Current proposal

• Identify the suite of services most critical to sustainability in interior Alaska.
  – Detailed and coarse HH data
• Identify past trajectories and rates of change and likely future changes in critical ecosystem services.
  – Local knowledge and available science
• Model interaction of ecological, economic, cultural, and demographic conditions affecting participation in subsistence in rural households of interior Alaska, and how those dynamics affect village sustainability.
  – Prototype model constructed, being developed
• Conduct institutional analysis to identify the role of policy in mediating the effects of changing ecosystem services.
• Through partnerships with communities, identify conditions that facilitate innovation in future human adaptation and transformation.
Subsistence Thresholds Model

Hunter attributes

Household type (1, 2, 3 with HH hunters 1A, 1B, 1C, etc)

Household size

Access to Cash (none, some, lots)

Gear (a, b, c, d)

Household need (lbs by species)

Time (some, lots)

Availability of Resource (abundance – little, some, lots) (distribution, A, B, C)

Access – near far

knowledge

Hunt (Y/N)

What to hunt (A, B, C)

How to hunt (solo, with HH member, cooperate)

Where to hunt (a, b, c)

When to hunt (t1, t2, t3)

Keep or Share

-Lbs harvested

Community needs

Other HHs
Ideas for the Future

• Methods for linking local knowledge & science
  – Camera equipped GPS to harvesters
  – Web-based reporting system
  – Map overlays

• Link between Δ in ecosystems to Δ in ecosystem services
  – From supporting and regulating services to provisioning
  – Implications of scenarios

• Subsistence Threshold Model
  – Stronger representation of ecological dynamics (state changes)
  – Use modeled scenarios with stakeholders

• Explore rural – urban continuum
  – From Venetie to Nenana to Fairbanks
  – Other?

• Land-use change + climate change?

• UAF decision theatre / visualization of change
Human feedbacks

Scale:
Individual to Household to community to ....

Ecosystem Services
- Regulating
- Supporting
- Provisions
- Cultural

Social System
- Perceptions
- Value of service
- Capacity to respond
- Human Response

Ecosystem change

Disturbance regimes

Landscape change

Regional Dynamics