My NASA Data - Mini Lesson/Activity

Seasonal Sea and Land Ice Melt

Grade Band

- 6-8
- 9-12

Time

- 15 minutes

Overview

Students examine the two time series images to determine the differences between seasonal ice melt over water versus land.

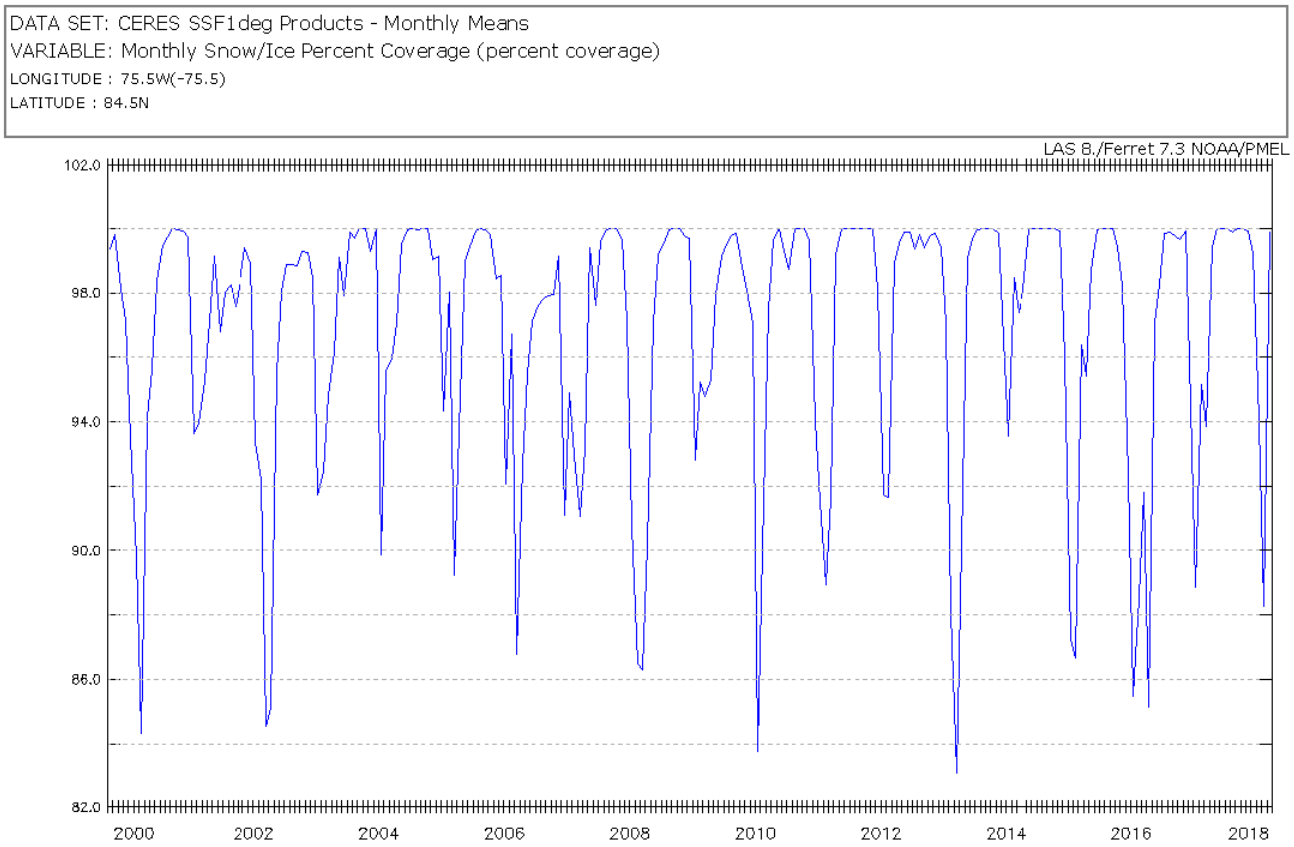
Student Directions

Examine the two time series images to determine the differences between seasonal ice melt over water versus land. Read the information at the top of each graph and answer the following questions.

Note:

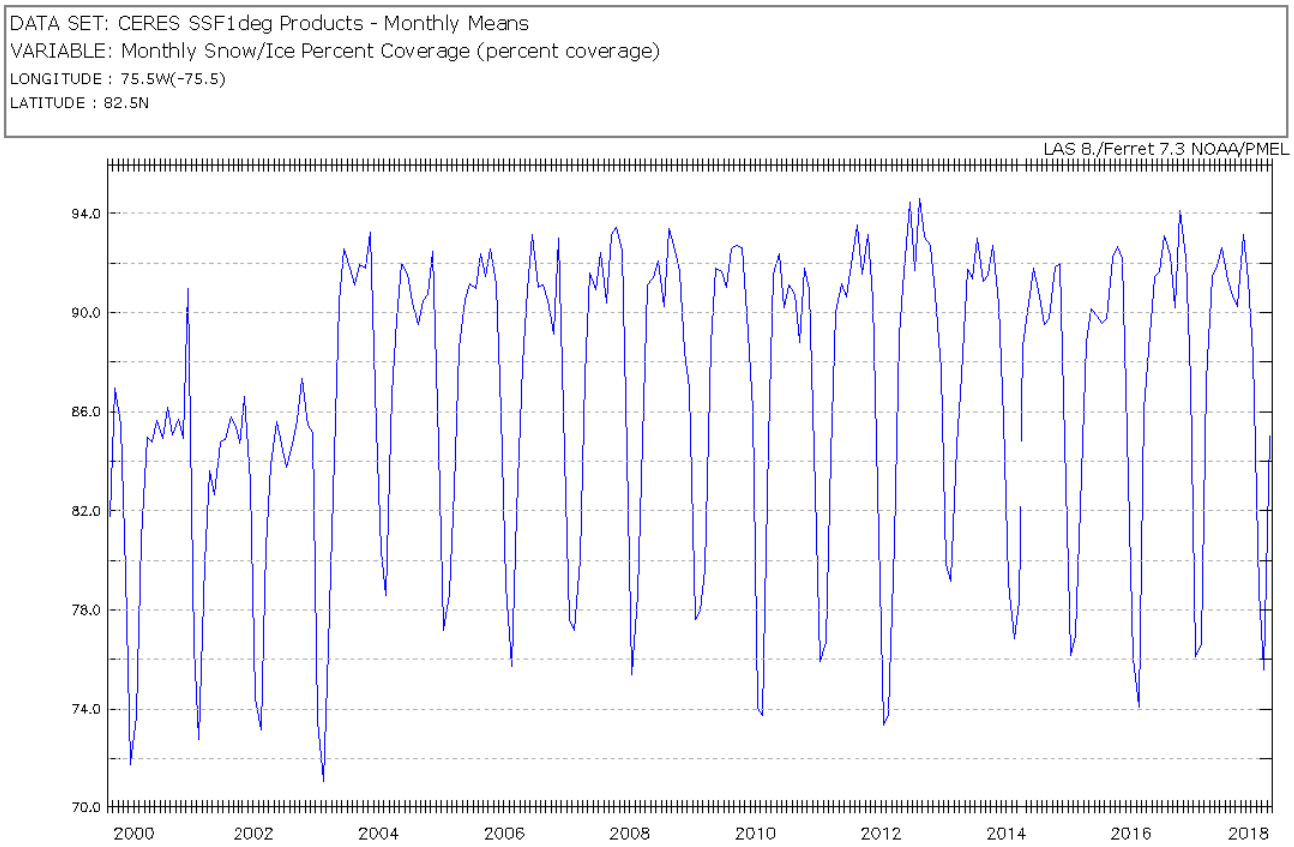
- This quantity measures the percent coverage of snow and ice in each pixel, including snow, land ice, and sea ice.
- UNITS: This quantity is a measure of area coverage. A 30 percent coverage value means that snow and ice cover 30 percent of the land area at that location over the entire area of the grid box.

The first image shows the ice over the water.



[The graph displays snow and ice coverage over water at a location in the Arctic between 2000 and 2018. Source: My NASA Data | https://mynasadata.larc.nasa.gov/sites/default/files/inline-images/sea_0.png]

The second image shows the ice over land.



[The graph displays snow and ice coverage over land at a location in the Arctic between 2000 and 2018. Source: My NASA Data | https://mynasadata.larc.nasa.gov/sites/default/files/inline-images/land.png]

Steps:

1. Check with your instructor on how to submit your answers.
2. What do these graphs show?
3. What variable is on the horizontal axis?
4. What variable is on the vertical axis?
5. What is the maximum value for the vertical axis?
6. What pattern do you see for the sea ice?
7. What pattern do you see for the land ice?
8. What are the differences?

Source:

1. LAS UI. (n.d.). My NASA Data. Retrieved October 25, 2022, from https://mynasadata.larc.nasa.gov/EarthSystemLAS/UI.vm#panelHeaderHidden…

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
- ESS3A: Natural Resources

Crosscutting Concepts

- Patterns

Science and Engineering Practices

- Developing and Using Models
- Analyzing and Interpreting Data

Document Resources

- Seasonal Sea and Land Ice Melt Images