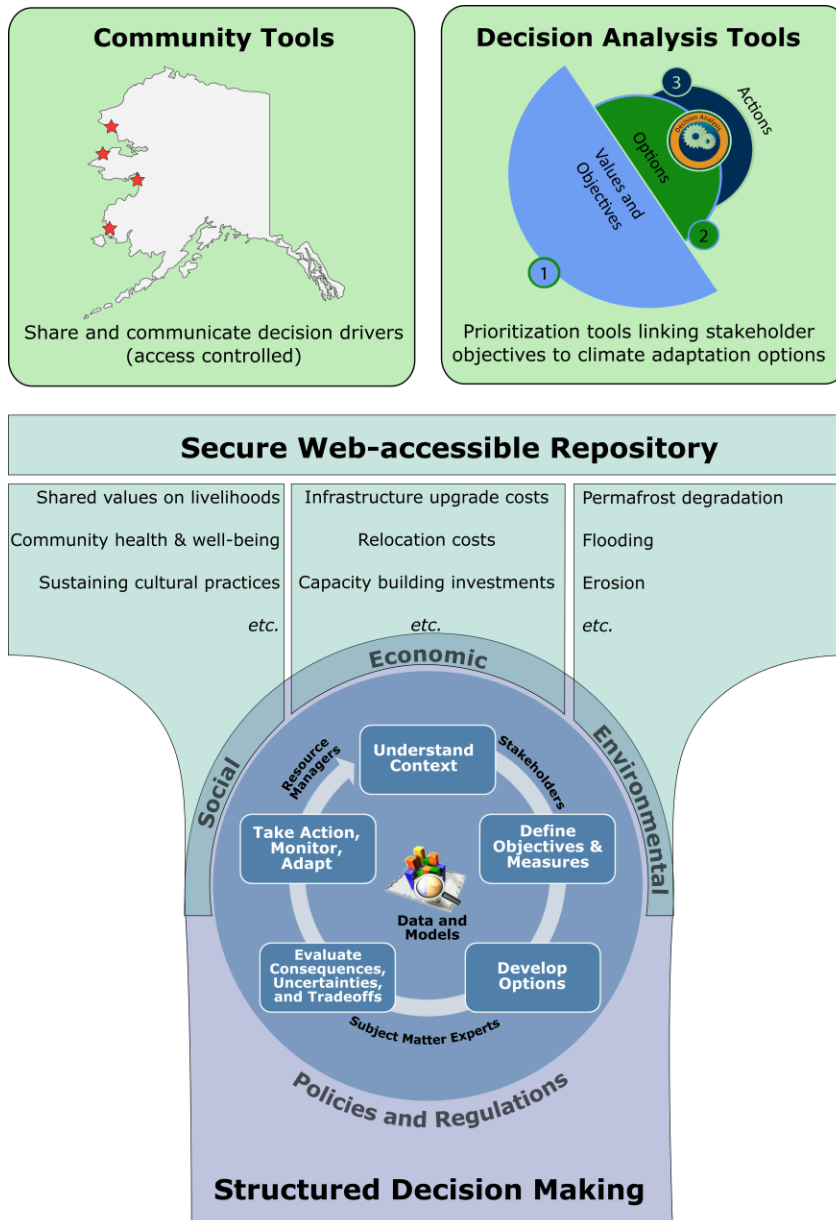


Building resilience to climate change in Alaska is a highly complex enterprise. Planners need to simultaneously consider stakeholder values, projected environmental changes, cultural factors, economic constraints, policy mandates, and other decision constraints. How can social, economic, and environmental 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?

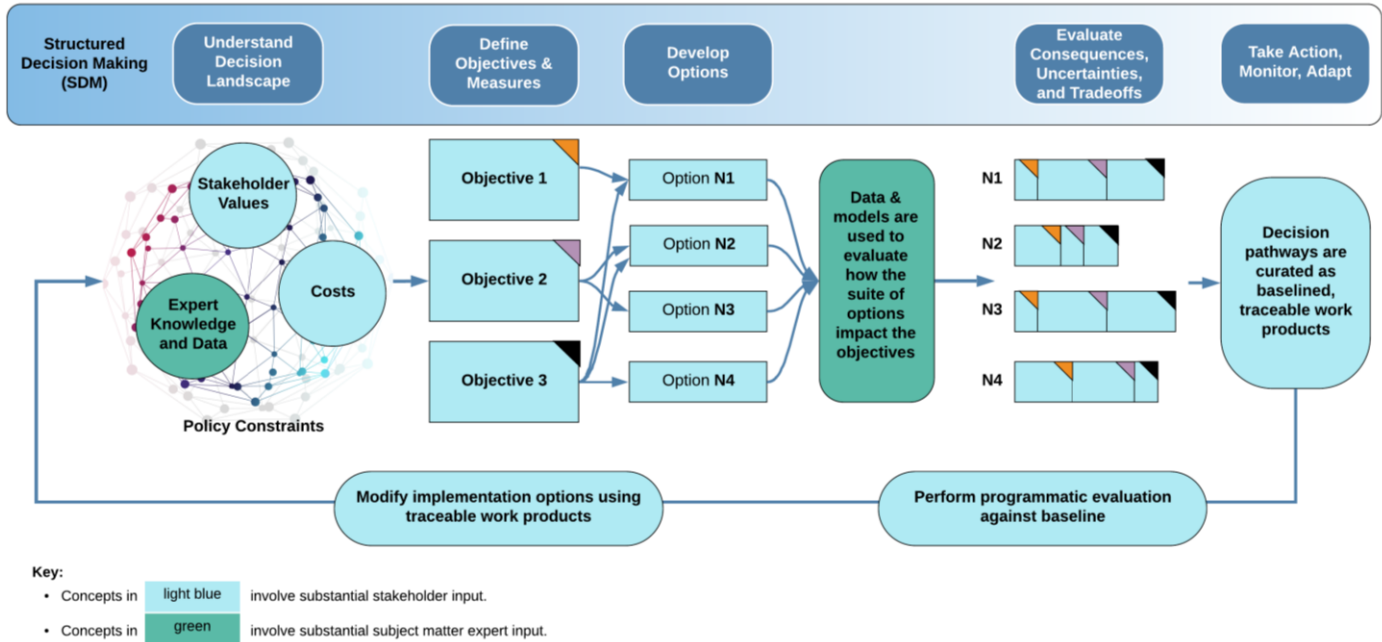
Structured decision making (SDM) provides a framework to answer questions like these. SDM has been implemented as a web application called GiSdT (pronounced "gist") that integrates the social, economic, and environmental dimensions of a climate adaptation plan. The trade-offs between these dimensions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

*In 1992, Neptune and Company, Inc. (Neptune) was founded with a simple mission: to improve the quality of environmental decision making through the application of state-of-the-art methods in quality assurance, data science, and risk assessment.*



## STRUCTURED DECISION MAKING (SDM)

Structured decision making (SDM) provides a transparent framework to develop solutions for climate resilience challenges. SDM incorporates approaches from statistics, decision science, and behavioral science. The schematic below provides an overview of how SDM may be used to integrate qualitative and qualitative data for quantitative trade-off analyses.



## NEPTUNE AND COMPANY, INC

Neptune is a Women-Owned Small Business that specializes in (1) statistical analysis and quality assurance of health and environmental data, (2) characterization of risk to human health and the environment, and (3) development of decision analysis methods/software to facilitate all forms of risk management.

Neptune has a long history of supporting governmental programs designed to protect health and the environment, including the US Environmental Protection Agency (EPA), regional EPA offices, state environmental protection agencies, the US Department of Energy (DOE), the Nuclear Regulatory Commission (NRC), and the Department of Defense (DoD).

In addition, we support the US Food and Drug Administration's (FDA) food safety programs and the US Agency for International Development (USAID) malaria vector control program. Neptune employs a multidisciplinary staff of over forty statisticians/data scientists, decision analysts, mathematical modelers, risk analysts, chemists, toxicologists, health scientists, and ecologists.

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