Newsletter

Permafrost Young Researchers Network

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PYRN News

PYRN Christmas Social

By Lara Hughes-Allen

PYRN Christmas Social - Just a low key get-together to hang out with a beverage of your choice, have a fun online christmas experience and meet the PYRN Excom 🎅🎄⭐

Young Scientist Forum

By Denis Frolov

6th FORUM FOR YOUNG PERMAFROST SCIENTISTS commemorating 100th birthday of Evgeny M. Katasonov and Nina P. Anisimova will take place next summer in Yakutsk (Russia) June 29 –July 13, 2021. The Forum for Young Permafrost Scientists (FYPS 2021) will include 1) Current Challenges and Future Prospects for Geocryology, a conference held from June 29 to July 2, 2021, and 2) Cryo-Deserts 2021, a field workshop from July 3 to 13, 2021. Please consider the website of the event: https://vnmf2021.wixsite.com/fyps2021?lang=en & see everyone in Yakutsk!

Arctic Frontiers PhD workshop

By Lara Hughes-Allen

The Arctic Frontiers PhD workshop is an international, cross-disciplinary workshop for PhD candidates working with Arctic issues, combining networking, lectures, excursions and group work on writing project proposals. The workshop is organized by the ARCTOS Research Network. In 2021 this workshop will be replaced by a series of shorter virtual workshops for early career scientists organized by ARCTOS and APECS. https://www.arcticfrontiers.com/young/arctic-frontiers-phd-workshop/

Workshop 1. Bridges amongst researchers: Strengthening the network of Arctic biomarker scientists

Workshop 2. Bridges to the community: Exploring multiple outreach channels and responding to a targeted audience

Workshop 3. Bridges to the industry: Arctic seaweed farming as a case study for stakeholder communication

Workshop 4. Bridges we do not cross: diversity and underrepresentation in science

Support for national representatives of PYRN

By Filip Hrbacek

PYRN excom will continue with the funding support of your activities. We should be able to offer you up to 200 EUR/year for activities like workshops or meetings organised in your country or in the frame of multiple countries. The funding application form and process remains the same as in the previous years, and you can find it here: https://pyrn.arcticportal.org/national-representatives/funding-application-form.

We are looking for new people who can serve as National representatives in the current period 2021-2022. Unlike previous years we miss NRs of Germany, Austria, Switzerland, Norway, Italy, China, Bulgaria, Brazil and India. We strongly support the NRs establishment in new countries as well.

Feel free to contact me by mail: pyrn.nr@gmail.com for any questions. Deadline for NRs application is 15th January 2021.

PYRN Webinar - Navigating permafrost research

By Adam Kirkwood

The PYRN ExCom is excited to announce that it's getting ready to host our first Webinar, tailored to young permafrost researchers. The webinar will consist of a panel of permafrost researchers, ranging from post-doc to full professor discussing how to navigate a career in permafrost research, and the different options that are available. There will be a chance for attendees to interact with the panelists through asking questions and engaging in what will be a very exciting conversation. The first webinar will be held in late January, 2021, so keep an eye out for more details about panelists and timing in the new year!

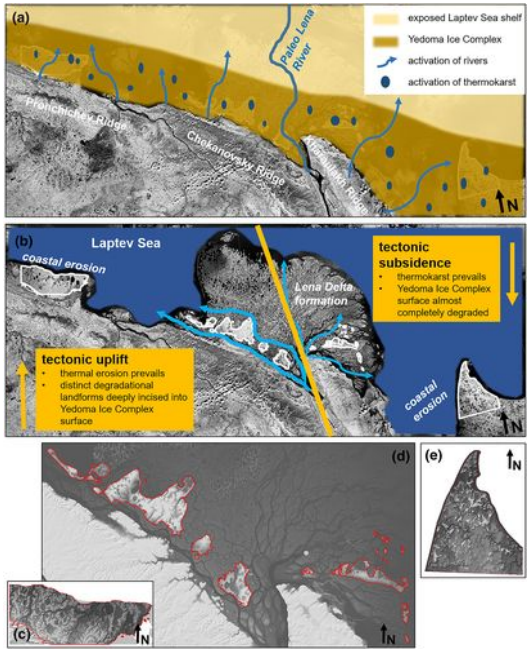
The most viewed papers of fall 2020 are:

By Vasily Tolmanov

Morgenstern, A, Overduin, PP, Günther, F, et al. Thermo-erosional valleys in Siberian ice-rich permafrost. Permafrost and Periglacial Processes 2020; 1– 17. https://doi.org/10.1002/ppp.2087

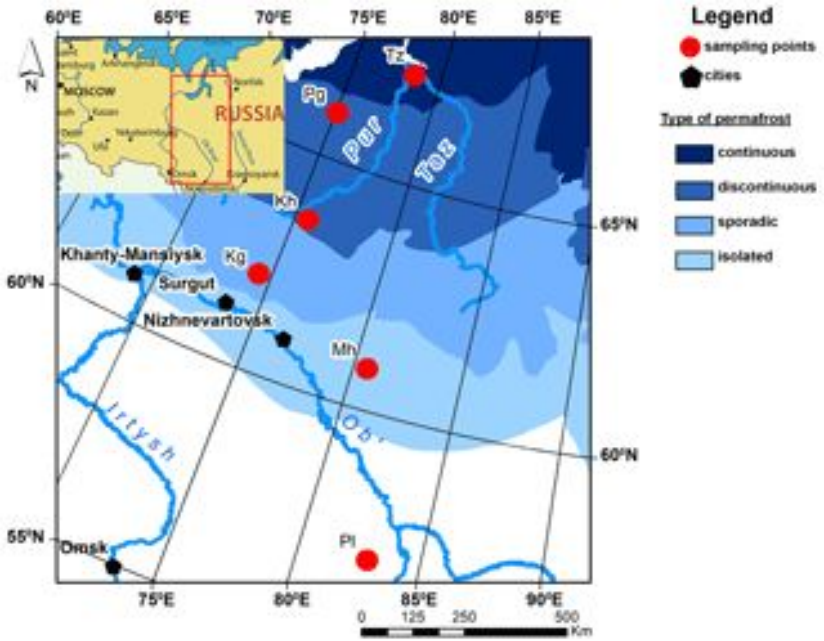
Authors discuss geomorphological and hydrological connections of erosion processes based on hydrographical network and topography assessments. Both GIS instruments and field investigations are used to assess spatial distribution and characteristics of erosion systems.

It is stated that valley and stream networks in East Siberia reflect the late Holocene development of the regional hydrological system in extensive coastal lowlands. They developed in more pronounced relief that formed due to the eroding effects of the transgressed Laptev Sea, delta channels, and thermokarst subsidence. The morphology and spatial distribution of the valley systems vary greatly from west to east and depend on the (a) regional slope, (b) size of the catchments, and (c) previous degradation of the initial Yedoma Ice Complex surface by thermokarst.



Lim, A. G., Jiskra, M., Sonke, J. E., Loiko, S. V., Kosykh, N., and Pokrovsky, O. S.: A revised pan-Arctic permafrost soil Hg pool based on Western Siberian peat Hg and carbon observations, Biogeosciences, 17, 3083–3097, https://doi.org/10.5194/bg-17-3083-2020, 2020.

Authors present Hg and carbon data for six peat cores down to mineral horizons at 1.5–4 m depth, across a 1700 km latitudinal (56 to 67◦ N) permafrost gradient in the Western Siberian Lowland (WSL). Mercury concentrations increase from south to north in all soil horizons, reflecting a higher stability of sequestered Hg with respect to re-emission. The *R*HgC in the WSL peat horizons decreases with depth, from 0.38 Gg Pg−1 in the active layer to 0.23 Gg Pg−1 in continuously frozen peat of the WSL. They estimate the Hg pool (0–1 m) in the permafrost-affected part of the WSL peatlands to be 9.3±2.7 Gg. Pan-Arctic organic and mineral soil *R*HgC were reviewed and estimated to be 0.19 and 0.63 Gg Pg−1, respectively. Soil carbon budget used to revise the pan-Arctic permafrost soil Hg pool to be 72 Gg (39–91 Gg; interquartile range, IQR) in the upper 30 cm, 240 Gg (110–336 Gg) in the upper 1 m, and 597 Gg (384–750 Gg) in the upper 3 m. Using the same *R*HgC approach, authors revised the upper 30 cm of the global soil Hg pool to contain 1086 Gg of Hg (852–1265 Gg, IQR), of which 7 % (72 Gg) resides in northern permafrost soils.



PYRN members in #APermafrostPaperAMonth

By Juditha Schmidt

If you want your paper to be promoted at our social media channels under #APermafrostPaperAMonth, you can contact our social media coordinator Vasily Tolmanov and we would be happy to support your work (vasiliytolmanov@gmail.com). We also decided to change up this PYRN element and feature a permafrost paper every month rather than every day. Watch out for the next featured paper!

PYRN on LinkedIn

By Juditha Schmidt

Besides our social media channels on Twitter, Facebook and Instagram, PYRN will be active on LinkedIn from now on as well. You can find our LinkedIn channel here:

https://www.linkedin.com/company/permafrost-young-researchers-network-pyrn/?viewAsMember=true

Vacancies

By Charlotte Haugk & Juditha Schmidt

PhD positions

PhD Position on snow and permafrost hydrology, studies on water balance and associated changes through climate impacts

At the Institute of Geography of the University of Heidelberg, Chair of Hydrogeography and Climatology, a position as academic employee is available with half of the regular working time. The employment is limited for a period of three years, with the possibility of extension for a further year. Remuneration is in accordance with TV-L E13.

Application deadline: **31.12.2020**

Contact: **Lucas Menzel** (lucas.menzel@uni-heidelberg.de)

Link: https://apecs.is/career-resources/job-board/details/2/2884.html

PhD Position "Northern Perspectives: community-based monitoring for tracing environmental change in the Canadian Arctic"

Interested in permafrost dynamics across the arctic and working with local communities to develop effective community monitoring programmes? Key research gaps and questions will be: Can we develop and validate low-cost field equipment for local people to monitor environments? Can we gain greater knowledge of nearshore permafrost and the processes leading to coastal susceptibility? Can we aid in identifying suitable areas for location of coastal community infrastructure and housing?

Contact: **Paul Mann** (paul.mann@northumbria.ac.uk)

Link:
https://research.ncl.ac.uk/one-planet/studentships/OP2144%20-%20Paul%20Mann,%20'Northern%20Perspectives%20-%20community-based%20monitoring%20for%20tracing%20environmental%20change%20in%20the%20Canadian%20Arctic'.pdf

PhD Position "ONEPLanet DTP - How did permafrost thaw affect regional climate and environment in continental Siberia? (OP2155)

Although permafrost is a key tipping element of our global climate, its past dynamics remain a mystery. Key questions are: Can you reconstruct where and how fast permafrost in Central Siberia will thaw under different warming scenarios? And what are the repercussions for moisture transport and Siberian ecosystems? Can you use speleothems from Botovskaya cave to reconstruct temperature changes?

Deadline: **18.01.2021**

Contact: **Dr. Sebastian Breitenbach** (sebastian.breitenbach@northumbria.ac.uk)

Link:
https://www.findaphd.com/phds/project/oneplanet-dtp-how-did-permafrost-thaw-affect-regional-climate-and-environment-in-continental-siberia-op2155/?p126426

Apply through: https://research.ncl.ac.uk/one-planet/howtoapply/

PhD in remote sensing of permafrost landscape change

The Arctic Landscape Ecology Lab at the University of Victoria is seeking a PhD student to lead a research project: 1) mapping permafrost landscape change and 2) assessing the determinants of terrai sensitivity.

Contact: **Dr. Trevor Lantz** (tlantz@uvic.ca), **Dr. Robert Fraser** (robert.fraser@canada.ca)

Link: PhD in remote sensing of permafrost landscape change – PermafrostNet

PhD in quantifying the ice and water content of permafrost with dielectric methods

This project will improve methods for measuring and monitoring ground-ice content and permafrost thaw directly. This is important because changing soil characteristics govern the impacts of permafrost thaw on the natural and built environment, but permafrost temperature alone reveals these changes only incompletely. This project will advance (a) the understanding of soil thaw close to 0°C, (b) in situ measurement of liquid water content in permafrost for tracking thaw, and © the geophysical detection of ground ice.

Deadline: Applications will be received until the position is filled.

Contact: **Stephan Gruber** (stephan.gruber@carleton.ca)

Link: PhD in quantifying the ice and water content of permafrost with dielectric methods – PermafrostNet

PhD in simulation of permafrost change and quantification of confidence in resulting data products

This project will develop methods and tools for evaluating permafrost models with observational data. This is important because the lack of meaningful and quantitative evaluation of permafrost simulation results impedes the improvement of simulation tools and the use of their outputs for informing adaptation design or policy.

Deadline: Applications will be received until the position is filled.

Contact: **Stephan Gruber** (stephan.gruber@carleton.ca)

Link: PhD in simulation of permafrost change and quantification of confidence in resulting data products – PermafrostNet

PhD position in permafrost modelling supported by geophysical surveying

The open PhD position will be part of the ongoing modelling and geophysical activities within the research group and will be focused within the following thematic and technical objectives: (1) Identification of tipping points in mountain permafrost systems and (2) relation of observed and modelled ice content changes and permafrost degradation to hydrological and kinematic processes in permafrost terrain.

Deadline: open until the position is filled

Contact: **Prof. Christian Hauck** (christian.hauck@unifr.ch)

Link: Open Positions | Department of Geosciences | University of Fribourg (unifr.ch)

Upcoming Dates

By Juditha Schmidt & Filip Hrbacek

Arctic Science Summit Week 2021

March 20-26 2021. Lisbon, Portugal (on-line) https://assw2021.pt/

EGU General Assembly 2021

April 25 - 30, 2021. Vienna, Austria. https://egu2021.eu/

19th International Conference on Cold Regions Engineering 2021 Regional Conference on Permafrost

July 11 - 16, 2021. Boulder, Colorado, USA. https://www.uspermafrost.org/21rcop/index.shtml

12th International Conference on Permafrost (planned for June 2020) *is postponed to*

June 20-24, 2022. Lanzhou, China. http://icop2020.csp.escience.cn

Stay up to date with PYRN social media

By Vasily Tolmanov

Just a reminder that **PYRN** is active in a variety of social media channels! Follow us now!

We use platforms like Twitter, Facebook, Instagram and LinkedIn to communicate news about PYRN, articles, information on events and photos.

*Be part of the PYRN social media community and reach out to hundreds of permafrost enthusiasts! Use the tag **@pyrn_official** and hashtag **#pyrn** on Twitter, Facebook and Instagram to share your updates or pictures via the '**PYRN**' account.*

This Newsletter was prepared by PYRN ExCom 2020-2021 team

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