



# POLAR TREK

Teachers & Researchers  
Exploring & Collaborating

STEM at the Poles

Meet and Greet Webinar  
2020



## PolarTREC Staff



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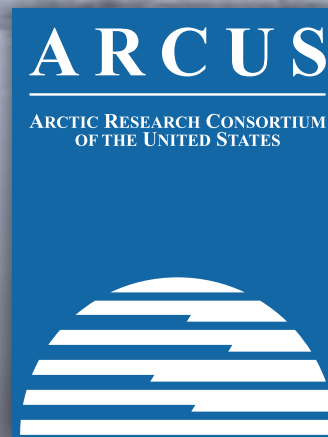
Video Production

**...with help from the entire staff at ARCUS**

## The ARCUS Connection



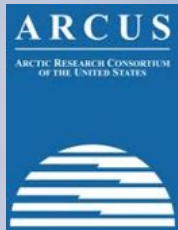
**Arctic Research Consortium of the United States** envisions strong and productive linkages among international Arctic researchers, educators, communities, and other stakeholders that promote discovery and understanding of the Arctic and inform sound decisions related to the Arctic.



## Support and Funding



We are supported by the National Science Foundation Office of Polar Programs for the 2020-21 season.



We are administered by the Arctic Research Consortium of the United States, a non-profit member consortium, based in Fairbanks, Alaska. [www.arcus.org](http://www.arcus.org)



Arctic logistics support (including teacher travel, clothing, and equipment provided by Polar Field Services or PFS).



Antarctic logistics support (including teacher travel, clothing, and equipment provided by Antarctic Support Contractor ASC)

## Our Vision

To create and sustain a successful approach to professional development in the polar regions, fostering enthusiasm and awareness to inspire the next generation of scientists and a STEM-literate public.

- Improving educators' **STEM content knowledge**
- Increasing educators' knowledge and **use of STEM practices**
- Building educators' **STEM identity**
- Increasing the **STEM collaborations** between formal and informal educators
- Increasing students understanding and **engagement** in the polar regions
- Developing long-term professional **relationships** between the education and research

# **2020-2021 Projects & Participants**

Why Did You Apply to PolarTREC?  
(1 min)

# Pitch yourself in 1 minute!

Name

Organization

Location

Primary Job

Research project that you taking part in and/or researching



## What to Expect

- ✓ Support the integration of research and education
- ✓ Convey research experience to K-12 students and/or their teachers and to broader audiences
- ✓ Develop STEM focused, inquiry-based activities for students that integrate NGSS and the Polar Literacy Principals
- ✓ Create collaborations and networks between educators and researchers; formal and informal educators
- ✓ Provide valuable professional development
- ✓ Improve polar-focused outreach, education, broader impacts





# Expectations: Pre, During, Post Expedition

## Educator Commitments

Educator Orientation

Researcher Commitments

Requirements

Educator Role in the Team

ARCUS support for researchers

### PolarTREC Teacher Participation Timeline

- **Apply, Selection & Match**
- **PolarTREC Orientation**
- **Partner Teacher & Cohort Collaboration**
- **Education and Outreach Planning**
- **Pre-Field Visits with Research Team**
- **Pre-Expedition Logistics & Evaluation**
  - Content Pre-Test & Instructional Survey
  - Pre-Field Team Logistics Call
  - Cohort Outreach/Logistics Webinar
- **Field Research Experience**
  - Daily Online Journaling
  - Host PolarConnect Events
  - Q&A Interactions with Students
- **Post-Expedition Follow-up & Evaluation**
  - Evaluation Requirements
  - Post-Field Team Logistics Call
  - Seasonal Webinar with Cohort
  - Administer Student Pre-Survey
  - Cohort Partnership Activities
- **Post-Expedition Education and Outreach**
  - Publish STEM Experience Report
  - Researcher Visit to Classroom
  - Design Original Lesson
  - Refine Existing Lessons
  - Attend Professional Meetings
  - Collate Teacher Portfolio
  - Submit Learning Resources
- **Summative Follow-up & Evaluation**
  - Administer Student Post-Survey
  - Content Post-Test & Instructional Survey
  - Seasonal Webinars
  - Year End Webinar with Cohort
- **PolarTREC Sustainability Activities**
  - Co-Lead Teacher Trainings
  - Partner Teacher for New Cohort
  - Reviewer on Selection Committee
  - Leadership in PolarTREC Network
  - Liaise in Partner STEM Initiatives
  - Compete for State/Regional Awards

- 1 week in Colorado for Orientation - March 2020
- 3-4 webinars related to the program
- 1-2 pre-field logistics phone calls
- 3-6 weeks in the field, plus associated travel
- Personal time for technology training and practice
- Personal time for learning/reading on science
- Outreach activities before/after the expedition
- PolarTREC program requirements and evaluation

## Expectations: Pre, During, Post Expedition

- Technology Training
- E&O Planning
- Polar Science Overviews
- Safety & Logistics
- Cohort Team Building
- Hands-on Practice
- Logistics Field Trips

Educator Commitments

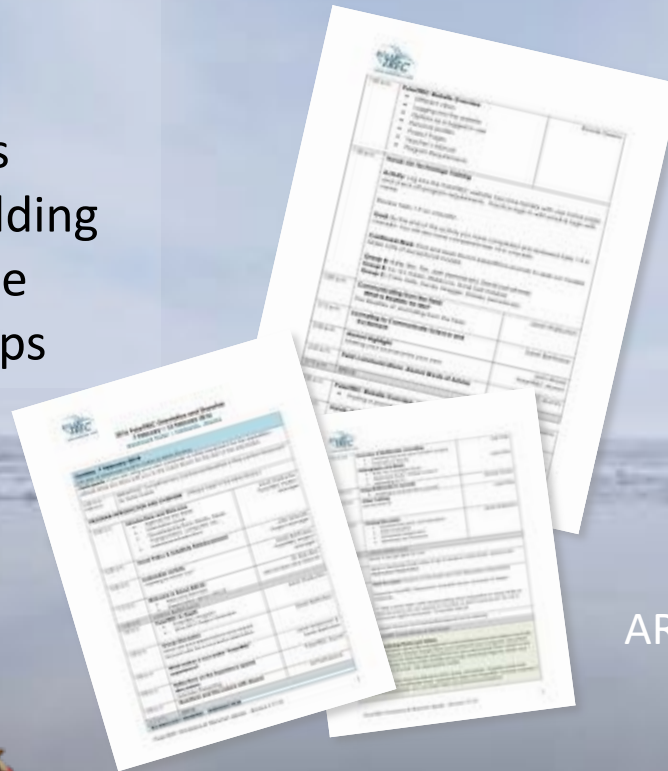
**Educator Orientation**

Researcher Commitments

Requirements

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## Expectations: Pre, During, Post Expedition

- Reading applications & interviews to select an educator for your team
- 2-3 webinars related to the program
- Pre-post field logistics phone calls
- Fielding prep questions from participants
- Commitment to working with educator in the field
- Vetting science content of products
- Outreach activities before/after the expedition
- PolarTREC evaluation components

Educator Commitments

Educator Orientation

**Researcher Commitments**

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# Expectations: Pre, During, Post Expedition

Educator Commitments

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**Requirements**

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**2012 PolarTREC Program Requirements**  
With Additional Recommendations for a Successful Research Experience

PolarTREC is meant to build ongoing, collaborative relationships between educators and polar researchers. The PolarTREC program is designed to facilitate this relationship and provide support for the relationship to grow and become increasingly sustainable.

One component of successful relationships is collaboration and understanding of each partner: we strive to have teachers and researchers working together as much as possible before, during, and after the polar field experience. Therefore, teachers and researchers selected for PolarTREC are expected to participate in a number of specific program requirements throughout the experience.

ARCUS uses the PolarTREC program requirements in a number of ways, including tracking participation in the program, evaluating the impact of the program, and collecting data to report to the National Science Foundation; apply for further funding; provide data and information to researchers; publish papers and articles and much more. **Timely completion of program requirements and the PolarTREC Feedback is integral to the continued funding and support for the PolarTREC program. You must contact the PolarTREC Project Managers if you have questions or concerns related to the completion of the program requirements.**

Upon successful completion of the program requirements, teachers and researchers will be recognized with a certificate of PolarTREC participation and Program Completion. In addition, teachers will be awarded one day of substitute reimbursement for a day of a professional development activity of their choice. Please let us know if there are other ways we can recognize your successful participation in the program (letters of support, references, college credit, etc.).

The following list briefly outlines the PolarTREC program requirements for both teachers and researchers. While these are not program requirements, they come from years of program management and advice from past teachers and researchers on how to make the experience successful.

If you have any questions or concerns regarding these requirements, please contact Janet Warburton or Sarah Crowley, PolarTREC Project Managers, at [info@polartrac.com](mailto:info@polartrac.com) or 907.474.1400.

**IMPORTANT INFORMATION FOR TEACHERS:** Starting in January 2013, most program requirements will be tracked online using your profile page on the PolarTREC website. PolarTREC teachers are responsible for tracking and uploading their own program requirements as they complete them.

Instructions for updating or uploading program requirements:

- 1) Log in to the PolarTREC website. Press the "Sign" tab.
- 2) Check off program requirements that have been completed.
- 3) Upload related documents (if applicable).
- 4) Make sure to press "Save" at the bottom of the page!

After you update or upload a program requirement an automatic e-mail will be sent to the PolarTREC Project Managers who are tracking your progress.

Teachers		Researchers	
Program Requirements	Other Recommendations	Program Requirements	Other Recommendations
<b>DURING THE EXPEDITION</b>			
<ul style="list-style-type: none"><li>Participate as an active member of the field research team</li><li>During the field experience, post daily journal entries and photos online</li><li>Respond to "Ask the Team" Questions on the online chat assistance from research team as needed</li></ul>	<ul style="list-style-type: none"><li>Balance your class of teacher, research team member, and public relations specialist</li><li>Communicate, be safe, remain flexible, have fun!</li><li>Contact PolarTREC Project Managers if any problems arise</li><li>Use multiple tools for interviews, journals, creating podcasts, or videos to document your experience</li><li>Connect to classrooms through interactive communication channels such as PolarConnect live events when possible</li></ul>	<ul style="list-style-type: none"><li>Provide mentoring, training and support for the teacher while serving as a member of your team</li><li>Provide information and/or assist teachers in answering questions from the public that are posted on the Visual Base Camp</li></ul>	<ul style="list-style-type: none"><li>Contact PolarTREC Project Managers if any problems arise</li><li>Recognize that teachers are required to communicate their experience from the field to the public as well as participate in actual research, help them balance these duties</li><li>Collaborate with the PolarTREC teacher on their daily entries and connect to classrooms from the field and connect with classrooms from the field</li><li>Help the teacher connect to classrooms through interactive communication channels such as PolarConnect, when possible</li></ul>
<b>IMMEDIATELY FOLLOWING THE EXPEDITION</b>			
<ul style="list-style-type: none"><li>Remember to take adequate time for reflection to returning to the classroom</li><li>Make sure your exit interview is an interview to ARCUS for most substitute reimbursement</li><li>Return any borrowed gear or equipment to the logistic providers</li></ul>	<ul style="list-style-type: none"><li>Participate in the Post-Field Debriefing Call</li><li>Follow up with PolarTREC and logistics that social reports that social reports, teacher research experience have been received</li></ul>		<ul style="list-style-type: none"><li>Check in with your teachers ensure they made a home visit and continue communication and collaboration</li></ul>

- Detailed program requirements and recommendations for before, during, and after the expedition
- Educators have “deliverables”; need the support/communication with the research teams
- Program requirements are important to our tracking, reporting, and continuation of the program

# Expectations: Pre, During, Post Expedition



Educator Commitments

Educator Orientation

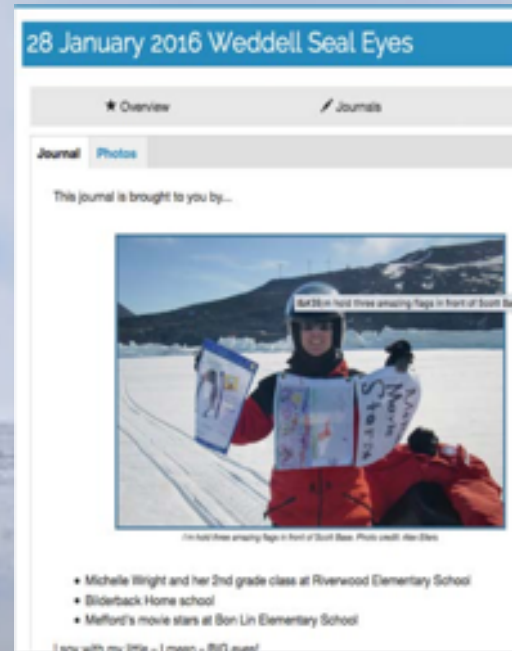
Researcher Commitments

Requirements

**Educator Role in the Team**

ARCUS support for researchers

# Educator Role in the Team



## Public Relations Officer

Pre-Field Momentum  
In-Field Journaling/Q&A  
Capturing the Science  
Outreach Campaigns  
PolarConnect  
Leading by Example

## Field Assistant

Learning Science  
Translating Science  
Hands-on in All Aspects

## Balancing the Two

Pre-Field Communication  
Mid-Field Check-in

## Expectations: Pre, During, Post Expedition



- E&O planning strategies
- Pre-Post Field Site Visit Funding
- Seamless integration of participant logistics
- Prep and Follow-up Mgmt
- Dedicated outreach staffing
- Additional professional training and networking

Educator Commitments

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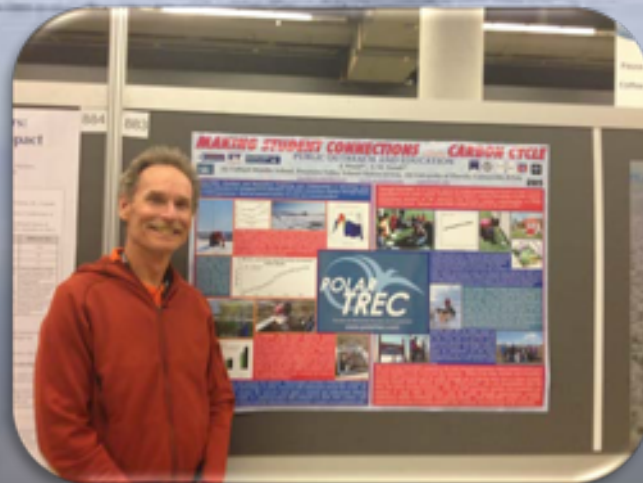


## Travel Support

We have a limited amount of funding to support pre- or post- field collaborations between educators and researchers

Please consider:

- Educator Visit to Lab or Researcher's Institution
- Researcher Visit to Educator's School or Classroom
- Data Workshop or Preparatory Meeting
- Team Conference Presentation



## Logistics Support

### **Polar Field Services**

Arctic logistics support (including teacher travel, clothing, and equipment provided by PFS).

**Individualized**

**Coordinated**

### **ASC (Antarctic Support Contractor)**

Antarctic logistics support (including educator travel, clothing, and equipment provided by ASC)

**Flexible**

**Begins Early**

**Thorough Follow-up**



## How to Succeed

### **Communicate**

Expectations, instruction, outreach plans, problems/praise to  
ARCUS

### **Practice, Practice, Practice**

Do your homework as a participant so when you get to the field, it's  
second nature.

### **Be Flexible**

Plans change moment to moment, be prepared

### **Research comes first**

In the field, be an excellent research assistant and be a sponge.  
Not all field work is sexy or easy!

### **Make safe sacrifices to meet goals**

Sleep, fun, comfort, status/authority

### **Bring your unique skills to the team**

Readiness to lend a hand, humor, special skill/strength, positive  
attitude



# Thank You for Participating in PolarTREC!

We're excited to work with you this year!

**For Questions & More Information:**

[info@polartrec.com](mailto:info@polartrec.com)

907-474-1600

[www.polartrec.com](http://www.polartrec.com)

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