



TEACHERS AND RESEARCHERS
EXPLORING AND COLLABORATING

Welcome to a Special Event!

Taking PolarTREC to the Classroom and Beyond

Reflecting on the Experience

19 November 2013

Slides will be shown here

Exit the presentation

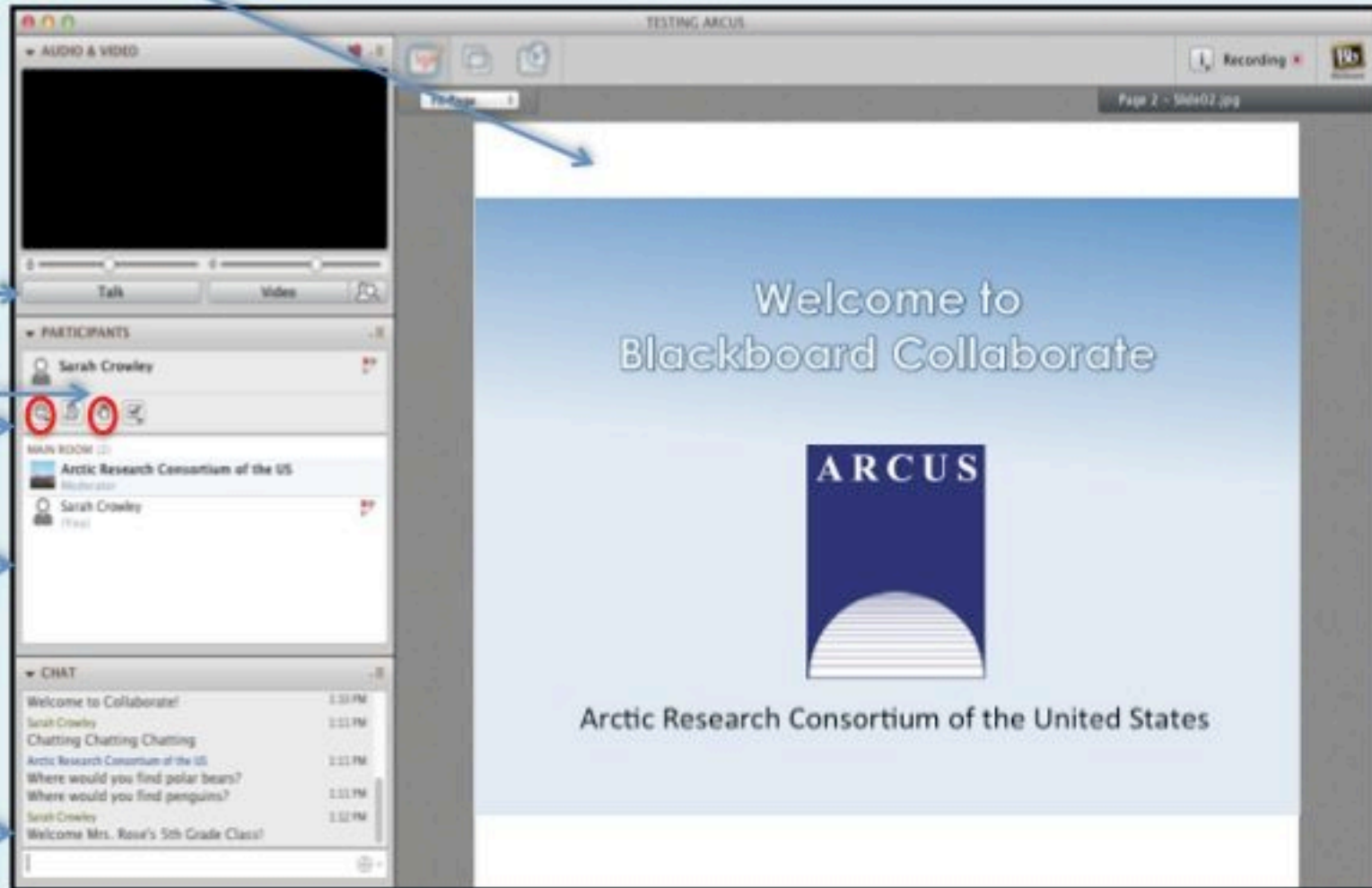
Click to Talk, Unclick to finish talking

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. On the right, a presentation slide titled "Welcome to Blackboard Collaborate" is displayed, featuring the ARCUS logo and the text "Arctic Research Consortium of the United States". On the left, a control panel is visible with several sections: "AUDIO & VIDEO" (with a black video feed and "Talk" and "Video" buttons), "PARTICIPANTS" (listing Sarah Crowley and Arctic Research Consortium of the US), "MAIN ROOM" (with a chat window), and "CHAT" (with a list of messages). Blue arrows point from the text labels on the left to specific elements in the interface: "Slides will be shown here" points to the presentation area; "Exit the presentation" points to the top right corner of the window; "Click to Talk, Unclick to finish talking" points to the "Talk" button; "Raise your hand to ask a question" points to the hand icon in the participants list; "Share with emoticons" points to the emoticon icon; "List of all participants" points to the participants list; and "Chat with one person or the entire group" points to the chat window.

Please Note:

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

Questions & Discussions




Two ways to interact:

1. Type your questions or comments in the text chat box
2. Or, Raise your hand with the “hand button”.
 - PolarTREC staff will call on you.
 - Click on the Talk button to speak and unclick when done (if using VOIP) or unmute your phone *6
 - Speak loud and clear and directly into the phone to talk.

Agenda

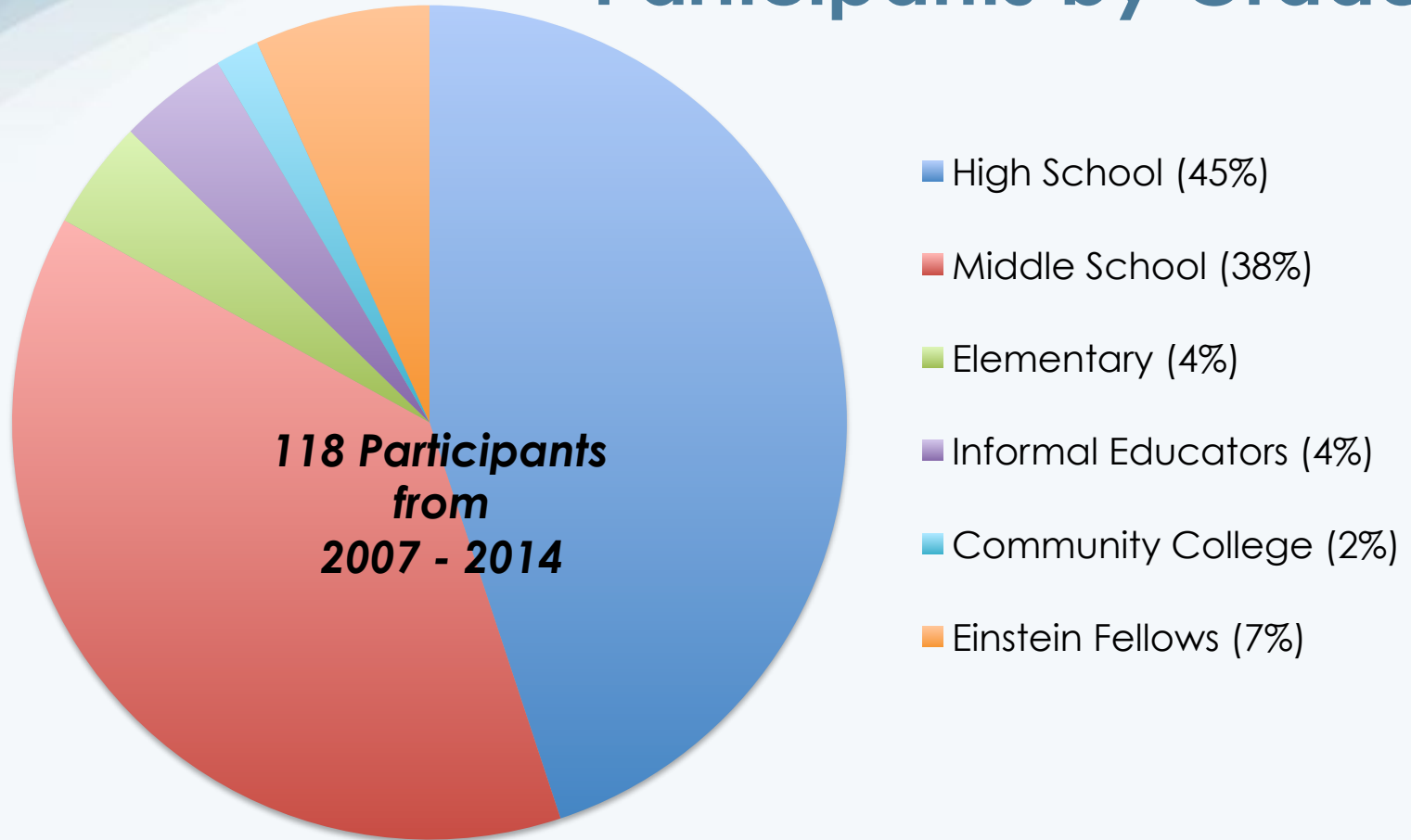
- Update on the program and products
- Reflecting on the Experience
 - Teachers Reflection
 - Researchers Reflection
- ARCUS Resources for Staying Connected & Your Needs
- Additional Announcements & Adjourn

PolarTREC Participants

	Year	Total Teachers	Arctic	Antarctic
NSF IPY Award  	2007-2008	20	11	9
	2008-2009	15	10	5
	2009-2010	19	14	5
NSF OPP Award 	2010-2011	15	11	4
	2011-2012	14	8	6
	2012-2013	17	12	5
	2013-2014	18	12	6
		118*	78*	40

* Totals include 8 NSF Einstein Fellows

Participants by Grade





TEACHERS AND RESEARCHERS
EXPLORING AND COLLABORATING

Over **100 Polar related lessons** developed

Over **50,000 participants** connected to **Polar Regions**
through live events

82% for the very first time

Over **700,000 unique visitors** to our website

Over **2 million unique page visits** to website

Other partners include **NASA, NOAA, USGS, BLM, NPS**

Reflections & Reports

A chance to hear from your cohort of researchers and teachers.

- Implementation in the classroom
- Updates on outreach and lesson plans
- Highlights of challenges, surprises and successes

- Future plans to collaborate with the cohort and research teams.



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Exploring & Collaborating

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Join the 2013-2014 PolarTREC teachers on their ARCTIC expeditions!



Drumlin Formation in Iceland

T: Jamie Esler, Lake City High School, ID
R: Neal Iverson, Iowa State University, IA
D: 28 July - 21 August 2013
L: Central Iceland



Airborne Survey of Polar Ice 2013/IceBridge

T: Mark Buesing, Libertyville High School, IL
R: Michael Studinger, NASA Goddard Space Flight Center
D: 1-18 April 2013
L: Kangerlussuaq, Greenland



Joint Science Education Project 2013

T: Lynn Reed, National Science Foundation Office of Polar Programs Einstein Fellow
D: 28 June - 19 July 2013
L: Various Stations, Greenland



T: Teacher, School, State
R: Researcher, Institution, State
D: Expedition Dates
L: Expedition Location

Carbon Balance in Warming and Drying Tundra 2013

T: Tom Lane, Bellows Free Academy, VT
R: Elizabeth Webb, University of Florida, FL
D: 1 April - 3 May 2013
L: Healy, Alaska, USA



Arctic Sunlight and Microbial Interactions

T: Bruce Toferka, West Morris Mendham H.S., NJ
R: Rose Cory, University of NC Chapel Hill, NC
D: 24 June - 19 July 2013
L: Toolik Field Station, Alaska, USA



Predatory Spiders in the Arctic Food Web 2013

T: Neil Kemp, Kenwood Academy, IL
R: Amanda Koltz, Duke University, NC
D: 27 June - 3 August 2013
L: Toolik Field Station, Alaska, USA



Reconstructing the Past Climate of Central Alaska

T: Ken Williams, Nubbleboro Central School, ME
R: Seth Campbell, University of Maine, ME
D: 29 April - 16 May 2013
L: Denali National Park, Alaska, USA



Arctic Wetland Dynamics

T: Carol Scott, Randy Smith Middle School, AK
R: Kimberley Miller, San Diego State Univ., CA
D: 18 May - 16 June 2013
L: Kevo Research Station, Finland



Chukchi Sea Ecosystem Study

T: Andrea Skloss, Brundrett Middle School, TX
R: Ken Dunton, University of Texas at Austin, TX
D: 25 July - 15 August 2013
L: USCGC Healy



Northern Alaska Coastal Ecosystems

T: Jill Smith, Port Aransas High School, TX
R: Ken Dunton, University of Texas at Austin, TX
D: 7 - 26 August 2013
L: Kaktovik, Alaska, USA



Arctic Ground Squirrel Studies

T: Alicia Gilean, Jenks West Intermediate School, OK
R: Cory Williams, University of Alaska, AK
D: 29 May - 28 June 2013
L: Toolik Field Station, Alaska, USA



PolarTREC: Expedition Iceland

Three Weeks in the Arctic
and the Impacts on My Classroom

Jamie Esler
Lake City High School





Chukchi Sea Ecosystem

Teacher: Andrea Skloss Researcher: Ken Dunton



Physical, Biological, and Chemical Parameters



Arctic Sunlight & Microbial Interactions

Toolik Field Station, June – July 2013

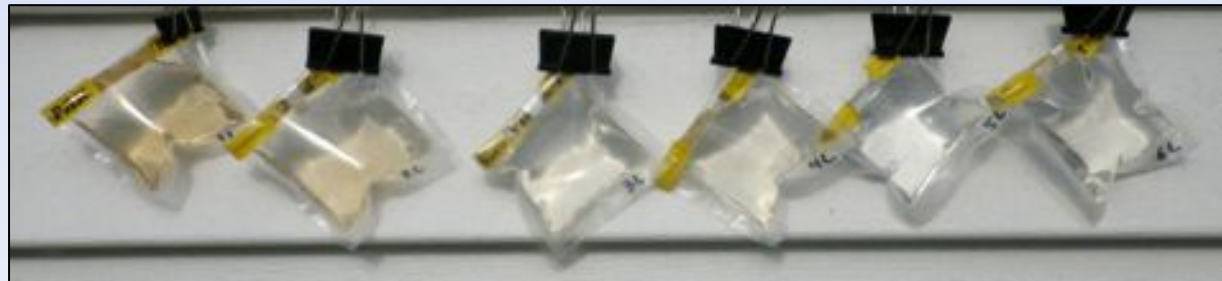
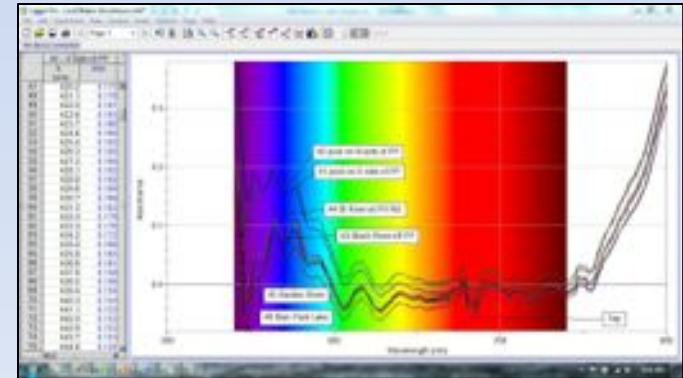
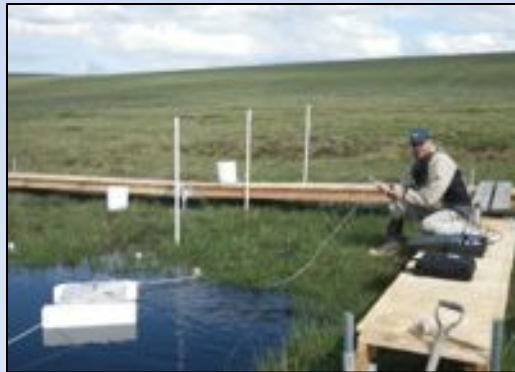
Teacher: Bruce Taterka, Mendham (NJ) High School

Researchers: Rose Cory & George Kling, U of Michigan

Lake I-8
inlet



Lake I-8
outlet



Outreach

- NJ Observer-Tribune (6/13)
- NJ Star-Ledger (8/13)
- NJ Science Teachers Convention (10/13)
- Barack Obama Green Charter H.S. (12/13)
- Morris County Library (1/14)
- Mendham Township Library (2/14)
- National Science Teachers Convention with Alicia & Nell (4/14)



7 Environmental educator learns about climate change in Alaska during his latest expedition

By Ben Horowitz/The Star-Ledger
Follow on Twitter
on August 18, 2013 at 7:25 AM, updated August 18, 2013 at 11:57 AM

MENDHAM — This summer, Bruce Taterka spent three weeks in the desolate meadows of northern Alaska as part of a team that studied how climate change is shrinking the tundra and the frozen underground in the Arctic Circle.



Four years ago, his vacation in the Andes Mountains of Ecuador focused on how an increasing caterpillar population and dwindling wasp numbers may be harming the ecosystem. And

Bruce Taterka, an environmental science teacher at Mendham High School, works on climate change research on the tundra in the North Slope of Alaska.

Expedia

Video of the Day

WORLDWIDE FORWARDS
THE CITIES - THE MENDHAMS

Observer-Tribune

THURSDAY, AUGUST 15, 2013



GLOBAL WARMING STUDY DRAWS TATERKA TO WILDS OF ALASKA

Lessons:

1 plan submitted (Qualities of effective scientists)

1 plan in process (Analyzing scientific (squirrel) data)

Lots taught in my school!



School Outreach:

Bulletin Board/
Announcements

Teacher Lunch Bunch
presentations

District and site
newsletters

Outreach:

- Two neighboring districts
- Oklahoma Science Teachers Association Conference
- Local media (newspaper/news show)
- Upcoming: Booth at Women in Science Conference
- Upcoming: Presentation at NSTA conference with Nell and Bruce





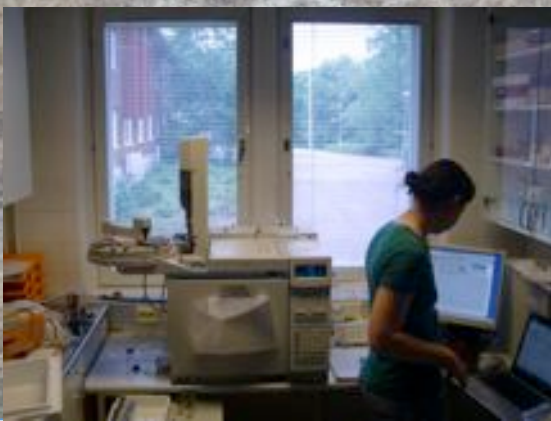
Kevo Research Station Lapland, Northern Finland



Field Work: Taking gas and soil samples at Petsikko Wetlands



Lab Work: Gas Chromatography in Rovaniemi







Connections



**IT'S ABOUT PEOPLE
&
PLACE**

PLACE



SCIENCE



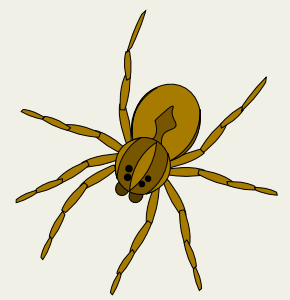
ADVENTURE

RELATIONSHIPS





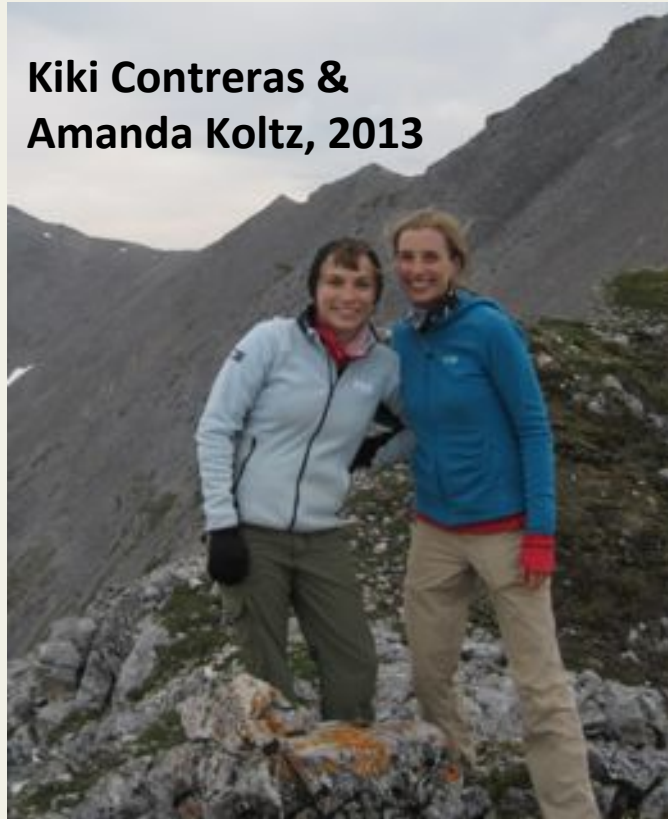
Team Spider



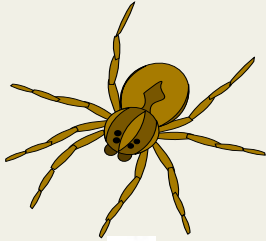
Nell Kemp, 2013



Kiki Contreras & Amanda Koltz, 2013



Wolf spider



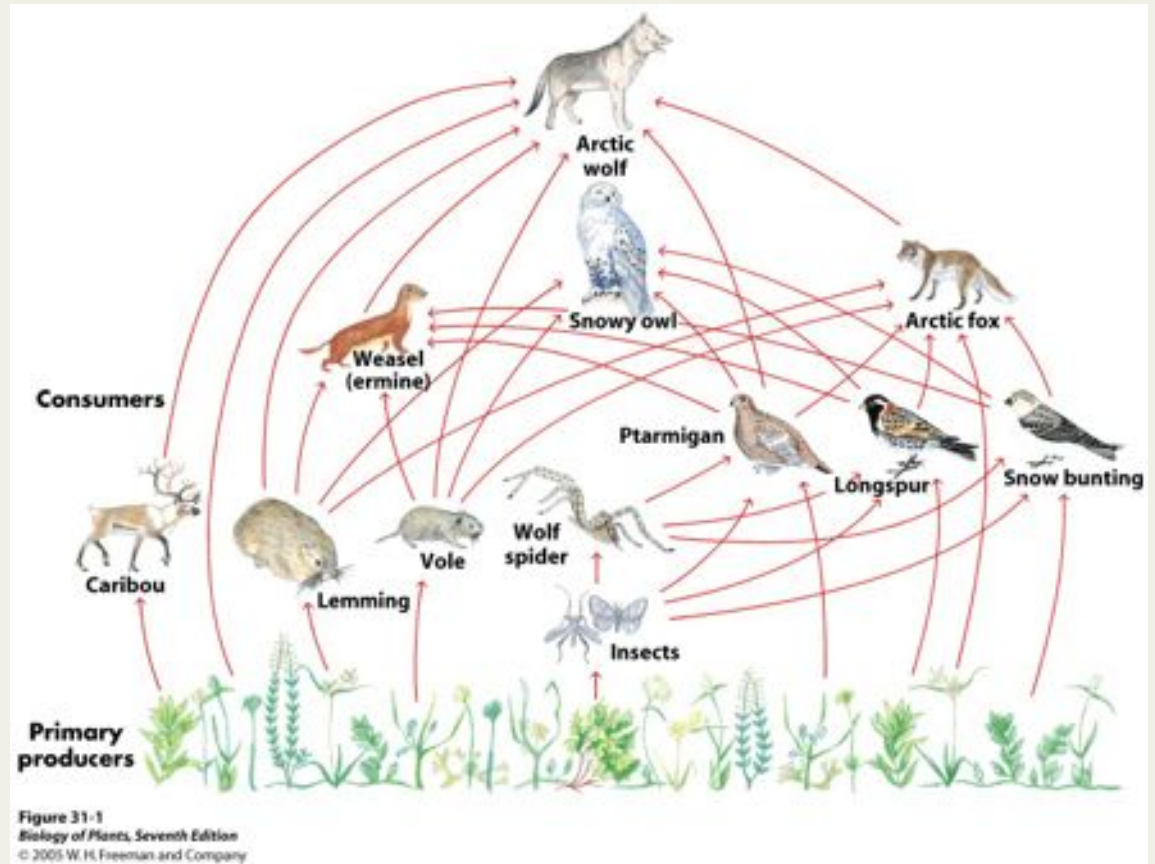
Soil animals



Bacteria / fungi

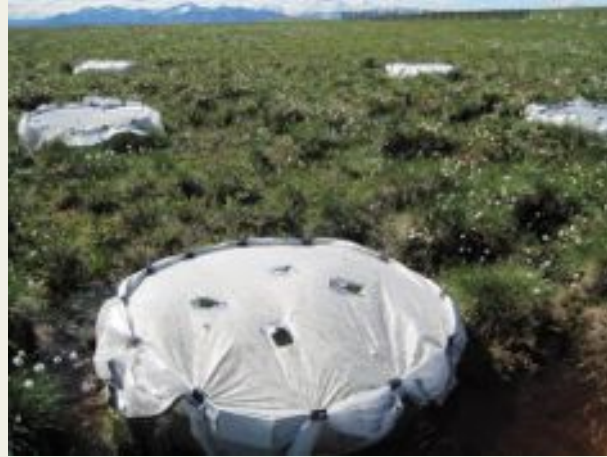


Plant litter /
Permafrost
carbon



What happens to the rate of decomposition if we have more or less spiders?

How did we study them?



There are always more questions that arise during research...





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T: Teacher, School, State
R: Researcher, Institution, State
D: Expedition Dates
L: Expedition Location



Biology of Antarctic Fishes 2013

T: Paula Dell, Lindblom Math and Science Academy, IL
R: Kristin O'Brien, University of Alaska, AK
D: 29 May - 7 July 2013
L: Palmer Station and R/V Laurence M. Gould



Ice Cube Neutrino Observatory 2013

T: Obed Fulcar, Maria Teresa Mirabal Middle School, NY
R: Jim Madsen, Univ. of Wisconsin, WI
D: 5 January - 9 February 2014
L: South Pole Station



West Antarctic Ice Sheet Microstructures

T: Yamini Bala, Dr. Pedro Albizu Campos Puerto Rican High School, IL
R: Erin Pettit, University of Alaska, AK
D: 29 November 2013 - 6 January 2014
L: WAIS Divide



Soil Ecology in Antarctic Dry Valleys

T: Justin Kendhammer, Alpine Leadership Academy, AZ
R: Egbert Schwartz, Northern Arizona University, AZ
D: 7 November - 11 December 2013
L: Wight and Taylor Valleys, Dry Valleys



Totten Glacier System in East Antarctica

T: Glenn Clark, Parishville-Hopkinson Central School, NY
R: Amy Leventer, Colgate University, NY
D: 25 January - 12 March 2014
L: R/V Nathaniel B. Palmer



Tectonic History of the Transantarctic Mountains 2013

T: Brian DuBay, Grissom Middle School, MI
R: Samantha Hansen, Univ. of Alabama, AL
D: 4 November - 16 December 2013
L: McMurdo Station

PolarTREC is funded by the National Science Foundation Office of Polar Programs and managed by the Arctic Research Consortium of the United States. For more information, visit us online or e-mail info@polartrec.com.




Staying Connected

- Alumni Survey
- Expedition pages
- Social networking tools
- Travel Requests
- Other?

Your Ideas, Needs, and Questions



Thank You!

An archive of the event will be available.

