
Dataset name: iCUPE Dataset (DS) from Deliverable 2.1.1:

Dataset of anthropogenic contaminants in snow from polar regions

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The produced dataset (in MS Excel format) contains concentrations of mercury, trace elements and organic contaminants in snow samples collected in the Ny-Alesund area (Svalbard - Norway) (78.917° N, 11.933° E) and from the Antarctic Plateau, Dome C (75.103°S, 123.35°E). The Arctic sampling sites are reported in Figure 1. The concentrations for trace elements and mercury are in ngg⁻¹ while for the organic contaminants they are reported in ngL⁻¹.

The inorganic contaminants dataset reports concentration of Hg, Trace elements and Black Carbon in Arctic and Antarctic site. The Arctic sites are subdivided in annual snow pack on the glacier and surface snow sampling close to the Gruvebadet Aerosol Laboratory. In Antarctica mercury concentrations in surface snow are also reported.

The organic contaminants dataset reports the concentrations of Polycyclic Aromatic Hydrocarbons (PAHs) in surface snow samples collected close to the Gruvebadet Aerosol Laboratory (78.91622°N, 11.89536°E, Ny-Alesund, Norway). Samplings were performed from 4 October 2018 to 13 May 2019, obtaining a total of 35 samples, encompassing the entire winter season with an approximately weekly resolution. Total PAH (sum of naphthalene, acenaphthylene, acenaphthene, fluorene, phenanthrene, anthracene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(k) fluoranthene, benzo(a)pyrene, benzo(ghi)perylene, indeno(1,2,3-c,d)pyrene and dibenzo(a,h)anthracene) concentrations range from 0.8 to 37 ng L⁻¹. Individual PAHs

were mean blank corrected and average percentage abundances in the samples are reported in the dataset.

The organic contaminant level in the Antarctic plateau are not included in this dataset but can be estimated from the surface samples shallow core concentrations present in the D.2.1.2 dataset.

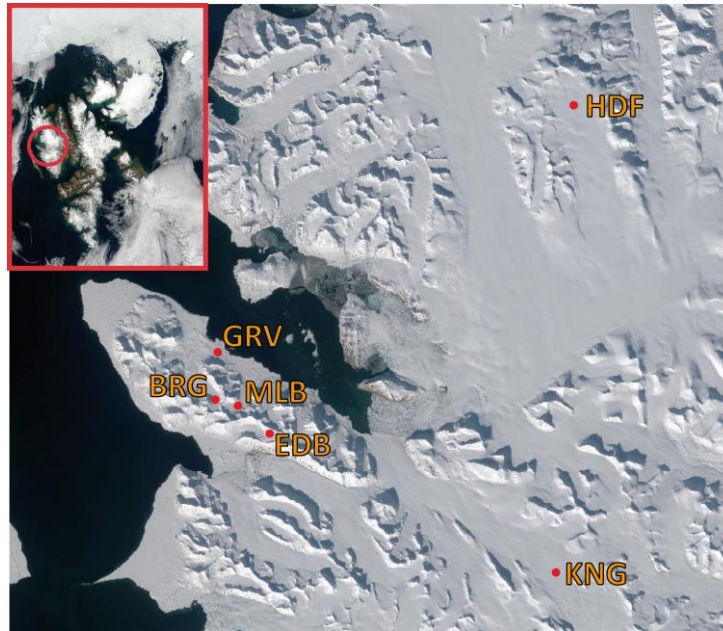


Figure 1. Sampling location in the Ny-Alesund area, Svalbard. All acronyms are explained in the excel file “*Sampling location & description*”.