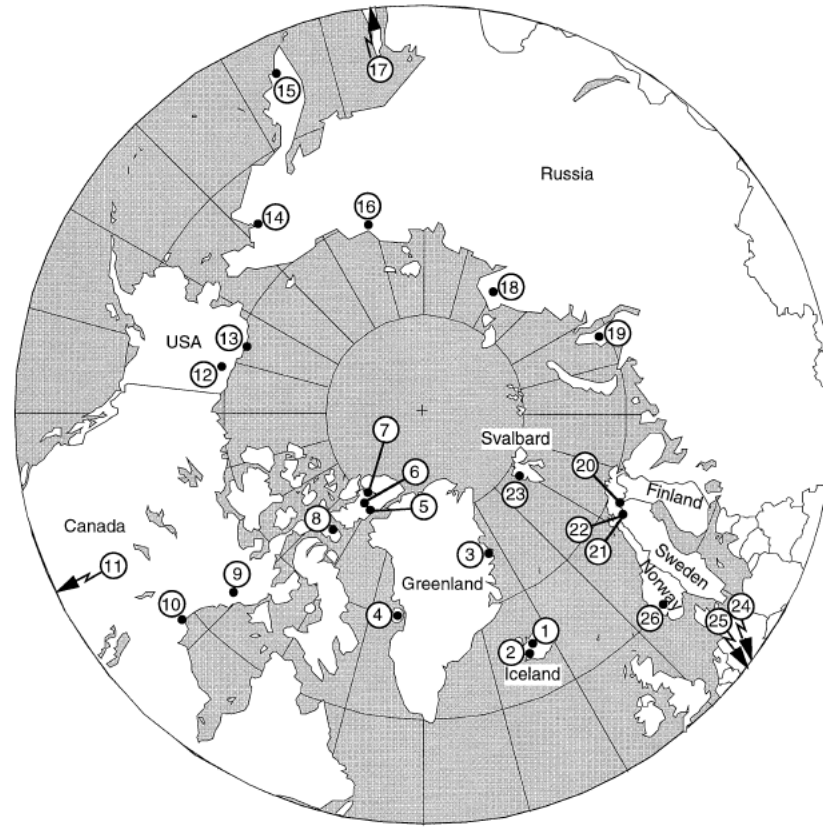


ITEX – International Tundra (and Taiga) experiment

- Initiated in 1990
- Started with 7 sites – at present 26 sites (41 highest?)
- Open network - not exclusively arctic sites



- | | |
|-----------------------------|----------------------------|
| 1 Audkuluheidi, Iceland | 14 Anadyr, Russia |
| 2 Thingvellir, Iceland | 15 Petropavlovsk, Russia |
| 3 Zachenberg, Greenland | 16 Lower Kolyma, Russia |
| 4 Disko Island, Greenland | 17 Taisetsu Mts., Japan |
| 5 Alexandra Fjord, Canada | 18 Taimyr, Russia |
| 6 Sverdrup Pass, Canada | 19 Yamal, Russia |
| 7 Hot Weather Creek, Canada | 20 Kilpisjärvi, Finland |
| 8 Truelove Lowland, Canada | 21 Abisko, Sweden |
| 9 Baker Lake, Canada | 22 Latnjajaure, Sweden |
| 10 Churchill, Canada | 23 Ny-Ålesund, Svalbard |
| 11 Niwot Ridge, USA | 24 Val Bercla, Switzerland |
| 12 Toolik Lake, USA | 25 Furka Pass, Switzerland |
| 13 Barrow-Atkasuk, USA | 26 Finse, Norway |

ITEX-manual 1996

- „The goal of the International Tundra Experiment (ITEX) is **to understand the response of tundra plant species through simple manipulation and transplant experiments to be conducted at multiple arctic and alpine sites.**“

- Climate warming the main emphasis
- OTC – Open top chambers for warming
- Vegetation analysis standard at most sites
- Several synthesis-papers been published with accumulated data - all kept at a common database
- Metadata available at the projects homepage:
<http://www.geog.ubc.ca/itex/>

Target species

- **Group 1A (circumpolar, main target species)**

- *Carex stans* (*C. aquatilis* ssp. *stans*)
- *Cassiope tetragona*
- *Dryas integrifolia* / *octopetala*
- *Eriophorum vaginatum* (alt. *E. triste*)
- *Oxyria digyna*
- *Polygonum viviparum*
- *Ranunculus nivalis*
- *Salix arctica* / *herbacea* / *polaris* / *reticulata*
- *Saxifraga oppositifolia*
- *Silene acaulis*

- **Group 1B (additional species)**

- *Acomastylis rossii*
- *Bistorta bistortoides*
- *Carex bigelowii*
- *Diapensia lapponica*
- *Huperzia selago*
- *Hylocomium splendens*
- *Papaver radicum*
- *Pedicularis lanata* (incl. *P. dasyantha*)

- PHENOLOGICAL DATES (day numbers)

- P1: Date snow-free
- P2: First leaf unrolls (original set of plants)
- P3: Inflorescence appears between sheath (=ochrea; original set of plants)
- P4: First flower open (original and supplementary plants)
- P5: First bulbil shed (drops off when touched; original and supplement plants)
- P6: First seed dispersal (optional, since rarely observed sexual reproduction)

- QUANTITATIVE MEASUREMENTS

- Q1: Length of inflorescence stalk (at full flower; from ground to top of raceme, in mm)
- Q2: Width of largest leaf (in mm)
- Q3: Number of leaves per individual
- Q4: Number of bulbils per shoot
- Q5: Number of flowers per shoot
- Q6: Relative proportion of bulbils ($Q4 / [Q4 + Q5]$)
- Q7: Color of bulbils (make up your own, site-specific color scale)
- Q8: Mean bulbil weight (mean \pm SD, in mg); optional

Phenology data available at ACADIS – Advanced Cooperative Arctic Data & Information Service (<https://www.aoncadis.org/>)