2017 Great Lakes Summer Fellows Program

The Cooperative Institute for Limnology and Ecosystems Research (CILER), located at the University of Michigan, announces the 2017 Great Lakes Summer Fellows Program. This program is sponsored by the National Oceanic and Atmospheric Administration’s (NOAA) Great Lakes Environmental Research Lab (GLERL). The Great Lakes Summer Fellows Program exposes students to a broad range of disciplines and provides an exciting opportunity for students to conduct research in the Great Lakes region under the mentorship of a CILER or GLERL scientist.

Description:

- We are offering **eleven (11) full-time, twelve-week positions**. Ten (10) positions are located at GLERL, 4840 South State Road, Ann Arbor, MI 48108; one (1) position is located at the University of Illinois at Urbana-Champaign (UIUC) Midwest Regional Climate Center (MRCC), 2204 Griffith Drive, Champaign, IL 61820. See position descriptions for location information.
- Positions will last for twelve weeks from the start date. The start date will be in early May, but this can be flexible (i.e., early June start) based selected candidate’s schedule or project needs.
- We are seeking a diverse group of students; thus, we encourage students from groups traditionally underrepresented in the aquatic sciences discipline and workforce to apply.
- There is a stipend of $6,500 for the twelve-week period, paid in two installments of $3,250.
- Fellowship position summaries are on the reverse side.

Eligibility:

- The program is limited to currently enrolled undergraduate (juniors and seniors preferred) and graduate students. We will also consider post-baccalaureate or post-masters students who have graduated within the past 12 months (of your fellow position start date) if the position fits directly within a student’s career goals.
- You must be either a U.S. citizen or a foreign national who is residing in the U.S. on a current Student Visa.
- Immediate relatives of any CILER or NOAA-GLERL employees are not eligible to participate in this program, consistent with NOAA guidelines.

To Apply:

- Visit [ciler.snre.umich.edu/opportunities/student-fellowships/](http://ciler.snre.umich.edu/opportunities/student-fellowships/) to complete an online application, including cover letter, résumé, and transcript upload.
- **Deadline:** 26 February 2017 at 11:59 PM EST
- Applicants will be notified of their status by 31 March 2017.

For application & more information, visit: [ciler.snre.umich.edu/opportunities/student-fellowships/](http://ciler.snre.umich.edu/opportunities/student-fellowships/)

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SEE REVERSE FOR FELLOWSHIP POSITION SUMMARIES

*The University of Michigan is a non-discriminatory/affirmative action employer.*
GLANSIS (2 positions) (Mentors: Ed Rutherford, NOAA GLERL; Felix Martinez, NOAA NOS; Rochelle Sturtevant, NOAA Sea Grant) The Great Lakes Aquatic Nonindigenous Species Information System (GLANSIS) synthesizes available information on aquatic invasive species both established within as well as posing a threat to the Great Lakes region. The fellow will choose a specific subproject to aid in expanding the species tracked by GLANSIS, as well as contribute to maintenance and quality control of the database.

Biotic and Abiotic Drivers of Diel Vertical Migration in Post-dreissenid Lakes Michigan and Huron (Mentors: Hank Vanderploeg, NOAA GLERL; Ed Rutherford, NOAA GLERL; Doran Mason, NOAA GLERL) The fellow will participate in data analysis and research cruises to examine the abiotic and biotic factors driving diel vertical migration of zooplankton and larval fishes in post-dreissenid Lakes Huron and Michigan, which have seen a significant increase in water clarity, a decrease in phytoplankton abundance, and altered food web structure and function.

Ecosystem Modeling (Mentors: Hongyan Zhang, UM CILER; Doran Mason, NOAA GLERL; Ed Rutherford, NOAA GLERL) Our research team is using ecosystem-based models to study how the Great Lakes ecosystem responds to natural and anthropogenic stressors. The fellow will work closely with the team to calibrate and apply the Atlantis ecosystem-based model to study the temporal and spatial impacts of remediation actions (e.g., invasive species control, habitat restoration, or nutrient reduction) on food web dynamics in Lake Erie.

Invasive Species, Fisheries, and Foodweb Dynamics (Mentors: Ed Rutherford, NOAA GLERL) This fellow will participate in an ongoing study of invasive species impacts on Great Lakes fisheries and food webs. In particular, the fellow will assist with intensive diel surveys in Lake Michigan and use MOCNESS – Multiple Opening Closing Net Environmental Sampling System – to describe the physical structure of the water column and its effect on fine spatial distributions and densities of chlorophyll, zooplankton, and fish larvae. The fellow will also conduct a gear efficiency study comparing traditional plankton sampling gears with the more modern MOCNESS sampling system.

Data Analysis / Hydrodynamic Modeling (Mentors: Dima Beletsky, UM CILER; Eric Anderson, NOAA GLERL) The fellow will work closely with hydrodynamic modelers to process and analyze observational data from Lake Erie for model calibration and improved understanding of lake hydrodynamics. Activities will include processing and analyzing the available observations as well as extracting hydrodynamic model output (velocity, temperature, water level, etc.) for model calibration/validation.

Climate Decision Support Services (DSS) Workshop Coordinator, NOAA Great Lakes Regional Collaboration (Mentors: Beth Hall, University of Illinois at Urbana-Champaign; Jennifer Day, NOAA GLERL) The fellow will assist with coordination of regional communication and engagement in the Great Lakes region with regard to climate information, tools, and resources that advance decision support services (DSS). This work will build upon existing efforts addressing resources for near-, mid-, and long-term management and planning decisions across the Lake Michigan region. Located at the Midwest Regional Climate Center, University of Illinois at Urbana-Champaign

Great Lakes Ice Climate Study (Mentors: Jia Wang, NOAA GLERL; Haoguo Hu, UM CILER; James Kessler, UM CILER) The fellow will conduct in-depth research linking climate teleconnection patterns (such as North Atlantic Oscillation, ENSO, Atlantic Multi-decadal Oscillation, and Pacific Decadal Oscillation) to the Great Lakes climate and ice cover. The research also includes comparing the hydrodynamics+ice model output and satellite-measured ice dataset.

Water Quality Statistical Modeling (Mentors: Mark Rowe, UM CILER; Hongyan Zhang, UM CILER; Craig Stow, UM CILER; Tim Davis, UM CILER) The summer fellow will develop statistical models to predict light attenuation as a function of water quality variables, using a database from weekly sampling of western Lake Erie from 2012-2016. The fellow will also explore the hypothesis that light attenuation is a predictor of toxicity during harmful algal bloom (HAB) events.

Safety and Environmental Management System (Mentor: Kim Kulpanowski, NOAA GLERL) This fellow will bring a fresh set of eyes to the safety and environmental compliance program at GLERL and work to develop and implement any number of program management enhancements based on their interests and abilities. This fellow will be oriented to the current program management approach and then hone in on opportunities for improvement and develop them to advance the overall successful management of the program.

Intercomparison of Precipitation Datasets in the Great Lakes Region (Mentors: Chuliang Xiao, UM CILER; Brent Lofgren, NOAA GLERL; Drew Gronewold, NOAA GLERL) Historical precipitation data in the Great Lakes region exhibits significant inconsistency in this water-dominated binational region where observations over the lakes are sparse. The goal of this project is to: (1) collect some typical precipitation datasets; (2) conduct spatial analysis; (3) evaluate their applicability in the Great Lakes region; (4) and possibly generate a synthesized precipitation product.