

# Welcome to *PolarConnect*



## UTEP Arctic Change and Education

With PolarTREC Teacher Monica Nuñez  
& Team Researcher Dr. Craig Tweedie

**Wednesday, August 14, 2019**

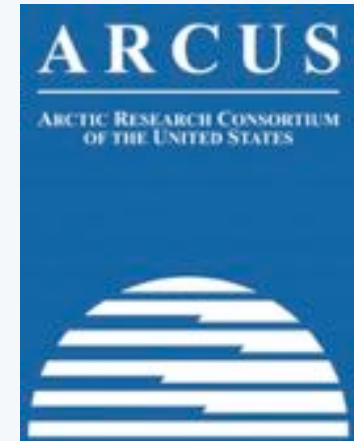
# Participant Introductions

**In the Chat box, please introduce yourself  
by typing in your:**

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

# What is PolarTREC?

- Since 2004, the Arctic Research Consortium of the United States (ARCUS), a non-profit organization, has been administering the PolarTREC Program.
- PolarTREC is professional development for U.S. middle and high school teachers and informal STEM educators. They are paired with researchers for 3-6 week research experiences in the polar regions.
- Over 150 educators from around the United States have joined 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.



*25 Years of Connecting Arctic Research*  
[www.arcus.org](http://www.arcus.org)

# Questions

## During the Presentation:

- Type your question into the text chat box and we will insert your question when the right opportunity arises.
- Don't worry! If we haven't been able to ask your question during the presentation, we will save it for the end.
- At the end of the presentation, we often open the webinar up to family and friends who want to say "Hello" or have any last minute questions for the presenters.

# Monica Nuñez & Dr. Craig Tweedie

- Science Teacher
- Santa Teresa High School
- Santa Teresa, New Mexico



- Principal Investigator
- Associate Professor
- University of Texas - El Paso

Photo taken in the Beaufort Sea.

# Santa Teresa, NM & El Paso, TX

- Southwest Borderland
  - Summer Temp. high 90's to mid 100's
- Barrow, Alaska
  - Summer Temp. high 30's to mid 40's
- Distance: 3,295 miles



Image: Google Maps

# Utqiagvik (Barrow), Alaska

- The northernmost city in the United States.
- 350 miles above the Arctic Circle.
- Ukpeagvik Iñupiat Corporation (UIC Science) Headquarters
- Barrow Arctic Research Center (formerly Naval Arctic Research Laboratory)







# Toolik Field Station, Alaska

- A research station geared towards supporting scientists in the arctic.
- Run by the University of Alaska.
- Supported by the National Science Foundation.
- 189 miles North of the Arctic Circle.

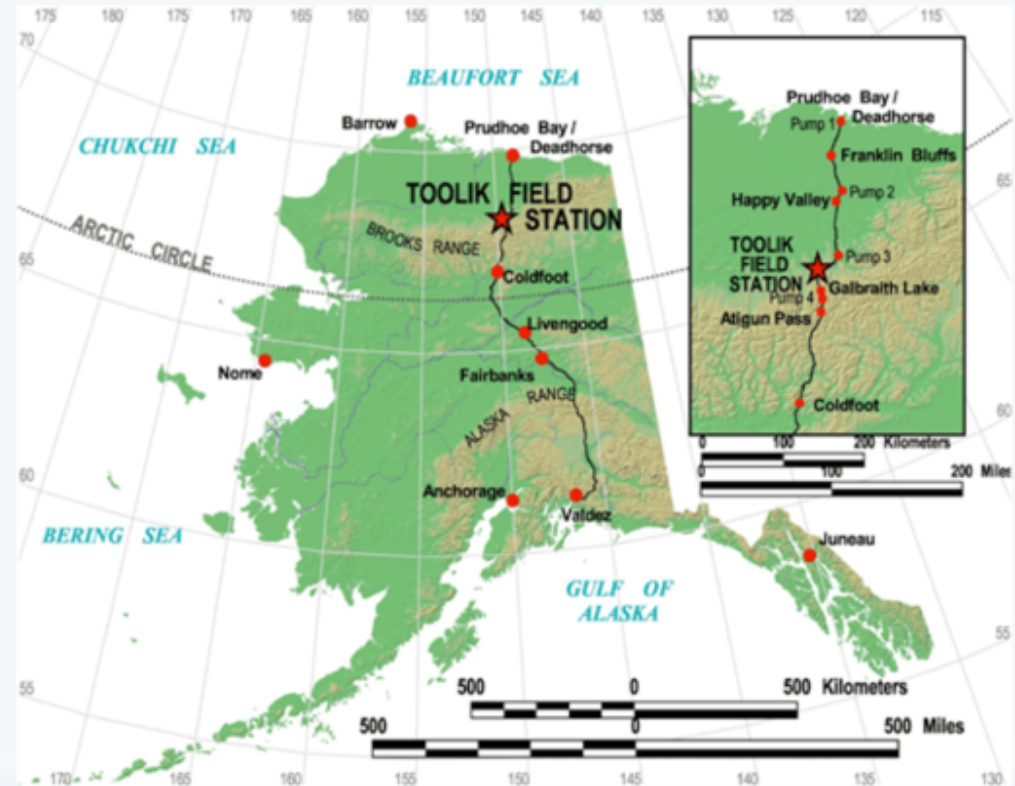


Image courtesy of Institute of Arctic Biology



TEACHERS AND RESEARCHERS  
EXPLORING AND COLLABORATING



# Atqasuk, Alaska

- Inland community of about 250 residents.
- Small plane ride from Barrow, Alaska.
- Remote research facility.
- 290 miles North of the Arctic Circle.



Image from archive.eol.ucar.edu



# International Tundra Experiment Arctic Observing Network (ITEX AON)

- A network of researchers and arctic nations collecting data on phenology, plant growth, community composition, and ecosystem properties as part of a greater effort to study environmental change in the arctic.
- <https://www.gvsu.edu/itex/>
- [https://www.nsf.gov/news/news\\_summ.jsp?cntn\\_id=109687](https://www.nsf.gov/news/news_summ.jsp?cntn_id=109687)



Mariana Orejel & Dr. Sergio Vargas prepare a drone for flight.

# Long Term Ecological Research Beaufort Lagoon Ecosystem (LTER BLE)

- Program along the northern Alaskan Arctic coastline. Three sites: Utqiagvik, Kaktovik, Deadhorse.
- Sample, monitor, and study the lagoons in order to understand how these ecosystems function and to predict how they will change in the coming decades.
- <https://ble.lternet.edu/>



Sasha Petersen drills a permafrost core from the coast.

# NASA Arctic-Boreal Vulnerability Experiment (NASA ABoVE)

- Ten year project beginning in 2015.
- To seek a better understanding of the vulnerability and resilience of ecosystems and society to this changing Arctic-Boreal environment.
- Focused in Alaska and western Canada.
- <https://above.nasa.gov/>



Tabatha Fuson & Dr. Sergio Vargas conduct vegetation spectral scans.

# Barrow Area Information Database (BAID)

- A resource for learning about the types of data collection activities in the Barrow area region.
- The team collaborates to compile and share information via online web mapping applications.
- [www.barrowmapped.org](http://www.barrowmapped.org)



Ryan Cody collects data from an Utqiagvik weather station.



# Join PolarTREC!

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

Everyone can participate in different ways:

- **Follow Expeditions**
- **Participate in PolarConnect Events**
- **Join the Polar Education Email List**
- **Check out the great resources**
- **Become a PolarTREC Teacher or Researcher**
- **Become a member of ARCUS**

# Thank You!

*An archive of the event will be available shortly.*

**<http://www.polar-trec.com/polar-connect/archive>**



*25 Years of Connecting Arctic Research*  
**[www.arcus.org](http://www.arcus.org)**