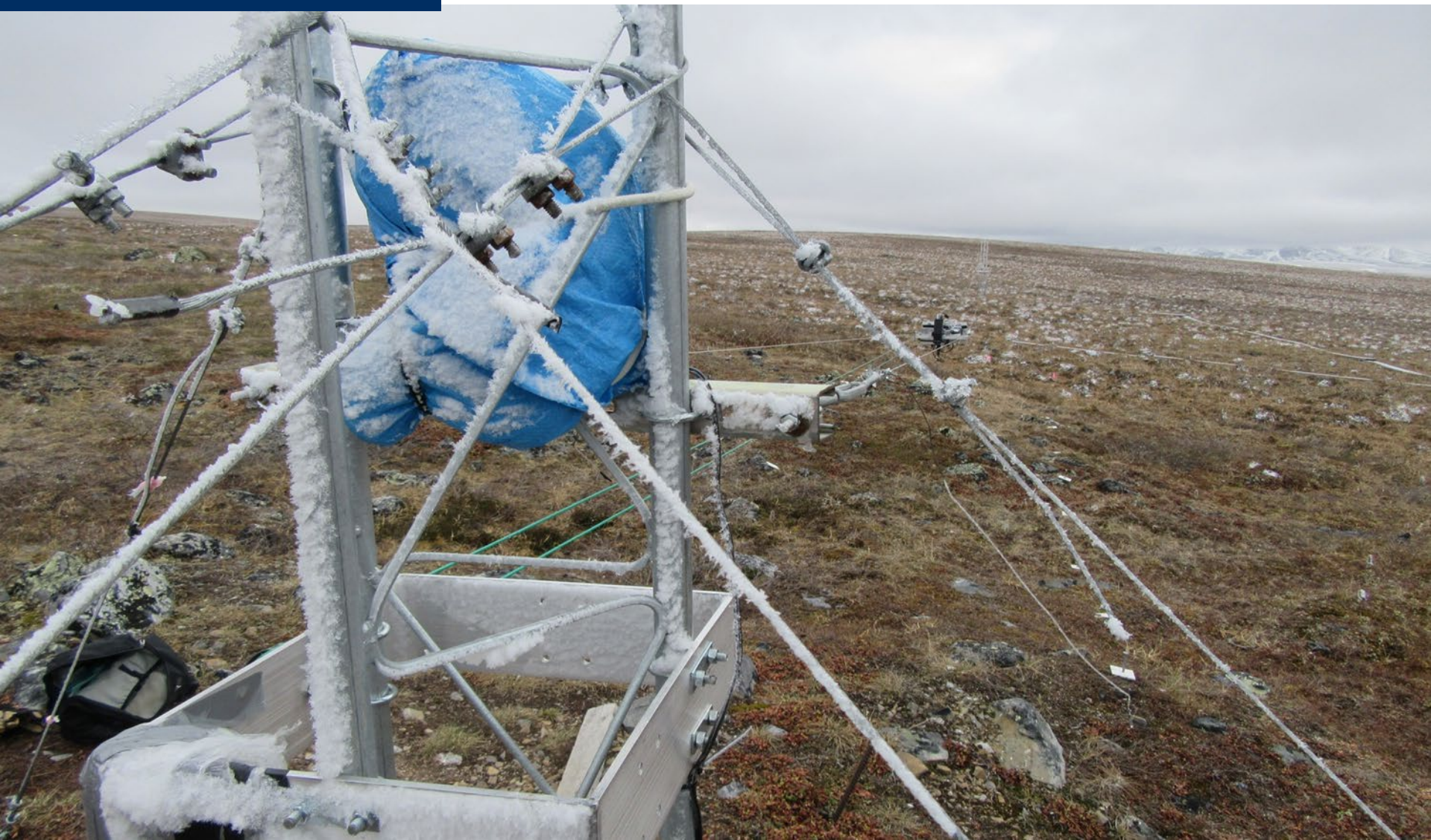
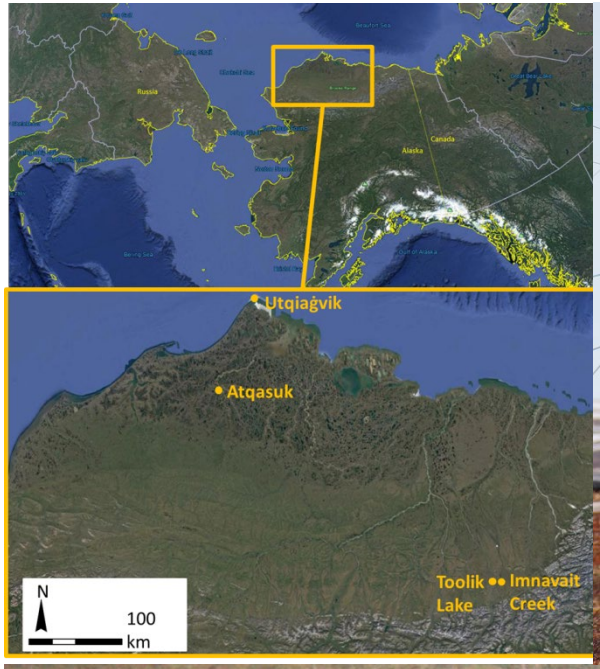
Core measurements by FIU





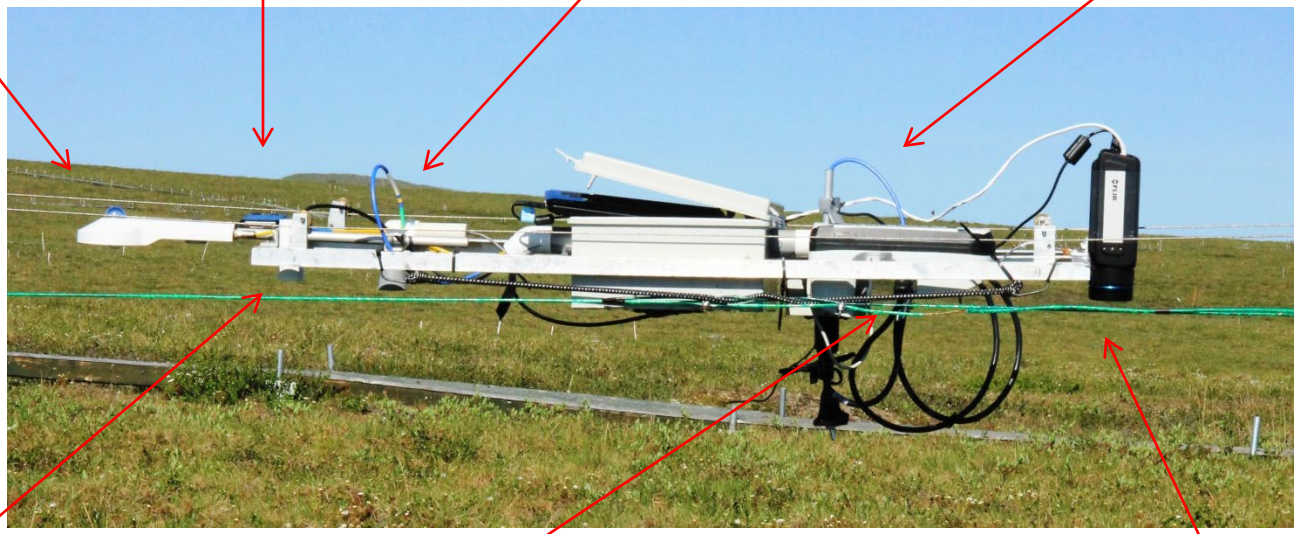
Four MISP transects
- Barrow
- Atqasuk
- Imnavait Creek
- Toolik Lake

Measurements since 2011

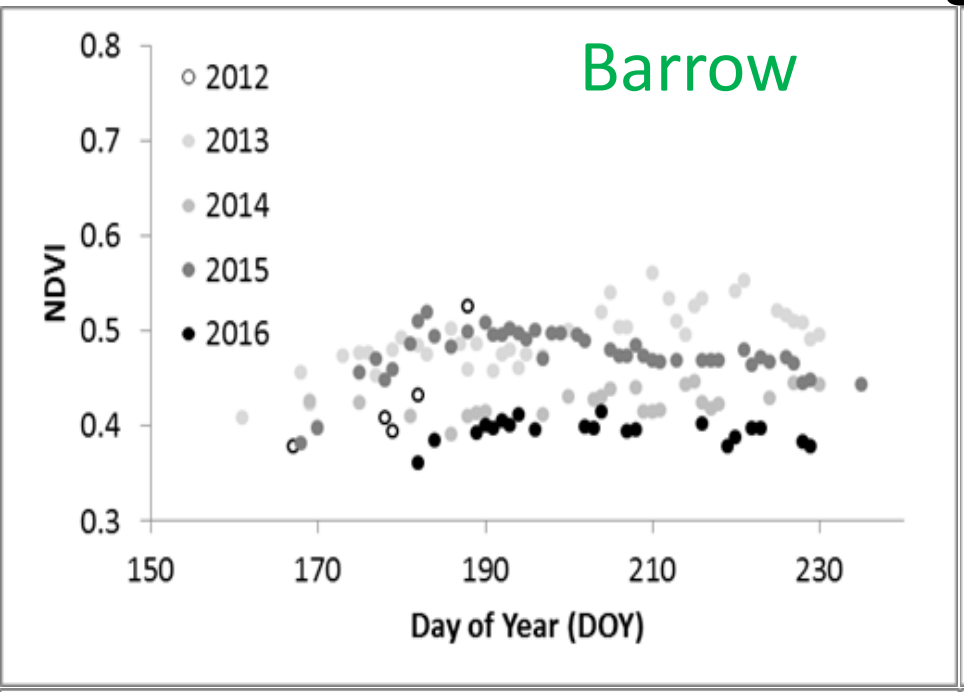
Near-daily monitoring May/June through August/September

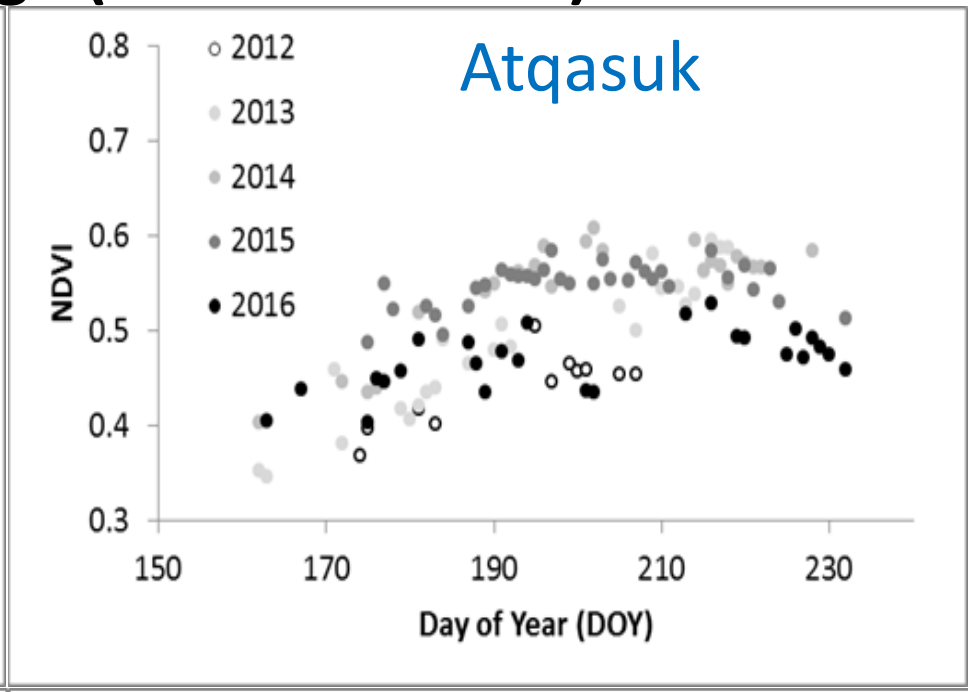
~50 m transects that span the dominant vegetation community types

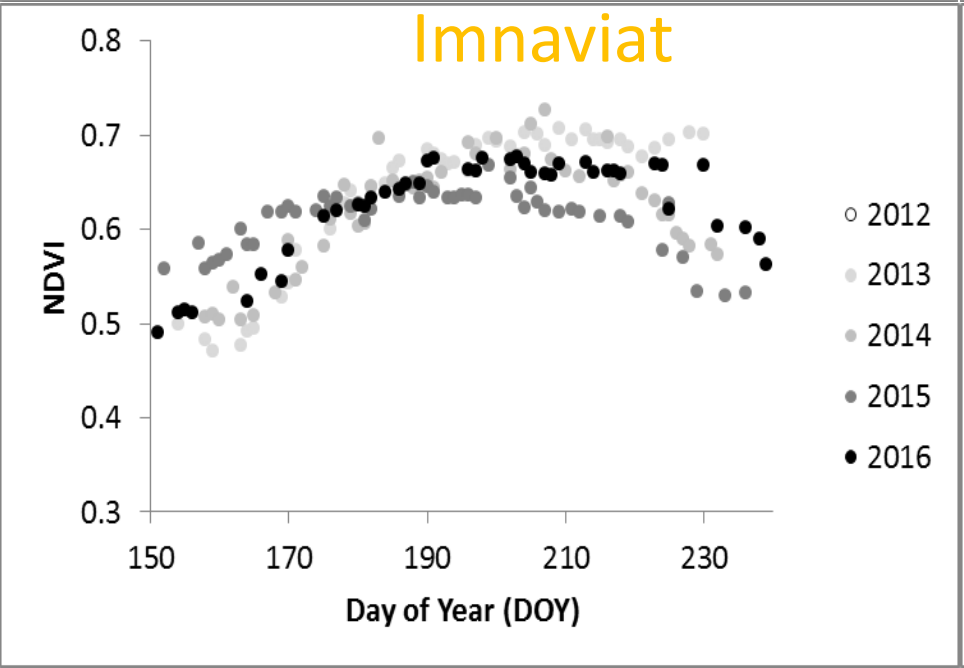
Periodic vegetation assessment sampling

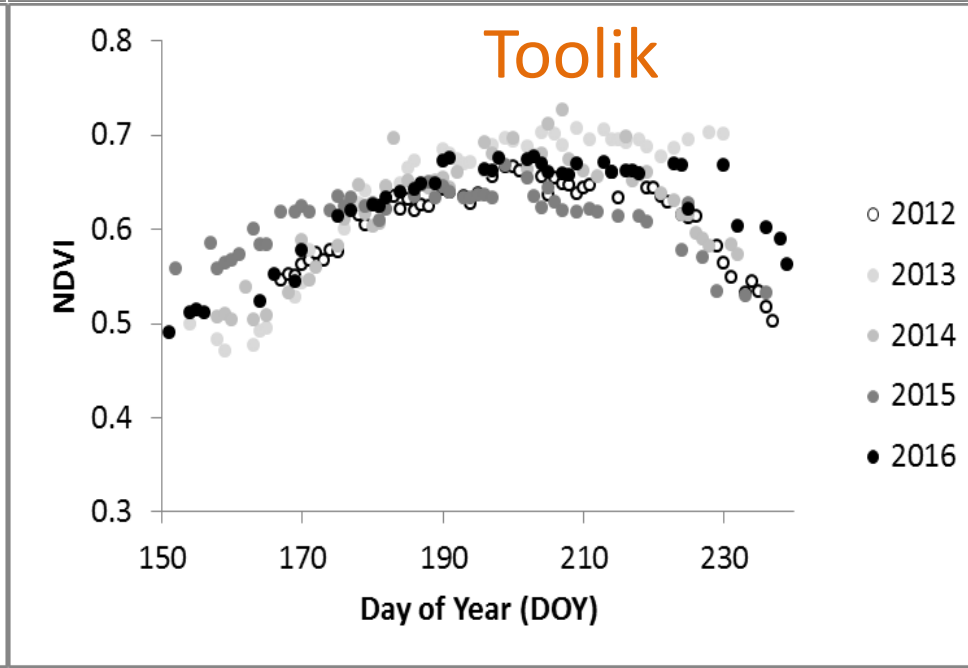

FUJI 3D Camera
(Phenology)
Sonic Distance Sensor
(MISP and Canopy Height
Jaz Spectrometer
(300-1100nm)
CNR4 Net Radiometer
(Albedo)
Apogee infrared
Temperature Sensor
(Surface Temperature)
GreenSeeker
NDVI Sensor
(NDVI)
not pictured
NIRQuest
(1100-2500nm)
FLIR Thermal Camera
(Thermal Mapping)

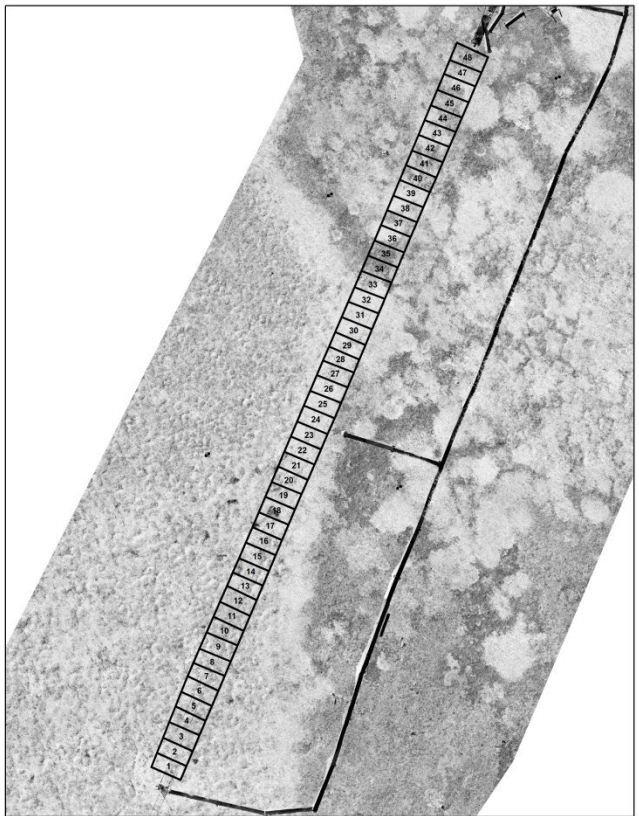
Season NDVI Change (whole transect)

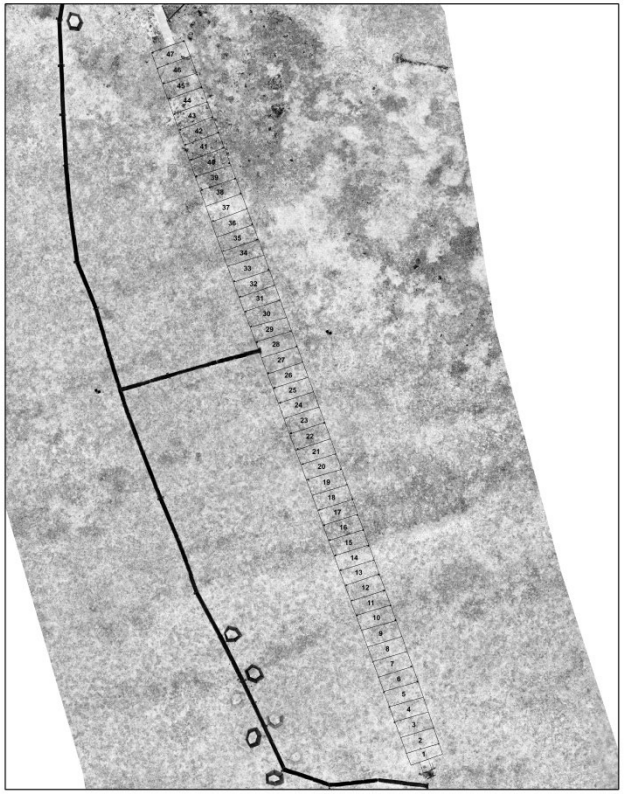












Toolik Field Station GIS Drone Surveys

MISP transect and approximately ARCSS subset grid

1-2 times/month

NDVI mapping

Season Project Continued Monitoring

Moist Acidic (10 plots)

Twice weekly
- Phenology
- Thaw Depth
- Spectral (Unispec 300-1100nm)
- NDVI (GreenSeeker)

Weekly
- Leaf Fluorescence (FvFm

Seasonal
- Plot Photos

Point Framing

Imnavait ITEX Plots

Dry Heath and Wet Acidic
(8 contol, 8 warmed)

Near Daily
- NDVI (GreenSeeker)

Weekly
- Phenology
- Unispec (300-1100nm)

Seasonal
- Plot Photos

Point Framing

Toolik Shade Plots

Dry Heath and Moist Acidic
6 control
6 40% shade cloth
6 80% shade cloth

Twice weekly
- Unispec (300-1100nm)
- Phenology
- Flower Counts

Seasonal
- Plot photos

Berry Survey

4 Locations
- Toolik Lake
- Imnavait Creek
- Slope Mountain
- Galbraith Lake

12 0.25m^2 plots
Moist Acidic and Dry Heath

V. vitis-idaea
V. uliginosum
E. nigrins
A. alpina

Flower Reflectance Survey

Measuring reflectance of flower parts

70+ species