

**SHELBY BRUNNER, Ph.D.**  
Science and Observations Manager  
Great Lakes Observing System  
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## **Education**

**Ph.D. Freshwater Sciences** University of Wisconsin-Milwaukee *Fall 2016* Dissertation: *A multi-faceted biogeochemical approach to analyzing hypoxia in Green Bay, Lake Michigan*

**B.S. Environmental Chemistry**, *magna cum laude* Lake Superior State University *May 2011* Senior Thesis: *A Pilot Study to Determine an Effective Technology to Remove Geosmin and 2-Methylisoborneol for the City of Fairmont*

## **Professional Experience**

2024-Pres. Science and Observing Manager, Great Lakes Observing System, Ann Arbor, MI  
2020-2023 Observing Technology Manager, Great Lakes Observing System, Ann Arbor, MI  
2018-2020 Program Specialist, Global Ocean Monitoring and Observing Program, NOAA/UCAR, Silver Spring, MD  
2017-2018 Knauss Fellow, Global Ocean Monitoring and Observing Program, NOAA, Silver Spring, MD  
2011-2017 Graduate Research Assistant, School of Freshwater Sciences, University of Wisconsin-Milwaukee, Milwaukee, WI  
2010 Hollings Scholar, Atlantic Oceanographic and Meteorological Lab, NOAA, Miami, FL  
2009-2011 Environmental Lab Technician, Lake Superior State University, Sault Ste. Marie, MI  
2009-2011 Tutor and Group Instructor, Learning Center, Lake Superior State University, Sault Ste Marie, MI  
2008 Harbor Attendant, MI Dept. of Natural Resources, Port Austin, MI

## **Selected Fellowships and Awards**

- Sea Grant John A. Knauss Marine Science-Policy Fellowship, 2017
- Cooperative Institute for Limnology and Ecosystems Research (CILER) Graduate Fellowship, 2015-16
- UWM Distinguished Dissertator Graduate School Fellowship, 2014-15
- UWM Distinguished Graduate School Fellowship, 2013-14
- UNOLS Early Career Chief Scientist Training Program Participant, November 2012
- Oceans and Human Health NOAA Fellowship, 2011-2012
- Ernest F. Hollings NOAA Scholarship, 2009-11

## **Field Experience**

R/V Neeskay, University of Wisconsin-Milwaukee, Milwaukee, WI Several

- Deploy, maintain, and calibrate several seasonal water quality/sonde stations in Green Bay
- Perform a variety of sediment core experiments, including oxygen incubations and porewater extractions
- Assist in adaptation of eddy correlation benthic system to Great Lakes environment

R/V Oceanus, Oregon State University, Newport, Oregon July 2013

- Deploy eddy correlation and microelectrode profiler landers to study sediment-water processes of coastal Pacific sediments
- Perform microelectrode preparation, maintenance, and calibration
- Assist with multicorer and CTD deployments/recovery, provide other help as needed

- Design research plan for 7-day cruise and coordinate efforts with 12 scientists across U.S.
- Attend 2-day UNOLS workshop on chief scientist preparations and execute cruise plan including mobilization, sample collection and demobilization, assist with a variety of research tasks

R/V Ronald H. Brown, National Oceanic and Atmospheric Administration (NOAA) July-August 2011

- Operate underway-CTD (uCTD), CTD and XBT, collect CTD samples for oxygen and salinity
- Assist in repairs of scientific equipment including uCTD, CTD, and XBT
- Assist in ozone sonde launches, provide other meteorological experiment help as needed

## **Publications**

- Brunner, S. L., Grunert, B., Weckerly, K., Anderson, P., and Klump, J. V. *In review*. *Limnology and Oceanography. A whole ecosystem perspective of hypoxia and its drivers in a large temperate estuary*.
- Brunner, S. B., Dorton, J., Chardon-Maldonado, P., Farrugia, T. J., Ford, M. Y., et al. 2025. OCEANS 2025 - Great Lakes, Chicago, IL, USA. *The ongoing evolution of ocean observing: Aligning with regional priorities*. doi: 10.23919/OCEANS59106.2025.11245150
- Yeo, A., Henderson, H., Anderson, E. J., Fiorentino, L. A., Brunner, S. 2025. IEEE. *Building capacity to measure and assess offshore, full-frequency water level fluctuations to support coastal hazard observation and prediction*. doi: 10.23919/OCEANS59106.2025.11245121
- Smith, N. S., Kessler, W.S., Cravatte, S., ... Brunner, S.L. 2019. *Frontiers in Marine Science. Tropical Pacific Observing System*. doi:10.3389/fmars.2019.00031
- Klump, J. V., Brunner, S. L., Grunert, B. K., Kaster, J. L., et al. 2018. *J. Great Lakes Res. Evidence of persistent, recurring summertime hypoxia in Green Bay, Lake Michigan*. doi: 0.1016/j.jglr.2018.08.002
- Bartlett, S. L., Brunner, S. L., Klump, J. V., Houghton, E. M., and Miller, T. R. 2018. *J. Great Lakes Res. Spatial analysis of toxic or otherwise bioactive cyanobacterial peptides in Green Bay*.
- LaBuhn, S. and Klump, J.V. 2016. *J. Great Lakes Res. Estimating summertime primary production via in-situ monitoring in an eutrophic freshwater embayment, Green Bay, Lake Michigan*.

## **Selected Presentations**

- Brunner, S., Henderson, H., Johnson, K., Klump, J., Miller, R., and Zorn, M. 2026. *Twenty+ years of (un)intentional Great Lakes observing co-design*. AGU Ocean Sciences Meeting. Glasgow, Scotland.
- Brunner, S., Klump, J., Bootsma, H., and Grow, J. 2025. *Primary production rates across Lake Michigan*. International Association for Great Lakes Research. Milwaukee, WI.
- Brunner, S., Anderson, E., Wu, C., Henderson, H., Anderson, J., and Meadows, G. 2025. *Building capacity to support coastal hazard observation and prediction*. International Association for Great Lakes Research. Milwaukee, WI.
- Brunner, S., et al. 2019. *The Tropical Pacific Observing System and 2020. Lightning talk*. Ocean Obs '19.
- Brunner, S., Klump, V. 2017. *Understanding the balance of oxygen consumption in Green Bay, Lake Michigan*. State of Lake Michigan. Green Bay, WI.
- Brunner, S., Smith, E., Thurston, S., Todd, J., Piotrowicz, S., Tedesco, K., and Legler, D. 2017. *Sustained ocean observations to understand climate: A look at NOAA's Ocean Observing and Monitoring Division*. JCOMM-5 Technical Conference. Geneva, Switzerland.
- LaBuhn, S. and Klump, V. 2017. *The biogeochemistry of dissolved oxygen in Green Bay, Lake Michigan*. Great Lakes Environmental Research Lab. *Invited seminar*. Ann Arbor, MI.