

The objective of the biogeochemical (BGC) Argo floats is to study the dynamics of phytoplankton blooms, year-long high-frequency time series of phytoplankton phenology and its drivers in Baffin Bay. The BGC Argo floats are the complementary tool to remote sensing and oceanographic cruises for these studies.

Takuvik is deploying a fleet of PROICE floats (biogeochemical Argo floats) dedicated to navigate in ice infested waters : 4 floats in 2016, 7 in 2017, 2 in 2018, 2 in 2019 and 5 planned in 2020. Some are re-fitted floats after recovery. When drifting under ice the buoys avoid the hit the ice and come to surface only when in open water (Fig. 1). The floats transmit the data via Iridium when surfacing. Data collected are available in real time in Argo database (<ftp://ftp.ifremer.fr/ifremer/argo/dac/coriolis/>)

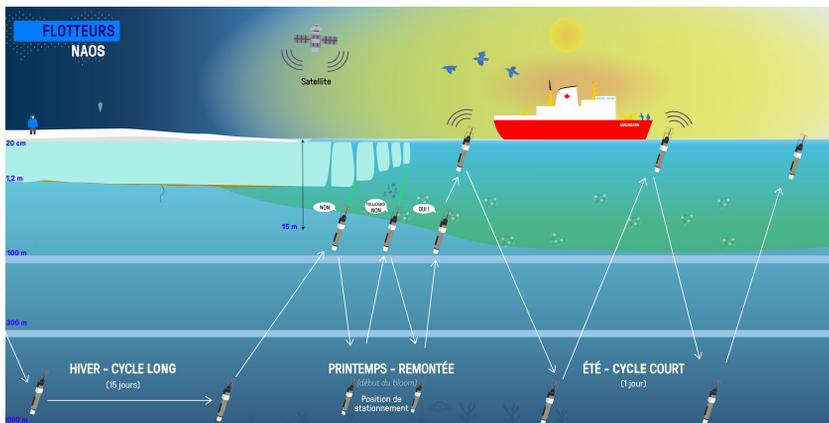


Figure 1. Illustration of bio-Argo buoys operating in partly ice-covered ocean in Baffin Bay

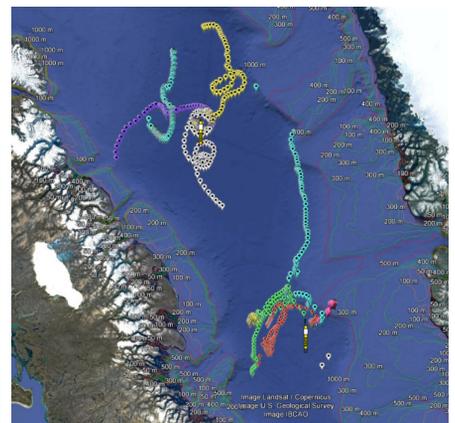


Figure 2. Trajectories of bio-Argo floats (PRO-ICE) deployed in summer 2017-2019

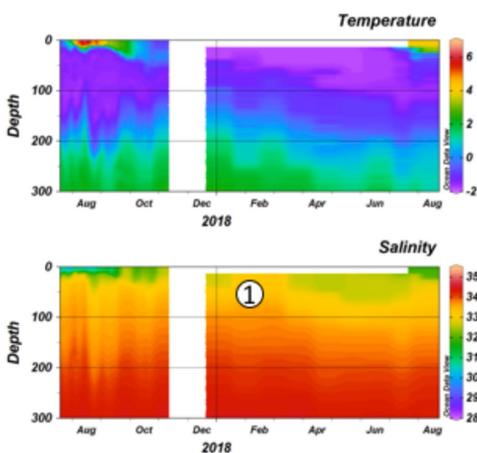


Figure 3 One-year time series (July 2017 to August 2018; preliminary data) for temperature and salinity

The unprecedented data collected by the PRO-ICE floats provide in situ data for physical observations, modelling, and also biology. All this will contribute to long-term initiatives. More information at <http://bgc-argo.ocean.dal.ca/baffinbay.html>