



## Vision Statement

PerCS-Net envisions building:

A sustainable, pan-Arctic permafrost coastal observatory network providing coordinated and timely information to researchers, managers, indigenous stakeholders, and the general public

A transdisciplinary research network that fosters linkages in order to amplify the broader impacts of each individual network and maintain a circumpolar alliance for Arctic coastal community information exchange

An international community that fosters and empowers the next generation of students, early-career researchers, and indigenous communities faced with the known and unknown challenges of the future Arctic System.

# Mendenhall Research Fellow Position with the USGS



## **Coastal Arctic landscape-scale vulnerabilities to climate change impacts -**

The Mendenhall Fellow may combine field observations and local knowledge with modeling approaches to investigate the morphodynamics and effects of permafrost degradation in coastal bluffs and barrier islands along the North Slope of Alaska. Specific needs are to quantify erosion and associated material fluxes, including carbon, that are exchanged between land and the coastal ocean. These studies will address how climate-change impacts and natural processes impact the stability of the coastal barrier islands that support fragile ecosystems and protect mainland communities, infrastructure, and traditional hunting and fishing grounds. Outreach and engagement with State and local government, communities, and stakeholders to identify specific information needs is encouraged. The candidate will ideally have a background in coastal geology, oceanography, and/or permafrost biogeochemistry.

Application Review Begins: 01 November 2022 (How to Apply)

## New Network Member Publications

Forbes, D.L., Craymer, M.R., James, T.S. and Whalen, D., 2022. Subsidence drives habitat loss in a large permafrost delta, Mackenzie River outlet to the Beaufort Sea, western Arctic Canada. *Canadian Journal of Earth Sciences*, 99(999), pp.1-21.

Hampton-Miller, C.J., Neitlich, P.N. and Swanson, D.K., 2022. A high-resolution map of coastal vegetation for two Arctic Alaskan parklands: An object-oriented approach with point training data. *PloS one*, 17(8), p.e0273893.

Klein, K.P., Lantuit, H. and Rolph, R.J., 2022. Drivers of Turbidity and Its Seasonal Variability at Herschel Island Qikiqtaruk (Western Canadian Arctic). *Water*, 14(11), p.1751.

Malito, J., Eidam, E. and Nienhuis, J., 2022. Increasing wave energy moves Arctic continental shelves toward a new future. *Journal of Geophysical Research: Oceans*, 127(9), p.e2021JC018374.

Nielsen, D.M., Pieper, P., Barkhordarian, A., Overduin, P., Ilyina, T., Brovkin, V., Baehr, J. and Dobrynin, M., 2022. Increase in Arctic coastal erosion and its sensitivity to warming in the twenty-first century. *Nature Climate Change*, 12(3), pp.263-270.

Overeem, I., Nienhuis, J.H. and Piliouras, A., 2022. Ice-dominated Arctic deltas. *Nature Reviews Earth & Environment*, 3(4), pp.225-240.

Paull, C.K., Dallimore, S.R., Jin, Y.K., Caress, D.W., Lundsten, E., Gwiazda, R., Anderson, K., Hughes Clarke, J., Youngblut, S. and Melling, H., 2022. Rapid seafloor changes associated with the degradation of Arctic submarine permafrost. *Proceedings of the National Academy of Sciences*, 119(12), p.e2119105119.

Philipp, M., Dietz, A., Ullmann, T. and Kuenzer, C., 2022. Automated Extraction of Annual Erosion Rates for Arctic Permafrost Coasts Using Sentinel-1, Deep Learning, and Change Vector Analysis. *Remote Sensing*, 14(15), p.3656.

Stark, N., Green, B., Brilli, N., Eidam, E., Franke, K.W. and Markert, K., 2022. Geotechnical Measurements for the Investigation and Assessment of Arctic Coastal Erosion—A Review and Outlook. *Journal of Marine Science and Engineering*, 10(7), p.914.

Zimmermann, M., Erikson, L.H., Gibbs, A.E., Prescott, M.M., Escarzaga, S.M., Tweedie, C.E., Kasper, J.L. and Duvoy, P.X., 2022. Nearshore bathymetric changes along the Alaska Beaufort Sea coast and possible physical drivers. *Continental Shelf Research*, 242, p.104745.

For more information, please consider joining PerCS-Net to keep informed about upcoming activities and new products – <https://permafrostcoasts.org>. We are very excited to build this International Network of Networks with the community!