

Contact Info:

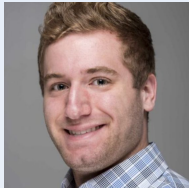


University of Maine: Advanced Structures & Composite Center

<https://composites.umaine.edu/>

Phone: (207) 581-2123

Mailing Address: 35 Flagstaff Road
Orono, ME 04469-5793



Cody A Sheltra, P.E.
R&D Program Manager

Email:

cody.sheltra@composites.maine.edu

LinkedIn: [cody-sheltra](#)

Phone: 207.400.2698

Location: Orono, ME

About Me:

Having begun at the ASCC over a decade ago as a student himself, Cody Sheltra focuses on the development of engineering research programs with the aim of creating a cohesive and interdisciplinary environment for various staff, faculty, and students of all kinds. Cody has earned multiple engineering degrees from the University of Maine in Orono, Maine, and holds a Professional Engineer license in the State of Maine. He has contributed to numerous ASCC grants, demonstrating leadership in his research interests, which include rapidly deployable structures, forward on-site manufacturing, and advanced hybrid manufacturing process development. Beyond his work, he enjoys activities like snowboarding and rock climbing, and he actively volunteers to support college and early career individuals through a local church.

Areas of Interest/Expertise

- **Strategic Program Development**
- **Interdisciplinary Team Development**
- **Novel Sustainable Composite Materials**
- **Hybrid Manufacturing Process Development**
- **Forward Manufacturing**
- **Rapidly Deployable Structures**

About the ASCC:

Our Commitment to Maine and Our Planet

Our Green Energy and Materials strategic plan focuses our eight major research areas of: *Civil Infrastructure Durability, Advanced Wood Composites, Large-scale Bio-based Additive Manufacturing, Cellulose Nanocomposites, Advanced Structural Concepts, Structural Thermoplastics & Smart Materials, Ocean Engineering & Energy, and Structural, Material, & Wind Blade Testing*, to the forefront of significant new sustainability industries. Innovations in GEM research and development position the Center to critically support the state's ambitious efforts to usher in a low-carbon economy.



Collaboration Interests/Opportunities

- UMaine has a Multi-decade relationship with the USACE ERDC focusing on: Sustainable composite materials; Quick-deploy bridging and basing infrastructure; and Site & Structure evaluation tools.
- Current Focus for ERDC FY24 is extreme environments such as arctic, with opportunities for prototype infrastructure deployment and evaluation at Juneau Icefield Research Station.
- For ERDC Program collaboration please contact: Cody Sheltra, ERDC Program Manager, cody.sheltra@composites.maine.edu
- For general ASCC research collaboration please contact: Taylor Ward, ASCC Communications Manager, taylor.ward@composites.maine.edu

Our Commitment to Maine and Our Planet

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BioHome3D

The world's first 100% bio-based 3D-printed home

BioHome3D is the first 3D-printed house made entirely with bio-based, recyclable materials



1. Novel Materials for Low-Logistic Military Infrastructure: This thrust area focuses on novel materials and hybrid composite systems with enhanced performance in extreme environments, and reduced carbon dependency.
 1. *Advanced High Performance Cementitious Materials*, and those that can optimize different supplementary materials and minimize cement content. This includes advanced characterization to support both nondestructive evaluation and “materials by design” concepts.
 2. *Advanced Polymeric Composites*, including recyclable and re-formable thermoplastic composites, and automated tape placement of fiber reinforcement on large-format additive manufacturing materials. This includes systems that can be adapted to field-ready component fabrication.
2. Rapid Power Projection Systems for Operations in Contested Environments: This thrust area focuses on low-logistics structural systems for rapid deployment in contested areas with extreme environmental conditions.
 1. *Forward Manufacturing of Adaptable, Multi-Application Structural Components*, utilizing advanced, lightweight, anti-corrosive, low-impact, recyclable and re-shapable materials including basic forms that can be field-modified to a range of applications. This includes investigation of field-deployable manufacturing systems for on-site production of necessary components.
 2. *Enhanced Capacity Power Projection Systems for Bridging*, including easily transportable novel bridge kit systems able to carry the loads of modern military vehicles for rapid deployment in contested areas.
 3. *Nearshore and Coastal Deployment Systems*, including development of lightweight, compact systems for landing in ship-to-shore operations. This includes hydrodynamic characterization necessary for optimizing landing strategies and deployment.
3. Prototype Deployment in Extreme Environments.
 1. *Deployment at Treat Island, Maine Test Site*, which is among the most severe environments on the planet with its combination of wet-dry saltwater exposure coupled with over 100 freeze-thaw cycles.
 2. *Deployment on Juneau Icefield Research Station*, which will provide performance data in an area of both scientific and strategic interest.



University of Maine Aquaculture Research Institute

<https://umaine.edu/aquaculture/>

Contact Info:



Adam St. Gelais

Aquaculture Innovation Specialist

Email: adam.st@maine.edu

Insta: Watermanfarmer

LinkedIn: adamstgelais

Cell: 207.350.6585

Location: Brunswick, Maine

About Me:

Adam St. Gelais is a marine ecologist and aquaculture scientist based at the Aquaculture Research Institute at the University of Maine. Adam's research is highly applied and collaborative with a broad focus on the ecology and economy of low trophic level aquaculture, most recently with a particular focus on macroalgae. His research and professional background is diverse, spanning coral reef ecology, fisheries, marine resource management, and graduate and undergraduate program development. Adam is interested in exploring avenues to achieve triple bottom line sustainability in low trophic level aquaculture and understanding how aquaculture environment interactions framed by a changing climate can impact this goal.

Adam came to the Aquaculture Research Institute from the University of New England (UNE) where he served as an Aquaculture Research Scientist, Graduate Faculty in Ocean Food Systems, and as the Assistant Director for Science at the UNE Institute for North Atlantic Studies (UNE North). At UNE North, he helped to launch a transdisciplinary Institute recognizing Maine's connection and integration with other arctic nations and focused on linking the universities expertise to partners across the north Atlantic arctic region.

When not in the lab or in the field, you can find Adam outside with his partner and two young daughters, probably surfing or boating to a new island to explore. .

Areas of Interest/Expertise

- **Applied & participatory Aquaculture Research**
- **Ecosystem Services of Aquaculture**
- **Interdisciplinary Collaborations**
- **Marine Ecology**
- **Climate Change and Adaptation**
- **Systems Approaches to Ocean Food Systems**
- **Collaboration, Technology and Knowledge Transfer**

About U Maine Aquaculture Research Institute:

The mission of the Aquaculture Research Institute is to serve Maine as an objective authority on aquaculture research with the goal of advancing a sustainable aquaculture future in Maine and beyond.

ARI works within a set of values that guide decision-making and strategic programming within four categories: research, education, services, and institutional sustainability.

COLLABORATIVE • PROACTIVE • RELEVANT • APPLIED • OBJECTIVE • INCLUSIVE

ARI Conducts Applied Research Across Four Focus Areas:

- Healthy Communities
- Healthy Species
- Healthy Populations
- Healthy Ecosystems

<https://www.youtube.com/watch?v=n-QTzaOEegQ&t=117s>

Collaboration Interests/Opportunities

- Building connections with Alaskan researchers and producers in the low trophic level aquaculture space (Shellfish, Seaweeds and emerging species)
- Collaboration to pursue and envision sustainable scaling of seaweed aquaculture across Maine and Alaska
- Establishing a learning network of high latitude marine researchers and communities focused on understanding similarities & challenges facing shellfish and seaweed production.

COLLABORATIONS *of* CONSEQUENCE

NAKFI'S 15 YEARS
IGNITING INNOVATION
AT THE INTERSECTIONS
OF DISCIPLINES

15 YEARS



PORTLAND GATEWAY

1865 THE UNIVERSITY OF







Geophysics in Alaska

Coastline 46,000 mi

54 Active Volcanoes 3 Eruptions/yr

Arctic warming 3-4 times the rest of the planet

Arctic Weather

50,000 Earthquakes/yr -M7 Every 3 Years

~131 sq mi Sea Ice

30,000 Glaciers 40% surface water

90% Permafrost

ALASKA UNIVERSITY OF ALASKA

GEOPHYSICAL INSTITUTE

RESEARCH GROUPS

Atmospheric Science Remote Sensing Seismology Snow, Ice & Permafrost

Space Physics & Astronomy Diagnostics & Seismotectonics Volcanology

ALASKA UNIVERSITY OF ALASKA

GEOPHYSICAL INSTITUTE

Major Facilities/Operational Programs

Alaska Seismic Center Alaska Seismic Cooperative Geodesy Cooperative

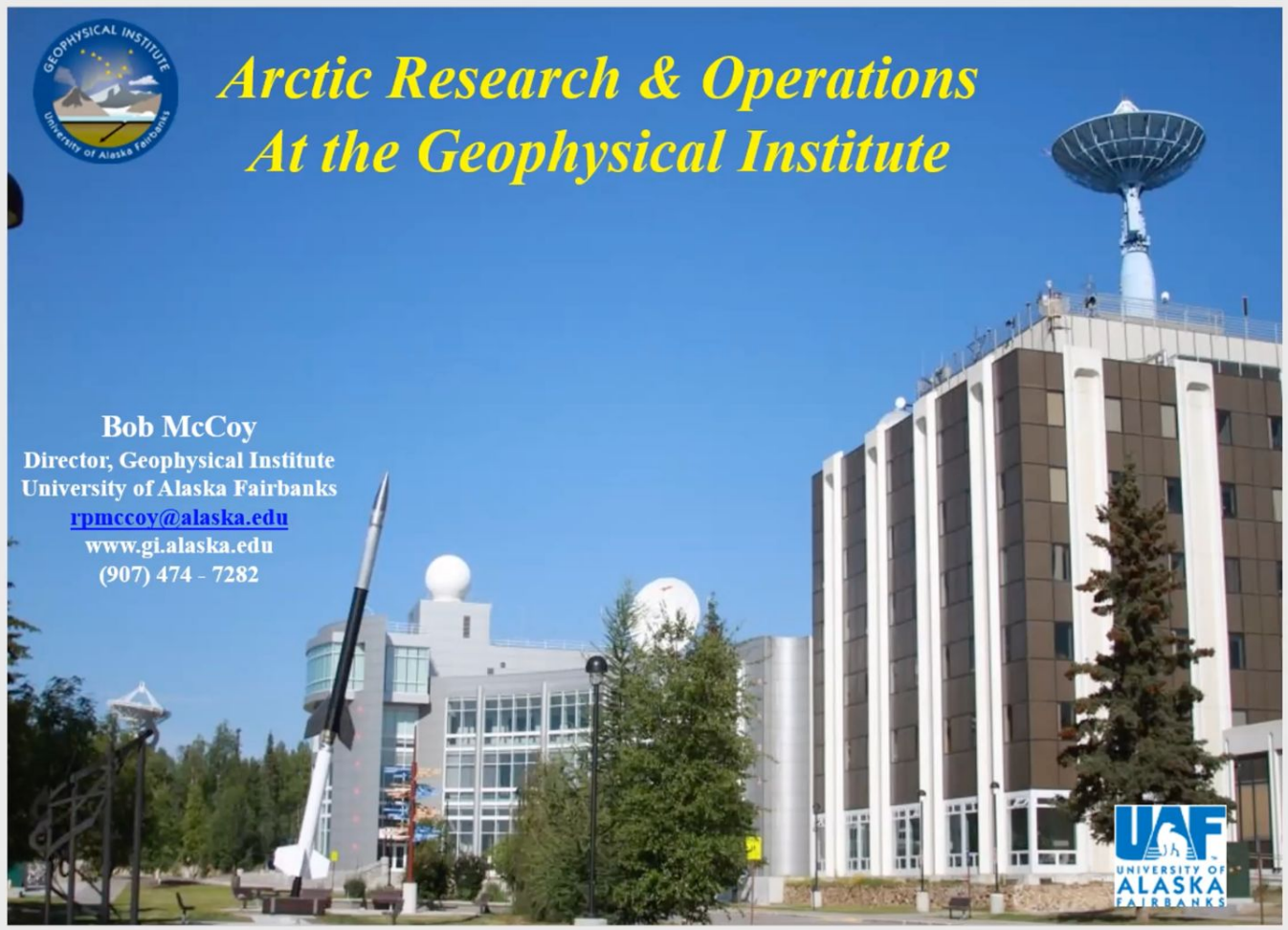
Alaska Seismic Center Alaska Seismic Cooperative Geodesy Cooperative

GNSS HARC



Arctic Research & Operations At the Geophysical Institute

Bob McCoy
Director, Geophysical Institute
University of Alaska Fairbanks
rpmccoy@alaska.edu
www.gi.alaska.edu
(907) 474 - 7282



Click to add notes

**Aurora &
Geomagnetic
Storms**

Geophysics in Alaska

**Coastline
46,000 mi**

**54 Active
Volcanoes
3 Eruptions/yr**

*Arctic warming
3-4 times the rest
of the planet*

Arctic Weather

**50,000 Earthquakes/yr
>M7 Every 2 Years**

**~ 1M sq mi
Sea Ice**

90% Permafrost

**M 7.0
Nov 30, 2018**

ICEX 2018

**30,000
Glaciers
40% surface
water**

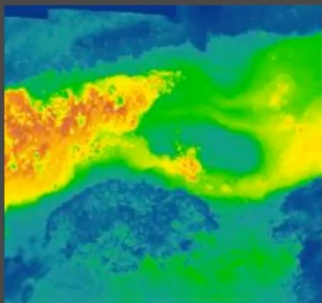


GEOPHYSICAL INSTITUTE

RESEARCH GROUPS



Atmospheric Science



Remote Sensing



Seismology



Snow, Ice & Permafrost



Space Physics &
Aeronomy



Tectonics &
Sedimentation



Volcanology

Contact Info:



<https://www.alaska.edu/epscor/>



COLLEGE OF FISHERIES
AND OCEAN SCIENCES

University of Alaska Fairbanks



Brenda Konar

Professor Marine Biology
Director Alaska EPSCoR

College of Fisheries & Ocean
Sciences
University of Alaska Fairbanks
Email bhkonar@alaska.edu

About Me

UAF College of Fisheries and Ocean Sciences
faculty since 1999

Large research programs around Alaska: Beaufort,
Chukchi, and Bering Seas, Aleutians, and Gulf of
Alaska

AK EPSCoR Director since 2021 (Co-PI since
2019)

Associate Dean of Research, CFOS, UAF; 8 yrs.

Academic Program Head for the Graduate
Program in Marine Science & Limnology; 3 yrs.

University of Alaska Statewide Diving Program
(current Dive Safety Officer, past Chair of the Dive
Control Board)

Areas of Interest/Expertise

Nearshore ecology

- Environmental processes impacting fish,
invertebrates, and seaweeds
- Ecosystem responses to top-down drivers

Mariculture

Long-term coastal monitoring programs

Scientific diving

About Alaska EPSCoR



2019-present; in NCE year

Examining climate-driven changes to wildfires in
Alaska boreal forests and glacial influences on
coastal ecosystems in the Gulf of Alaska.

Proposal pending

IoC

Interface of Change: Building collaborations to
assess harvested and farmed marine species
prioritized by Gulf of Alaska communities
facing environmental shifts

Collaboration Interests/Opportunities

- Connecting with others on issues related to
- Mariculture,
- Harvesting wild marine species
- Land-ocean connections in nearshore waters

Contact Info:



Arctic Research Consortium of the U.S. (ARCUS)

www.arcus.org

Phone: 907-474-1600

Mailing Address: PO Box 81310
Fairbanks, AK 99708-1310



Brit Myers

Strategic Engagement Director

Email: brit@arcus.org

Twitter: quixoticroads

LinkedIn: britmyers

Cell: 206.697.2822

Location: Vashon, WA

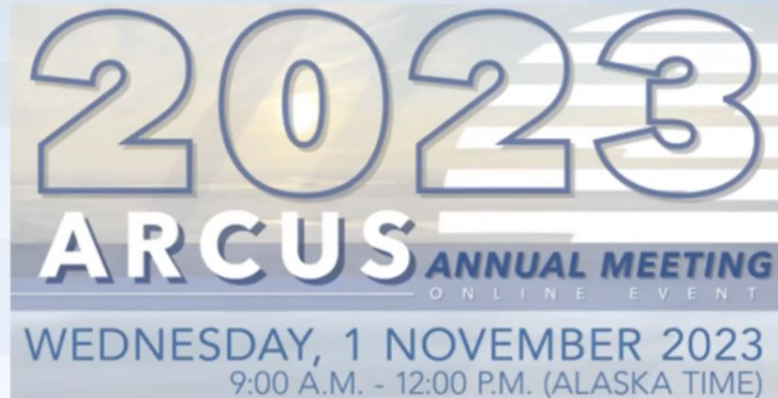
About Me:

Brit works with ARCUS to build Arctic research community connections between networks of interdisciplinary researchers, educators, Indigenous partners, policymakers, funders, and the broader public. She is a former Community Engagement Fellow with the American Association for the Advancement of Science/Center for Scientific Collaboration and Community Engagement and an Arctic Research Fellow with the University of Washington. Prior to joining ARCUS in 2015, Brit supported large ecosystem research, planning, policymaking, and conservation activities with organizations such as the Brainerd and Campion Foundations and Washington Sea Grant. She holds a Master's degree in Marine & Environmental Affairs from the University of Washington and another in Arts Administration and Non-Profit Management from the University of Oregon.

Areas of Interest/Expertise

- Science of Team Science
- Interdisciplinary Collaborations
- Arctic Research Network Analysis
- Enabling Broader Impacts
- Marine Ecology
- Marine Affairs & Environmental Policy
- Human Dimensions of Natural Resource Management

About ARCUS:



Collaboration Interests/Opportunities

- Building more meaningful connections between ARCUS Member Institutions as well as with others involved with U.S. Arctic Research.
- Working to strengthen Arctic research connections to communities in Western Alaska (see [NSF DCL 20-112](#))
- Building support for U.S. Arctic Research Social Scientists (see [Arctic Horizons Final Report](#))
- Establishing a community of practice for Arctic researchers that work with Northern community members or citizen scientists in their research.







Requirements for a Heat Project to Succeed



Contact Info:

Sea Grant

MAINE MAINE



<https://seagrants.umaine.edu/>

Phone: 207-581-1435

Mailing Address: 5741 Libby Hall
Suite 110

University of Maine
Orono, ME 04469-5741



Gayle Zydlewski

Director

& Professor of Marine Sciences

Email:

gayle.zydlewski@umaine.edu

Phone: 207-581-1422

Location: Orono, ME

About Me:

Gayle is the Director of the Maine Sea Grant program and a Professor of Marine Sciences. She has been at the University of Maine since 2007 and Director of Sea Grant since 2018. Maine Sea Grant's mission is to *support the responsible use and conservation of coastal resources in order to sustain thriving coastal communities and ecosystems*. She helped establish the UMaine **Marine Aligned Research, Innovation and Nationally-recognized Education** initiative which is a transdisciplinary effort to that brings together university, industry, government, and community collaborators who through integrated and innovative transdisciplinary marine research, education, and outreach are dedicated to the enhancement of social and economic wellbeing in Maine and beyond.



Research

To expand knowledge and answer critical questions



Extension

To connect science to those who can use it



Education

To train a coastal and marine workforce

Areas of Interest/Expertise

- Extension of Marine Science
- Environmental Literacy
- Transdisciplinary Collaborations
- Diadromous species
- Renewable Energy, fisheries, & wildlife
- Marine Debris, alternatives for plastic

About Maine Sea Grant:



Healthy

Coastal Ecosystems

Resilient

Communities and Economies



Sustainable

Fisheries and Aquaculture

Environmental

Literacy and Workforce Development



Collaboration Interests/Opportunities

- Building deeper connections with researchers and extension professionals already working together on coastal resilience, seaweed and shellfish aquaculture.
- Sharing approaches for co-producing knowledge / conducting participatory research or community-based monitoring with Indigenous and/or rural communities
- Knowledge exchange / collaboration around coastal resilience capacity building, technical assistance, planning, policy, and decision-making, including on community-led relocation / managed retreat / site expansion
- Comparative mariculture development landscape opportunities and challenges
- State-tribal fisheries management dynamics in research and extension

Contact Info:



Helen Wiggins
Executive Director,
ARCUS
helen@arcus.org



Arctic Research
Consortium of the
U.S. (ARCUS)
www.arcus.org

About Me:

- Background/education — biogeography/forest ecology (University of Maryland then University of Georgia)
- Started with ARCUS in 2002 in Fairbanks office – lucky to found a great organization where I could stay in science but also broad and interdisciplinary
- Live and work outside of Wasilla, AK
- My “happy place” at work:
 - Building, strengthening, and sustaining connections between people & projects
 - Creating spaces where people can bring their authentic selves and have a seat at the table, no matter what their educational background, discipline, organizational affiliation, career level, etc.
- Exploring specific Arctic themes around which the research community can focus, organize, and make progress





Contact Info:



Institute of Agriculture, Natural Resources and Extension (IANRE)

www.uaf.edu/ianre/

Phone: 907-474-5807

Mailing Address: PO Box 756180
Fairbanks, AK 99708-6180



Jodie Anderson

Director

Email: jmanderson@alaska.edu

Cell: 907.355.3031

Location: Palmer, AK

About Me:

Jodie is the director of IANRE that is the programmatic unit of the Alaska land-grant university mission: through research, education, and outreach we work to improve the lives of Alaskans. She is also the director of the Agricultural and Forestry Experiment Station in Alaska. Her diverse training began with a BS in Science Education Biology from the University of North Carolina at Chapel Hill and a MAT in Science Education from Brown University. She taught chemistry and many life sciences at the high school and college levels for 11 years in North Carolina. She moved north in 2003 and worked for UAF where she began and managed the Alaska Community Horticulture Program as well as research that focused on potato virus studies, citizen science projects, soil building, organic nitrogen soil supplements, compost development, and community gardening. Her work throughout Alaska afforded many opportunities to travel around rural Alaska and develop collaborations and relationships with many teachers, growers, and communities.

Areas of Interest/Expertise

- Soil Biochemistry
- Soil Health in Cold Soils
- Composting
- Food Systems
- Circumpolar Agriculture
- Community Development
- Experiential Education

About IANRE:



Collaboration Interests/Opportunities

- Building meaningful connections between IANRE AFES researchers and others involved with U.S. Arctic Agricultural and Forestry Research.
- Collaborating with other like-sized land-grant universities to solve similar issues regarding funding, human capital, and other common concerns.
- Working to strengthen Arctic agricultural and forestry research connections to communities throughout Alaska.
- Creating opportunities for research success while remaining relevant to the needs of Alaskans.
- Establishing trust between the university and communities after years of funding and staffing decreases where help is needed most.

Contact Info:

Phone: 207 581 3019
 Mailing Address:
 Climate Change Institute
 University of Maine
 Orono, Maine 04469



Paul Andrew Mayewski

Director/Professor

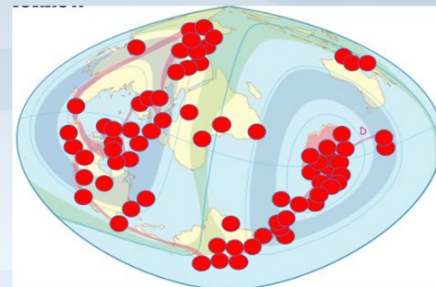
Email:
paul.mayewski@maine.edu

About Me:

Paul Andrew Mayewski is a glaciologist, climate scientist and polar explorer. He is the Director of the interdisciplinary Climate Change Institute and Distinguished Professor in the School of Earth Sciences, School of Marine Sciences, School of Policy and International Affairs, Business School and Law School, all at the University of Maine. He has thus far led more than 60 expeditions to the remotest polar and high elevation reaches of the planet and has received several prestigious national and international awards. His contributions to science include: the discovery of abrupt climate change driven by atmospheric circulation; human impacts on the chemistry of the atmosphere; impacts of climate change on humans and the ecosystem; new methods for ultra-high resolution ice core sampling; pioneering ice core-climate calibration techniques; the history of human source toxic metal emissions; and the application of past and present climate research to modern day challenges such as health, climate prediction and climate education. His achievements in exploration include leading teams into uncharted regions of Antarctica, many thousands of kilometers of polar surface traversing, and numerous first ascents of mountains all to gain scientific knowledge. Paul has started and led several large multi-disciplinary, multi-national, prominent research projects. Notably he is the first person to develop and lead highly successful, interdisciplinary climate research programs at the three poles (NSF supported Greenland Ice Sheet Project Two (GISP2) and International Trans Antarctic Scientific Expedition (ITASE) and the National Geographic and Rolex Mt. Everest Expedition). He has more than 500 scientific publications, hundreds of popular and scientific lectures worldwide, two popular books “The Ice Chronicles” and “Journey Into Climate” and has appeared hundreds of times in media such as: the New York and LA Times, NOVA, NPR, BBC, multiple CBS 60 Minutes shows and the Emmy Award Winning “Years of Living Dangerously”.

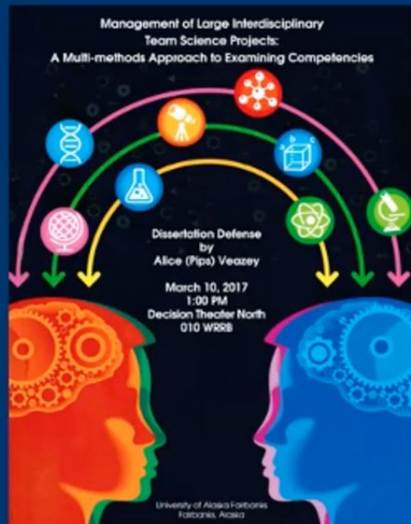
Areas of Interest/Expertise

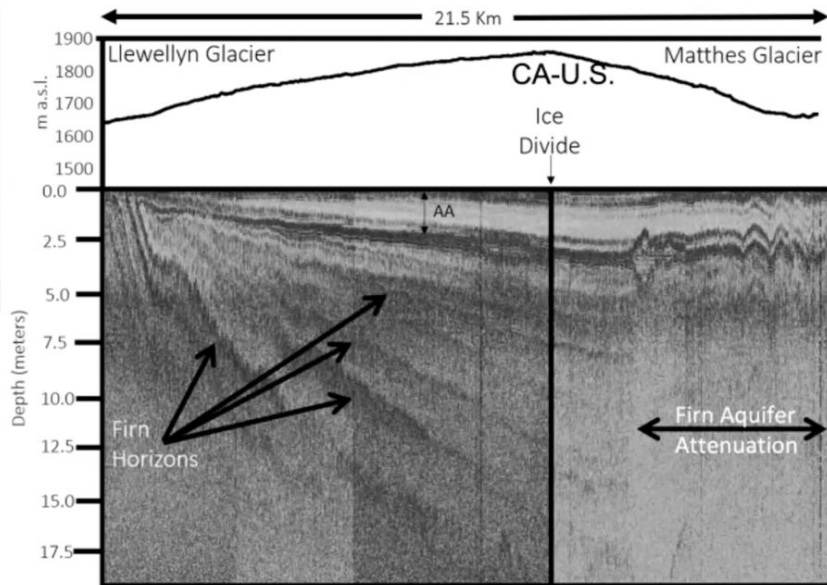
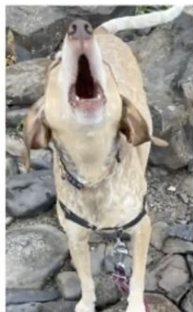
- Glaciology
- Past, present future climate using ice cores, modern climate reanalysis and plausible scenario planning
- Abrupt climate change
- Climate impacts (e.g., water quality, health, geopolitics, water resources)



Collaboration Interests/Opportunities

- Building national and international research based partnerships
- Software and hardware advances in ice core research, data synthesis, and recent era physical and chemical climate change
- Monitoring the human and ecosystem impacts of glacier melt on water quality and availability
- Interdisciplinary complex problem-solving methods and applications related to major environmental challenges
- Reducing uncertainty in climate prediction
- Climate change outreach for local to international venues





Juneau Icefield Research Program

ABOUT STUDENTS FACULTY + RESEARCHERS STAFF ALUMNI JIRP 2019 SUPPORT US CONTACT BLOG



Unrivaled expedition-based Earth science education, training, and research in the Coast Mountains of Alaska and British Columbia.

Geophysics

Interests:

- Glacier & Ice Sheet Change
- Permafrost Distribution & Change
- Paleoclimate and Glacier Reconstruction
- Erosion & Deposition Processes
- Icy Planets (e.g., Mars & Europa)
- Education & Outreach



Andrew Opilia



Andrew Opilia



My why

Sheridans, est. 2009

Cordova, since 2010

Wesley, age 10

Celia, age 6

Eyak, *time immemorial*