



TEACHERS AND RESEARCHERS
EXPLORING AND COLLABORATING

Welcome to *PolarConnect*

with **Michael League** and the
Adaptations of Marine Worms in
Antarctica 2011 PolarTREC Expedition

Friday 14 October 2011


10:00 a.m. Alaska Daylight Time

(11:00 am PDT, 12:00 pm MDT, 1:00 pm CDT, 2:00 pm EDT)



Wimba Classroom - Arctic Research Consortium of the United States (ARCUS)

WELCOME TO WIMBA



ARCTIC RESEARCH CONSORTIUM OF THE UNITED STATES

Exit - Lobby - Help

People (3)	
Kristin_Timm	
kristina_creek	
Kristin_Timm	

To: Main Room

Raise your hand to ask a question

List of all participants

Return to the lobby or exit

Slides will be shown here

If using VOIP, press and hold here to talk

Your connection strength

'Chat' with one person or the entire group

Please note:

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

Participant Introductions

When called, please state your:

- ✓ Name
- ✓ School / Institution
- ✓ 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.

Questions

To Ask a Question:

- ✓ Raise your hand with the “hand button”
- ✓ Type your question in the text chat box
- ✓ Speak loud and clear and directly into the phone to ask your question.

Adaptations of Marine Worms in Antarctica



McMurdo Station, Antarctica

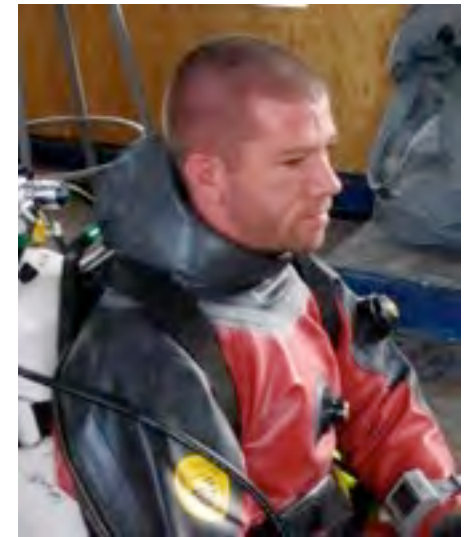
Who are you talking with?



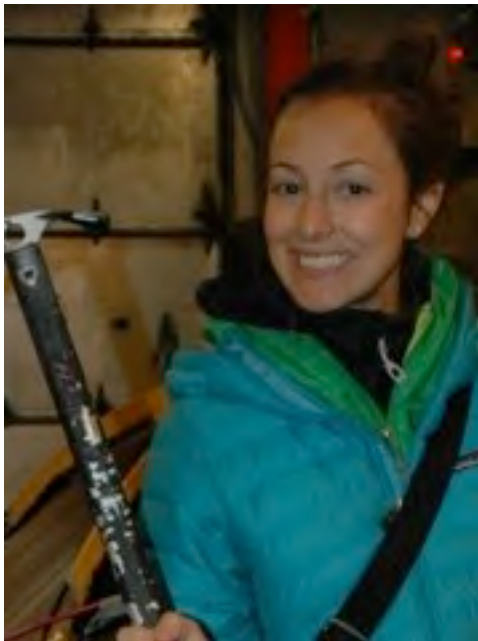
Dr. Adam Marsh



Dr. Stacy Kim



Mike League



Stephanie Guida



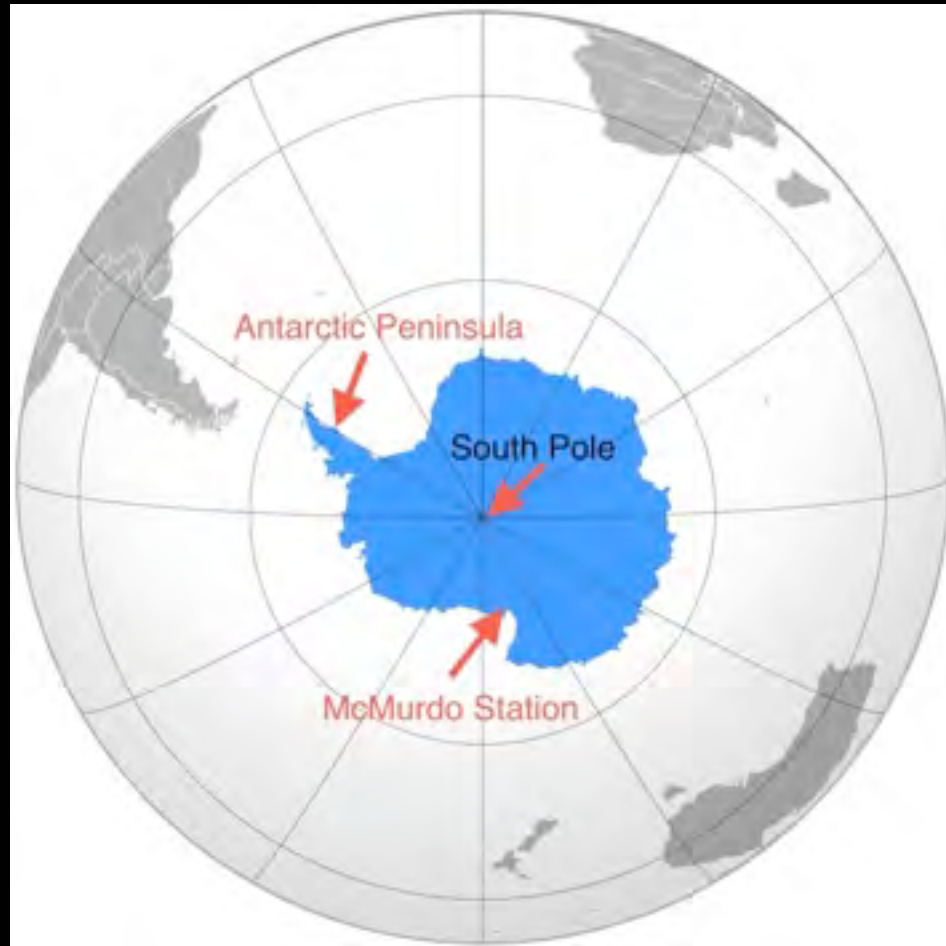
Annamarie Pasqualone







Where are we?

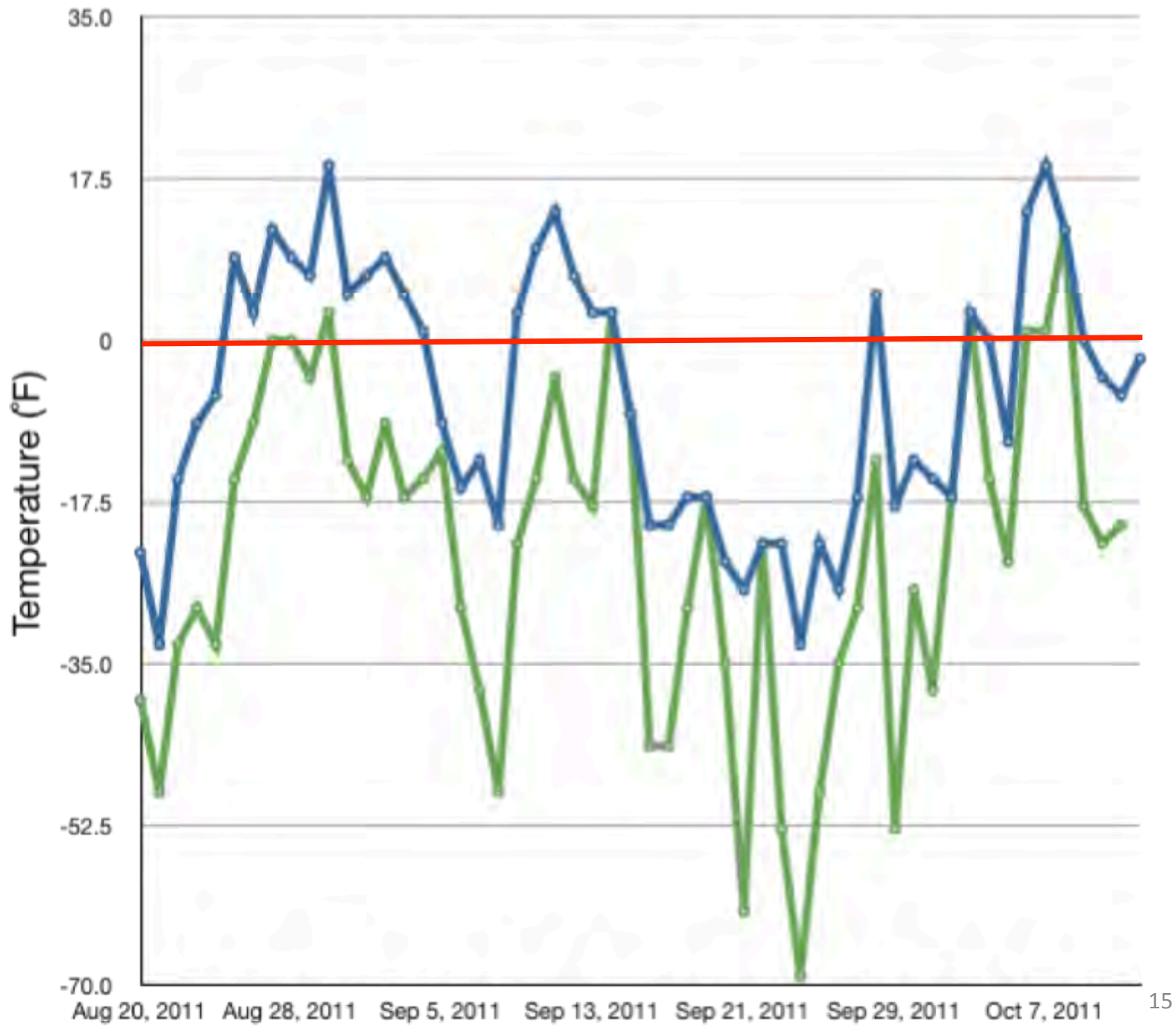




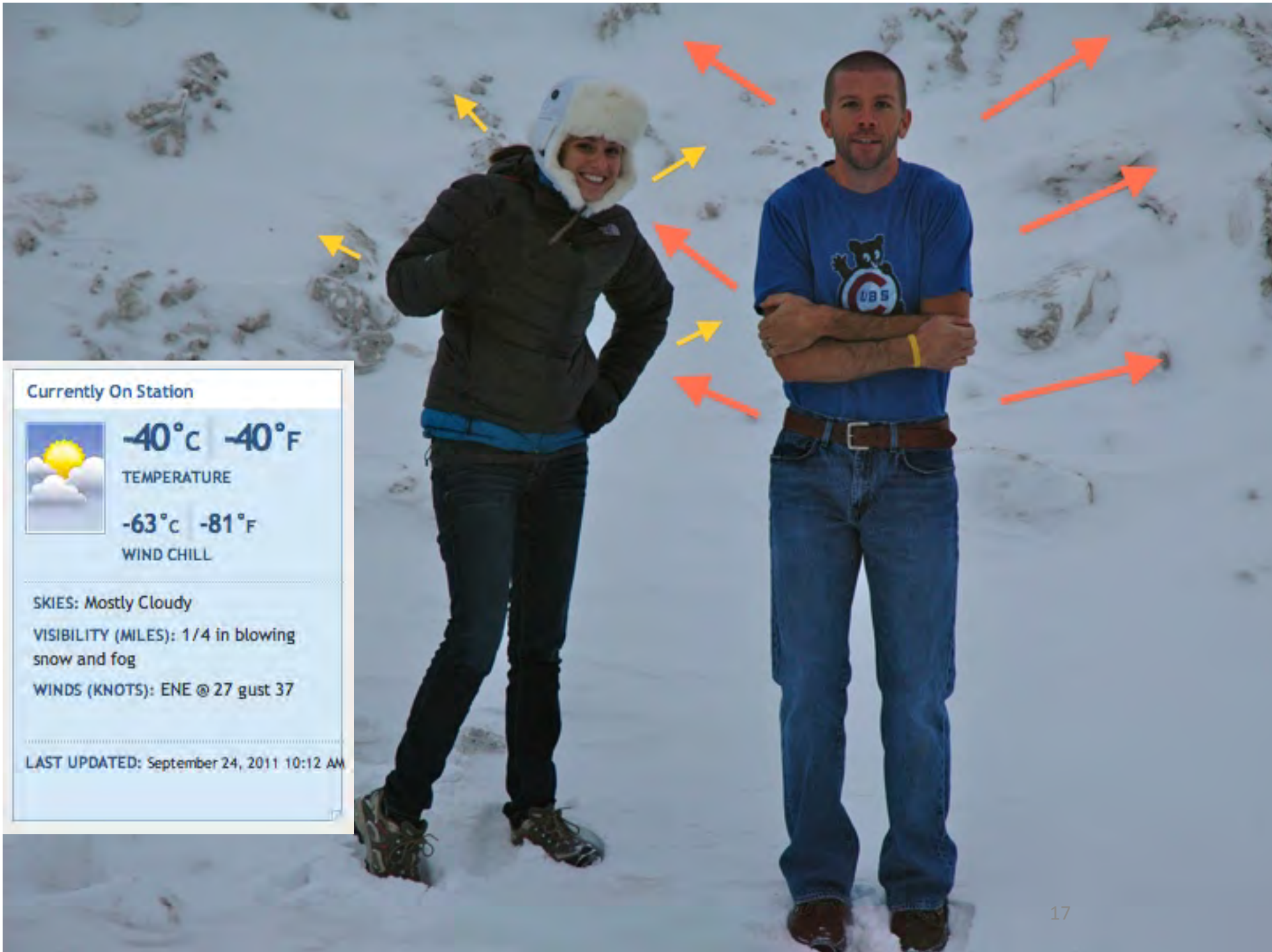




Air Temperature and Wind Chill versus Time







Currently On Station



-40°C -40°F

TEMPERATURE

-63°C -81°F

WIND CHILL

SKIES: Mostly Cloudy

VISIBILITY (MILES): 1/4 in blowing snow and fog

WINDS (KNOTS): ENE @ 27 gust 37

LAST UPDATED: September 24, 2011 10:12 AM



What are we doing in Antarctica?

We are studying marine worms that live in the sediment underwater around McMurdo Station. So far we have been:

Drilling holes in sea ice

SCUBA diving under ice

Collecting sediment

Sorting worms (*Capitella*) from sediment

Taking underwater photo and video















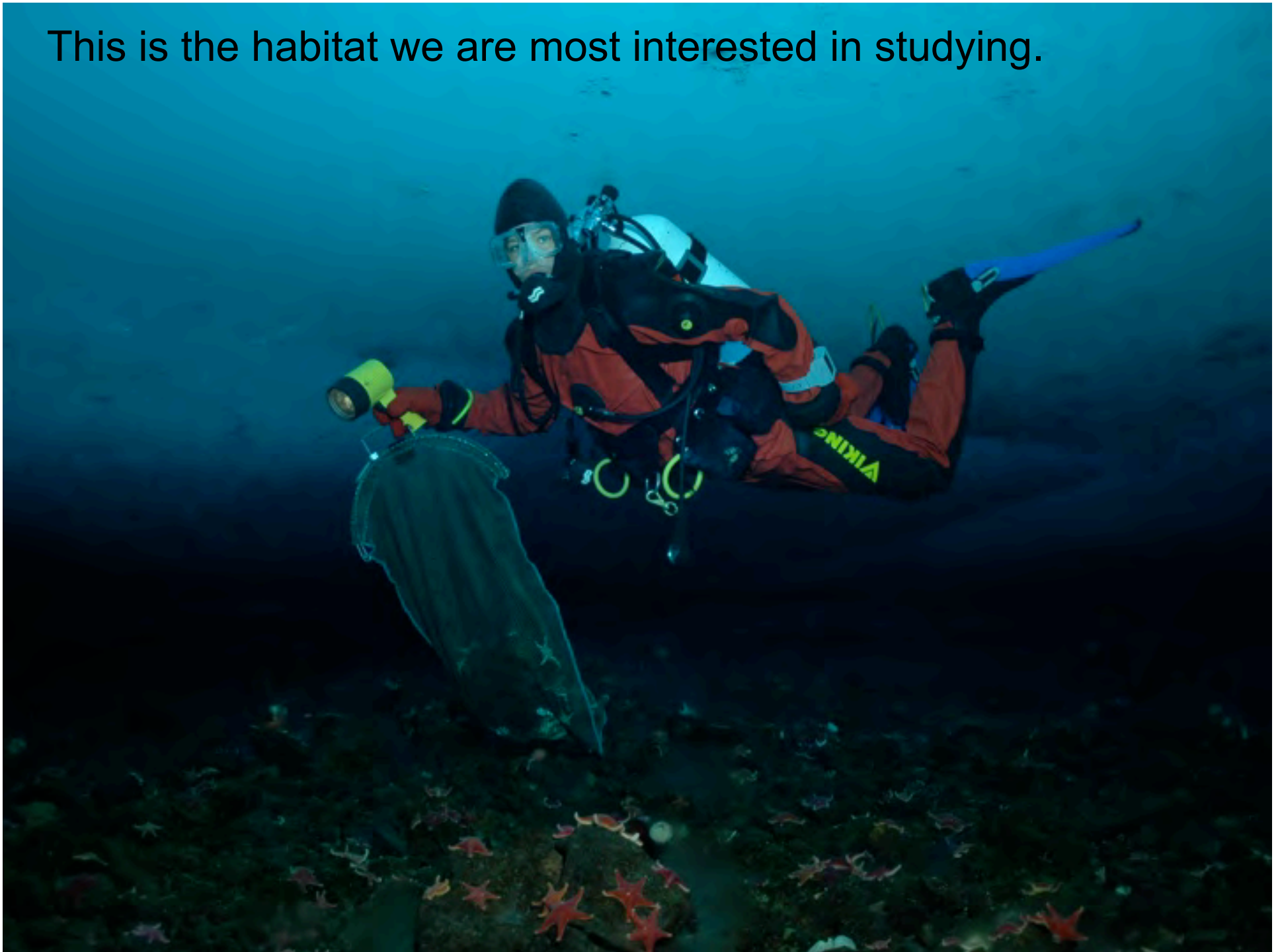








This is the habitat we are most interested in studying.









Experimental Setup



-1.5°C



Acclimation to Culture (~2 weeks)

Control

-1.5°C

-1.5°C

Experimental

-1.5°C

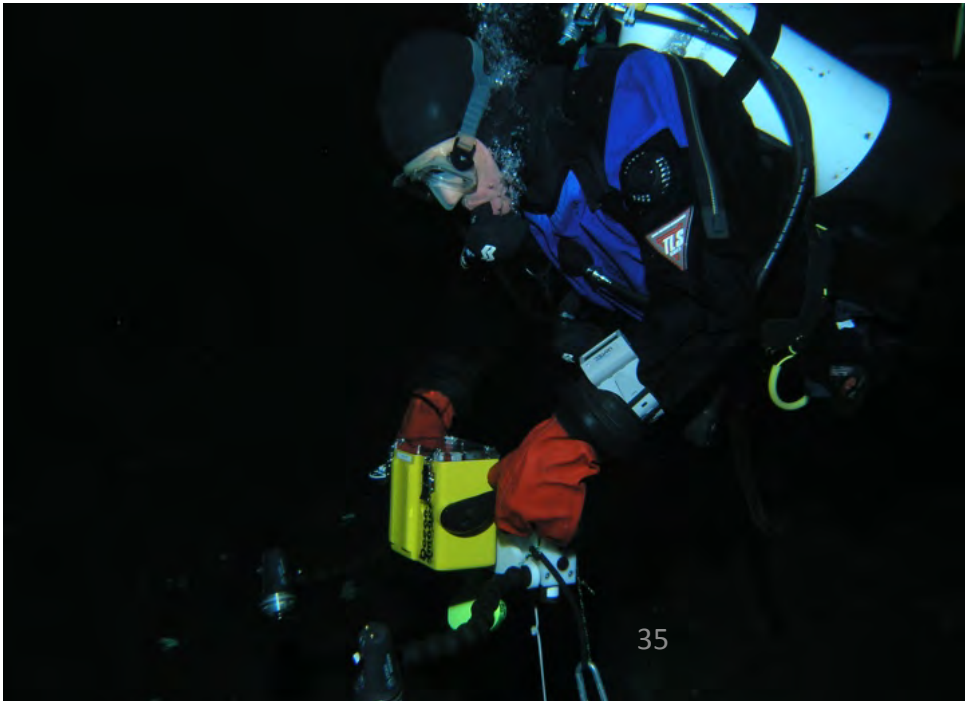
-1.5°C



+4°C



+4°C



Typical Underwater Still Photo







What do we mean by “Adaptation”?

- a body structure (including DNA)
- a behavior
- a special skill or process

- all allow an organism to succeed in its environment

- How is an organism successful? What does that mean?





The sea urchins in this photo are as big as your hand.
How big do you think this Antarctic sea star is?

















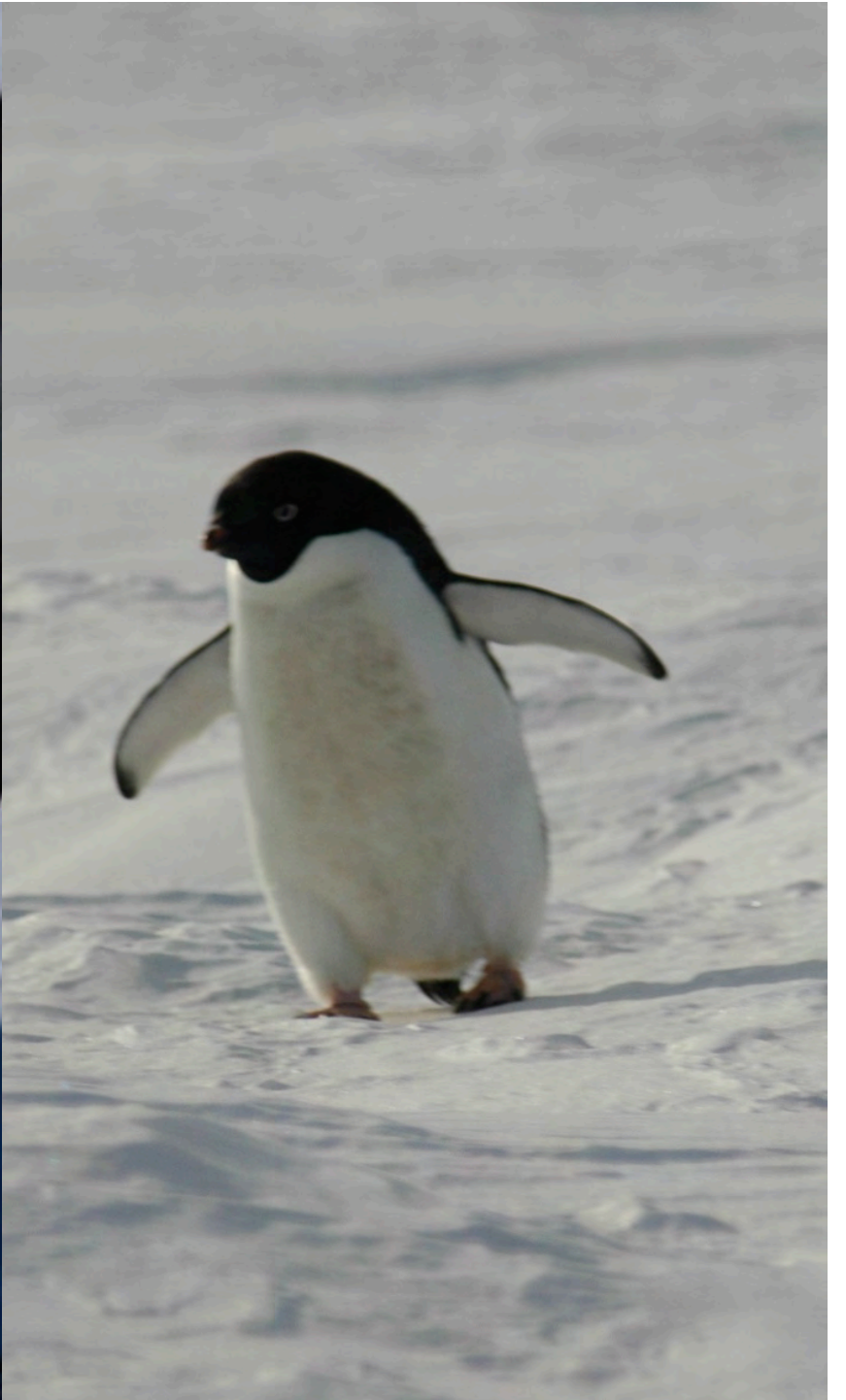
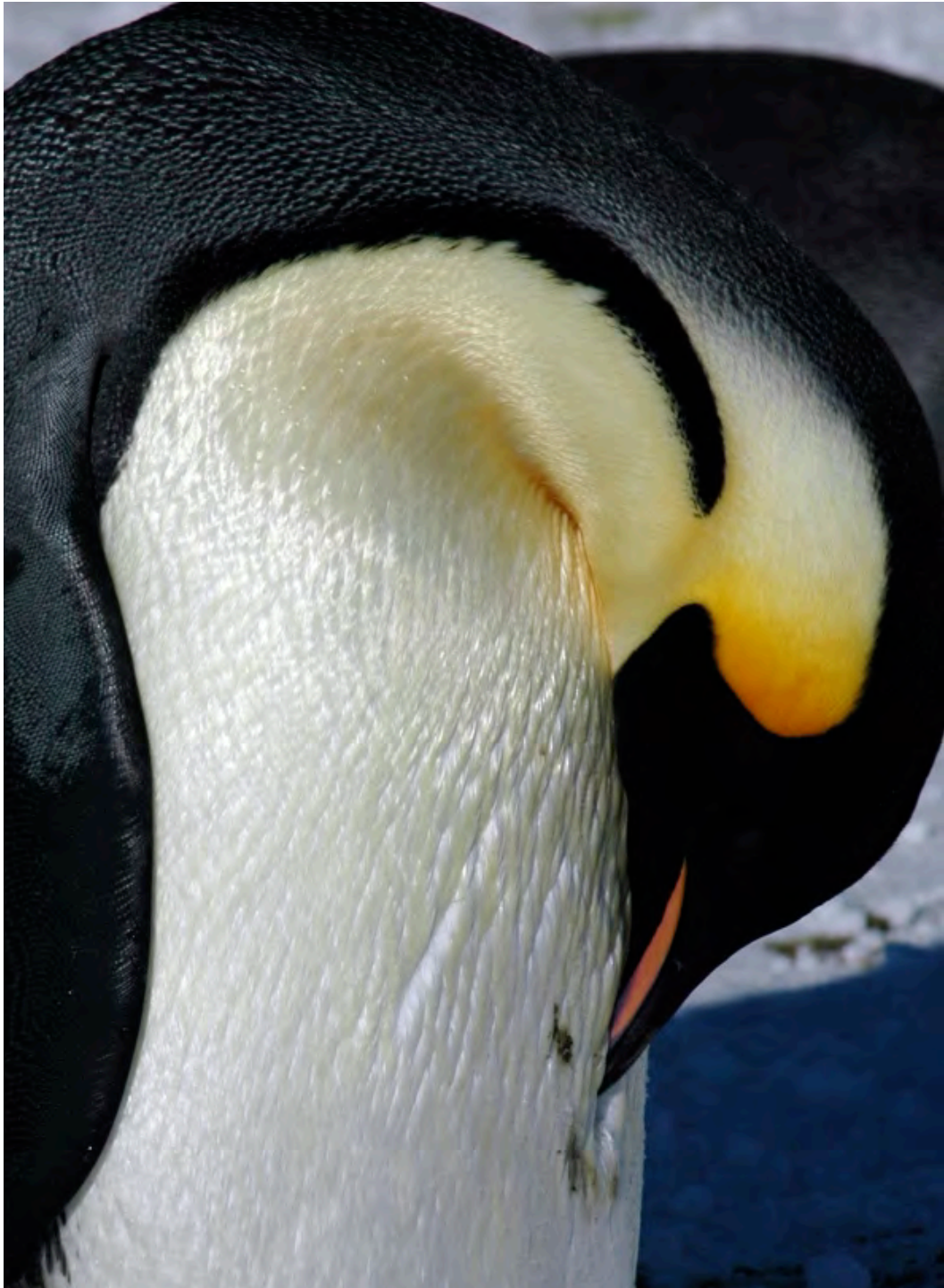














Wrapping Up Our Field Work

- Thousands of Worms Collected
- Temperature Experiments Begun
- Over 100 dives logged underwater
- Thousands of photos
- Hundreds on minutes of underwater video
- Over 65 journals with over 500 photos
- 15 on-line sessions with students & teachers
- Tons of new friends & great memories



What happens next?

- Temperature experiments continue
- DNA collected, sequenced, and analyzed
- Underwater photos & video analyzed
- Students helping us to look at all the data we collected



Questions?







WASH YOUR HANDS

Don't you ever make it a habit?

Saturday

Aug. 27th

.....

Lunch: Delectable Gyros
Scrumptious Chicken Souvlaki
Fantastic Falafels

Supper: Tasty Balls of Meat
Delicious Cacciatore of Chicken
Sensational Parmesan of Eggplant

Yum!



Dining Room Hours

Monday-Saturday
Breakfast: 7:00am - 11:00am
Lunch: 11:00am - 1:00pm
Dinner: 5:00pm - 10:00pm

REASON

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Communication = No Cell Phones





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Teachers: Join PolarTREC!

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.polartrec.com/polar-connect/archive>

