

Research Coordination Network Award from the National Science Foundation

Mountain Social Ecological Observing Network (MtnSEON)

RCN Overarching Goal:

Build **CAPACITY** for integrated research and action in Northern Rockies, nationally, and internationally over time.

Goal 1: Facilitate coordination, integration, and syntheses for existing programs and studies regionally and internationally.

Goal 2: Design collaborative interactive research, education, and governance projects with partners for the region and with other regions of the world.

Goal 3: Create partnerships linking new informatics to produce linked, scalable models and methods that will help inform management decisions.

Goal 4: Better link different non-governmental and governmental constituents who affect the resilience of these mountain systems

1. What landscape elements or conditions are most sensitive to climate-and land-use changes? In what ways do **changing social conditions** such as community and public perceptions, economic and governance structures impact the ecological resiliency of these areas?
2. What are the most relevant data sources and information systems to analyze and visualize **coupled natural and human** changes? How do we share information internationally?
3. What are the effects of a changing precipitation regime on natural (wilderness) and **managed** terrestrial and aquatic systems in complex mountain landscapes? What opportunities exist for better application of natural science and resource management for mitigating adverse conditions with a goal of **sustainability of resources and ecosystem services**?
4. How will climate- and **land-use changes** interact with disturbances (fire, insect/disease outbreak, etc.) to alter connectivity across mountain landscapes? These interactions are likely to be nonlinear and scale dependent.
5. How should models be structured that **merge social, economic, and ecological processes** to create learning institutions to improve the governance and stewardship of complex mountain landscapes?
6. How can we create more sustainable, adaptive, and interconnected land-use and water resource systems to improve the effective response to climate and land-use changes that interact with disturbances (fire, insect/disease outbreak, etc.) across mountain landscapes and **human-environmental well-being**?

MtnSEON Objectives

- 1: Establish an engaged research collaborative network using communications technology, conferences, and an interactive web site.**
- 2: Establish and be liaison to increasingly diverse (management, stakeholders, disciplines) working groups across goals and themes that will have produced case studies, MOU's with agencies or jurisdictions, white papers or published papers and funding proposals.**
- 3: Create and maintain network "glue" and systems that generate collaborative research and application with management partners, and respond to management research questions and training needs so that network includes all partners and international institutions.**
- 4: Demonstrate the "why" for co-production of place-based, cultural, and timeless knowledge and the "what", how methods for including circular space/time ways of knowing in national climate change science and strategies for adaptation.**
- 5: Model a SES Framework and Scenario Planning Demonstration in the Northern Rockies and identify research for outcomes that can be reported back to the National level to address NSF and Climate Assessment identified needs.**