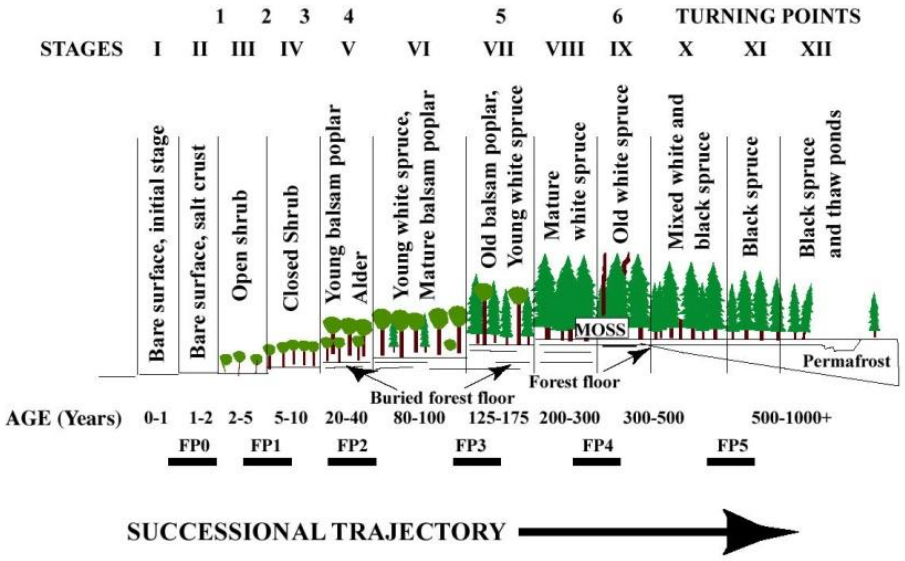
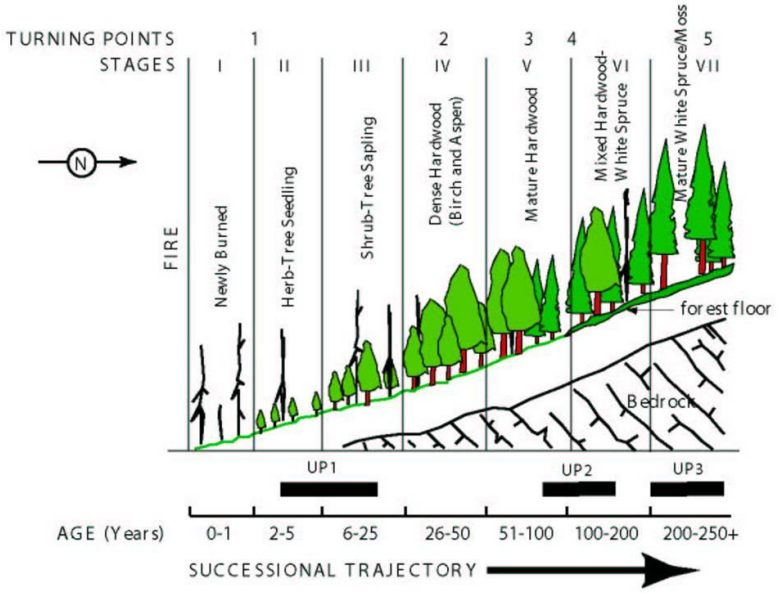
WELCOME!!!!

BNZ LTER 2020 Symposium

Established 1987



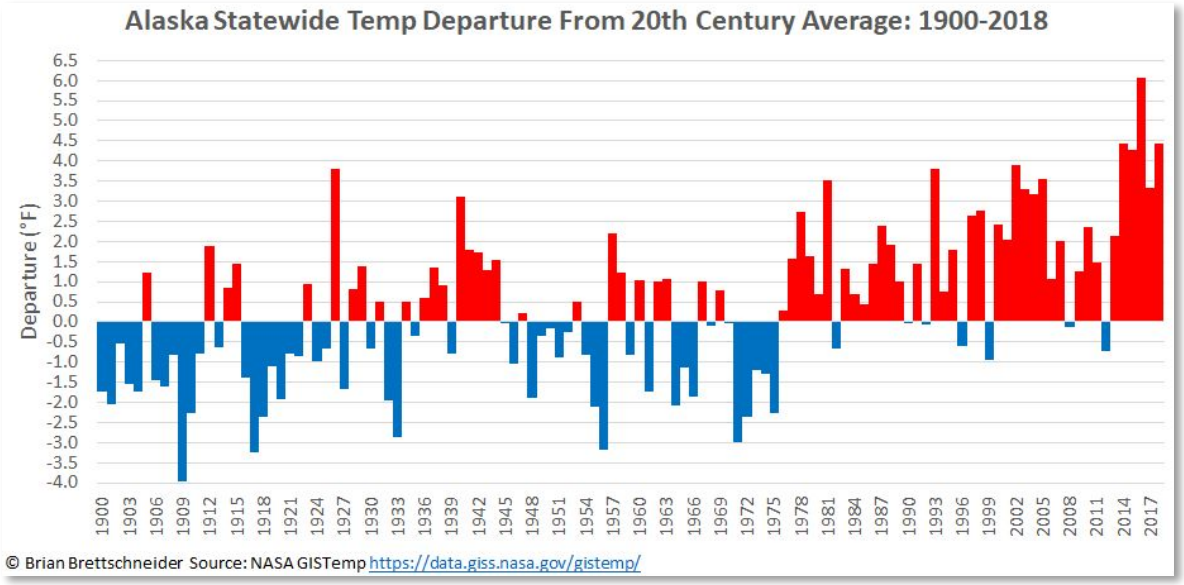
Floodplain Primary Succession

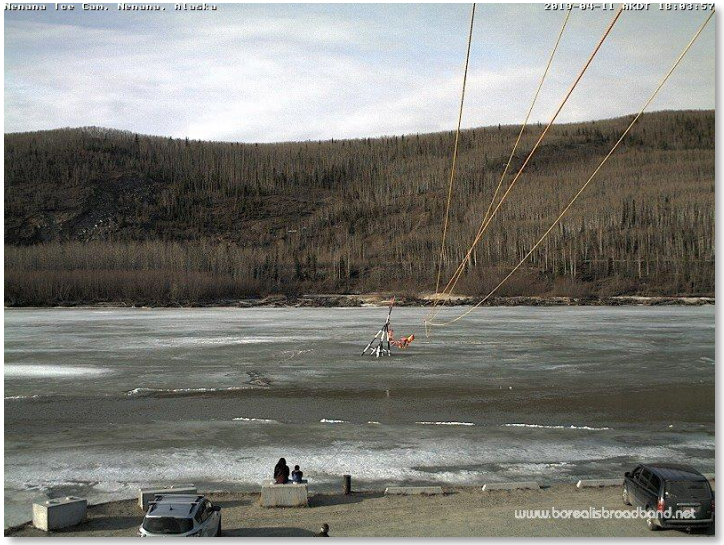


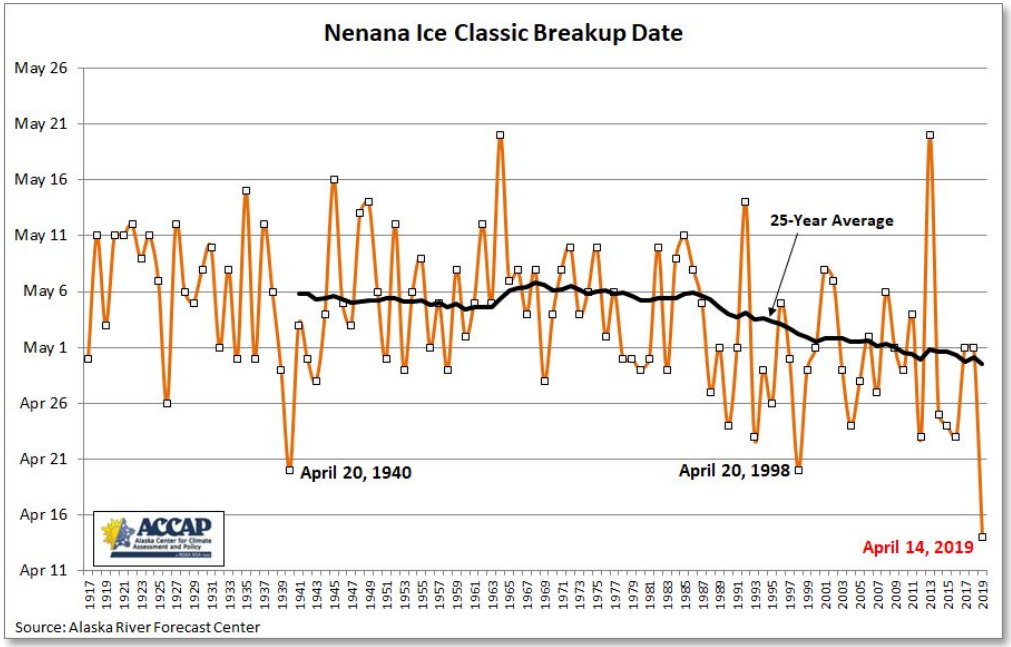
Upland South Facing Slope Secondary Succession

AK's changing climate:

- Alaska has warmed twice as fast as the lower 48 over the past 60 yrs – with biggest increases seen in the Interior and on the North Slope.
- Warmer drier summers, and warmer winters with more snowfall.
- Snowmelt has advanced approximately 9 days/decade.

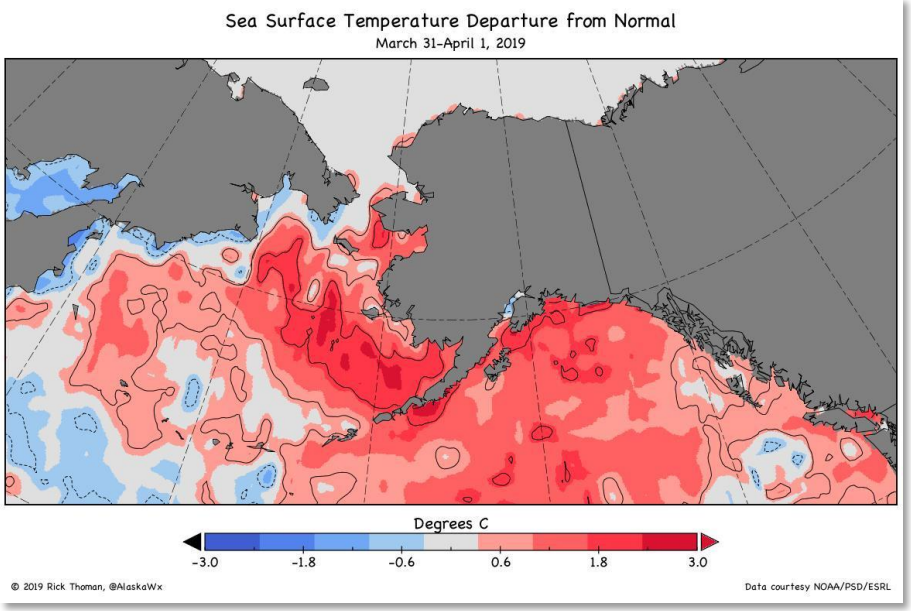


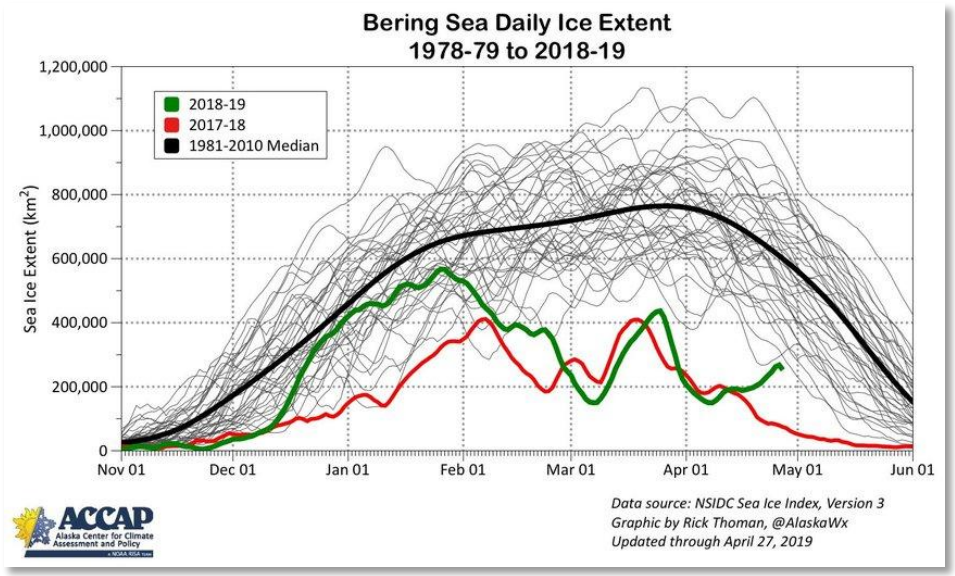




- Arctic sea ice is rapidly receding – and potentially could virtually disappear before mid-century.

- The strong feedbacks to regional climate (polar amplification) is influencing climate at lower latitudes





AK's changing disturbance regimes

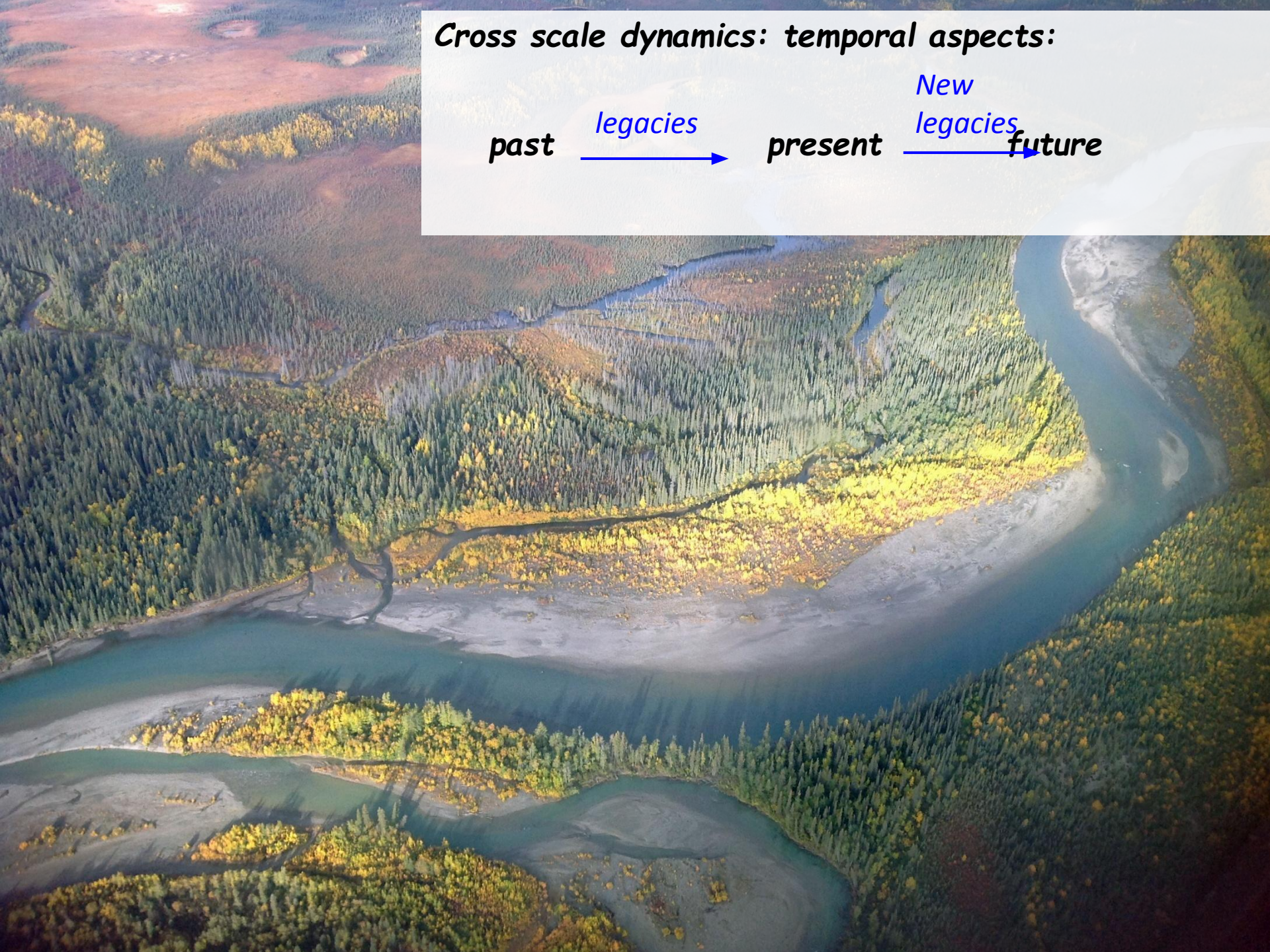
- The frequency and size of fires has increased significantly in the past 60 years; paleoecological evidence suggests a transition to a novel, unprecedented fire regime.

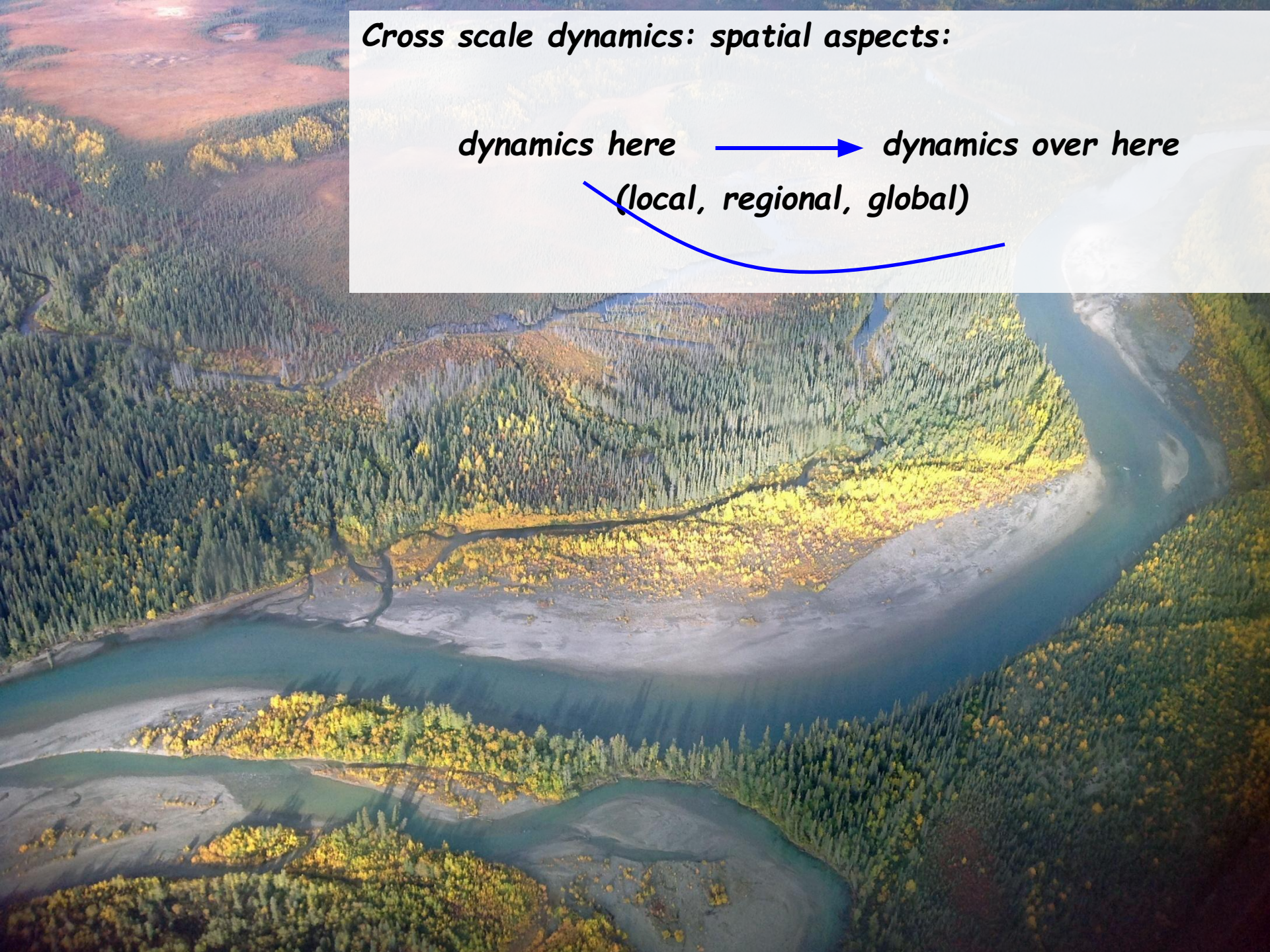
- Permafrost is warming/thawing rapidly, particularly in response to wildfire, resulting in dramatic changes in vegetation, NEE, and surface hydrology

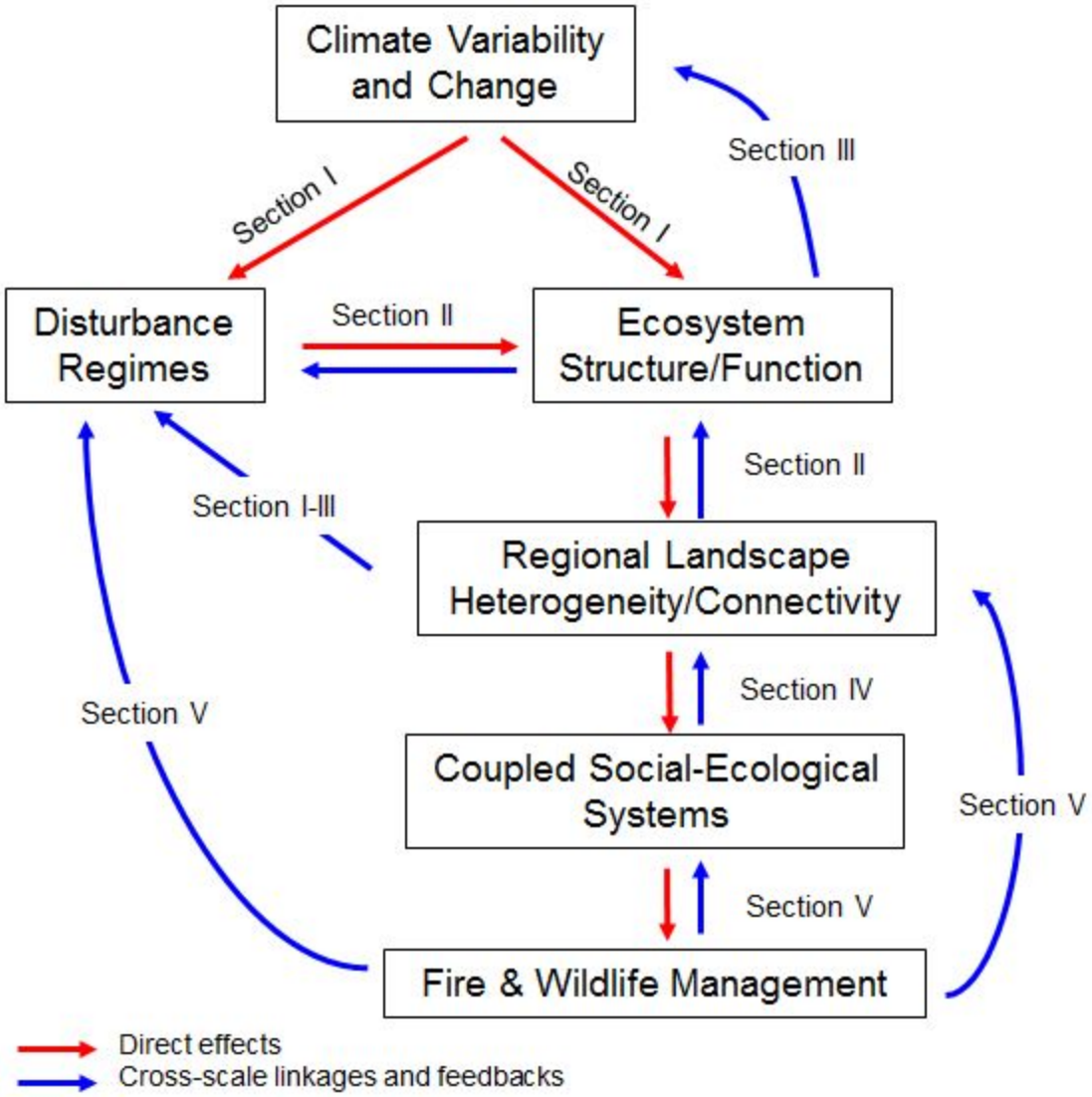
- There has been an increase incidence of native and invasive insect and pathogen outbreaks that are influencing stand structure, successional dynamics and likely response to fire.

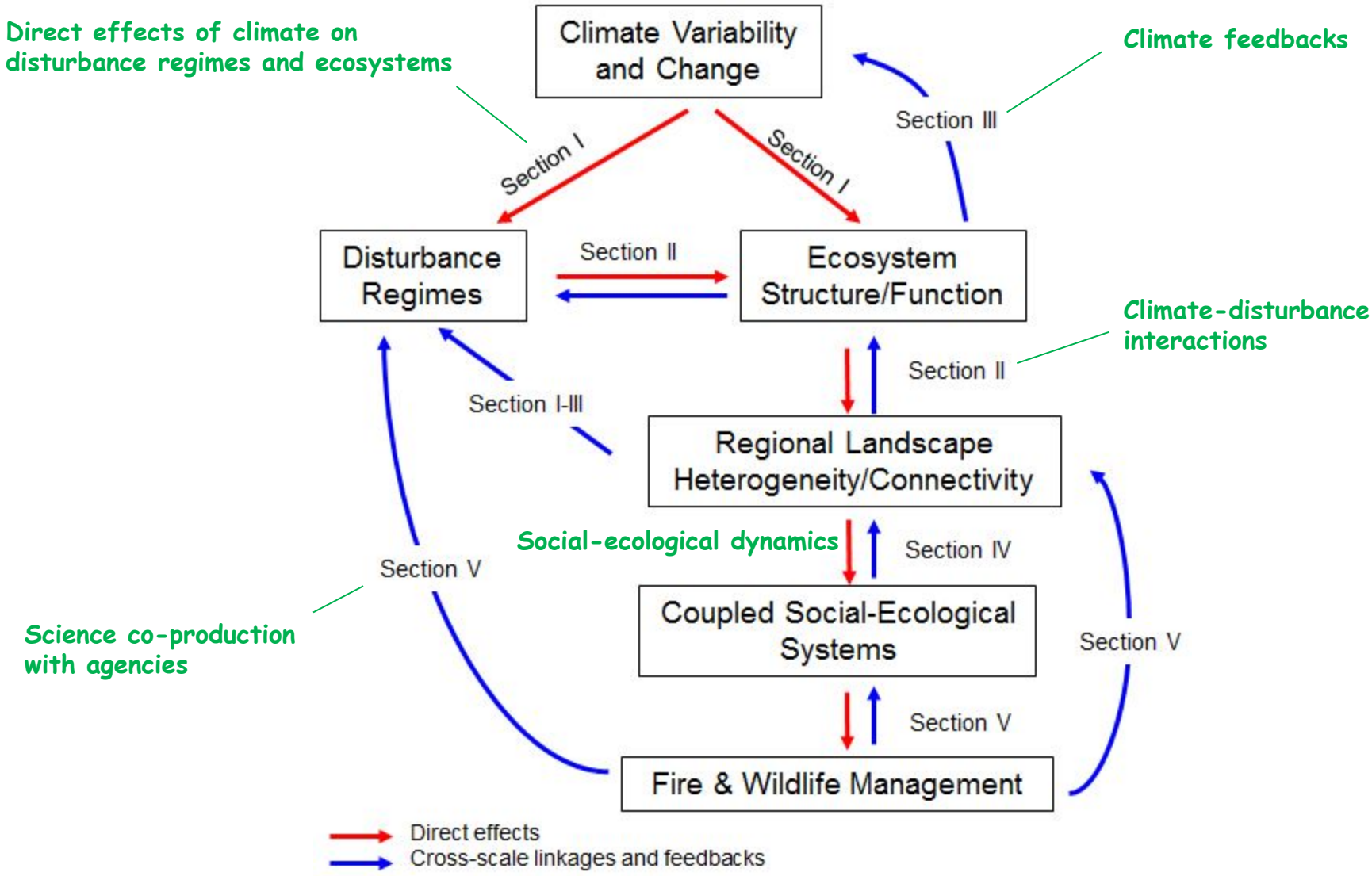
- Changes in climate-disturbance interactions are influencing the availability (abundance, distribution, access) of subsistence resources to rural and urban communities.


How is the boreal biome responding to climate change and what are the local, regional, and global impacts of those responses?


Cross scale dynamics: temporal aspects:
past
legacies
present
New
legacies
future


Cross scale dynamics: spatial aspects:
dynamics here
dynamics over here
(local, regional, global)


Climate Variability and Change
Section I
Section I
Section III
Disturbance Regimes
Section II
Ecosystem Structure/Function
Section II
Section I-III
Regional Landscape Heterogeneity/Connectivity
Section IV
Section V
Coupled Social-Ecological Systems
Section V
Section V
Fire & Wildlife Management
Direct effects
Cross-scale linkages and feedbacks


Direct effects of climate on disturbance regimes and ecosystems
Climate Variability and Change
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Science co-production with agencies
Section V
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Conceptual Model