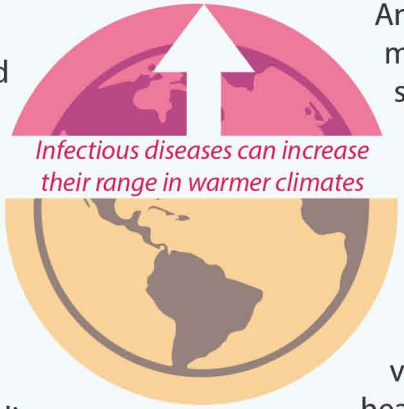
THE ARCTIC INSTITUTE
CENTER FOR CIRCUMPOLAR SECURITY STUDIES

CLIMATE CHANGE AND THE SPREAD OF INFECTIOUS DISEASES IN THE ARCTIC

CLIMATE AND HEALTH RISKS

Climate change affects the spread of infectious disease through animal and insect vectors such as mosquitoes, ticks and rodents; **higher temperatures and precipitation increase their life expectancy, range and abundance.** Arctic temperatures are increasing at a rate that is two times faster, on average, as the rest of the world, increasing the potential for the northward spread of diseases.



Infectious diseases can increase their range in warmer climates

Animal and insect vectors, such as mosquitoes, ticks and rodents, can spread deadly diseases such as West Nile Virus, Hanta Virus, tick-borne Encephalitis and Lyme Disease.

Small, isolated communities are most vulnerable because they lack public health infrastructure and response.

CURRENT HEALTH IMPACTS

SWEDEN: 284 CASES

Ticks in Northern Sweden have moved northward in response to an increase in average temperature. There were 284 cases of tick-borne encephalitis in 2011, almost 10x the amount in the 1980s.

ALASKA: 1/3 PEOPLE

1/3 of Alaska Natives do not have in-home water or sewage service, putting them at risk for water-borne diseases should they increase as the climate warms.

MEASURES WE CAN TAKE

- Sharing knowledge. Continue improving knowledge sharing across circumpolar region; focus on utilizing Local/Traditional Knowledges

-Improving public health. Public health infrastructure is needed in isolated, rural Arctic communities, which are the communities more threatened by changes in infectious diseases.

-Monitoring and prediction. Develop more models to monitor and predict infectious disease spread based on current climate changes and vector populations.

Sources:
(Parkinson & Butler 2005, Sustainable Development Working Group 2017).
(Parkinson & Butler 2005, Waits et al. 2018).
(Waits et. al 2018)

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