

# Breakout 1 charge

Brainstorm on potential synergies & leveraging each other's efforts

- *Within disciplinary “themes”*
  - ✧ Working groups
- Primary objectives / expected outcomes
  - ✧ Informing, leveraging & synergies
- Data acquisition, processing, analysis
  - ✧ Field measurements (sites, mmts, protocols)
  - ✧ Remote sensing (types, approaches)
    - Aircraft RS campaign (where, what, how)
  - ✧ Identifying primary data gaps & needs
- Modeling
  - ✧ Driver data sets / predictor variables / cal-val / needs
  - ✧ Expected outcomes & comparisons

# Fire

# Knowledge gaps, topics for future discussion

- Regime shifts, past and future: beyond area burned
  - Stand age, time after disturbance is important
- Spatial scale, sampling “effort” vary among question
  - Explore cross-project use of data
- YK delta fire coverage
  - Discuss with Sue and JJ
- Increase sample coverage with centralized processing of soil samples

# Data acquisition

- Stand age
  - Combustion estimates of aboveground tree inventories, shrubs, mosses (sphagnum versus feathermoss)
  - Tree density
  - Tussock density
  - Distance to road or structure
  - Burn depth (pre burn depth estimate, morphometric markers, chemical ratios)
  - Residual depth and characteristics (bulk D, depth, C and N)
  - Regional pre-fire calibrations of depth  $\ln$  to bulk D, C and N
  - Active layer –thaw depth—relative to the mineral organic interface
  - Photos of sites: north south east west
  - Standardize use of CBI (working group)
  - Texture
- ...more to come

# Modeling

- Field teams should take a modeling into the field with them
- Diagnostic vs prognostic approach
- What is most needed:
  - Combustion as a proportion of total C pools
  - Matrices of consumption—Fire-driven transfer among C pools for different vegetation types

# Tasks

- Standardized field protocol—start with posting PDFs of methods for comparison (all)
- Protocol for soil collection and analyses to send to us (Michelle)
- Photo guide to classifying ground layer severity (Merritt)
- Spatial scaling, power and cohesion—we have data to bear on this, who will lead?
- Fuel maps/pre-fire veg maps (Nancy)
- Fire progression maps, fire weather indices (Tatiana)
- Protocol for soil collection and analyses to send to us (Michelle)

# Infiltration

Permafrost: Merritt and Tatianna

Carbon cycle modeling: Brenden

Vegetation change and productivity: Michelle

Hydrology: Liza and Tatianna

Carbon Biogeochemistry: Nancy

Ecosystem services: Brenden

Modeling: all