Sustainably Navigating Arctic Pollution – Through Engaging Communities (SNAP-TEC)

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Project Website Urls & Social Media Accounts: https://fairair.community.uaf.edu/; https://alpaca.community.uaf.edu/

Project Objectives: This project focuses on improving understanding of wintertime Arctic outdoor and indoor air pollution. The motivation for this study arose from public feedback from Fairbanks and North Pole residents, who are concerned about the air quality and spend large amounts of time indoors during cold winter months. We will address: 1) natural science aspects related to how pollution behaves under cold and dark conditions through a field study in Fairbanks, Alaska; 2) the built environment through sampling air from a house and comparing to outdoor air while varying indoor sources (e.g. wood / oil heat), and 3) social science aspects through surveys and a public participation in science (PPSR). These efforts focus on studying and co-producing knowledge about resident's attitudes, beliefs, and actions around air quality issues.

Keywords: Air pollution, Arctic, Communities, Societal attitudes, Co-production of Knowledge

Progress to Date/Future Plans: The project formally began in Fall 2019, although it has built from prior workshops and studies. Most of our current efforts have been building the framework for the various elements of the study and hosting two community meetings (one in Fairbanks, one in North Pole) in February 2020. These meetings started the process of identifying members to be involved in a community advisory group, finding people to be involved in the PPSR study, and identifying people / groups to be engaged in the survey development and deployment. We have now shifted to planning of the field intensive study, which was planned for Jan/Feb 2021. Due to the coronavirus situation, we are considering if a delay might be appropriate.

Highlights or Expected Outcomes: We expect the project will increase community engagement around air quality in Arctic cities, including developing appropriate solutions. Our field study will also deepen scientific understanding of pollution in cold and dark environments. The indoor air aspect will improve understanding of transformation of infiltrating particulate matter upon warming to indoor temperatures and how indoor sources affect indoor air quality. The results of the field study and social science work should help community planners with solving these air quality problems in locally appropriate ways.

NNA Community Collaboration and Research Coordination: We look forward to working with other NNA projects to understand implications of the changes to the New Arctic. We are interested in expanding our project, which has field studies in the Fairbanks North Star Borough, AK, to other communities and considering similarities and differences between communities that affect locally appropriate solutions to these problems.

Advice for Overcoming NNA Project Challenges: We are trying to determine how to do the field work and public meetings in the light of the coronavirus situation and needing to assure safety for participants and the community. Another challenge is that economic consequences of the shutdown could lead to increased woodburning and pollution, making the intended field study year an anomaly.