Icebreaker dates and ice edge distance in McMurdo Sound, Antarctica from austral years 1956/1957 to 2014/2015 (McMurdo Predator Prey project)

Website: https://www.bco-dmo.org/dataset/674992
Data Type: Cruise Results
Version:
Version Date: 2017-01-27

Project
» Food web dynamics in an intact ecosystem: the role of top predators in McMurdo Sound (McMurdo Predator Prey)

Contributors	Affiliation	Role
Kim, Stacy	Moss Landing Marine Laboratories (MLML)	Principal Investigator, Contact
Ainley, David G.	H.T. Harvey & Associates	Co-Principal Investigator
Ballard, Grant	Point Blue Conservation Science	Co-Principal Investigator
Daly, Kendra L.	University of South Florida (USF)	Co-Principal Investigator
York, Amber D.	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

Table of Contents

- Coverage
- Dataset Description
  - Methods & Sampling
  - Data Processing Description
- Data Files
- Parameters
- Deployments
- Project Information
- Funding

Coverage

Spatial Extent: **N**:-77 **E**:166.5 **S**:-78.5 **W**:163.8
Temporal Extent: 1956-01-01 - 2017-12-31

Dataset Description

This dataset contains dates of icebreaker start and arrival at McMurdo Station in McMurdo Sound, Antarctica between austral years 1956/1957 and 2014/2015. It also includes the distance between the fast ice edge and McMurdo Station on the date of ship arrival at the fast ice edge.

Methods & Sampling

Data were acquired from scientist and icebreaker logbooks and contractor records (DACSUSAP2012-13, pers. comm. P. McGillivary USCG, see link below). See deployment: McMurdo_IceBreakers_1957-2015 for a list of icebreakers used.

External link to more information about ice-breaking services at McMurdo Station, Antarctica:
* DACSUSAP2012-13 Ice-breaking Services

Data Processing Description

Note: The arrival day "12" for the icebreaker Vladimir ignatyuk for the 2013 season is uncertain.

Blanks indicate no data were collected.

BCO-DMO Data Manager Processing Notes:
* added a conventional header with dataset name, PI name, version date
* modified parameter names to conform with BCO-DMO naming conventions
* blank values replaced with no data value 'nd'
* added data column "austral_year" for clarification when start year is before the austral year.
* added approximate latitude and longitude of sampling location near McMurdo Station.

[table of contents | back to top]

Data Files

File
Icebreaker.csv (Comma Separated Values (.csv), 3.98 KB) MD5:5ba16ba18828832f52becb8bba9189ba Primary data file for dataset ID 674992

[table of contents | back to top]

Parameters

Parameter	Description	Units
austral_year	Austral year (start year/end year) in format yyyy/yy	unitless
start_year	Year of icebreaker arrival at the edge of the fast ice	unitless
start_month	Month of icebreaker arrival at the edge of the fast ice	unitless
start_day	Day of icebreaker arrival at the edge of the fast ice	unitless
arrival_year	Year of icebreaker arrival at McMurdo Station	unitless
arrival_month	Month of icebreaker arrival at McMurdo Station	unitless
arrival_day	Day of icebreaker arrival at McMurdo Station	unitless
edge_distance	Distance between the fast ice edge and McMurdo Station on the date of ship arrival at the fast ice edge.	kilometers
ships	Name of icebreaker vessel	unitless
lat_approx	Approximate latitude of sampling near McMurdo Station; Antarctica; south is negative	decimal degrees
lon_approx	Approximate longitude of sampling near McMurdo Station; Antarctica; west is negative	decimal degrees

[table of contents | back to top]

Deployments

McMurdo_IceBreakers_1957-2015

Website	https://www.bco-dmo.org/deployment/674984
Platform	McMurdo Station
Start Date	1956-10-28
End Date	2015-01-31
Description	Icebreaker vessels used in McMurdo Sound for the seasons 1957 to 2015: Atka Polar star Polar sea Oden Glacier Krasin Edisto Burton island Staten island Vladimir ignatyuk Healy Northwind Southwind Eastwind Westwind

[table of contents | back to top]

Project Information

Food web dynamics in an intact ecosystem: the role of top predators in McMurdo Sound (McMurdo Predator Prey)

Website: https://scini-penguin.mlml.calstate.edu/pauls-wordpress-test-site/

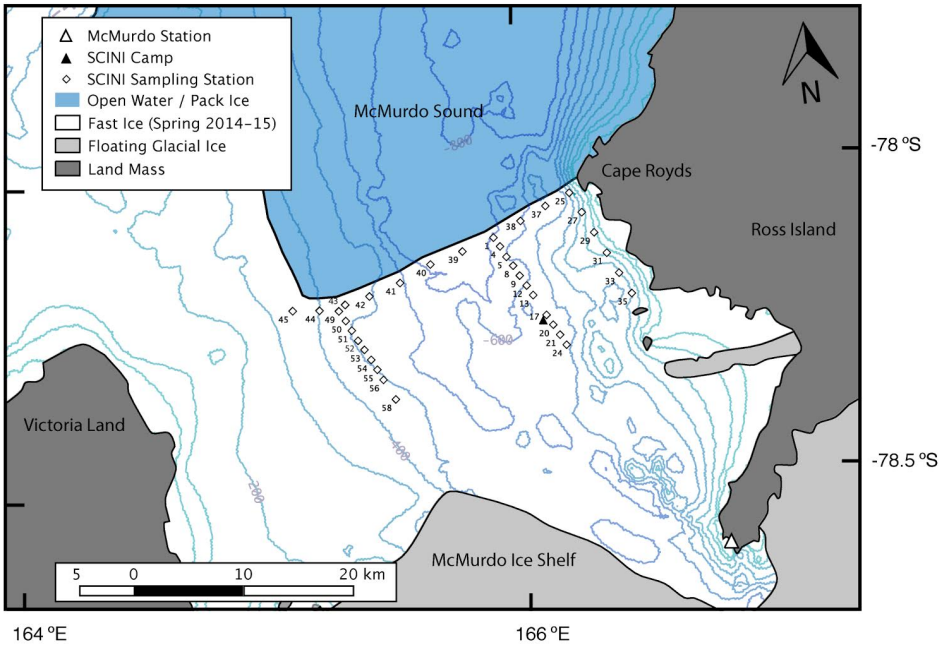
Coverage: McMurdo Sound, Antarctica

Extracted from the NSF award abstract:

The research project investigates the importance of top down forcing on pelagic food webs. The relatively pristine Ross Sea includes large populations of upper-level predators such as minke and killer whales, Adélie and Emperor penguins, and Antarctic toothfish. This project focuses on food web interactions of Adélie penguins, minke whales, and the fish-eating Ross Sea killer whales, all of which exert foraging pressure on their main prey, crystal krill (*Euphausia cyrstallorophias*) and silver fish (*Pleuragramma antarcticum*) in McMurdo Sound.

The investigators used a video- and acoustic-capable ROV, and standard biological and environmental sensors to quantify the abundance and distribution of phytoplankton, sea ice biota, prey, and relevant habitat data. The sampling area included 37 stations across an 30 x 15 km section of McMurdo Sound, stratified by distance from the ice edge as a proxy for air-breathing predator access. This study will be among the first to assess top-down forcing in the Ross Sea ecosystem and will form the basis for multidisciplinary studies in the future.

Map sampling stations



[table of contents | back to top]

Funding

Funding Source	Award
NSF Division of Polar Programs (NSF PLR)	PLR-0944747
NSF Division of Polar Programs (NSF PLR)	PLR-0944511
NSF Division of Polar Programs (NSF PLR)	PLR-0944694

[table of contents | back to top]