Collecting ice cores in mid November

End of December lake was mostly ice

Season 05/06

• Extreme snow rich season
• Ice core sample: Ice from a part of the lake that stayed frozen or at least two years
• Ice core: End of December only a small area at the west shore was ice free
• Physiochemical were more stable

RESULTS

• DGGE profiling shows:
  - a distinct difference between bacterial communities found in ice core samples and water samples
  - an increase in bands in deeper ice core sections related to freeze accumulation at the base of the lake
  - a difference in the community composition in the water column during the ice free period between the two seasons related to different meteorological and physiochemical conditions.
  - different band patterns for ice cores explained by the different age of the cores

• Gel compare cluster analyses highlight:
  - distinct cluster between different matrices (ice and water)
  - within each cluster band samples from each season are grouped

• Phylogenetic analyses:
  - Clones were closest related to β-Proteobacteria: genera Hydrogenophaga, Acidovorax, Rhodoferax, Bordetella, Herminiimonas
  - γ-Proteobacteria: genera Glaciecola, Shewanella, Rheinheimera, Rhodanobacter, Stenotrophomonas
  - ε-Proteobacteria: genus Acrobacter, Flavobacteria

Future work: We are in the process of statistical analyses of the transition period sequence data and their correlation to environmental conditions.

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