Permafrost and Hydrology Breakout summary

- Discussion leader: Kevin Schaefer
- Rapporteur: Tamlin Pavelsky

Planned Papers:

- ALT & soil moisture based on in situ and radar data (Kevin Schaefer)
- Long-term trend analysis for open water extent (Mark Carroll)
- Relationships between methane flux, soil moisture, and vegetation type (Elyn Humphreys, Oliver Sonnentag)
- Snow synthesis: snow wetness (John Kimball, Peter Kirchner)
- Snow synthesis: rain on snow (John Kimball, Peter Kirchner)
- Snow depth from ArcticDEM differencing (Patrick Burns, Evan Wilcox, Peter Kirchner)
- Relationship between vegetation greenness, snow depth, Wildlife, ALT (Natalie Boylman)

Broader Plans

- Relate ALT data to borehole/ALT data (Kevin Schaefer, Dmitri Nicolsky)
- Beyond the cal-val dataset
  - Thaw depth change over a season
  - Scaling ALT in time
  - What is the uncertainty of a point measurement representing an average?
  - Relationships with landscape units
- Could we use Icebridge data to characterize snow?
  - Action: give Hank mini proposal on how to leverage IceBridge (Tom Douglas)
- Synergy with SnowEx: can we get them to fly Alaska?
  - Action: Recommend SnowEx Alaska flights

Broader Plans

- How to use inundation extent variations to understand connectivity
- Merge AMSR/Passive Microwave with optical data/SAR data
- Link permafrost/carbon questions to permafrost/water
- Relate changes in hydrology to hyperspectral reflectance