My NASA Data - Mini Lesson/Activity

Exploring Sea Ice Changes Over Time

Grade Band

- 6-8

Time

- 15 minutes

Overview

Arctic sea ice is the cap of frozen seawater blanketing most of the Arctic Ocean and neighboring seas in wintertime. It follows seasonal patterns of thickening and melting. Students view how the quantity has changed from 1979 through 2018.

Student Directions

Watch the 2018 Arctic Sea Ice Ties for Sixth Lowest Minimum Extent on NASA Record video and answer the questions.

Video: 2018 Arctic Sea Ice Ties for Sixth Lowest Minimum Extent on NASA Record

2018 Arctic Sea Ice Ties for Sixth Lowest Minimum Extent on NASA Record | https://www.youtube.com/watch?v=pyIdwDbtcGs | Source: NASA Goddard

Steps:

1. Check with your instructor on how to submit your answers.
2. Describe the long-term trend that is depicted by the analysis of the polar sea ice cover for the past 40 years.
3. Describe what ICE-SAT2 measures.
4. Explain why this measurement is important.
5. How does sea ice thickness relate to the annual Arctic sea ice minimum extent?

Sources:

1. *2018 Arctic Summertime Sea Ice Minimum Extent Tied for Sixth Lowest on Record.* (2018, Sep 27). NASA's Goddard Space Flight Center. NASA Visualization Studio. Retrieved June 22, 2022, from https://svs.gsfc.nasa.gov/13075

Teacher Note

Teachers, these mini lessons/student activities are perfect "warm up" tasks that can be used as a hook, bell ringer, exit slip, etc. They take less than a class period to complete. Learn more on the "My NASA Data What are Mini Lessons?" page.

Teachers who are interested in receiving the answer key, please complete the Teacher Key Request and Verification Form. We verify that requestors are teachers prior to sending access to the answer keys as we've had many students try to pass as teachers to gain access.

NGSS Three Dimensional Learning

NGSS Disciplinary Core Ideas

- ESS2A: Earth Materials and Systems

Crosscutting Concepts

- Cause and Effect
- Scale, Proportion, and Quantity

Science and Engineering Practices

- Analyzing and Interpreting Data