

Team Science in High Latitudes: Managing Complex Programs

Pips Veazey*, Anupma Prakash, Tania Clucas, Tom Moran, and Dayne Broderon
University of Alaska Fairbanks

The Alaska NSF Established Program to Stimulate Competitive Research (EPSCoR) is a place-based, interdisciplinary effort to study variables and processes that impact Alaska and that have implications for the rest of the planet..

* presenter

● Interdisciplinary Research Teams

Alaska NSF EPSCoR (Established Program to Stimulate Competitive Research) builds Alaska's scientific capacity by engaging in research and education projects supported by the state of Alaska and the National Science Foundation.



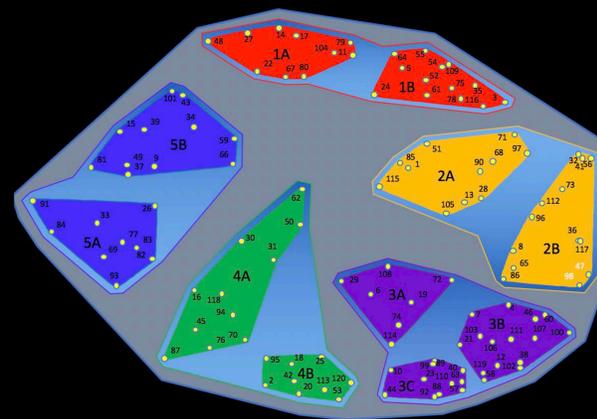
The **Alaska Adapting to Changing Environments (ACE)** project examines the mechanisms by which communities adapt to environmental and social change. The six-year (2012-18) effort has focused on subsistence users in Northern Alaska, fisheries in Southcentral Alaska, and tourism businesses in Southeast Alaska.



Alaska Fire and Ice (F&I), 2018-23, uses remote sensing, fieldwork, laboratory experiments, and modeling methods to study climate-driven changes to two critical Alaskan systems: wildfire regimes in the Alaskan boreal forest, and the coastal ecosystems of the Gulf of Alaska.

● Leadership Competencies

Project managers and leaders from the NSF EPSCoR community participated in a group concept mapping exercise, through which they developed a map of the competencies needed to effectively manage large and complex team science programs. While there is an existing body of knowledge pertaining to the field of "project management" within professional organizations and degree programs, participants found project management skills to be only one of five critical elements of effective team science management. They also identified four other conceptual groupings as important components of a competency framework: shared leadership, personal competence, social competence and communication.



1. **Project Management**
 - A. Knowing B. Doing
2. **Shared Leadership**
 - A. Organizational Management B. Organizational Empowerment
3. **Personal Competence**
 - A. Team Management B. Self-management C. Self-awareness
4. **Social Competence**
 - A. Relationship Management B. Social Awareness
5. **Communication**
 - A. Internal to Team B. External to Team

● Visualization Space

Built in 2016, Vis Space is an interactive, high-resolution visual environment designed to enable discussions and decision-making by policymakers, researchers, and industry leaders. There is a growing need for such environments stemming from advances in visualization technology; data sets of unprecedented size; an increasing need for team approaches to complex research and policy questions; and a growing acknowledgement of the importance of visual stimuli to fully engage the decision-making capacity of the human brain.

