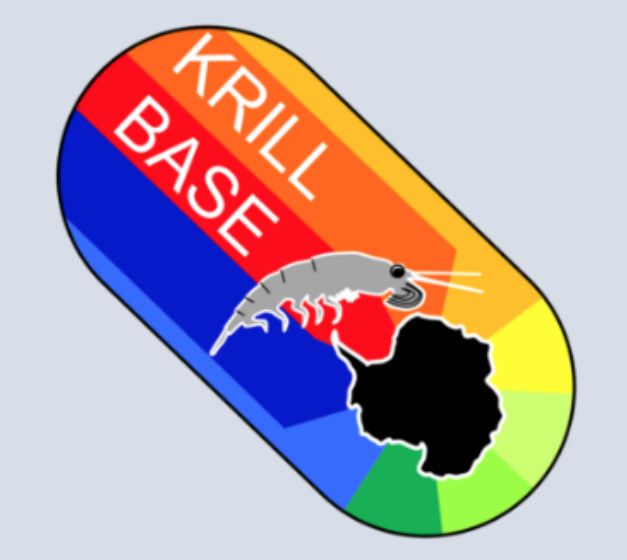
Dataset 1: Krill and Salps



Project homepage

Krill and Salps are considered two of Antarctica's most important zooplankton taxa and form the basis of both the native ecosystem and a fishery of global importance. This massive dataset, funded by the World Wildlife Fund and led by Simeon Hill, aims to estimate the densities (number under 1m2 of sea surface) of krill and salps spanning 1926 to 2016, around the entire circumference of the Antarctic. You can customize your query on the database depending on your specific question, and download the resulting csv. Water temperature and oceanography data is also available on the database for sampling locations.

Examples of questions

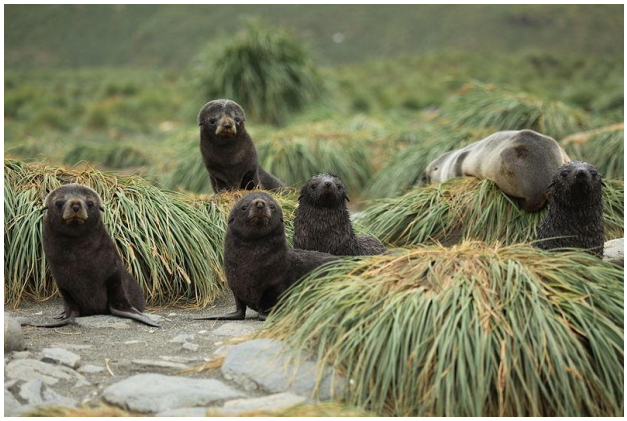
- Are krill densities different depending on the season?
- Are krill densities different depending on the time of day?
- Do krill densities impact salp densities?
- How have krill densities changed through the years, from 1926 to now?

Dataset 2: Chinstrap penguin measurements

Project homepage

Much like the palmer penguin dataset we have already looked at, this dataset includes the bill depth, bill length, body mass, and sex of chinstrap penguins on their arrival to Signey Island from 2005 - now.

Dataset 3: Fur seal pup weights



Project homepage

This relatively small dataset includes information on the weight of seal pups from 2009 - 2020. It includes where the pup was found (tussock grass or the beach), the sex, and moult score.

Dataset 4: Breeding success of Gentoos

Maikeven, South Georgia

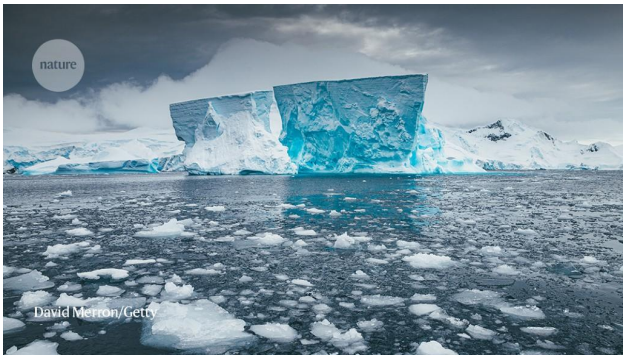
Bird Island

Each dataset spans different time periods. Both include the number of nests, the number of chicks, and the date. There are colony IDs for Gentoo penguins on Bird Island, and fledgling counts for Maikeven.

Dataset 5: Sea ice by month from 1979 - 2022

Project homepage

The original data has been summarized by Jeremy such that it contains the region and extent of sea ice by month from 1979 - 2022. Daily data may be available as well if this is of interest to your group. More info about the data is at the bottom of this page.



Example analyses

- How has sea ice extent changed through time for just one region?
- How does sea ice change throughout the seasons?

Supplementary Datasets: Temperatures (by group request)
Project homepage
Remote sensing data for the temperature at Orcadas Island and Bird Island. Orcadas Island has a complete temperature record that can be extended to estimate the temperatures on Signy Island, its neighbor. Temperatures are given as averages by month from 1903 - 2022.

Link to folder with all the CSVs

More info on sea ice
Extent is the total area covered by all pixels on the map that have at least 15-percent ice concentration, which means at least 15 percent of the ocean surface within that pixel is frozen over. The 15-percent concentration cutoff for extent is based on validation studies that showed that a 15-percent threshold provided the best approximation of the “true” ice edge and the lowest bias. In practice, most of the area covered by sea ice in the Arctic far exceeds the 15- percent threshold, so using a higher cutoff (e.g., 20 or 30 percent) would yield different totals but similar overall trends (for example, see Parkinson et al., 1999). • Area represents the actual surface area covered by ice. If a pixel’s area were 600 square kilometers and its ice concentration were 75 percent, then the ice area for that pixel would be 450 square kilometers. At any point in time, total ice area will always be less than total ice extent.