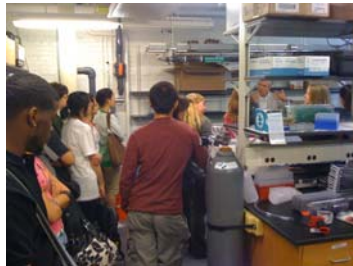


2010 Great Lakes Summer Fellowship Program

The Cooperative Institute for Limnology and Ecosystems Research ([CILER](#)), located at the [University of Michigan](#), announces the 2010 Great Lakes Summer Student Fellowship Program. The 2010 program is hosted this year by the National Oceanic and Atmospheric Administration's ([NOAA](#)) Great Lakes Environmental Research Laboratory ([GLERL](#)) in Ann Arbor, MI, [Thunder Bay National Marine Sanctuary](#) (TBNMS) in Alpena, MI, and [Case Western Reserve University](#) (CWRU) in Cleveland, OH.

This fellowship program provides students with an exciting opportunity to conduct research in the Great Lakes Region under the mentorship of an individual scientist or professional. Summer fellowships are available in a broad range of fields, including Aquatic Ecology, Archaeological, Data Analysis, Hydrology, Physical Oceanography, Climate, Outreach and Communications, and Invasive Species.



We are offering 13 full-time twelve-week positions.

[Click her for Summer Fellows Position Descriptions](#)

Specifics:

- We have a new electronic application submission process. Unofficial transcripts and a resume are part of the electronic submission. Applications must be submitted by February 26, 2010.
- Along with the electronic application, we require one letter of recommendation that must be sent directly from the writer, via email, fax, or regular mail. Send to the attention of Christine McAllen, contact info below. That must also be received by February 26, 2010.
- There is a stipend of \$5,750 for the twelve-week period, paid in two installments of \$2,875: one at the beginning, one in the middle.
- All Fellows will be considered guest students of the University of Michigan.
- Start dates for the positions will be flexible based on the mentor's schedule and the selected candidate's term schedule, but generally will start either early May or early June.
- Fellows are required to give a 15-minute oral presentation at the end of their fellowship period.
- Fellows are responsible for covering the cost of their housing for the duration of the fellowship, as well as their transportation costs to and from the position location. Any travel or accommodations required while performing the duties of the position, i.e. fieldwork, etc., will be covered by the program.

- The GLERL lab is located about 4 miles south of the UM Central Campus. There is no public transportation available between the two locations, so having your own transportation is recommended.
- For specific questions about each opportunity, contact the individual mentors. Email addresses are provided with the position descriptions.
- Eligibility:
 - Currently enrolled undergraduate and graduate students
 - Recent graduates will be considered (graduated after April 2009)
 - You must be a U.S. Citizen, or a non-U.S. Citizen currently on a student visa in the U.S.

Any other questions, contact:

Christine A. McAllen

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2010 Great Lakes Summer Fellowship Program Positions

1. Aquatic Ecologist, Benthic Algae- Mentor: Craig Stow (Craig.Stow@noaa.gov).

Saginaw Bay (Lake Huron) has significant water quality problems, including the accumulation of benthic algal deposits (commonly called “muck”) on the beaches. This fellow will be a part of a larger project to understand the ecology of benthic algae in Saginaw Bay and how that contributes to the deposition on the beaches. Specifically, the fellow will be helping to complete surveys of the beaches around Saginaw Bay to better understand the timing, distribution and composition of these algal deposits as well as sample benthic algae and other water quality parameters in the bay. *This is a field work intensive project and the fellow must be willing to spend time working in Saginaw Bay, doing both beach and boat-based sampling.* **This position is located at NOAA-GLERL in Ann Arbor, MI, with fieldwork in Saginaw Bay.**

2. Aquatic Ecologist, Fish Larvae/Zooplankton- Mentor: Ed Rutherford

(Ed.Rutherford@NOAA.gov). This fellow will work with NOAA GLERL scientists on a multi-agency study of Lake Michigan to quantify how invasive species have altered the structure and function of the Great Lakes ecosystem. A specific focus of this fellowship is to sample fish larvae and their zooplankton prey weekly in southern Lake Michigan, and determine how the spatial and temporal distribution and abundance of plankton communities and habitats affected by Dreissenid mussels influence survival and growth of fish larvae. The fellow will learn how to collect, preserve, identify and analyze plankton samples and water quality, and assist with data analysis, graphing and writing. Specific requirements of the internship are willingness to work on Lake Michigan from 1-2 days/week; knowledge of spreadsheet and word processing software, and willingness to learn laboratory procedures. **This position will be located at NOAA GLERL in Ann Arbor but will sample from 1 to 2 days per week in Lake Michigan from NOAA vessels out of Muskegon, Michigan.**

3. Aquatic Ecologist, Toxicology- Mentor: Jessica Head (jesshead@umich.edu). This fellow will be trained in and perform laboratory analyses pertaining to the evaluation of the effects of multiple environmental stressors in Great Lakes fish. In collaboration with a team of students and faculty, the student will be involved in the following activities: 1) Chemical analysis of environmental contaminants in fish tissues; 2) Molecular analyses of biomarker responses in fish (gene expression and epigenetic markers); 3) Maintenance of fish stocks in the laboratory; 4) Exposure of fish to pollutants and other stressors via standard laboratory bioassays; and 5) Measurements of fish health, reproduction, and behavior. The applicant will learn proper laboratory techniques in order to produce high quality data. Attention to detail and an understanding of the quality control process will be essential. The fish exposure portion of this work will be primarily conducted at the U-M School of Natural Resources and the Environment (SNRE) Aquatics Facility. Laboratory work will be performed on central campus and at the NOAA-GLERL labs. Although the focus of this position will be research on-campus, a potential opportunity for field work exists. **This position is located both at UM SNRE and NOAA-GLERL in Ann Arbor, MI.**

4. Archaeological Laboratory Technician/Educator – Mentor: Sarah Waters. (Sarah.A.Waters@noaa.gov). The Thunder Bay National Marine Sanctuary is the primary repository for shipwreck artifacts owned by the State of Michigan. This fellow will assist in the implementation of the Thunder Bay National Marine Sanctuary's (TBNMS) conservation and interpretation initiatives and assist with summer field projects. Duties will include, but are not limited to: 1) Assist with artifact research, documentation, and data entry; 2) Under the supervision of trained staff, the student fellow will be involved in all phases of artifact processing, including conservation procedures; 3) Support TBNMS outreach events, such as Thunder Bay Maritime Festival and other community events (may include holidays and weekends); 4) Assist with archaeological field work, including shipwreck documentation, field schools, and day camps (NOAA or AAUS Scientific Diving certification preferred); 5) Student fellows may assist Sanctuary staff in other duties as assigned including education and outreach, and historic research. *Computer and writing skills are recommended for this position.* **This position is located at TBNMS in Alpena, Michigan.**

5. Data Analyst, Coastal circulation- Mentor: Meng Xia (mengxia@umich.edu). This fellow will assist scientists in comparisons of current meter data and drifter trajectories with modeling outputs for the Grand River plume. *Required skills include familiarity with Fortran computer programming languages, particularly as applied to hydrodynamic models of coastal circulation, and experience in analyzing geophysical data sets.* **This position is located at NOAA-GLERL in Ann Arbor, MI.**

6. Hydrologic Data Analyst, Statistical downscaling of CHARM output- Mentors: Carlo DeMarchi (carlo.demarchi@case.edu) and Brent Lofgren (Brent.Lofgren@noaa.gov). This summer fellow will assist in developing, running, and analyzing the results of a set of algorithms to create meteorological time series that are based on coarse-scale (40-250 km) models, but statistically match observations at local scales. Input models include regional climate models, and general circulation models both in reanalysis mode and in multi-decadal climate outlook mode. The candidate should have a good knowledge of statistics and possibly of geo-statistics. It is also desirable that the applicant have experience in using a Unix/Linux operating system and in graphical systems such as NCAR Graphics or IDL. **This position is located at NOAA-GLERL, in Ann Arbor, MI.**

7. Hydrologic Data Analyst, Downscaling of precipitation fields- Mentors: Carlo DeMarchi (carlo.demarchi@case.edu) and Brent Lofgren (Brent.Lofgren@noaa.gov). This summer fellow will assist in developing, calibrating, and verifying probabilistic relations between precipitation at 40 km resolution and precipitation at 1 km resolution. The candidate should have a good knowledge of statistics and possibly of geo-statistics, of a programming language such as Matlab or Fortran, and of GIS. **This position is located at Case Western Reserve University in Cleveland, Ohio.**

8. Hydrologic Data Analyst, Watershed modeler: Simulating sediment load to the Toledo harbor under current and future climate conditions- Mentors: Carlo DeMarchi (carlo.demarchi@case.edu) and Brent Lofgren (Brent.Lofgren@noaa.gov).

This summer fellow will assist in analyzing the impact of climate change scenarios on sediment loads to the Toledo harbor under current and future climate conditions and couple model results with water level estimates to assess dredging needs under present and future conditions. The candidate should have a good knowledge of hydrology and statistics and good computer programming skills, possibly in FORTRAN. **This position is located at Case Western Reserve University in Cleveland, Ohio.**

9. Invasive Species Specialist- Mentor: Rochelle Sturtevant

(Rochelle.Sturtevant@noaa.gov). This fellow will work with an online database of nonindigenous species in the Great Lakes region (<http://www.glerl.noaa.gov/res/Programs/ncrais/glansis.html>). The student will be expected to take leadership for a specific, defined research component of the 2010 Great Lakes Restoration Initiative proposal for GLANSIS, such as developing lists and database records for range expansion species or identifying and compiling information about high-risk potential invaders, or developing tools for comparative assessment of potential impacts. Tasks will include reviewing scientific literature to develop or update species fact sheets, assisting with development and testing of new search and mapping capacities within the online database, reviewing the database for consistency and improving content, data entry, working with external scientists to identify and evaluate new species for possible addition to the database, and updating outreach materials. There is also a possibility of making presentations at public events. Familiarity with database programs a plus, but not essential. **This position is located at NOAA-GLERL in Ann Arbor, MI.**

10. Maritime Archaeologist/Educator – Mentor: Sarah Waters

(Sarah.A.Waters@noaa.gov). This fellow will assist in development and implementation of the Thunder Bay National Marine Sanctuary's (TBNMS) Great Lakes Maritime Heritage Center (GLMHC) education initiatives and assist with summer field projects. Duties will include, but are not limited to: 1) Assist in developing and implementing GLMHC formal and informal education programs in conjunction with local and regional institutions, and the general public; 2) Work with TBNMS staff in responding to constituent requests for information, products, services, and expertise; 3) Support TBNMS outreach events, such as Thunder Bay Maritime Festival and other community events (may include holidays and weekends); 4) Develop and write summaries of TBNMS field projects and research activities for distribution to a diverse constituent audience on multimedia platforms; 5) Assist with archaeological field work, including shipwreck documentation, field schools, and day camps (NOAA or AAUS Scientific Diving certification preferred); 6) Other duties as assigned. *Computer and writing skills are recommended for this position.* **This position is located at TBNMS in Alpena, MI.**

11. Outreach and Communications Specialist- Mentor: Margaret Lansing

(Margaret.Lansing@noaa.gov). This fellow will assist in supporting GLERL and the Center of Excellence for Great Lakes and Human Health (CEGLHH) communications and outreach activities including: 1) Developing and writing short summaries of GLERL & CEGLHH research activities for distribution to a diverse constituent audience; 2) Working with GLERL scientists and support staff in responding to constituent requests

for GLERL products, services, and expertise; 3) Supporting and organizing GLERL outreach events such as laboratory open houses, tours, tabling events, seminar presentations, and related activities; 4) supporting development of web-based outreach products and promoting NOAA in the Great Lakes activities. *Candidates should have a strong background in Great Lakes or marine science and demonstrated training or experience in journalism and/or communications. This position is located at NOAA-GLERL in Ann Arbor, MI.*

12. Physical Oceanographer- Mentor: Nathan Hawley (Nathan.Hawley@noaa.gov). This fellow will assist in deploying and retrieving a number of instrumented moorings in Lake Huron and Lake Michigan. The rest of the summer will be spent downloading and analyzing the data collected. *Candidates must be willing and able to participate in field operations (either a 55' or 80' vessel will be used) that may require one or more nights on board the ship, and should have a working knowledge of a high level programming language (preferably Matlab). This position is located at NOAA-GLERL in Ann Arbor, MI, along with fieldwork.*

13. Physical Oceanographer/Climate, Great Lakes Ice Atlas- Mentor: Jia Wang (Jia.Wang@noaa.gov). This fellow will assist in extending the Great Lakes Ice Atlas from 2005 to the present to make the atlas continuous from 1979 to the present. The intern will work on the atlas using digital satellite measurements for the period 2005-2010. The atlas will be created by simple statistical analysis and plotting software. This atlas will serve as the ice database for GLERL use in climate change studies and ice modeling. Computer programming skills are needed, such as simple statistics, Matlab, Fortran, or C language. Some knowledge on environment sciences and geophysics will be a plus. **This position is located at NOAA-GLERL in Ann Arbor, MI.**