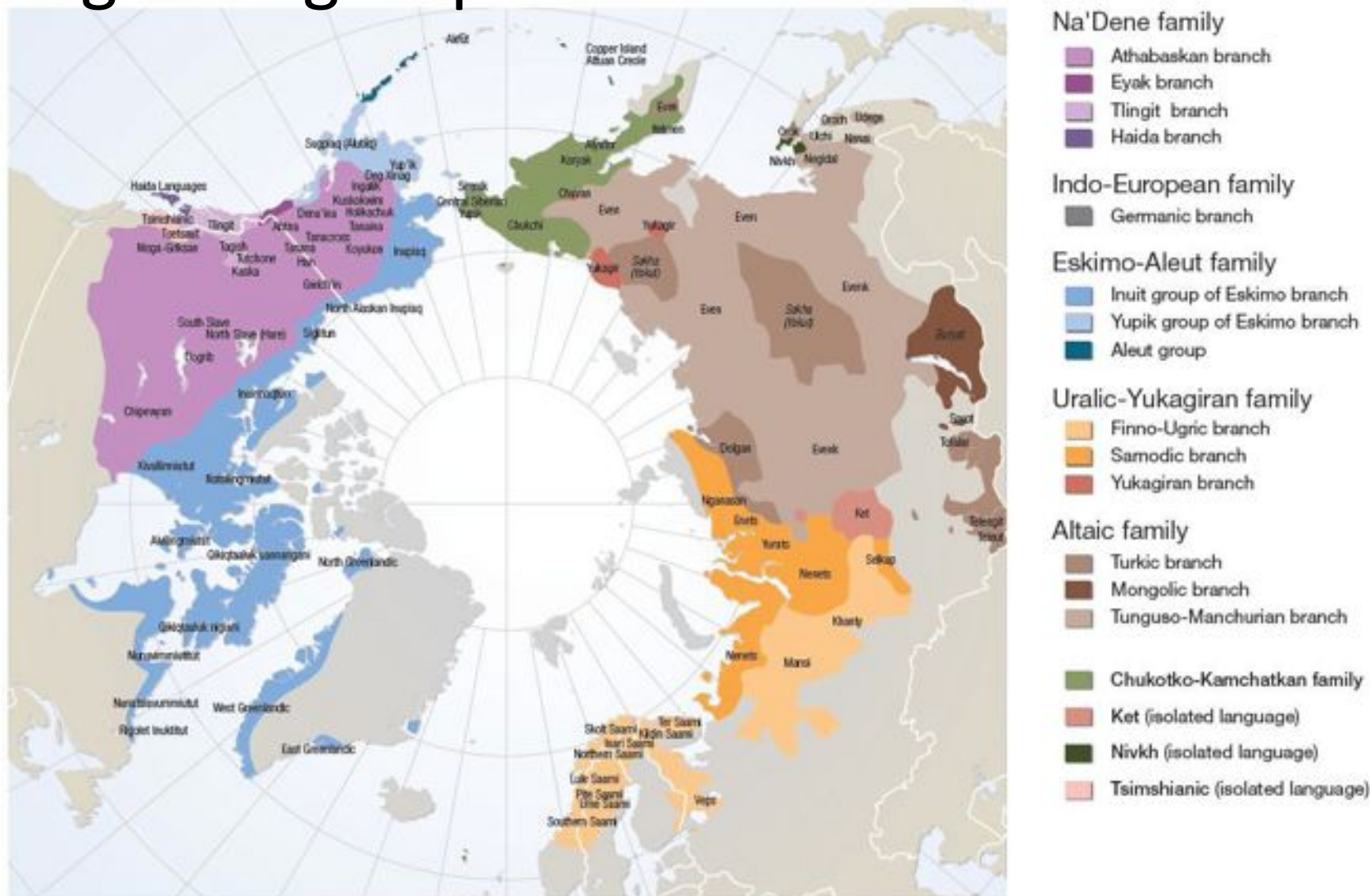


# What/where is the Arctic?

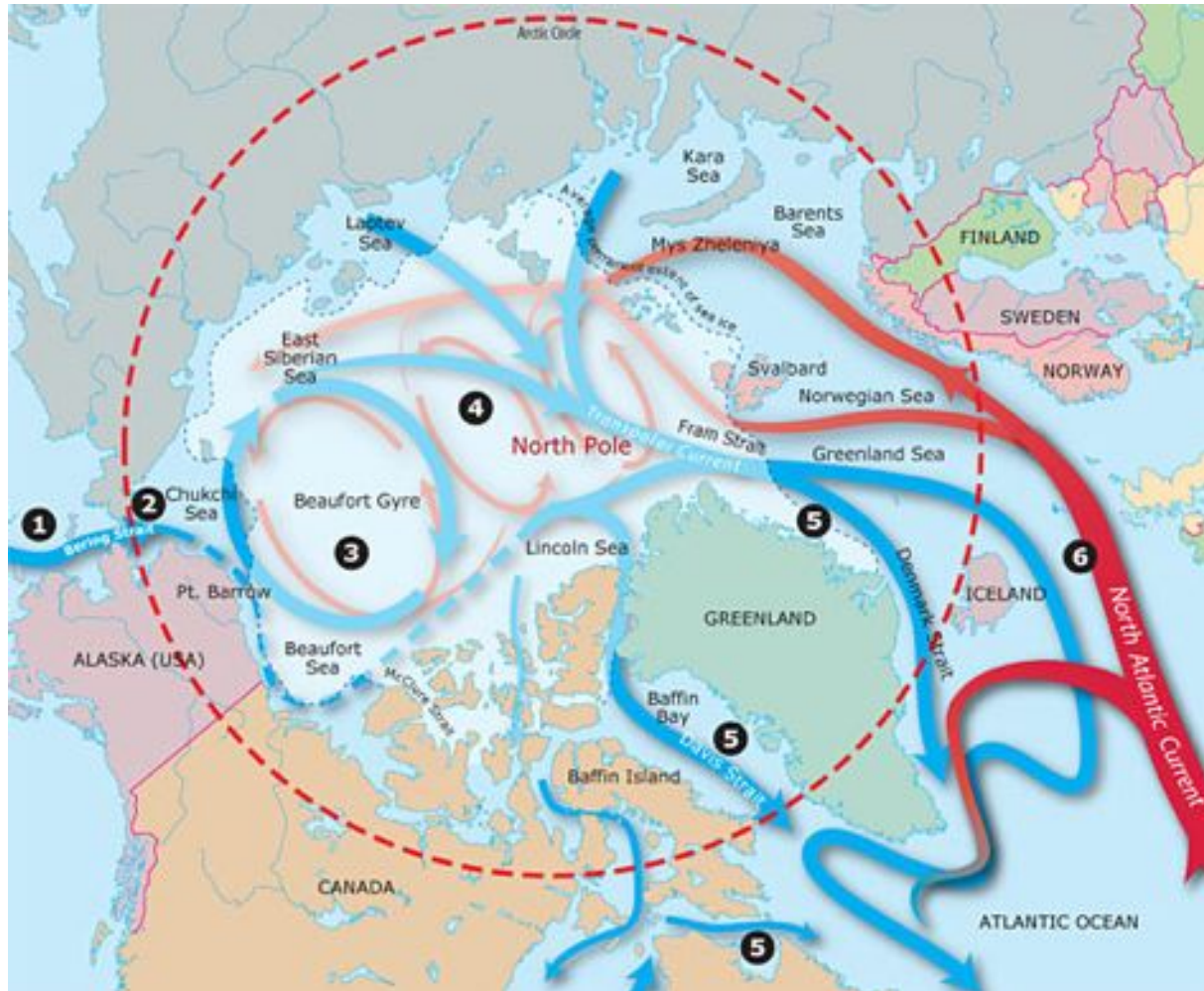


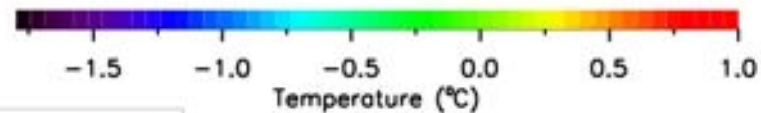
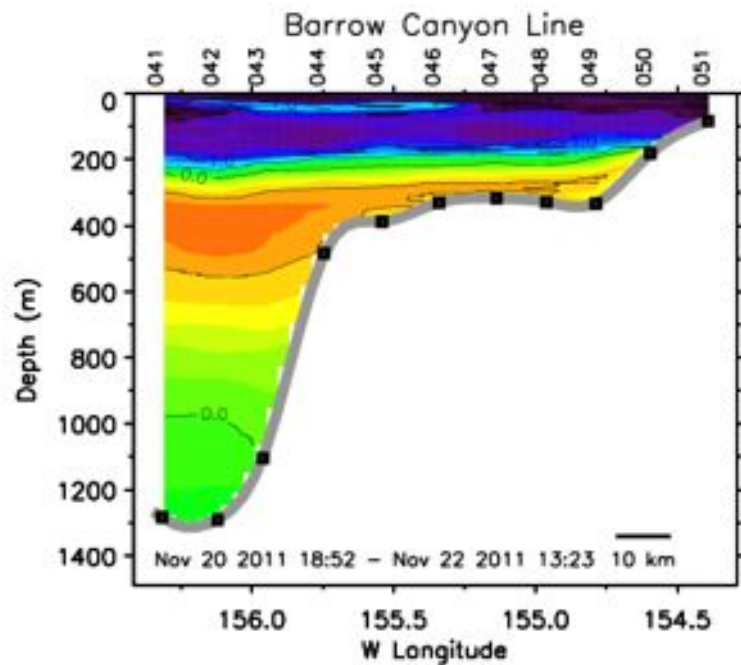
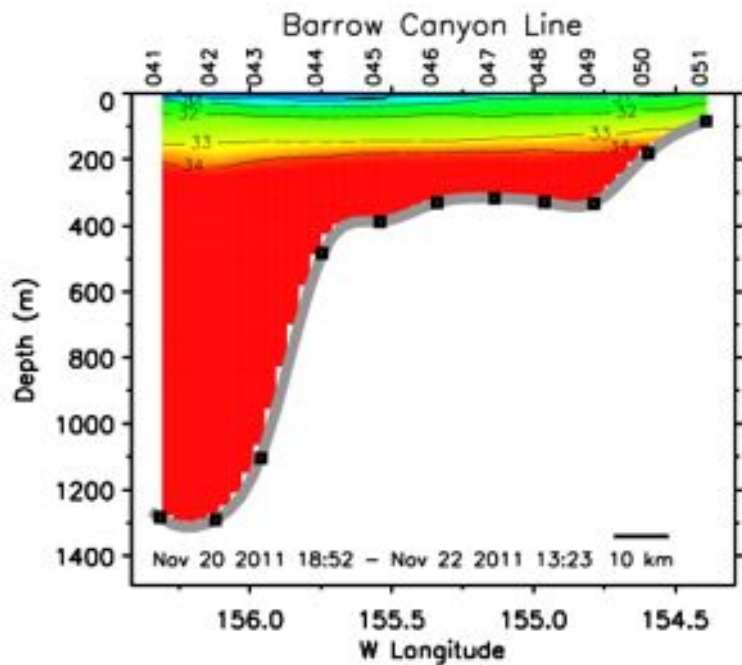
# Indigenous Arctic peoples characterized by linguistic groups

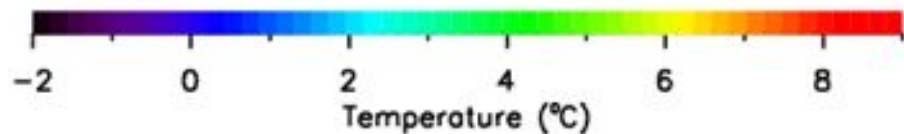
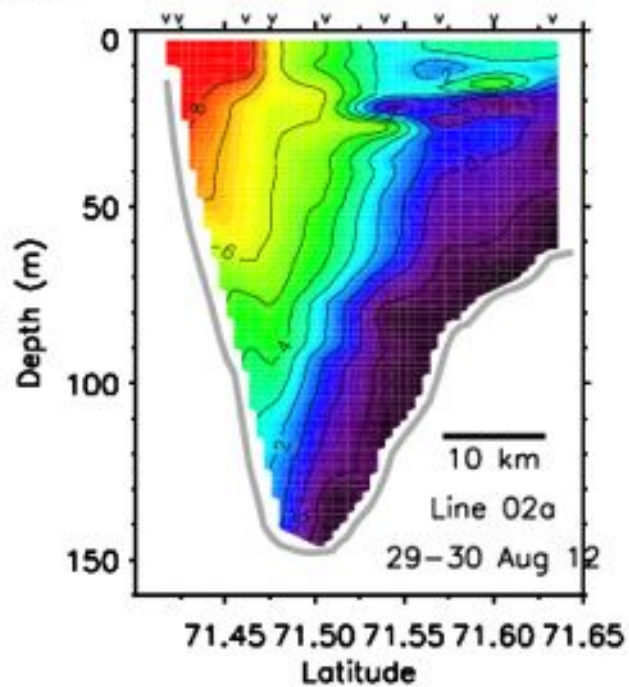
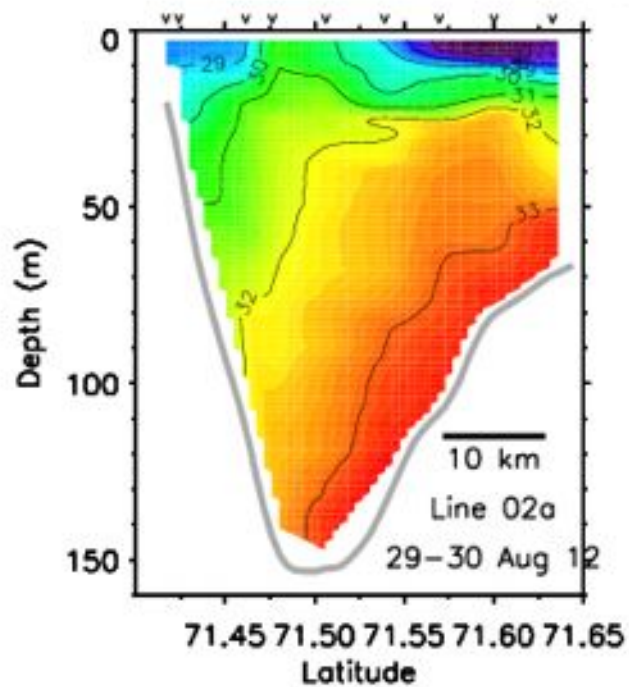
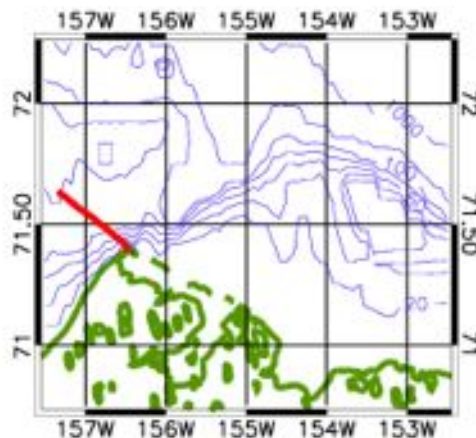


**Figure 22.1:** The distribution of languages and language families in the Arctic [1, 3].

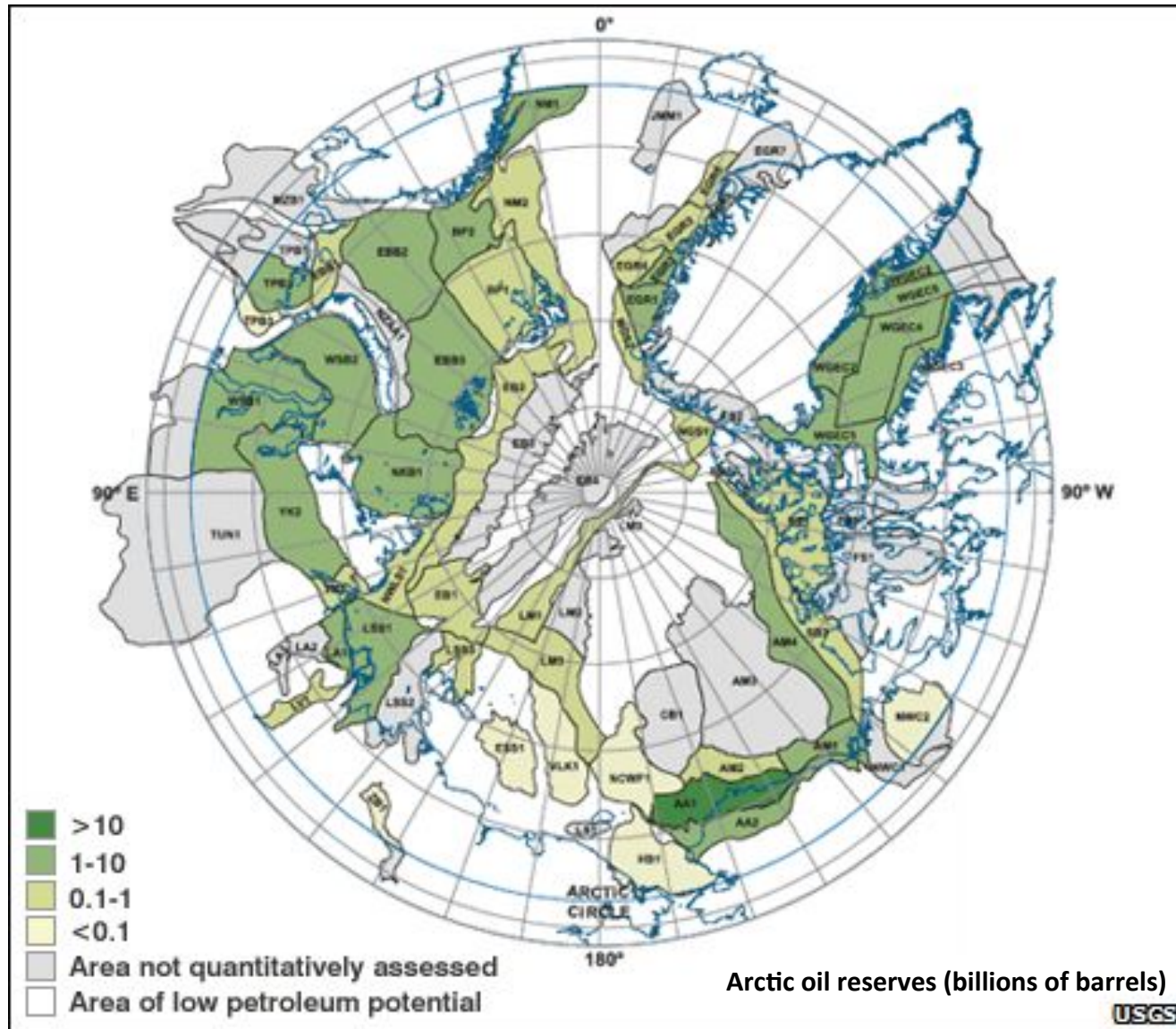
The Arctic is important **because** it helps modulate global climate via fluxes of heat and fresh water



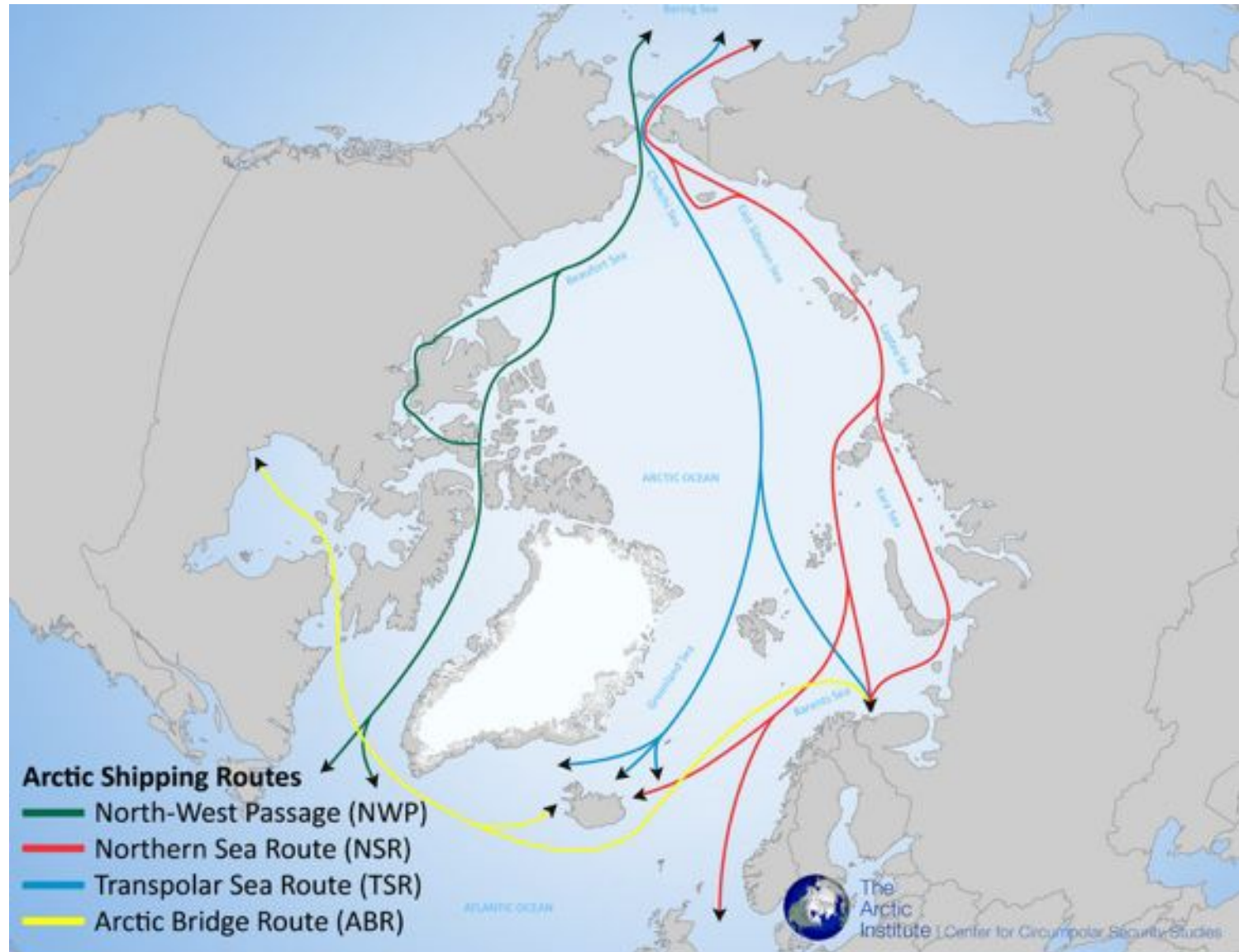




# because of oil & gas reserves

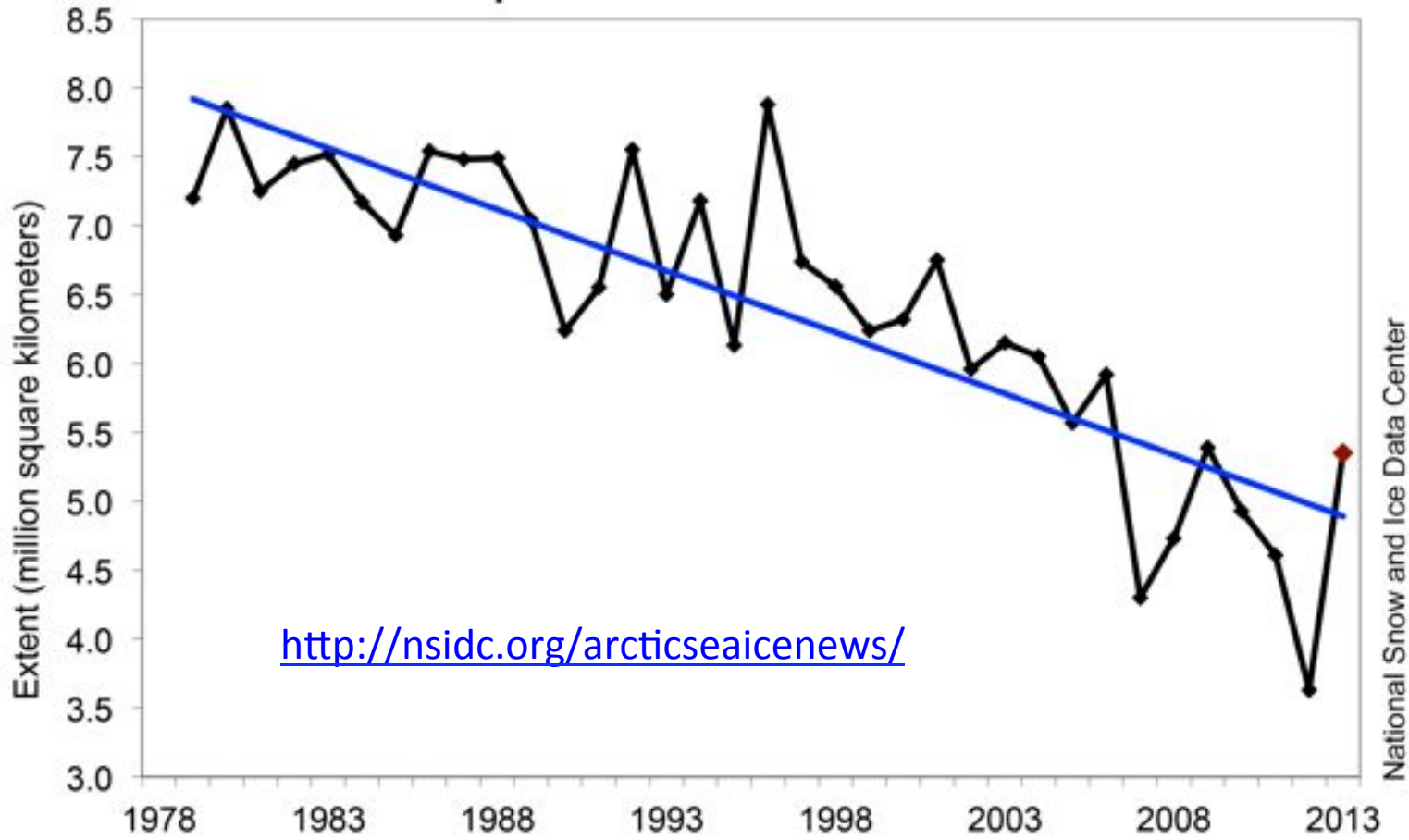


# because of new transportation corridors



Interest in the Arctic's role in climate, resource development, and transportation has increased because ...

Average Monthly Arctic Sea Ice Extent  
September 1979 - 2013



<http://nsidc.org/arcticseaicenews/>

National Snow and Ice Data Center

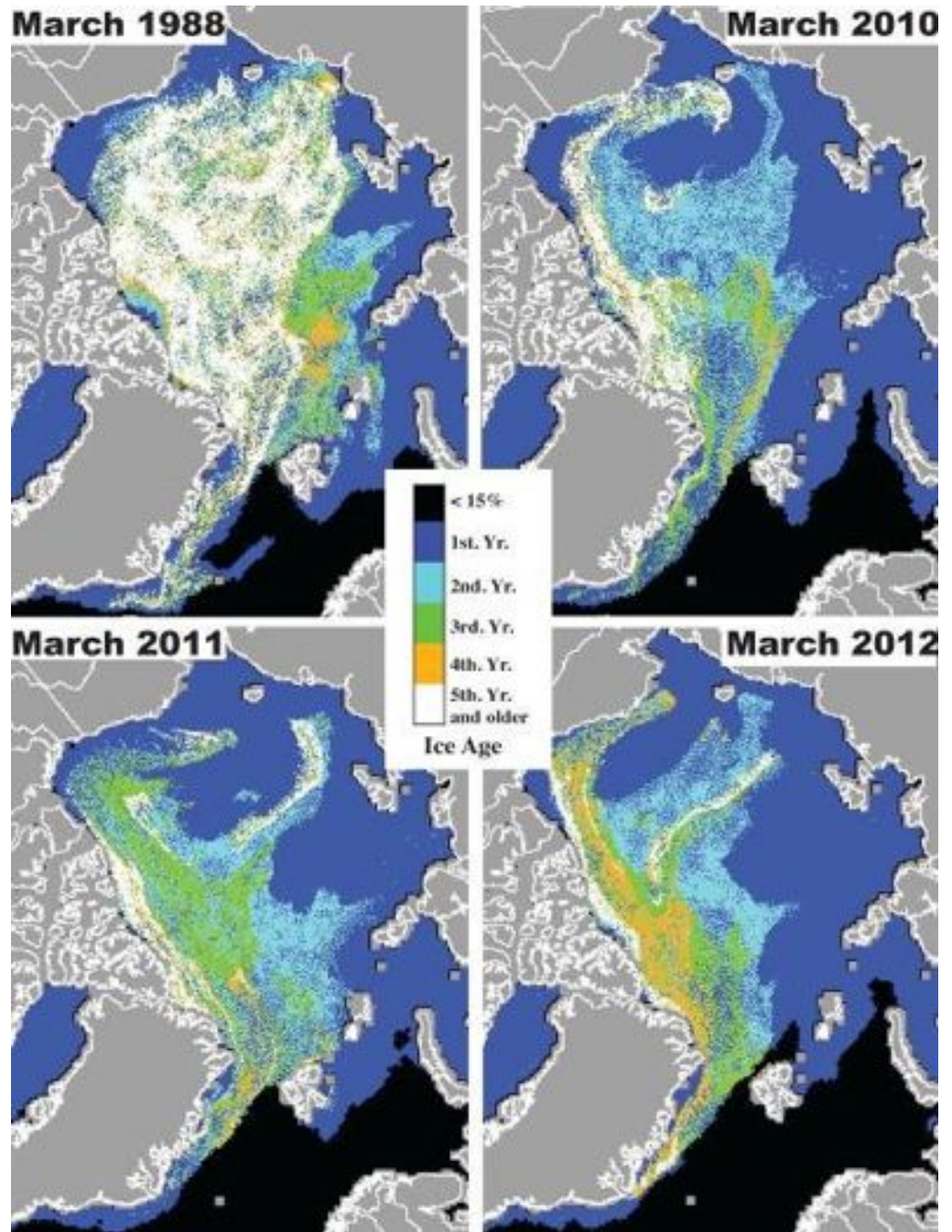
**37%  
decrease**



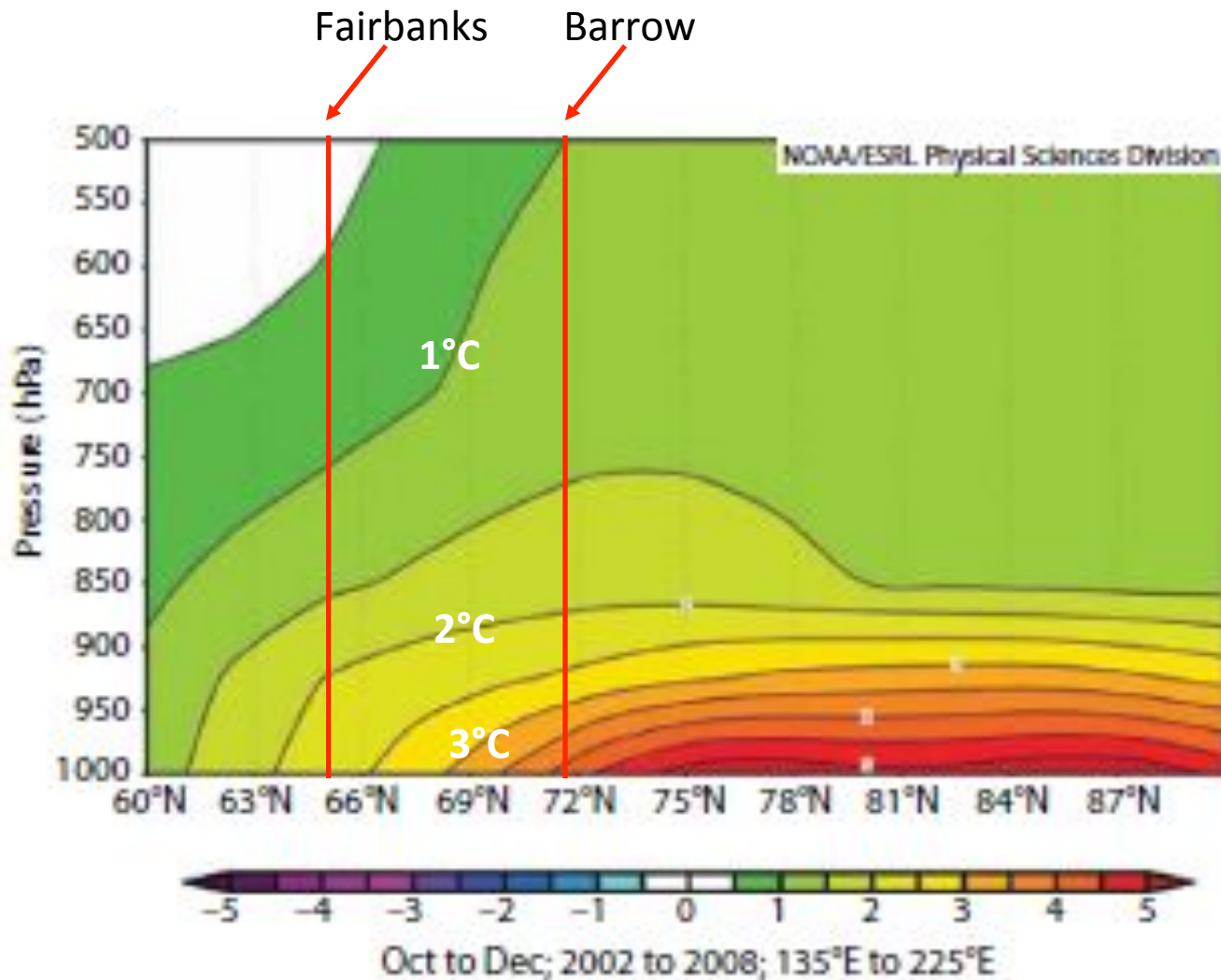


Source: <http://psc.apl.washington.edu/wordpress/research/projects/arctic-sea-ice-volume-anomaly/>  
Created by: Andy Lee Robinson <http://youtube.com/ahaveland> Feb 2013

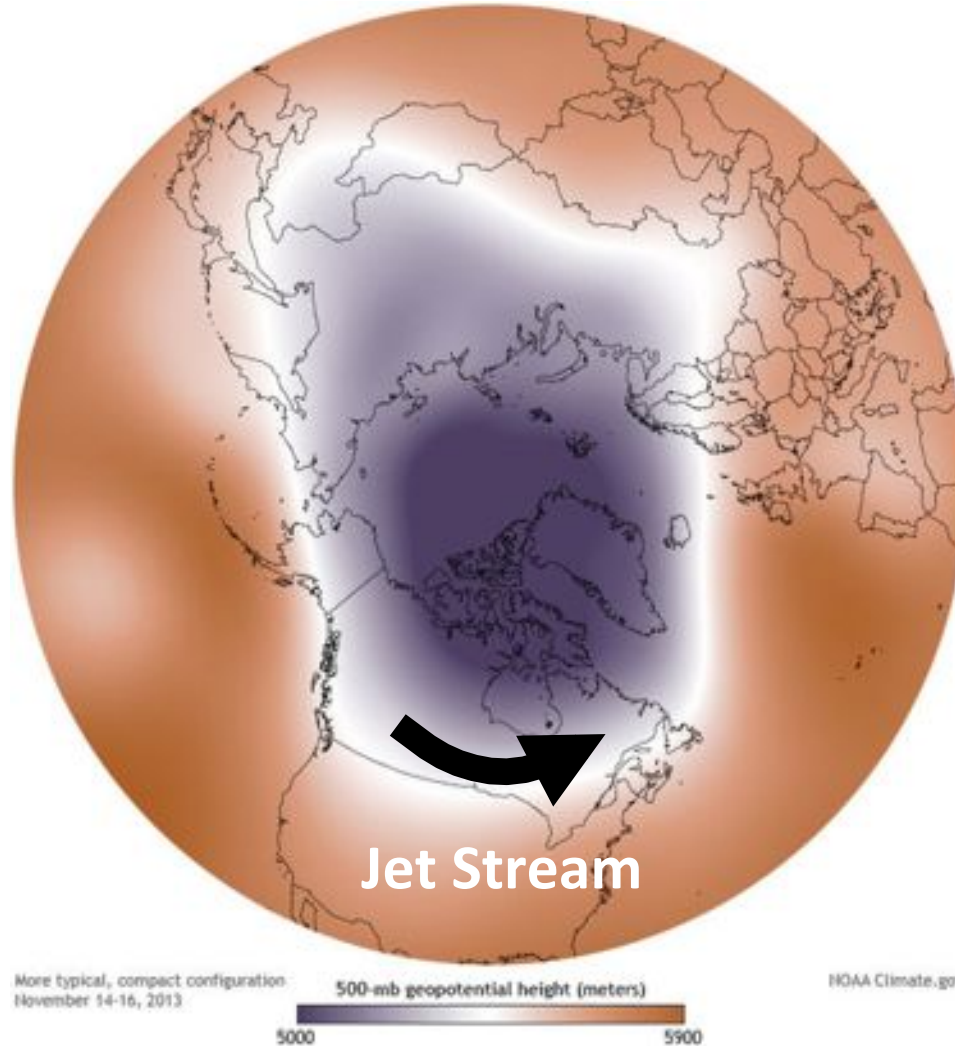
Most of the lost sea ice volume has been multi-year sea ice



# The Arctic is warming

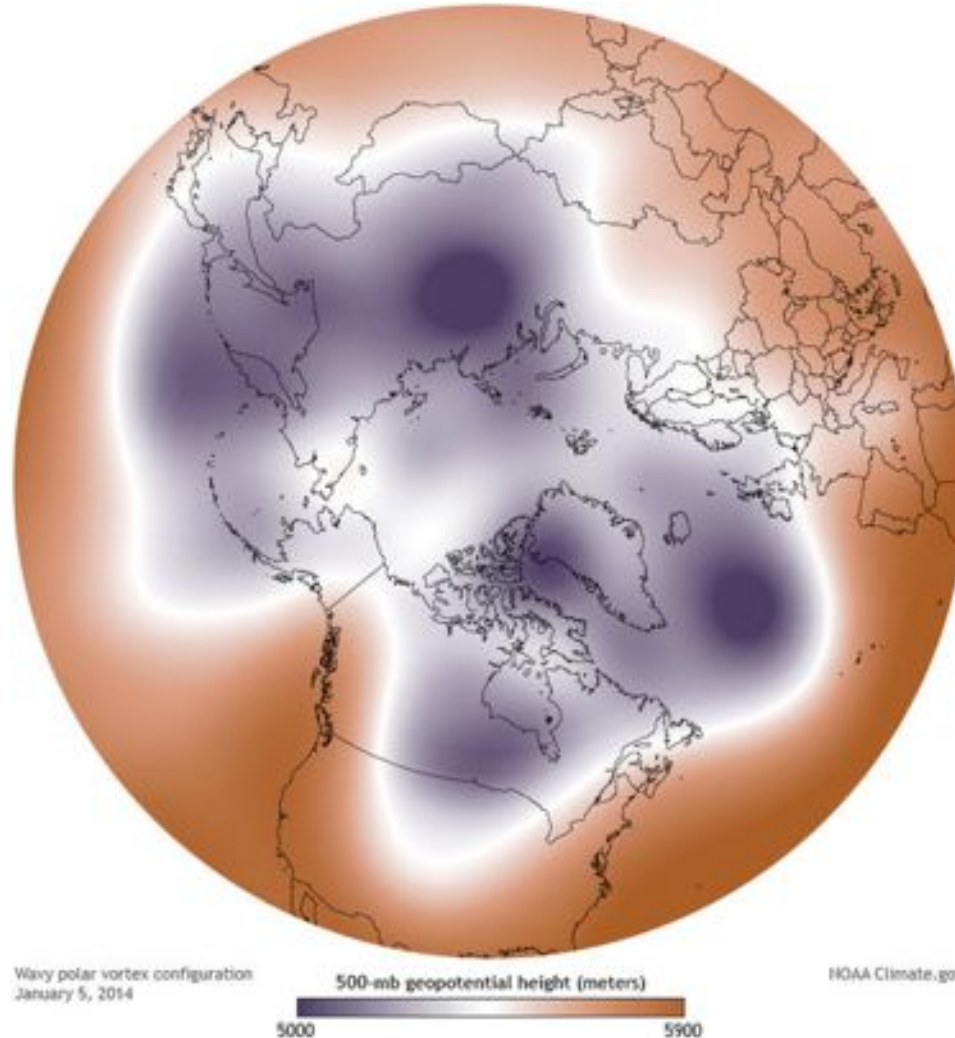


# ‘Well-behaved’ polar vortex



A large geopotential height difference between mid and high latitudes results in a strong, well-behaved jet stream

A warmer Arctic results in

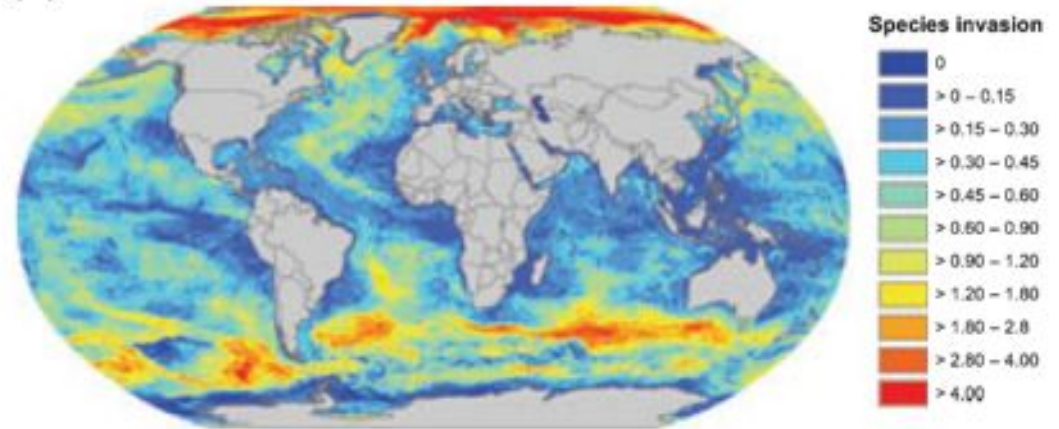


a smaller geopotential height difference which leads to a weaker jet stream that is more likely to meander

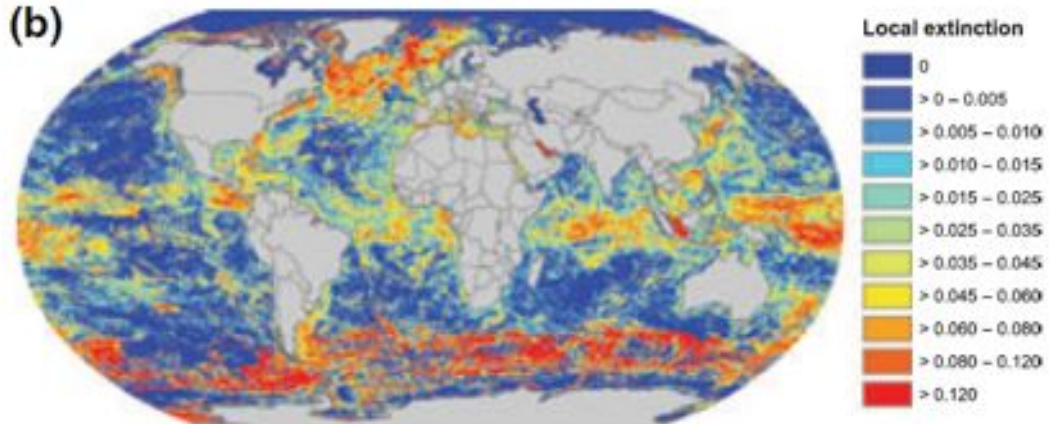
# Changes in biodiversity

- Species invasions and turnover most intense in Arctic and Southern Ocean
- Local species extinctions in sub-Arctic / N Atlantic
- Examples for Arctic are accumulating on small scale

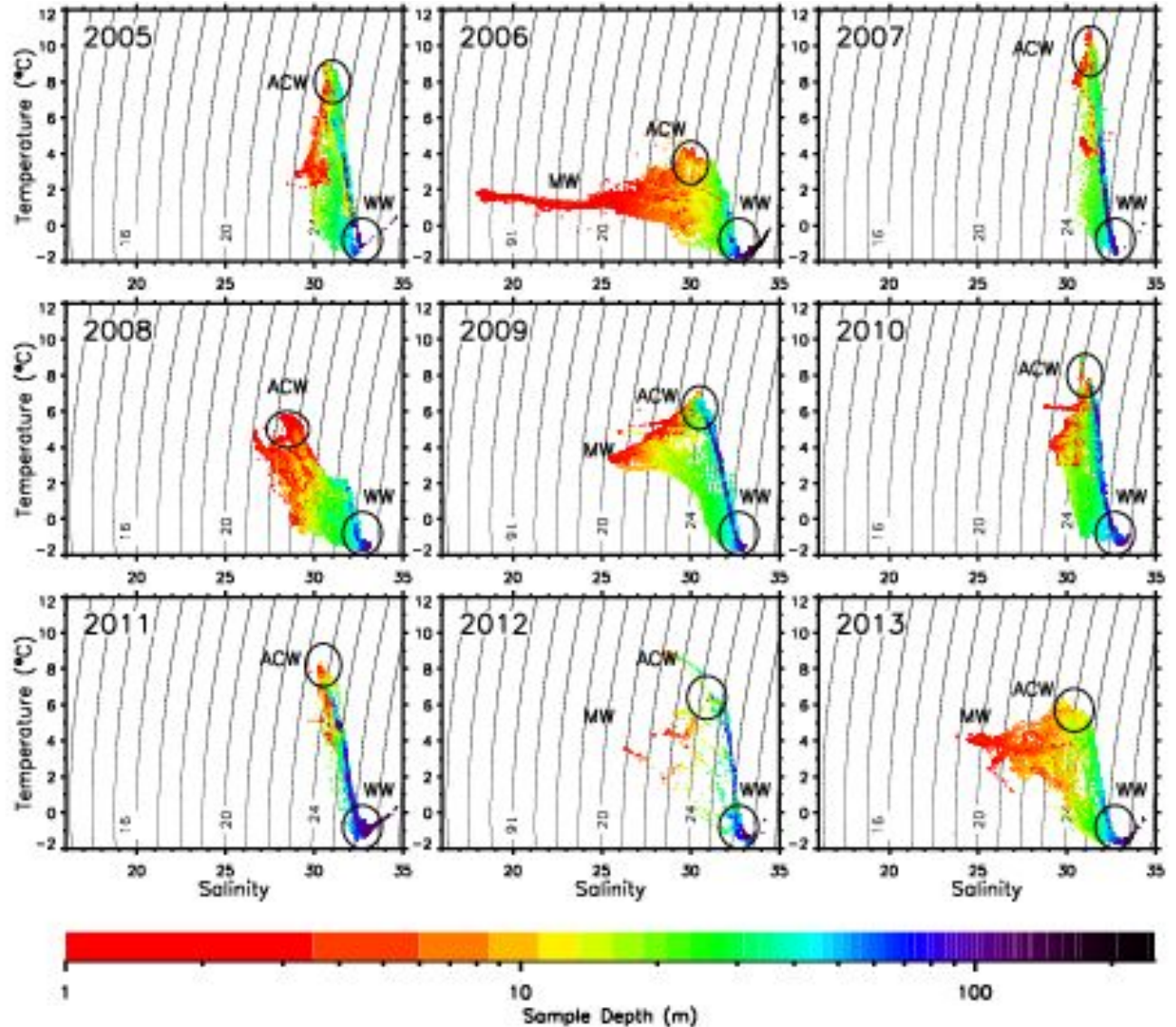
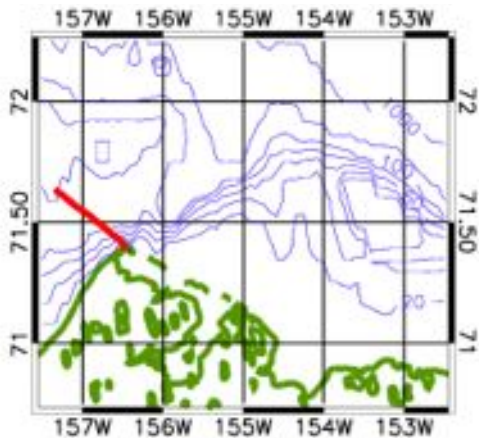
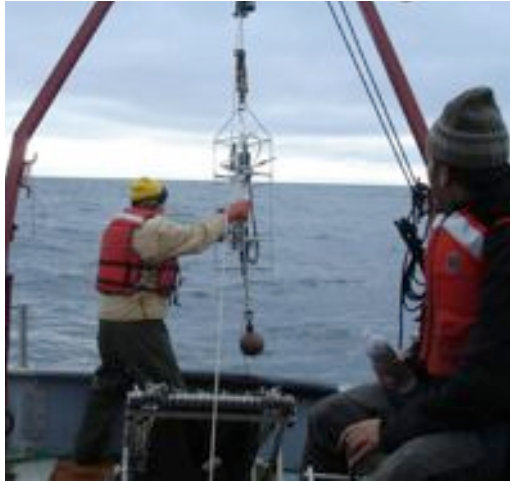
(a)



(b)



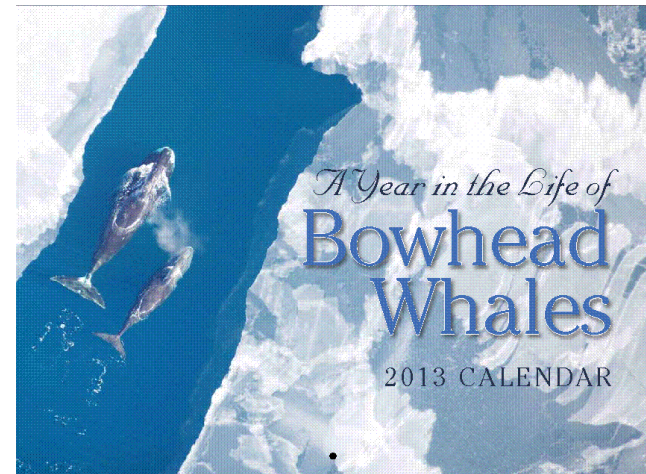
# Although the Arctic is warming, year-to-year variability can be large



# Coming in fall 2014

## Arctic Currents

A Year in the Life of the Bowhead Whale



**An animated film based on the Bowhead Whales calendar**

Produced by the University of Alaska Museum of the North

Producer: Roger Topp      Animator: Hanna Foss

Inupiat, St. Lawrence Island Yupik, English language versions  
will be available online for download and on DVD

**[arcticcurrents.wordpress.com](http://arcticcurrents.wordpress.com)**





**Safety first, second, and third!**



Safety discussion  
Part I