Just Ask the Kids: Climate Resilience Engagement through Dirty Snow Citizen Science Inquiry Investigations in Alaska and Montana

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Abstract

With shore-fast sea ice disappearing along the coast of the Chukchi Sea causing winds with deep snow drifts, variable snowpack in Bristol Bay in Alaska, and winters without snow in West Central Montana, youth from these areas have personal stories of environmental changes witnessed firsthand. In a virtual "Dirty Snow" citizen science STEM engagement program that met weekly for 5-weeks, middle and high school youth across different time zones and cultures shared such snow stories, implemented a protocol to measure light absorbing particles (LAPs) in snow, and conducted their own Global Learning and Observations to Benefit the Environment (GLOBE) snowpack and pH investigations. Teachers, parents and researchers teamed up to support students as they asked their own questions about how LAPs affect their local communities and measured, collected, filtered, and analyzed snow samples. Students learned that LAPs in snow affect the Earth's climate system by reducing snow reflectivity, affecting albedo. On a local scale, LAPs capture heat energy leading to snow loss. Students wondered if LAPs also affect water quality. Middle school students from Shishmaref, Alaska (located on an island in the Chukchi Sea) selected snow sampling locations in areas important to their community's resilience to climate change, such as the sole water supply lagoon. The Shishmaref students shared their results with their community, showcased their project in both the GLOBE International Virtual Science Symposium and a tribal climate resilience webinar, and have been featured in the July 2021 Association of Women in Science Magazine issue on sustainability and innovation. In this session, we will share the lessons learned from multiple perspectives - including surveyed youth participants - on conducting a remote synchronous and asynchronous STEM and climate resilience engagement on a short timescale.

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ED55H-06: Just Ask the Kids: Climate Resilience Engagement through Dirty Snow Citizen Science Inquiry Investigations in Alaska and Montana

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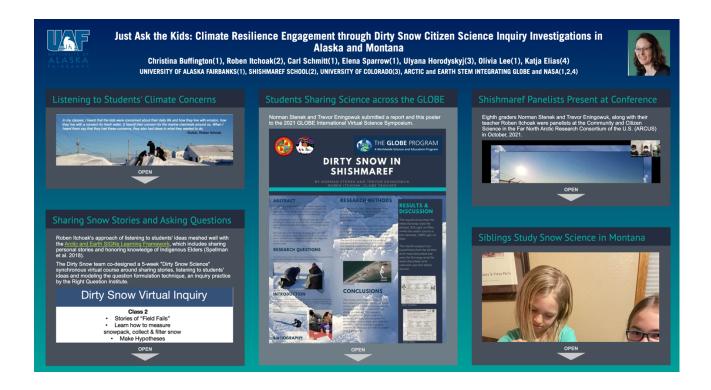
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ED55H-06: Just Ask the Kids: Climate Resilience Engagement through Dirty Snow Citizen Science Inquiry Investigations in Alaska and Montana

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Youth Authors on Poster

Trevor Eningowuk and **Norman Stenek** of Shishmaref, Alaska and **Freya Elias** of Helena, Montana. These youth share their reflections and inquiry investigations with permission on this poster.

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