A Values-Focused Approach to Science-Informed Decision-Making for Arctic Communities

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Building resilience to climate change in Alaska is a highly complex enterprise. Planners need to simulatenously consider stakeholder values, projected environmental changes, cultural factors, economic constraints, policy mandates, and other decision constraints. Planners typically grapple with questions like:



How can social, economic, and environmental data be used to inform cost-effective options for infrastructure *improvements?*

How do you repurpose and adapt an existing adaptation solution for a community's specific needs?

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Shared values on livelihoods	Infrastructure upgrade costs	Permafrost degradation
Community health & well-being	Relocation costs	Flooding
Sustaining cultural practices	Capacity building investments	Erosion

Structured decision making (SDM) provides a framework to answer questions like these. SDM has been implemented as a web application called GiSdT (pronounced "gist") that integrates the social, economic, and environmental dimensions of a climate adaptation plan. The trade-offs between these dimensions can be



quantitatively analyzed and visualized in GiSdT.

US federal agencies that have used SDM for complex decision landscapes include the US EPA, US Fish and Wildlife, and the US Department of Energy.

Structured Decision Making



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