

Project acronym: POLAAR

Project title: Pollination Across the Arctic

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Discipline: Earth Sciences & Environment

Station(s): KILPIS (Finland), ZAC (Greenland), SVERDRUP (Svalbard), RIF (Iceland), Finse (Norway)

As a key measure of biotic interaction structure and strength, we will focus on plant-pollinator interactions involving plants in genus *Dryas* (Rosaceae). This taxon has been shown to occupy a key position in Arctic interaction webs. By targeting five INTERACT infrastructures (Kilpisjärvi, Finse, Rif, Zackenberg, Sverdrup) across a latitudinal gradient, and by resolving local variation at each site, we will resolve a series of patterns in plant-pollinator interactions, of direct importance to the pollination function. At each site we will establish plots for counting flowers and flower visits and catching pollinators with nets and sticky traps.

Specifically, we will ask how the structure and diversity of pollinator communities varies across latitudes, and how this translates into:

- large-scale turnover in plants, pollinators and their interactions as a function of latitude and of the distance between sites
- different ways *Dryas* interacts with pollinator species across latitudes
- different ways the same pollinator interacts with other pollinator species and *Dryas* across latitudes
- overall pollinator visits per plant individual
- total *Dryas*-specific pollen carried by pollinator community
- the general level of overlap in the pollinator fauna among plants (reflecting competition for pollinators among plants, and influence of potentially harmful heterospecific pollen)