



Arctic Station

– research and possibilities in
Western Greenland

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ARKTISK
STATION



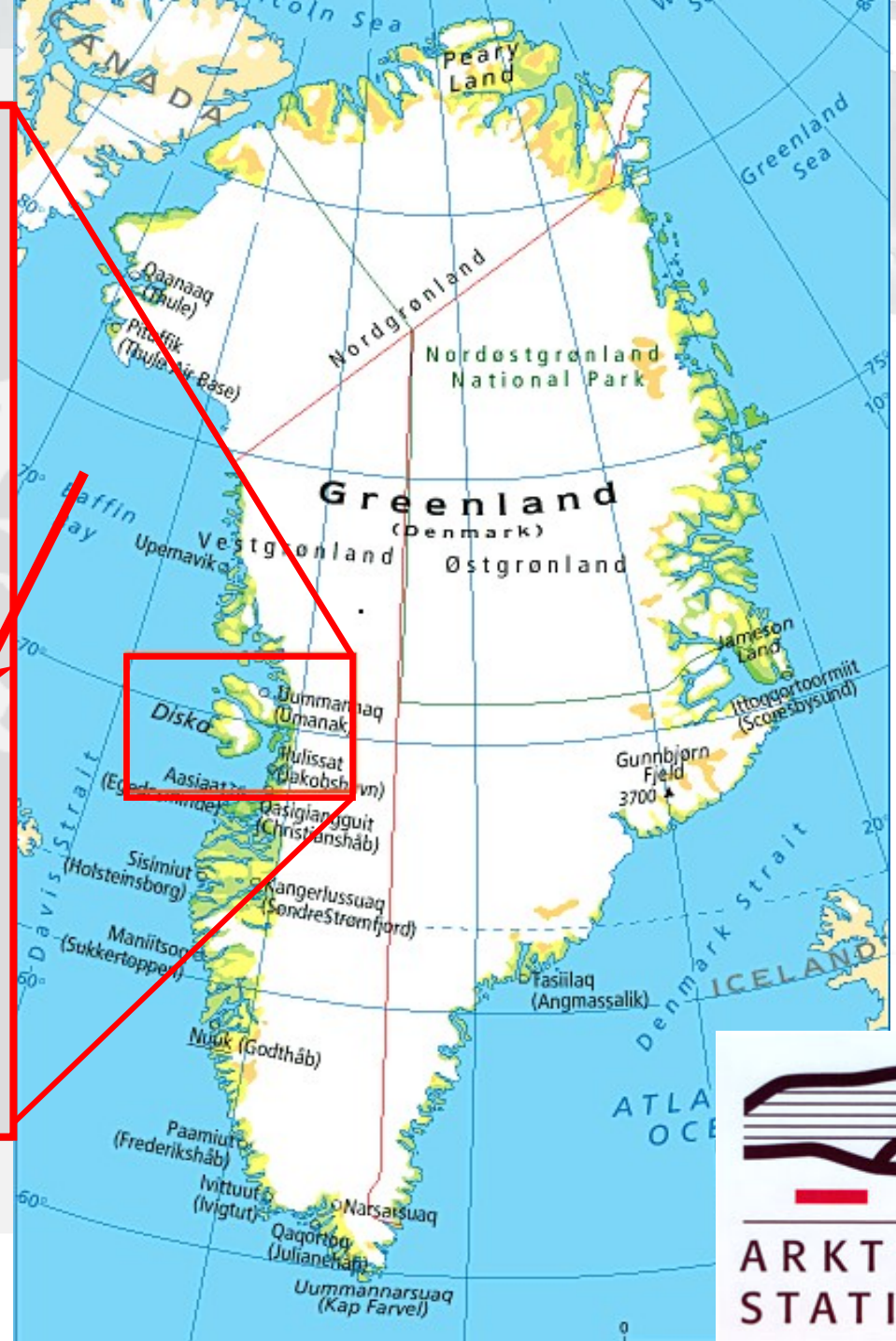
- Disko Island – the surroundings
- Introduction to the Arctic Station
- Research at the Arctic Station





56° W 54° W 52° W

69°15'N, 53°33'W



**ARKTISK
STATION**

Qeqertarsuaq

- 1000 inhabitants
- Access from mainland Greenland



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- Basic services (post, bank, internet, GSM etc.)

Botany on Disko



John Jakobsen 2006



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Michael Dünweber 2008

Diverse wildlife

- 67 bird species (40 breeding)
 - Colonies of kittiwake *Rissa tridactyla*, great cormorant *Phalacrocorax carbo* and fulmars *Fulmarus glacialis*
 - 3 of the 11 Greenlandic RAMSAR areas on Disko
- 4 seal species + walros
- 11 whale species
- Rich fish fauna





John Jakobsen 2008



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100 years old Arctic Station

- 1906 - Morten Porsild founded the station
 - Research year round
- 1953 - Faculty of Natural Sciences, University of Copenhagen, Denmark
 - Board of the Arctic Station
 - 2007 Anthoropology
 - Permanent staff
 - Scientific leader
 - Station manager
 - Captain onboard
R/V Porsild



Arctic Station now

- Place for 25 guests
- R/V Porsild (dingy, snowscooters etc.)
- library and laboratory
- ~150 guests per year
 - Researches, PhD and Master students
 - mainly from DK



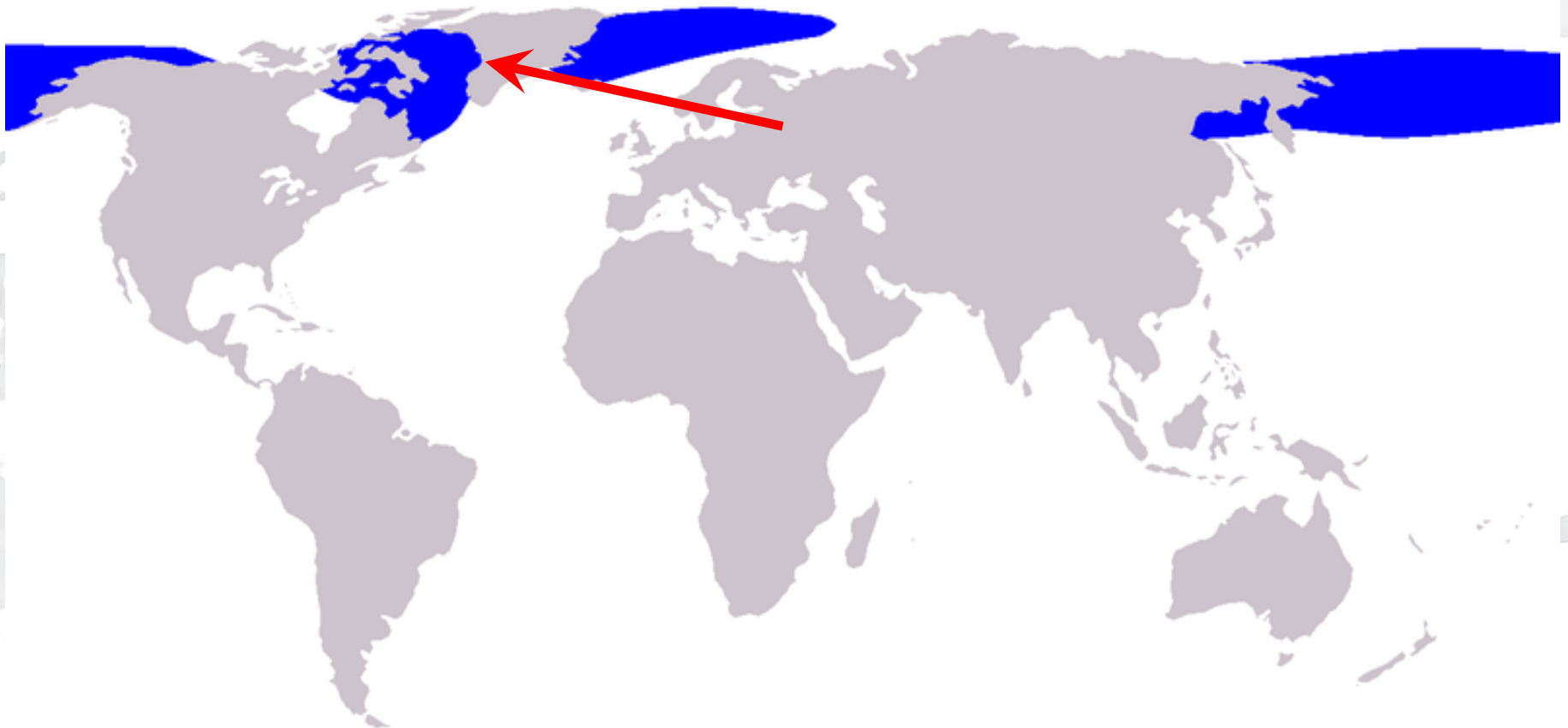
Research at the Arctic Station

- Climate monitoring since 1991
 - Climate station in Qeqertarsuaq
 - Oceanographical station off Qeqertarsuaq
- Acoustic behaviour of bowhead whales – PhD
- <http://arktiskstation.ku.dk/english/research/publications/>



Bowhead whale project

- 2001 - April - May



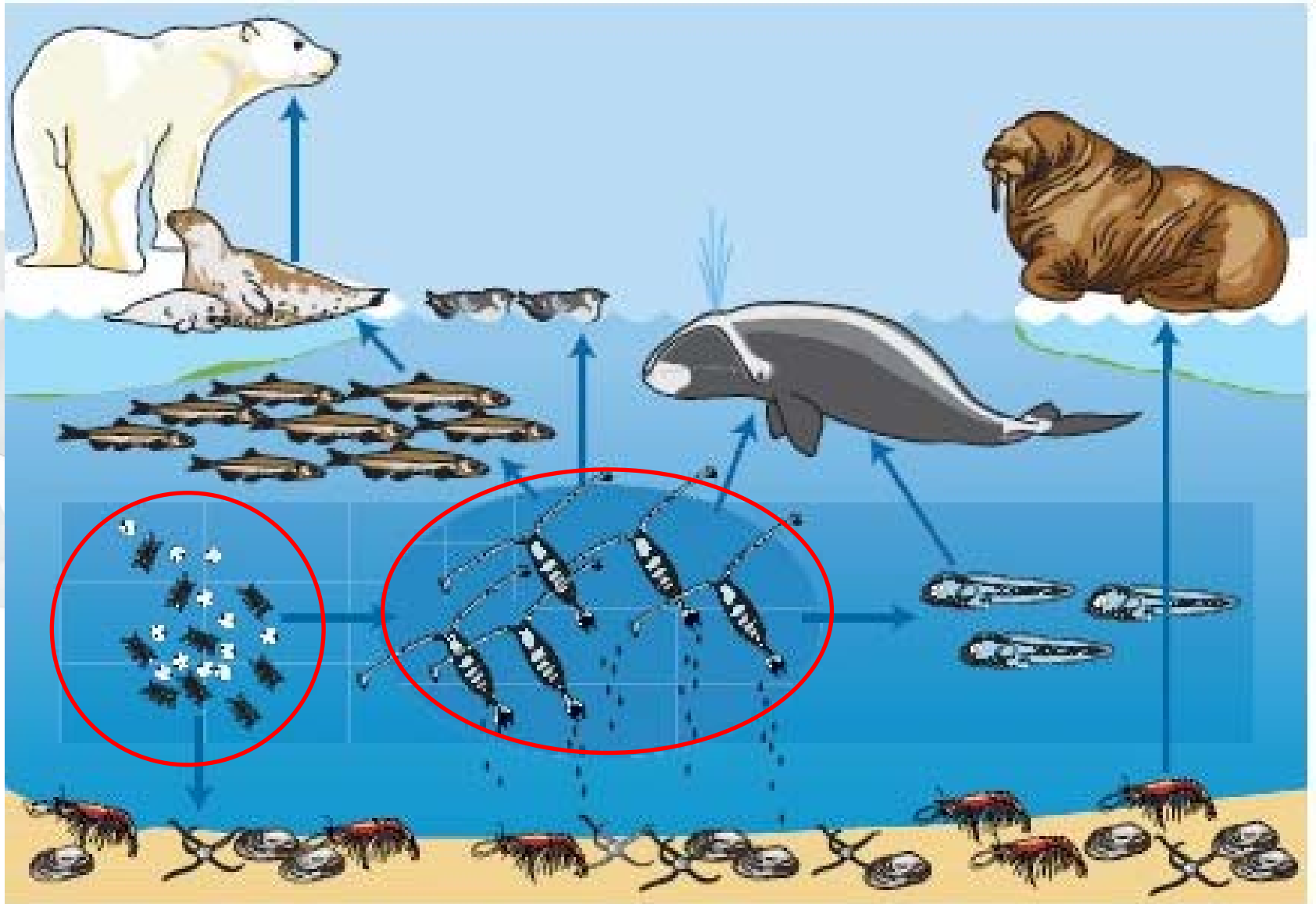
- - Acoustics : seasonal/annual changes in song, source level & active space, reproduction biology

Plankton project

- Danish National Environmental Research Institute
- 1981-2004 April - June
- 2005- February – June
 - Climate change

Calanus hyperboreus

The role of copepods



The copepod society in Disko Bay

- Arctic species
 - *Calanus glacialis*
 - *Calanus hyperboreus*
- Characteristics
 - Purely arctic
 - "big" – 3mm to 10mm
 - High lipid content
 - Does not need to forage in order to reproduce
- Atlantic species
 - *Calanus finmarchicus*
- Characteristics
 - Atlantic
 - smaller – 2,7 to 5mm
 - low lipid content
 - Needs to forage in order to reproduce

Climate induced changes in the copepod society

- Temperature of the water increases in Disko Bay
 - Optimal temperature for reproduction of the arctic species about 5 °C
- The Atlantic species better to exploit warmer water temperatures
- With increasing water temperatures the Atlantic *Calanus* will become the dominating species



Michael Dünweber 2008



<http://arktiskstation.ku.dk/> www.geqertarsuaq.gl

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