

## The phylogeny of phenology: Is Arctic plant phenology evolutionary conserved?

- Challenge: incorporate into a single hierarchical Bayesian framework phylogeny, phenology, and environmental data.
- Controlling for site effects (latitude, elevation, climate, soil, etc.) is of utmost importance to have a fair look into phenological differences.
- In *Eriophorum* timing of senescence tends to vary across ecotypes – differences in the sensitivity to photoperiod.
- Stratification as a way to control for latitude.
- There should be a measure of intraspecific variation in phenological traits: by modeling how phenological traits change along environmental gradients we could control for ITV in these traits by using marginal estimates across species (what these trait values would be at a given median latitude).
- Additional life-history traits: seed size, pollination/dispersal modes, herbivory resistance/tolerance, plant height, pollen vs. seed risk, clonal growth, reproductive to vegetative mass ratio, etc.
- Use intensive data sampling from one site to look more closely into genetically controlled phenological traits.