NorthGreen2017 – a marine research expedition off NE Greenland

From September 11 – October 1, 2017, the Danish research vessel '*Dana*' served as a platform for a 5576 km long, Danish-Canadian-Greenlandic-Italian-Norwegian multi-disciplinary research expedition off Northeast Greenland. The expedition combined research in oceanography/hydrography, bioscience, and geoscience in the area between 80 and 74°N. In total, 20 scientists and students from the participating countries partook in the cruise, in addition to 18 crew members. The cruise was funded by the Danish Centre for Marine Research and the Natural Science and Engineering Research Council of Canada.

The aim of the expedition was to study past (Last Glacial to Holocene) and current changes in ocean circulation including Arctic-North Atlantic water exchange, sea-ice extent, sediment transport, and freshwater discharge from the Greenland ice cap as well as the impact on biota, pelagic/benthic ecosystems, and microbial processes.

During the expedition a wide range of data and material was obtained for later analysis. A total of about 2200 km of surface-seismic (sub-bottom profiles) data were collected concurrently with acoustic Doppler current profiles (ADCP; measurement of water current velocities). Echo-sound data, Conductivity-Temperature-Depth profiles (CTD; measurements of temperature, salinity, fluorescence and oxygen content through the water column), on-the-way-CTD and turbulence measurements, water samples, and phyto- and zooplankton net samples were obtained from 29 different stations (Fig. 1). Surface sediments and sediment cores were also recovered using Rumohr lot and gravity corers from 15 stations. Although some analyses and sample preparations were conducted on board the ship, the vast majority of sample analyses and data generation and processing will be performed on land at the participating institutions.

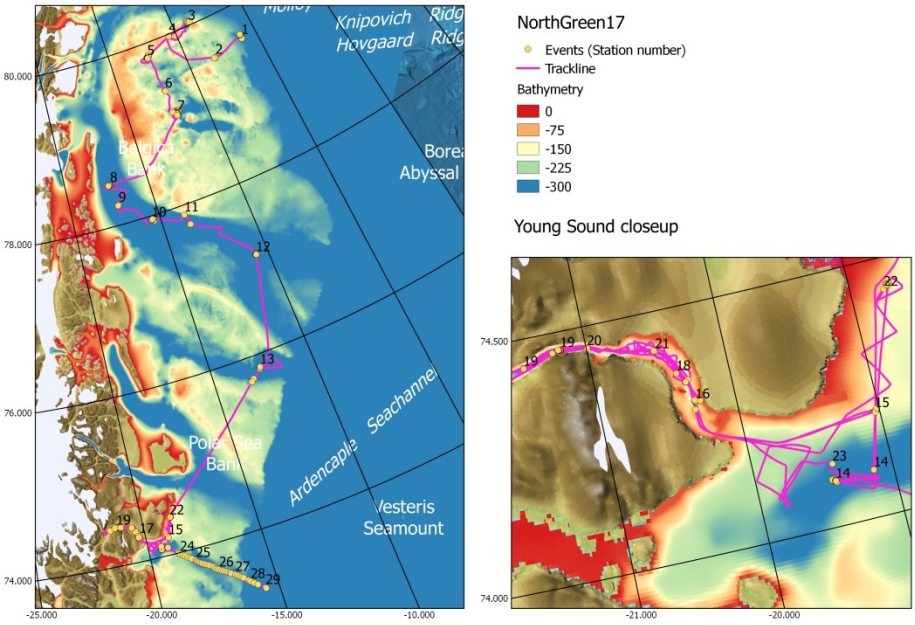

Fig. 1. Cruise track, excluding transits to/from port. The purple line shows the transits between stations, during which Innomar® shallow seismics, ADCP, and echo-sound data were collected. Yellow dots show the location of stations for collection of CTD, water samples, plankton net, and/or sediments. The bathymetrical map is based on the General Bathymetric Chart of the Oceans (GEBCO; https://www.gebco.net/).