



Welcome to a Polar Week Live Event!

Connecting to the Poles!

with researchers

Brittany Potter, John Lenters,
Karita Negandhi, and Reny Tyson

Thursday, 20 September 2012

10am Alaska Daylight Time [11am PDT, 12pm MDT, 1pm CDT, 2pm EDT, 16:00 GMT]



What is Polar Week?



16-22 September 2012

A GLOBAL celebration of the polar regions, each equinox, every year!

Partnering with the Arctic Research Consortium of the United States (ARCUS) and Polar Educators International (PEI)

Join in the fun of science and learn more about all the activities at:

<http://www.apecs.is/outreach/polar-week/polar-week-september-2012>

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" with a list of participants including Sarah Crowley and Arctic Research Consortium of the US; "MAIN ROOM" with a list of participants; 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.

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.

Participant Introductions

Type in the chat box:

- ✓ Name
- ✓ School / Institution
- ✓ The number of students and adults participating with you in the same location

Connecting to the Poles with...



Brittany Potter



Reny Tyson



Karita Negandhi



John Lenters

Connecting to the Poles with...



Brittany Potter

Brittany studied Arctic lakes in university and was a figure skater for 13 years....

"My most rewarding experiences so far in my life revolved around my pursuit of studying science. My interest in science began with a love for the clouds and storms.

This year I spent March and April in Alaska and brought my ice skates with me. I also love working with kids and have an interest in science education."



John Lenters

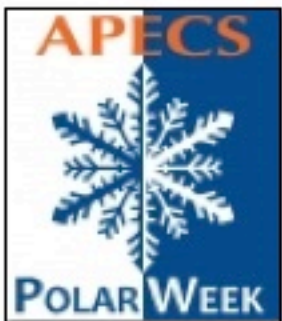
John and Brittany worked together studying Arctic Lakes



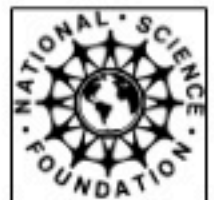
Alaska's North Slope: A landscape of lakes

Brittany Potter & John Lenters

UNIVERSITY OF
Nebraska



International Polar Week
A global celebration of the polar regions, each equinox, every year!

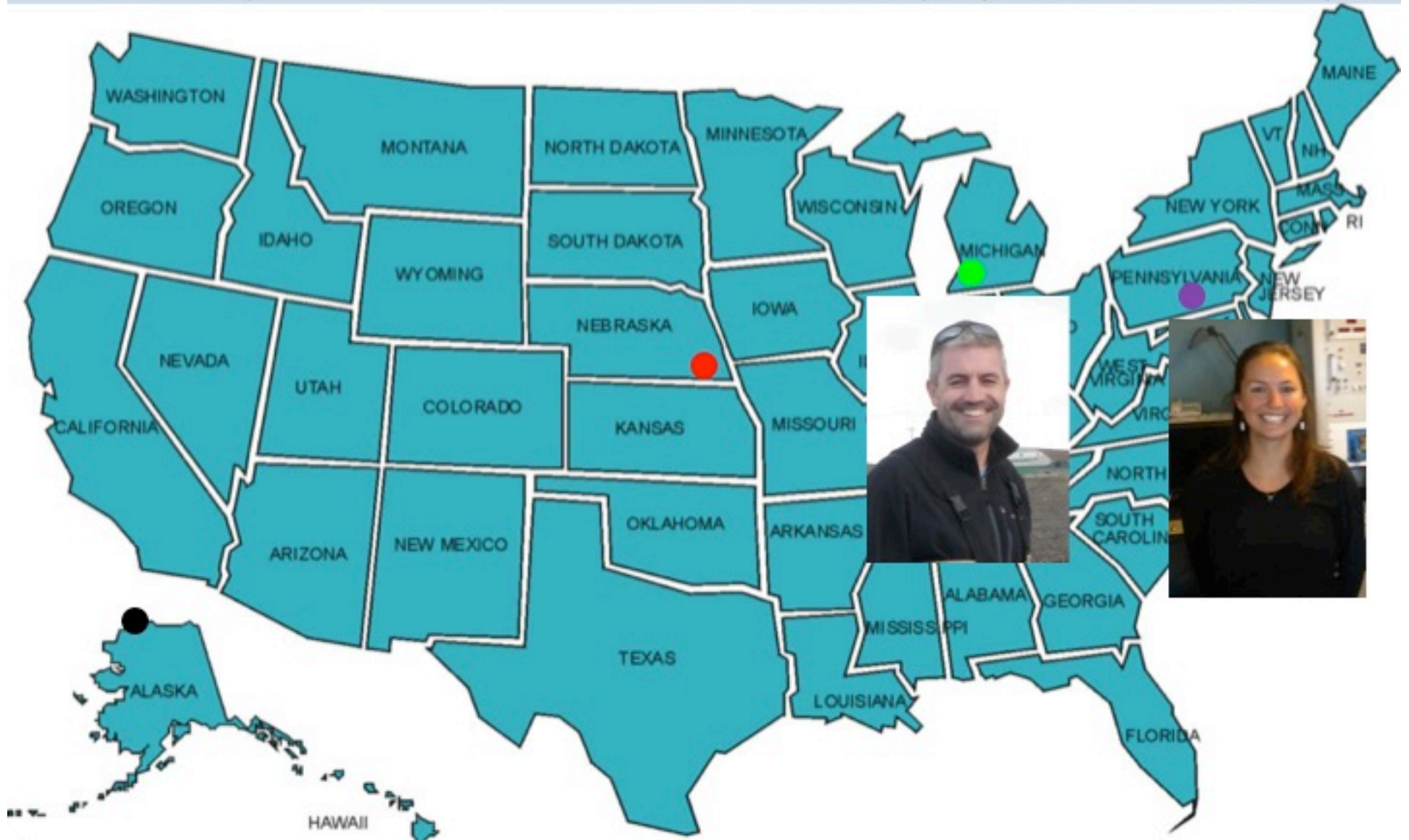


Where are we from?

- John
- Brittany

Where do we work?

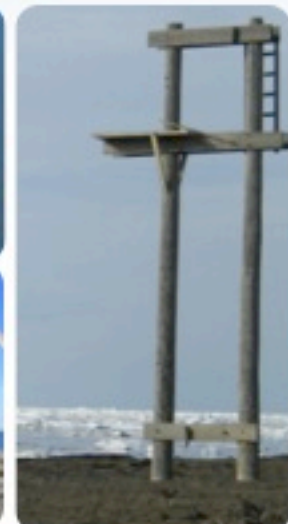
- University of Nebraska (Lincoln, Nebraska)
- Alaska's North Slope (near Barrow, Alaska)



Alaska's North Slope

North Slope: Region north of the Arctic circle and the Brooks mountain range

Tundra: Spongy vegetation with no trees and flat terrain

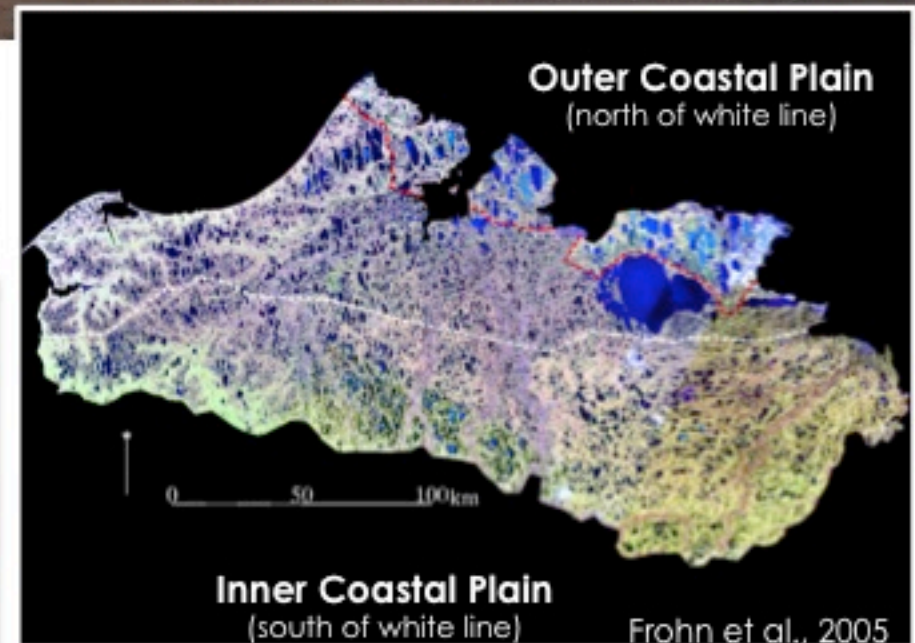


Alaska's Arctic lakes



The Arctic Coastal Plain of Alaska

Above-freezing temperatures in summer
Freeze-thaw processes develop the lakes



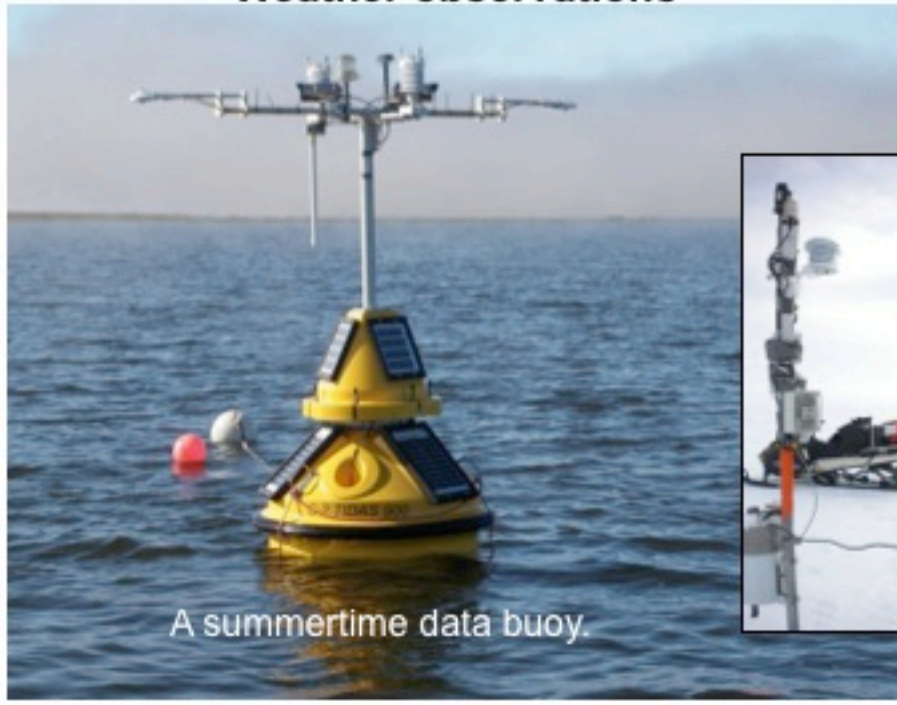
Thousands of lakes!

Why do we study the lakes?

Because lakes ...

are important habitat for fish and birds;
are a food source for animals;
provide recreation and drinking water;
affect the climate through heat and moisture.

Weather observations



A summertime data buoy.

What do we want to know about the lakes?

- Water level, evaporation
- Over-lake meteorology
- Heat transfer with the atmosphere
- Lake size (depth, area)
- Water temperature
- Wave activity
- Ice cover and timing



John servicing a land-based weather station in winter.

What is our fieldwork like?



Getting to the lakes can require many forms of transportation!



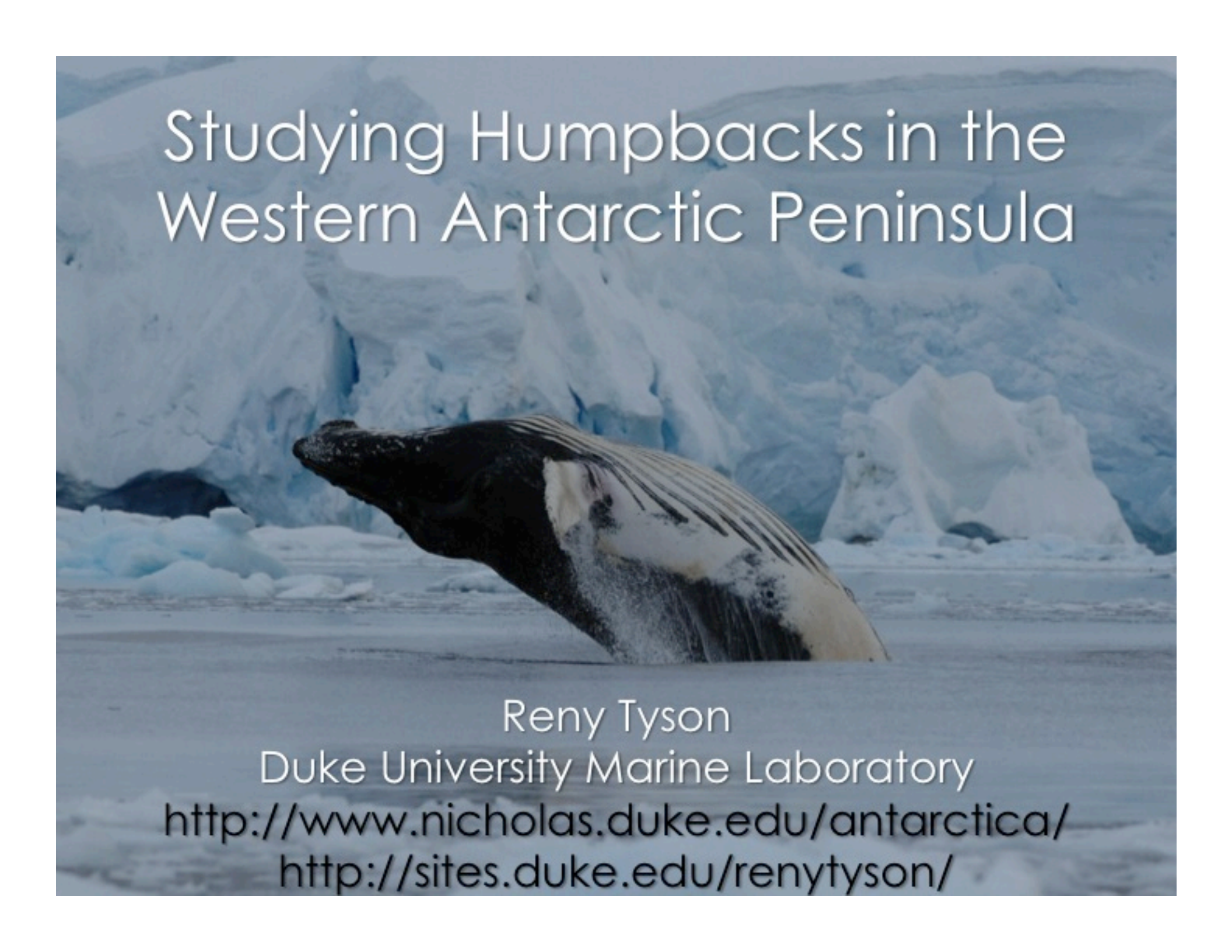
Connecting to the Poles with...



Hello!

My name is Reny Tyson and I am a doctoral candidate in Marine Science and Conservation at Duke University. My research interests lie within marine mammal behavioral ecology, including foraging ecology, population ecology, and bioacoustics. Currently I am researching the fine-scale foraging behavior of humpback whales (*Megaptera novaeangliae*) in the Western Antarctic Peninsula for my PhD dissertation.

Reny Tyson

A photograph of a humpback whale breaching the water in a cold, icy environment. The whale's dark back and white underbelly are visible as it surfaces. In the background, there is a large, jagged ice formation, possibly a glacier or ice shelf, with a blueish tint. The overall scene is set in a polar region.

Studying Humpbacks in the Western Antarctic Peninsula

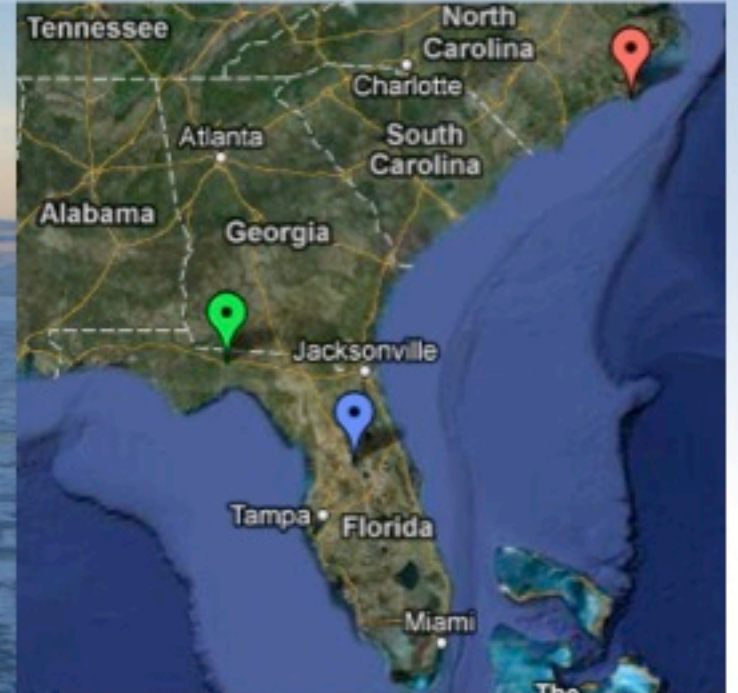
Reny Tyson

Duke University Marine Laboratory

<http://www.nicholas.duke.edu/antarctica/>

<http://sites.duke.edu/renytyson/>

Just a small town girl..



Multi-scale and Interdisciplinary Study of Humpbacks and their Prey "MISHAP"

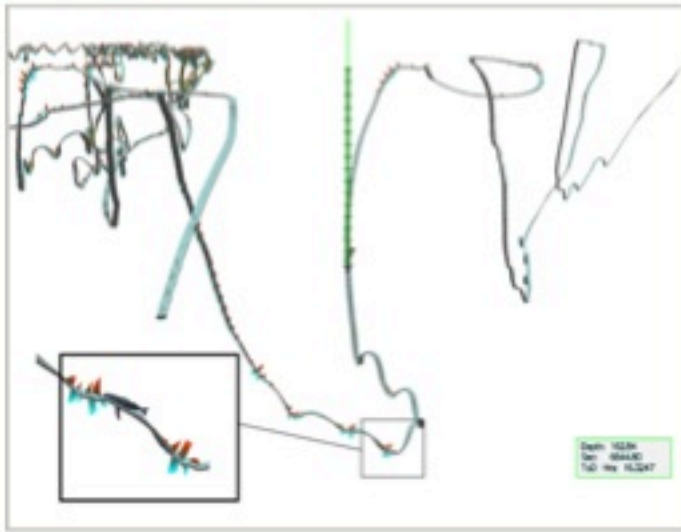
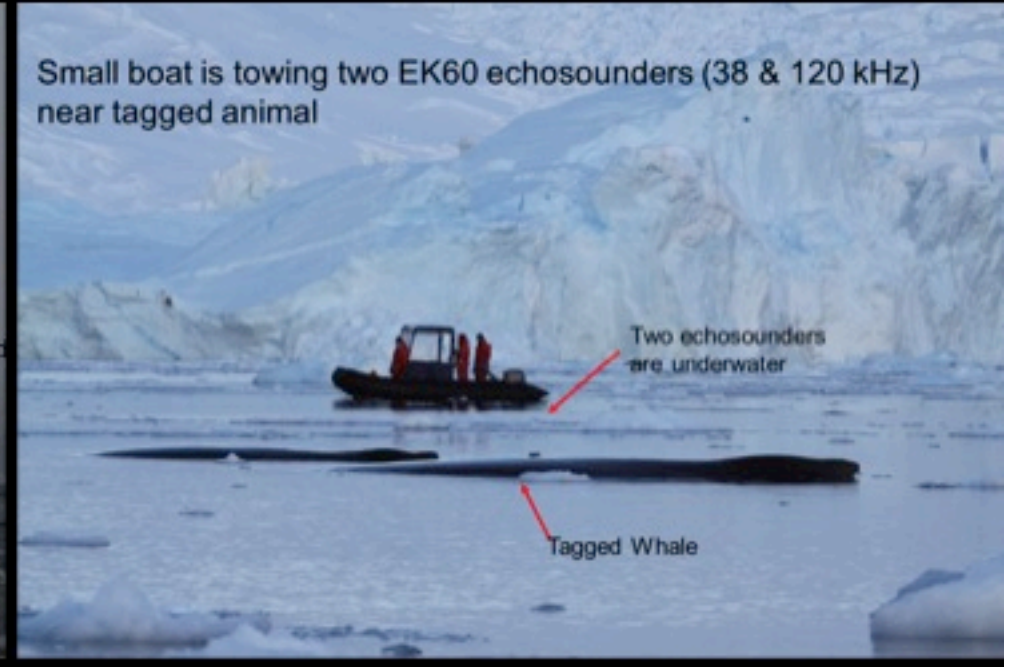
- To examine oceanographic processes and ecological relationships between krill and baleen whales
- Multi-disciplinary study
 - Physical Oceanography
 - Krill Biology
 - Whale Behavior



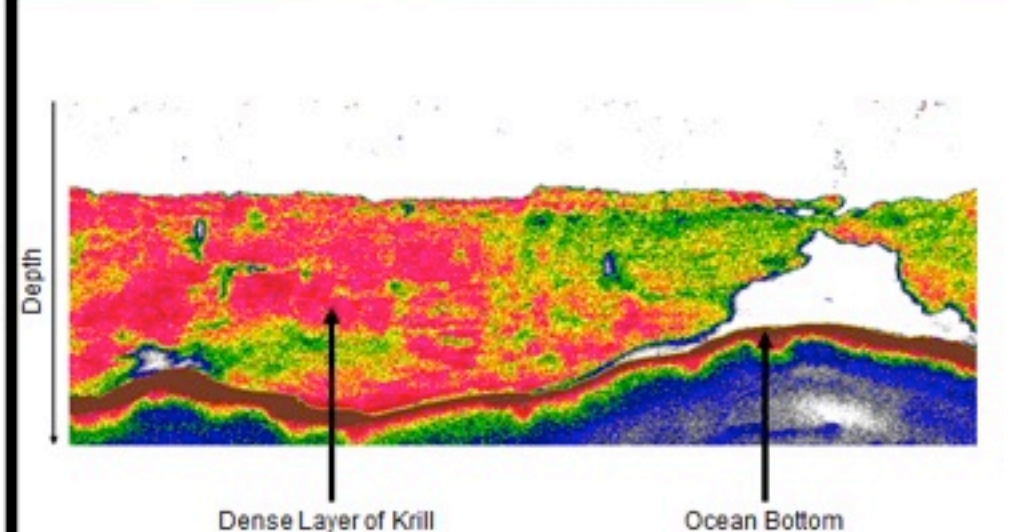
Whale Behavior

+

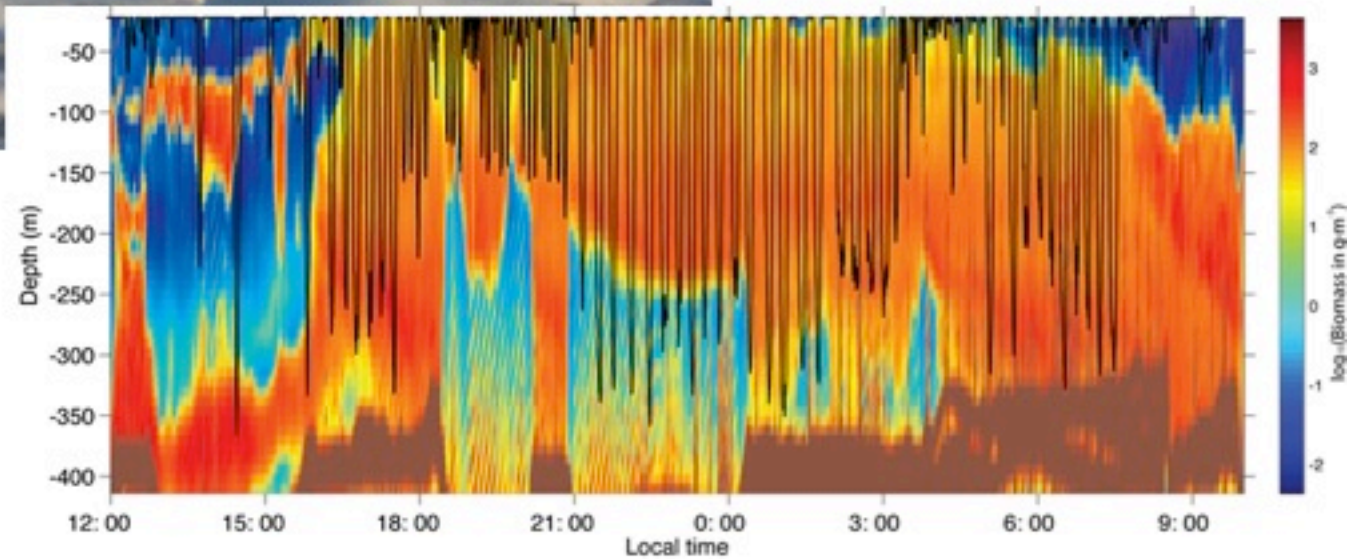
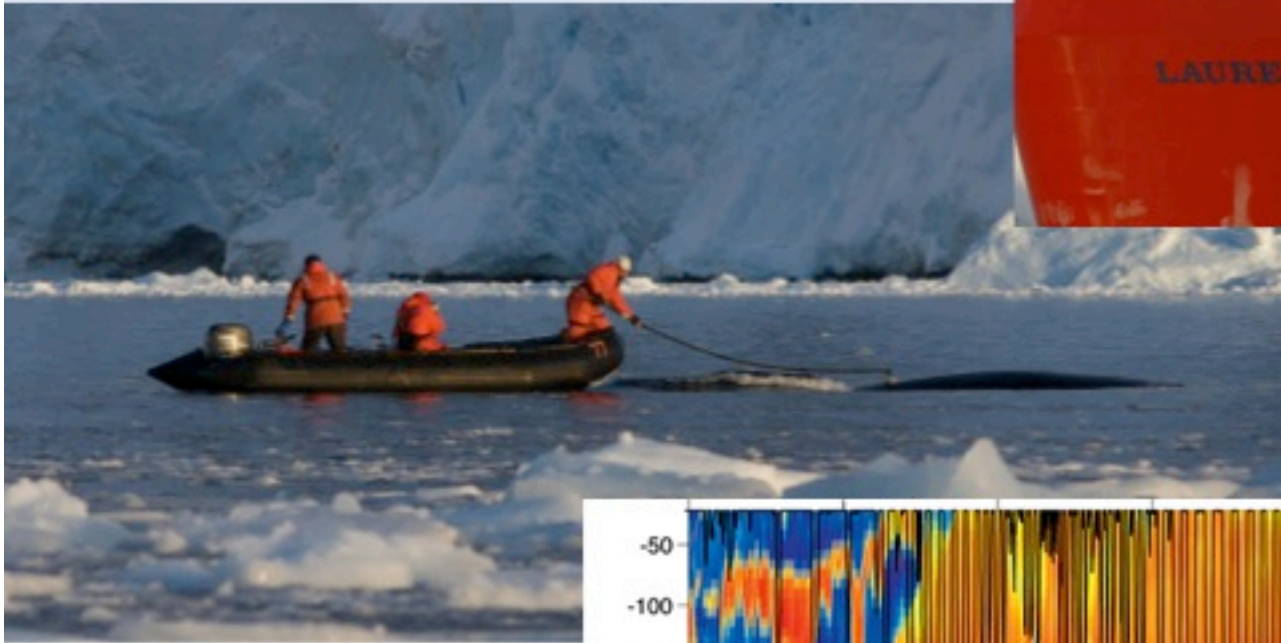
Krill Behavior



Deep dives to 300 m. from 15:45 to 16:40. Inset shows structure of presumed lunge.



“MISHAP”



Connecting to the Poles with...



- B.S. in Marine Biology in Florida, USA
- M.S. in Marine Biology in Florida, USA
- Research on coral disease causing bacteria within sponges
- PhD candidate in Water Science from INRS (Institut National de la Recherche Scientifique), Quebec City, Canada, 2009

Right now! :

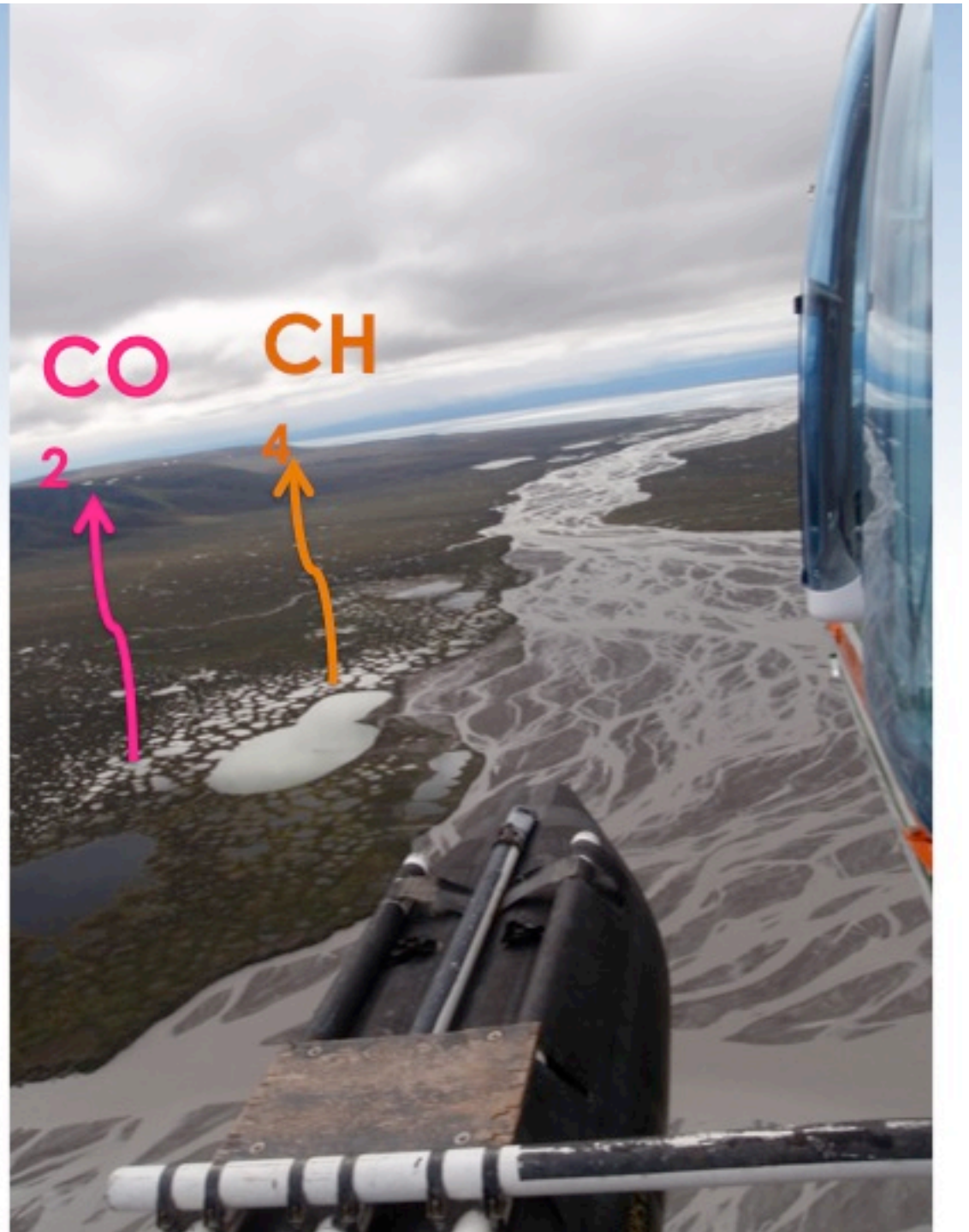
She is researching greenhouse gas production and emission in Arctic thaw ponds, which are associated with the thawing permafrost.

Karita Negandhi

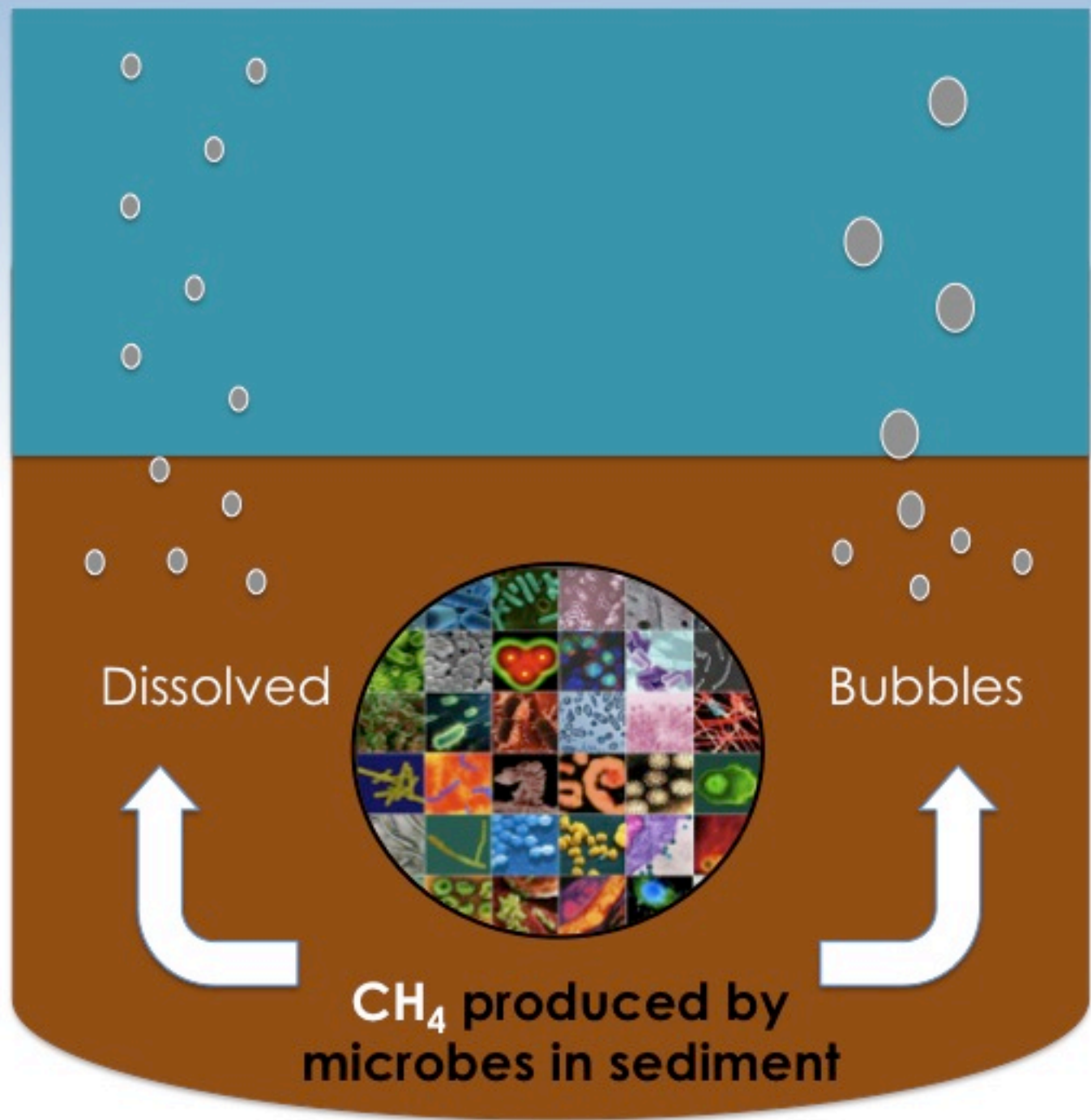
Greenhouse Gases released from Arctic ponds

- CO_2 (carbon dioxide)
- CH_4 (methane)

→ Increases climate change



How CH_4 is produced within these Arctic ponds?



Real life CH₄ bubbles



Collecting CH₄
(methane) bubbles



**CH₄
(methane)
bubbles from
the pond**





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Get involved with Polar Week!

- More webinars for students
- Other lessons and activities available
- Ask a Scientist
- Launch a Virtual Balloon
- People of a Feather release – www.peopleofafeather.com/educational
- Antarctica Day coming up in December

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Thank You!

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

