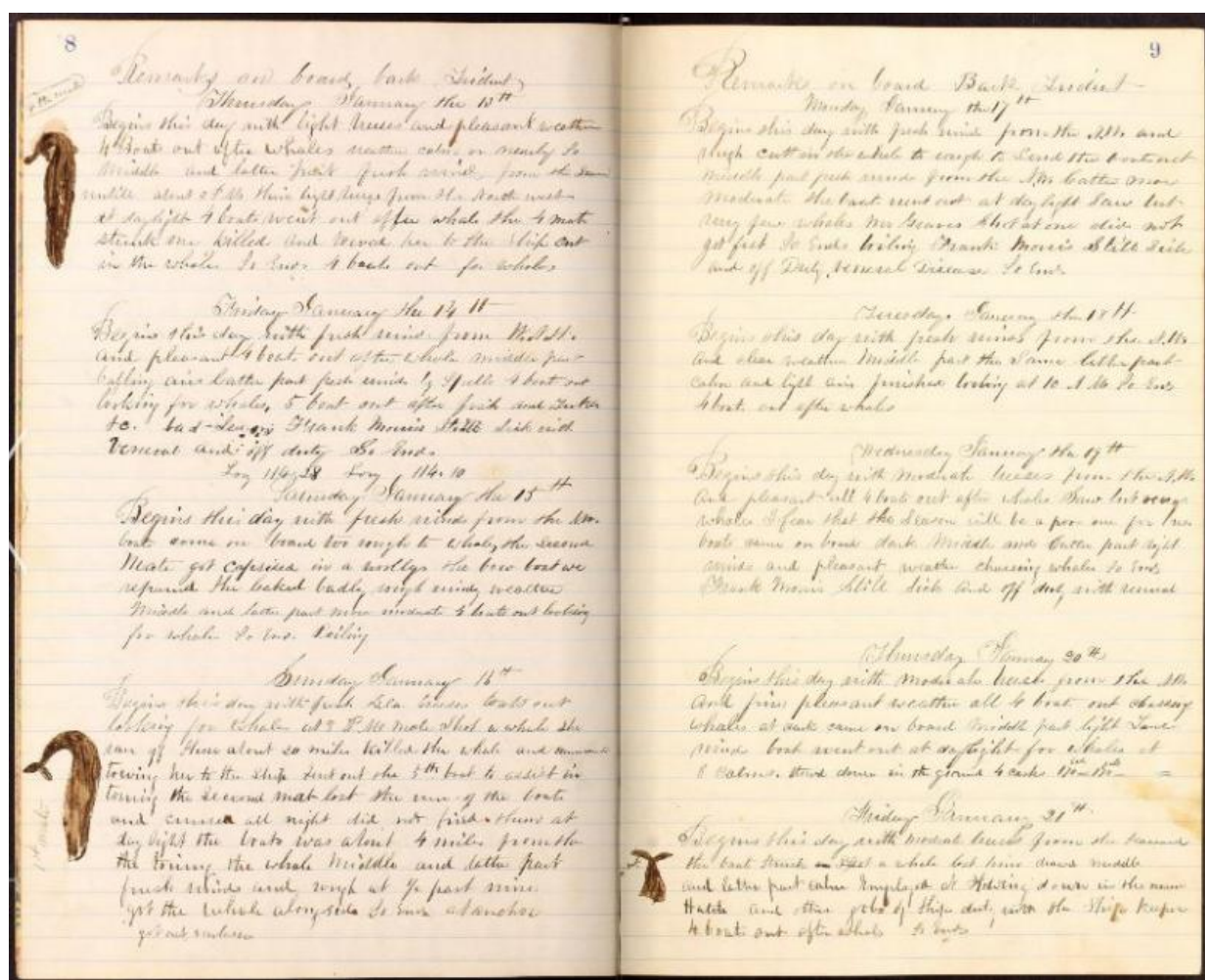


Citizen-science climate project adds logs from historic Arctic whaling ships

December 4 2015, by Hannah Hickey



A January 1870 page from the log of the Trident, a whaling vessel that sailed out of New Bedford, Massachusetts. Volunteers transcribe the handwritten text for climate clues. Credit: New Bedford Whaling Museum

Even if climate negotiations in Paris are successful, the planet is locked into long-term warming and an uncertain future. The Arctic is warming twice as fast as the rest of the world.

But what was the Arctic like before—when maritime explorers and whale hunters first ventured into its icy seas? If scientists could know more about Arctic climate of the past, they could better understand today's changes, and use that knowledge to improve projections for the future.

Old Weather is a citizen-science project led by a University of Washington scientist and former mariner that is mining historic ships logs to get a unique peek at Arctic climate over the past two centuries.

An update launched Dec. 3 expands the project to also include hundreds of whaling ships, whose logbooks were preserved and scanned into digital form from New England museums and libraries.

Until now, Old Weather has mined logbooks from historic federal ships' logs, scanned in recent years at the National Archives in Washington, D.C. The whaling ships will add a new source of data for conditions in Arctic Ocean waters.

"The whaling ships provide a rich resource for us to use for the region north of Bering Strait," said project leader Kevin Wood, a research scientist at the Joint Institute for the Study of the Atmosphere and the Ocean, a partnership between the UW and the National Oceanic and Atmospheric Administration. "In some years there may have been 40 or 50 ships working in that sector of the Arctic."

The commercial whaling boats recorded [sea ice](#) and weather data in more than 400 logbooks from voyages dating as far back as the 1840s, with most taking place from the mid-1800s to the early 1900s.

"They're not doing the hourly instrumental weather that the federal ships did, but they talk about sea ice in a very thorough way," Wood said. "We can get more than one ship at a time in one area. This will allow us to get a much better characterization of the sea ice and other environmental conditions, especially in the Pacific Arctic."

Institutions that contributed logbooks include the New Bedford Whaling Museum, Providence Public Library, the Nantucket Historical Association, Martha's Vineyard Museum, Mystic Seaport and the New Bedford Free Public Library. Together these institutions hold the majority of U.S. Arctic whaling logbooks still in existence, Wood said.

The data that Old Weather volunteer citizen scientists meticulously transcribe from the logbooks are used to drive climate and sea ice models to help understand changes and improve predictions.

Volunteers get to help solve a climate puzzle from far back before the satellite era. They also get to experience the firsthand accounts of the whalers as they pursued their quarry into perilous Arctic seas.

"These stories will provide the best historical documentation of the Arctic marine environment over the past two centuries that it is possible to assemble," Wood said.

Including the new logbooks, the Old Weather effort has scanned more than 500,000 handwritten pages from historic ship logs, and Old Weather volunteers have so far transcribed almost 3 million historical [weather](#) records for use in climate and environmental research.

Provided by University of Washington

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