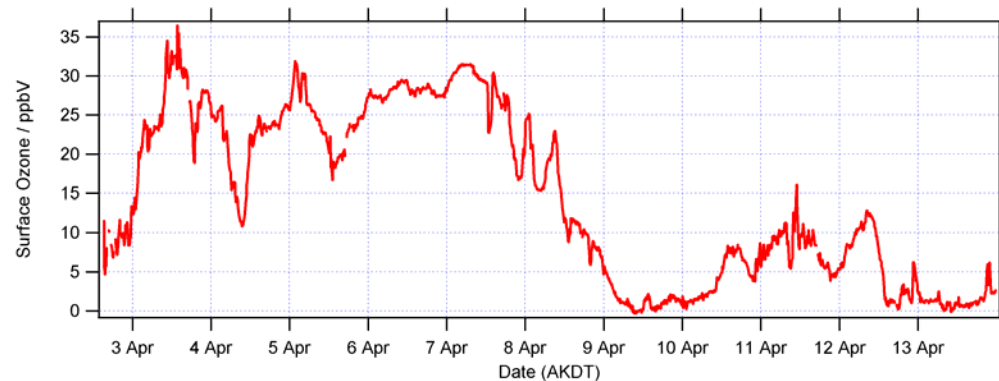


SNACS-mercury project at APLIS 07 ice camp

Goal: To sample snow in contact with the atmosphere to understand how salts migrate from the ocean into the ice and snow and are converted to reactive halogen gases that then cause mercury deposition. These snow samples will be analyzed for sea salts and mercury.

Dan Carlson sampling on thin first-year ice. Notice the brine that makes the footprints dark.



Gas-phase ozone measurements that put the snow samples into an atmospheric context.

Types of snow and ice sampled:

- Snow on thin (30cm) first-year ice
- Snow on old (175cm) first-year ice
- Snow on multi-year ice
- Frost flowers and brine



Frost flowers that grew on a recently refrozen lead.

We sampled:

56 discrete samples to investigate vertical structure of salts and mercury in the snow pack
336 horizontal spatial distribution samples to understand distributions of salts and mercury on the major exposed surfaces.

These samples will provide a much more complete picture of what salts are atmospherically accessible and how they lead to mercury deposition to the Arctic sea ice.

Bill Simpson and Dan Carlson, UAF, SNACS group, and the APLIS camp. Funding: NSF, CIFAR