

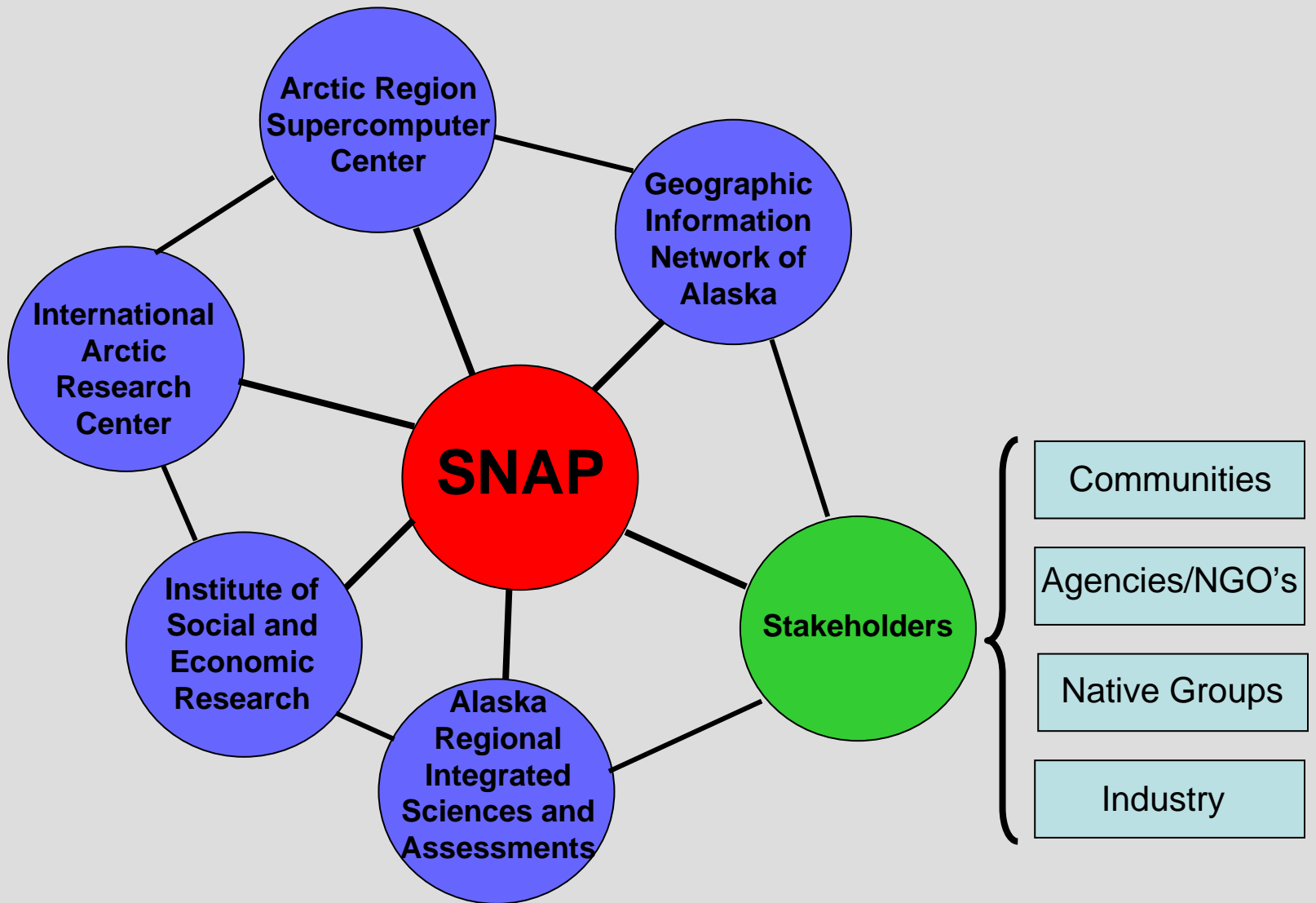
# Scenarios Network for Alaska Planning

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# Network Concept:

- **SNAP** is a pragmatic plan to facilitate integration of the University of Alaska's world-class high-latitude research capabilities and deliver timely information and interpretation of climatic, ecological, and economic change to public decision-makers (managers, policy-makers, and planners), communities, and industry.





# SNAP Mission:

- **SNAP** is a collaborative network of the University of Alaska, state, federal, and local agencies, NGO's, and industry partners.
- **SNAP** will provide timely access to scenarios of future conditions in Alaska for more effective planning by decision-makers, communities, and industry.

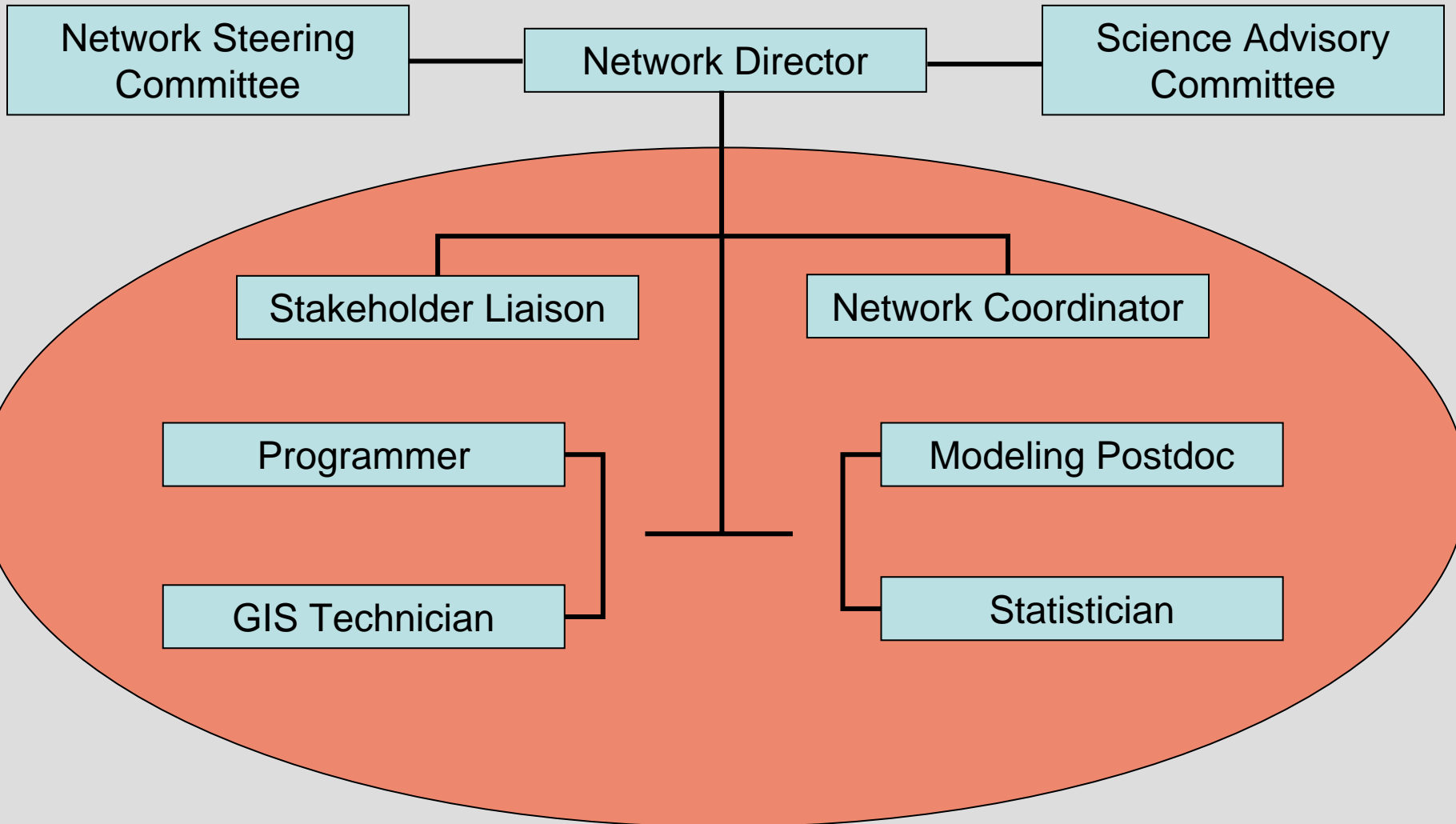


# Primary Products:

1. Geographically defined time series (e.g., maps; downscaled projections) of future conditions that are linked to present and past conditions.
2. Objective interpretations of scenarios.
3. Detailed explanations of the rules and models that describe controls over projected changes including metadata that clearly describe the methods and assumptions underlying the projections.

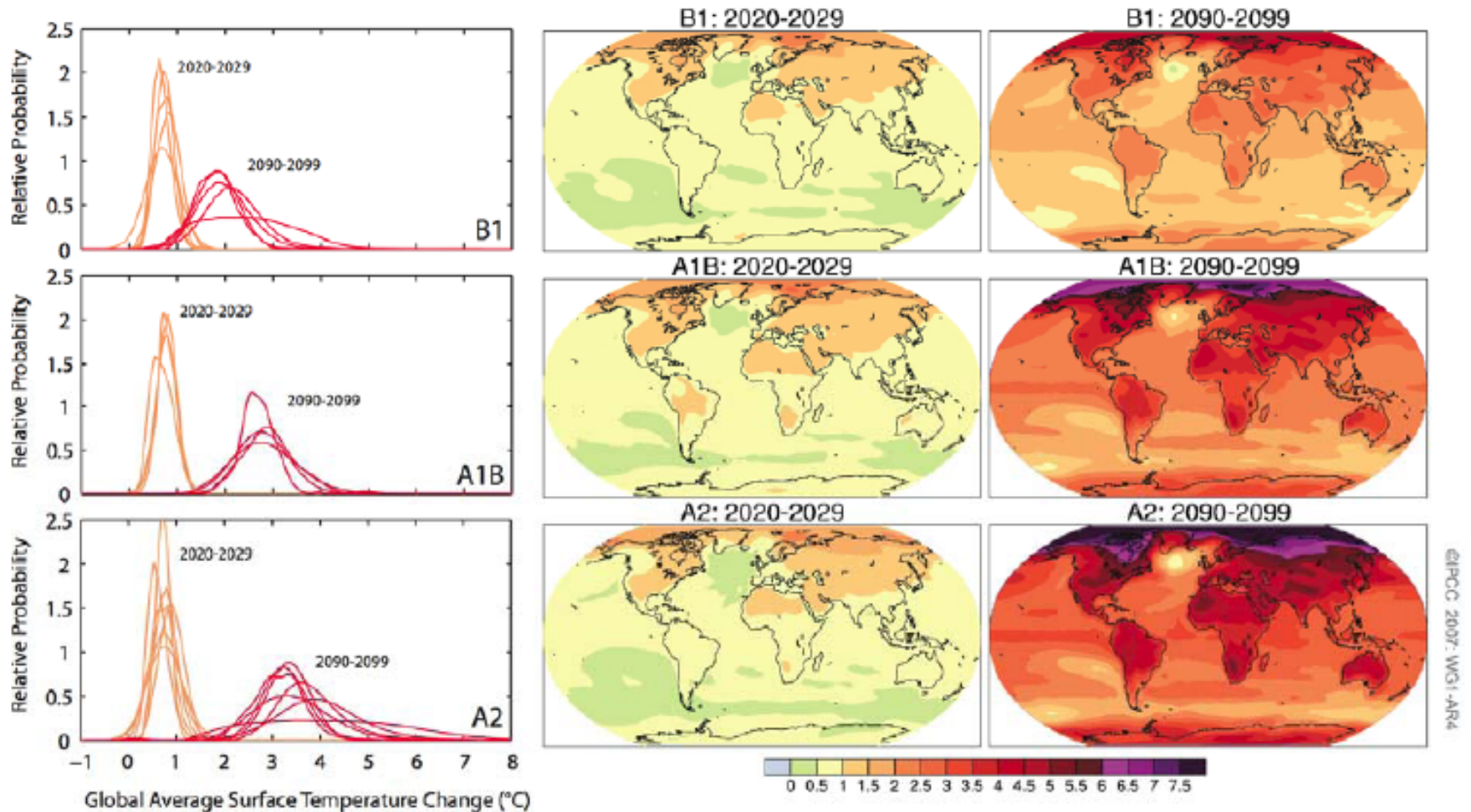


# SNAP Network Organization:



# Supporting Climate Products

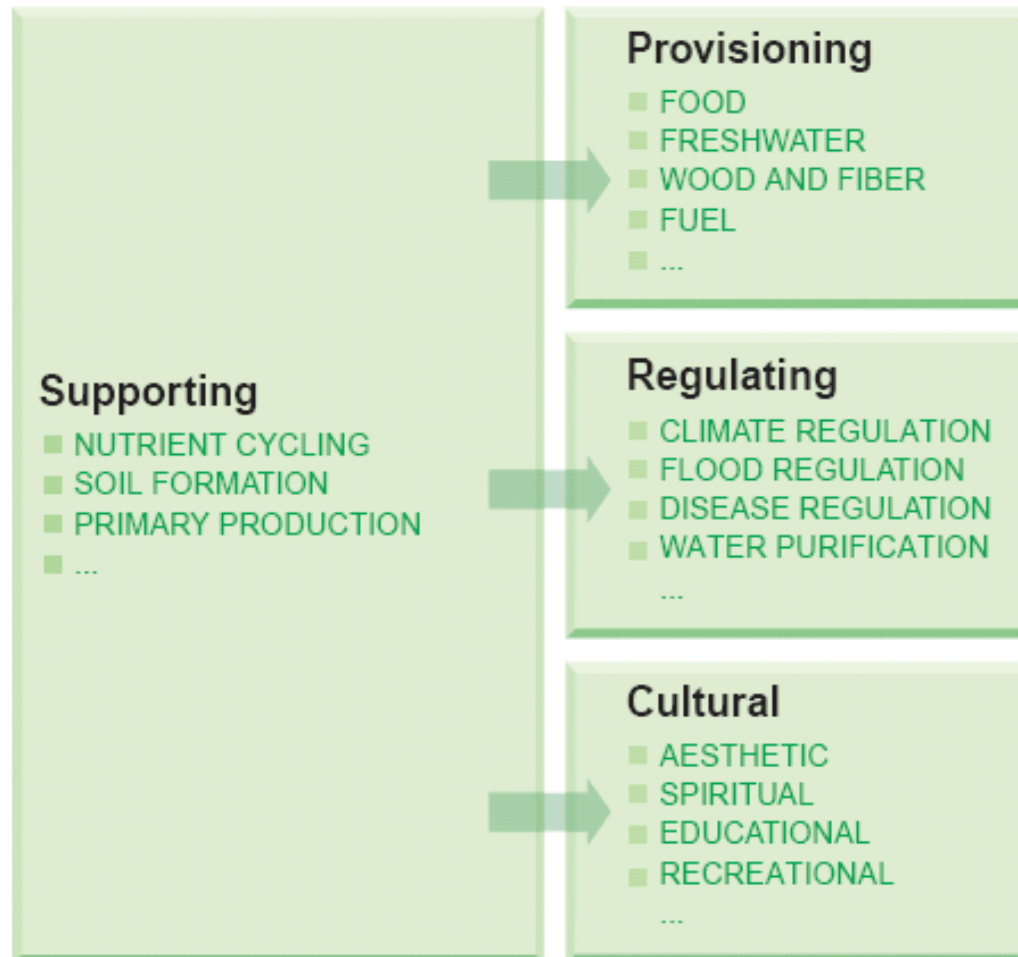
## AOGCM Projections of Surface Temperatures



# Ecosystem Services:

The benefits people obtain from ecosystems

## ECOSYSTEM SERVICES





# Developing Socioeconomic Indicators

**Table 2**  
**Summary of the Economic Importance of Alaska Ecosystems**

Economic Activity or Ecosystem Service	Economic Significance			Net Economic Value	
	Direct Alaska Jobs (avg annual)	Total Alaska Jobs (avg annual)	Total Income (\$ million)	Low Estimate (\$ million)	High Estimate (\$ million)
Management and Stewardship Effort	4,534	10,475	527	Not Applicable	
Commercial Fishing & Processing	19,928	33,669	1,011	192	360
Sport Fishing	6,635	9,236	233	215	215
Sport Hunting (note 1)	2,160	2,987	75	23	23
AK Resident Wildlife Viewing (note 1,2)	3,615	4,896	123	17	37
Tourism (notes 1,3)	16,871	25,512	643	not yet fully quantified	
AK Resident Other Nonconsumptive Recreation (notes 1,4)	3,615	4,896	123	not yet fully quantified	
Subsistence Harvests (note 5)	1,978	1,978	61	0	1,700
Existence Value	Not Applicable			309	29,652
Life Support Benefits	Not Applicable			1,200	1,628
Adjustments for Double-counting	(4,356)	(9,450)	(238)		
<b>Adjusted Total</b>	<b>54,980</b>	<b>84,200</b>	<b>2,559</b>	<b>1,957</b>	<b>33,615</b>

notes:

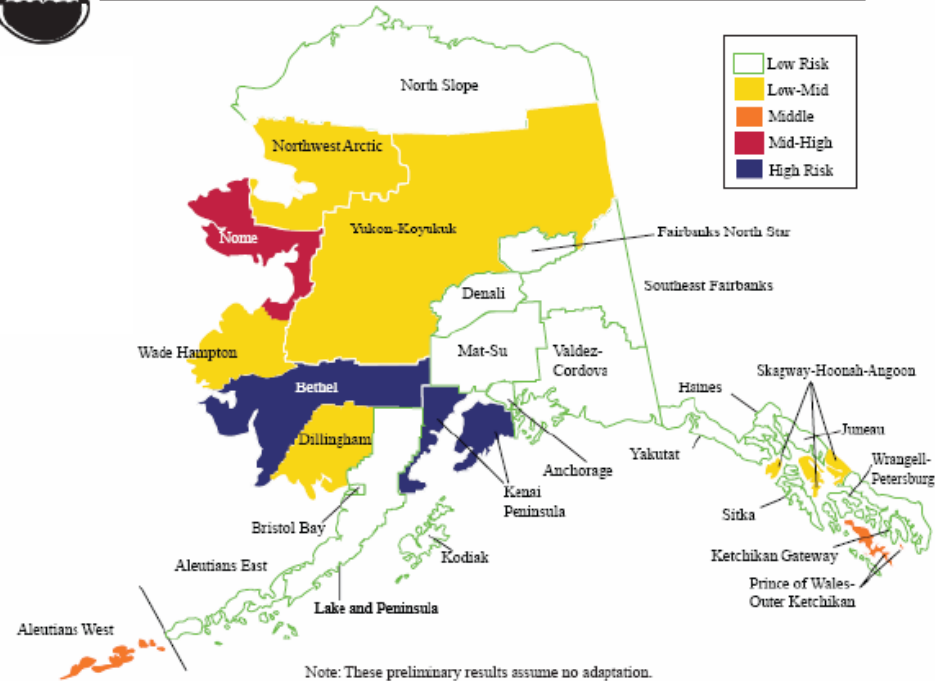
# A Probabilistic Model to Estimate the Value of Alaska Public Infrastructure at Risk from Climate Change

Infrastructure Type	Replacement Cost	Units	Baseline Useful Life (years)
Airport	\$ 5,664,812	Whole	10
Bridges	\$ 10,000	Per foot	40
Courts	\$ 16,150,618	Whole	40
Defense	\$ 305,441	Whole	40
Emergency Services	\$ 467,110	Whole	20
Energy	\$ 31,570	Whole	30
Grid	\$ 100,000	Per mile	15
Harbor	\$ 162,050	Whole	30
Hospital	\$ 44,772,750	Whole	40
Law Enforcement	\$ 3,917,245	Whole	30
Misc. Building (govt)	\$ 1,030,578	Whole	30
Misc. Building (health)	\$ 1,631,781	Whole	30
Railroad	\$ 2,795,717	Per mile	30
Roads	\$ 3,000,000	Per mile	10
School	\$ 2,486,167	Whole	40
Sewer	\$ 30,000,000	Whole	20
Telecommunications	\$ 299,576	Whole	10
Telephone Line	\$ 50,000	Per mile	15
Water	\$ 5,000,000	Whole	20

Table 1. Preliminary Estimates of Replacement Costs and Baseline Useful Life of Public Infrastructure

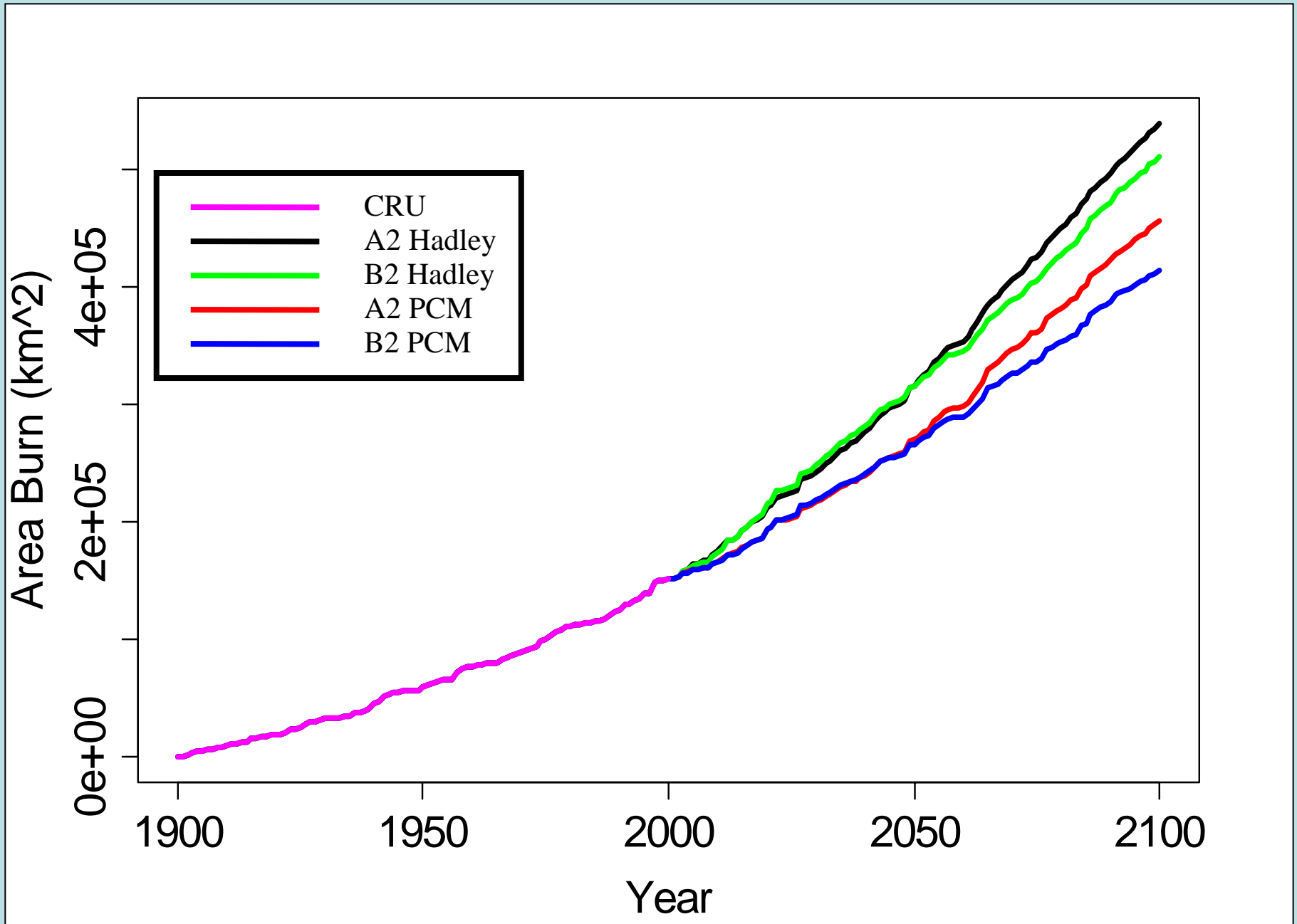


Additional Replacement Costs to Public Infrastructure from Projected Climate Change: 2030  
Middle Model

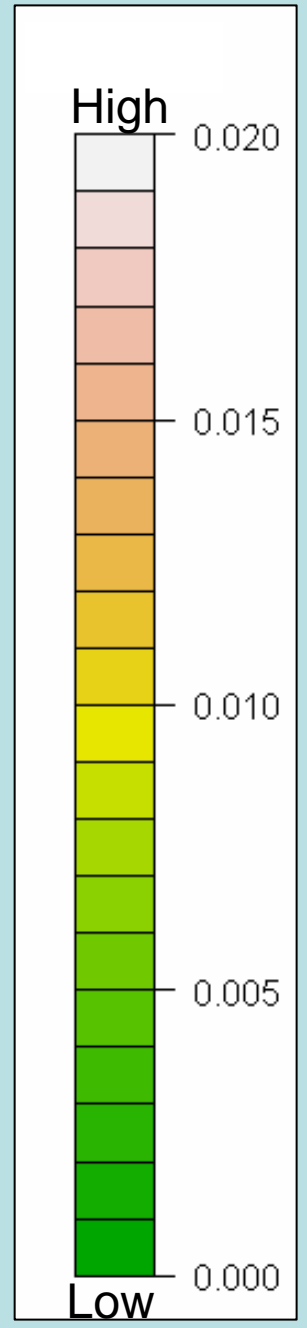
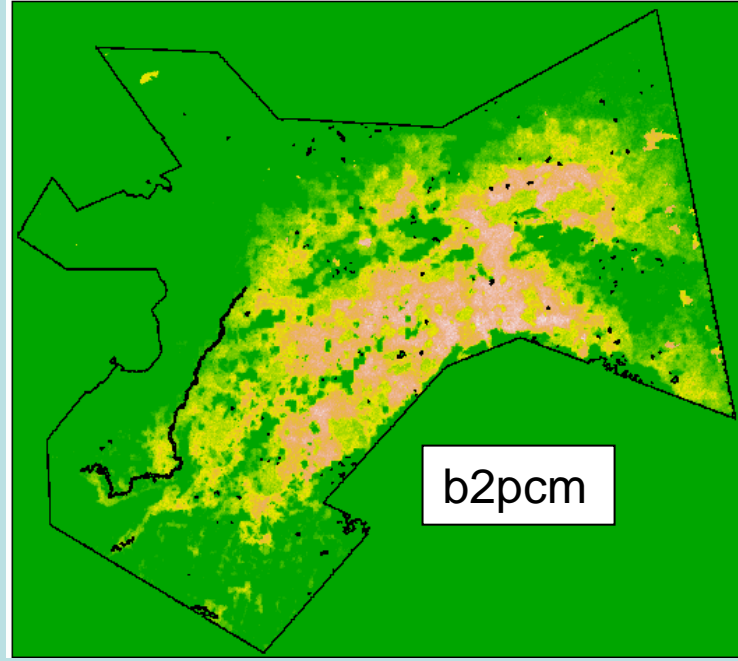
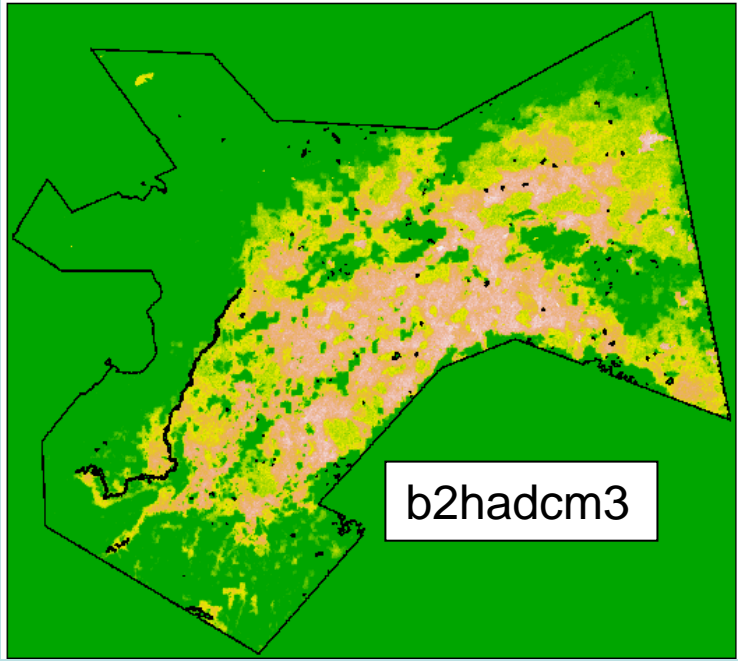
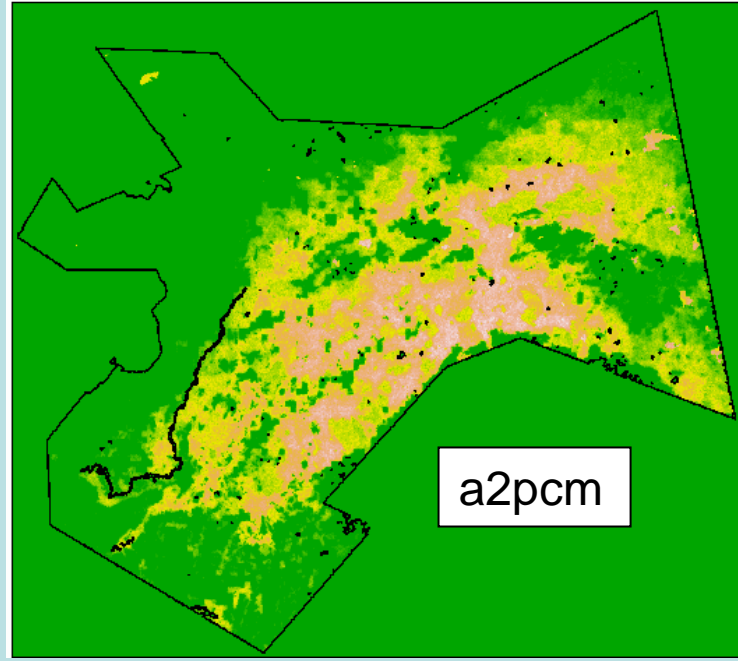
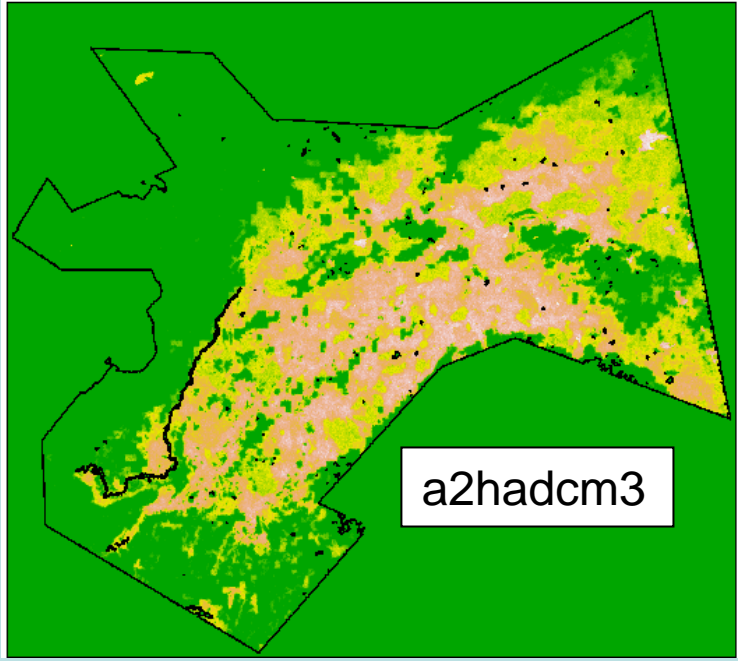


Preliminary Results

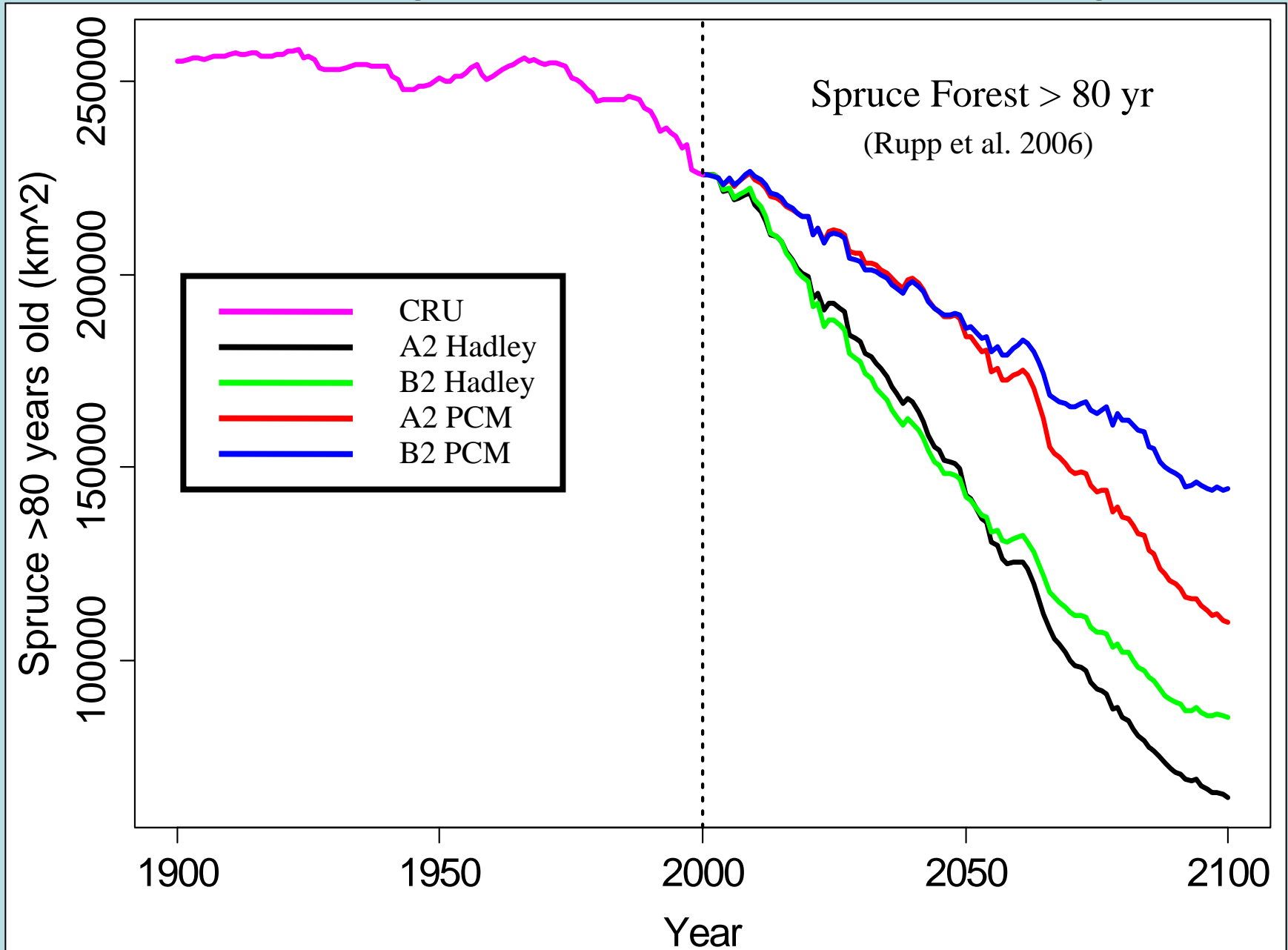
# Estimated Cumulative Area Burned for Interior Alaska



# Projected Fire Risk at 2100



# Estimated Change in Caribou Habitat Through Time



# Network Status:

- \$1.5 million start-up funding
- Hiring the SNAP integration team
- Establishing a science advisory committee
- Identifying stakeholders and their needs
- Actively seeking partners and input
- Launching demonstration projects

