



TEACHERS AND RESEARCHERS  
EXPLORING AND COLLABORATING

# Welcome to *PolarConnect*

With Nick LaFave and the Predatory  
Spiders 2012 PolarTREC Expedition

**Tuesday 17 July 2012**

9:00 a.m. AKDT

(10:00 am PDT, 11:00 am MDT, 12:00 pm CDT, 1:00 pm EDT)

Slides will be shown here

Exit the presentation

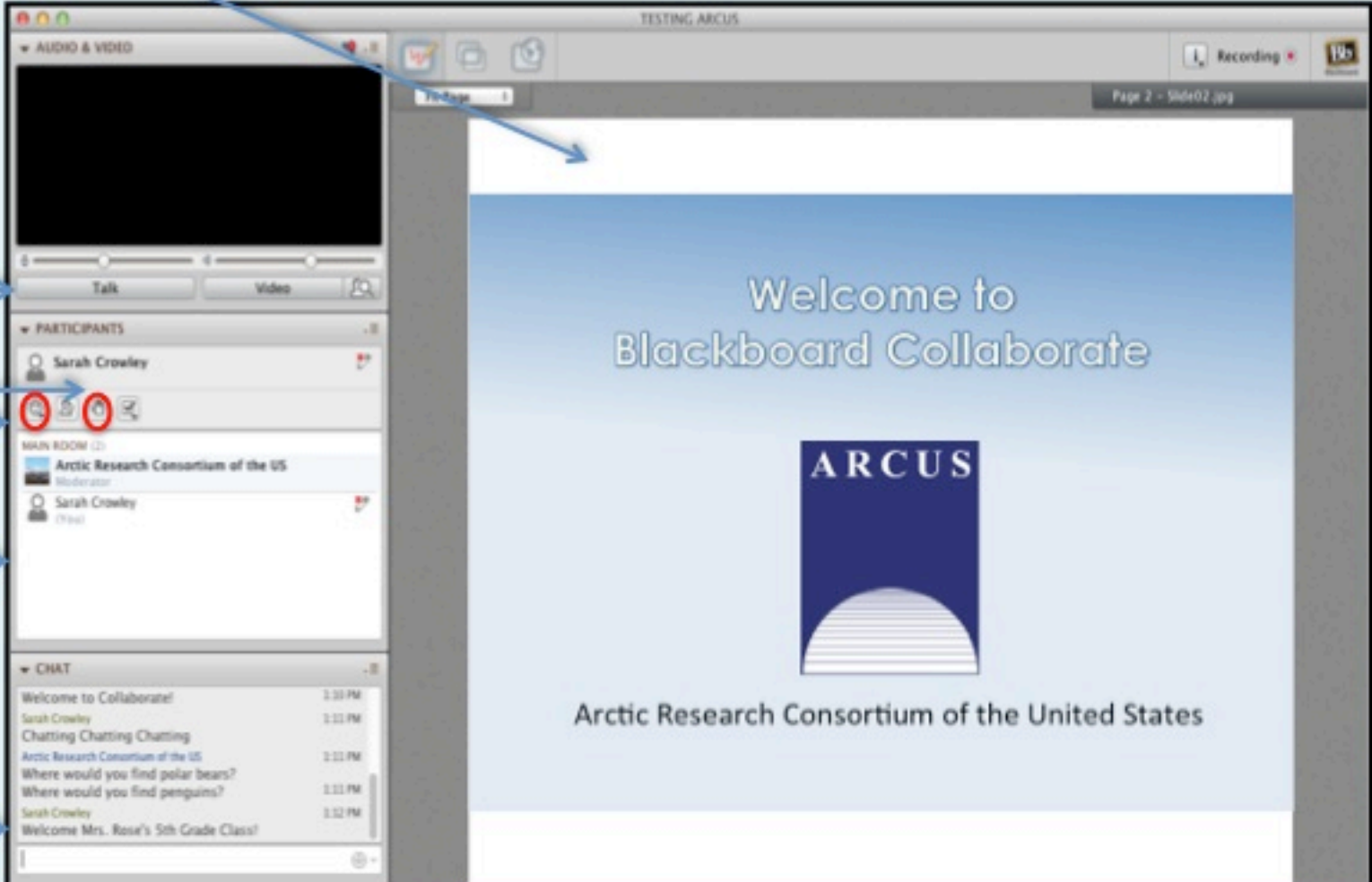
**Click** to Talk,  
**Unclick** to finish talking

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 window 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: "AUDIO & VIDEO" with a "Talk" button and a "Video" button; "PARTICIPANTS" showing a list of participants including Sarah Crowley and Arctic Research Consortium of the US; "MAIN ROOM" with a chat window; and "CHAT" with a list of chat messages. A "Recording" indicator is visible in the top right corner of the main window.

## Please Note:

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



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# Participant Introductions

**Please type in the chat box:**

- ✓ Name
- ✓ Affiliation (School, Institution, Etc.)
- ✓ The number of students and adults participating with you in the same location



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# What is PolarTREC?

PolarTREC is a professional development experience in which K-12 teachers are paired with researchers for 2-6 week research experiences in the polar regions.

From 2010-2013, nearly 50 teachers from around the United States will join scientists in the Arctic and Antarctica to learn about science, the polar regions, and to share what they have learned with their students and communities.



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# 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.

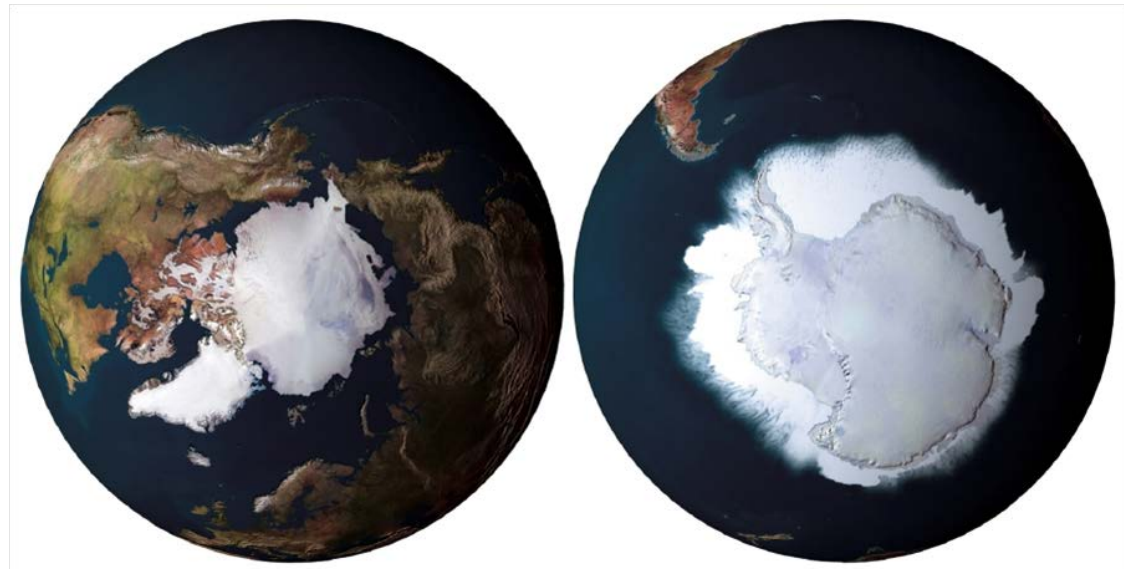
**Click on the Talk button to speak.**

**Unclick when you are done.**

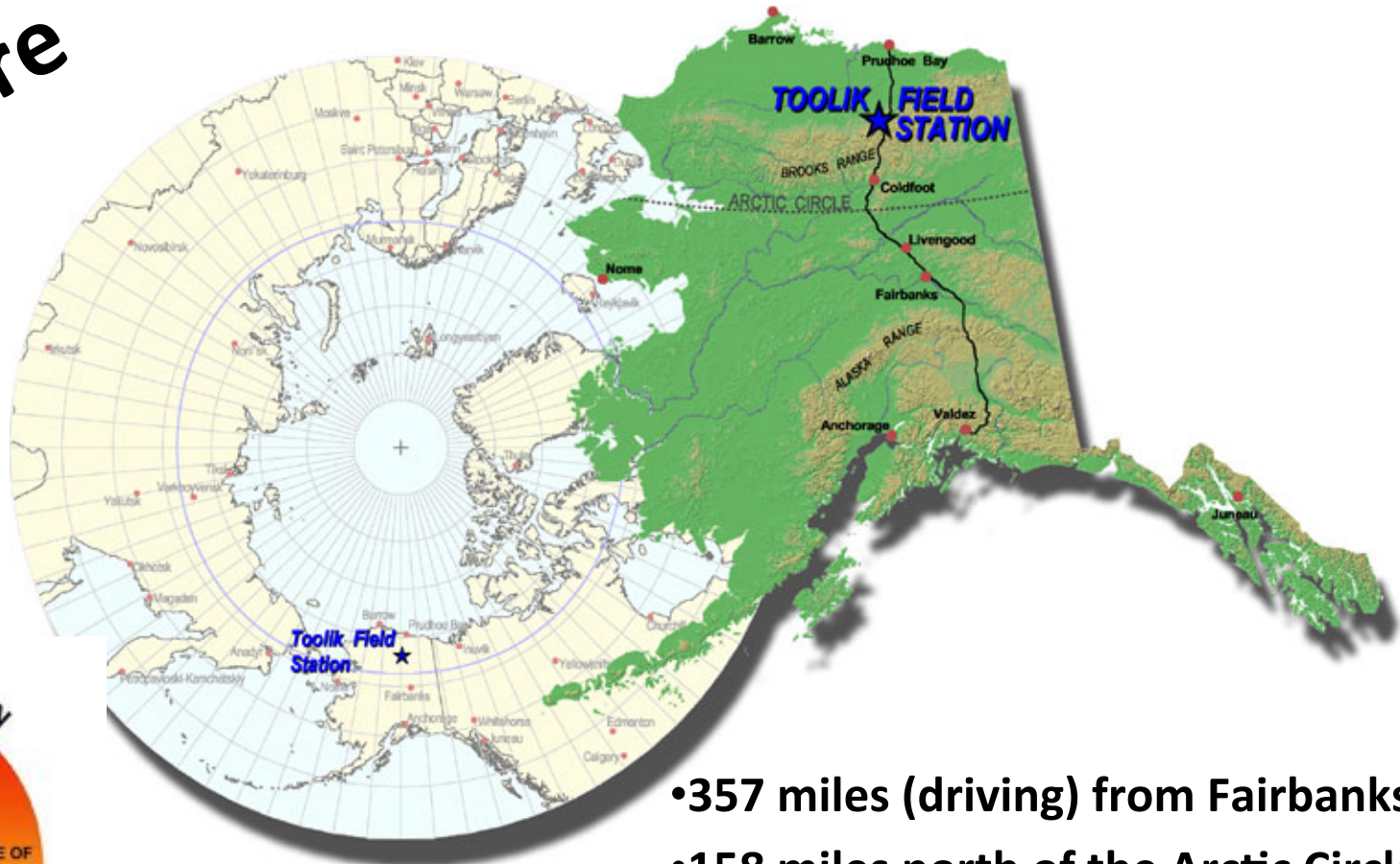


## Why study the polar regions?

- They include the fastest warming areas on the planet.
- They provide a unique natural laboratory for the study of quickly changing global processes, including climate change and ecosystem responses to environmental changes (e.g. evolution and biodiversity).
- Major drivers of the global ocean system, they are fundamental to predicting the global climate and changes in sea level.
- The presence of indigenous populations.
- The growing presence of development activities and environmental contaminants.



Where are we?

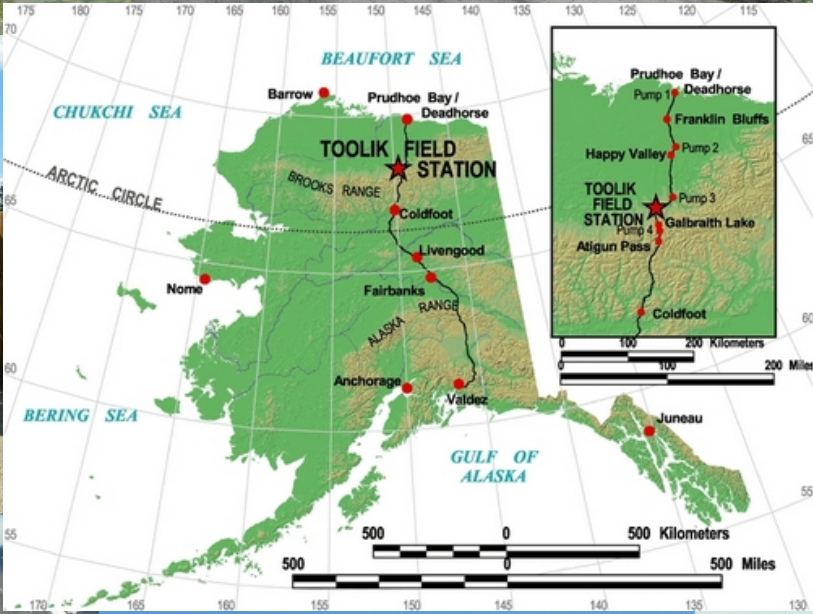


- 357 miles (driving) from Fairbanks
- 158 miles north of the Arctic Circle
- 111 miles south of Prudhoe Bay
- 117 miles south of the Arctic Ocean



Latitude 68°37'39"N  
Longitude 149 ° 35'51"W









1050-560





# Lab Space





# MENU

## LUNCH

- MON: FRENCH DIPS
- TUES: SAUSAGE TORTELLINI
- WED: SHEPHERD'S PIE
- THUR: CHICKEN STIR FRY
- FRI: GRILLED CHEESE
- SAT: FISH-n-CHIPS

## DINNER

- MON: TILAPIA
- TUES: BBQ CHICKEN
- WED: SHRIMP SCAMPI
- THUR: PORK CHOPS
- FRI: NY STEAKS
- SAT: CHICKEN PARMESAN
- SUN: BBQ RIBS

\* (V) = VEGETARIAN FRIENDLY



# Life on the Tundra





# Recreation







# Land of the Midnight Sun!

November 27 to January 14 sun never rises

May 26 to July 17 sun never sets





**Arctic  
Animals**



SKEET ST.





# Flora & Landscape



# Meet Team Spider

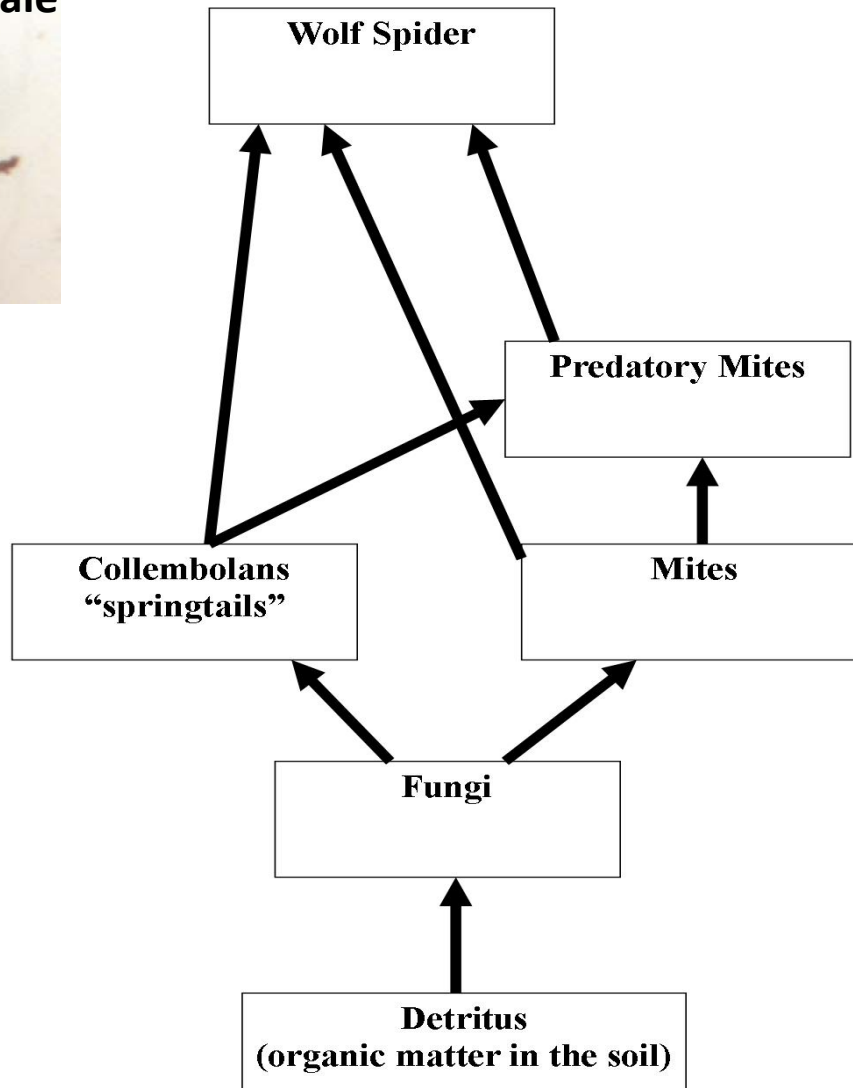
Kiki Contreras, Research  
Assistant Duke University

Amanda Koltz, PhD Student  
Duke University

Nick LaFave, PolarTREC Teacher  
Clover High School



# Research project: The role of arctic wolf spiders in the tundra ecosystem



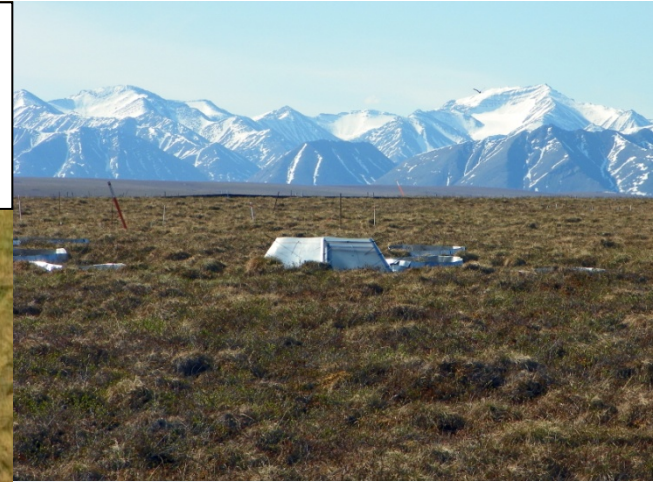
# Research project: The role of arctic wolf spiders in the tundra ecosystem

1. How do environmental changes affect wolf spider feeding ecology?
2. How important is wolf spider predation in structuring arctic food webs?
3. Can wolf spider predation indirectly influence rates of litter decomposition?





# Spider sampling in three locations that vary in spring snow melt date



Koltz  
Research Area #1  
2011

Block 2

3	5
6	1
2	4

Block 1

6	4	3
1	5	2

boardwalk

Block 3

1	2
6	3
4	5

5 blocks with 6 plots each

Plot treatments

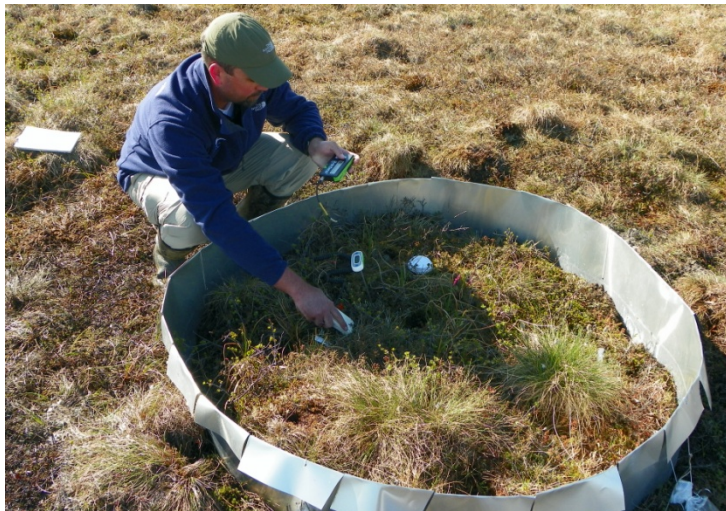
- (1) control spider density, ambient temperature;
- (2) high spider density, ambient temperature;
- (3) low spider density, ambient temperature;
- (4) control spider density, heated;
- (5) high spider density, heated;
- (6) low spider density, heated

Block 4

6	2
1	5
3	4

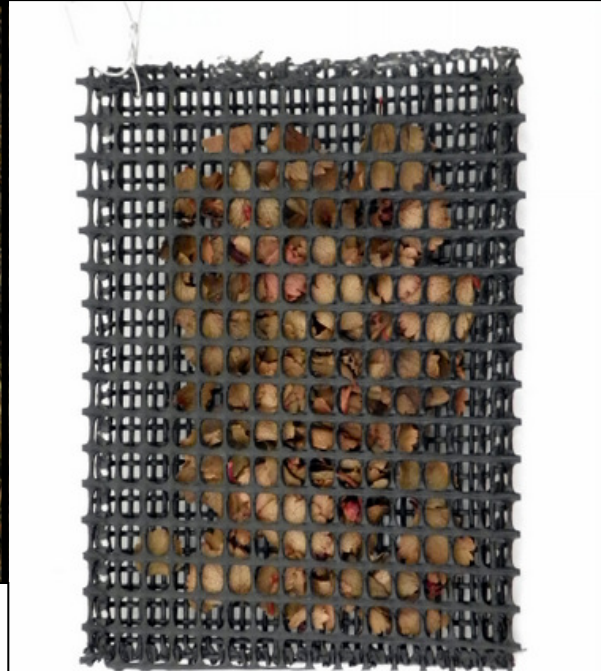
Block 5

6	3
5	4
1	2



**Arthropod sampling for spiders & their prey:**  
**Pitfalls, soil samples, & Berlese funnels**





**Environmental Data: Nutrient availability, soil temperature, and litter decomposition**





**Surrounded  
by Science**



# Thank You!



Research Funding provided by:

National Science Foundation Office of Polar Programs  
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National Parks Service Murie Science and Learning  
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Earth and Space Foundation

Kappa Delta Foundation

Arctic Institute of North America (AINA)





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# Teachers: Join PolarTREC!

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

Every teacher can participate in different ways:

- **Following Expeditions**
- **Participate in PolarConnect Events**
- **Join the Polar Education Email List**
- **Take Online Professional Development Courses**
- **Become a PolarTREC Teacher!**





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# Upcoming Events

Watch for and register for upcoming events at [www.polartrec.com!](http://www.polartrec.com)



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# Thank You!

*An archive of the event will be available shortly.*  
<http://www.polar-trec.com/polar-connect/archive>

