



NSF
**ARCTIC
Data
Center**

Introduction to the NSF Arctic Data Center

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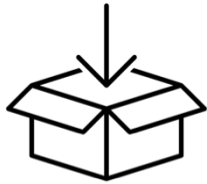
DataONE

<https://arcticdata.io>
NSF Award #: 1546024





NSF Arctic Data Center



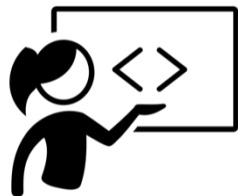
Data archive



Data discovery portal



Support services



Training
& Outreach



Data rescue



Computational Reproducibility

- Preservation enables:
 - Understanding
 - Evaluation
 - Reuse
- Future You!



Metadata



Software



Operation Metrics



5,700+
DATA SETS



2,000
CREATORS



720K
DATA FILES



14,000+
USERS



34 TB
DATA STORAGE



900K+
FILE DOWNLOADS



Data Discovery



Data Support About Community Submit Data

Sign in with Orcid

Search

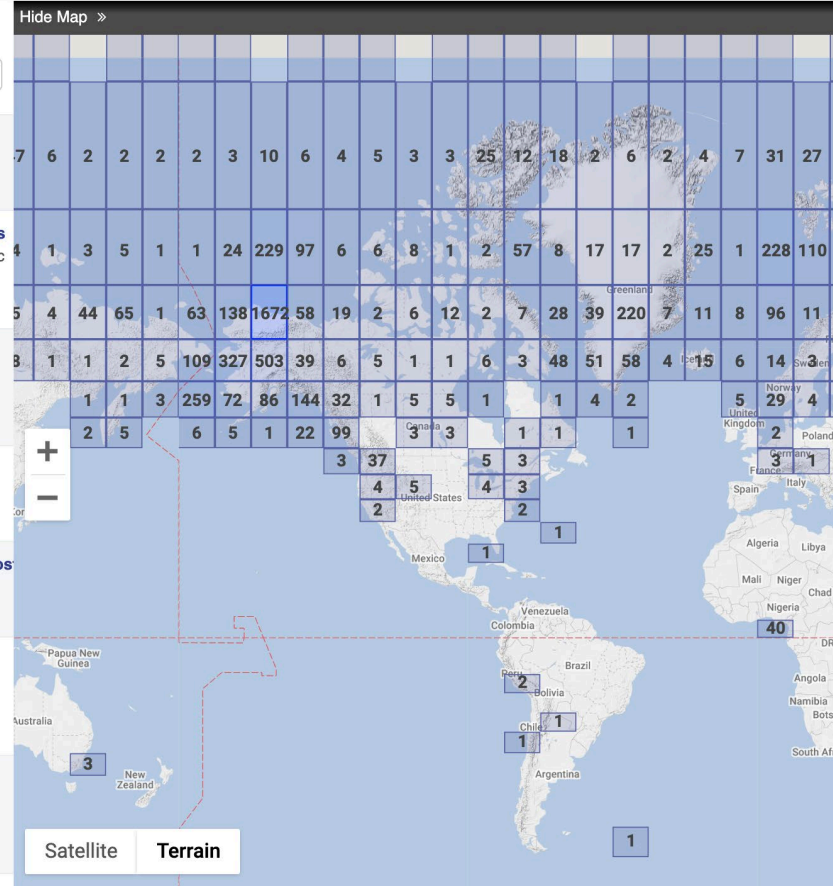
DATASETS 1 TO 25 OF 5,770

1 2 3 ... 231 Next

Sort by Most recent

- Filter by:
- Data attribute
- Annotation
- Creator
- Year
- Identifier
- Taxon
- Location

- Vasilii Petrenko, Jeffrey Severinghaus, and Edward Brook. 2020. **Greenland Summit 14C and close-off studies**. Arctic Data Center. urn:uuid:76c51566-ef1c-451f-93b7-4256f6a33783. 37 489
- Heather Alexander, Jennie DeMarco, Rebecca Hewitt, Jeremy Lichstein, Michael Loranty, et al. 2018. **Fire influences on forest recovery and associated climate feedbacks in Siberian Larch Forests, Russia, June-July 2018**. Arctic Data Center. urn:uuid:6528dc87-970c-412d-a168-4518f10e32d6. 486 1.6K
- Andrey Petrov, Leonid Kolpashchikov, John DeGroot, Nikolay Golosov, Narmina Iusubova, et al. **Taimyr Reindeer Migration Reanalysis (TAMARA), Taimyr, Russia, 1969-1991**. Arctic Data Center. urn:uuid:40d64aa5-ddb5-4f9f-a9fb-f976e5311f00. 1.5K 1.9K
- Andrey Petrov, Leonid Kolpashchikov, John DeGroot, and Nikolay Golosov. 2019. **Aerial census of reindeer in Taimyr, Russia, 1992**. Arctic Data Center. doi:10.18739/A2KK94C47.
- Vladimir Romanovsky, Alexander Kholodov, Thomas Wright, and Nicholas Hasson. 2019. **Thermal state of permafrost in North America - annually observed ground temperatures, 2016**. Arctic Data Center. doi:10.18739/A2W08WG7P. 55
- Vladimir Romanovsky, Alexander Kholodov, Thomas Wright, and Nicholas Hasson. 2019. **Thermal State of Permafrost in North America - annually observed ground temperatures, 2017**. Arctic Data Center. doi:10.18739/A20R9M42C.
- Vladimir Romanovsky, Alexander Kolodov, Nicholas Hasson, Dmitry Nicolsky, and Thomas Wright. 2019. **Thermal State of Permafrost in North America - continuously observed ground temperatures, 2016-2017**. Arctic Data Center. doi:10.18739/A24J09X6N.



<https://arcticdata.io/catalog>



Data Discovery



Data Support

✕ Clear all filters

Search ?

Search phrase

My Search

DBO ✕

Filter by:

- ▶ Data attribute
- ▶ Annotation
- ▶ Creator
- ▶ Year
- ▶ Identifier
- ▶ Taxon
- ▶ Location

DATASETS 1 TO 25 OF 136

1 2 3 ... 6 Next

Sort by Most recent ▾

Laurie Juranek. 2019. **Underway and bottle oxygen data collected on the Sikuliaq Research Vessel, Bering and Chukchi Seas, Alaska, 2017.** Arctic Data Center. doi:10.18739/A26H4CQ72.



1

Laurie Juranek. **Underway and bottle oxygen data collected on the Sikuliaq Research Vessel, Bering and Chukchi Seas, Alaska, 2016.** Arctic Data Center. doi:10.18739/A2B56D48W.



2

Jeffrey Krause and Michael Lomas. 2019. **Rates of diatom biogenic silica production, growth, and size-fractionated phytoplankton growth and microzooplankton grazing in the Bering and Chukchi Seas, spring 2017.** Arctic Data Center. doi:10.18739/A2SF2MC1D.



1

15

Jacqueline M. Grebmeier and Lee W. Cooper. 2019. **Surface sediment samples collected from the United States Coast Guard Cutter Healy (HLY1702), Northern Bering Sea to Chukchi Sea, 2017.** Arctic Data Center. doi:10.18739/A2804XK1F.



54

3

Lee W. Cooper, Jacqueline M. Grebmeier, Karen E. Frey, and Svein Vagle. 2019. **Nutrient, oxygen 18/16 ratio, and chlorophyll data measured from water samples collected aboard the Sir Wilfred Laurier, Bering and Chukchi Seas, 2015.** Arctic Data Center. doi:10.5065/D6QN6544, version: doi:10.18739/A20000081.



15

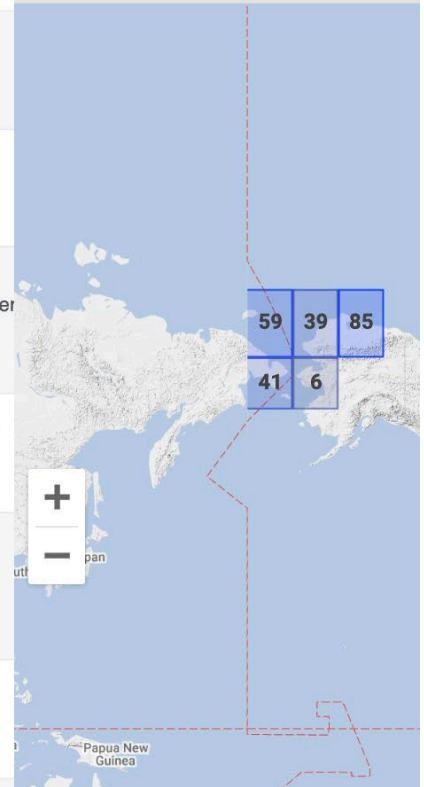
Leah McRaven. 2019. **Arctic Observing Network (AON) Conductivity-Temperature-Depth (CTD) data collected by Research Vessel (R/V) Annika Marie, Barrow Canyon, Chukchi Sea, 2013.** Arctic Data Center. doi:10.18739/A2RJ48V2H.



327

126

Hide Map >>





Data Portals

- All project data in one place
- Custom search filters
- Aggregated usage and citation metrics
- Project branding
- Online portal editor



Project Information

Hosted by the Arctic Data Center

 Sign in with Orcid



Distributed Biological Observatory

About

Publications

Data

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Members

Studying biological responses to rapid physical changes in the Arctic marine ecosystem

The Distributed Biological Observatory (DBO) implements standardized ocean sampling in five regions of high productivity and biodiversity that extend from the northern Bering Sea to the Chukchi and Beaufort Seas. The DBO aims to provide a long-term biologically-focused science foundation for resource management.

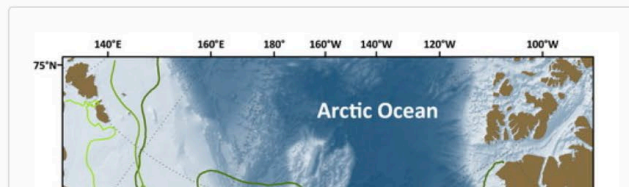
Introduction

Implementation Team

Accomplishments



The overarching goal of the **Distributed Biological Observatory (DBO) collaboration team** is full-implementation of standardized ocean sampling in five regions of high productivity and biodiversity that extend from the northern Bering Sea, to the Chukchi and Beaufort Seas. A pilot DBO program in 2010 demonstrated the utility of the DBO sampling protocol. Annual review of DBO data is facilitated through the international **Pacific Arctic Group**. Through development of a broad scale ocean observatory, the DBO collaboration team aims to provide a long-term biologically-focused science foundation to improve the ability of resource management agencies (e.g., Bureau of Ocean Energy Management and National Oceanographic and Atmospheric Administration) to determine the effects of their actions on marine resources. Ultimately, this will result in improved conservation, protection, and management of Arctic coastal and ocean resources.



<https://arcticdata.io/catalog/portals/DBO>



Custom Search

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Sign in with OrCID



Distributed Biological Observatory

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Search

Search these datasets

DBO

← Transect

Researcher

Vessel

Year

Keyword

Project

Choose a Transect

Choose a Researcher

Choose a Vessel

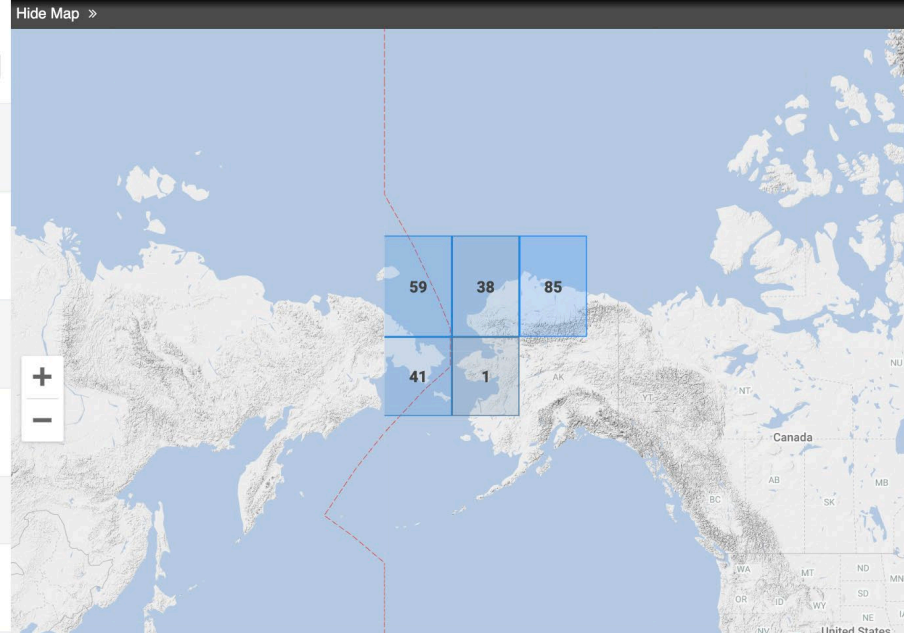
Choose a Year

Choose a Keyword

Choose a Project

DATASETS 1 TO 25 OF 130

Sort by



54 3

Lee W. Cooper, Jacqueline M. Grebmeier, Karen E. Frey, and Svein Vagle. 2019. [Nutrient, oxygen 18/16 ratio, and chlorophyll data measured from water samples collected aboard the Sir Wilfred Laurier, Bering and Chukchi Seas, 2015](#). Arctic Data Center. doi:10.5065/D6QN6544, version: doi:10.18739/A20000081. 15

Leah McRaven. 2019. [Arctic Observing Network \(AON\) Conductivity-Temperature-Depth \(CTD\) data collected by Research Vessel \(R/V\) Annika Marie, Barrow Canyon, Chukchi Sea, 2013](#). Arctic Data Center. doi:10.18739/A2RJ48V2H. 327 126

Sue Moore. 2019. [Marine Mammal Watch, Northern Bering Sea and Chukchi Sea, August-September, 2017](#). Arctic Data Center. doi:10.18739/A25Q4RM2M. 1.3K 485

Sue Moore. 2019. [Marine Mammal Watch, Northern Bering Sea and Chukchi Sea, July, 2016](#). Arctic Data Center. doi:10.18739/A27P8TD2J. 161 761

Kathleen Stafford. 2019. [Marine Mammal sighting data from cruises in the Pacific Arctic, 2018, from Distributed Biological Observatory \(DBO\) regions](#). Arctic Data Center. doi:10.18739/A2NV99B09. 74 2

<https://arcticdata.io/catalog/portals/DBO>



Metrics

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 Sign in with Orcid



Distributed Biological Observatory

About

Publications

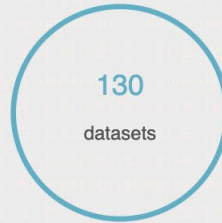
Data

Metrics

Members

Statistics and Figures

A summary of all datasets from DBO



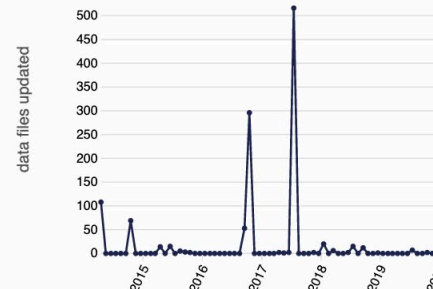
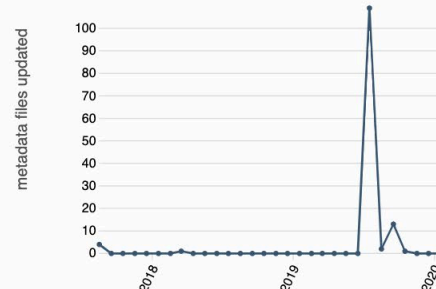
The total number of publicly-available metadata records. Only the latest version of each metadata record is counted. A "dataset" here is defined by a single metadata record which may be packaged with one or more data files.



The volume of all publicly-available metadata and data files in this repository. Only the latest version of each file is included.

Latest Updates

When datasets were last updated, separated by content type (science metadata or data).



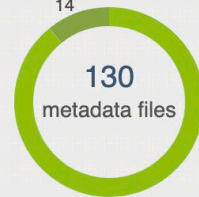


Metrics

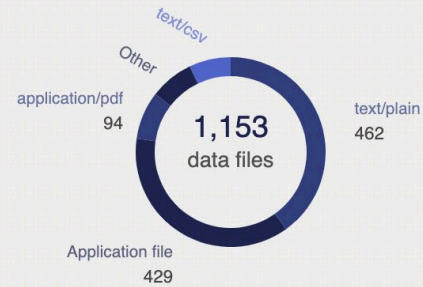
File formats

We breakdown the types of metadata and data files uploaded. Only the most recent version of each file is included.

ml.ecoinformatics.org/eml-2.2.0



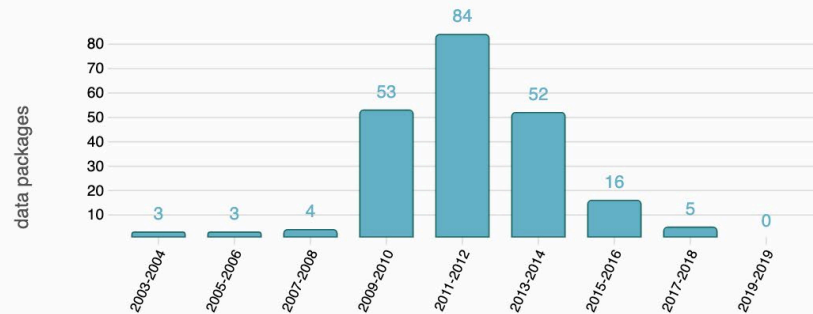
EML 2.1.1
116



Time period of data

2003 - 2019

The years in which data was collected, regardless of upload date. Only the most recent version of the data package is counted.





DBO Data Submission

- <https://arcticdata.io/catalog/submit>



DBO Data Submission

- Include DBO relevant search terms in your metadata
 - vessel
 - transect
 - “keyword”
- Talk to us! support@arcticdata.io

DBO

The screenshot displays the DBO Data Submission interface. At the top, there are five search filters: Transect, Researcher, Vessel, Year, and Keyword. Each filter has a dropdown menu with the text 'Choose a [Filter Name]'. The Keyword dropdown is open, showing a list of options: 'Choose a Keyword' (checked), ADCP, Benthos, Chlorophyll, CTD, Fish, Marine mammal, Macroinfauna, Nutrients, Sediment, and Zooplankton. Below the filters, there is a 'Project' dropdown with 'Choose a Project' selected. The main content area shows 'DATASETS 1 TO 25 OF 130' with a pagination bar (1, 2, 3, ..., 6, Next) and a 'Sort by' dropdown set to 'Most recent'. A map is visible in the background, partially obscured by the Keyword dropdown. At the bottom, there is a citation for Jacqueline M. Grebmeier and Lee W. Cooper (2019) regarding surface sediment samples from the United States Coast Guard Cutter Healy (HLY1702) in the Northern Bering Sea to Chukchi Sea, 2017, with a DOI of 10.18739/A2804XK1F. The bottom of the page shows standard web icons and a view count of 3.



Potential Future Directions

- Highlighting research products

SASAP

State of Alaska's Salmon and People

About

Regions

Topics

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Special Topics in Alaska's Salmon Systems

SASAP's 'Special Topics' Working Groups focus their work on specific biological, social, and cultural issues, adding new insights into pressures facing Alaska's salmon and salmon-dependent communities.

The declining size and age of salmon

Well-being and salmon systems

Salmon in a changing ocean

Engaging our communities with science

The Kenai Lowlands: A healthy home for salmon

Deep Time Connections

Resurrecting the public record

Multidisciplinary, Cross-Cultural Collaborations

Each of the seven Special Topics Working Group stories presented here represent two or more years of collaborative work among Indigenous and non-Indigenous researchers, cultural leaders and other participants.

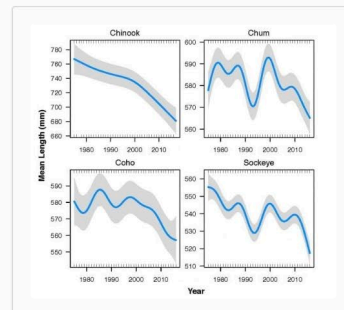
By bringing multidimensional thinking into their work, the researchers acknowledge the entwined relationship Alaskans share with salmon.

Topics such as the link between inequitable access to salmon and social well-being, or the relationship between ocean change and salmon distribution, can be explored in a way that tries to understand both the communities affected by change, and the systems in place that drive those changes.

The declining size and age of salmon

The size and age of salmon returning to Alaska rivers is generally declining across species. Changes that affect salmon also affect the health, economy, and way of life of people in Alaska.

The Trend





Potential Future Directions

- Highlighting research products
- Improving search
 - adding search fields
 - improving old metadata records

Search CURRENT SEARCH x CLEAR ALL

Search these datasets

Keyword: CTD x Transect: DBO 1 - Southern St. Lawrence x Vessel: Healy x

Transect: Choose a Transect

Researcher: Choose a Researcher

Vessel: Choose a Vessel

DATASETS 1 TO 13 OF 13

Sort by: Most recent

Jacqueline M. Grebmeier and Lee W. Cooper. 2019. [Surface sediment samples collected from the United States Coast Guard Cutter Healy \(HLY1702\), Northern Bering Sea to Chukchi Sea, 2017](#). Arctic Data Center. doi:10.18739/A2804XK1F. 54 3

Leah McRaven. 2019. [Arctic Observing Network \(AON\) Conductivity-Temperature-Depth \(CTD\) data collected by United States Coast Guard Cutter \(USCGC\) Healy \(HLY1303\), Beaufort Sea - 152 West, 2013](#). Arctic Data Center. doi:10.18739/A29S1KK5B. 3

Leah McRaven. 2019. [Arctic Observing Network \(AON\) Conductivity-Temperature-Depth \(CTD\) data collected by United States Coast Guard Cutter \(USCGC\) Healy \(HLY1303\), Barrow Canyon, Chukchi Sea, 2013](#). Arctic Data Center. doi:10.18739/A2JM23G2K. 1

Kevin Arrigo. 2019. [Impacts of Climate on the Eco-Systems and Chemistry of the Arctic Pacific Environment \(ICESCAPE\) Conductivity-Temperature-Depth \(CTD\) data collected by USCGC Healy \(HLY1101\), Southern Chukchi Sea, 2011](#). Arctic Data Center. doi:10.18739/A2R49G89H. 195 89

Kevin Arrigo. 2019. [Impacts of Climate on the Eco-Systems and Chemistry of the Arctic Pacific Environment \(ICESCAPE\) Conductivity-Temperature-Depth \(CTD\) data collected by United States Coast Guard Cutter \(USCGC\) Healy \(HLY1101\), Beaufort Sea - 152 West, 2011](#). Arctic Data Center. doi:10.18739/A2VX0633H. 246 98



Potential Future Directions

- Highlighting research products
- Improving search
- Replicating DBO data across

The screenshot displays the DataONE website interface. At the top, there is a navigation bar with links for About, News, Participate, Resources, Education, and Data. Below this is a search bar with the text "DATAONE SEARCH: Search Summary" and a "Jump to: DOI or ID Go" button. The user's name "Jeanette Clark" is visible in the top right corner.

The main content area is divided into several sections:

- Search:** A search bar with the placeholder "Search phrase" and a magnifying glass icon.
- My Search:** A list of search filters, including "arctic", "Data source: Research Workspace", and "Data source: USGS Science Data Catalog".
- Filter by:** A section with expandable categories: "Data attribute", "Annotation", "Data files", and "Member Node". Under "Member Node", several institutions are listed with checkboxes, including Arctic Data Center, ARM - Atmospheric Radi..., Biological and Chemical..., Cary Institute of Ecosyste..., and Chinese Ecosystem Rese...
- Datasets 1 to 25 of 632:** A list of search results. The first result is "Thomas Weingartner, Seth Danielson, Katherine Hedstrom, and Enrique Curchitser. 2013. Modeling the southern Chukchi Sea's response to variations in Bering Sea circulation pathways, 1983-2015. Research Workspace. 10.24431/rw1k33g, version: 10.24431_rw1k33g_20191226222418." The second result is "Thomas Weingartner, Seth Danielson, Katherine Hedstrom, and Enrique Curchitser. 2013. Modeling the southern Chukchi Sea's response to variations in Bering Sea circulation pathways, 1983-2015. Research Workspace. 10.24431/rw1k33g, version: 10.24431_rw1k33g_20191226195525." The third result is "Katrin Iken. 2012. Benthic lower trophic level food webs in the Chukchi and Beaufort Seas – baselines and relevance of sea ice algal production, 2011-2012. Research Workspace. 10.24431/rw1k33e, version: 10.24431_rw1k33e_20191220202518." The fourth result is "Seth Newsome, James Lovvorn, Christopher North, and Patrick Lemons. 2012. Retrospective Study of Walrus Foraging and Movement Patterns During a Major Ecosystem Shift in the Bering and Chukchi Seas, Alaska, 1950-2010. Research Workspace. 10.24431/rw1k33d, version: 10.24431_rw1k33d_20191220195210."
- Map:** A map of the Arctic region showing a grid of cells with numerical values. The values are: 1, 2, 1, 5, 9, 1, 46, 118, 37, 2, 8, 103, 13, 1, 1, 2, 7, 7. The map includes a "Hide Map" button, a zoom control (+/-), and "Satellite" and "Terrain" view options.



Potential Future Directions

- Highlighting research products
- Improving search
- Replicating DBO data across repositories

Search: CURRENT SEARCH CLEAR ALL
Search these datasets: Fish productivity: Brood table Species: Sockeye

Geography Species Theme

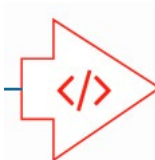
Species: Choose a Species

DATASETS 1 TO 8 OF 8

Sort by: Most recent

- Rich Brenner, Greg Ruggerone, Brendan Connors, Jeanette Clark, and Stephanie Freund. 2017. Sockeye salmon brood tables, northeastern Pacific, 1922-2016.** Knowledge Network for Biocomplexity. doi:10.5063/F1891459. 1.5K views, 1.4K downloads
- Alaska Department of Fish and Game, Division of Commercial Fisheries, Arctic-Yukon-Kuskokwim Region. 2018. Sockeye and chinook salmon brood tables, Goodnews River, Alaska, 1981-2015. Knowledge Network for Biocomplexity. doi:10.5063/F1J38QTX.
- Washington Department of Fish and Wildlife. 2018. Sockeye salmon brood tables, Washington, 1967-2011. Knowledge Network for Biocomplexity. doi:10.5063/F1K35RXV. 171 views, 734 downloads
- Alaska Department of Fish and Game, Division of Commercial Fisheries, Southeast Region. 2018. Sockeye salmon brood tables, PWS and Southeast, Alaska, 1958-2016. Knowledge Network for Biocomplexity. doi:10.5063/F1513WHZ. 694 views, 541 downloads
- Richard Alexander. 2018. Sockeye Salmon Brood Tables, Meziadin, British Columbia, 1972-2017. Knowledge Network for Biocomplexity. doi:10.5063/F1DF8PHX. 66 views, 412 downloads
- Sue Grant, Bronwyn MacDonald, and Mike Lapointe. 2018. Sockeye salmon brood tables, Fraser River, Canada, 1948-2015. Knowledge Network for Biocomplexity. doi:10.5063/F1J67F66. 148 views, 652 downloads
- Alaska Department of Fish and Game, Division of Commercial Fisheries, Central Region. 2017. Sockeye salmon brood tables, Bristol Bay, Alaska, 1955-2016. Knowledge Network for Biocomplexity. doi:10.5063/F1NZ85X6. 383 views, 598 downloads

data products



Search: CURRENT SEARCH CLEAR ALL
Search these datasets: Fish productivity: Brood table Species: Sockeye Featured: On

Geography Species Theme

Featured: On Off

DATASETS 1 TO 1 OF 1

Sort by: Most recent

- Rich Brenner, Greg Ruggerone, Brendan Connors, Jeanette Clark, and Stephanie Freund. 2017. Sockeye salmon brood tables, northeastern Pacific, 1922-2016.** Knowledge Network for Biocomplexity. doi:10.5063/F1891459.



Potential Future Directions

- Highlighting research products
- Improving search
- Replicating DBO data across repositories
- Synthesis data products

- What are you interested in?