



TEACHERS AND RESEARCHERS
EXPLORING AND COLLABORATING



Welcome!

PolarTREC Informational Webinar

Thursday, 9 August 2012

Blackboard collaborate

Slides will be shown here

Exit the presentation

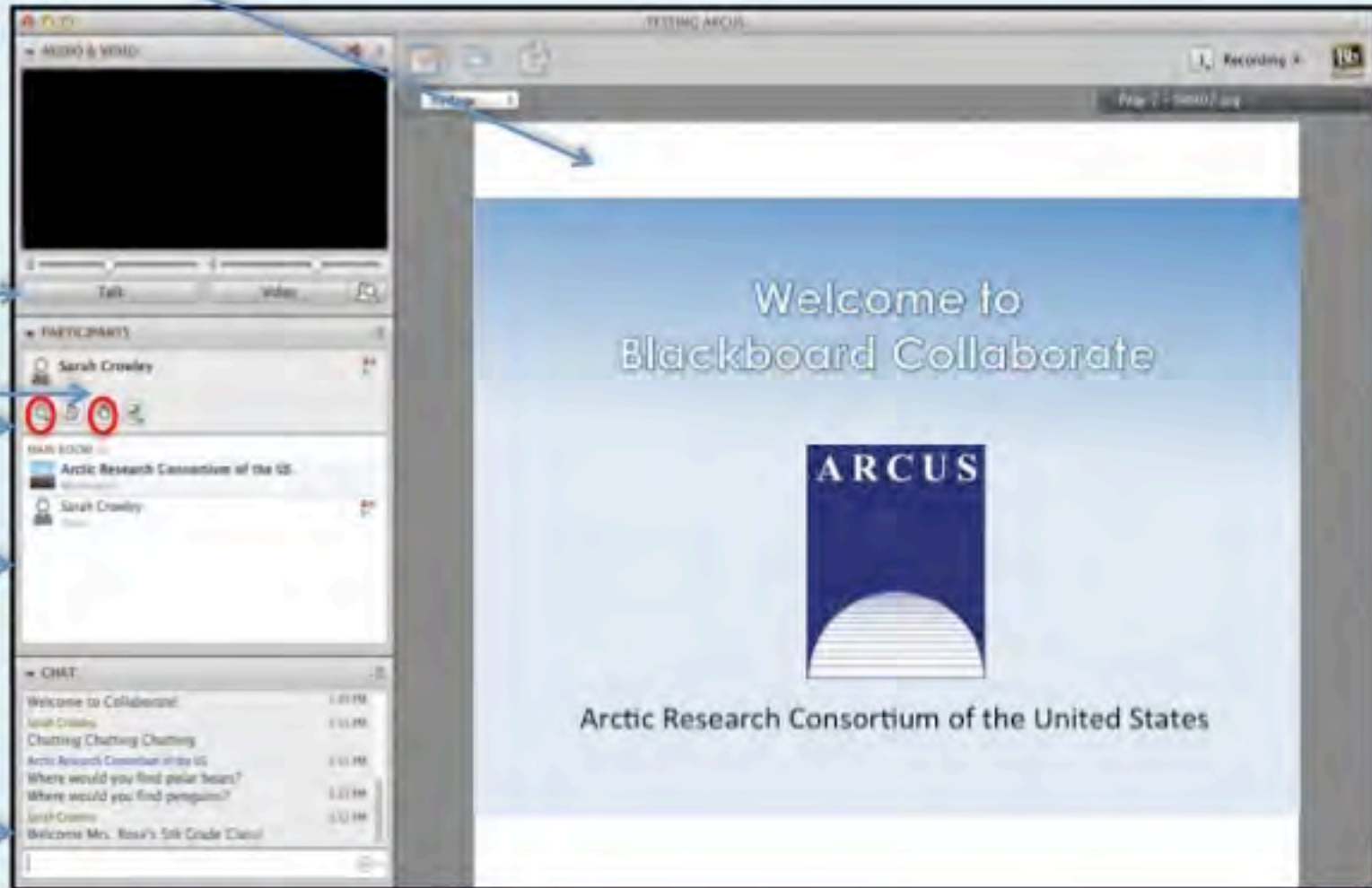
Click to Talk,
Unclick to finish talking

Raise your hand to ask a question

Share with emoticons

List of all participants

Chat with one person or the entire group



The screenshot shows the Blackboard Collaborate interface. The main area displays a presentation slide titled "Welcome to Blackboard Collaborate" with the ARCUS logo and the text "Arctic Research Consortium of the United States". The left sidebar contains several panels: a "Talk" panel with a microphone icon, a "PARTICIPANTS" panel listing "Sarah Crowley" with a hand icon, a "CHAT" panel with a list of messages, and a "SHARE" panel with emoticon icons. Arrows from the text labels on the left point to these specific interface elements.

Please Note:

- Participants using the telephone can mute/unmute by **pressing *6** on the phone.
- Today's event will be recorded and archived.

Questions

During the Presentation:

- Type your question in the text chat box

At the End of the Presentation:

- Raise your hand with the “hand button”.
- PolarTREC staff will call on you.
- Speak loud and clear and directly into the phone to ask your question.

Click on the Talk button to speak.

Unclick when you are done.

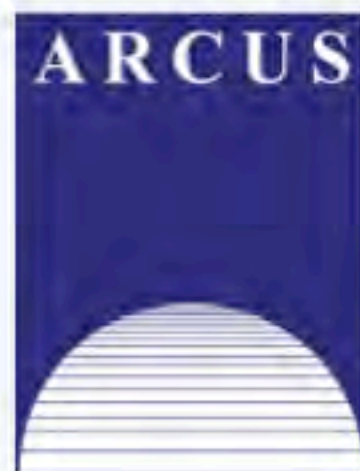
Presentation Outline



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

What is ARCUS?

ARCUS (Arctic Research Consortium of the United States) is a non-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 & PolarTREC

- ARCUS was awarded funding from the National Science Foundation Office of Polar Programs to manage PolarTREC from 2010-2013. Project will directly involve over 48 teachers (12/year); we anticipate 6 Arctic/6 Antarctic projects per year.
- Before this, ARCUS was funded to manage PolarTREC during the International Polar Year for three years, from 2007-2009.
- Prior to PolarTREC, ARCUS managed the TREC program in the arctic from 2004-2006.
- ARCUS is well suited to manage PolarTREC due to years of experience, integration of best practices in teacher research experiences, and connections with the polar research community.

PolarTREC Staff



Janet Warburton
PolarTREC PI &
Project Manager



Sarah Crowley
PolarTREC
Project Manager



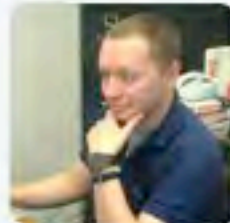
Ronnie Owens
Web Developer



Susan Fox
ARCUS
Executive Director



Helen Wiggins
Director of
Programs



Zeb Polly
Systems Administrator



Joed Polly
Video Production

...with help from the entire staff at ARCUS

What is PolarTREC?

PolarTREC (Teachers and Researchers Exploring and Collaborating)

PolarTREC is a professional development teacher research experience in which primarily K-12 teachers are paired with researchers to participate in a 2-6 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** Transformational!



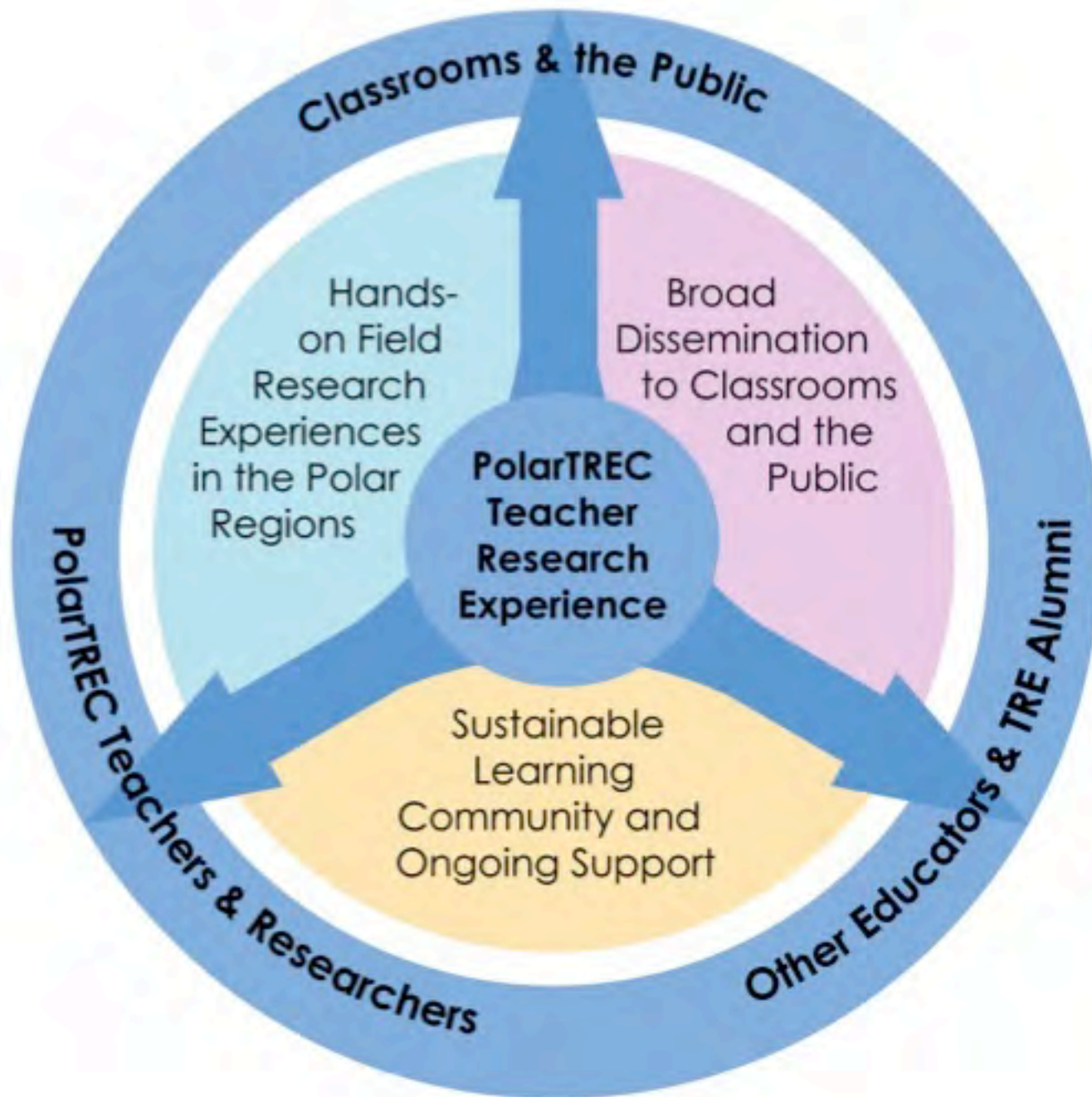
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Goals and Project Elements

Teachers and Researchers Exploring and Collaborating

The goal of PolarTREC is to advance polar science education through **improved teacher content knowledge** and **instructional practices**, **expand researcher understanding** of the education system, and to **enrich the outreach and dissemination of polar research** across all disciplines.





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

Teachers practice technology at the 2011 Orientation.

Teacher Research Experience



- Teacher matched with researchers and travel to locations in the **polar regions**
- Experiences last from **2** (really 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” presentations*
- *Online journals & videos*
- *Photo albums*
- *“Ask the Team” forums*

Connections also provide:

- Students provided with new and relevant information and data
- Connections to researchers doing polar research in the here and now

Sustained Community & Support

- **Funding** to help nurture ongoing relationships between teacher and researcher
- **Teacher Partners** - where teachers are matched with another teacher for mentoring and advice
- The **PolarSphere Network** – online newsletter and social networking tools 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 Impacts & 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 the classroom
- Professional rejuvenation, seen and treated like a professional
- Establish a network of teaching 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 teaching a teacher and contributing to the improvement of K-12 STEM education.
- 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!



How Students Benefit

- See that **ordinary** people can do science
- See that **science is fun, exciting**, and doesn't consist of people in lab coats and contrived experiments
- **Make connections** between real science, teamwork, and solving problems in the real world
- Participate in more **inquiry-based science** in the classroom

- Can have a dialogue with **real researchers**
- **Increased knowledge** in numerous science subject areas. Yahoo!



Students of PolarTREC Teacher Elizabeth Eubanks present at the State of the Arctic Conference in 2010.



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The Application Process

Application Timeline



Matching Process

- **September:** Approximately 200 Teacher Applications Reviewed Internally
- **Sept/Oct:** Top 100 applications reviewed by selection committee of teachers, researchers, and others
- Finalist pool of top 40 created by selection committee
- **Late October:** 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 PolarTREC Orientation and Sharefair

The Application Form

- Fill out the application at **www.polartrec.com**
- 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
- A Word version is available online; we **highly recommend** using it to type your answers and then cut and paste into the web form
- If you cannot access the application or have any troubles, please email info@polartrec.com as soon as possible
- Do not wait until the last minute; all applications are due **Monday, 3 September 2012 at 5 pm Alaska Daylight Time**

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.

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 until the application deadline.



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If You Are Selected

Selected Teachers Are Provided:

- 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 during orientation week and expedition if during the school year
- Travel expenses related to the orientation and expedition
- Some assistance with other miscellaneous costs

Selected Researchers Are Provided:

- 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 and their policies
- PolarTREC teachers **DO NOT** receive a stipend for their participation in the program

Teacher Expected Time Commitment

- 1 week in Alaska for Orientation in either February/March 2011
- Participation in 3-4 2 hour webinars related to the training
- Participation in 1 or more pre-field logistics phone call
- Approximately 2-6 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

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
- 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?**



- **Apply again in the future!**
- **Follow an expedition at www.polartrec.com!**
- Read about adventures in science in the teacher journals
- Post questions to the “Ask the Team” forums
- Check out the beautiful photography in the Photo Gallery
- Listen to “mystery” sounds or download a podcast
- 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

TIMELINES and LENGTH OF EXPEDITION

- What months/times are the trips?
- When do you find out an assignment once selected?
- If accepted as a participant are the dates of travel and participation "mandated" (you either participate on the dates provided or you are not accepted) OR are participants given a menu of dates from which they can select.
- Some information I read indicated experiences range from 2-8 weeks. While I'm sure the 8-week duration creates a more authentic experience, I have two small children at home so was wondering if it's possible to specifically apply for a two week experience.

WHAT RESEARCH PROJECTS...

- What kind of research is being done?
- Is a teacher assigned a location or is there some choice involved?
- Are there options for specific types of projects provided to teacher?
- What if we are interested in more than three topics/areas of study?
- How are the research projects decided upon?
- Are there more opportunities for research in the Arctic or Antarctic regions?
- Any type of projects related to engineering principles?
- Any projects related to human or animal physiology or environment applications?

COSTS

- What is the cost for the teacher to participate?

GEAR, FITNESS

- When, Where, What would I need to bring? What degree of physical fitness is needed?
- Does the teacher need to purchase special equipment?

POST- EXPEDITION EXPECTATIONS

- What are the post-experience expectations of teachers who are selected to participate?

ELIGIBILITY

- Is the application process open to all teachers of any subject nation wide, or is there a target content area and grade level?
- As a university professor who teaches graduate courses in science education am I eligible to apply for this program?
- How important are the percentage of students who receive free lunch in my school. Are my chances significantly lower because fewer students participate in the free lunch program?

OTHER SUNDRY QUESTIONS

- What type of training is involved?
- Can you discuss the advantages of partnering with researchers who are in my hometown area? Should I contact them myself directly?
- What support does the program provide if travel is required during the school year? Is it possible to hold classes from the research sites for students?
- Are you looking for specific outcomes that are quantifiable (for statistical purposes) in justifying your program?
- Will there be opportunities for live-streaming or Skype during the expedition?
- Will teachers/researchers have an opportunity to work with any indigenous peoples in the Arctic?

RESEARCHER QUESTIONS

- Are you interested in research projects related to Disaster and Risk Management in the Arctic that collaborates with the North Slope Borough Government and teachers for youth preparedness? This includes a historical ecology focus about disaster management which is interdisciplinary approach of social and natural sciences with an emphasis on community engagement.
- How many non-NSF researchers have been paired with a PolarTREC teacher to date? Were these pairings and experiences equally successful compared to the main program?



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Join PolarTREC!

Application Period:

1 August 2012 through 3 September 2012

www.polartrac.com/teachers

www.polartrac.com/researchers

Additional Questions?

Please read the following documents available on our website:

www.polartrac.com

- Frequently Asked Questions (for Teachers and Researchers)
- Program Goals and Objectives
- Teacher and Researcher Requirements

The archive of this event will be sent to everyone who registered for the event. Please share!



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Thank You for your interest in PolarTREC!

Question or Concerns?

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