



UNIVERSITY TRANSPORTATION CENTER RESEARCH BRIEF

River Ice Measurements for Transportation Safety in Rural Communities

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Background

This project is relevant to the cold areas of Federal Region 10 where transportation routes can occur on frozen surface of lakes and rivers. While they exist, these types of winter roads are often the only opportunity for rural Alaskan communities to connect to the state

highway system and satisfy community supply needs. River ice conditions, especially ice thickness and the presence of overflow, strongly depend on air temperature, snow, and freezing degree-days.

Seasonal travel on river ice becomes less predictable as winters in Alaska become warmer. The Fourth National Climate Assessment Report highlights the fact that “the rate at which Alaska’s temperature has been warming is twice as fast as the global average since the middle of the 20th century.” The warming trend is strongly pronounced during the fall and winter months, making travel on river ice more challenging and less safe.



Research Project

This research focuses on exploring new river ice measurement techniques applicable in rural Alaskan communities. We will work with the city of Tanana, a rural Alaskan community, located at the confluence of the Yukon River and Tanana River. Residents of Tanana make a huge effort every year to build and maintain an ice road across the Yukon River. This ice road connects Tanana to the state road system that ends on the opposite side of the Yukon River. The goal of our project is to work with community members to develop a set of river ice measurements that provide information for safe traveling during the winter season.

ABOUT THE AUTHORS

The research team consisted of Svetlana Stuefer and Elizabeth Richards of the University of Alaska Fairbanks.

ABOUT THE FUNDERS

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EXPECTED DATE OF COMPLETION

August 2021

FOR MORE INFORMATION

<http://depts.washington.edu/pactrans/research/projects/river-ice-measurements-for-transportation-safety-in-rural-communities/>