



TEACHERS AND RESEARCHERS  
EXPLORING AND COLLABORATING



# *Welcome!*

## **PolarTREC Informational Webinar**

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Wednesday, 29 August 2018

# Getting to Know Adobe Connect

Slides will be shown here

Exit presentation

Mute your speakers

Raise your hand

List of all participants

Follow the chat

Find out more about the presentation

Chat here

The screenshot shows the Adobe Connect interface for a meeting titled "PolarConnect Events - Adobe Connect". The main content area displays a slide titled "Welcome to PolarConnect!" with the PolarTREC logo and the text "TEACHERS AND RESEARCHERS EXPLORING AND COLLABORATING". Below the title, it says "Real-time events from teachers and scientists in the field directly to you. Join us for the best webinars from the polar regions!". There are three small images: a group of people sitting around a table, a person in a blue jacket holding a laptop, and a person in a field. At the bottom of the slide, it says "If you need to join by phone: dial 1-800-766-1337 enter 54366779#" and "Events hosted by the Arctic Research Consortium of the United States as part of the PolarTREC Program" with the website "www.polarrec.com".

The interface includes a top toolbar with "Meeting", "Camera", "Mute", and "Raise Hand" icons. A "Camera" window is open, showing a greyed-out video feed. A "Participants" list on the left shows "Attendees (1)", "Active Speakers", "Hosts (0)", "Presenters (0)", and "Participants (1)" with a user named "Joyce". A "Chat" window shows "ARCUS Staff: Hello!". A "Files" panel at the bottom right shows "Files 3" with columns for "Name" and "Size".

Annotations with arrows point from the text on the left to the corresponding UI elements: "Exit presentation" points to the top right corner; "Mute your speakers" points to the mute icon; "Raise your hand" points to the raise hand icon; "List of all participants" points to the participants list; "Follow the chat" points to the chat window; "Find out more about the presentation" points to the slide content; "Chat here" points to the chat input field.

# Questions

During the Presentation:

- Type your question in the text chat box



At end of the Presentation:

- Raise hand, if you want to ask your question live and then,
  - Click on the Talk button to speak.
  - Unclick when you are done.

# Presentation Outline



- Introductions
- What is ARCUS?
- What is PolarTREC?
- Goals and Project Elements
- Program Benefits
- The Application Process
- If You Are Selected
- If You Are Not Selected
- FAQ's & Answers

## Who is ARCUS?

**ARCUS** (Arctic Research Consortium of the United States) is a not-for-profit corporation consisting of institutions operated for educational, professional, or scientific purposes. ARCUS provides leadership in advancing knowledge and understanding of the Polar Regions through a variety of programs and outreach endeavors.

ARCUS is based in Fairbanks, Alaska and works with primarily arctic scientists around the world to facilitate interdisciplinary collaboration, outreach and education within and outside the science community.

ARCUS website: [www.arcus.org](http://www.arcus.org)



25 Years of Connecting Arctic Research  
[www.arcus.org](http://www.arcus.org)



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# What is PolarTREC?

PolarTREC (**T**eachers and **R**esearchers **E**xploring and **C**ollaborating)

- PolarTREC is a professional development teacher research experience in which primarily teachers and informal educators\* are paired with researchers to participate in a 3-6 week polar research experience.
- PolarTREC **is not teachers** simply observing and reporting science, taking a vacation, or only fulfilling a personal dream to visit the polar regions.
- PolarTREC is administered by Arctic Research Consortium of the United States (ARCUS)

\*We will talk about eligibility for 2019-2020 later in this presentation.



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# PolarTREC Staff



**Janet Warburton**  
PolarTREC PI &  
Project Manager



**Judy Fahnestock**  
PolarTREC  
Project Assistant



**Ronnie Owens**  
Web Developer



**Bob Rich**  
ARCUS  
Executive Director



**Helen Wiggins**  
Director of  
Programs



**Zeb Polly**  
Systems Administrator



**Joed Polly**  
Video Production

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



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# Goal, Objectives, and Project Elements



# Program Goal & Objectives

**Our goal is to invigorate polar science education and understanding by bringing educators and polar researchers together.**

- To improve Educators' STEM content knowledge of the Polar regions and transfer to their learning setting.
- To increase teachers' knowledge and use of STEM practices with their students in their learning setting.
- To build teachers' science identity.
- To increase students' understanding and engagement in the polar regions and interest in polar-related STEM careers.
- To develop long-term professional relationships between the education and research communities.

*The term "teacher" applies to educators in both the formal and informal educational settings.*



# Program Components

The main components include:

1. hands-on field research experiences that are implemented in the polar regions,
2. broadly disseminate teacher/educator experiences to students, professionals, and the public,
3. develop a sustainable learning community, and
4. provide clear and appropriate measures of project success.





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## Key Program Activities

### Intensive 1-Week Orientation

- Technology Training
- Education/Outreach Planning
- Polar Science
- Safety
- Cohort Team Building

Comprehensive Selection Process

Researchers Make Final Selections

Detailed Logistic Support

Substitute & Other Expenses Covered

Alumni Involvement

Pre\Post Expedition Travel Support

Long-term Access to Resources & Support





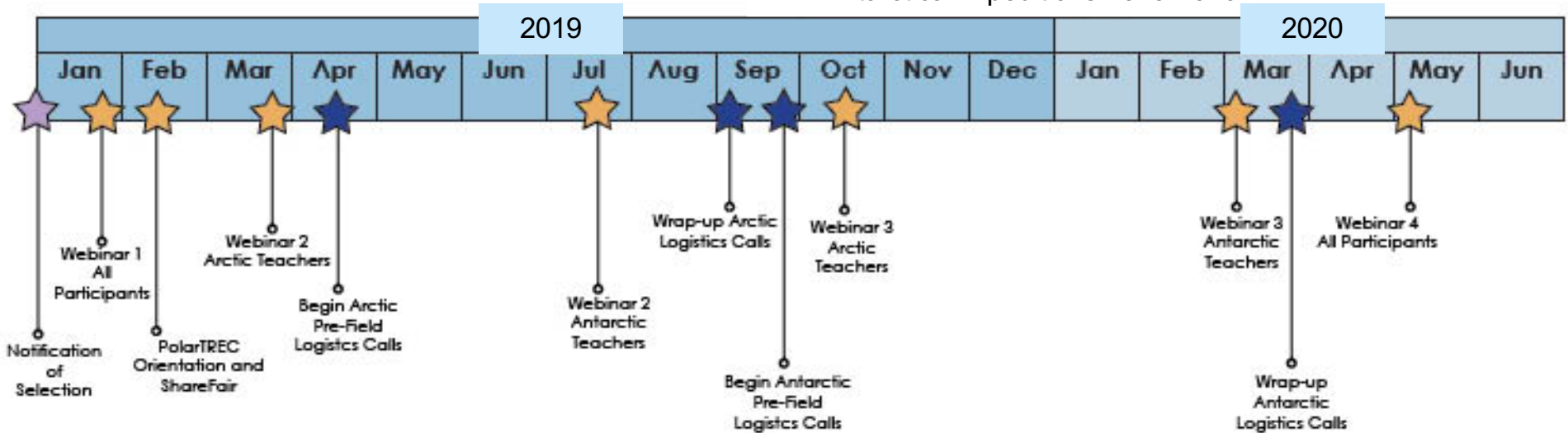
# Projected Timeline of Major Program Activities

Pending Funding

← PolarTREC Evaluation Activities (See below) →

Arctic Expeditions 2019

Antarctica Expeditions 2019-2020



Phone Calls, In-Person Meetings, and Webinars

Note: Additional training webinars may be held for teachers as demand warrants.

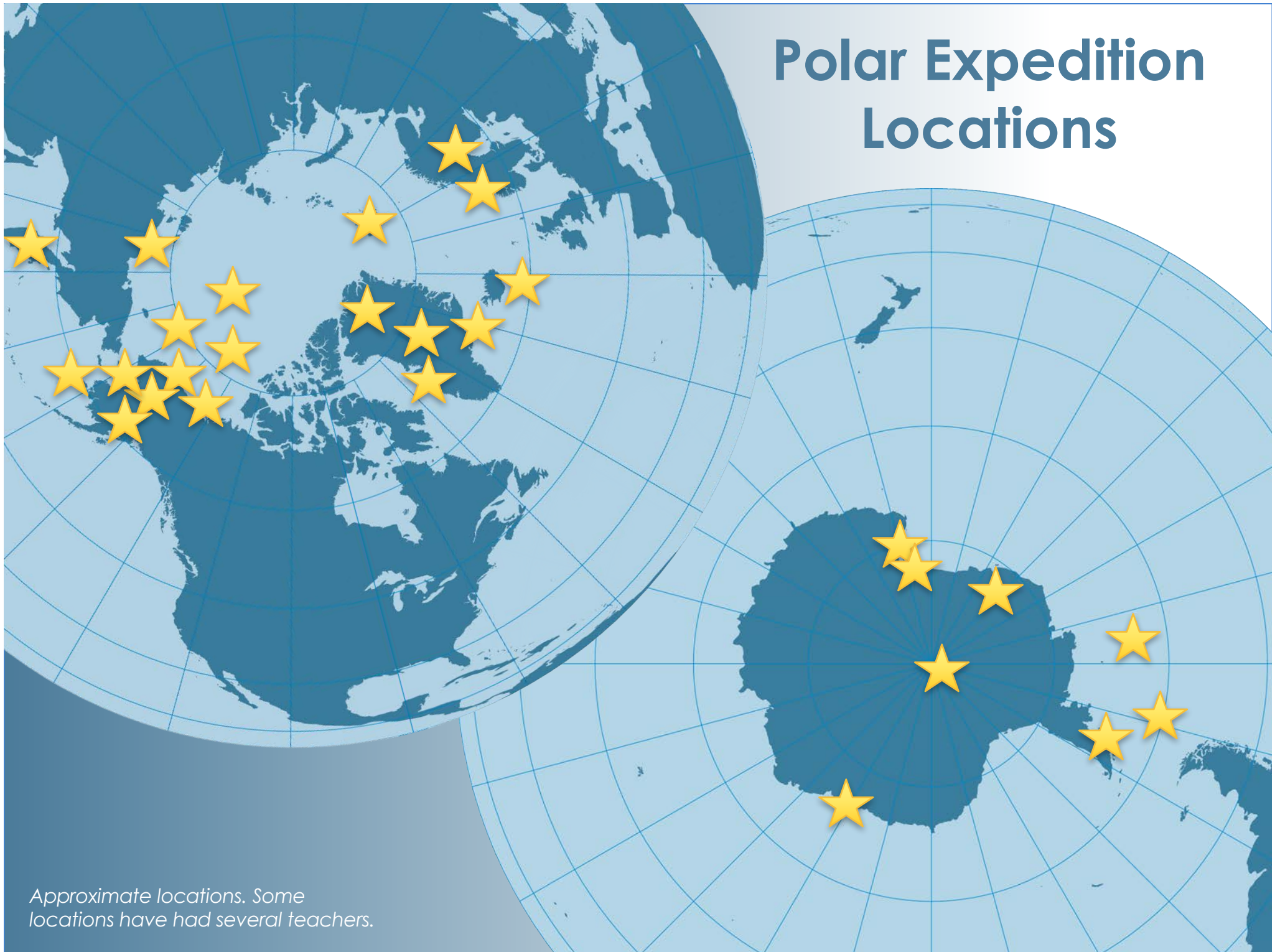
Note: PolarTREC will offer enrichment/professional development opportunities through out the year which may include of webinars, field courses, and presentations at regional and national conferences. All TBD.

# Teacher Research Experience



- Teacher matched with researchers and travel to locations in the **polar regions**
- Experiences last from **3** to 6 weeks (or MORE!)
- Experience involves **intense** field work—teachers become **members** of the team
- Experience involves safety and classroom **training**
- Teachers **communicate** daily with public

# Polar Expedition Locations



*Approximate locations. Some locations have had several teachers.*

# Professional Development



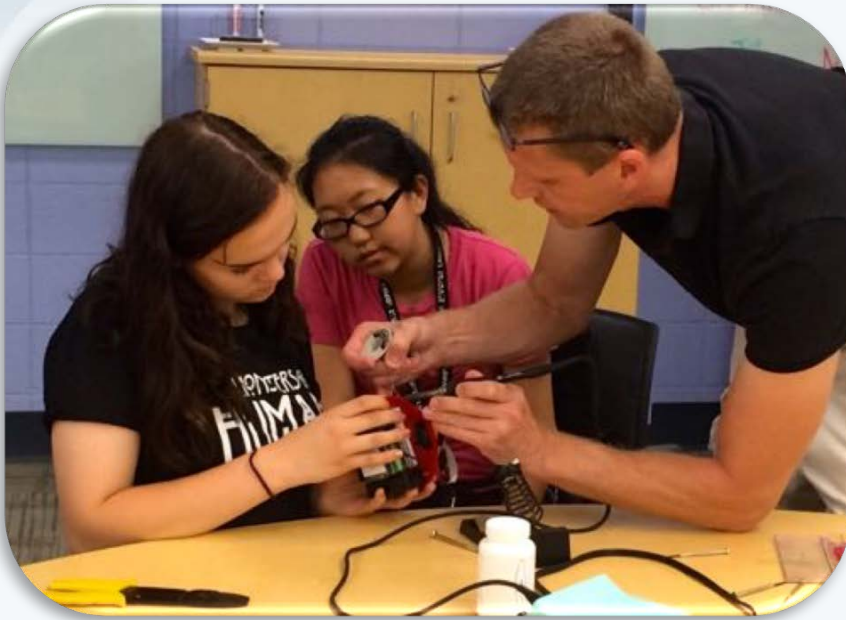
- Teachers are **immersed** in scientific content and get experience with the latest scientific equipment
- Teachers and researchers **work together** to bring the science into the classroom—science that students can connect with
- Teachers **utilize experiences** to develop lessons that meet District requirements and National and/or State standards

# Classroom & Public Outreach

**Outreach supported through  
the use of technology  
tools:**

- *PolarConnect in-field presentations*
- *Online journals & videos*
- *Photo albums*
- *Commenting from the public*

**AND MORE!**





# Sustained Community & Support

- **Funding** to help nurture ongoing relationships between teacher and researcher
- **Educator Partners** where selected participants are matched with another teacher for mentoring and advice
- A **Polar Network** where social media is used to keep alumni connected and collaborating between teachers and researchers
- The **Learning Resources** database, an online collection of polar related lessons and activities
- PolarEducation **E-Mail Listserve** to share ideas and opportunities
- **International Connections** to polar focused groups for ongoing collaborations and opportunities

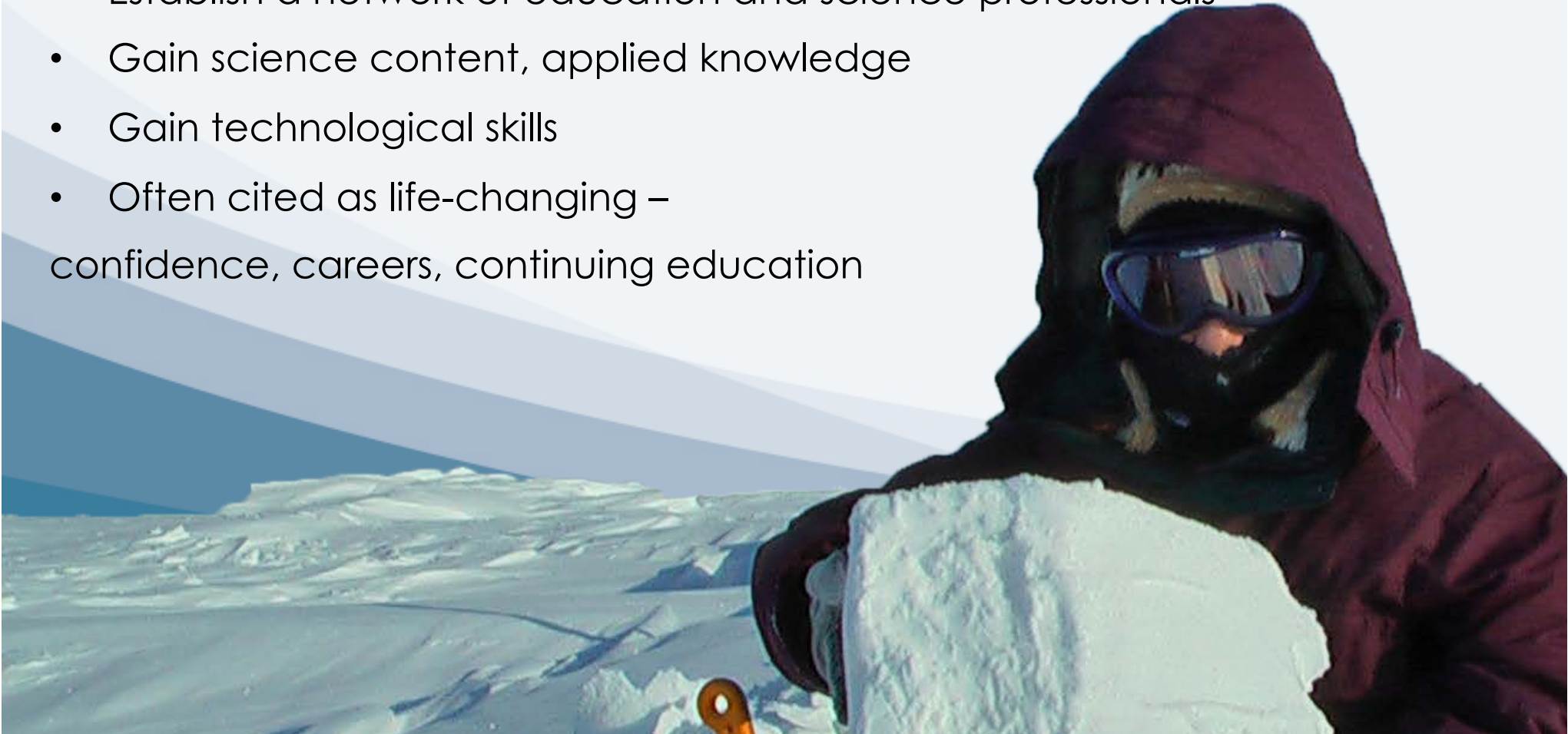


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# Program Benefits

# How Teachers Benefit

- Integral part of a science team, engage in actual science with working scientists and acquire an understanding of inquiry science
- Transfer the experience and excitement to students and the public
- Professional rejuvenation, seen and treated like a professional
- Establish a network of education and science professionals
- Gain science content, applied knowledge
- Gain technological skills
- Often cited as life-changing – confidence, careers, continuing education



# What Researchers Get

- A well prepared, enthusiastic, hard-working team member.
- A great amount of “easy” project outreach, often including web, print, TV, and in person outreach and education.
- Personal satisfaction of working with educators and contributing to the improvement of STEM education and scientific literacy.
- A lasting connection to the education community.
- Improvements in your ability to teach and communicate your science, and interact with those outside your scientific discipline.
- And much more!





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# The Application Process



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# Application Timeline\*

2018

2019

2020

Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb



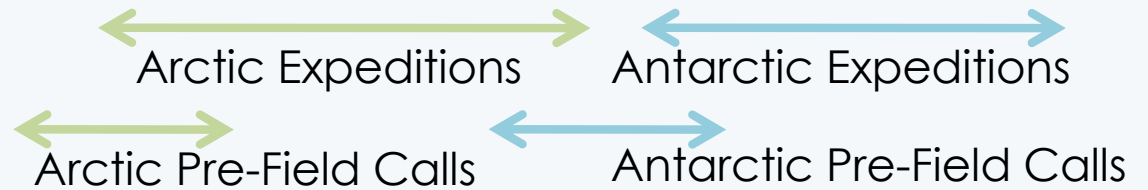
Applications Accepted

Selection Committee Convened

Teacher Orientation

Researchers interview, make final selections

Top teachers are matched to selected projects



### Ongoing:

- Teacher, Researcher, ARCUS Communications
- Pre / Post Field Visits (School/Institution)
- PQ or other Medical Preparations
- Related Training
- Related Education and Outreach activities

\* Program activities will depend on if we receive funding.



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# Basic Eligibility for 2019-2020

## Teacher Eligibility

- **U.S. Citizens or permanent residents of the United States or its possessions**
- **Formal or classroom teachers grades 6-12 (middle school & high school)**
- **Informal Science Educators w/ primary focus on outreach to middle &/or high school students; and/or professional development to their teachers.**
- **Any discipline or subject matter accepted (not just science)**

## Researcher Eligibility

- **Primary NSF funded or collaborating w/ NSF funded project**  
\*Contact us if this is not the case
- **Researchers do not need to be a U.S. Citizen to apply to the program.**  
\*Final decisions will be discussed with NSF.
- **Research projects that are polar or sub-polar are considered for the program**

# Matching Process

- **October:** Approximately 200 Teacher Applications Reviewed Internally; Top 100 applications reviewed by selection committee of teachers, researchers, and others
- Finalist pool of top 40 created by selection committee
- **Early November:** All applicants notified of application status. Start looking at top applicants, select research projects
- **November:** Selected researchers review approximately 6-8 best matches for their project
- **November:** Researchers and ARCUS conduct approximately 3 teacher interviews per project
- **December:** Researchers, with any needed help from ARCUS, select the teacher they will be working with
- **February:** Webinar 1: Introduction to PolarTREC and Projects and
- **February, 2019:** PolarTREC Orientation in Alaska.





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# The Application Form

- Fill out the application at [www.polartrec.com](http://www.polartrec.com) (**both teacher and researcher app**)
- It is combination short answer and essay questions
- Some questions may require research and preparation
- You must have an email address to complete the application
- Your answers may not save if you navigate away from the page or close the page
- Use Word version & cut/paste into the online application
- Pre-existing supplement due w/ online application
- If you cannot access the application or have any troubles, please email [info@polartrec.com](mailto:info@polartrec.com) as soon as possible
- **Teacher apps due Monday, 24 September 2018 at 5 pm Alaska Daylight Time.** *Researcher apps also due.*

# Application Tips!

- **Spell-check and proofread!**
- Write thorough, but concise answers.
- Take note of word limits for certain questions.
- Be clear about your personal and professional goals, and how this fits into your professional development strategy and career.
- Outline clear ideas about how you will share this experience with your classroom, community, peers, the public, media, etc.
- Provide past examples when possible.
- Read the questions thoroughly, and address all parts.
- Do your homework and look through the website! We provide all teachers with a journal (blog), photo gallery, etc.
- **Make sure e-mails from us are coming to your inbox!**

# Please don't...

- Misspell PolarTREC, Arctic, or Antarctic!
- Just write “I, I, I” and “Me, Me, Me”
- Paraphrase your essay question answers
- Write responses that are too brief or vague
- Submit incomplete answers
- Mail or e-mail us additional documentation, lesson plans, photos, etc.

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If you have corrections or changes to your application, you can either resubmit the application or you can send specific instructions with your corrected answer to [info@polartrec.com](mailto:info@polartrec.com) until the application deadline.



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**If You Are Selected  
and depending on funding...**



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## Selected Teachers Are Provided: (subject to funding)

- Training for the experience virtually and in-person, including 1 week orientation in Fairbanks, Alaska
- Limited travel support for pre or post field meetings between teacher and research team
- Technological equipment for duration of participation, including laptop, camera, related accessories
- Most outdoor gear and clothing to be comfortable in the field and complete the work, including jacket, boots, etc.
- Substitute teacher expenses, for classroom teachers, during orientation week and expedition if occurs during the school year
- Travel expenses related to the orientation and expedition



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## Selected Researchers Are Provided: (subject to funding)

- We work with NSF logistics providers to cover all travel to and from the field, meals, outdoor gear, etc.
- ARCUS provides support for teachers where NSF logistics providers or schools do not cover it.
- ARCUS provides teachers with technological equipment, training, ongoing support, and the infrastructure to communicate from the field.
- Researchers, optional personal or project costs you may incur include: your travel to orientation, travel to meet your teacher, pre-field communications costs, materials or books sent to your teacher, etc.

## Costs Teachers May Incur:

- Personal apparel and gear not provided, such as long underwear, socks, gloves, toiletries, etc.
- Some medical insurance and/or evacuation insurance if costs are not covered under your insurance
- Personal travel adjacent to the expedition, or travel related to your outreach activities before or after the expedition
- Possibly salary related costs, depending on your school or work and their policies
- PolarTREC teachers **DO NOT** receive a stipend for their participation in the program (this includes informal science educators)



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# Teacher Expected Time Commitment

- 1 week in Alaska for Orientation likely in late March 2018
- Participation in 3-4 two-hour webinars related to the training
- Participation in 1 or more pre-field logistics phone call or virtual meeting
- Approximately 3-6 weeks in the field, plus associated travel days to and from the site
- Additional personal time for technology training and practice, as needed
- Additional personal research time/reading related to the subject of the expedition, as needed
- Outreach activities before and after the expedition, as you determine
- Completion of PolarTREC program requirements and evaluation components





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# Researcher Expected Time Commitment

- 8 – 9 hours of reading applications and selecting a teacher for your team
- Participation in (2) 1 hour webinars related to the program
- Participation in 1 or more pre and post field logistics phone calls or virtual meetings
- Commitment to working with teacher in the field
- Additional time sharing reading related material with the teacher, as needed
- Outreach activities before and after the expedition, as you and teacher determine
- Completion of PolarTREC evaluation components (no more than 1 hour)



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**I didn't get picked!  
Now what?**



- **If funded, apply again in the future!**
- **Follow an expedition at [www.polartrec.com](http://www.polartrec.com)!**
- Read about adventures in science in the teacher journals
- Post questions to the journals
- Check out the beautiful photography in the Photo Gallery
- Watch short videos
- Share a “Polar Profile” with your students and explore careers



- Participate in a “PolarConnect” live event from the Arctic or Antarctica
- Contribute to and utilize the online Learning Resources database
- Sign up for the Polar Education E-Mail List
- Become of our International networks and partners – APECS and PEI
- Participate in an online learning community about Polar science education



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# Frequently Asked Questions

## APPLICATIONS

- How many people are accepted?
- Are there age restrictions for participants?
- What types of backgrounds are you looking for?
- How many "areas of interest" need to be high in order to create a competitive application?
- Are there any specific fields in which you would like the teachers to have general/specific knowledge of?
- Are there any skills that would be advantageous in being considered as a candidate?
- Are there any special skills required for teachers to be considered as a candidate?
- Do your teachers generally have any research experience?
- Are applicants given specific feedback if they are not successful in their application?
- As an informal educator (one that teaches STEM to students on Saturdays during the school year) would I be eligible to apply?

## **EXPEDITIONS**

- Are there participation opportunities for geology and earth sciences?
- Are there opportunities to take or analyze core sample sets?
- What type of research might we be doing? (Related: Do you get to pick the research project or are you assigned to one based on skills and interest?)
- What are the dates?
- Are there opportunities for polar scuba diving as part of the research?

## **REQUIREMENTS**

- What are the expectations of the teachers with regard to your program?
- Are social studies/world history teachers eligible? If yes, any tips for teachers applying from this discipline?
- How specific do our plans for implementation have to be before the trip? As an informal educator, our programs change often and opportunities may change between application time and implementation time.



## OTHER QUESTIONS

- Besides having the support from the school administration, if this is to take place during a school year, would I be responsible for covering the costs of a substitute teacher during my absence?
- If accepted to the PolarTrec Program, are there opportunities to be in contact with the researchers and team members after the expedition to share their experiences with our students?
- Does the PolarTrec program count towards any continuing education credits?
- Do the educators participating in PolarTrec during the 2019 field season ever meet one another to discuss their experience, curricular materials, etc?
- Will I be able to access [the webinar] after?





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# Join PolarTREC!

## **Application Deadline:**

Monday, 24 September 2018 – 5PM ALASKA DAYLIGHT TIME

[www.polartrac.com/teachers](http://www.polartrac.com/teachers)

[www.polartrac.com/researchers](http://www.polartrac.com/researchers)



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# Thank You!

**For Questions & More Information:**

**Janet Warburton, PI, Project Manager**

**Judy Fahnstock, Project Assistant**

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

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



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