

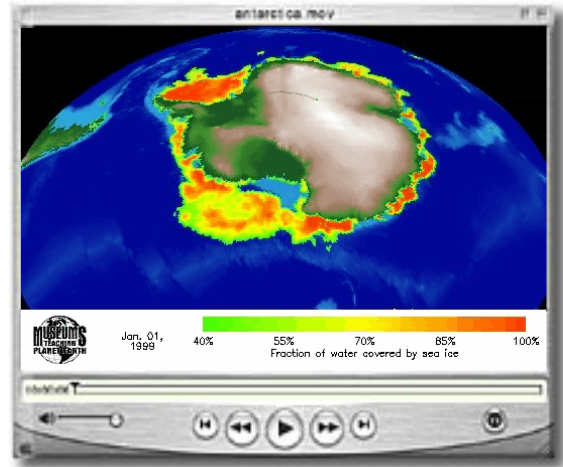
Investigation Two: How Much Sea Ice?

Extension Activity

Your teacher may ask you to do the following.

Movie: Antarctic Sea Ice Change

Using images created by microwave technology, scientists made a short movie called Antarctic Sea Ice Change (1999). In this movie, you can see how the sea ice surrounding Antarctica grows and shrinks over a 12-month period. Though it covers a year's time in real life, it is greatly speeded up. In fact, it takes only a minute. In this activity, you will watch the movie and answer some questions about it.



Animation courtesy of Rice University, Department of Physics & Astronomy

Materials

- Antarctic Sea Ice Change (1999)

Procedure and Record Sheet

1. Click image above to play the entire movie—from January to December 1999—just once.
Record what you noticed below. 1

2. Study the color key and answer these questions.
 - *What does the bright orange in the color key stand for?*

3. *What color shows 50% sea ice coverage?*

4. Watch the movie again, then answer these two questions.

- *In Antarctica, the summer months are December, January, and February. What happens to the sea ice during the summer months? Explain how you know this, making specific reference to the color key.*

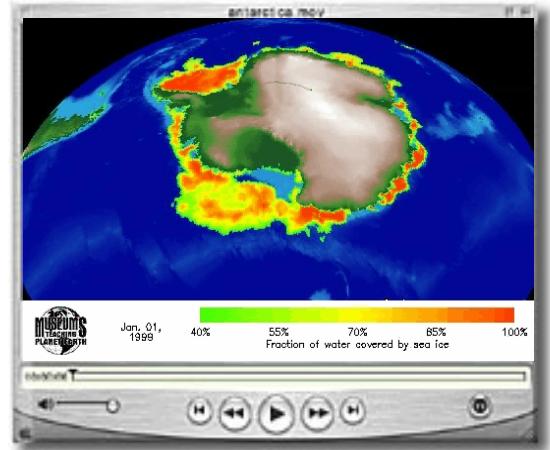
- *The winter months in Antarctica are June, July, and August. What happens to the sea ice during the winter months? Explain how you know this, making specific reference to the color key.*

Investigation Two: How Much Sea Ice?

Extension Assessment

Materials

- Antarctic Sea Ice Change (1999)



Animation courtesy of Rice University, Department of Physics & Astronomy

Procedure and Record Sheet

1. Click image and observe the movie frame by frame, then answer the following question.
 - *If the months of January and February 2000 were added to the end of the movie, would they show sea ice shrinking or growing? Why do you think so?*

2. Use the movie and the map below to do the following.

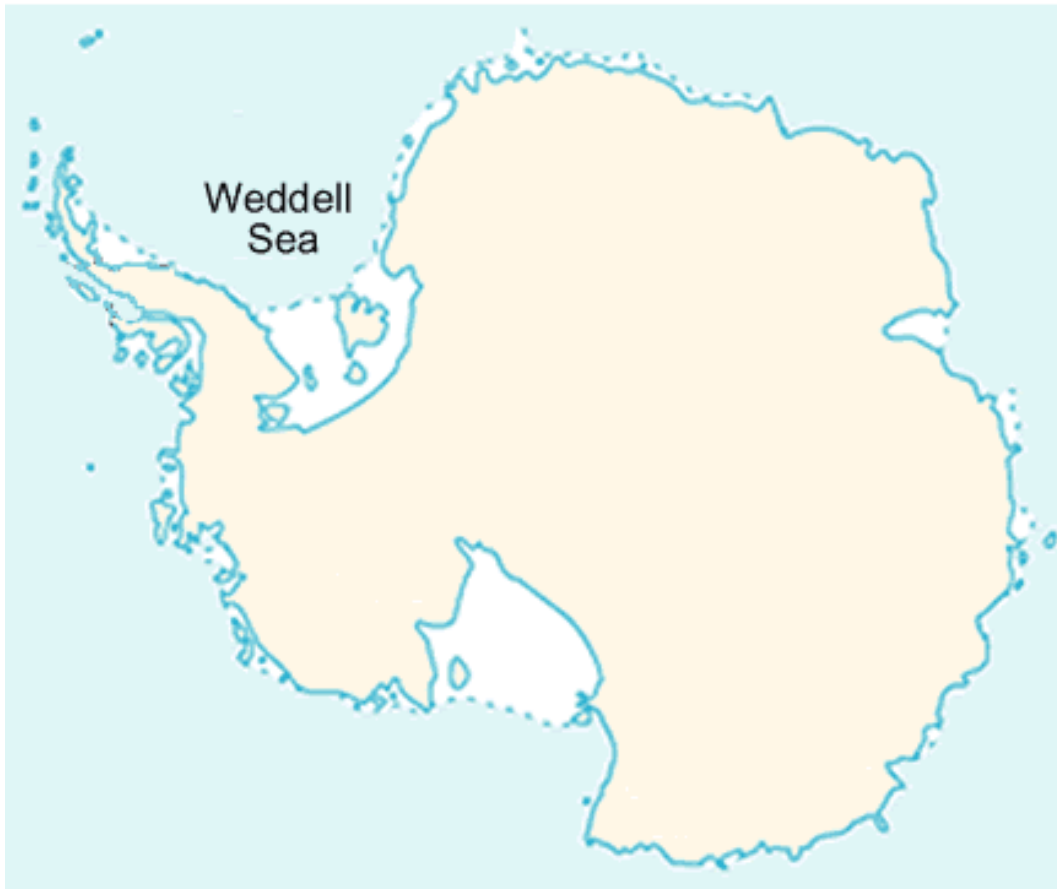


Image from CIAFactbook

- Locate the area in the Weddell Sea that seems always to be covered by sea-ice. Shade it in.
- Describe what you see in the movie that would help explain why the *Endurance* became stuck in the ice.

- Choose the best month to land a ship on the Antarctic coast and write its name below. Also mark the place on the coast where you would land your ship. Explain your choice of month and landing place.

