British Antarctic Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

University of Glasgow

MAX-PLANCK-GESELLSCHAFT

Project LOMVIA

Linking Oceanography and Multi-specific, spatially-Variable Interactions of seabirds and their prey in the Arctic

UNIVERSITATIS ISLANDIAE SIGILLUM

AARHUS UNIVERSITY

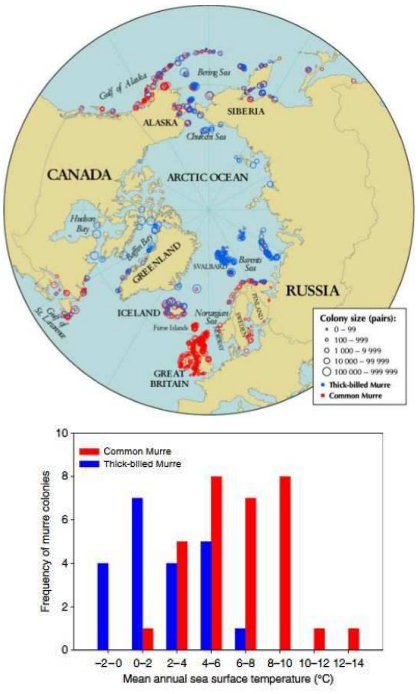
UNIVERSITY OF LIVERPOOL

University of Antwerp

Náttúrustofa Norðausturlands

NÁTTÚRUSTOFA SUÐURLANDS

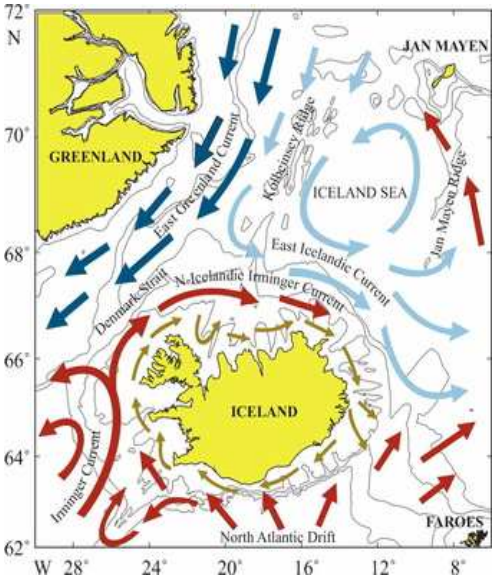
Competition and climate change

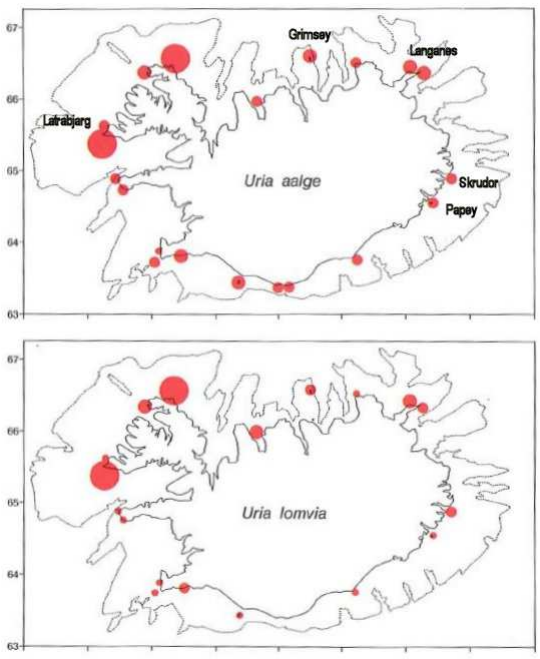


Objectives

- Examine spatial and seasonal habitat preference of Brünnich's and common guillemots at colonies around the coast of Iceland in relation to highly variable oceanographic conditions
- Relate habitat availability/quality around guillemot colonies to their size, and changes in habitat availability over time to their trends
- Determine the food-webs that support guillemots and how these vary seasonally and spatially in relation to habitat availability
- Compare new samples of guillemot diets to those published from the 1990s to examine temporal shifts in food-webs and environmental changes underlying these
- Quantify the degree of niche partitioning between the two guillemot species across environmental gradients

Why Iceland?





Approaches: tracking

- Use GPS and TDRs to determine foraging areas
- Equip birds during incubation and brood
- Use GFR models to estimate habitat preference
- Fit models with and without competitor density to examine fundamental and realised niches
- Make predictions of habitat preference at all colonies around Iceland
- Model relationships between area of preferred habitat and population size

Approaches: isotopes

- Collect blood samples from random and tracked birds
- Collect prey samples: from birds and fisheries institute
- Bulk and compound-specific stable isotope analysis (diet, habitat)
- Share isotope data with other research groups in CAO programme
- Model diets and food-webs with FRUITS
- Examine how food-webs vary in relation to environment

Questions and Integration Ideas