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planet: increased seasonal temperatures; decreased snow and ice quality, stability, and extent; melting permafrost; decreased water levels in ponds and brooks; increased frequency and intensity of severe storms; later ice formation and earlier ice break-up; and alterations to wildlife migration and plant growth patterns. These changes are decreasing the ability of Inuit to hunt, trap, forage, or travel on the land, which directly disrupts the socio-cultural fabric of the communities and individual livelihoods. These changes also impact on the health of individuals and communities. While there is a burgeoning field of research examining climate-health relations, most studies rarely consider the implications for mental health and well-being. Yet, from data gathered as part of a multi-year, community-driven, participatory project in Nunatsiavut, Canada, it is clear that the emotional and mental consequences of climatic and environmental change are of increasing concern and importance to Northern residents. Drawing from 85 in-depth interviews and 112 questionnaires conducted in Rigolet from 2009 to 2010, community members reported experiencing climate-related mental health impacts through eight interrelated pathways: increased reports of family stress; increased reports of drug and alcohol usage; increased reports of suicide ideation; the amplification of other traumas or mental health stressors; decreased place-based mental solace; a sense of identity loss; and grief for a changing environment. This work represents the first research to examine the mental and emotional health impacts of environmental change within a Canadian Inuit context, and one of the first such studies globally. These findings indicate the urgent need for more research on environmental-change related mental health impacts and emotional adaptive processes in Canada and internationally, and for more mental health programming to enhance resilience to and assist with the mental health impacts of climate change.

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FACING THE LIMIT OF RESILIENCE: PERCEPTIONS OF CLIMATE CHANGE AMONG REINDEER HERDING SAMI IN SWEDEN

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Background. The Arctic area is a part of the globe where the increase in global temperature has had the earliest noticeable effect and indigenous peoples, including the Swedish reindeer herding Sami, are amongst the first to be affected by these changes.

Objective. To explore the experiences and perceptions of climate change among Swedish reindeer herding Sami.

Study design. In-depth interviews with 14 Swedish reindeer herding Sami were performed, with purposive sampling. The interviews focused on their experiences of climate change, observed consequences and thoughts about this. The interviews were analyzed using content analysis.

Results. One core theme emerged from the interviews: facing the limit of resilience. Swedish reindeer-herding Sami perceive climate change as yet another stressor in their daily struggle. They have experienced severe and more rapidly shifting, unstable weather with associated changes in vegetation and alterations in the freeze-thaw cycle, all of which affect reindeer herding. The forecasts about climate change from authorities and scientists have contributed to stress and anxiety. Other societal developments have led to decreased flexibility that obstructs adaptation. Some adaptive strategies are discordant with the traditional life of reindeer herding, and there is a fear among the Sami of being the last generation practicing traditional reindeer herding.

Conclusions. The study illustrates the vulnerable situation of the reindeer herders and that climate change impact may have serious consequences for the trade and their overall way of life. Decision makers on all levels, both in Sweden and internationally, need improved insights into these complex issues to be able to make adequate decisions about adaptive climate change strategies. Full text free article at: <http://www.globalhealthaction.net>

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COMPARING PERCEPTIONS OF CLIMATE CHANGE TO OBSERVATIONAL DATA FROM THE SAMI REGION OF NORTHERN SWEDEN

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The indigenous peoples of the Arctic are amongst the populations expected to be most impacted by changes to Earth's climate. An increase in average air temperatures in the Arctic region is one of the most widely documented changes from the past century and is expected to continue or accelerate in the future. The indigenous Sami in northern Sweden, however, perceive that their daily lives have been instead impacted by significant changes in climate variability and extremes. Interviews with reindeer herding Sami indicated more drastic daily changes in temperature and precipitation and a tendency toward longer wet and dry spells in the cold season. We sought to develop quantitative measurements of climate variability in northern Sweden over the past four decades to compare to respondents' perceptions. Daily climate data were obtained from several meteorological stations in the Sami region with continuous observations over the

period 1970–2010. We then calculated various metrics associated with climate variability and extremes. Emphasis was placed on how the most recent decade compares with those prior, as interview subjects indicated that changes were especially pronounced during the last ten years. Preliminary results indicate that many of the extreme percentiles of temperature and precipitation and daily change variables have significantly changed while simpler measures such as variance indicate no trend. The major findings of the study are (1) inhabitants of the Arctic observe and emphasize a broader set of aspects of climate change than those typically included assessment reports, and (2) standard metrics used to evaluate variability are incomplete for assessing long-term changes in daily weather fluctuations. Future work estimating climate change and its impacts in the Arctic could place more emphasis on variability and consider a broader scope of quantitative and qualitative metrics to understand what has happened in the past.

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INDOOR AIR QUALITY IN RURAL ALASKAN HOMES

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Residential indoor air quality is a pillar of environmental health. With exceptionally high rates of respiratory disease, a critical housing shortage and exceptionally demanding heating needs, Alaskan households face major indoor air challenges. In this session, we will examine how the unique aspects of climate, geography, building construction and culture influence air quality in rural and remote Alaskan homes. Many agencies offer outreach material and best practice recommendations regarding indoor air quality. Unfortunately, Alaskan environmental health workers are finding much of this material is poorly suited to the unique and challenging conditions of our state. A careful review of housing issues and respiratory disease rates details a web of weighty, and often unique, air quality factors that gravely impact health. By making use of available research, as well as field experience, we will explore and prioritize the air quality concerns, which have the greatest impact on rural residents. Looking towards the future, we will discuss how increased concern over heating efficiency and the progressive “tightening” of Alaskan homes will create new challenges for the residential environmental health professional. We will describe a systematic, evidence-based review of available health and housing information and how these data can be used to set priorities and address housing as a complex health topic. While this session will focus specifically on the residential indoor air quality issues of remote and rural Alaska, it will be well suited to anyone trying to

develop or adapt healthy housing guidelines for northern latitudes.

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BEDBUGS IN THE LAST FRONTIER: STRATEGIES, CHALLENGES, AND OPPORTUNITIES FOR COLLABORATION

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While the re-appearance of bedbugs has been making headlines across the country for years, local agencies are just beginning to identify the unique challenges to combating these pests in Alaskan communities. Many national organizations have research-based guidelines for addressing bedbug infestations however, they may not be appropriate for Alaskan communities and homes. Differences in climate, geography, sanitation and pestcontrol infrastructure mean that Alaskan’s often need to find alternate strategies to deal with this problem. This has left many individuals, businesses and organizations around the state struggling to identify and communicate appropriate science-based strategies while discouraging dangerous activities such as the off-label use of toxic pesticides. In this presentation, we describe some of the fascinating biology of *Cimex lectularius*, discuss national trends in bedbug control and use the available scientific evidence to identify best-practice for Alaskan communities. We will also discuss the role of government agencies in addressing this problem and describe existing inter-agency collaborations, which have been working to provide useful guidelines to help communities and individuals throughout the state. In addition, in Alaska and other areas of the north, there is limited availability to research based resources that will be the most effective for proper bedbug treatment programs. Northern habits of spending much time indoors during the winter months can cause many disorders and problems, including a perfect opportunity for bedbug invasion and potentially dangerous conditions if not treated appropriately. How agencies work together across vast distances and communities, to best address this bedbug resurgence will determine efficacy and healthy communities in the future.

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SUSTAINING ACCESS TO SAFE DRINKING WATER AND SANITATION FOR PROMOTING LOCAL WELL-BEING IN ALASKA NATIVE VILLAGES

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The task of ensuring that all Alaska Native villages have access to potable water and proper sanitation is still not