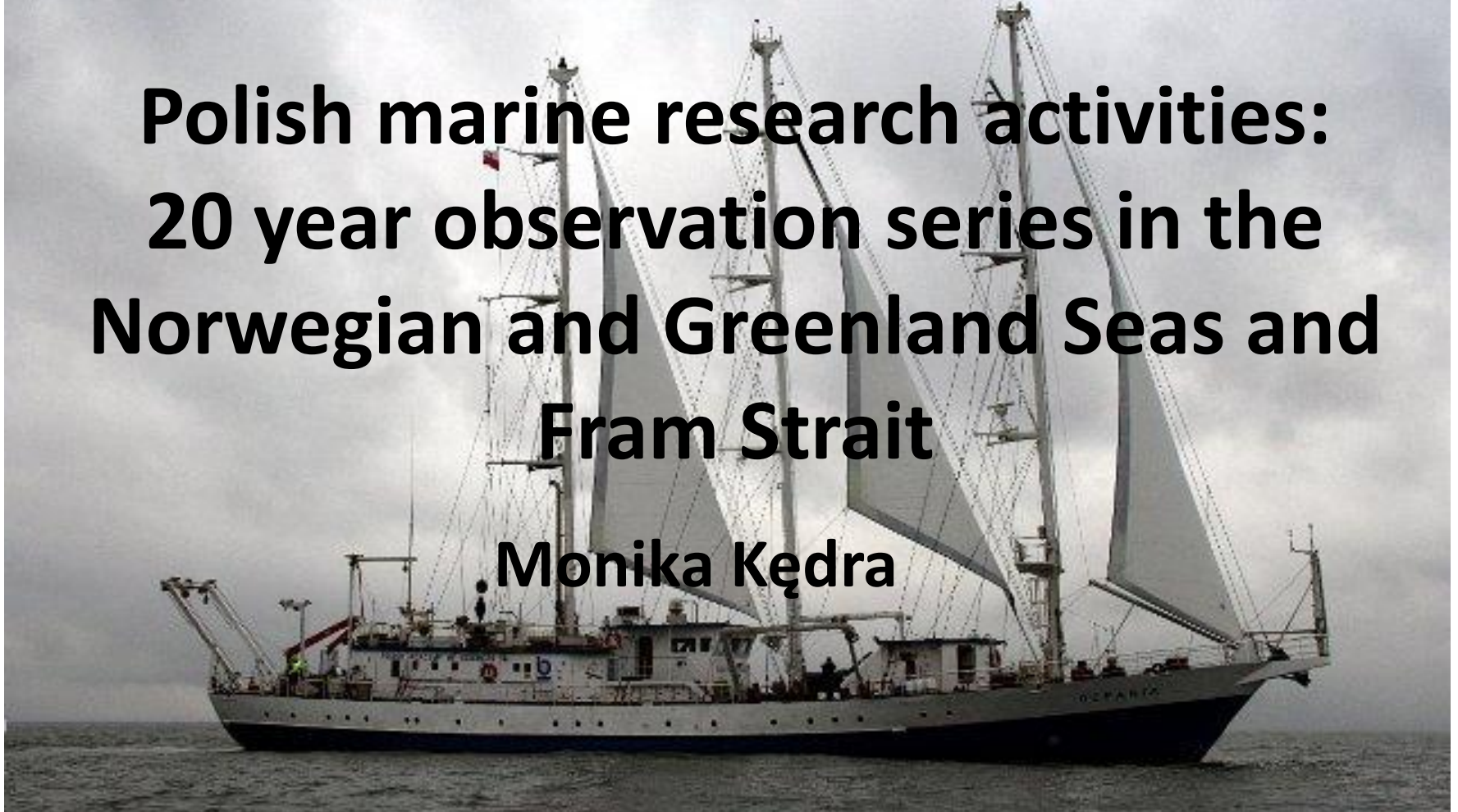




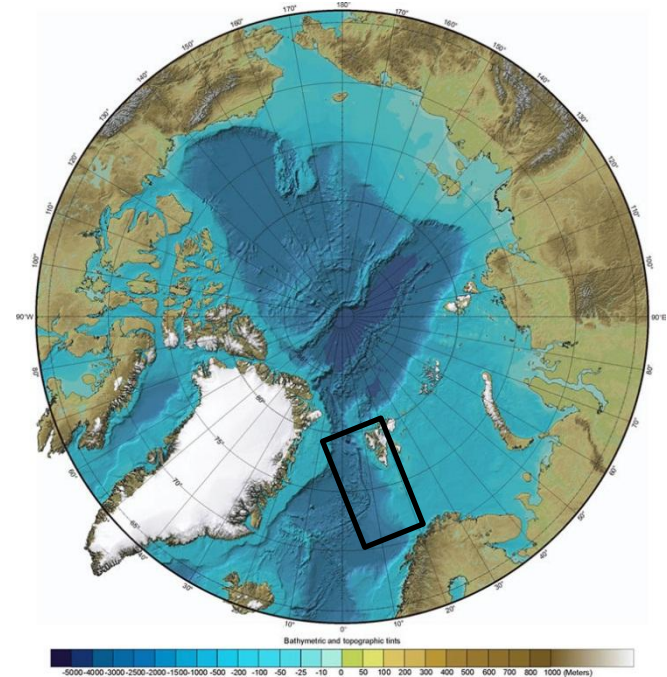
**Polish marine research activities:
20 year observation series in the
Norwegian and Greenland Seas and
Fram Strait**

Monika Kędra



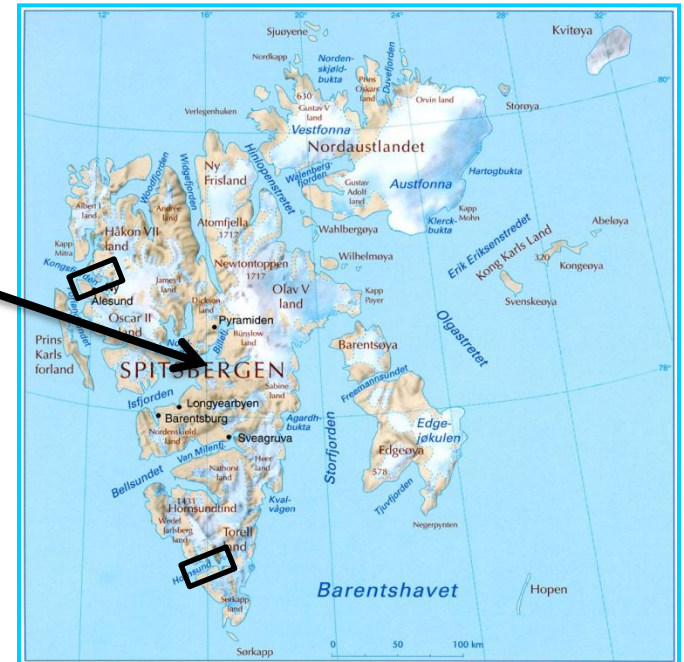
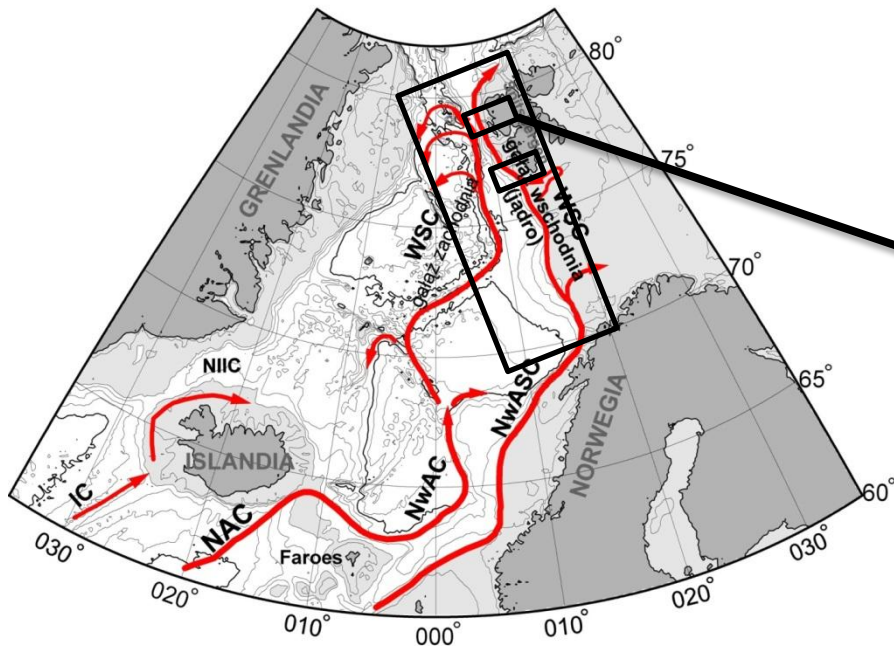
Strategic Directions

- Role of the oceans in climate change and its effects for the European Seas
- Natural and antropogenic variability of the environment
- Contemporary changes of the coastal ecosystems in the shelf seas
- Genetic and physiological mechanisms of functioning marine organisms



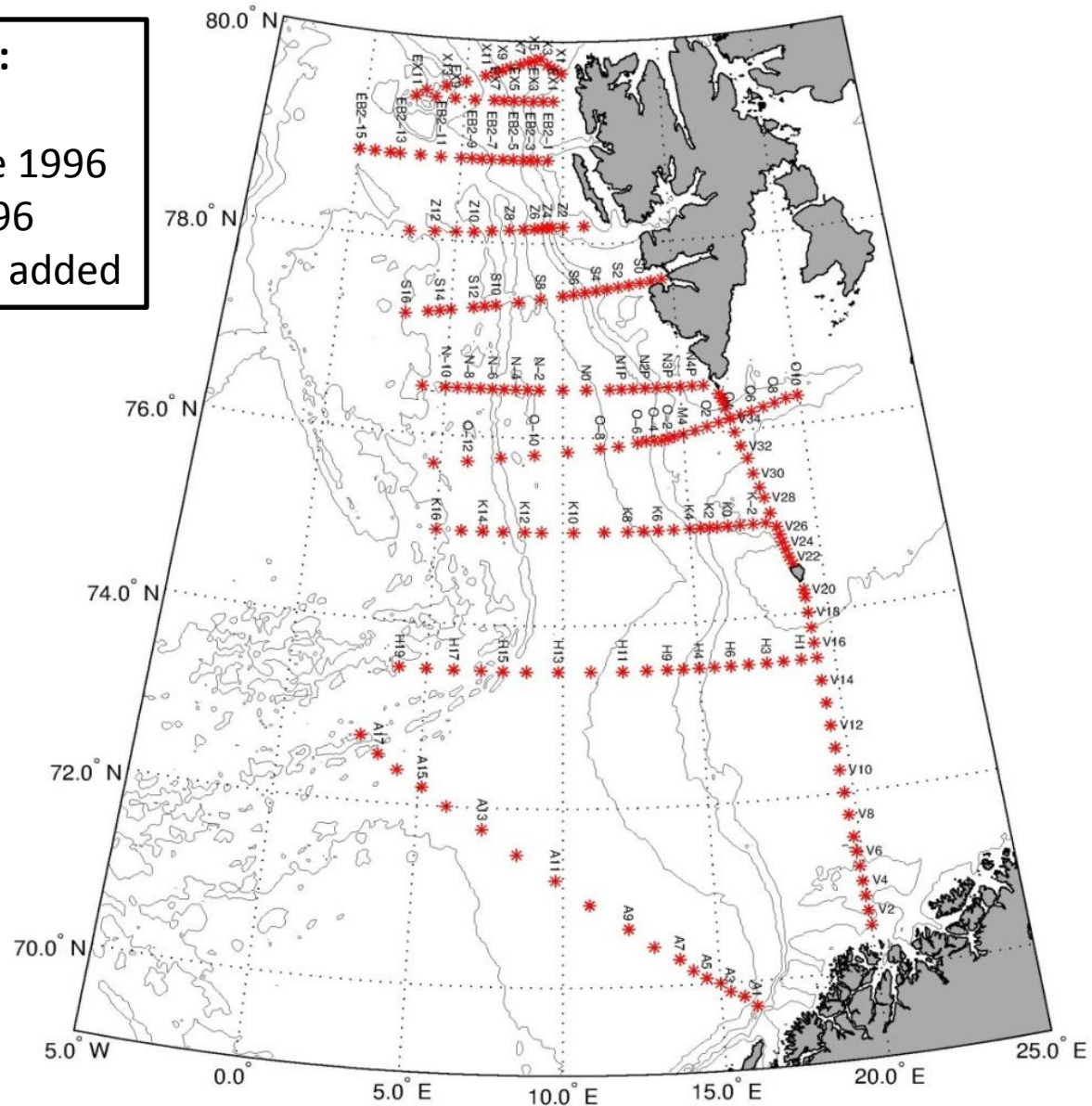
Main monitoring activities

- North-eastern part of the Nordic Seas: Atlantic Water pathways and transports plus chemical and biological measurements (plankton)
- Long term transects in Kongsfjorden (since 1996) and Hornsund (since 2001): physical parameters, benthos, plankton



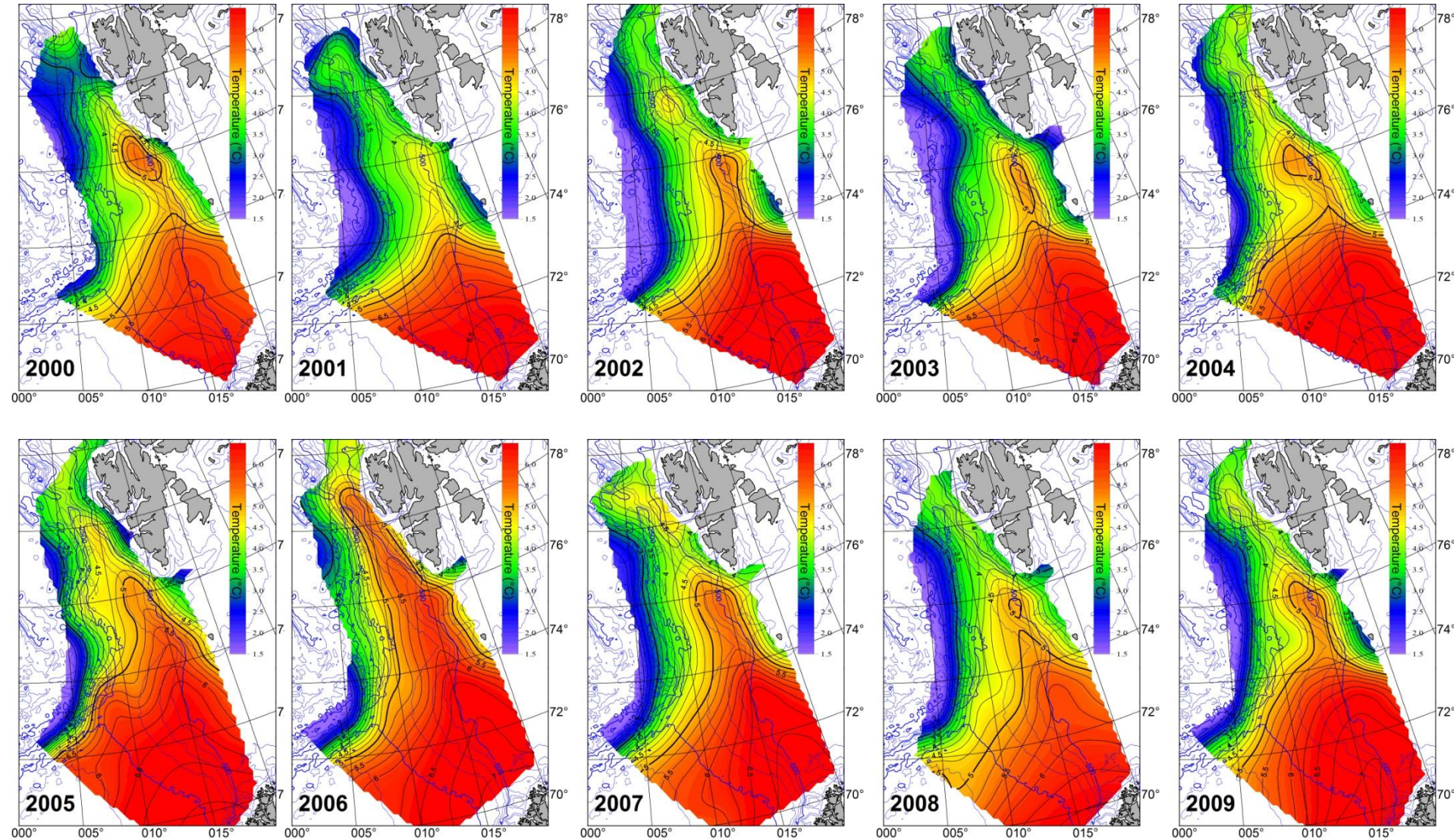
Nordic Seas monitoring activities:

Hydrography measurements since 1996
Plankton measurements since 1996
Recently chemical measurements added

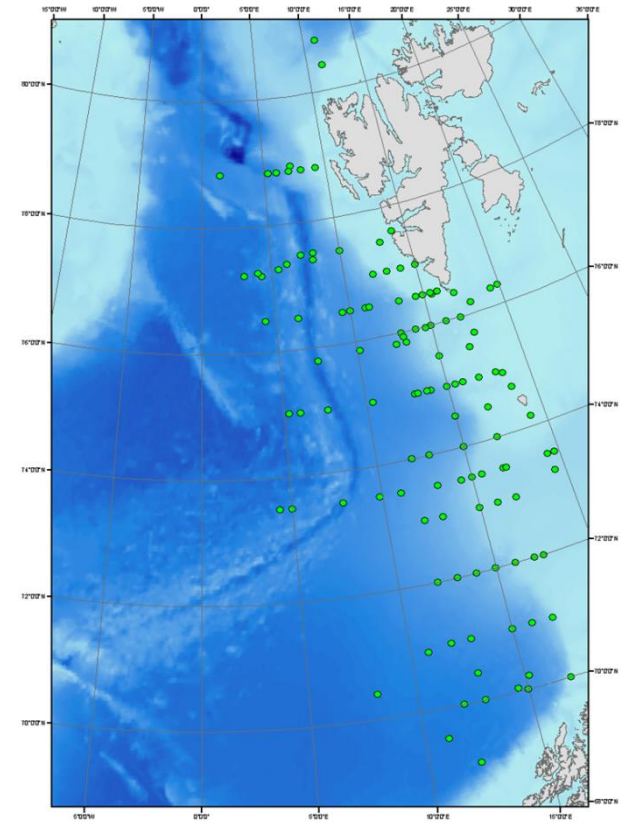
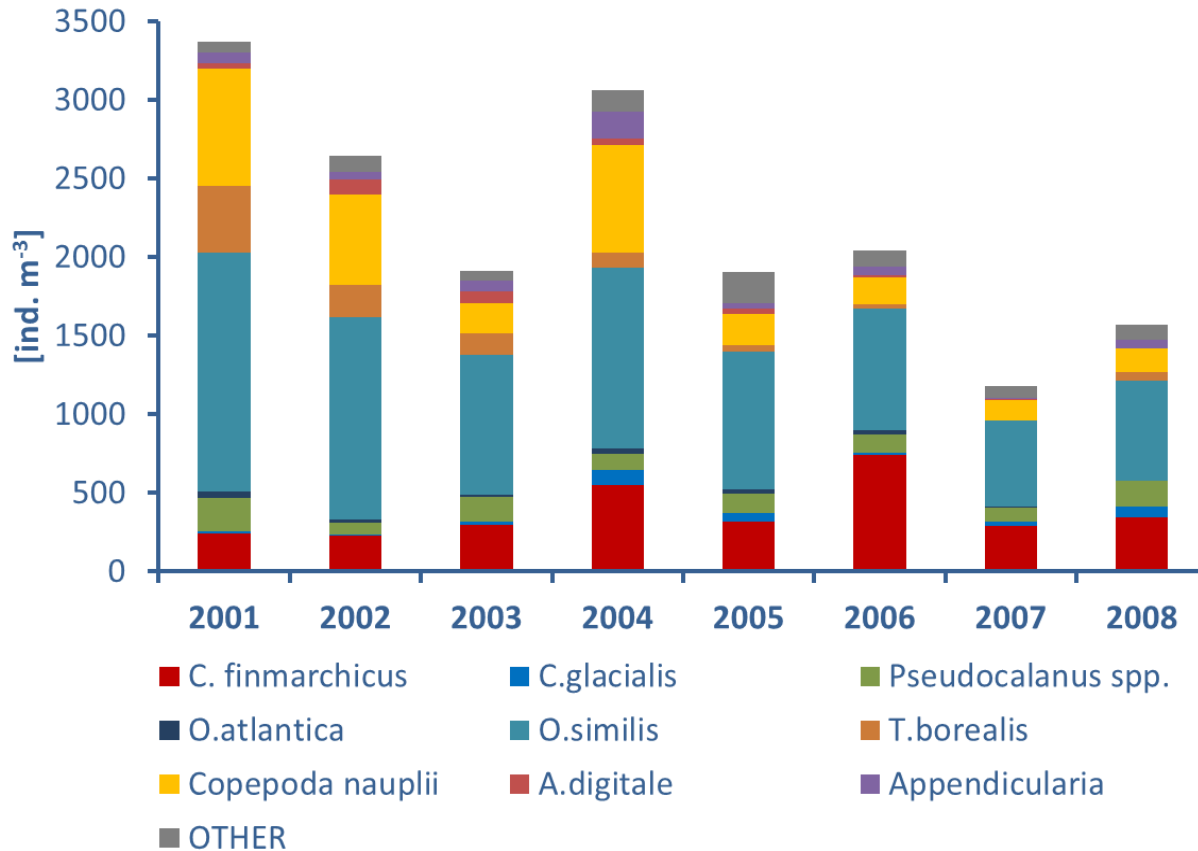


Distribution of temperature at 100 dbar in summers 2002-2009

Waldek Walczowski,
IOPAS



Time series of mesozooplankton observations from the area of the West Spitsbergen Current

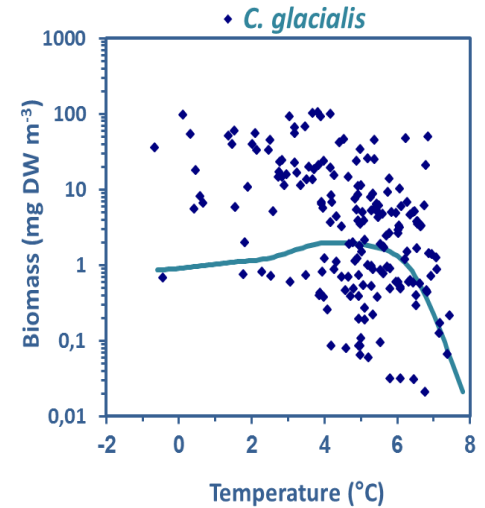
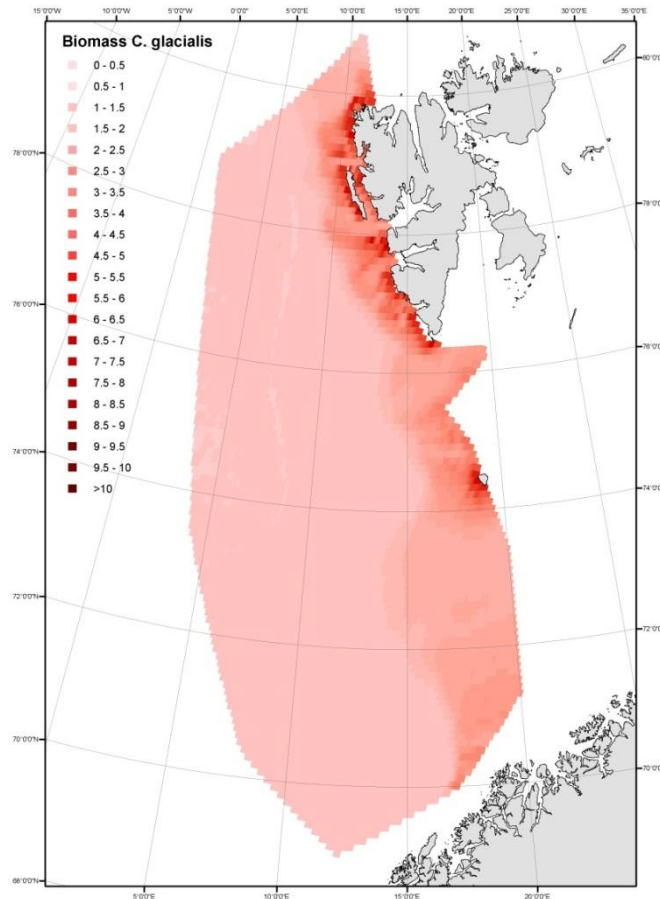
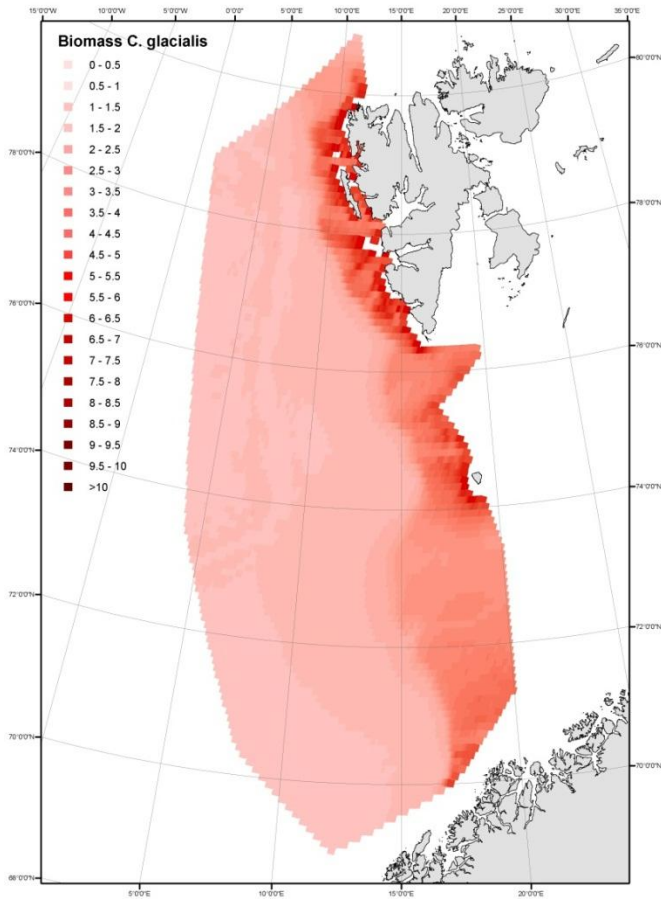


Oithona similis

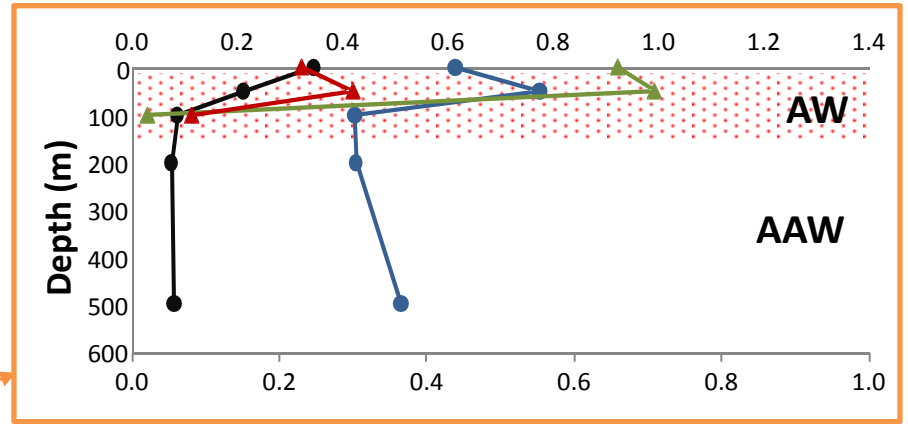
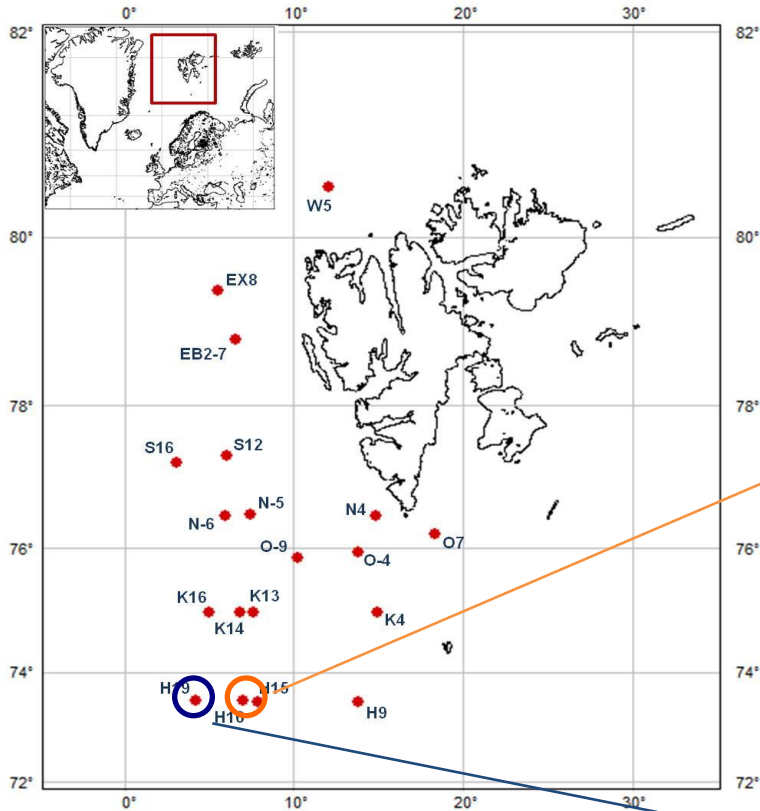


Calanus finmarchicus

Calanus glacialis – present and future modeled distribution with 2 C temperature increase



POC, DOC and pigments on the Polar Front

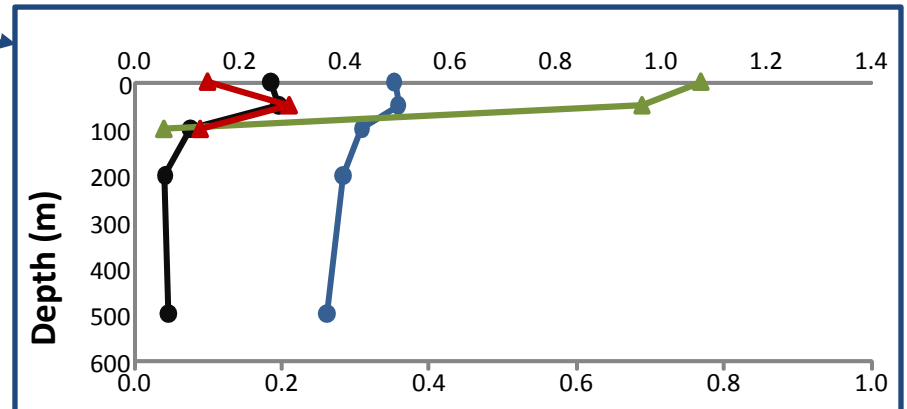


Atlantic Water until 150 m,
below mixed Atlantic Arctic Water

Arctic Intermediate Water
and Polar Deep Water

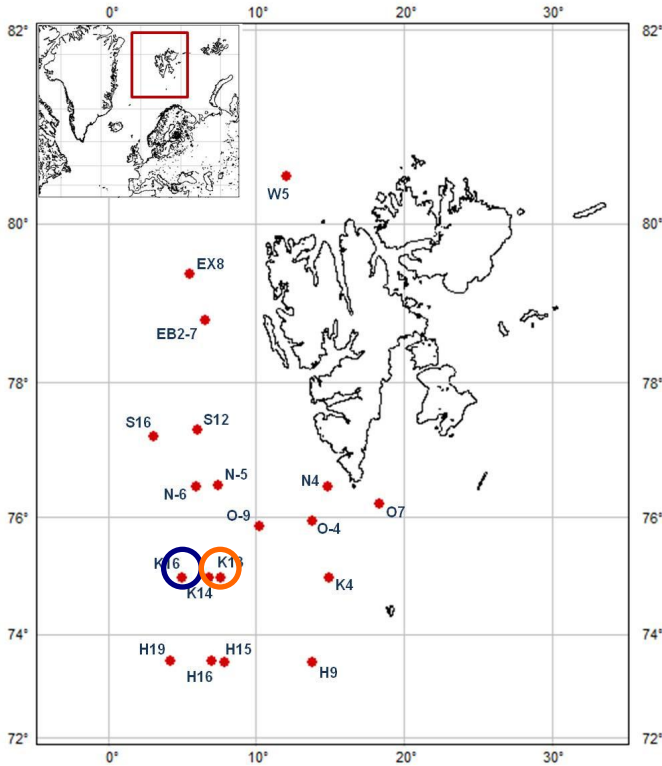
DOC, POC [mg/dm³]
Chla, Phe [mg/m³]

● POC ● DOC ▲ Chla ▲ Phe



POC, DOC, Chlorophyll a and pheopigment
measurements at 4-5 depth levels at two sides of the
Polar Front in 2005, 2006, 2007 and 2010.

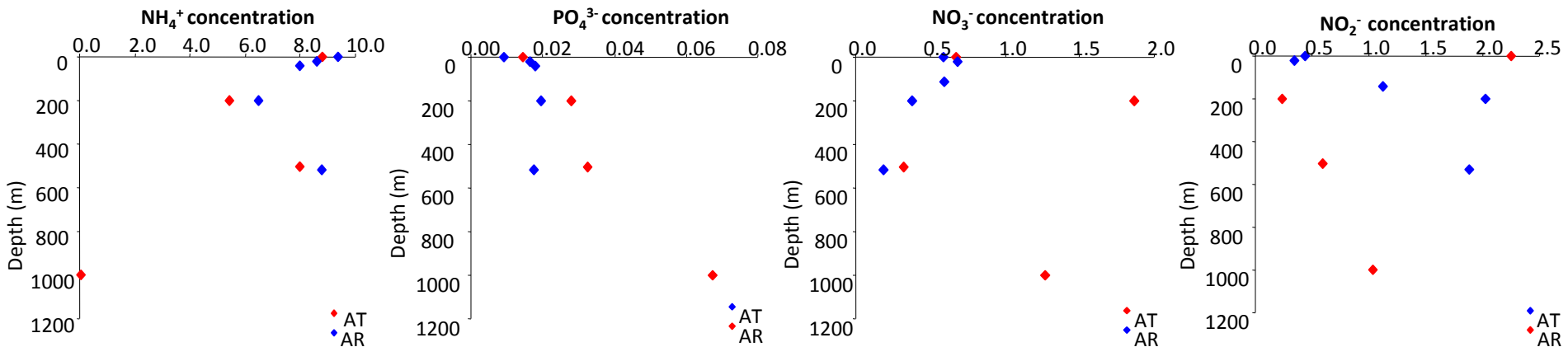
Nutrients on the Polar Front



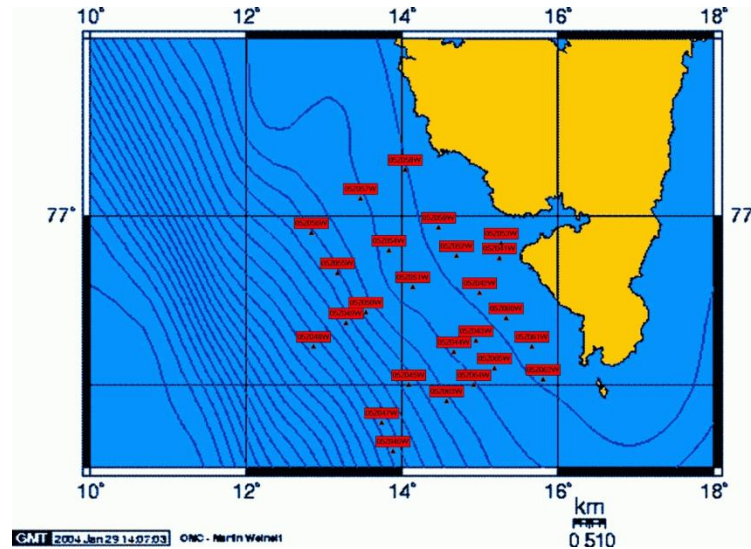
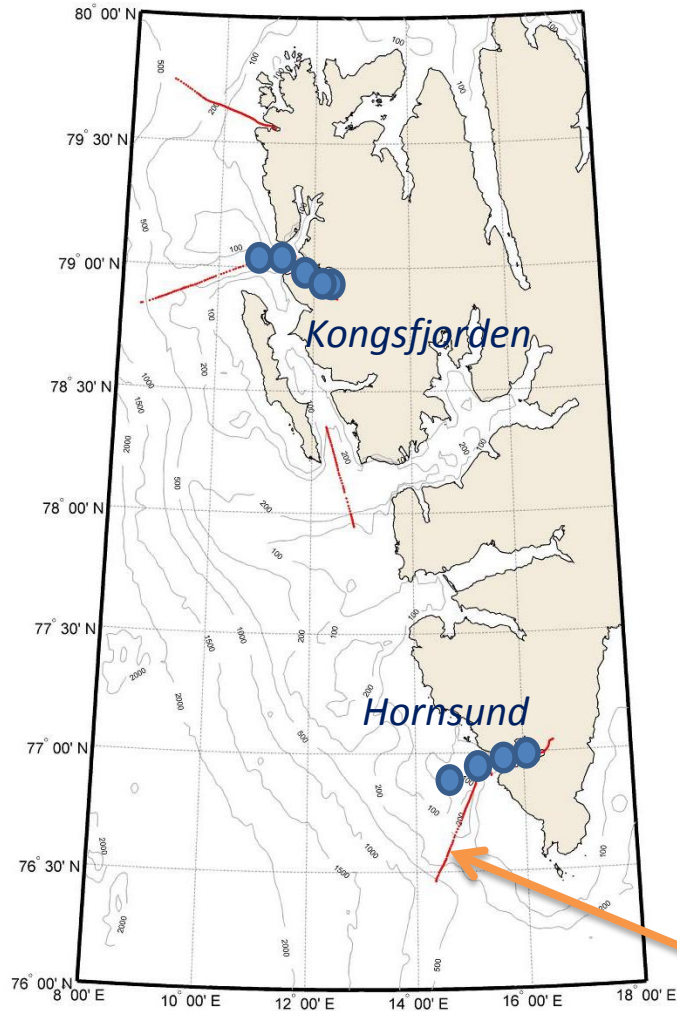
Since 2010: nutrient measurements.

Station K16 (Arctic) - Mixed Atlantic Arctic Water, Polar Deep Water and Nordic Seas Deep Water.

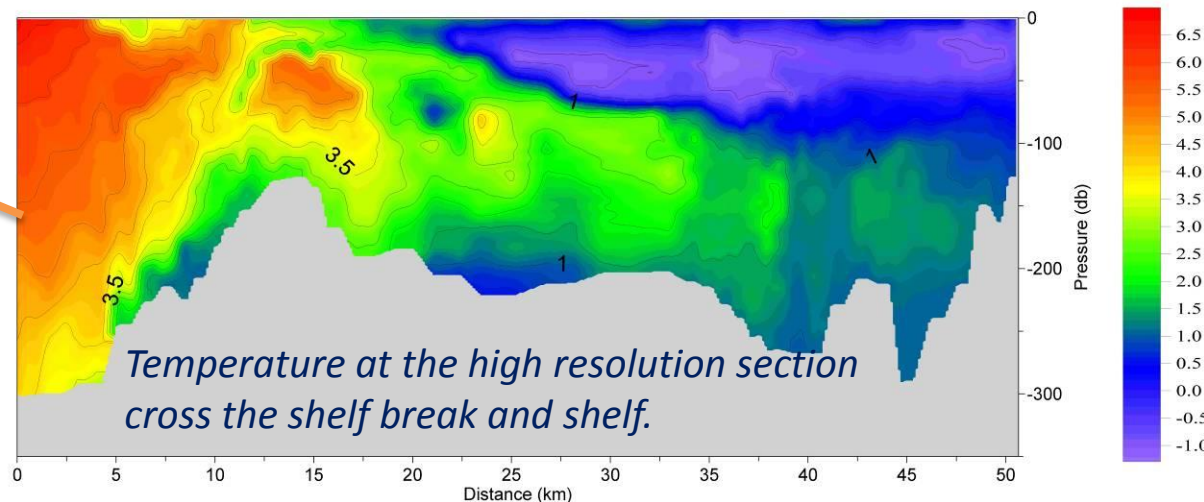
Station K14 (Atlantic) – 0-300 m Atlantic Water (WSC), below mixed Atlantic Arctic Water.



The West Spitsbergen shelf – fjords exchange; fjords hydrography; plankton and benthos monitoring; little auk feeding grounds



The towed CTD probe standard sections



Temperature at the high resolution section cross the shelf break and shelf.

Future plans and challenges

- Continue regular monitoring in Nordic seas and Svalbard fjords including hydrography, chemical measurements, plankton and benthos (summer operations)
- Data compilation in one database (international?)
- Identification of key monitoring sites
- Standardisation of methods; previous data harmonisation
- Data sharing policy/authors rights needed
- Agreement on publication policy



25 lecie statku badawczego s/y Oceanica



Thank you for your attention