



Welcome to a Polar Week Live Event!

Make Broader Impacts in Polar Science!

with Polar Educators International

Presenters

Sarah Crowley, Brandon Gillette, Julia Dooley,
Janet Nadeau, and Linda Lamoureux

Monday, 17 September 2012

12pm Alaska Daylight Time [1pm PDT, 2pm MDT, 3pm CDT, 4pm EDT, 20:00GMT]



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>

Blackboard collaborate

Slides will be shown here

Exit the presentation

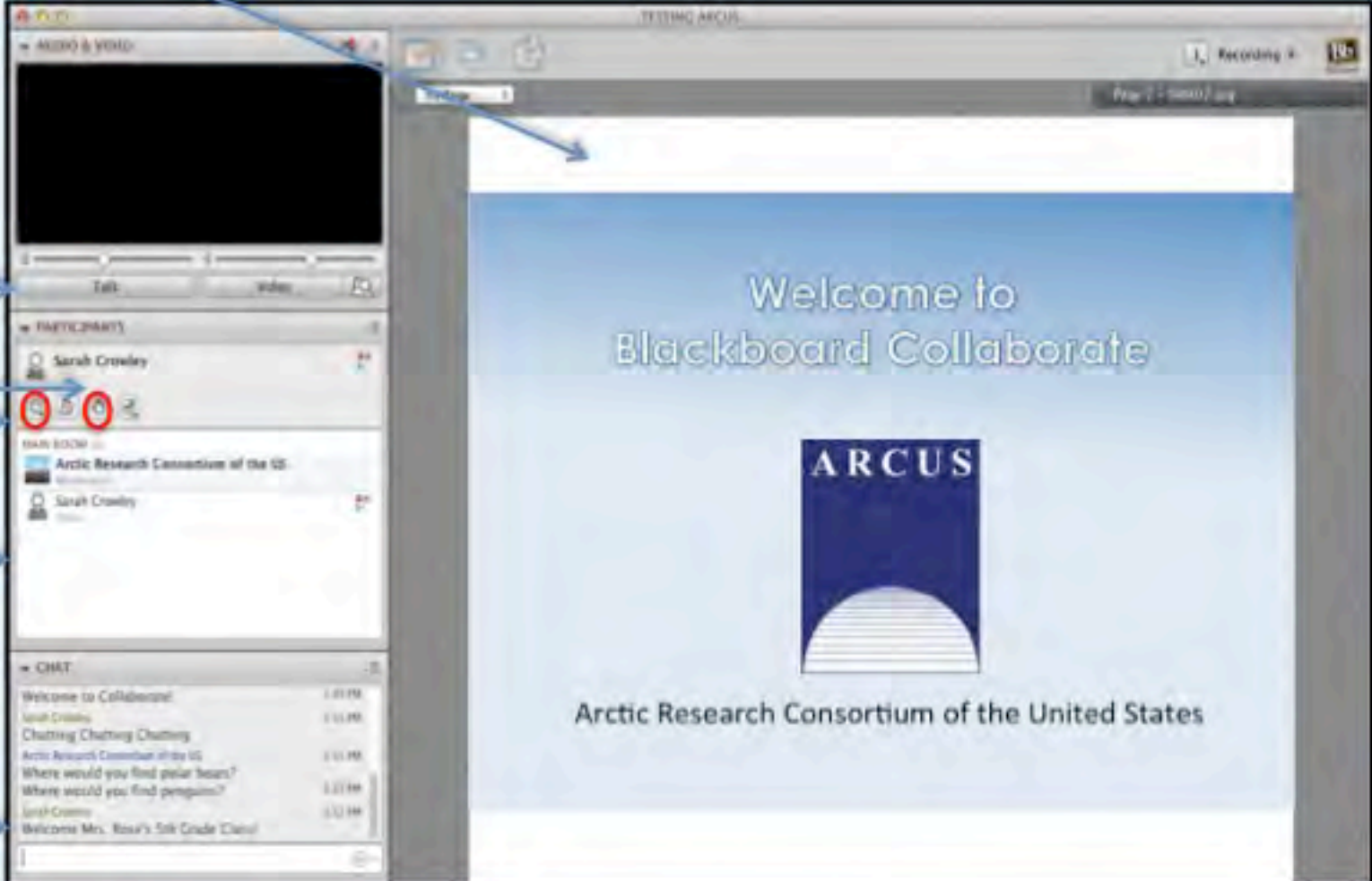
Click to Talk,
Unclick to finish talking

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 area 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: a "TALK" panel with a microphone icon, a "PARTICIPANTS" panel listing "Sarah Crowley" with a hand icon, a "CHAT ROOM" panel with a list of messages, and a "CHAT" panel with a list of messages. Arrows point from the text labels on the left to the corresponding UI elements in the screenshot.

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

Make Broader Impacts in Polar Science

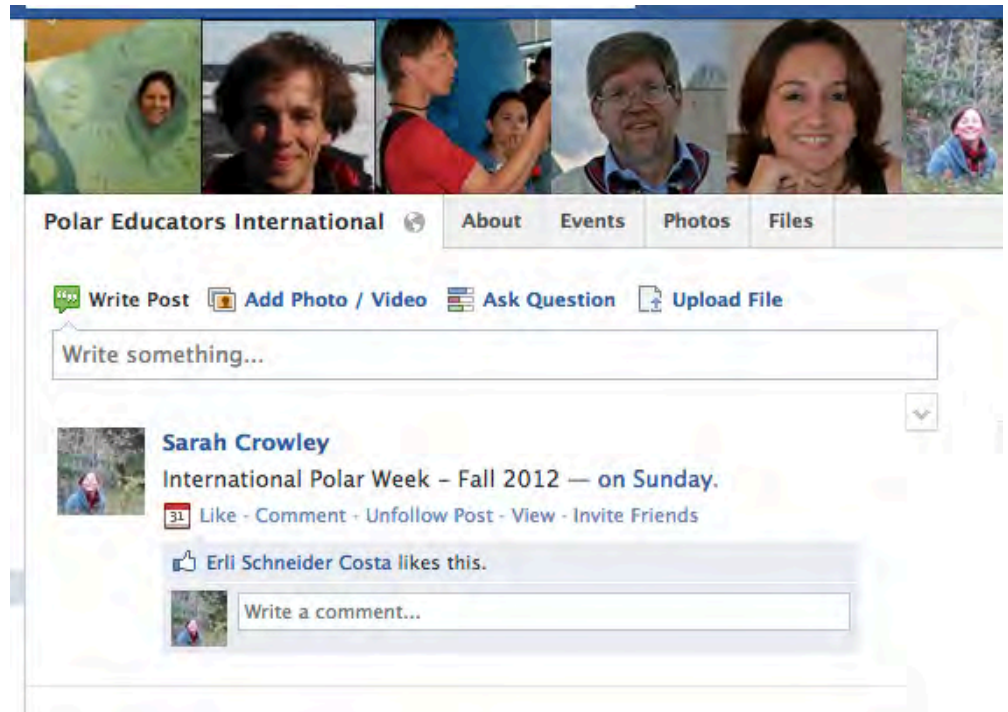


A global professional development network for those that educate in, for, and about the Polar Regions.

Working across boundaries, moving polar science and education forward by sharing the cultures and environment of the polar regions across the globe, now and for the future.

Nearly 250 members from a dozen polar and non-polar nations.

Join Polar Educators International



polareducators@gmail.com

Facebook Group: Polar Educators International
<http://www.facebook.com/groups/247660677828/>

Linked-In: Polar Educators International

Twitter: PolarEdInt

Make Broader Impacts in Polar Science

The importance of researchers doing outreach to classrooms or communities.



Presenter
Brandon Gillette

SCIENTISTS



what my mom
thinks I do



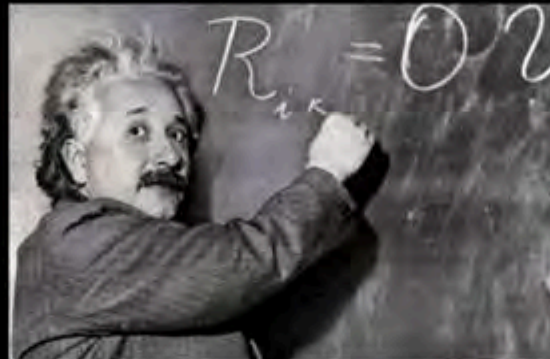
what my friends
think I do



what society
thinks I do



what my boss
thinks I do



what I think
I do



What I really
do

- “Even if you have reams of evidence on your side, remember: **numbers numb, jargon jars**, and nobody ever marched on Washington because of a pie chart.”
- “If you want to connect with your audience, tell them a story.”

Andy Goodman



- “We don’t need more information. We need to know what it means. We need a story that explains what it means and makes us feel like we fit in there somewhere.”

Annette Simmons – The Story Factor



Make Broader Impacts in Polar Science

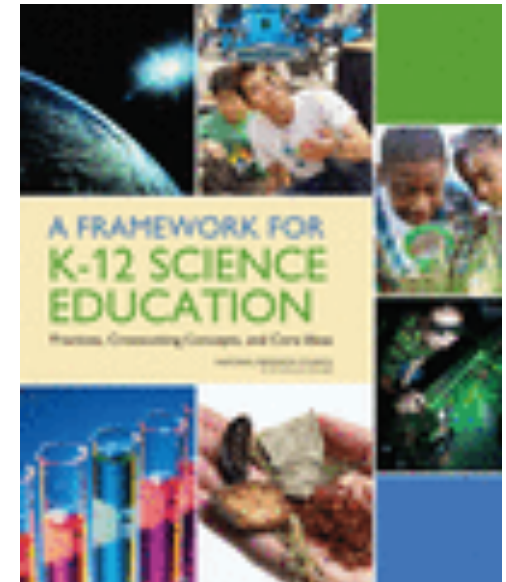
Setting up and presenting for a
classroom or community visit



Presenter
Julia Dooley

Getting Into Schools

- Pair up with a teacher
- Contact your local school district and get in touch with the science content chair
- Plan ahead
- Security issues (sad, but true reality)
- Aligning with state/national standards



Other communities to consider

- Senior centers
- Libraries
- Nature centers and parks
- 4-H clubs
- Boy Scouts and Girl Scouts
- Boys and Girls Clubs

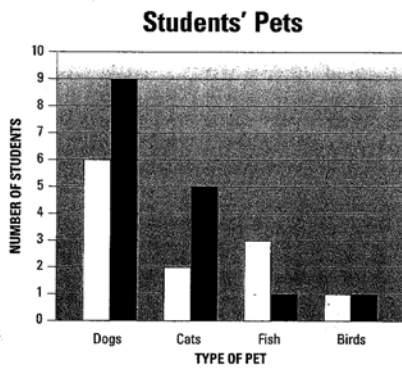


Advice on presenting to students

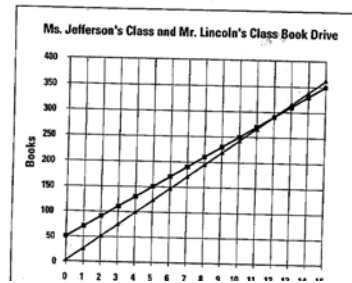
- Know your audience and modify your presentation accordingly
- Use explicit vocabulary
- Focus on your key points, not the details
- Add a few personal interest stories
- You don't have to include gratuitous penguins and polar bears



Know your audience!!!

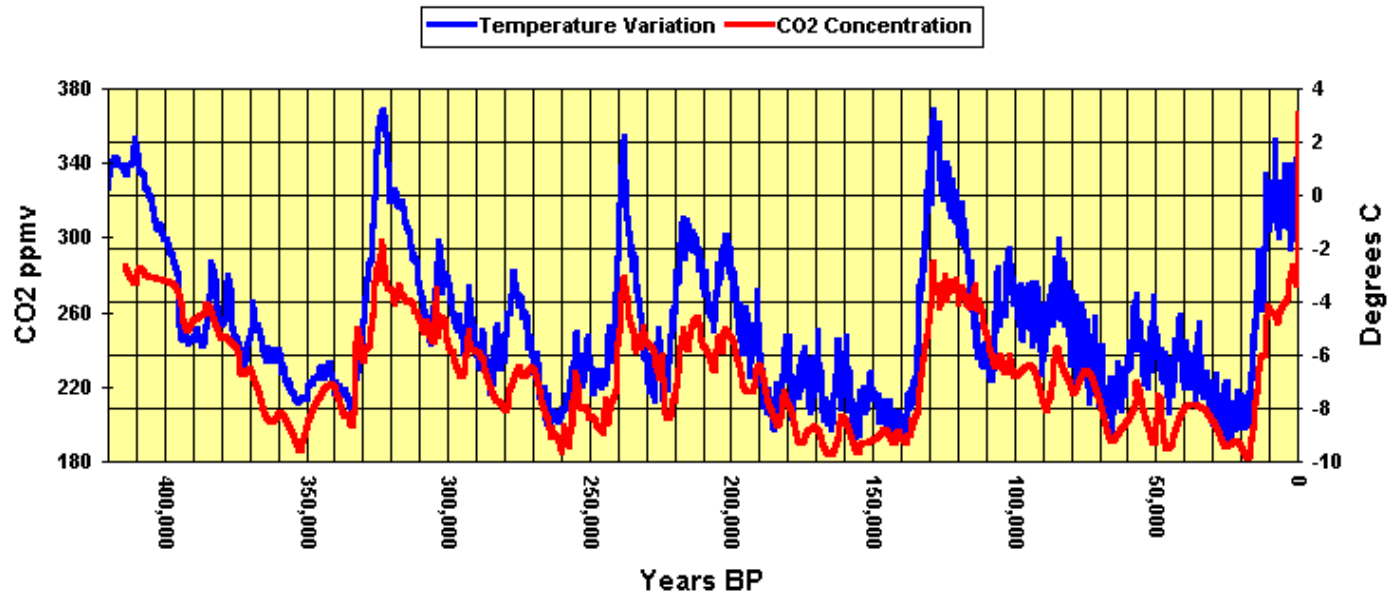


Third grader's bar graph (8yr. old)



Fifth grader's line graph (10 yr. old)

Antarctic Ice Core Data 1



Explicit Vocabulary

Use some key words, but not every cool word you know.

:) Kids like interesting words

Biostratigraphy is a sub-discipline of sedimentary geology that relies on the physical zonation of biota, both in time and space, in order to establish the relative stratigraphic position of sedimentary rocks blah, blah, blah...



Bio- life

Strati- layers

Graphy- diagram

Focus on your key points, not the details

The fact that you calibrated your instruments is important, but it might not be interesting. Sorry :(

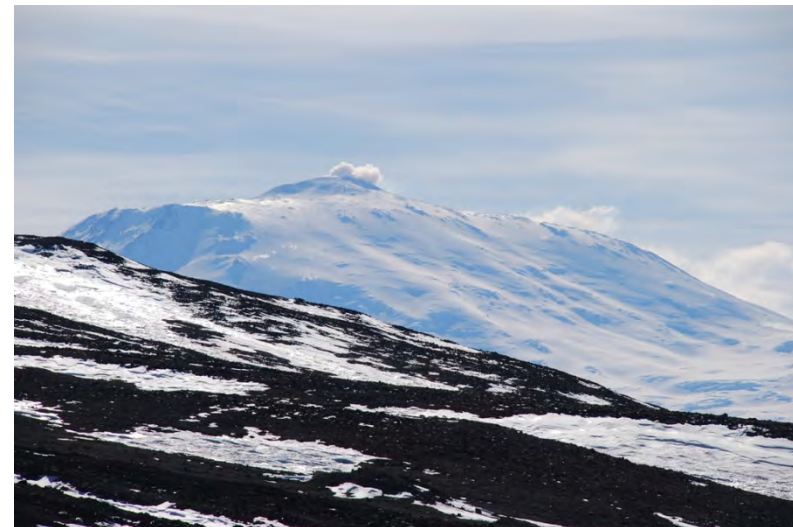


Add some personal interest stories

It helps make the science accessible

Penguins and polar bears

I know, I know... but sometimes that's all the kids will remember



Make Broader Impacts in Polar Science

Getting Research and Researchers
into the Classroom



Presenter
Janet Nadeau



Getting research and researchers into the classroom

- **Teachers helping teachers**
http://www.ecoschools.com/KeyOrgs/KeyOrgs_wSidebar.html
- **Field researchers helping teachers**
<http://www.sciencepoles.org/>
- **Industry researchers helping teachers**
<http://www.earthwatch.org/lessonideas>
www.nce-rce.gc.ca
<http://www.educapoles.org/>
- **University researchers helping teachers**
<http://www.antarcticstation.org/>





Getting research and researchers into the classroom

To locate Other Teachers, Field Researchers, Industry Researchers, and University Researchers

Go to Facebook and join the Polar Educators International group. Here you will have the opportunity to connect with researchers, scientists, graduate students and teachers, and to share Polar knowledge.

<http://www.facebook.com/groups/247660677828>

Or to the following APECS site, that offers wonderful links to videos, articles, and much more.

*****COOL SPEAKERS LIST*****

<http://www.apecs.is/outreach/multimedia/qcoolq-speakers>

Make Broader Impacts in Polar Science

Where to go from here:
Researcher – Teacher Collaborations



Presenter
Linda Lamoureux

How can science be nurtured and made attainable in every child?

Celebrate Earth Science Week October 14 to 20th, 2012

- AGI provides free kits to US teachers
- Universities and museums offer special programs and classroom visits during this week.

Adopt a Researcher!

- Have a classroom adopt a researcher and the students learn about that scientist and their research.



How can science be nurtured and made attainable in every child?

Other Ideas...

- Scientific America has a 1000 Scientists in 1000 days program.
- Calgary Science Network matches scientists and classrooms.
- Scientists in Schools is a program in Ontario and Alberta that enables students k-8 to become the scientists.

<http://www.scientistsinschool.ca/about-sis.php>



Make Broader Impacts in Polar Science

GLOBAL ACTIVITY

Flakes, Blobs, and Bubbles:
An Ice Core Art Project

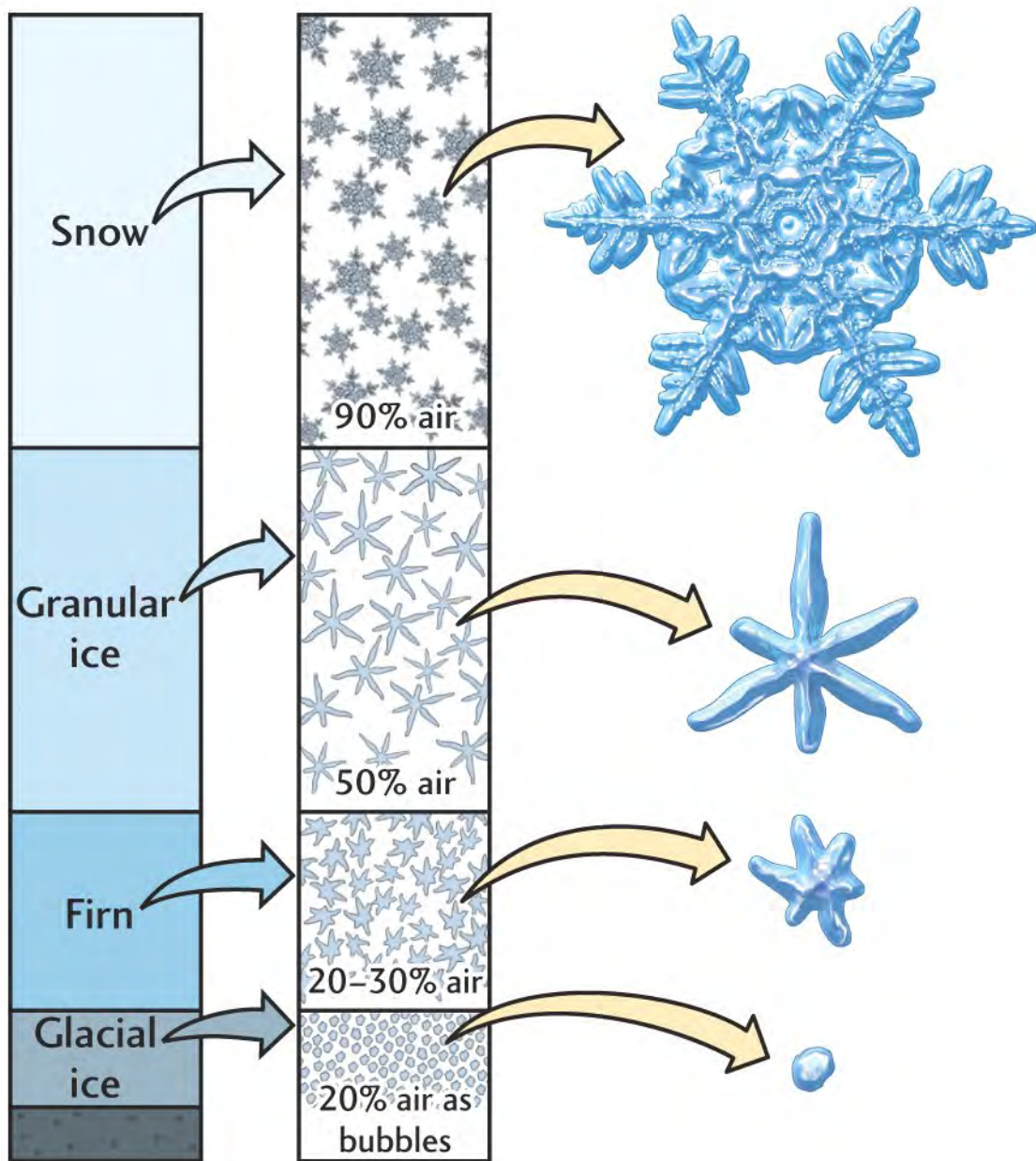
<http://icecoreart.weebly.com/>



Presenter
Sarah Crowley

The Science of Ice: How ice sheets form and how scientists use ice to learn about past climate

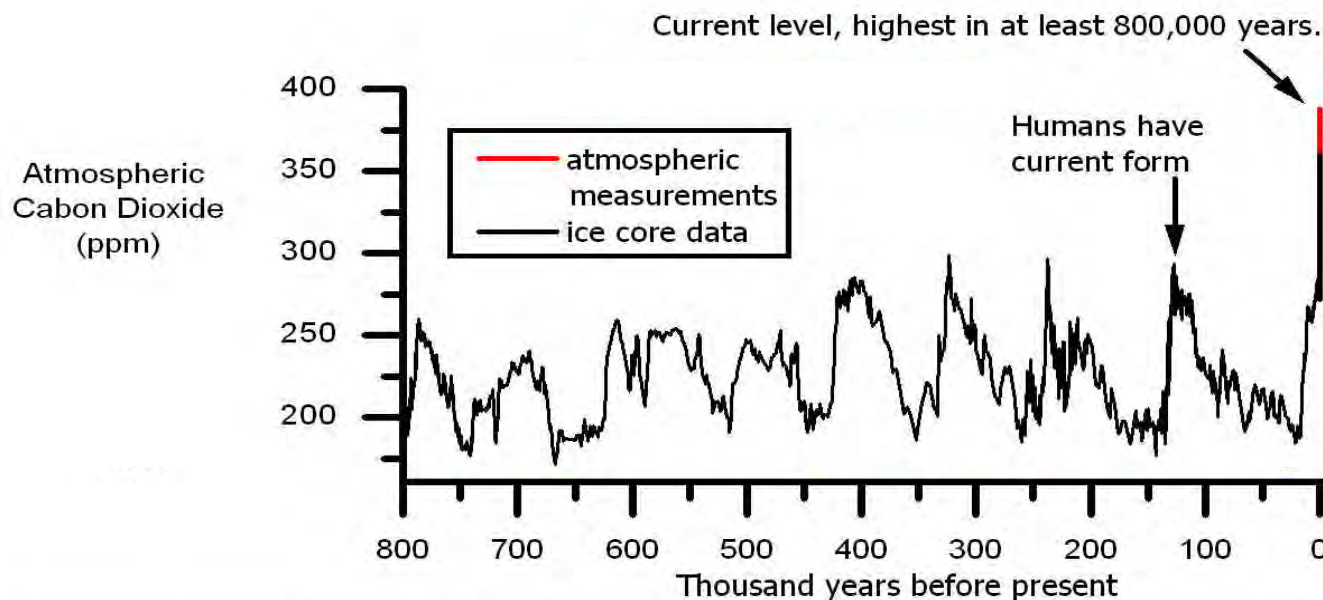
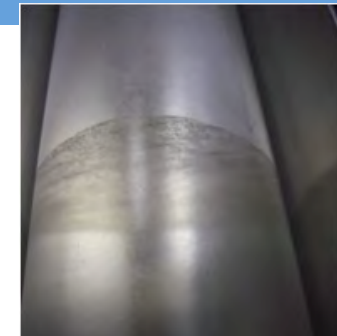
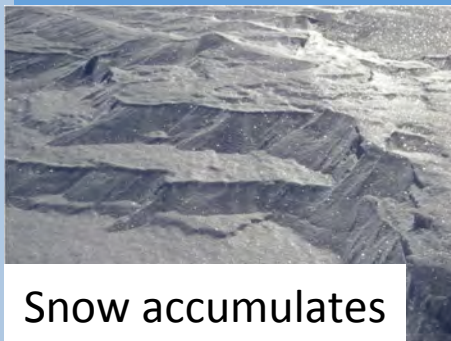




Glaciers and ice sheets form as snow accumulates. Over time, as snow accumulates, pressure increases, weighing down the underlying snow. This creates a layer of dense snow, called firn. Eventually the firn gets so compacted it turns into solid ice. Scientists study this ice to learn about past climate changes.

Ice Cores and Climate Change: Greenhouse gas concentration fluctuations

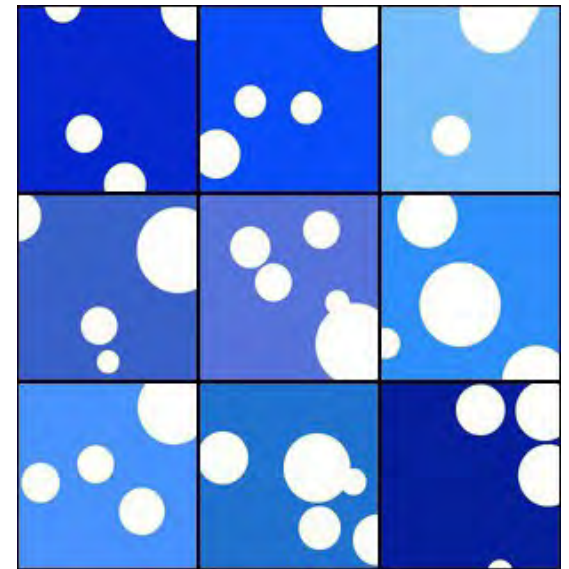
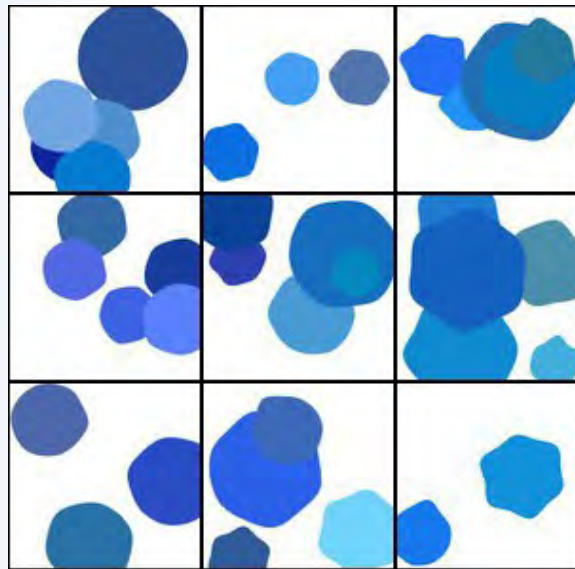
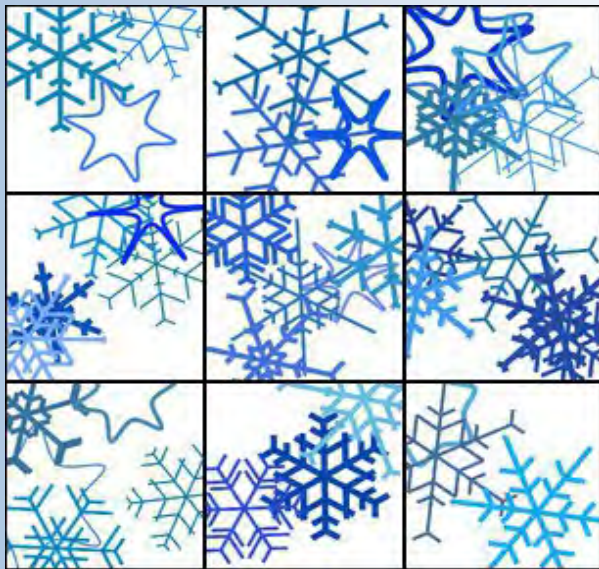
- **Ice can preserve ancient atmospheres**
 - The concentrations of greenhouse gas like carbon dioxide and methane can be extracted from air bubbles trapped within the ice.



Data sources: Jouzel (2007), Luthi (2008), Siegenthaler (2005), MacFarling (2006), NOAA

Ice Core Art Activity

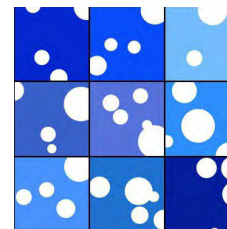
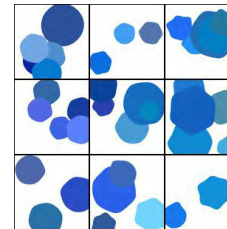
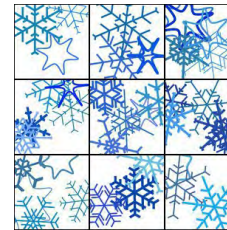
- Can you draw snowflakes, firn and ice?
- What do you think each would look like?

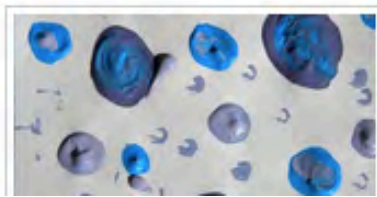
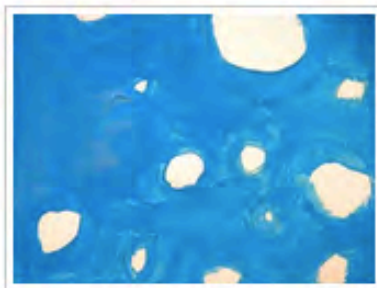
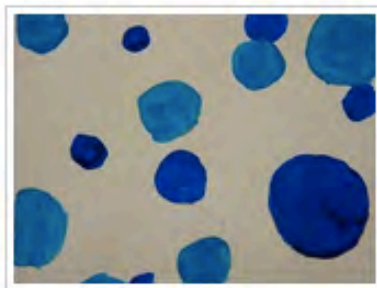
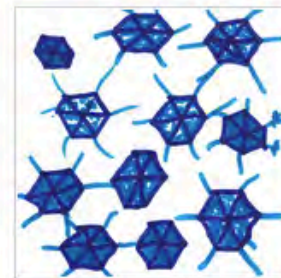
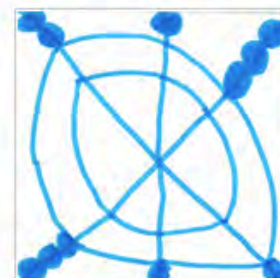
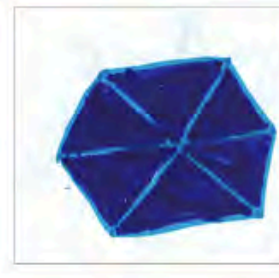
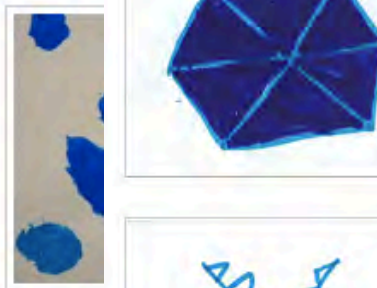
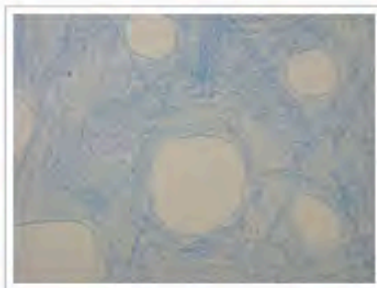
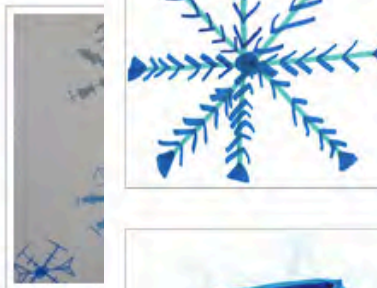
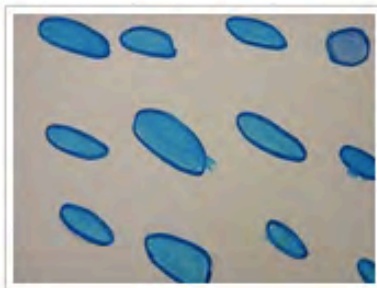
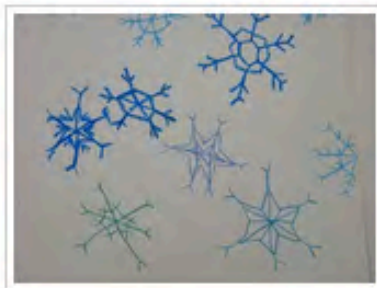


Flakes, Blobs, and Bubbles: An Ice Core Art Project

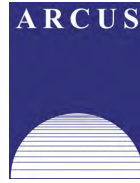
- Draw three images, representing something in the top, middle and bottom of the 'core' (e.g. snow, firn, ice)
- **BLUE INK ONLY!!!**
- Submit ice core art (jpg, tif) to **icecoreart@gmail.com**, and it will be integrated into a global ice core.

This ice core will be a composite of all of the images we receive. So, start exploring and share this activity with everyone you know!





<http://icecoreart.weebly.com/gallery.html>



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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Unclick when you are done.

Thank You!

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

