

# HOME IS WHERE THE ICE IS: SEA ICE AND REPRODUCTIVE SUCCESS

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## Introduction

Climate change is altering Arctic climate by accelerating the rate of sea ice loss. Increases in yearly temperatures and decreases in sea ice abundance can disturb ecosystem stability, causing shifts in local Arctic animal behaviour, physiology, and population size.

## Aim

To determine the correlation between sea ice loss and reproductive success in polar bears, seals, and seabirds.

## Main Results

- **Seabirds:** Reduced clutch and egg size; longer breeding season
- **Polar Bears:** Reduced cub survival and reproductive rates
- **Harp Seals:** Reduced pup survival and reproductive success

## Methods

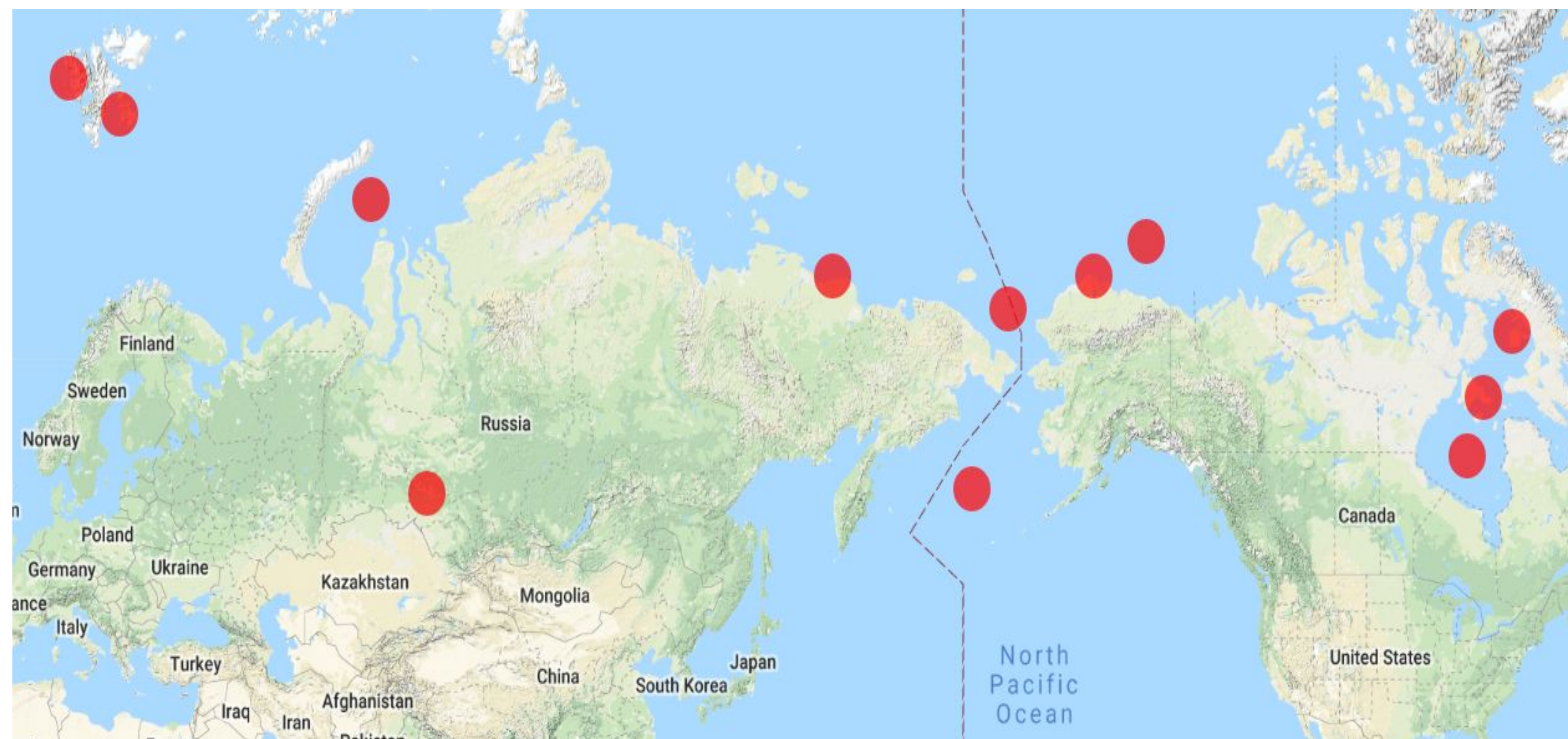
1. Searched Web of Science for papers within 5 years using key terms: ice melt, arctic, mammal, warming, reproduction, climate change, and sea ice (N=107).
2. Constructed a world map and forest plot with data from chosen papers (n=10).
3. Reproductive success was measured as ovulation rates, egg size, and reproductive rates (mating availability).

## Steps for Action

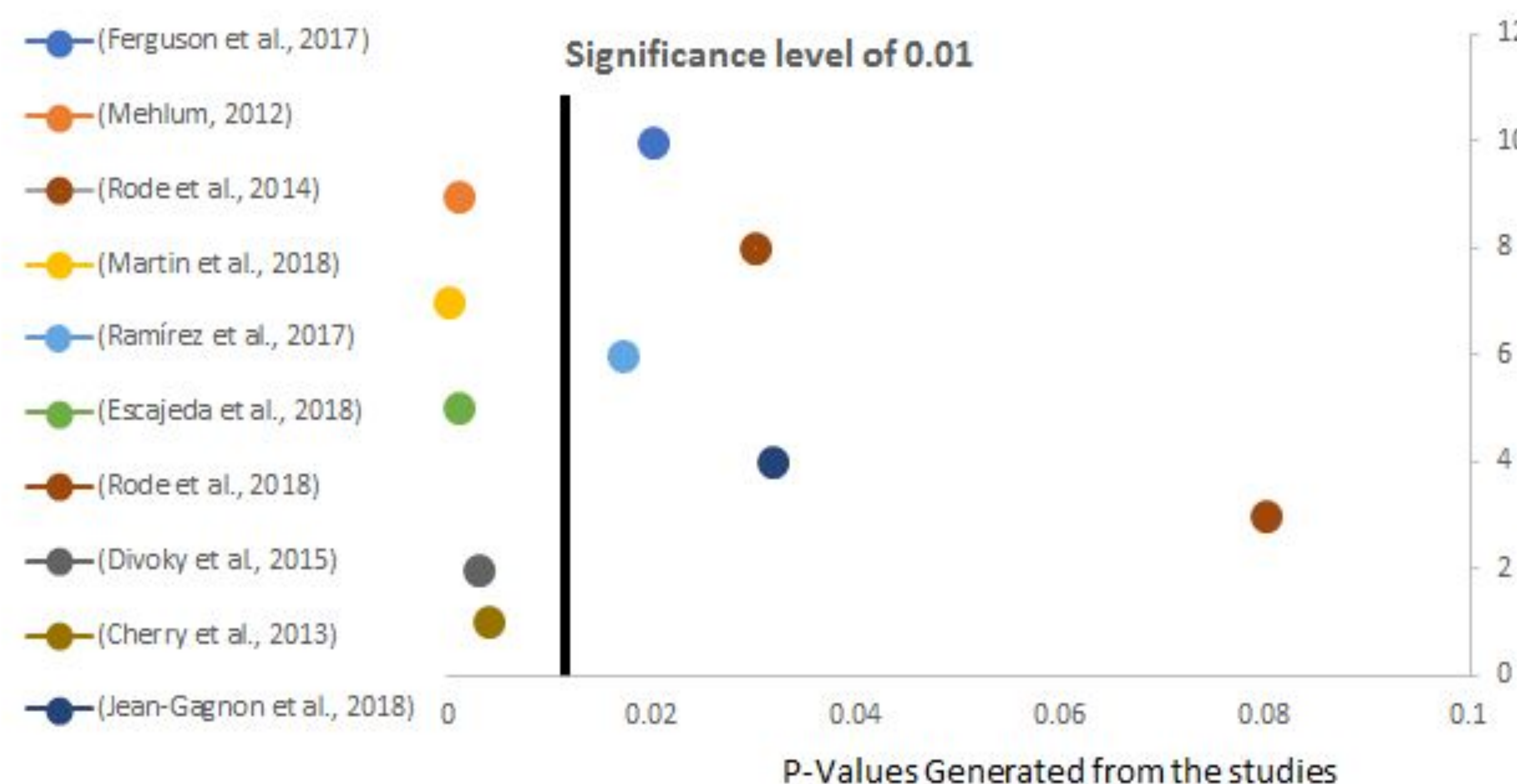
- Spread awareness/team science.
- Reduce CO<sub>2</sub> emissions of toxic pollutants.
- Implement geoengineering technologies that increase the albedo effect from ice.

## Acknowledgements

Thank you to Professor Christopher Lortie for providing us with useful tools and knowledge for the creation of this poster.



**Figure 1.** World Map of Arctic Study Sites (n=10).



**Figure 2.** Forest plot of the probability of ice melt affecting reproductive success of Arctic animals (n=10).