https://polar-ice.org/focus-areas/polar-data-stories/what-are-the-effects-of-a-warming-arctic/

What are the effects of a warming Arctic?

The Arctic is a unique ice-dependent ecosystem. But, what has happened as air temperatures have warmed over time? What does that mean for the ice, animals, and plants in the Arctic?

1 2 3 4 5 6 7 8 9 10 11 12 End

← Prev Next →

Explore the Data Story as your students would while we wait to start the webinar...

1) Looking at the environment and the biology in the Arctic

To understand what is happening in the Arctic, we need to look at the environment and at the biology.

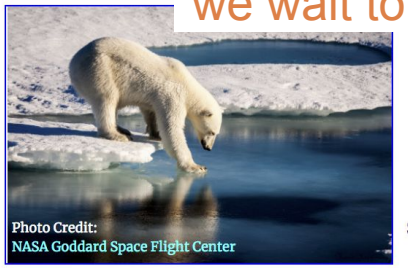
Important parts of the Arctic environment are: air, ocean, and ice (white in map on right). One kind of ice is sea ice. It is frozen ocean water that forms and melts with the seasons and is a crucial aspect of the Arctic environment. Much of Arctic sea ice actually never melts away in summer and survives year-round.

Animals and plants in the Arctic are mostly ice-dependent. For half of the year most of the Arctic is covered in sea ice.

One way we can learn about what has happened to the environment over time is to look at data about the atmosphere and sea ice.

We can also look to see if any changes in the animals and plants of the Arctic have happened during the same time. This can help us better understand overall what has been happening in the Arctic over time.

So let's dive into some data!



Summer Arctic Sea Ice Coverage (1979)

POLAR–ICE
Interdisciplinary Coordinated Education

Data Stories Series - What are the effects of a warming Arctic?

Wednesday, February 7, 2017

Icebreaker poll

What was the best part of using polar data?

- The poles are awesome
- Connects students to the science
- Brings the poles to my classroom
- Data are cool (:))

Thank you for joining us

Dr. Matt Druckenmiller
Research Scientist II
National Snow & Ice Data Center,
Rutgers University

Kristin Hunter-Thomson
Data Stories Series Coordinator
Program Director, Teaching Instructor
Rutgers University

Tonight’s agenda

8:00 pm: Welcome and webinar logistics

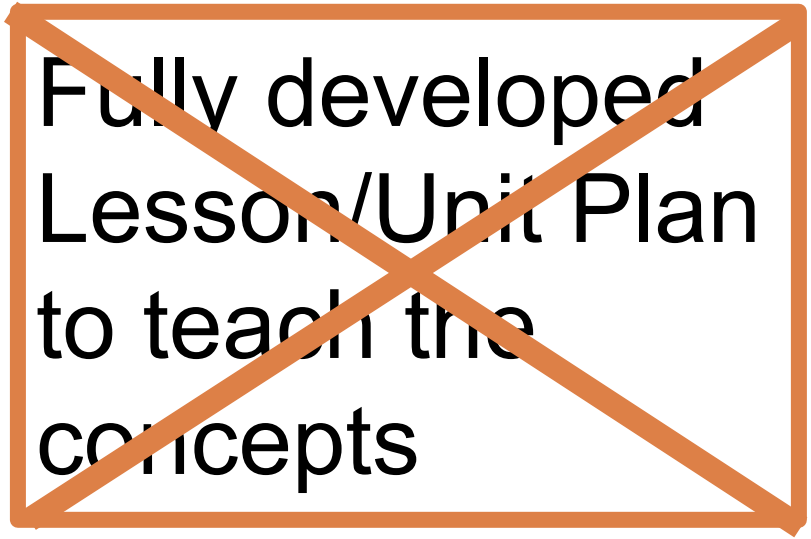
8:10 pm: Getting to know Matt & his work

8:45 pm: Brainstorming how to bring this into our classrooms

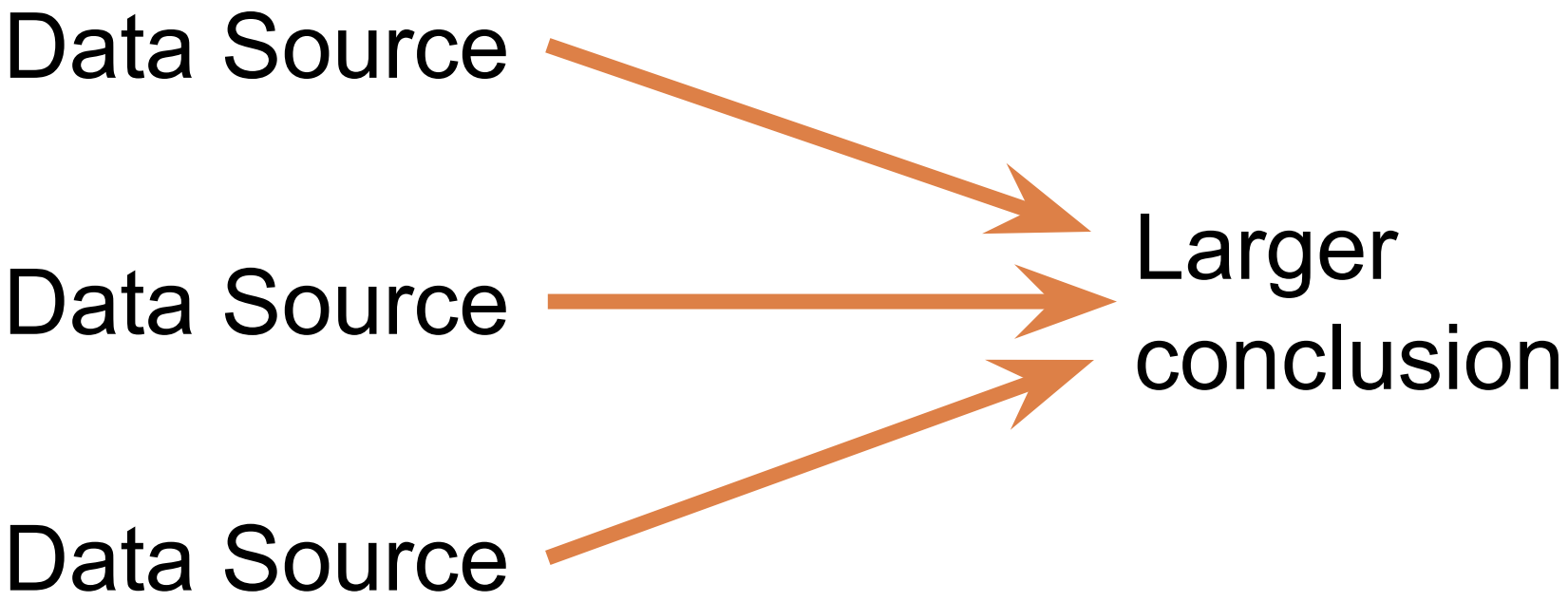
8:55 pm: Next steps and evaluation

What it is and what it isn't

Chance to explore data from the polar regions



Approach to this Data Story



Kastens & Krumhansel (2016)

Matt & his science...

What are the effects of a warming Arctic?

The Arctic is a unique ice-dependent ecosystem. But, what has happened as air temperatures have warmed over time? What does that mean for the ice, animals, and plants in the Arctic?

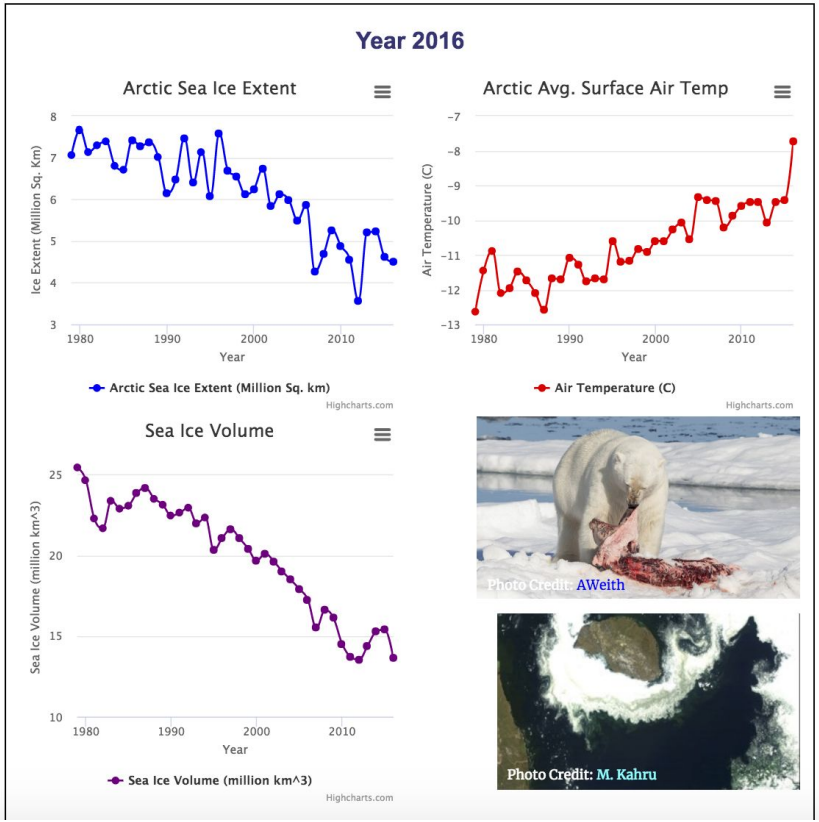
12) So what does this all mean for the Arctic ecosystem?

Look again through all of the data that we have been exploring. Are there overall patterns among the different variables? Do you think they are related to one another?

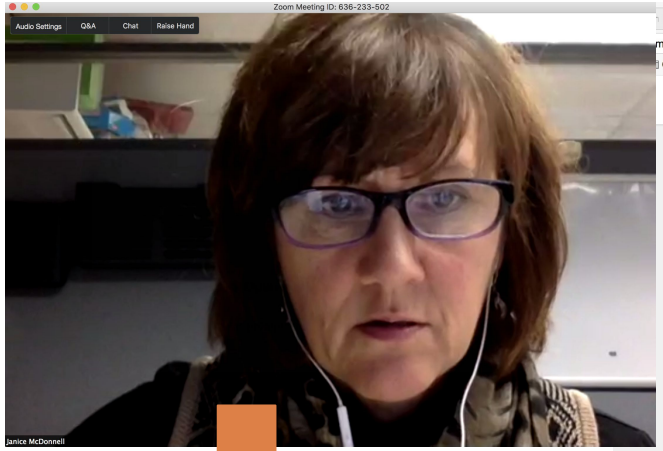
When using all of these data together, what conclusions can we make about what has been happening in the Arctic over time?

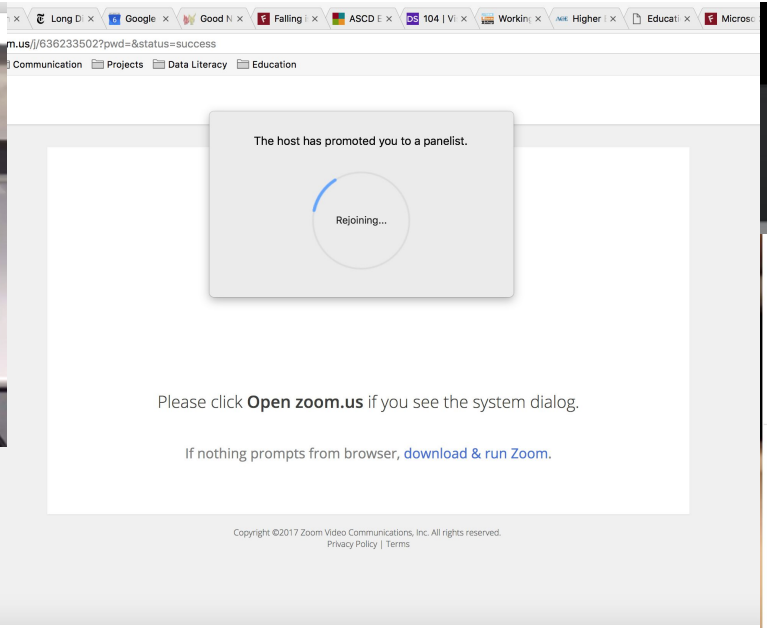
Interested in seeing how scientists think about how to talk to others about this? Explore the process of a message box!

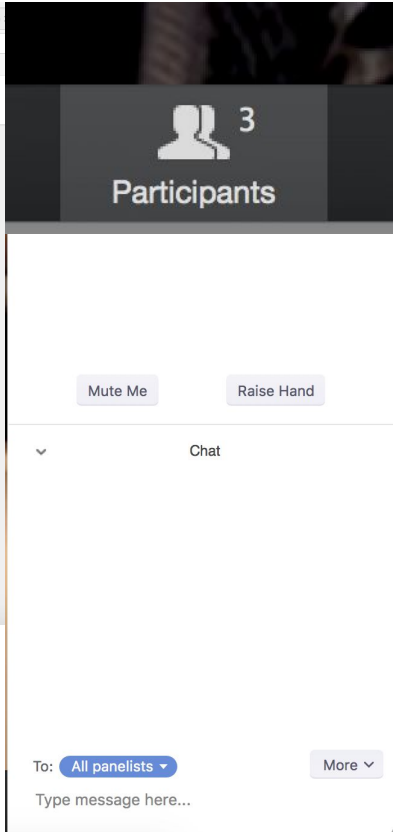
To learn more about other things that are related to changes in sea ice (drivers), check out here.



Promoting to Panelist







Use in classroom poll

What are some ways that we can envision bringing this into our classrooms?

- Use as “Do Now”
- Build into existing lesson/unit
- Assign as extra credit
- Other

Let’s get our kids doing this...

What are some ways that we can envision bringing this into our classrooms?

https://polar-ice.org/focus-areas/polar-data-stories/what-are-the-effects-of-a-warming-arctic/

What are the effects of a warming Arctic?

The Arctic is a unique ice-dependent ecosystem. But, what has happened as air temperatures have warmed over time? What does that mean for the ice, animals, and plants in the Arctic?

1 2 3 4 5 6 7 8 9 10 11 12 End

← Prev Next →

1) Looking at the environment and the biology in the Arctic

To understand what is happening in the Arctic, we need to look at the environment and at the biology.

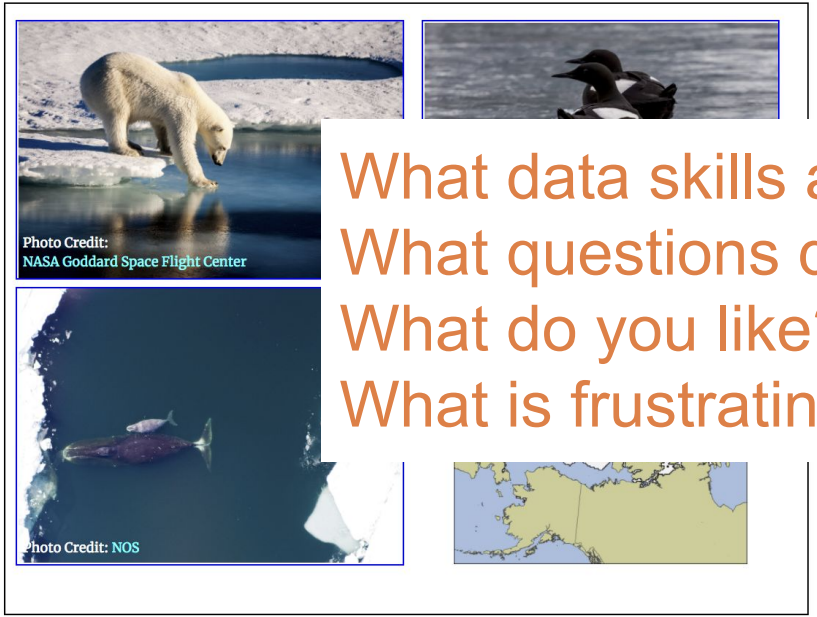
Important parts of the Arctic environment are: air, ocean, and ice (white in map on right). One kind of ice is sea ice. It is frozen ocean water that forms and melts with the seasons and is a crucial aspect of the Arctic environment. Much of Arctic sea ice actually never melts away in summer and survives year-round.

Animals and plants in the Arctic are mostly ice-dependent. For half of the year most of the Arctic is covered in sea ice.

One way we can learn about what has happened to the environment over time is to look at data about the atmosphere and sea ice.

We can also look to see if any changes in the animals and plants of the Arctic have happened during the same time. This can help us better understand overall what has been happening in the Arctic over time.

So let's dive into some data!



What data skills are you using?
What questions do you have?
What do you like?
What is frustrating?

Polar Literacy Principles

#2 - Ice is the dominant feature of the Polar Regions.

6 - The Poles are experiencing the effects of climate change at an accelerating rate.

Next steps

Open indefinitely

Recording of webinar posted by 2/8/18

“Answer recording” posted on 2/14/18

https://polar-ice.org/focus-areas/polar-data-stories/

Resources provided

What are the effects of a warming Arctic? (Feb 2018)

- What are the effects of a warming Arctic? – Link to Data Story
- Listen to Dr. Matt Druckenmiller interpret the data from this Data Story (follow along on page 7 of the Data Story) (coming 2/14/18)
- *Related Lessons*: (coming 2/9/18)
- *Related Datasets*:
  - PIOMAS Arctic Sea Ice Volume data (1979-2016)
  - Reanalysis Air Temperatures data (1948-2016): Comparing global mean with Arctic mean
- *Related Resources*:
  - Polar Literacy Principle #2 – Ice is the dominant feature of the Polar Regions.
  - Polar Literacy Principle #6 – The Poles are experiencing the effects of climate change at an accelerating rate.

February 7, 2018 Webinar with Dr. Matt Druckenmiller – Resources (coming 2/9/18)

- Zoom Recording
- Audio Only
- Surround slidedeck
- Dr. Druckenmiller's slidedeck

https://polar-ice.org/focus-areas/polar-data-stories/

POLAR–ICE
Interdisciplinary Coordinated Education

Thank you for joining us!

Wednesday, March 7th, 8-9pm (eastern)-
“What should we do about the trees?”