

Arctic One Health: Strategy for Resiliency

Operationalizing One Health in the Arctic

A regional One Health approach unifying capabilities to better understand, forecast and respond to climate change impacts on multi-species health stressors in the Arctic.

Climate change is transforming the Arctic on an extraordinary scale and pace. Because all life is intimately connected to its physical surroundings, even small changes in the environment will impact the health and well-being of each living thing. These impacts reverberate through the entire Arctic ecosystem.

The Arctic is known as being both rugged and resilient due in part to persistent cold temperatures and the largely frozen conditions of the land and sea. But the Arctic is particularly susceptible to the impact of **climate change**. Arctic temperatures have risen at twice the global average rate, resulting in decreased sea ice, coastal erosion, changes in precipitation magnitude and frequency, permafrost thawing, and altered distributions of animal and plant species. The associated health risks for humans, animals and plants include potential changes in pathogen proliferation and vector borne diseases, effects on drinking water quality and availability, environmental contamination, effects on the quality and availability of food, and changes in animal species distribution, among others.

The complex impacts of climate change call for multidisciplinary stakeholder collaborations to advance our fundamental understanding of emerging health threats, and for the development of initiatives that decrease vulnerabilities of the Arctic communities and the ecosystems.

A **One Health** approach advances the concept and practice of a multidisciplinary approach to health risks in human, animals, plants and the environment. Core to the One Health model is a participatory community-based approach, which takes into account traditional and local knowledge and uses the experience to identify and respond to health issues. One Health is already evident in many Arctic communities, and there are existing programs that include multi-disciplined science communities, and indigenous stakeholders to address aspects of Arctic health, ecosystem monitoring, animal, plant and human disease surveillance and reporting. Most importantly, there is strong recognition in the region of the need for a multi-disciplinary approach to better understand climate change impacts of One Health concern.

A One Health approach recognizes the world is interconnected, and advances collaboration among diverse set of stakeholders to attain optimal health for people, domestic animals, wildlife, plants, and the environment.

PROJECT: During the U.S. Chairmanship (2015-17) of the Arctic Council, the U.S. and Canada will undertake a project to further a One Health approach across the Arctic region as a strategy to enhance resiliency. As it is implemented, this multi-phase project will help advance the fundamental understanding of climate change vulnerabilities and impacts on community and ecosystem health in the Arctic region, and will encourage the transition from knowledge to action through the development of decision-making tools.

LEARN MORE: Visit the Arctic Council Sustainable Development Working Group web site at <http://www.sdwg.org/expert-groups/arctic-human-health-expert-group/>, or contact Dr Bruce Ruscio at ruscioba@state.gov, or Sarah Cox at Sarah.Cox@aadnc-aandc.gc.ca.