

ARCTIC Science Journeys

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These graves on Beechey Island in the Canadian Archipelago mark the misfortune suffered by Englishman Sir John Franklin and 128 crewmembers who perished in their 1845 search for a passage through the Canadian Arctic Ocean to Asia. Now scientists say the Arctic Ocean is likely to be ice-free in summer by the middle of the century if the climate continues to become warmer.

Smooth Sailing

Part 1

Listen to the recording and check if the words in bold are the same as in the listening. If not, change them.

INTRO: A group of international scientists predict the Arctic Ocean could be largely ice-free by 2050, making trans-Arctic shipping common. Doug Schneider has more in this week's Arctic Science Journeys Radio.

STORY: Explorer Sir John Franklin was 200 years ahead of his time. In 1845, Franklin set out from England to find an ice-free route across Canada's Arctic Ocean, the so-called Northwest Passage. A journey over the top of the world **would have** greatly shortened the trading distance between Europe and Asia. Franklin never found a way through. Instead his ship was beset in ice. He and all 128 crewmembers died during one of the worst Arctic winters on record.

But if a team of international scientists is correct, traversing the Arctic Ocean **may** become routine as early as 2050. That's because scientists believe much of the Arctic Ocean **could** be ice-free in summer by then, thanks to an Arctic climate that continues to become warmer. That bold prediction will **certainly** be included in an Arctic Climate Impact Assessment to be released at an international conference in Iceland in November. Gunter Weller is the executive director of the Arctic Climate Impact Assessment.

WELLER: "The opening of the Arctic **might be** one of the major, or *the* major impact, that we have found in this assessment. The magnitude of the expected change in sea ice conditions is pretty extraordinary."

More than 250 scientists from around the Arctic spent four years compiling the report for the Arctic

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Council, an organization of government officials, scientists and indigenous people from Canada, Denmark, Finland, Sweden, Iceland, Norway, Russia and the United States.

The report **will** say that the Arctic is undergoing dramatic environmental change as a result of a climate that has warmed an average of five degrees in recent decades. Among the changes are disappearing sea ice, melting permafrost and glaciers, and the colonization of the tundra by trees and shrubs. The report also draws on five separate computer models to predict the Arctic's future climate. Weller says that while each model offers somewhat different scenarios, they all point to an Arctic with much less ice and snow in coming decades.

Part 2

Listen to the rest of the recording and answer the questions. You should give short answers only.

1. What changes are expected in the Arctic within the next 50 to 100 years?

2. How might these changes affect shipping and navigation?

3. While a warmer Arctic may be good news for the world's shipping companies, what are the problems that the ecosystem would almost certainly face?

a.

b.

c.

d.

OUTRO: This is Arctic Science Journeys Radio, a production of the Alaska Sea Grant Program at the University of Alaska Fairbanks School of Fisheries and Ocean Sciences. I'm Doug Schneider.