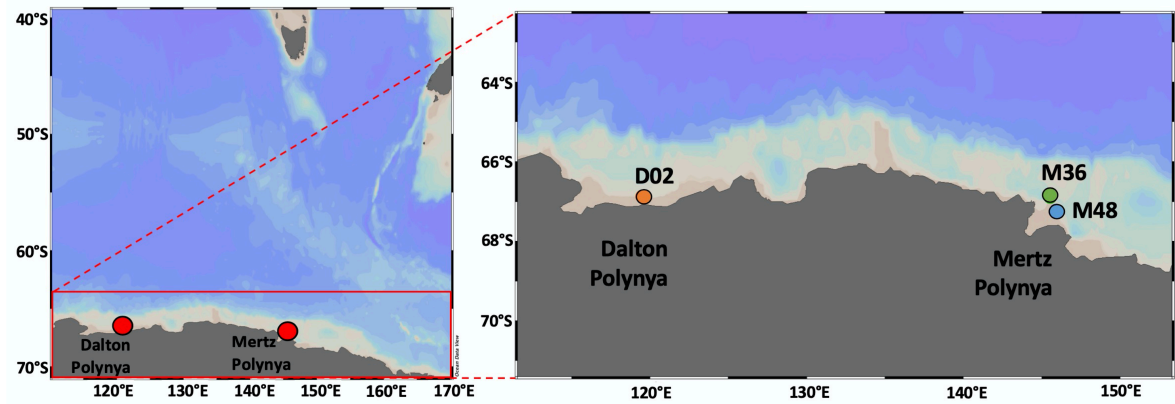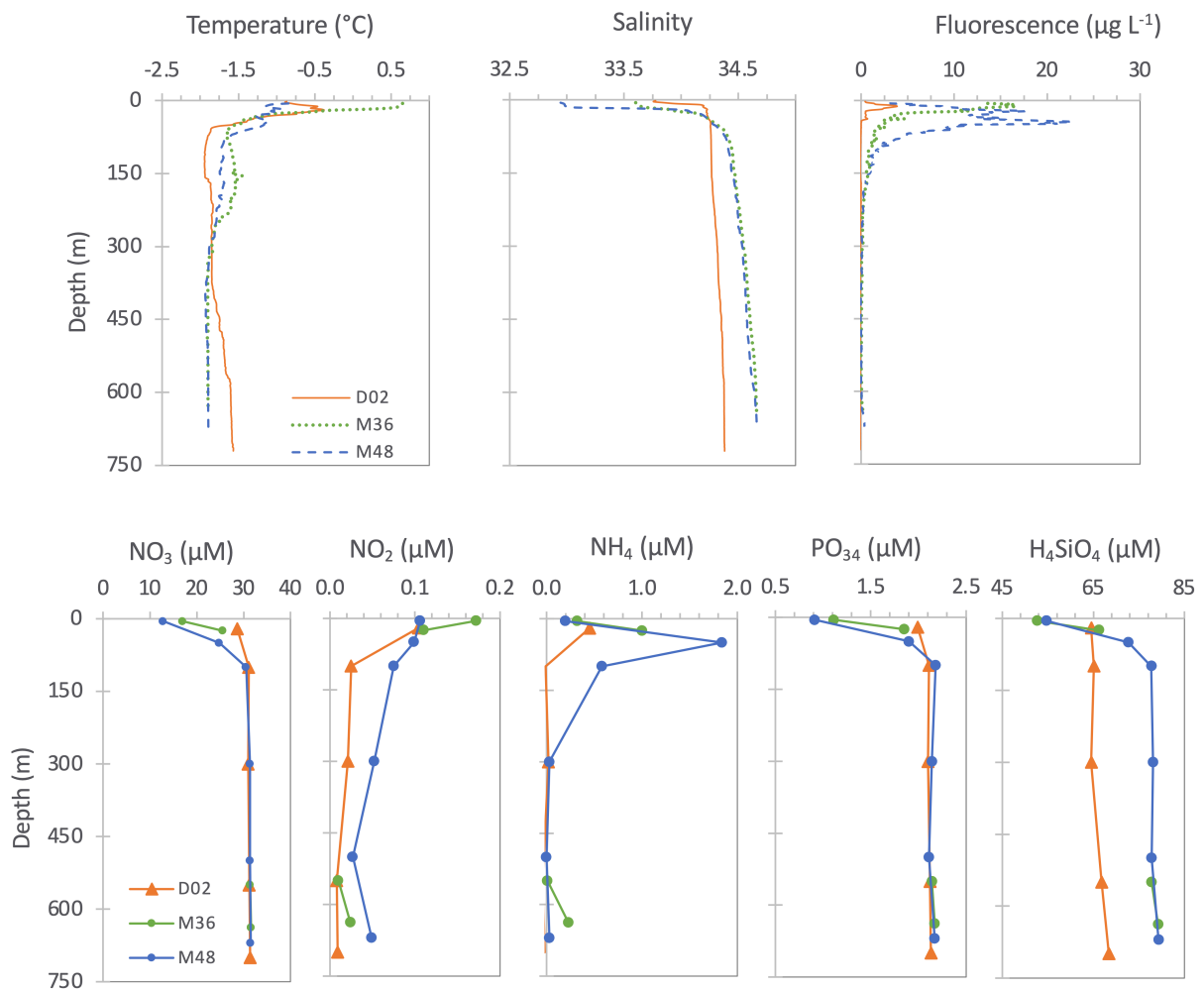**Suppl. Fig. 1:** A) Map of the location of the polynyas and the sampled station. B) Profiles of temperature, salinity, fluorescence, and inorganic nutrients' concentrations at the three study sites.

A)

B)

Suppl. Figure 2. Contribution of the main bacterial genera (>1% of the sequences in the dataset) across stations, depths and size fractions. The corresponding phyla and classes are indicated in each case: Thaum, Thaumarchaeota; Actin, Actinobacteria; Bact, Bacteroidetes; Planc, Planctomycetes; Prot, Proteobacteria. Alph-, Gam-, Alphaproteobacteria and Gammaproteobacteria; Flav, Flavobacteriia; MGI, Marine Group I.