



2025
Impact Award
ALASKA SOCIAL IMPACT

Remote Sensing & Mapping of Methane Seeps in Lakes



Innovators:

Melanie Engram | Katey Walter Anthony

- Developed by Melanie Engram, MSc, Research Assistant at the Water & Environmental Research Center (WERC), Institute of Northern Engineering and Katey Walter Anthony, Professor (WERC).
- To contribute to Alaskan residents' safer winter lake-ice travel a web map was produced indicating the locations of hundreds of known and possible points of dangerous ice in Fairbanks-area lakes caused by strong methane-rich bubble seeps in lakes.
- Datasets from on-the-ice field surveys and remote sensing indicate the location of known, ground-truthed holes in lake ice, holes in lake ice as detected in very-high-resolution optical imagery, and the location of remotely sensed probable gas-rich ice using space-borne synthetic aperture radar.
- The map was presented to Fairbanks community trail-user clubs, local, and state government representatives in a virtual meeting and is available online for community use:

