



Permafrost Coastal Systems Network (PerCS-Net)

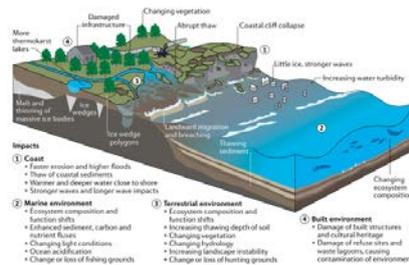


The Permafrost Coastal Systems Network accelerates the process of scientific discovery, facilitates public access to scientific data, and promotes convergence through an international, transdisciplinary network focused on science, engineering, and societal issues associated with permafrost-affected coasts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

Winter 2022

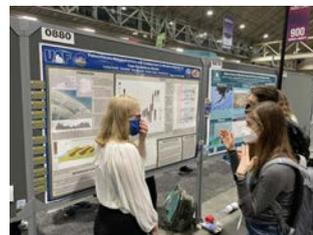
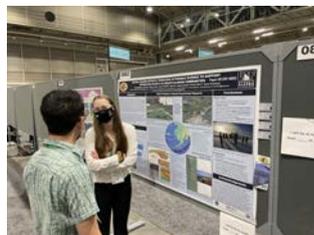
New Pan-Arctic Synthesis Paper Published in Nature Reviews

More than 10 PerCS-Net members collaborated on a recent review paper that was published in the journal Nature Reviews Earth & Environment in January 2022 highlighting the drivers, dynamics and impacts of changing Arctic coasts. The synthesis, led by Anna Irrgang from the Alfred Wegener Institute, provides an overview of the diversity of Arctic coasts, discusses drivers of coastal change and describes their vulnerability to climate change, highlights the changes that have been observed during the last seven decades, and discusses the impact on the natural and human environment. The paper synthesizes our current knowledge in a forward-looking manner by identifying future research to help address an increasingly dynamic arctic coastal system. The paper also lays the foundation for the development of the second version of the Arctic Coastal Dynamics database.



Arctic Coasts at the Annual AGU Fall Meeting in New Orleans, LA

PerCS-Net members convened the annual session on Arctic Coastal Dynamics in December 2021 during the in person/virtual AGU Fall Meeting that took place in New Orleans, LA. The session generated a lot of interest, with 10 oral presentations and 10 poster presentations. The presentations focused on topics related to Arctic coastal dynamics, drivers of coastal change, geomorphological processes, modelling approaches and impacts on ecosystem ecology, biogeochemistry, infrastructure, and social systems. This year, women rocked this space, representing 90% of the first author poster presenters and 75% of the first author oral presenters.



30 Plus Years on Semisolid Ground

Vladimir Romanovskiy retired from the University of Alaska Fairbanks, at the end of January 2022, following thirty years of research at the Geophysical Institute, Permafrost Laboratory. This, in addition to his 10 plus years studying permafrost at Moscow State University before coming to UAF, has made him a world leader in permafrost research. Vladimir's insight, expertise, and ability to effectively communicate across disciplines has enhanced the breadth of permafrost research that will span several future generations to come. Thank you Vladimir for your mentorship and enjoy your early days of retirement! <https://uaf.edu/news/thirty-years-on-semi-solid-ground.php>



Currently, PerCS-Net includes 183 members from 21 countries, with nearly 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.

Coastal Monitoring Community Outreach Manager Position



The Inuit Circumpolar Council (ICC) Alaska invites applications for a Coastal Monitoring Community Outreach Manager. This full-time position, located in Anchorage, Alaska, is a grant-funded position for two years, but may be extended if additional resources are secured. The position will coordinate community outreach and ICC's participation within the Coastal Expert Monitoring Group (CEMG) work conducted under the Arctic Council. The position will focus on the implementation of the CEMG plan within Alaska through direct engagement with the regions that ICC advocates on behalf of and will represent ICC on the international Coastal Expert Monitoring Group Steering Committee. Under this position, high emphasis will be placed on relationship building to aid in bringing forward Inuit-driven monitoring programs and guiding a co-production of knowledge approach within this initiative. The position will work in close cooperation with the Indigenous Knowledge/Science Advisor and report to the Executive Director.

Application Review Begins: 25 January 2022 (<https://iccalaska.org/icc-alaska/>)

New Network Member Publications

Bartsch, A., Pointner, G., Nitze, I., Efimova, A., Jakober, D., Ley, S., Högström, E., Grosse, G. and Schweitzer, P., 2021. Expanding infrastructure and growing anthropogenic impacts along Arctic coasts. *Environmental Research Letters*, 16(11), p.115013.

Bertin, C., Matsuoka, A., Mangin, A., Babin, M. and Le Fouest, V., Merging satellite and in situ data to assess the flux of terrestrial dissolved organic carbon from the Mackenzie River to the coastal Beaufort Sea. *Front. Earth Sci.*, p.66.

Irrgang, A.M., Bendixen, M., Farquharson, L.M., Baranskaya, A.V., Erikson, L.H., Gibbs, A.E., Ogorodov, S.A., Overduin, P.P., Lantuit, H., Grigoriev, M.N. and Jones, B.M., 2022. Drivers, dynamics and impacts of changing Arctic coasts. *Nature Reviews Earth & Environment*, 3(1), pp.39-54.

Islam, M.A., Lubbad, R., Amiri, S.A.G., Isaev, V., Shevchuk, Y., Uvarova, A.V., Afzal, M.S. and Kumar, A., 2021. Modelling the seasonal variations of soil temperatures in the Arctic coasts. *Polar Science*, 30, p.100732.

Jarosz, K., Zagórski, P., Moskalik, M., Lim, M., Rodzik, J. and Mędrek, K., 2022. A New Paraglacial Typology of High Arctic Coastal Systems: Application to Recherchefjorden, Svalbard. *Annals of the American Association of Geographers*, 112(1), pp.184-205.

Leibman, M., Kizyakov, A., Zhdanova, Y., Sonyushkin, A. and Zimin, M., 2021. Coastal Retreat Due to Thermodenudation on the Yugorsky Peninsula, Russia during the Last Decade, Update since 2001–2010. *Remote Sensing*, 13(20), p.4042.

MacLeod, R.F. and Dallimore, S.R., 2021. Assessment of Storm Surge History as Recorded by Driftwood in the Mackenzie Delta and Tuktoyaktuk Coastlands, Arctic Canada. *Frontiers in Earth Science*, 9, p.1171.

Malakhova, V.V. and Eliseev, A.V., 2022. Subsea permafrost and associated methane hydrates: how long will they survive in the future?. *Earth System Dynamics Discussions*, pp.1-27.

Mann, P.J., Strauss, J., Palmtag, J., Dowdy, K., Ogneva, O., Fuchs, M., Bedington, M., Torres, R., Polimene, L., Overduin, P. and Mollenhauer, G., 2022. Degrading permafrost river catchments and their impact on Arctic Ocean nearshore processes. *Ambio*, 51(2), pp.439-455.

Wang, J., Li, D., Cao, W., Lou, X., Shi, A. and Zhang, H., 2022. Remote Sensing Analysis of Erosion in Arctic Coastal Areas of Alaska and Eastern Siberia. *Remote Sensing*, 14(3), p.589.

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!