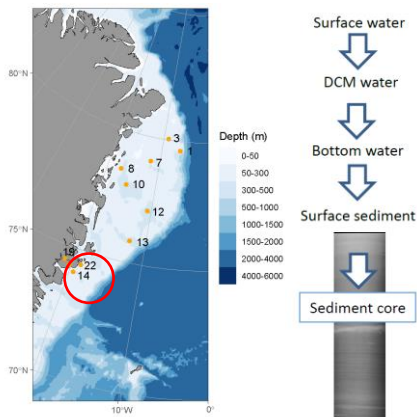


EGU21-8030 Sea ice protists in arctic marine sedaDNA records: origins, diversity, and vertical export of DNA from the sea surface to the seafloor

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Introduction: Marine **sedaDNA** has the potential to capture more of the arctic marine biodiversity compared to other approaches. However, **little is known about how well past communities are represented in marine sedaDNA**. The transport and fate of DNA, from surface waters to the seafloor and its eventual incorporation into marine sediment records is poorly understood. We characterized the vertical export of genetic material from unicellular protists by **amplicon sequencing the hyper-variable V4 region of the 18S rRNA** at three water depth and in surface sediments and we quantified amplicons from a single species, the **circum-polar sea ice dinoflagellate *Polarella glacialis*** in surface sediments and dated sediment core using **digital droplet PCR**.

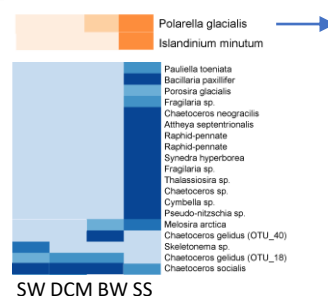
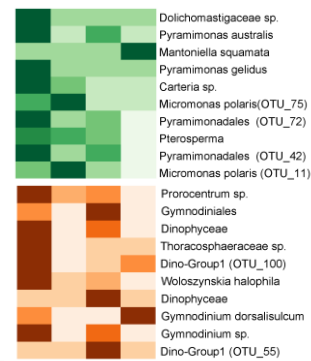
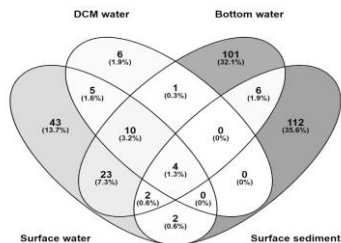
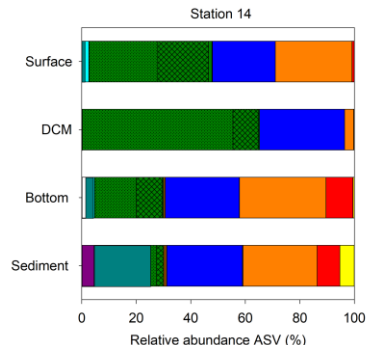
Study site Northeast Greenland Shelf



Sampling with RV DANA
September 2017
11 locations

Station 14 (this presentation)
Sirius Water Polynya
Water depth 341 m

Metabarcoding approach (modern DNA) targeting V4 region of the 18S rRNA, MiSeq Illumina sequencing, software DADA2 in Qiime2, classification with PR²



Quantifying amplicon sequencing approach (sedaDNA) targeting the ITS-1 gene region by species specific primers^A. Surface sediments and sediment core age model top 50 cm based on six radiocarbon dates.

