

US EPA ARCHIVE DOCUMENT

GRO Forum

Greater Research Opportunities Undergraduate Student Fellowships

The Road Less Traveled

A GRO Fellow's Story

DECEMBER 2016



ELIZABETH MORGAN

Elizabeth Morgan

Not all GRO Fellows begin their college careers right after high school. Liz Morgan, a 2015 GRO Fellow, took time off before returning to school in 2013. "Taking time off allowed me to mature and develop my interests," she says. "Once I returned to school, I was able to focus on my studies because I care deeply about them." One of the things that influenced Liz during her time away from academia was exploring the natural environment by backpacking. "It impressed upon me how critical the environment is, in the dual sense of providing natural resources and supporting life as well as spiritually," she says. Liz is currently a student at East Tennessee State University, Johnson City, Tenn., where she is pursuing a Bachelor of Science in environmental health. In addition to being a GRO Fellow, she is an Environmental Health Honors-in-Discipline Scholar and Midway Honors Scholar.

A challenge for Liz as a non-traditional student is balancing academics with being the mom of Harper, her nearly four-year-old daughter. "Striking a balance between the demands of being a mother and an honors student can be difficult,"

[\(read more\)](#)

Elizabeth Morgan (continued)

she says, “but when life feels overwhelming, my daughter motivates me.”

The GRO Fellowship has given Liz the ability to continue with her studies and pursue her research interests. “Being a GRO Fellow fills me with pride,” Liz says. “It represents a commitment that I will advance the work I’ve started as an undergraduate. It’s an acknowledgement that I’ll continue to contribute to the body of research that protects human health by understanding environmental exposures.”

Liz plans to eventually attend graduate school, with perhaps another break to gain further experience in the workplace. “I’m interested in the allocation and management of water resources on a global scale,” she says, “so I’m gravitating towards the environmental policy and water management fields of study.” Liz believes that in the global context, there is a serious need for informed policy that manages and protects water resources for future generations, while taking into account the necessary and functional roles of water.

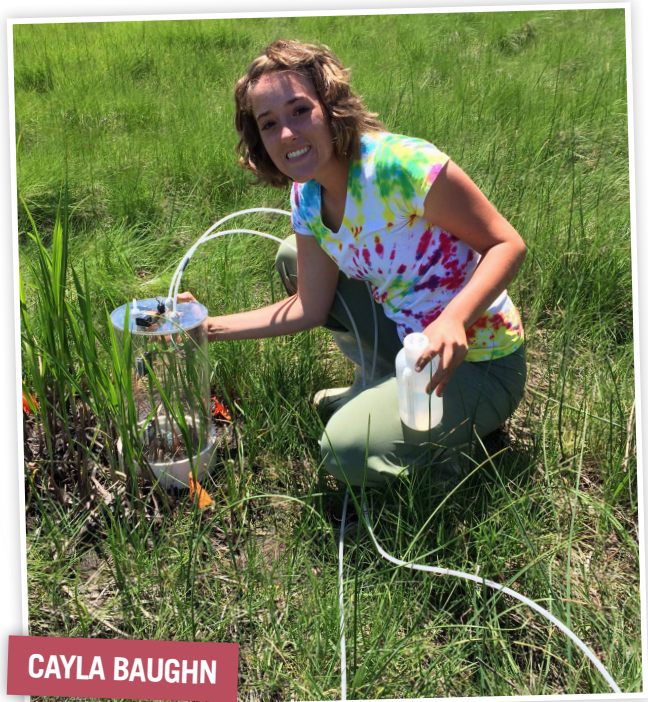
2016 Internship Reflections

Amelia Flanery studied the early detection of invasive species during her internship at the Mid-Continent Ecology Division, Duluth, Minn. “I was fortunate to learn a wide variety of skills and information, ranging from how the scientific process worked to how to tie up a boat to a cleat,” Amelia says. “I got to learn and see the different aspects and goals of research. Having the opportunity to learn about the projects and people that conduct them was extremely beneficial.”



“I spent the summer with some of the most incredible people I have ever met in a memorably beautiful environment,” **Cayla Baughn** says about her internship at the Atlantic Ecology Division in Narragansett, R.I. She got to experience many aspects of field and laboratory research on salt marshes. Additionally, Cayla says “The funding provided

through the GRO Program allowed the Fellows to live without financial worry. We could not only focus on our research, but we could live and think freely, without the ever-present cloud of financial stress.”



Studying harmful algal blooms at the Region 8 Lab in Golden, Colo., was a valuable experience for **Cindy Fiser**. She learned about the field of aquatic ecology, which is also called limnology. “As I’m preparing to enter graduate school, this understanding across various fields will better help me in tackling environmental issues and preparing efficient, well-rounded testable projects and hypotheses, individually or with interdisciplinary research,” she says.

“I am so grateful for the patience, kindness and guidance I received as I progressed through the summer,” says **Megan Gladbach**, whose internship was in Region 8 headquarters, Denver, Colo. “The individuals I worked with have inspired me to continue protecting and restoring the beautiful green and

..... SUMMER 2016 GRO INTERNSHIP PROJECTS

Darcy Ayers
Introduction to EPA Efforts to Incorporate Environmental Justice into Enforcement Actions
Seattle, Wash.

Benjamin Barnes
Synthesis and Testing of Materials for Drinking Water Treatment
Cincinnati, Ohio

Katherine Bartels
Ecosystem Services of Pacific NW Salt Marshes: Nitrogen Removal
Newport, Ore.

Cayla Baughn
Response of Salt Marsh Greenhouse Gas Fluxes and Carbon Sequestration to Long-Term Eutrophication and Climate Change
Narragansett, R.I.

Dana Biechele-Speziale
Performance of Indicators of Ecosystem Function under Environmental Stress, Including Climate Change
Duluth, Minn.

Samantha Bock
Sublethal Indicators of Chemical and Other Stressors
Narragansett, R.I.

Mary Campbell
Determination of Metals in Potable/ Groundwater Using Inductively Coupled Plasma Mass Spectrometry
North Chelmsford, Mass.

Grace DeSantis
Green Infrastructure for Sustainable Cities
Corvallis, Ore.

Micaela Edelson
Integrating Tools for Environmental Justice
Seattle, Wash.

Rachel Elias
Evaluating the Environmental Efficacy of Biochar
Corvallis, Ore.

Cynthia Fiser
Lake Harmful Algal Bloom Monitoring and Analysis Study
Golden, Colo.

Amelia Flanery
Great Lakes Coastal Ecology
Duluth, Minn.

Aliza Furneaux
Sustainable Water Infrastructure and Green Infrastructure as Tools for Climate Change Adaptation
Chicago, Ill.

Megan Gladbach
Region 8 Field Operations
Denver, Colo.

Keziah Groth-Tuft
Storm Water, Salmon, and Tribal Trust: the Pacific Northwest at Its Best and Worst
Seattle, Wash.

Amy Hait
The Impact of Water Treatment on Algal Toxin Reduction During Harmful Algal Blooms
Cincinnati, Ohio

Alexandra Hezik
Agriculture and the Environment in the Pacific Northwest
Boise, Idaho

Caroline Kanaskie
Nitrogen Pollution, Climate Change and Belowground Carbon Cycling In Coastal Wetlands
Narragansett, R.I.

Maya Kaup
Near-Coastal Species at Risk to Climate Change
Newport, Ore.

Hannah Krohn
Region 8 State and Tribal Wetland Programs
Denver, Colo.

Taylor Lenney
Examining Patterns Between Water and Sediment Quality and Aquatic Life Use Attainment
Gulf Breeze, Fla.

Rae-Ann MacLellan-Hurd
Water Quality Real-Time Sensor Monitoring and Wetland Assessment
North Chelmsford, Mass.

Sarah McLarnan
Research/ Education on Climate Change Adaptation Planning for Tribal Leadership
Anchorage, Alaska

Nathalie Moore
Nitrogen Pollution, Climate Change and Belowground Carbon Cycling in Coastal Wetlands
Narragansett, R.I.

Elizabeth Morgan
Fecal Indicators and Host-Specific qPCR Markers in Urban Watersheds
Athens, Ga.

Alexander Peterson
Environmental Justice Academy
Atlanta, Ga.

Lyla O'Brien
Can Ribbed Mussels Be Used to Detect Changes in Nutrient Loading to Narragansett Bay?
Narragansett, R.I.

Justin Rodriguez
Characterizing Effects of Engineered Nanoparticles (ENPs) on Nitrogen Uptake in Wheat
Corvallis, Ore.

José Marrero Rosado
Sublethal Indicators of Chemical and Other Stressors
Narragansett, R.I.

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Sublethal Indicators of Chemical and Other Stressors
Narragansett, R.I.

Derek Simonsen
Adverse Outcome Pathway Discovery and Development
Duluth, Minn.

Natalie Smith
Region 5 Air Quality Data Analysis
Chicago, Ill.

Sarah Stryffeler
Nutrient Enhanced Coastal Acidification
Newport, Ore.

Christina Tenison
Nutrient Enhanced Coastal Acidification
Newport, Ore.

Brett Zeuner
Approaches for Small Drinking Water System Compliance
San Francisco, Calif.



CINDY FISER, MEGAN GLADBACH, HANNAH KROHN

blue planet we call home.” Megan studied EPA’s approaches to gathering sound scientific data.

Hannah Krohn says that her experience studying green infrastructure in Region 8 headquarters motivated her to do more research and ask people for help when she needed it. “One aspect of this internship I enjoyed was learning how much I really don’t know,” she says. “That may seem counterintuitive, but it opened my eyes that there is still so much more to learn.”



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GRO Fellow Studies Historical Climate Change

Kelli Holt

While studying abroad in Scotland, Kelli Holt, a 2015 GRO Fellow, took a climate and society class in which she learned about the Medieval Warm Period, which occurred around 950–1250 A.D. in Europe. Medieval history is one of her interests, but learning about this period of climate change was new to her. Kelli found it so intriguing that she will be completing a Project of Excellence (similar to a senior thesis) in spring 2017 concerning the way humans adapted to the

climate change that occurred during the Medieval Warm Period. There were some benefits to societies in Europe, including the ability to travel in ice-free northern seas and to successfully raise crops and livestock farther north than is possible today.

“I’m so thankful I was selected for the GRO Fellowship, and I am very excited to move forward in my academic career as a Fellow,” Kelli says. After she graduates from Texas A&M University – Corpus Christi, in Corpus Christi, Texas, she may attend graduate school and eventually pursue a career in a field that relates to environmental regulations. “I want to be able to make a difference in the way humans impact their environment, specifically in water pollution,” Kelli says.

