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# Toolik Field Station Quarterly Newsletter Fall 2023

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## Season Updates

### Looking back on summer 2023

With one [Golden Eagle bringing a new meaning to long-distance commutes](#), [sightings](#) of the rare [American Dipper](#), ample [bears](#), and [foxes](#) interacting with [all](#) sorts of [animals](#), this summer showcased those fleeting and astonishing Arctic moments that are best observed with time in the field. Toolik Naturalist Seth Beaudreault recounts [this season's most memorable tundra encounters](#) in his end-of-summer round-up.



*A [wolf stares into the lens](#) of Seth's camera (left). [Fox and Northern Harrier meet](#) along their separate hunts for voles (right). Photos by Seth Beaudreault/TFS.*

This year was our busiest season since 2019 with a total of 528 residents this year, visits from four field courses, one international meeting, and large construction projects, including a new water intake line. Cheers to everyone for another successful field season, especially our hard-working staff!

Winter has now settled in, with Toolik Lake [freezing on October 5](#). Toolik staff have been busy shutting down labs, storing boats and docks, clearing snow and gearing up for the cold.



A [large caribou herd passed by the station](#) on their southward migration in late October. Photo by Chiara Casiraghi.

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## Have winter fieldwork?



Don't forget to submit your reservation requests through myToolik. Projects must provide **at least 2 months notice** for winter stays. Contact our station manager Mike Reynolds at [mjreynolds4@alaska.edu](mailto:mjreynolds4@alaska.edu) with questions.

*Photo by Mayra Meléndez/TFS.*

Request your winter dates on  
myToolik

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## Thank you to our 2023 Community Liaisons

This year, four rotating liaisons were on duty throughout the field season. Long-standing liaisons Jason Dobkowski and Lexy Salinas were joined this year by Jansen Nipko and Erin VanderJeugd. We are grateful for Jason, Lexy, Jansen, and Erin's commitment to supporting the Toolik community.

## What's New at Toolik?

The Toolik management team with input from staff, the steering committee, and the community has completed our strategic plan for 2023-2028. [Review the plan on our website \(pdf available for printing\)](#).

Have thoughts? Send them our way at [uaf-iab-toolik@alaska.edu](mailto:uaf-iab-toolik@alaska.edu).



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## Come fly with Toolik! GIS now hiring



The Toolik GIS department is hiring for a [full-time, year-round GIS & Remote Sensing Analyst](#). The position will be based in Fairbanks in the winter with summer shifts at the station. **The application and more details about the position can be found on the [UA Careers website](#).** Contact Toolik GIS Manager Randy Fulweber at [rafulweber@alaska.edu](mailto:rafulweber@alaska.edu) for more information.

*Toolik GIS technician Mary Stack checks GPS coordinates while collecting bathymetry data in summer 2023. Photo by Olivia Cronin-Golomb/TFS.*

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## Coming soon: the Inlet Outlet

Thanks to the efforts of our maintenance team, Scout, Joe, Hickey, Collin, and Kevin, the old EMT shack has been artfully remodeled into a reservable private space for meditation, prayer, tele-health appointments, or private phone calls. Tentatively called the Inlet Outlet, due to its great views of the Toolik Inlet and intention as a space to tune out from busy station life, the room will be equipped with a desk, chair, and yoga mats. More information on how to reserve the space in the spring.

*Toolik maintenance technician Scout Wise shows off the new floors in the Inlet Outlet. Photo by Marin Kuizenga/TFS.*



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## Toolik community members seeking collaborators for Girls on Permafrost

PhD candidate Ruby An, seasonal GIS technician Mary Stack, and others at Toolik developed [a vision for a new outreach program](#) with the [Inspiring Girls\\* Expeditions Alaska](#) branch. The program, titled Girls on Permafrost, would bring 8-9 high school girls\* to Toolik to learn about Arctic ecosystems through scientific, artistic, and Alaska Native knowledge lenses.

interested in supporting [Girls on Permafrost](#) through your broader impacts activities in an upcoming grant or have fundraising ideas, contact Mary Stack at [mestack@alaska.edu](mailto:mestack@alaska.edu) and Ruby An at [rubya@princeton.edu](mailto:rubya@princeton.edu).

Explore Girls on Permafrost

## Featured Project

### Charting 'Streams as Sensors' of climate change with the Arctic RIOS project

As climate change rapidly alters the Arctic, researchers at Toolik Field Station are diving in to study how the Arctic's river networks can be used to understand what's happening to the whole landscape. [Read more about how they're revolutionizing the ways scientists study streams and finding that their new methods can pinpoint hotspots of change.](#)

Read more about the Arctic RIOS project

*Doctoral candidate Abigail Rec, from University of Vermont, smiles as she stirs a salt slug mixture near Trevor Creek in the Brooks Range in July 2021. Photo by Jansen Nipko.*



## BeAJEDI at Toolik: Belonging, Accessibility, Justice, Equity, Diversity, and Inclusion

### New climate program launches underserved students into Arctic science



In late August, 12 students from Oregon State University's TRIO Upward Bound program spent five days at the Toolik. The students participated firsthand with station staff, scientists, artists and others in how we study and respond to the warming Arctic.

[Read more on our website about their visit and the lasting impact it's had on students.](#)

*Student Marleny Lopez, right, flies a drone over long-term research plots at Toolik Field Station under the guidance of educator and drone pilot Erin Towns. Photo by Yatzareht Lira Ramirez.*

## What's a day in "The Land Where The Sun Never Sets"

Artist Sophie Morrell found the components of her Toolik-inspired artwork in the exact same way Toolik staff found her art, using a simple Google search.

[Read more on our website about what inspired her artistic interpretation of a day in "The Land Where The Sun Never Sets."](#)



*A light gradient derived from a TFS time-lapse spanning 11 hours, from 20:30 to 07:30. Photo by Sophie Morrell.*

## Toolik Community in the News

**Was your Toolik-based research featured in the media? Or do you have an upcoming paper you'd like to share with the press?**

Submit a [media form](#) to share an article or request a press release.

- 30 June — [Center for Entrepreneurial Agri-Technology Director's Message](#)
- 14 August — [Alaska workshop at world center of hibernation research](#)
- 15 August — [NEON July & August Newsletter](#)
- 16 August — [UC Irvine scientists say deepening Arctic snowpack drives greenhouse gas emissions](#)
- 29 August — [A Showcase of Projects Funded by PSECCO BAJEDI Micro-Grants in 2022](#)
- 25 September — [Sketching North: Artist-in-Residence reflection](#)
- 27 September — [A Window on Climate Change in Polar Areas: University of Insubria & University of Alaska Fairbanks partnership \(video\)](#)
- 28 September — [Battelle Grant Funds Trip to Toolik Field Station for Upward Bound Group](#)

## Recent Toolik Community Research Publications

**Contact us at [uaf-toolik-communication@alaska.edu](mailto:uaf-toolik-communication@alaska.edu) if you want to see your publication featured in our next newsletter. To view more community publications, go to our [publication database](#).**

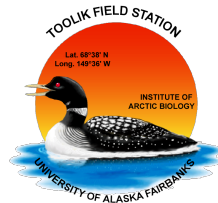
- Hydrocytium expands the phylogenetic, morphological, and genomic diversity of the poorly known green algal order Chaetopeltidales, [Barcytè & Eliáš](#)
- Iron Oxidation–Reduction Processes in Warming Permafrost Soils and Surface Waters Expose a Seasonally Rusting Arctic Watershed, [Barker et al.](#)
- Climate-induced hydrological fluctuations shape Arctic Alaskan peatland plant communities, [Gałka et al.](#)
- Non-shivering thermogenesis is differentially regulated in Arctic ground squirrels, [Hunstiger et al.](#)
- Long-Term Changes in Concentration and Yield of Riverine Dissolved Silicon From the Poles to the Tropics, [Jankowski et al.](#)
- Lower Atmospheric Sources of Observed Thermosphere Medium Scale Traveling Atmospheric Disturbances Over Alaska, [Kumari et al.](#)

- Sentinerz, [Merchant](#)
- Biophysical effects of an old tundra fire in the Brooks Range Foothills of Northern Alaska, [Miller et al.](#)
  - More Snow Accelerates Legacy Carbon Emissions From Arctic Permafrost, [Pedron et al.](#)
  - Ecosystem feedbacks constrain the effect of day-to-day weather variability on land-atmosphere carbon exchange, [Rastetter et al.](#)
  - The predictive power of phylogeny on growth rates in soil bacterial communities, [Walkup et al.](#)
  - Contributions to the knowledge of lichenicolous fungi growing on Pannariaceae, including an identification key, [Zhurbenko](#)

To view all publications, visit our [Zotero library](#).

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**Do you have an item to add to the quarterly newsletter?  
Send any additions or general suggestions/comments to Haley  
at [hdunleavy@alaska.edu](mailto:hdunleavy@alaska.edu).**



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*Toolik Field Station is funded by a cooperative agreement with the National Science Foundation (award #s 1623461, 1048361, 0455541, 9981914).*

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