

# Fish and why non-fish fjords on Svalbard

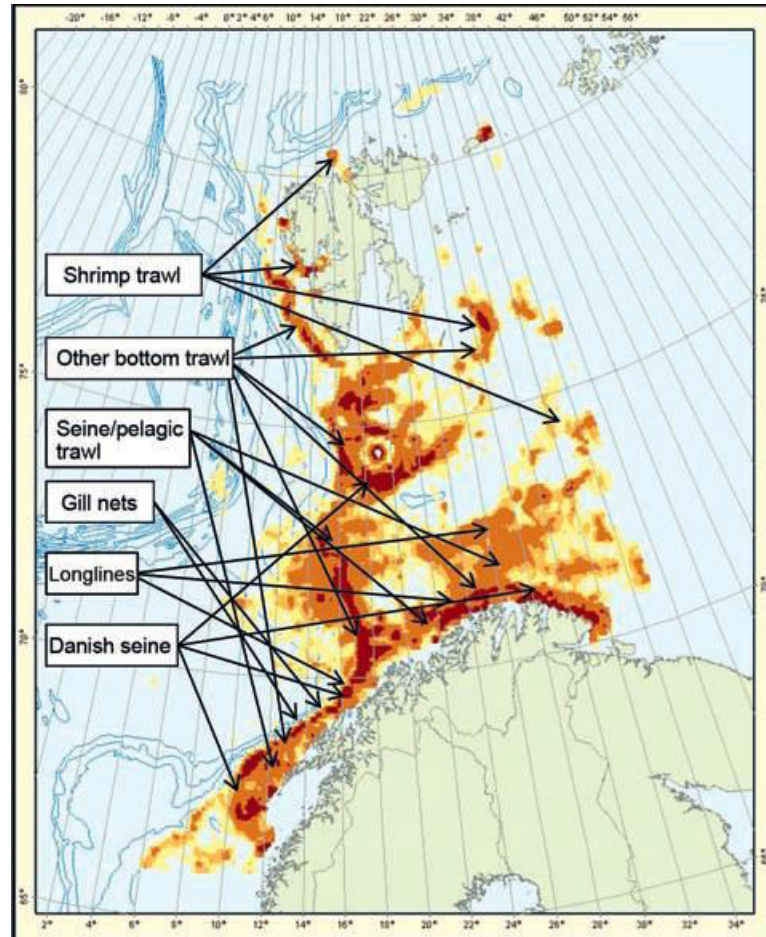


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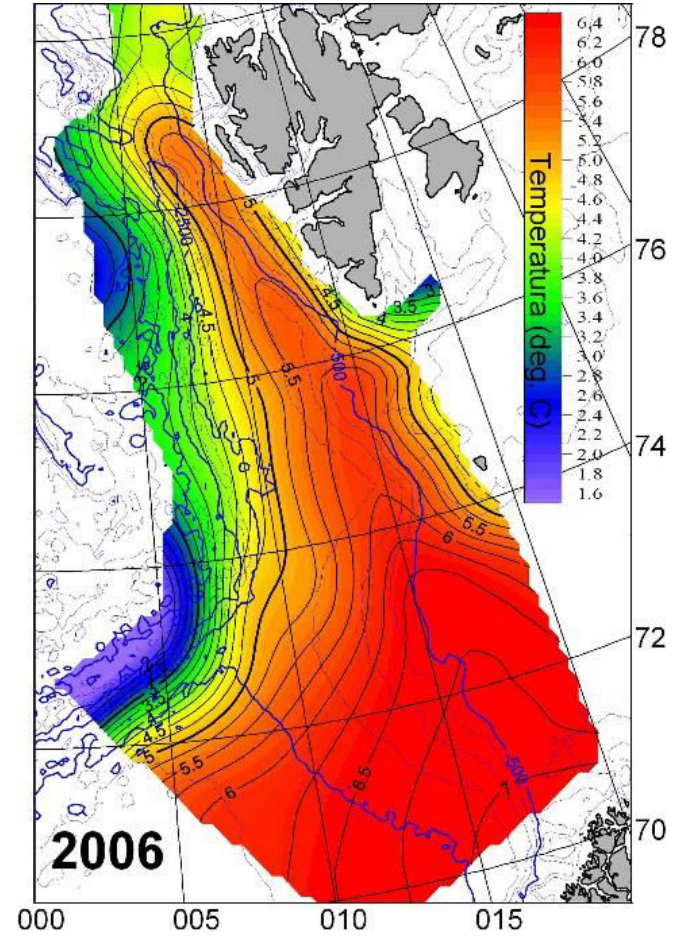
GAME & GLAERE projects results

# Key fishing areas in Northern Norway

– source Ministry of Environment White paper 2011

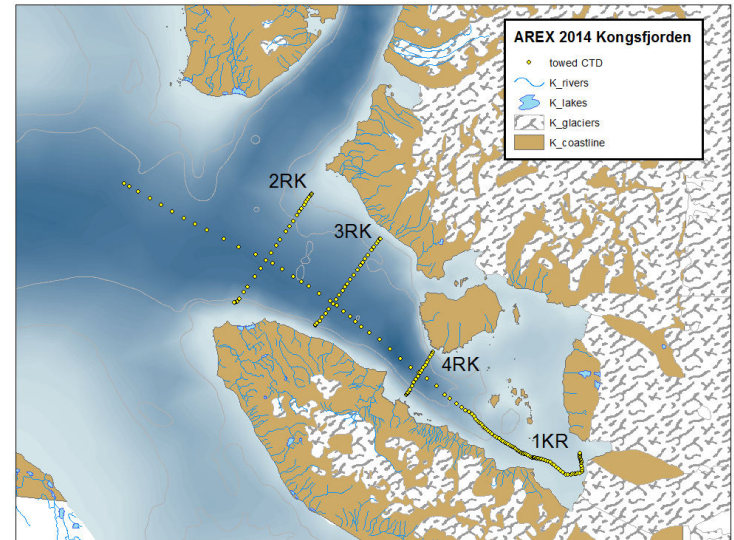


r/v Oceania  
Since 1987 every summer  
survey on Svalbard

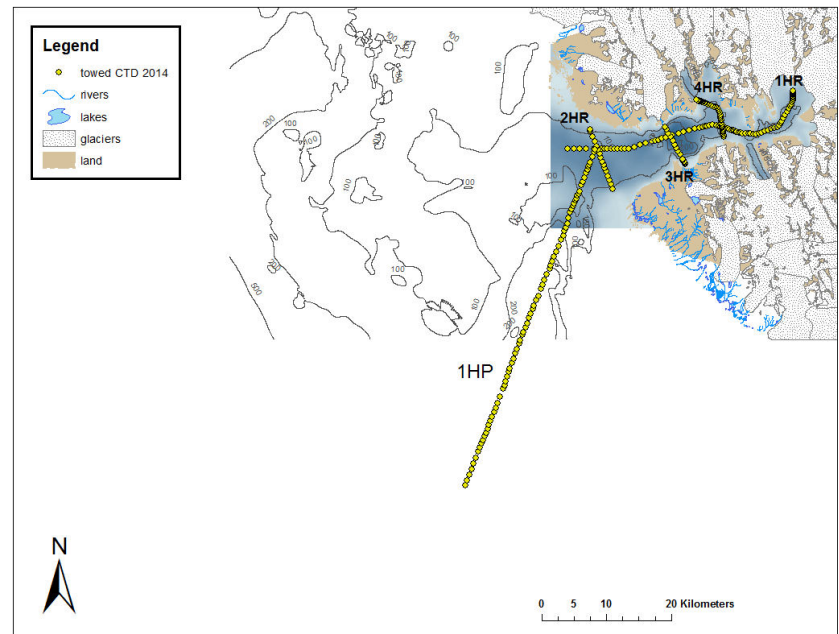


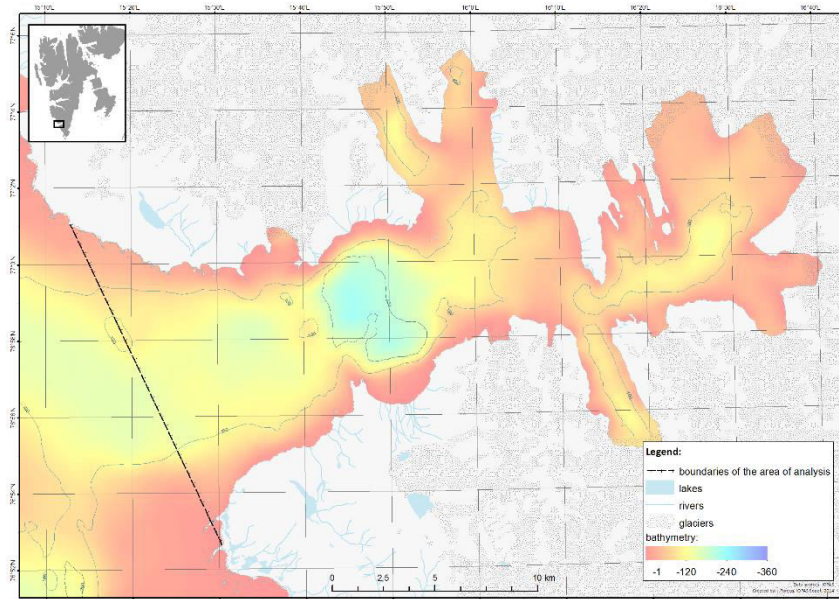
## Kongsfjord 79°N

CTD, optics, acoustics,  
Microplankton, zooplankton,  
benthos (meio and macro)

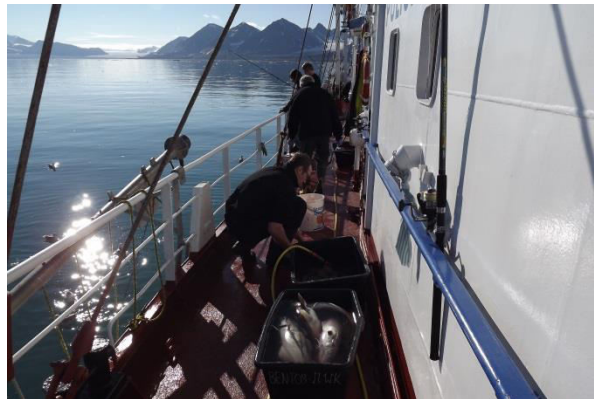


## Hornsund 77°N

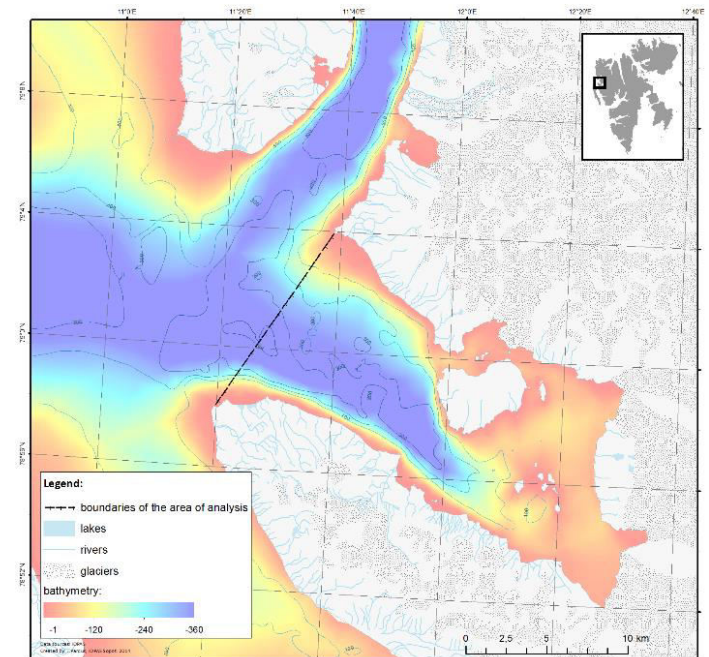




Hornsund

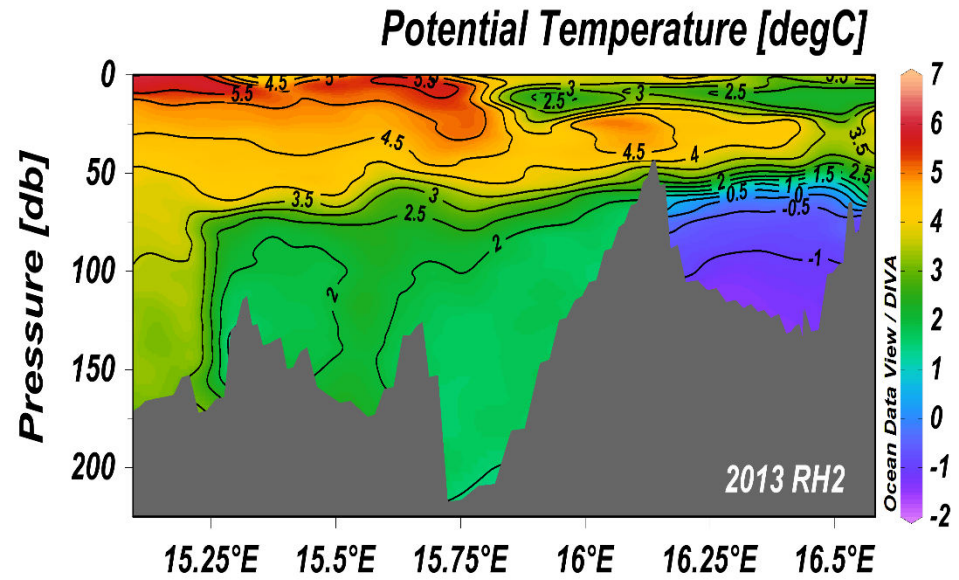


Cod appeared  
in high amount  
in Kongsfjord about 2005

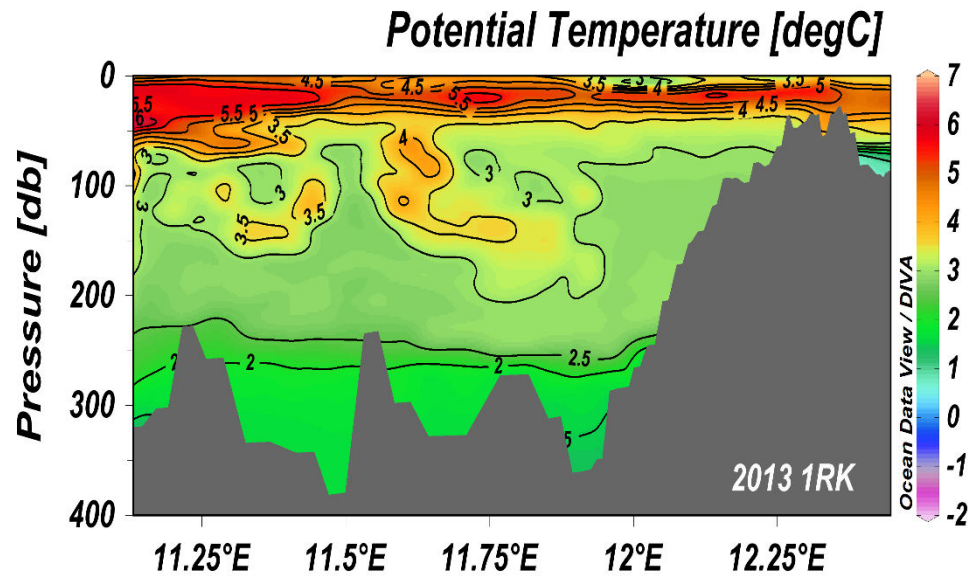


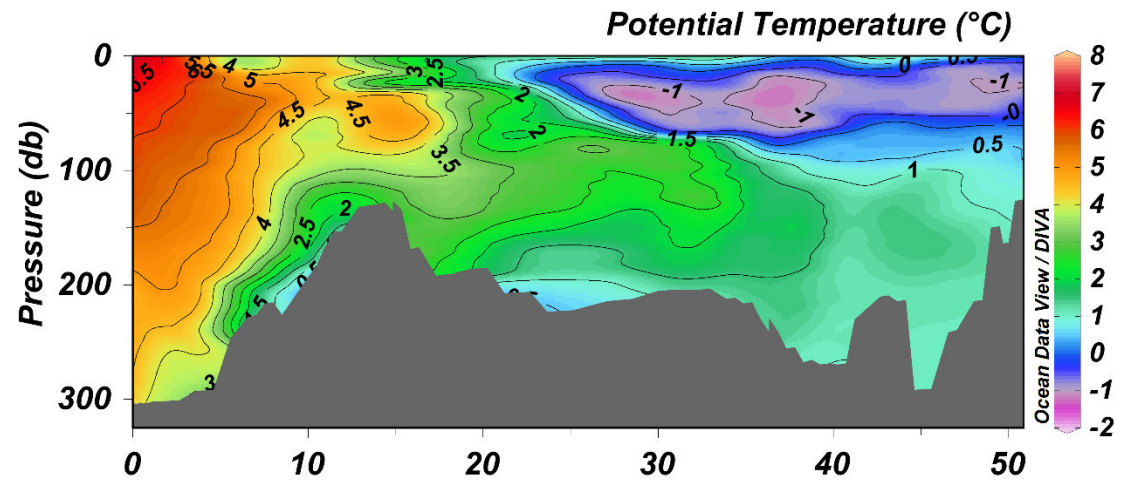
Kongsfjord

Hornsund

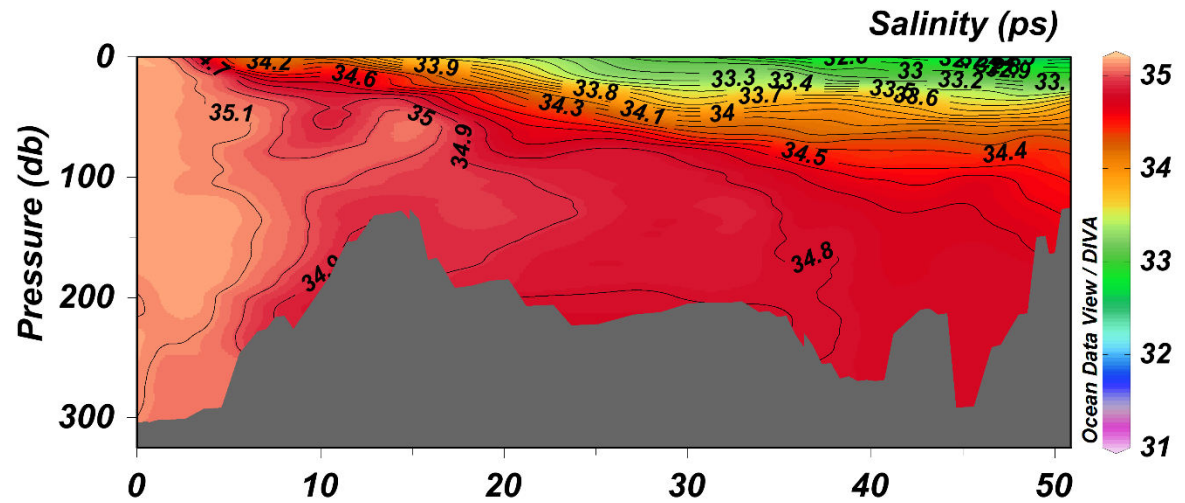


Kongsfjord

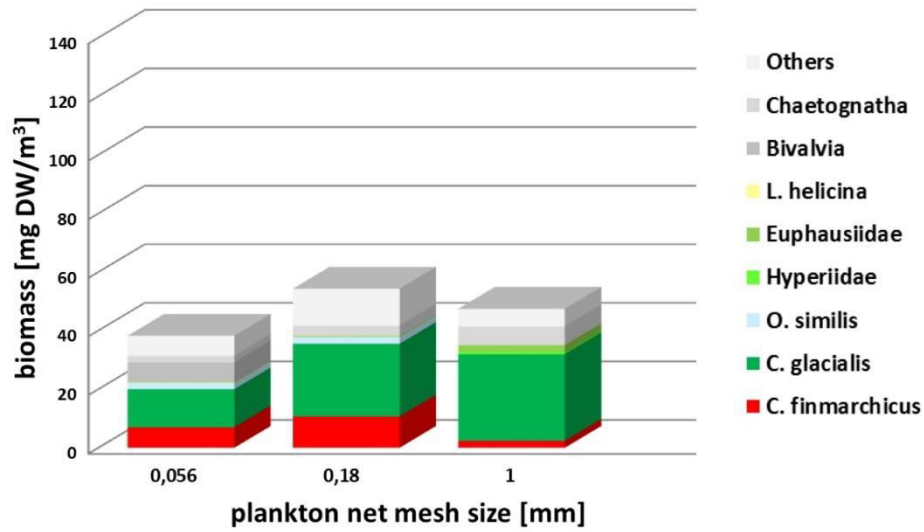




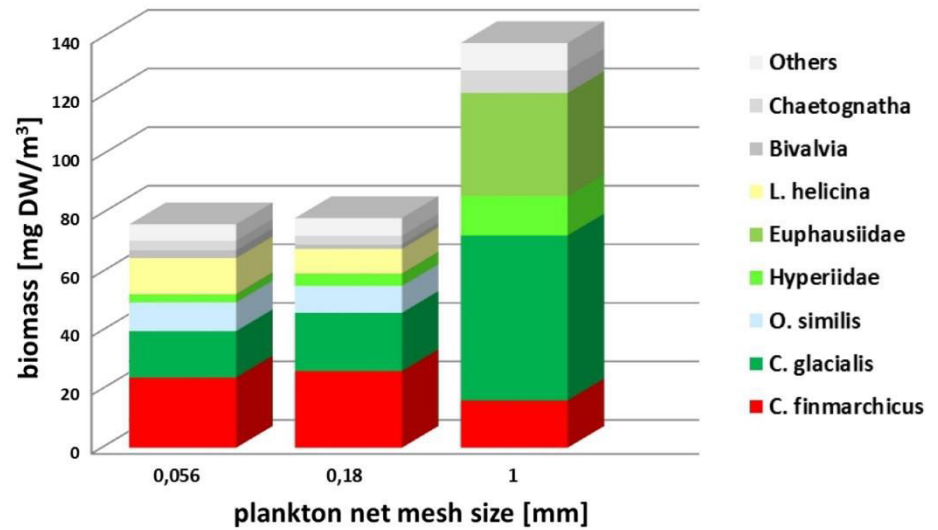
Front at the fjords entrance



## Fish food – chips

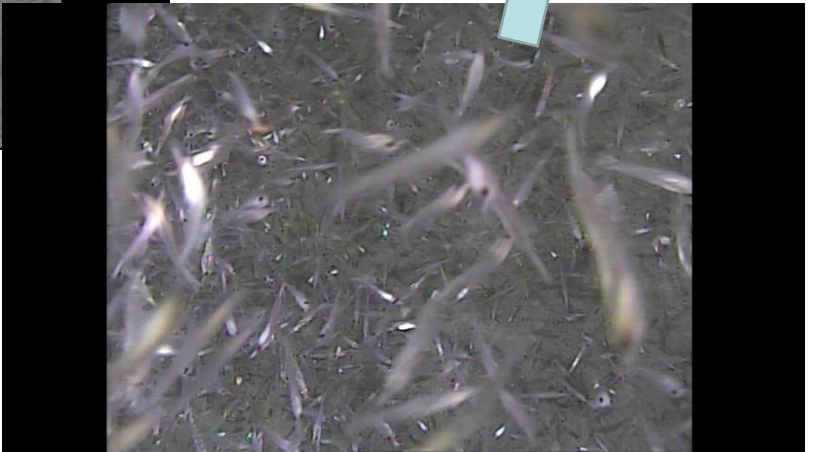
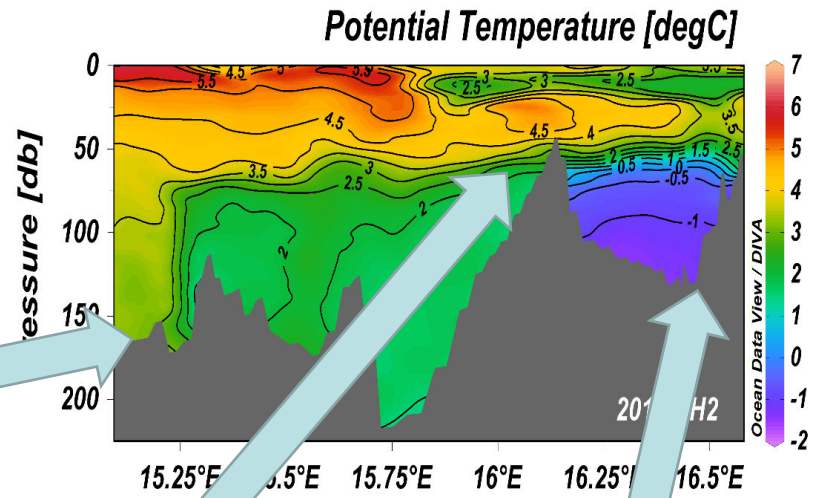
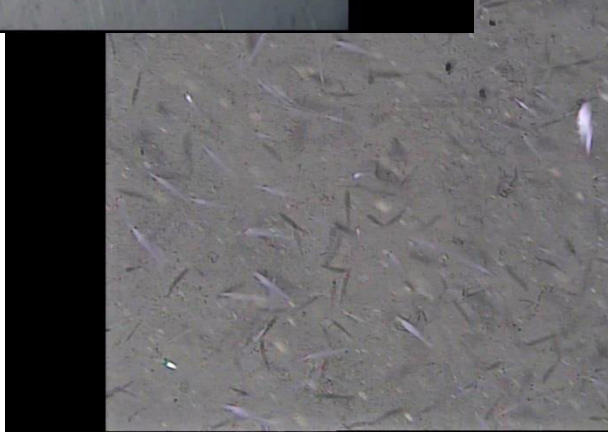
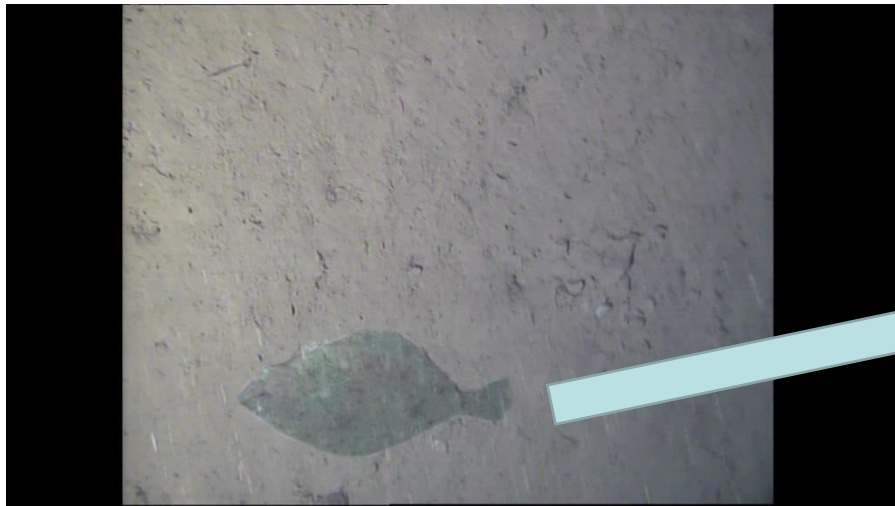


## Hornsund



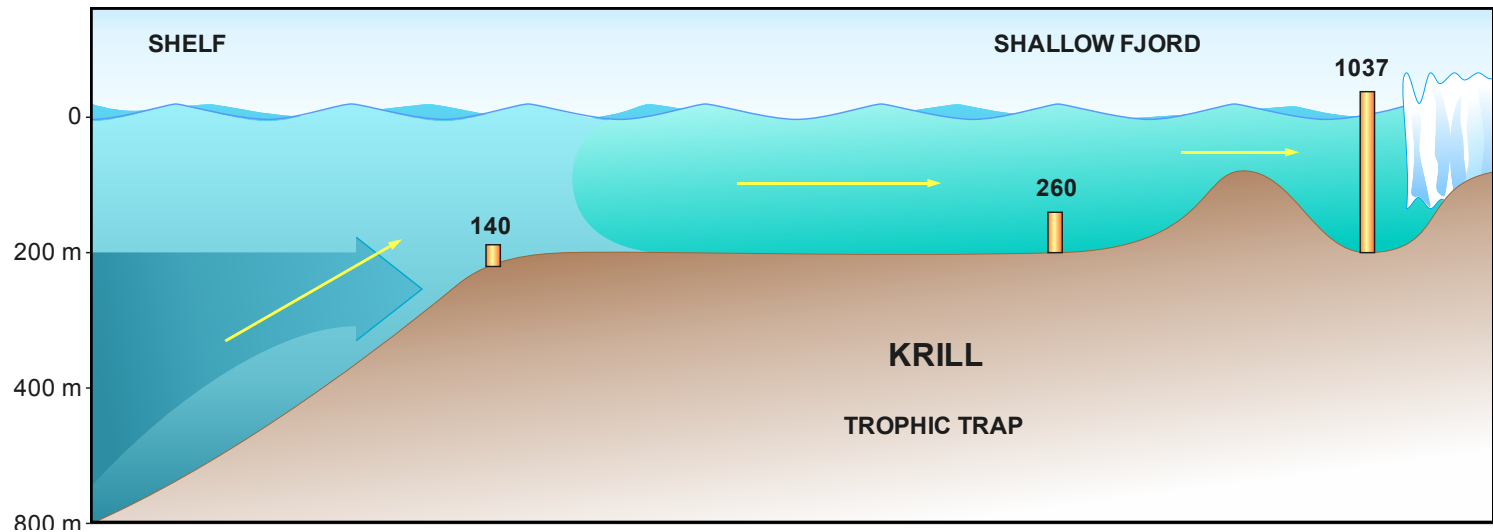
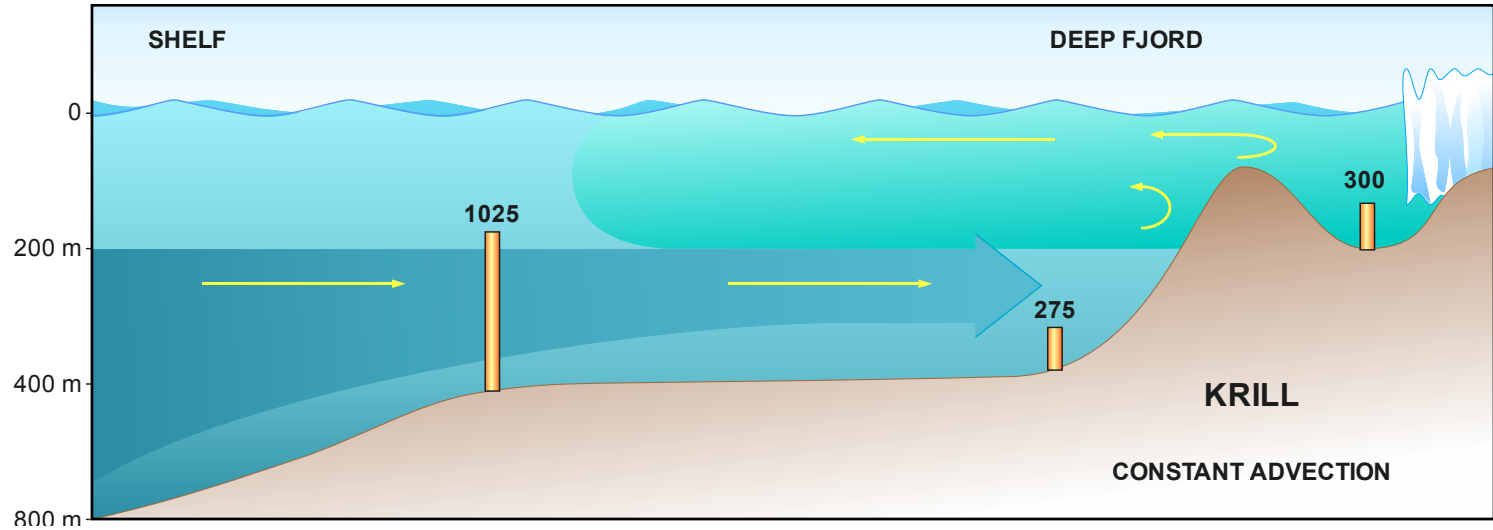
## Kongsfjord



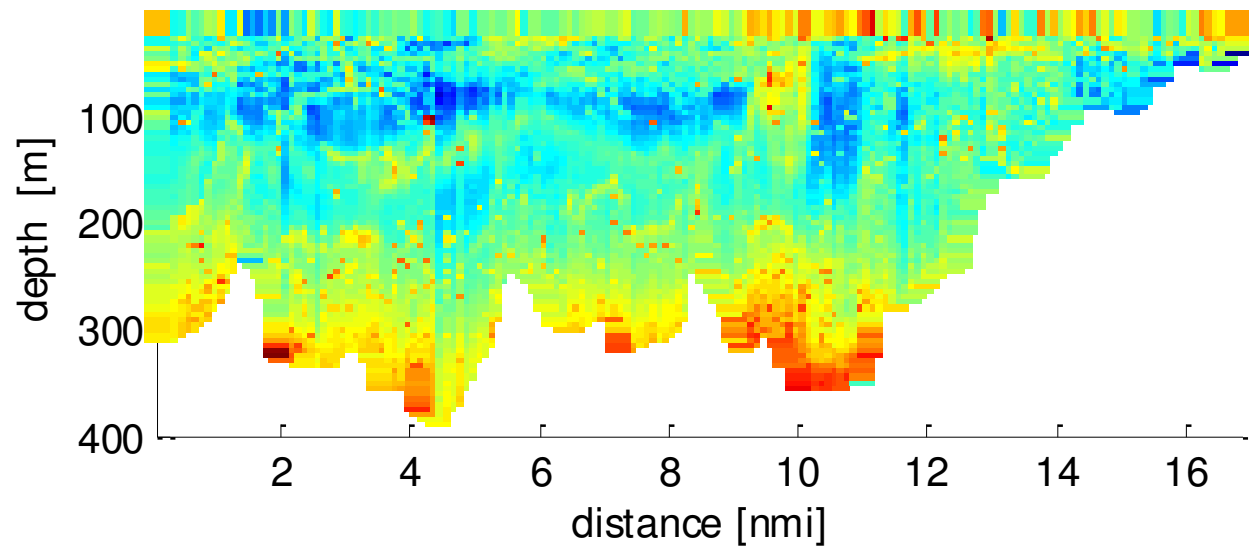


Hornsund, summer 2015, seabed photos

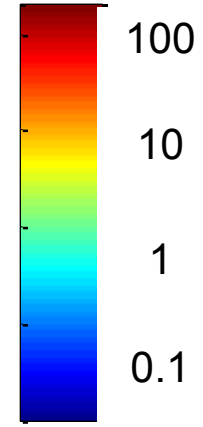
# Macroplankton biomass in water column (g ww/1000m<sup>3</sup>)



2013\_K

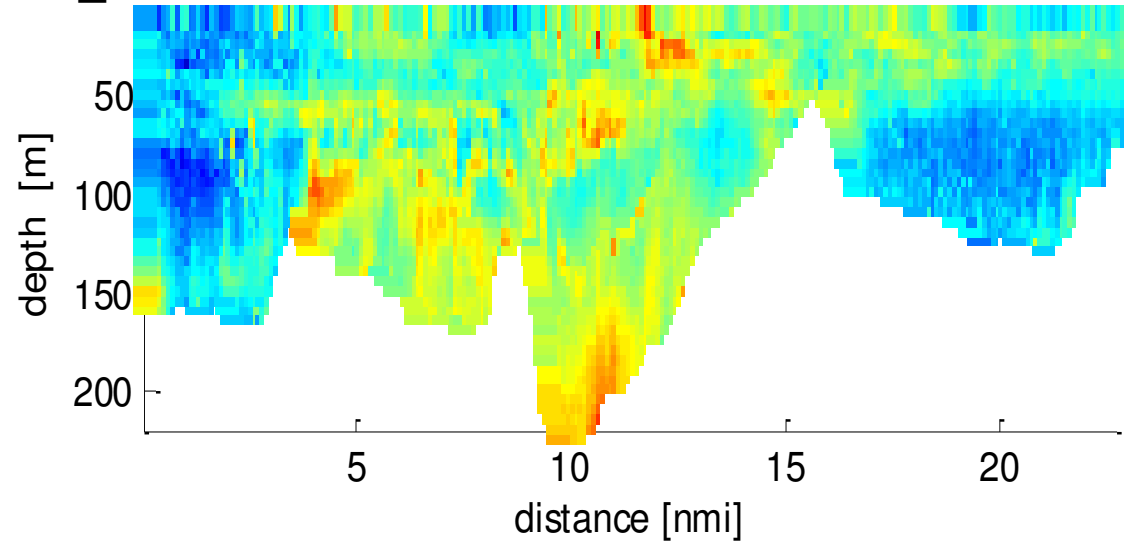


fish density  
g/1000 m<sup>3</sup>

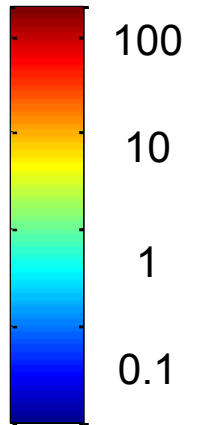


0.01

2013\_H

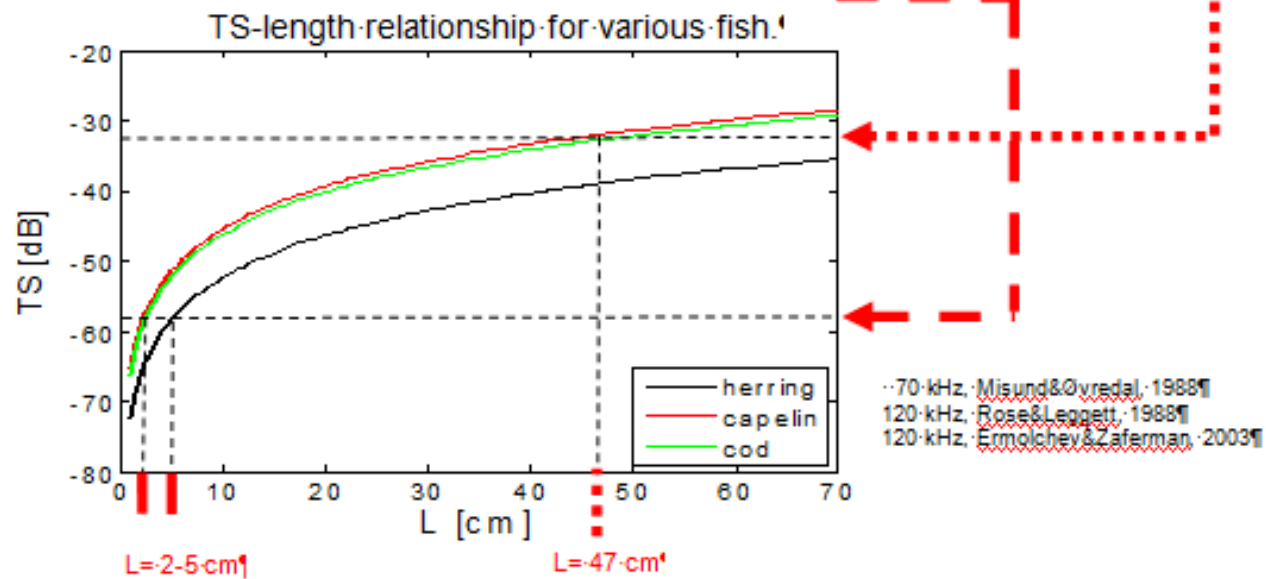
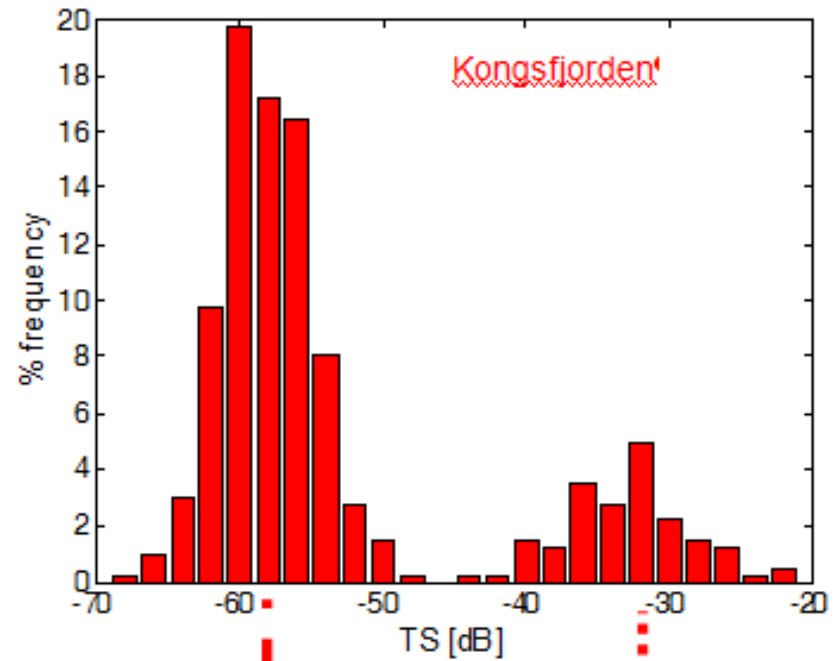
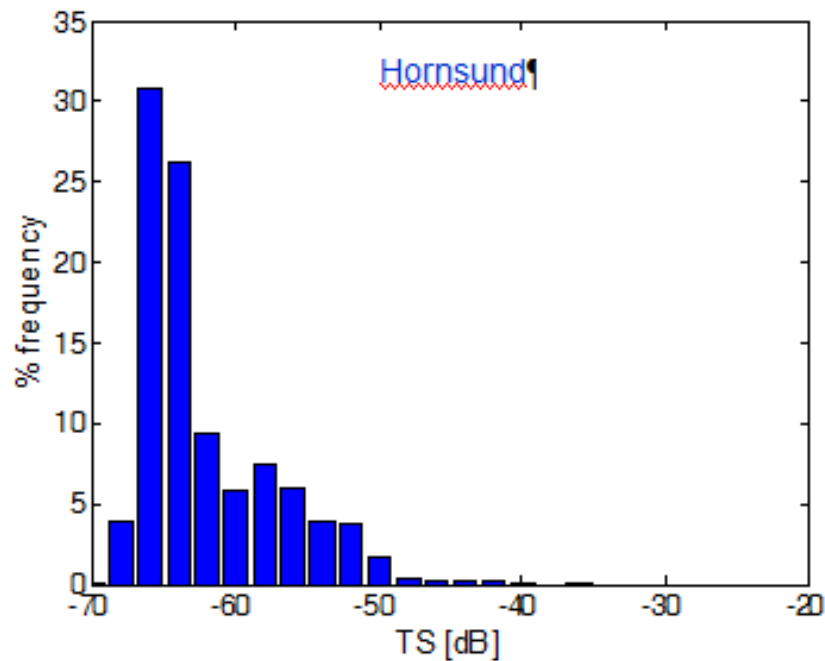


fish density  
g/1000 m<sup>3</sup>

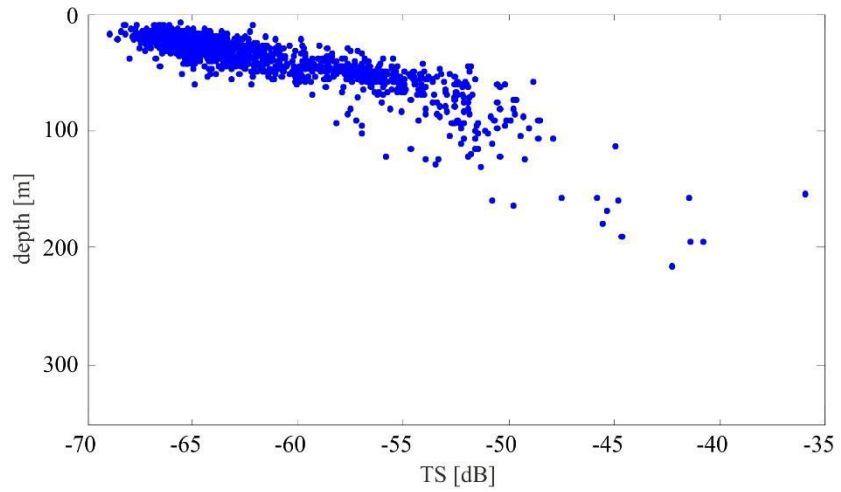


0.01

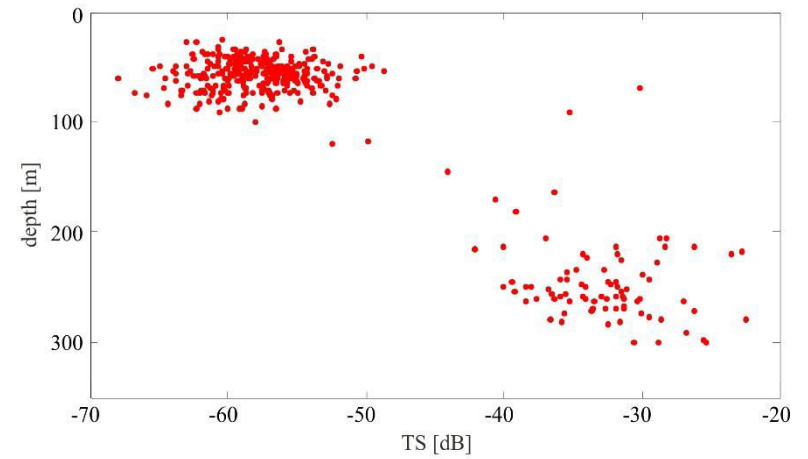
### TS-distribution-of-the-tracked-fish



Target strength and depth – small and big fish, TS = -50dB as threshold between two groups

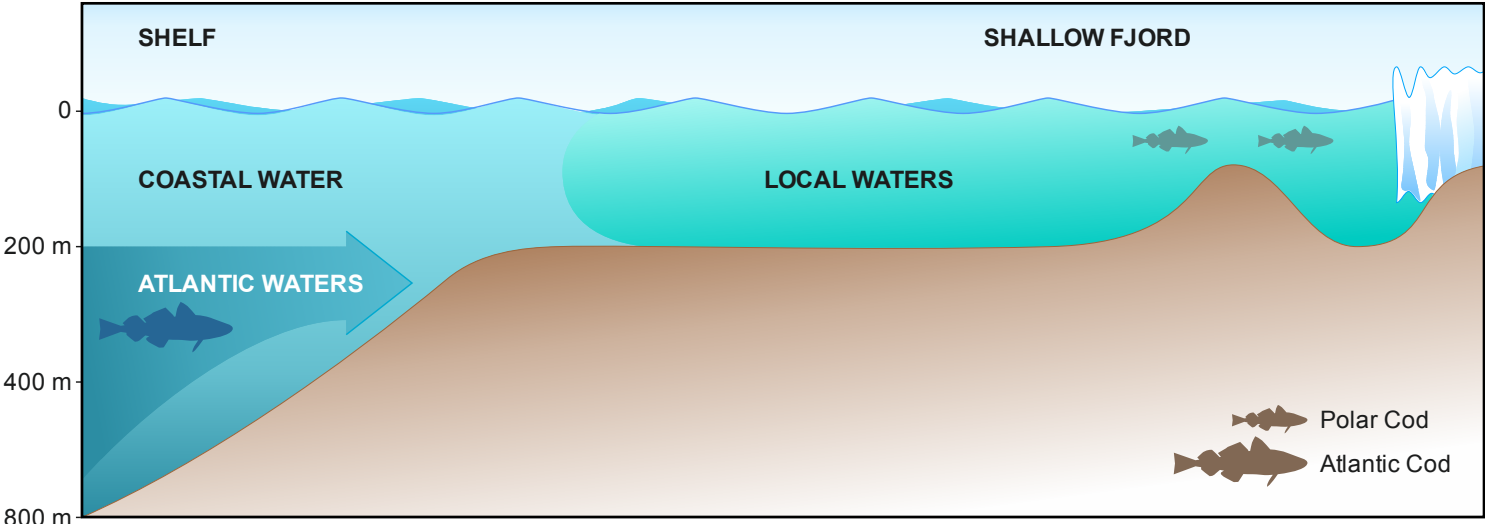
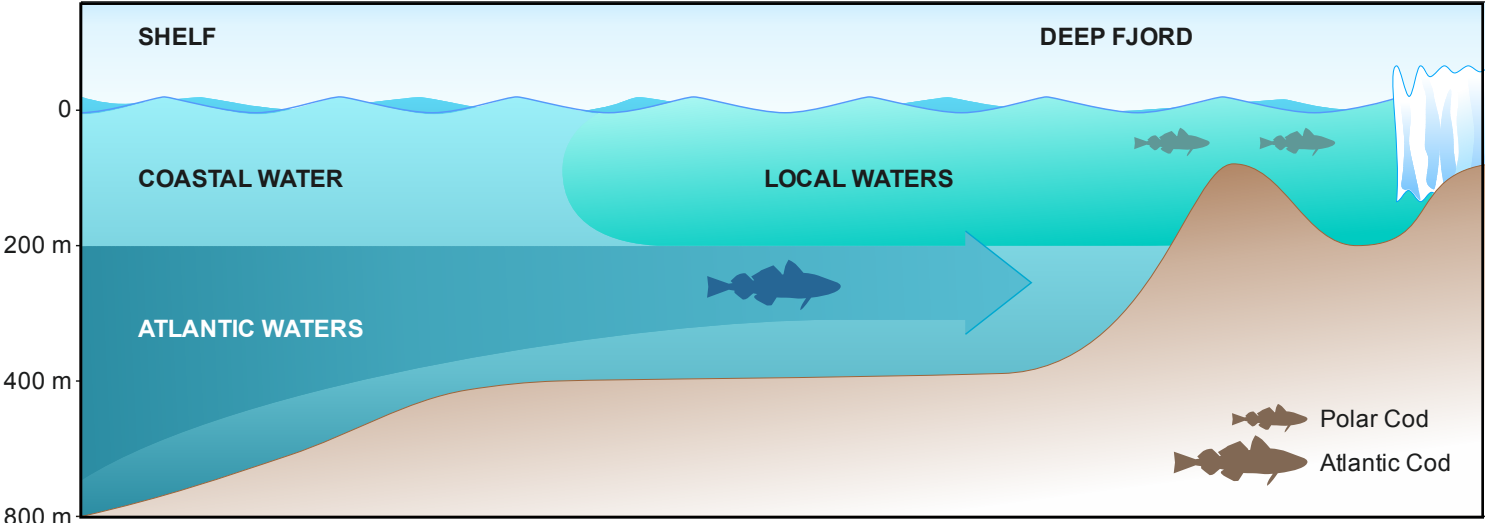


Hornsund



Kongsfjord

# scenario



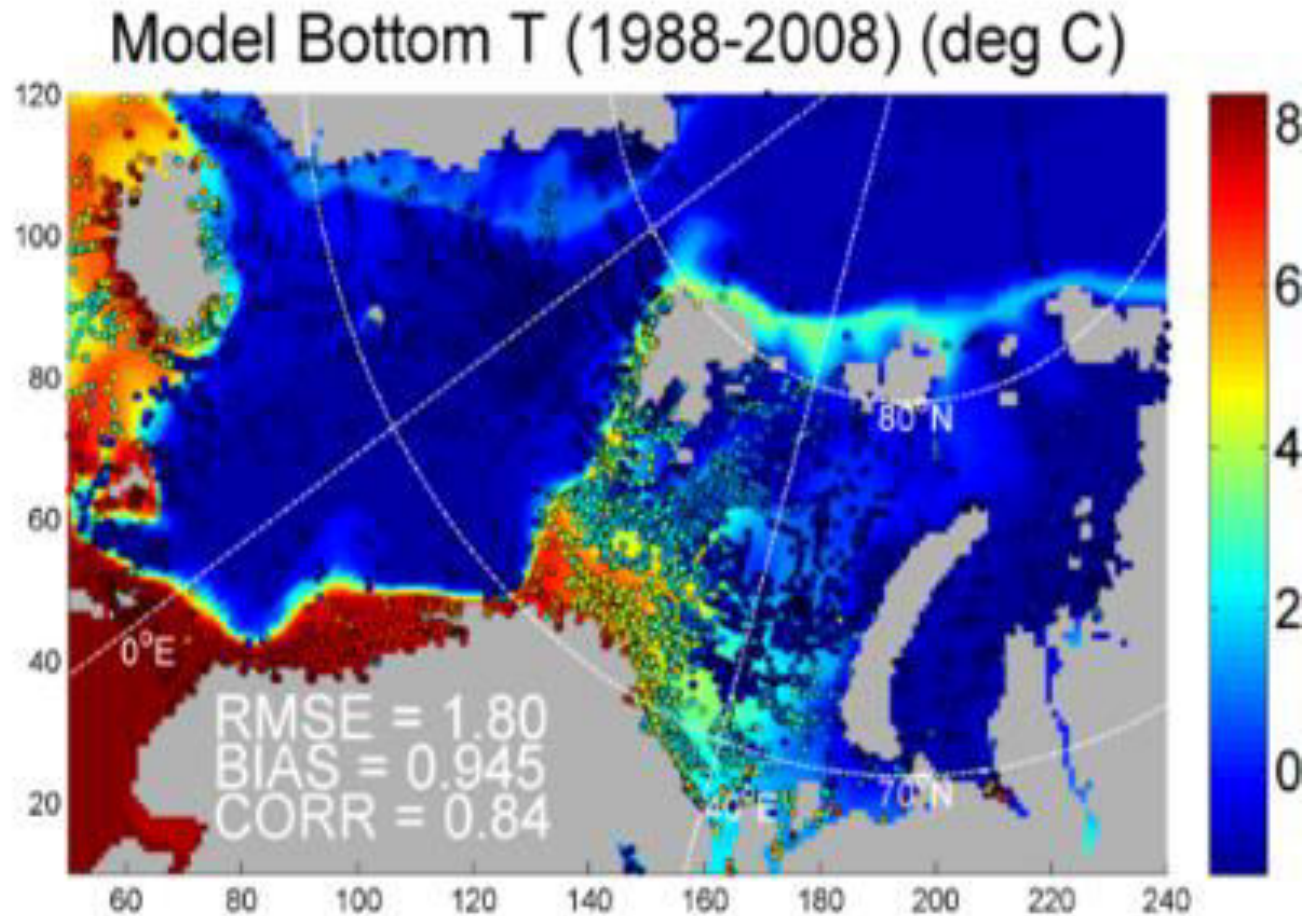
## Final remarks - relation of poikilothermic predator to temperature

Cod feeding at

Lofoten at 12°C – on fish- very active

Bjornoya at 8°C – on crabs, shrimps - active

Kongsfjorden at 4°C – on krill swarms - almost passive



Courtesy of Phil Wallhead (NIVA) and Dag Slagstad (SINTEF)