



UArctic
Thematic Networks

Year In Review

Thematic Network on Disasters and Natural Hazards

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Strengthening Arctic Safety Through Research and Outreach

Our Thematic Network on Disasters and Natural Hazards had an active year, with a focus on research and publications. Numerous articles summarised published science for the public, highlighting impressive and exciting work on disasters and hazards around the Arctic, especially for avoiding disasters. Research focused on Arctic communities' needs, actions, and inspirations, demonstrating what Arctic peoples are doing for themselves to keep themselves safe. This coming year seeks to expand this work's prominence, particularly through continuing education and outreach based on research and publications, notably through short articles and presentations with the public as the main audience.

Key activities

- Zoom seminar on "Polar Disaster Risk" to Trent University, Ontario.
- Thematic Network Lead, Ilan Kelman, received several international honours for contributions to disaster research and resilience. The recognitions highlight both individual achievements and collective efforts in Arctic research and education.
- Thematic Network members presented at the 12th Scientific Committee on Antarctic Research Open Science Conference & Meetings in Norway in Oslo, as a pathway for connecting the polar regions by presenting on Antarctic science while linking it to their Arctic work, to reach across the two regions.
- Starting a network to ensure that Arctic disasters and hazards are fully represented and addressed in the post-2030 sustainability agenda, which is now being formulated.
- Supporting humanities, arts, and social sciences inputs into IPY5.
- Publication: The Arctic Institute's 2026 Polar Disaster Risk Reduction and Response Series
- Monthly research columns for "The Norwegian American".
- Research project on "Localising Arctic Disaster Risk Reduction in a Changing Climate" with a paper under review.
- The research project "Sikuttiaq – Sea ice travel safety, Inuit Qaujimajatuqangit, sea ice monitoring" finished, led by Andrew Arreak and Michel Tsamados and funded by CINUK.



River ice hazard in St. Petersburg, Russia. Photo by Ilan Kelman.



Slysavarnafélagið Landsbjörg / ICE-SAR, the Icelandic association for search, rescue & injury prevention. Photo by Ilan Kelman.

Our activities' main impacts

- Inspiring university students at all levels to consider Arctic disasters and hazards for their education, research, and careers.
- Increasing the prominence of the Arctic in ongoing sustainability futures discussions.
- Supporting community actions for their own safety in the research projects' locations.
- Providing Arctic disasters and hazards science to the public to increase their understanding.

Our current and planned activities expect two main impacts:

- Producing world-leading, new science on Arctic disasters and hazards to serve society.
- Exciting the public about using Arctic disasters and hazards science to improve safety.

Some peer-reviewed research publications

- *Racism in Inuit experiences in healthcare: findings from an environmental scan.* DOI:10.1080/22423982.2026.2726014
- *Modest Arctic-only stratospheric aerosol injection could reduce Arctic warming while holding interhemispheric temperature difference constant.* DOI:10.1088/2752-5295/ae7c24
- *Year-Round High-Resolution Sea Ice Freeboard Retrieval Using ICESat-2 ATL03 Photon Data.* DOI: 10.5194/tc-20-4839-2026
- *Bayesian inversion of satellite altimetry for Arctic sea ice and snow thickness.* DOI:10.5194/tc-20-3913-2026
- *Snow depth on Arctic sea ice retrieval using a synergy of Sentinel-3's active and passive microwave instruments* DOI:10.1029/2025GL121068
- *Biases, Uncertainties, and Trends in Arctic Sea-Ice Thickness: A Cross-Product Analysis from 1995 to 2023.* DOI:10.5194/egusphere-2025-6201
- *Characterization of the plumbing system beneath Askja caldera, Iceland, revealed by microgravity and deformation data during uplift between 2022 and 2023.* DOI:10.1029/2025JB033402
- *Plate Divergence at the Krafla Volcanic System, Iceland: Insight From GNSS Geodesy and Sentinel-1 Satellite Radar Interferometry in 2002–2024.* DOI:10.1029/2026JB034040
- *Seasonal ground deformation at subglacial Katla Volcano, Iceland: observations and models.* DOI: 10.3389/feart.2026.1792391
- *Episodic magma flow in narrow channels through the lower crust in Iceland: geodetic evidence.* DOI: 10.5194/egusphere-egu26-20153
- *Transient ground deformation observed by GNSS and InSAR during and following the 2021 Fagradalsfjall eruption, Iceland.* DOI: 10.1007/s00445-025-01923-z
- *Comprehensive Risk Analysis of the Arctic Sustainability: Economic, Legal, and Geopolitical Dimensions.* DOI: 10.64599/ZHVX4732

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