Winter Worlds

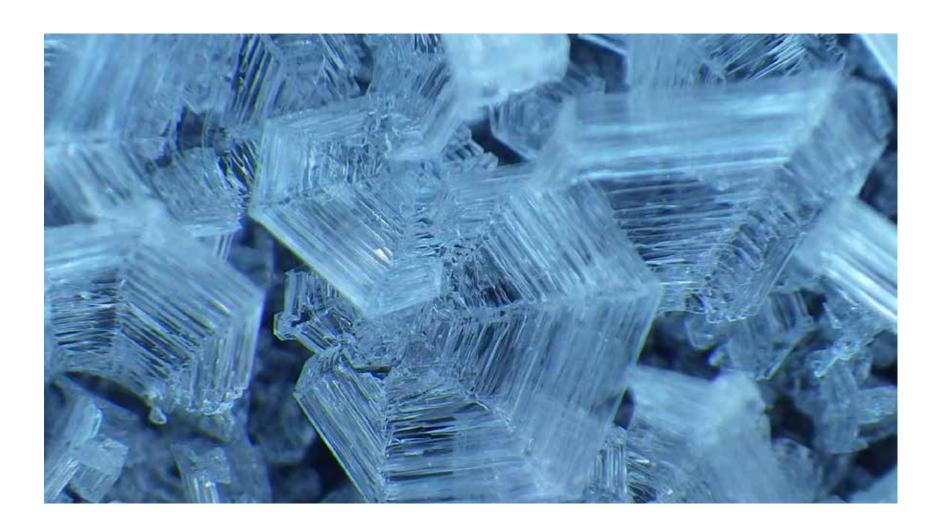## Snow: Museum Exhibit, Educational Outreach, and Learning Research

Question:

How do cultural relationships with a topic (in this case, snow) affect motivation to learn about the topic and its related issues?
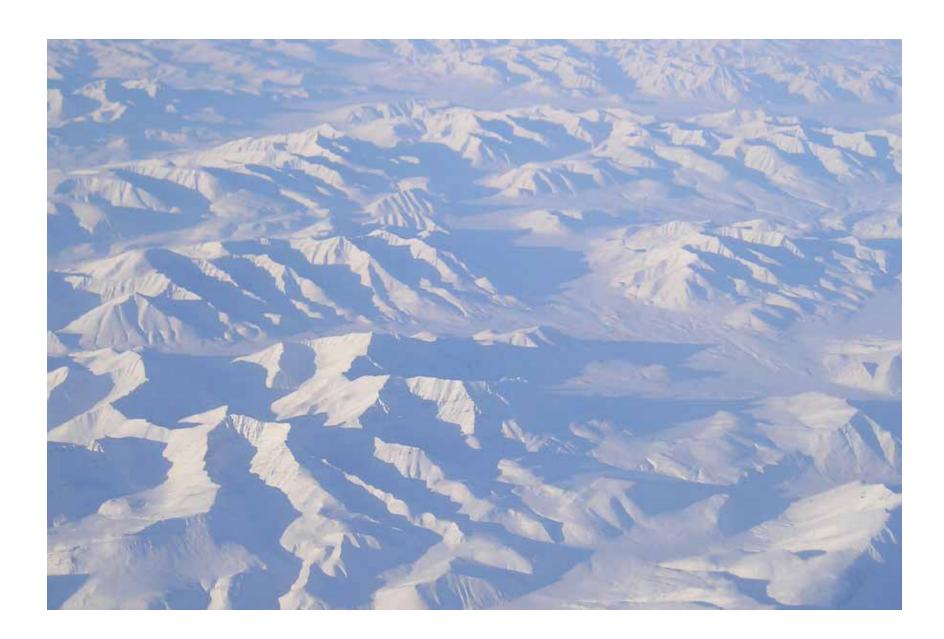
Collaborators

- University of Alaska Fairbanks (UAF)
- Oregon Museum of Science and Industry (OMSI)
- COSI Center for Research and Evaluation (CRE)
- Goldstream Group

Target Audiences

- Alaska Native families with children ages 9 to 14 (outreach)
- Families with children ages 9 to 14 (museum exhibit)
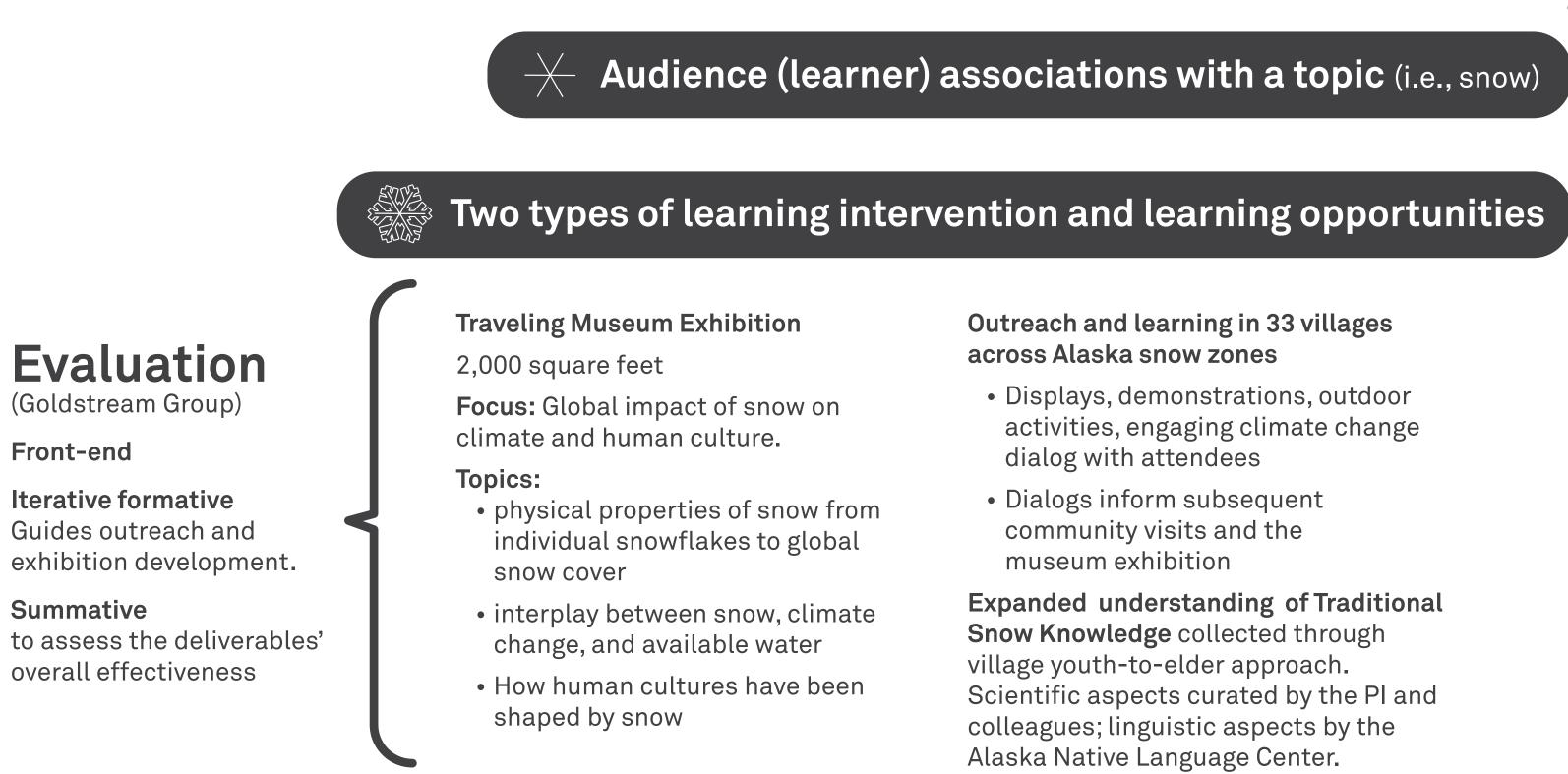- ISL professionals (research)

Project Overview

Building on both the familiarity and mystique of snow, the University of Alaska Fairbanks (UAF), the Oregon Museum of Science and Industry (OMSI), and COSI's Center for Research and Evaluation (CRE) are partnering on a new collaborative project, *Winter Worlds (Snow: Museum Exhibit, Educational Outreach and Learning Research)* . The project will use snow as a platform to explore Earth's climate system, engage in dialog about climate change, and advance our understanding of how culture affects STEM learning in informal settings. The work builds on 38 years of front-line snow research in the Arctic, on an exemplary track record of building and touring exhibitions, and on research expertise in informal learning environments.

The Project

✳ Audience (learner) associations with a topic (i.e., snow)

❄ Two types of learning intervention and learning opportunities

Evaluation

(Goldstream Group)

Front-end

Iterative formative
Guides outreach and exhibition development.

Summative
to assess the deliverables' overall effectiveness

Traveling Museum Exhibition

2,000 square feet

Focus: Global impact of snow on climate and human culture.

Topics:
- physical properties of snow from individual snowflakes to global snow cover
- interplay between snow, climate change, and available water
- How human cultures have been shaped by snow

Outreach and learning in 33 villages across Alaska snow zones
- Displays, demonstrations, outdoor activities, engaging climate change dialog with attendees
- Dialogs inform subsequent community visits and the museum exhibition

Expanded understanding of Traditional Snow Knowledge collected through village youth-to-elder approach. Scientific aspects curated by the PI and colleagues; linguistic aspects by the Alaska Native Language Center.

The Research

How do varied cultural relationships with a topic (in this case, snow) predict how a learning experience affects motivation to learn more about the topic and its related complex environmental issues?

❊ Audience (learner) outcomes (after experiencing a learning intervention)

Big Idea

Snow plays a vital role in global climate and water supply, and holds a special place in human culture.

The Research Model