

Developing Environmental Community-Based Monitoring Through Collaborative Research and Two-Way Capacity Sharing

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The COVID-19 pandemic has produced the widespread loss of baseline data from Arctic regions that are changing rapidly in response to environmental change. This loss highlights the importance of advancing collaborations and capacity sharing to promote resilient and sustainable environmental monitoring approaches. Community-based monitoring (CBM) can increase our understanding of human-environmental interactions and environmental changes occurring across the Arctic, including within Inuit Nunangat - homeland to the Canadian Inuit. Using detailed literature syntheses, we find that studies incorporating CBM approaches have increased within Inuit Nunangat over the last decade. An increasing number of these studies were however reviews, highlighting a limited number of individual case studies on which to inform future co-developed research methodologies. Growth in the number of CBM studies were driven primarily by wildlife focused studies over the last decade, but this has not translated to similar trends in environmental studies harnessing CBM. We identify that guiding protocols e.g., National Inuit Strategy on Research has increased community engagement in research processes. This change has occurred largely in wildlife CBM and can only be reflected in a few environmental case studies that align closely with community priorities. We further present good practice and recommendations drawn from literature and provide a new conceptual framework for environmental CBM that captures collaborative research and two-way capacity sharing. This adaptable framework will be used to develop environmental CBM that can be sustained and increase equitable outcomes of research in Inuit Nunangat.