From Cryosphere Services to Sustainable Development Goals

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In Fairbanks, building a home on permafrost with an uncertain future

Ravenna Koenig, Alaska’s Energy Desk  Sep 25, 2018 Updated 13 hrs ago

One of the two cabins that Ilya Benesch is building on a property underlain with permafrost. September 7th, 2018. (Ravenna Koenig/Alaska’s Energy Desk)

M in damages every year to economies in N.W.T. communities

Last Updated: November 20, 2017
Vast costs of Arctic change

The methane pulse will bring forward by 15–35 years the average date at which the global mean temperature rise exceeds 2°C, an extra $37 trillion, or 45% cost added in the low emission case.

Interaction between the cryosphere and other earth spheres

Source: Qin etc, National Science Review, 2018
Research Questions

Climate Change
(Global Environmental Change)

Risks:
Services not meet Demands
(for SDGs)
Adaptation Approaches

Multi-Scale Integration of Interventions
   - Policies
   - Planning
   - Design

Climate Change

Future Socioeconomic Development

Sustainable Development Goals

Cryosphere and Changes (interacted with other spheres)

Services Service Changes

Service Demand Exposure

Vulnerability

Risk Economic Social Environmental Loss
Thank You!

Xiaoming Wang Photography 2018