



Historical Sea Ice Atlas for Alaska Waters, 1850-2012

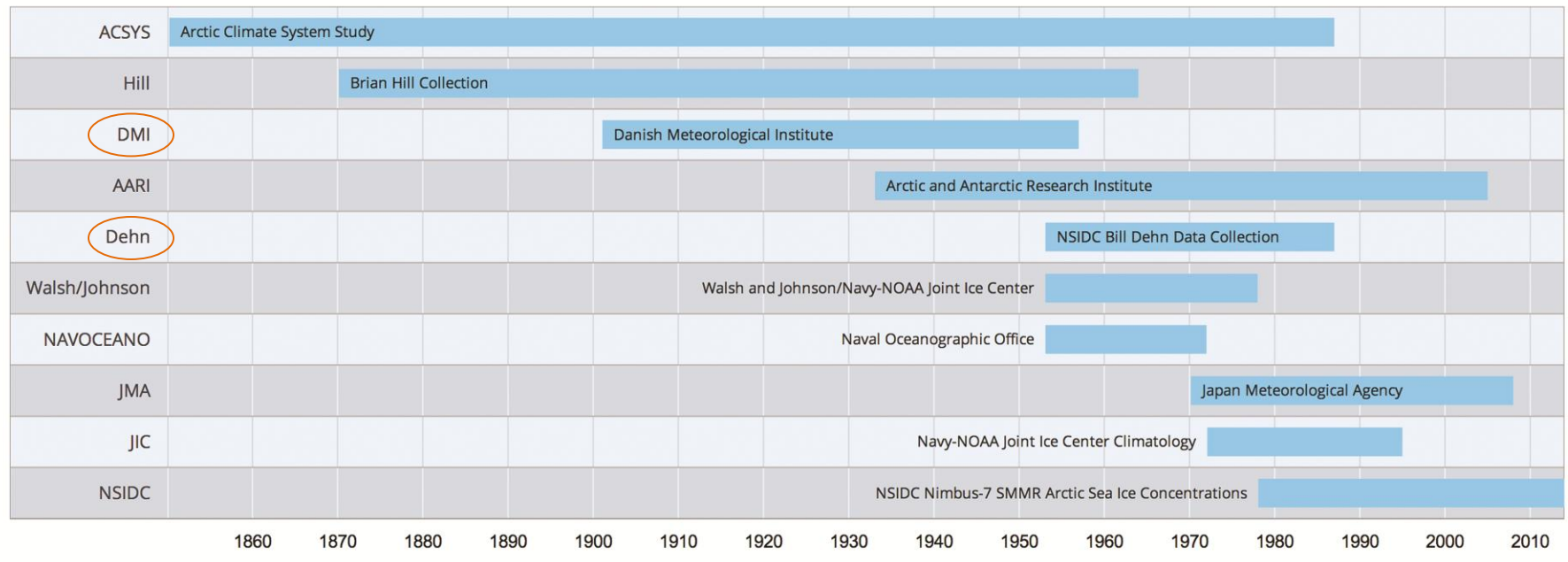


The Objectives

- **A digital sea ice atlas that maximizes the useful information on historical sea ice conditions in the waters surrounding Alaska**
 - consistently formatted through time
 - monthly, back to the mid-1800s; weekly from 1953 onward
 - documentation of sources
 - provide users an optional space-time reconstruction over areas without observations
- **Online access with supporting software**
 - visualization of ice conditions in user-selected months; animations
 - graphs of derived metrics (opening date, closing date, open water season lengths)

Sea Ice Data Sources

Sources of sea ice data used in this Atlas



Multiple data sources =
wide range of data
collection, archiving,
analysis procedures



Data visualization =
 $0.25^\circ \times 0.25^\circ$ spatial
res
monthly* temporal res
binned concentration

Sea Ice Atlas Website

<http://seaiceatlas.snap.uaf.edu/>

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Historical Sea Ice Atlas

Alaska sea ice, mid-1800s to the present

[Explore](#)



Use this Atlas

History, planning, and uncertainty

[About](#)



Download data

Use these data for your own analyses

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Learn about sea ice

Common terms and phenomena explained

[Glossary](#)

A joint project funded by the Alaska Ocean Observing System (AOOS), the Alaska Center for Climate Assessment and Policy (ACCAP), and the Scenarios Network for Alaska and Arctic Planning (SNAP)

Partners. Funded by the National Ocean Service at the National Oceanic and Atmospheric Administration (NOAA) through AOOS grant #NA11NOS0120020. Work was performed at UAF by the International Arctic Research Center's ACCAP (funded by

Sea Ice Atlas – Explore

Historical sea ice concentration, June 1955

Interactive map

Choose a date, and click on the map to view sea ice charts for your location.

Select by date*

June 1955

*Mid 1800s to 1952 update pending

Lat Lon

Animation

There are 2 ways to view sea ice changes over time:

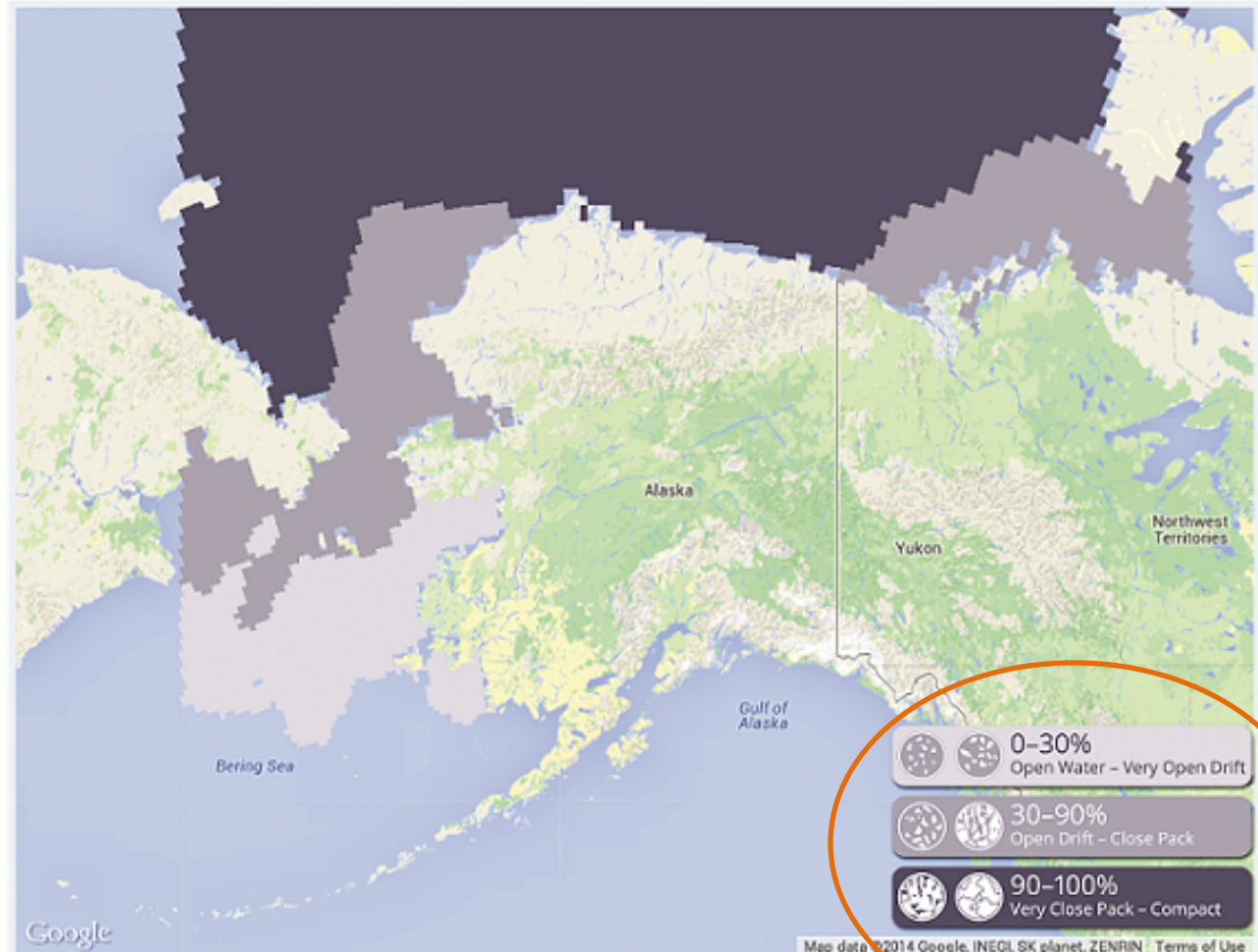
Yearly, by month

e.g. Jan 1953, Feb 1953, Mar 1953 ...

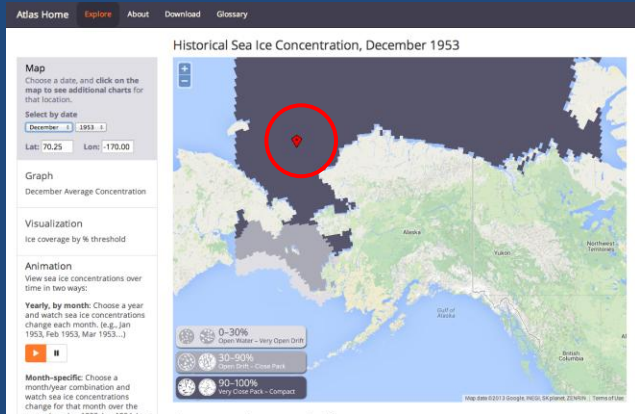


Single repeating month

e.g. Jan 1953, Jan 1954, Jan 1955 ...



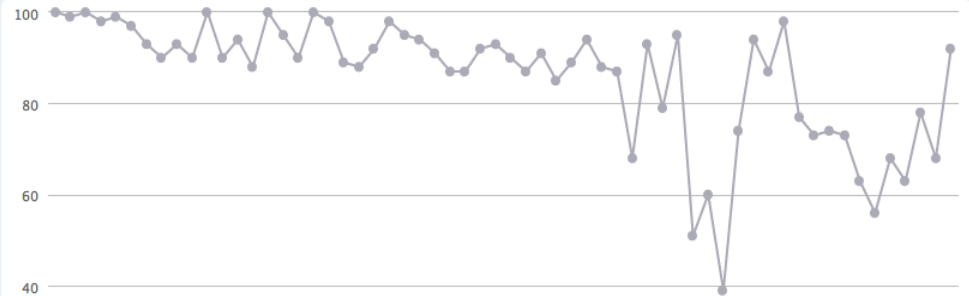
Sea Ice Atlas – single-point plots



Plotted data for selected location: 71.00°N 168.75°W

Sea ice concentration for December

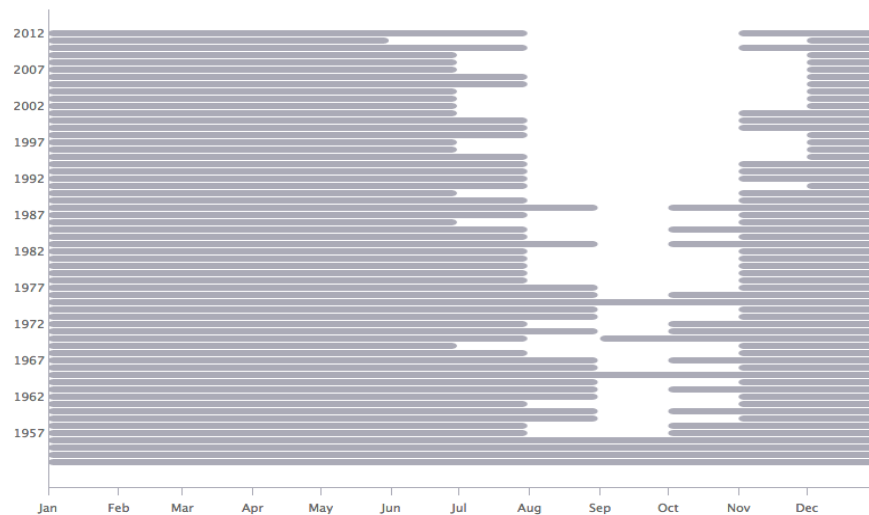
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Ice open and close dates by concentration threshold

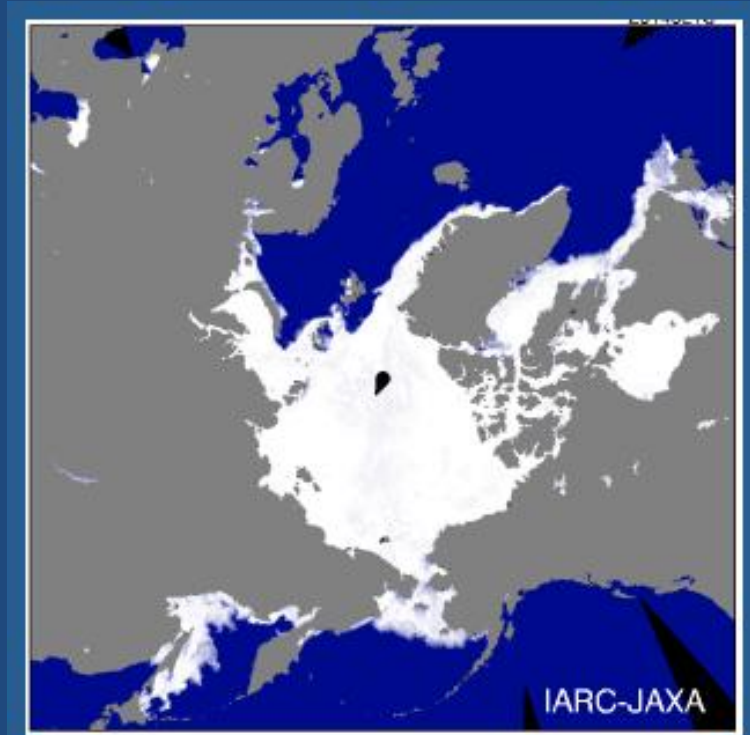
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30%: Selected sea ice minimum concentration threshold



Possible future extensions

- Weekly time resolution for 1953-onward in visualization tool
- Expansion of visualization tool to pan-Arctic domain
- Addition of other sea ice variables
- Inclusion of oceanographic data in open water areas (sea surface temperature or AOOS ocean products)



Sea Ice Atlas – Download Data

- Data is available for downloading.
- The Scenarios Network for Alaska & Arctic Planning (SNAP) maintains the data behind the Sea Ice Atlas and will update it semi-annually

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Download data

The [Scenarios Network for Alaska and Arctic Planning](#) (SNAP) maintains the data behind the Sea Ice Atlas.

Your download will include the entire Historical Sea Ice dataset compiled from the sources listed [here](#), not a subset based on selected dates.

You will leave this site in order to download data.

[Download sea ice data from SNAP](#)

Partners and funding. This project is funded by the National Oceanic and Atmospheric Administration (NOAA) through [Alaska Ocean Observing System](#) (AOOS) grant #NA11NOS0120020. Work was performed by the [Alaska Center for Climate Assessment and Policy](#) (ACCAP) at the University of Alaska Fairbanks (UAF) in partnership with the [Scenarios Network for Alaska and Arctic Planning](#) (SNAP, UAF) and the University of Illinois, Urbana-Champaign. Copyright © 2013 ACCAP and SNAP, research institutes of the University of Alaska Fairbanks. UAF is an affirmative action/equal opportunity employer and educational institution.

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