**Metadata S2**

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Exploring controls on the timing of the phytoplankton bloom in western Baffin Bay, Canadian Arctic

Elementa: Science of the Anthropocene

* Description of:

**Data S2: Forcing fields for the nutrient concentrations between January 1 and May 15.**

no3.bin, po4.bin and sioh4.bin are the nutrient concentrations between January 1 to May 15 for the reference simulation (EXP-0). They are also the *in situ* concentrations at the Qikiqtarjuaq sea ice camps between mid-April and the end of May in 2015 and 2016 (67.4797°N, -63.7895°E). The original data is available in the dataset Massicotte et al. (2019). https://doi.org/[10.17882/59892](https://doi.org/10.17882/59892). The paper related to this dataset is Massicotte et al. (2020). <https://doi.org/10.5194/essd-12-151-2020>. The code that generated the files no3.bin, po4.bin and sioh4.bin from this original data is not publicly available.

no3\_times0\_25.bin, no3\_times0\_50.bin, no3\_reference.bin, no3\_times2\_00.bin and no3\_times4\_00.bin are the forcing fields for nitrate concentration between January 1 and May 15 for the sensitivity experiment EXP-3.

Each binary file contains 75 values each consisting in a four-bytes float in big endian. Their units are mM=mmol m-3. These 75 values correspond to the depth profile of the configuration available in the variable RC of grid.t001.nc.

* Files:
  + no3\_reference.bin: reference nitrate multiplied by 1.
  + no3\_times0\_25.bin: reference nitrate multiplied by 0.25.
  + no3\_times0\_50.bin: reference nitrate multiplied by 0.50.
  + no3\_times2\_00.bin: reference nitrate multiplied by 2.
  + no3\_times4\_00.bin: reference nitrate multiplied by 4.
  + no3.bin: reference nitrate.
  + po4.bin: reference phosphate.
  + sioh4.bin: reference silicic acid.