

Subproject: Microbial atmospheric-terrestrial coupling driven by long distance transport and deposition

Actual field dates: 11 April – 3 May 2015
 Field site: Station Nord
 Number of man-days in the field: 20

Summary:

During the field campaign, we set up sampling equipment for bioaerosols at Flyger’s hut and in proximity of the station. Using two different ways to sample air, I collected 20 air samples for ice nucleation assays, nucleic acid analysis, enumeration of bacterial cells, and culturing bacteria. In addition, I collected snow samples on a transect going out ~50 km north from the research station, which will be used to study the deposition of bacterial cells in general and ice nucleating bacteria in particular. The campaign was continued during leg 2, when 13 additional air samples were collected. The difficulties were related to the extremely low concentrations of bioaerosols that we expected to find in the high Arctic. Thus the work had to be done in a very sterile and clean manner. In addition, there were difficulties with getting our equipment to work at low subzero temperatures. Overall, the campaign will provide us with unique data on the concentrations of bioaerosols in the Arctic that may be important for atmospheric processes, such as cloud formation, development, and lifetime. Having the first data of this kind will also be very useful for planning additional field campaigns at Villum Research Station as well as elsewhere in the Arctic.

Photos:

- Fig 1: Air sampling stations and snow sampling sites. Credit: Niels Nørgaard
- Fig. 2: The setup for collecting air samples in the field station. Credit: Tina Santl-Temkiv
- Fig. 3: Collecting air samples in the field station. Credit: David Babb

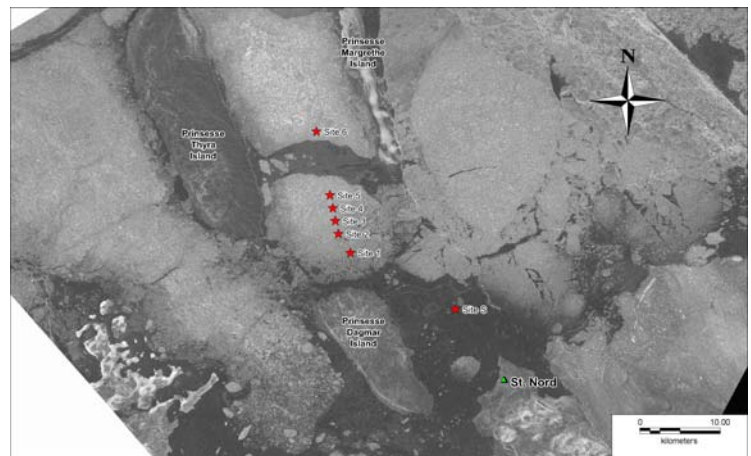
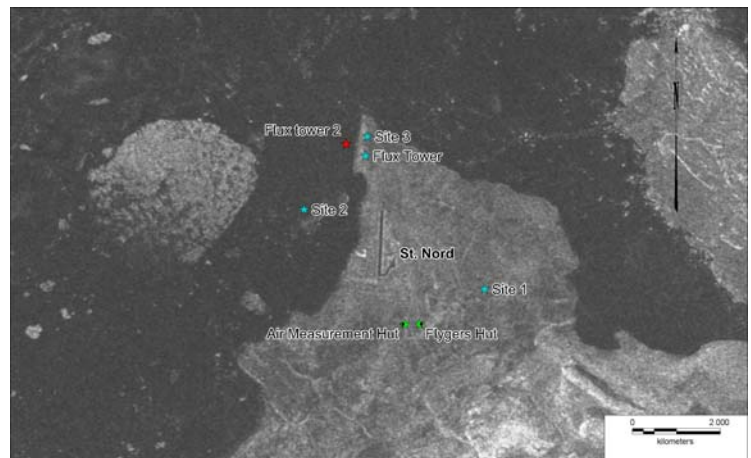


Figure 1



Figure 2

Participants:

Tina Santl Temkiv

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Figure 3