/news/history-archaeology-news/belize-maya-pools-vin.html>
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 Second most watched video in 2010 on National Geographic online. Length 3:43.
- EPS Yucatan 2009 Video "Fun, Sun, and Science"** 2010
 Coordinated production of documentary short film of the EPS experiential educational trip to the Yucatan Peninsula Mexico. Produced by Lauren Pond.
 Awarded **First Place**, in the American Geological Institute Life in the Field Video Contest. Length 5:38.
<http://www.vimeo.com/6402811>
- National Geographic contracted to Sea Studios of Monterrey** 2007 – 2008
a. Dirty Secrets Released 2008. An episode of National Geographic's Strange Days on Planet Earth. On-camera scientist and scientific advisor.
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- CBC - "Cave Research - Paleoenvironmental research in Rats Nest Cave"** 2006
 On-camera scientist and research consultant. Aired nationally on Saturday Report + Provincially in Alberta on CBC News at Six in both Edmonton and Calgary.
- BBC Natural History Unit, Bristol, U.K.** 2004 – 2005
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