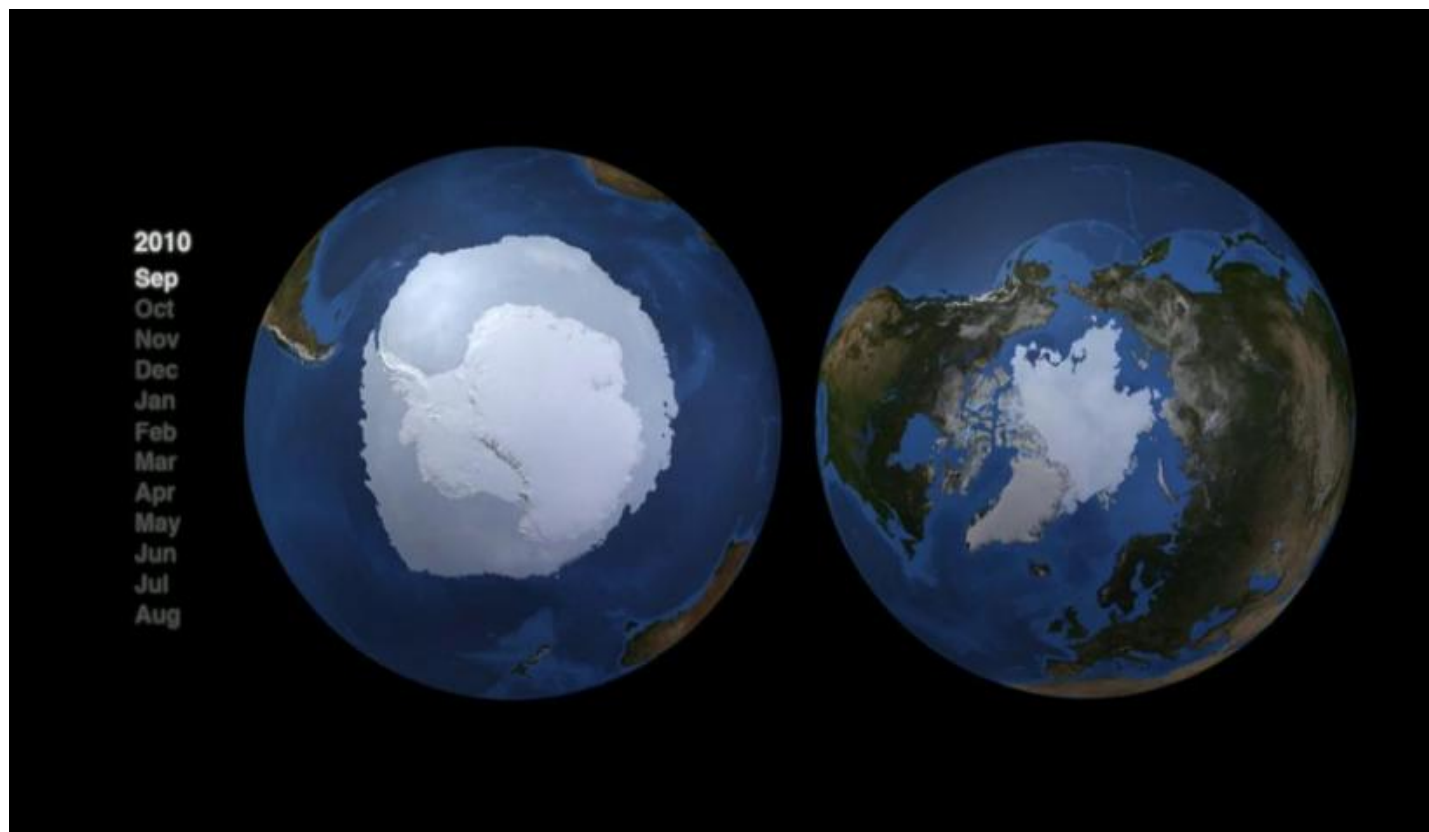

My NASA Data - Maps, Data, and Models

Patterns, Similarities, and Differences: Seasonal Ice (2012)



Explore the spatial patterns observed in meteorological data and learn how this information is used to predict weather and understand climate behavior. By observing patterns in data we can classify our observations and investigate underlying cause and effect relationships.

Seen side-by-side, snow and sea ice in the Northern and Southern Hemispheres pulse at exact opposite times of year, constantly out of phase. The extent of yearly change at the extreme poles of our planet is an annual pattern that illustrates that similar forces are at work on distant parts of the Earth. Moderate Resolution Imaging Spectroradiometer (MODIS) data from the near-polar-orbiting Terra and Aqua satellites were used for this visualization.

For more information, visit the [Arctic Sea Ice Gallery](#).

Credit: NASA Scientific Visualization Studio

Mini Lesson

Example Questions for Students:

1. Describe the phenomenon you observe.
2. What patterns do you see in this model?
3. How do Data Visualizers make this video? Where do these ideas come from?
4. What are the limits of this model?
5. How is this model precise? What benefits are there in using this model?
6. What scientific principles are guiding this phenomenon?
7. Predict the future of the phenomenon based on the model you've observed.
8. What evidence of Earth System interaction (among Atmosphere, Hydrosphere, Biosphere, Cryosphere, Geosphere) do you see?
9. What question would you like to research based on this model?

Sphere(s)

- [Cryosphere](#)
- [Earth as a System](#)

Phenomenon

- [Changes in Snow and Ice Extent](#)

Crosscutting Concepts

- [Patterns](#)

Tags

- [Snow](#)
- [Sea Ice](#)
- [MODIS](#)
- [Polar](#)

Related Links

- [Visualizing Earth Systems: A NASA Quick Start Guide for Educators](#)