

KIT HAMLEY
NSF GRADUATE RESEARCH FELLOW
Climate Change Institute

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EDUCATION

The University of Maine, Climate Change Institute, Department of Ecology and Environmental Science, Orono, ME

- *PhD Ecology and Environmental Science*, May 2020 (Anticipated)
- National Science Foundation Graduate Research Fellow
- GPA 4.0

The University of Maine, Climate Change Institute, Orono, ME

- *M.S. Quaternary and Climate Studies*, December 2016
- GPA 4.0
- Awarded Research Assistant position through The Climate Change Institute
- Phi Kappa Phi Honor Society

Bowdoin College, Brunswick, ME

- *A.B. in Geology*, May 2010
- Overall GPA 3.44
- GPA in Geology 3.81
- Minor in Biology
- Sarah and James Bowdoin Scholar, 2009-2010 Academic Year
- Geology Book Award, 2006-2007 Academic Year

CIEE Tropical Ecology and Conservation Program, Monteverde, Costa Rica, Spring 2009

RESEARCH INTERESTS

Past human interactions with the environment; the effects of climate change on species interactions; paleoecology and human driven climate change; invasive species introductions; earth climate history; the ecological impacts of megafaunal extinctions in the paleorecord and their usefulness as a guide for future conservation; fire regimes in the paleorecord, science communication, science outreach and education

RESEARCH EXPERIENCE

The University of Maine – Ecology and Environmental Science – NSF Graduate Research Fellow (June 2016)

Using paleoecology to rewrite the human history of the Falkland Islands

- Planned and executed one expedition to the Falkland Islands for field research (2018)
- Conducted archaeological excavation of New Island bone piles
- Conducted archaeological surveys of New Island

Extinction and invasion in the early Anthropocene: human impacts on high latitude ecosystems

- Planned and executed coring expedition in Alaska (2017)
- Participated in graduate level archaeological field school (2017)

The University of Maine – Climate Change Institute – Graduate Research Assistant (August 2014 – Present)

The Falkland Islands Warrah: Investigating the origins of an extinct endemic canid

- Planned and executed two expeditions to the Falkland Islands for field research
- Collected peat cores and columns from remote islands throughout the Falklands
- Conducted a series of archaeological test pit surveys in compliance with standard archaeological practice
- Prepared and ran charcoal analysis of peat samples
- Collected macrofossils from peat core samples for radiocarbon dating
- Produced a documentary mini series for the Follow A Researcher outreach program

Bowdoin College – Department of Earth and Oceanographic Science – Research Assistant (Spring 2011 – Summer 2014)

NSF Collaborative Research: RUI (ARC-OPP/ARC): “Sensitivity of Circum-Arctic Peatland Carbon to Holocene Warm Climates and Climate Seasonality” (Dr. Phil Camill)

- Processed peat core samples for bulk density, carbon and nitrogen analysis
- Collected macrofossils from peat core samples for radiocarbon dating
- Prepared and ran charcoal analysis for peat samples

NASA (IDS) – “Historical and projected changes in carbon export to the Gulf of Maine resulting from land use and climate change” (Dr. Phil Camill and Dr. Collin Roesler)

- Oversaw summer research students in the field, instructed on proper field procedures and techniques, prepared and organized all field equipment
- Collected, filtered and prepared water samples in the field and lab
- Analyzed samples for total suspended sediments, chlorophyll and particulate absorption

Undergraduate Research Projects

Investigating Arctic Fire Regimes and Climate Change – Independent Study – Dr. Phil Camill - Bowdoin College – Spring 2010

- Studied Arctic paleoecological fire regimes
- Prepared peat core samples for charcoal analysis
- Identified and measured charcoal pieces within peat samples

Geographic Information Systems – Dr. Eileen Johnson – Bowdoin College – Fall 2009

- Compiled, analyzed and mapped existing and potential farm land in the town of Brunswick, ME
- Assessed data to determine which properties were of the highest priority for conservation
- Presented maps and data to members of the Brunswick-Topsham Land Trust and the Maine Department of Agriculture
- Presented at the 2009 Bowdoin College Service Learning Poster Symposium

Tropical Diversity – Independent Study – CIEE TEC Program – Monteverde, Costa Rica – Spring 2009

- Designed and conducted study on *The San Luis Continuum: A look at the chemical and biological changes along a longitudinal pristine river gradient*
- Analyzed water samples for nitrate, phosphorous and pH
- Collected and identified aquatic insects across watershed gradient
- Analyzed and reported findings in thesis and at the CIEE TEC symposium

Watershed Hydrology – Dr. Peter Lea – Bowdoin College – Fall 2008

- Designed and conducted study on the impact of the Dead River dam near Leeds, ME on Phosphorus levels in Androscoggin Lake
- Monitored surrounding land cover, river nutrients and flow, and major storm events
- Presented poster at the 2008 Bowdoin College Service Learning Poster Symposium

Evolution – Dr. Mike Palopoli – Bowdoin College – Spring 2008

- Conducted study on *The Transmission of D. folliculorum (Acari: Demodicidae) in human hosts*
- Analyzed and reported findings in paper and presented results to the Biology Department

Marine Environmental Geology – Dr. Ed Laine – Bowdoin College – Fall 2006

- Designed and conducted study using chlorophyll as a proxy for measuring algal blooms that could lead to red tide outbreaks
- Provided data to The Friends of Casco Bay for continued monitoring of the bay
- Presented poster at the 2006 Bowdoin College Service Learning Poster Symposium

RELEVANT EXPERIENCE and OUTREACH

Follow A Researcher – The University of Maine Cooperative Extension – Orono, Maine (2015-present)

Primary Researcher

- Developed an extensive outreach program with the UMaine Cooperative Extension
- Designed program curriculum that aligns with Next Generation Science Standards for easy classroom implementation
- Created a series of video modules that were released each week of my field expedition to the Falklands that correlated with specific goals set out by NGSS for learning the scientific process (ie. Developing a hypothesis, Asking Questions, Using Models, etc.)
- Visited classrooms throughout Maine and Montana
- Conducted live Twitter Question and Answer sessions from remote field sites in the Falklands
- Produced a series of short documentary videos of the field work I was doing while in the Falklands that were released periodically throughout the expedition
- Conducted a skype series called “Live from the Lab” which connects classrooms with the work that I am doing in the laboratory here at The University of Maine

The Climate Change Institute Multimedia Club – Orono, Maine (April 2016-present)

Co-Founder/President

- Designed club that brings together graduate researchers for workshops, lectures, and hands on interaction with new-age multimedia techniques with the aim of better communicating science to a general audience

Maine Science Festival – Bangor, Maine (March 2016)

Panelist

- Spoke on a panel about my role as a researcher and developer of the Follow A Researcher program

Bowdoin College Department of Earth and Oceanographic Science - Brunswick, Maine (2012 – 2013)

Assistant Field Instructor and Teaching Assistant- Oceanography (Dr. Ed Laine), Structural Geology (Dr. Rachel Beane)

- Facilitated laboratory periods
- Prepared field equipment before laboratory periods
- Held routine office hours to help answer questions and prepare students for upcoming exams and quizzes
- Graded laboratory reports, exams and quizzes

Coastal Studies for Girls – Science and Leadership School - Freeport, Maine (Fall 2011)

Resident Assistant and Science Intern

- Helped teach high school level marine biology
- Held regular evening review sessions for marine biology
- Co-taught and provided logistical support for science labs and weekend field trips
- Lived with, mentored and supervised tenth-grade girls during non-class hours

Bowdoin College Department of Geology - Brunswick, Maine (January - May 2010)

Mineralogy Student Teaching Assistant (Dr. Rachel Beane)

- Facilitated laboratory periods
- Organized and prepared minerals and materials before laboratory periods
- Helped grade laboratory reports

The Chewonki Foundation - Wiscasset, Maine (Summers 2009 – 2011)

Wilderness Trip Leader

- Instructed extended whitewater kayaking wilderness trips in Maine for teenagers
- Taught whitewater kayaking fundamentals, leadership, living in a wilderness setting, the ethics of Leave No Trace, and some natural history lessons
- Worked to facilitate and nurture cooperative small community living and positive group dynamics

Bowdoin College Outing Club - Brunswick, Maine (Fall 2006 – Spring 2010)

Gear Room Manager, Kitchen Employee, Rock Wall Employee

- Gear Room Manager- Delegated gear room tasks, instructed on basic equipment repair, organized employee schedule
- Gear Room Employee- Checked out and organized gear, packed group gear for outgoing trips, repaired damaged equipment
- Kitchen Employee- Packed out all food for outgoing trips
- Rock Wall Employee- Belayed, supervised, and taught basic rock climbing skills at the Bowdoin climbing wall

CONFERENCES AND PUBLICATIONS

The Explorer’s Club Annual Dinner – The Explorer’s Club – New York City, New York (March, 2018)

Oral Presentation

Title: Foxes and Fire: What paleoecology can tell us about the human history of the Falkland Islands

The 25th Annual Borns Symposium – The Climate Change Institute - Orono, Maine (April, 2017)

Oral Presentation

Title: Evidence of a pre-European human presence in the Falkland Islands

Maine 4-H Foundation Annual Meeting – Orono, Maine (April, 2016)

Oral Presentation

Title: Follow A ResearcherTM: Falkland Islands Expedition 2016

The 24th Annual Borns Symposium – The Climate Change Institute - Orono, Maine (April, 2016)

Oral Presentation

Title: Investigating the Human History of the Falkland Islands

Expanding Your Horizons – STEM Conference and Workshop – Orono, Maine (March 2016)

Keynote Speaker

Title: What do I want to be when I grow up?

The International Quaternary Association XIX Congress – Nagoya, Japan (August 2015)

Oral Presentation

Title: Humans and The Falkland Islands Wolf: Investigating the origins of an extinct endemic canid

ACADEMIC FUNDING

National Science Foundation Graduate Research Fellowship (2016-Present) – Humans and the Falkland Islands Warrah: Impacts on an island ecosystem - \$126,000

Rolex Explorer’s Grant (2017) – Investigating a potential pre-European human occupation site in the Falkland Islands - \$8,500

Explorer’s Club Research Grant (2017) - Investigating a potential pre-European human occupation site in the Falkland Islands - \$1,500

Graduate Student Government Research Grant (2017) – Establishing a marine reservoir correction age for marine mammals in the South Atlantic Ocean - \$650

Churchill Exploration Fund (2015) – Humans and the Falkland Islands Wolf: Investigating the origins of an extinct endemic canid - \$4,347

Geological Society of America (2015) – Humans and the Falkland Islands Wolf: Investigating the origins of an extinct endemic canid - \$2,500

Graduate Student Government Travel Grant (2015) – International Union for Quaternary Research Congress in Nagoya, Japan - \$425

Experiment.com (2014) – Penguins, plants and people: Getting to the core of climate change in the Falkland Islands - \$10,857

ACADEMIC AWARDS

Student Outstanding Service Award – The Climate Change Institute Borns Symposium – (2016)

This award is intended to recognize significant service to the profession, to the community, to the Climate Change Institute and or to the university that draws on the student’s areas of expertise related to climate change studies.

The Churchill Award for Outstanding Exploration – The Climate Change Institute Borns Symposium – (2016)

This award is intended to recognize outstanding exploration activities by students who were supported by the Dan and Betty Churchill Exploration Fund. The award is given to a student whose presentation is of high quality and speaks to the impact and originality of the research.

IN THE NEWS

WABI 5 – “Middle Schoolers Get Hands-On With STEM” – (March 18, 2016)

Falkland Islands TV – Research Interview – (February 10, 2016)

Fox Bangor – WVII ABC 7 – Follow A Researcher Interview – (January 8, 2016)

WABI 5 – Follow A Researcher Interview – (January 6, 2016)

WBLZ 2 – Follow A Researcher Interview – (January 6, 2016)

UMaine News- K-12 students welcome to ‘Follow A Researcher’ to Falkland Islands - (December 17, 2016)

UMaine News – “Engaging schoolchildren in Falkland Islands research expedition” - (December 16, 2016)

UMaine Today Video Magazine – “Shifting ecosystems: The Falkland Islands” – (December 10, 2016)

RELEVANT COURSEWORK

Environmental Communication • Understanding and Communicating Climate Risk • Media For Science Outreach • Geoarchaeology • Paleoecology • Investigating Arctic Climate Through Fire History (Independent Study) • Quaternary Stratigraphic Record • Climate, Culture and the Biosphere • Earth Climate History • Archaeology • Community Ecology • Tropical Ecology and Conservation • Evolution • Geographic Information Systems • Atmosphere, Ocean, Ice and Climate Change • Issues in Quaternary Science • Arctic Peoples of North America • Tropical Ecology and Conservation • Biostatistics • Glacial Processes and Landforms • Professionalism In Biology

SKILLS

- Wilderness First Responder (2018)
- iMovie, Adobe Photoshop
- Optical microscopy
- Intermediate knowledge of Arc GIS
- Laboratory chemical safety
- Peatland macrofossil identification
- Sterile carbon dating techniques
- Field Coring Methods (Russian and Livingston)

REFERENCES

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