# Permafrost Coastal Systems Network (PerCS-Net)

The Permafrost Coastal Systems Network will accelerate the process of scientific discovery, facilitate public access to scientific data, and promote convergence through an international, transdisciplinary network focused on science, engineering, and societal issues associated with permafrost-affected coasts and communities in the Arctic.

October 2020

Happy 1st Birthday PerCS-Net!

One year ago today, PerCS-Net became an official International Network of Networks funded by the NSF-AccelNet and Arctic System Science programs. The successful proposal was a testament to the long-standing coordination and collaboration efforts across the diverse and dynamic permafrost coastal system spanning the last several decades. Our noteworthy accomplishments during this first year are too numerous to include in detail here. So to highlight a few - our kick-off network meeting at the 2019 Annual AGU Fall Meeting, launching two journal special issues, developing a data portal at the NSF-funded Arctic Data Center, developing a data visualization space with our network collaborator AXIOM Data Science, contributing a draft essay for inclusion in NOAA's 2020 Arctic Report Card, and engaging in a number of network member publications and education and outreach products. We very much look forward to a successful second year of our planned network to network activities and to a time when we can all meet and interact in person again. Happy Birthday PerCS-Net!

PerCS-Net Viz Space
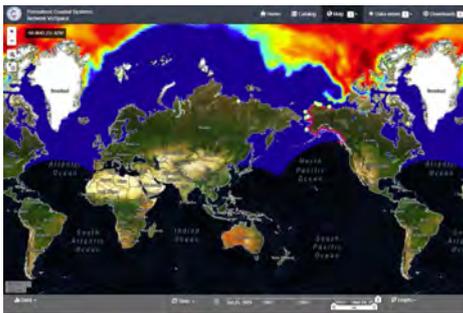
We recently published the PerCS-Net data visualization space, with AXIOM Data Science. Currently we have included a number of datasets that show geotagged coastal imagery, current and past sea ice conditions, and near real-time environmental conditions. We will continue to populate the VizSpace with existing datasets from the ADC portal, other national and international data repositories, as well as help ingest previously unpublished datasets.

Frontiers Special Issue

We now have five papers published in our Frontiers Special Issue (Observations, Interactions, and Implications of Increasingly Dynamic Permafrost Coastal Systems) and three more are currently in review. PerCS-Net is offering publication cost support to graduate students and early career researchers. Please contact bmjones3@alaska.edu if you have any questions. The submission deadline has also been extended to 13 December 2020. We look forward to receiving your submissions for peer-review.

In Memoriam

On 28 May 2020, the Arctic coastal community lost a valuable team member. Bruce Richmond, recently retired from the U.S. Geological Survey in Santa Cruz, CA, passed away surrounded by family after suffering a stroke. Bruce played an essential role in expanding the USGS Coastal Change Hazards program beyond the conterminous US and into the Arctic. Bruce contributed to a number of baseline studies that will live on in our network as we continue to build on his valuable contributions.

Bruce Richmond at Barter Island, July 2010.

Currently, PerCS-Net includes 154 members from 21 countries, with more than half of the network consisting of early career researchers! Please help us continue to bring together the international coastal permafrost community by providing material for future quarterly newsletters and by spreading the word through your own networks.

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.

New Network Member Publications

Bartsch, A., Ley, S., Nitze, I., Pointner, G. and Vieira, G., 2020. Feasibility study for the application of Synthetic Aperture Radar for coastal erosion rate quantification across the Arctic. Frontiers in Environmental Science, 8(143).

Liew, M., Xiao, M., Jones, B.M., Farquharson, L.M. and Romanovsky, V.E., 2020. Prevention and control measures for coastal erosion in northern high-latitude communities: a systematic review based on Alaskan case studies. Environmental Research Letters, 15(9), p.093002.

Lim, M., Whalen, D., Martin, J., Mann, P.J., Hayes, S., Fraser, P., Berry, H.B. and Ouellette, D., 2020. Massive Ice Control on Permafrost Coast Erosion and Sensitivity. Geophysical Research Letters, p.e2020GL087917.

Ogorodov, S., Aleksyutina, D., Baranskaya, A., Shabanova, N. and Shilova, O., 2020. Coastal Erosion of the Russian Arctic: An Overview. Journal of Coastal Research, 95(sp1), pp.599-604.

Sinitsyn, A., Depina, I., Bekele, Y.W., Christensen, S.O. and van Oosterhout, D., 2020. Development of coastal infrastructure in cold climate. Summary Guideline. SFI SAMCoT report.

Coastal and Offshore Permafrost Rapid Response Assessment

We are excited to announce the release of a comprehensive education and outreach resource aimed at raising awareness about the importance of coastal and offshore permafrost and to identify urgent geoscience research needs. The Coastal and Offshore Permafrost Rapid Response Assessment (RRA) focuses primarily on areas of western North America where there is extensive offshore permafrost and retreating coastal areas. However, the findings extend to other parts of the Arctic as well. Along with the science, the RRA considers the perspectives of Arctic peoples on the coastal permafrost issues that they struggle with on a daily basis and the concerns that they have for the future. Discussions with the residents of communities in the western Canadian Arctic were influential in focusing the scope of the RRA.

https://coastalrra.grida.no/

The RRA is organized as a collection of three ESRI StoryMaps. The two main story maps summarize the science, issues of concern identified by Arctic peoples, and policy considerations. We have also created a community space as a crowdsource storymap where people can share their observations and experiences about coastal permafrost issues.

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!