

Permafrost Comics Bridging the gap between science and society

Michel Paquette ^{3,4}, Frédéric Bouchard ^{2,3,4}, Bethany Deshpande ^{4,5}, Michael Fritz ⁶, Julie Malenfant-Lepage ^{3,4,7}, Alexandre Nieuwendam ⁸, Ashley Rudy ⁹, Matthias Siewert ¹⁰, Ylva Sjöberg ¹, Audrey Veillette ^{3,4}, Stefanie Weege ⁶, Jon Harbor ¹¹, Otto Habeck ¹²

Summary

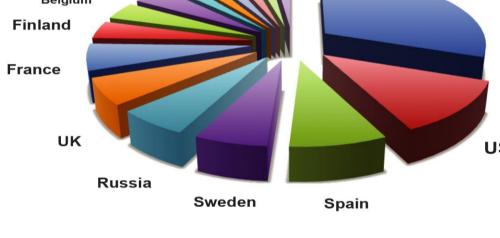
Apart from people in cold region communities, the general public knows very little about permafrost and the "what", "why", and "how" of permafrost research. The International Permafrost Association (IPA) Action Groups "A Frozen-Ground Cartoon" and "Permafrost and Culture" aim to fill the gap between indigenous knowledge, complex scientific results and outreach to the general public. Via a series of comic strips making permafrost science accessible to children, youth, their parents, and teachers, our project subscribes to the IPA moto of 'Fostering permafrost research to the ends of the Earth' (http://ipa.arcticportal.org).

Comics are excellent ways to communicate in today's media landscape: they are graphic, catchy, funny and direct, and can be rapidly shared via social media. Our project targets the general public, focusing on students who have to choose career paths at the high school or college levels. By introducing them to permafrost research activities, particularly fieldwork, our 'Frozen-Ground Cartoon' will enhance the dissemination of permafrost knowledge and broaden the international community of "permafrost lovers".

Step 1: Application call

Jan 2016

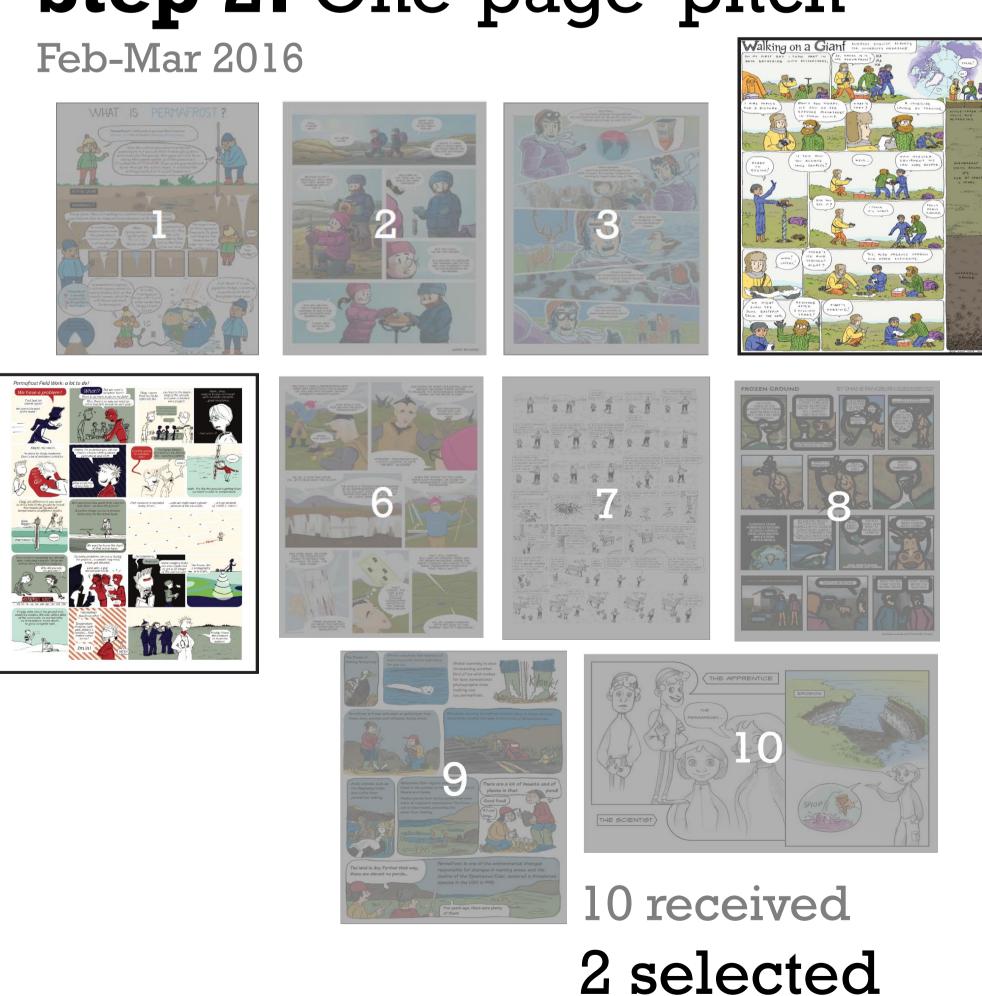
Motivation letter, project vision, portfolio samples 49 received (16 countries)

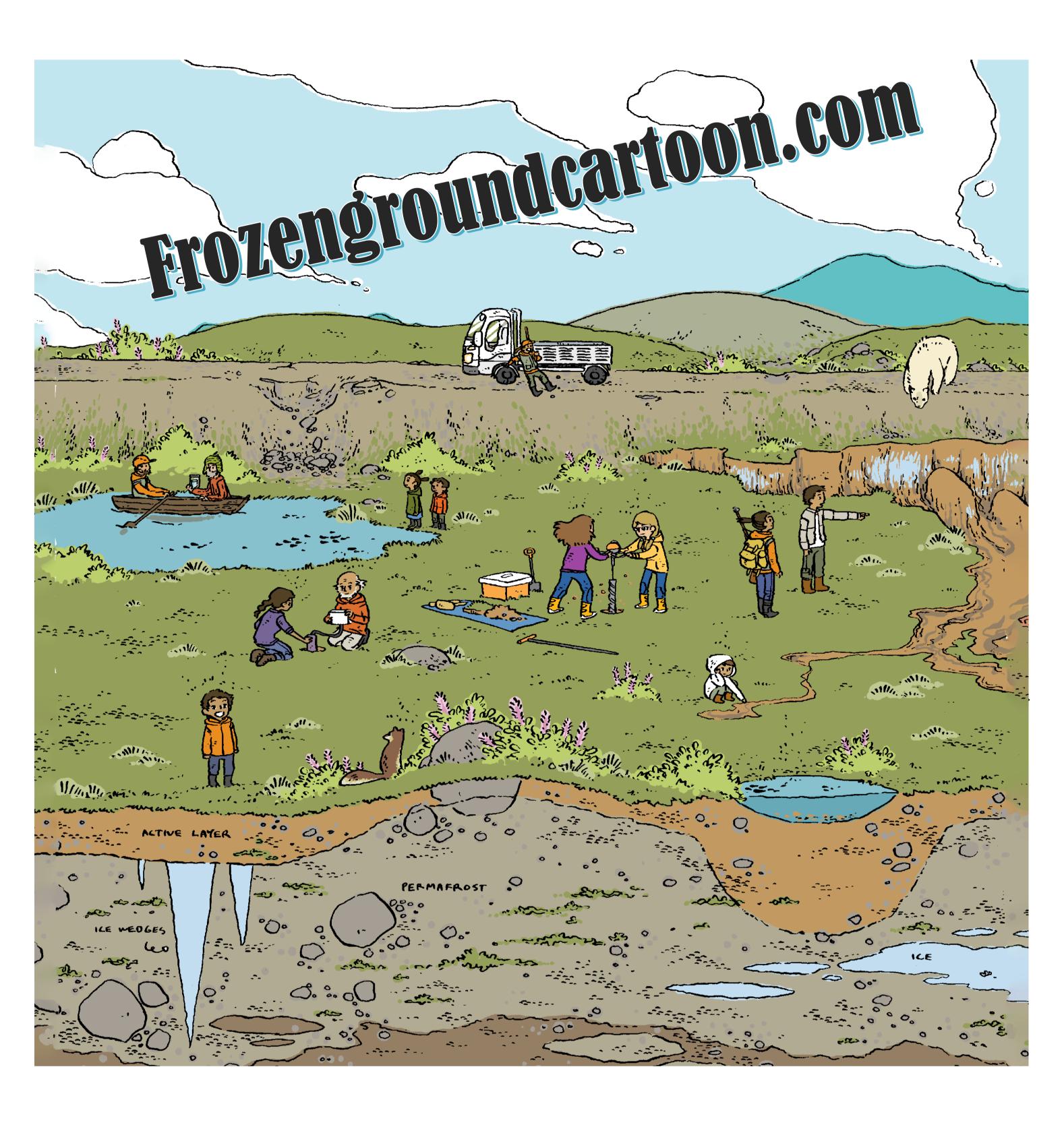


10 selected

Author Affiliations

Step 2: One-page 'pitch'





Step 3: Collaboration with the artists



Step 4: Distribute comics

Jun 2016 - Apr 2017

Final comics are distributed both electronically and on paper through national and international research networks as a web site (frozengroundcartoon.com), on social media, and as posters and graphic novels for schools and libraries. In May 2017, printed comics were distributed to school children at Climate festival in Stockholm, with 1200 visitors.

Great! Where can I get my comics?

RIGHT HERE!

The Frozen Ground Cartoon products can also be downloaded (in high res.) from www.frozengroundcartoon.com



All comics are licensed under the Creative Commons license, and can be freely used, printed and modified, as long as they are not used commercially.

Copies of the two 10 page comics by Heta Nääs and Noémie Ross have been printed in Canada, Germany and Sweden. Contact the Frozen Ground Cartoon project at frozengroundcartoon@gmail.com for more info.



Next step: Comics in more languages!

Spring 2018

Our comics are now available in English and Swedish. We have a French version coming up, and have started to translate the comics into more languages, including, German, Russian, Japanese, Inuktitut, Komi, Chinese, Hindu...

Look for updates at our website, and contact us if you have ideas for a translation into your language.

Acknowledgements

This project is endorsed and funded by the International Permafrost Association (IPA) as a targeted 'Action Group'. The 'one-page pitch' step was funded by the Permafrost Young Researchers Network (PYRN) and the Canadian research program 'Artic Development and Adaptation to Permafrost in Transition' (ADAPT). H. Nääs was supported by Climate and Cryosphere (CliC) to attend the International Conference on Permafrost in Potsdam, Germany in June 2016. Printing in Swedish was funded by the Bolin Centre for Climate Research.



external senior advisors). ¹ Department of Physical Geography and the Bolin Centre for Climate Research, Stockholm University, Sweden, ² Centre Eau Terre Environnement, Institut national de la recherche scientifique (INRS), Canada, ³ Department of Geography, Université de Montréal, Canada, ⁴ Centre d'études nordiques (CEN – Centre for Northern Studies), Université Laval, Canada, ⁵ Department of Biology, Université Laval, Canada, ⁶ Department of Periglacial Research, Alfred Wegener Institute Helmholtz Centre for Polar and Marine Research (AWI), Germany, ¹ Department of Civil and Water Engineering, Université Laval, Canada, ⁶ Centro de Estudos Geográficos & IGOT, Universidade de Lisboa, Portugal, ⁶ Cold Regions Research Centre, Wilfrid Laurier University, Canada, ¹⁰ Department of Ecology and Environmental Sciences, Umeå University, Sweden, ¹¹ Department of Earth, Atmospheric, and Planetary Sciences, Purdue University, USA, ¹² Institut für Ethnologie, Universität Hamburg, Germany.

This project is coordinated by a core group of permafrost early career researchers from Canada, Germany, Sweden and Portugal (in collaboration with