



## **Hazard and Vulnerability Assessment and Adaptive Planning: Mutual and Multi-lateral Community-Researcher Communication, Arctic and Atlantic Canada**

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Communities in Arctic and Atlantic Canada are faced with a variety of natural geological and environmental hazards. Successful adaptation requires assessment of hazards from a physical science perspective, and appropriate communication to the communities involved. Transforming a hazard assessment exercise into an effective plan for adaptation, however, requires an intimate understanding of the culture of the people and communities involved, extending across a variety of spatial scales, socio-economic groups, and all levels of governance. Hazard assessment involving substantial input from all research, administrative, socio-economic, and cultural communities will lead to more appropriate and valuable analyses of risk, sensitivity, and vulnerability. Effective communication is vital for results. However, many residents of Arctic and Atlantic Canada are reluctant to participate in one-way exercises in communication. Increasingly, providing information to scientific communities, which is not returned to the informants' communities; or passively receiving a lecture outlining one or more hazards (or risk, sensitivity, and vulnerability), are of limited interest. Residents and communities can contribute greatly to the identification and assessment of natural hazards. Community-driven communication is essential for meaningful risk analysis, adaptive planning, and vulnerability assessment. Developing relationships with local media can be extremely beneficial if mutual communication can be established. As an example, specific adaptation processes to climate-related natural hazards were examined in Arctic Canadian communities. Using the practices of participatory community planning allows local environmental changes to be assessed and responded

to by the people affected. The aims include reassessment of municipal planning practice to enhance community resilience; support of municipal decision-making respecting pressing infrastructure issues; facilitation of mutually beneficial interdisciplinary and inter-community communication; and practical applications of hazard assessment in a community context. Establishing effective working partnerships is essential for a true vulnerability assessment. The particularly sensitive nature of hazard assessments indicating increasing risk and vulnerability, and the socio-economic changes ongoing in some communities, required consideration of the most appropriate methods of communication for each instance. The relationships that have emerged through the course of work in the communities have differed markedly from those originally envisioned, and also exhibit significant differences among communities.