

Students' worksheet for 'Sea ice' package

During the lesson, fill in following tasks.

Task 1.

What is sea ice?.....
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Task 2.

Why are icebergs dangerous for ships?.....
.....

Task 3.

When do you expect the lowest sea ice extent and why?.....
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Task 4.

Using the interactive graph available on: check the minimum sea ice extent for September, 16, 2012 (the record minimum) and compare it to 1981-2010 median. Compare the loss to area of your country.

1981-2010 median	2012 (record minimum)	difference	Area of your country	Sea ice loss/your country area

Task 5.

less negative more more higher smaller slows down accelerates increases decreases
positive

Ice has albedo than water. It means that ice reflects sun radiation than water.

When sea ice melts more than usually, there is more open water and sun radiation is absorbed. The temperature of the ocean . It melting of ice.

Therefore, we call it a feedback loop.

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EDU-ARCTIC 2: from polar research to scientific passion – innovative nature education in Poland and Norway receives a grant of ca. 240 000 EUR received from Iceland, Liechtenstein and Norway under EEA funds. The purpose of the EDU-ARCTIC 2 project is to: enhance the knowledge about nature, geography, natural resources, political specificities concerning polar regions and increase awareness of environmental issues and climate change, increase of interest in pursuing STEM education and careers due to enhancement of knowledge about scientific research, and their place in the modern world, familiarizing young people with scientific career opportunities; introduce innovative tools by way of an e-learning portal and effective methods of teaching science in schools.

Task 6.

Fill in the table with the following sentences:

It forms on the sea surface. It has various shapes and sizes. It may survive many years.
It usually melts within summer. It may carry ships around. It forms from snow.

Sea ice	Iceberg
	It forms on land and reaches the sea as a result of the calving of glaciers.
It is usually flat.	
It forms from salty ocean water.	
	It is dangerous for ships.

Task 7.

Check, what you learned about albedo and Arctic amplification.

1. Water has much higher albedo than ice, therefore it warms up quickly.

True

False

2. Indicate surface with the highest albedo

- ☐ open ocean
☐ ice
☐ ice with snow

3. Positive feedback loop

amplifies changes

slows down changes

4. When sea ice melts faster than usually, there is more open water, which has

- ☐ lower albedo and absorbs more sun radiation
☐ lower albedo and reflects more sun radiation
☐ higher albedo and absorbs more sun radiation
☐ higher albedo and reflects more sun radiation

5. Arctic amplification means that...

.....
.....
.....