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Toolik Field Station Quarterly Newsletter Spring 2023

Station Updates

Secure your spot for the 2023 field season. Submit your reservation requests on myToolik by March 31!

Wondering what our policies are for 2023? Review our <u>presentation from the TFS Town Hall</u> last month. And don't forget to submit your remote access requests to SEDC manager, Amanda Young (<u>ayoung55@alaska.edu</u>). **Remote access requests are due at least one month in advance.**

Spring is quickly approaching Toolik Field Station. Review the past year below.

This past summer, our cooperative agreement with NSF was <u>funded for another five</u> <u>years</u>. The renewal of our grant will allow TFS to continue to support the varied projects and includes expanded initiatives for remote access, DEI efforts, and GIS support. "We are honored an humbled to serve the community of Toolik researchers at the public", said science co-director, Syndonia Bret-Harte.

In addition to renewed funding, we also welcomed station supervisor Mike Reynolds, logistics coordinator Kara Kornhauser, fiscal assistant Haley Tyler, and year-round MEF tech Kevin Williams. Welcome back to Mayra Melendez-Gonzalez, who rejoined the TFS team as a year-round EDC tech along with EDC newcomer Abby Jackson.





occurred on november 19 (ngm, w. wielendez Gonzalez).

Keep a look out for the upcoming town hall on helicopter operations with Battelle-Arctic Research Operations!

The town hall will be virtual in early May. Date and time TBD.

Getting excited for the upcoming field season? Read highlights from last summer in the Toolik Naturalist Journal.



Toolik Naturalist, Seth Beaudreault, recounted memorable encounters with Toolik's visiting wildlife and shared some of his favorite photos from summer 2022 in an end-of-

season wrap up.

A muskox nudges her newborn calf to begin nursing on a late spring day in the Arctic. (S. Beaudreault).

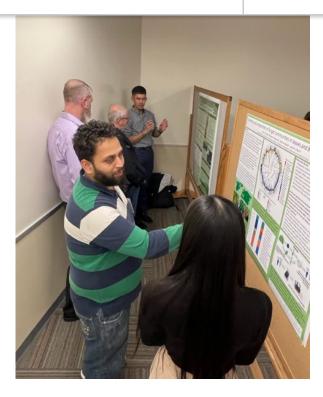
What's New at Toolik?

Watch 2023 All Scientists Meeting presentations on our website!

January. Attendees spent the first day learning about the wide variety of research conducted at Toolik, covering everything from space weather to tundra endophytes. The second day, we shifted our focus to Toolik's future as attendees offered their input on developing our station's strategic plan.

Students Ryan Hunt, Soumitra Sakhalkar, and Ariel Cheng were three of 29 attendees to present their research during the All Scientists Meeting poster session.

Watch the 2023 ASM presentations



We want to hear your feedback on our draft Strategic Plan.

Review our <u>Strategic Plan draft</u> and <u>vote on which initiatives</u> you'd like to see accomplished over the next five years.

Thank you to our 2023 TUNDRA award donors!



From Giving Tuesday to the All Scientists meeting silent auction to UA Giving Day, the Toolik community showed up this year to support early career research by donating to our TUNDRA award.

Thank you to the dozens of donors who helped raise over \$5,000 for early career researchers and students. Toolik thrives because of its collaborative community. Your contributions made a difference!

We are currently reviewing applications for our 2023 TUNDRA award. Find more information about the award, including eligibility and how to access the application via myToolik, <u>on our website</u>.

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

Let's start measuring a different type of change in the tundra



Over the past few years, the Toolik community has worked to improve DEI at the station. From celebrating pride to drafting antiracist policies, we've <u>collectively</u> done a lot of work. However, Toolik currently lacks the ability to measure whether these actions are making our community more diverse and inclusive.

To address this, we'll be starting two new initiatives this summer to track change at Toolik – voluntary demographic disclosures and quantitative climate surveys. Let's meet to discuss what metrics you think are important to measure and how we can best use this information to build accountability.

If interested in participating, reply to this <u>When2meet poll</u>. Don't have time to meet? Submit your your ideas, concerns, or questions to communications & DEI manager, Haley Dunleavy (<u>hdunleavy@alaska.edu</u>) or in <u>this survey</u>.

March 20 - NSF Town Hall on Safe and Inclusive Environments

Have you heard? Some solicitations for NSF's BIO and GEO programs now require a Safe and Inclusive Environments plan. Join NSF Program Officers for a webinar about the new requirement on March 20 at 3-4pm ET. Register online

Check out the new Polar Science Early Career Community Office!



The Polar Science Early Career Community Office supports students and early career researchers. Their latest newsletter lists tons of great resources, including an outdoor gear prodeal program and an upcoming discussion with the Interagency Arctic Research Policy Committee on inclusive environments and navigating power imbalances in Arctic fieldwork from 9-10:30am AK on March 28. Register in advance on the event webpage.

Applications open for the Dalton Highway Artist-in-Residence

We've partnered with the Bureau of Land Management to offer a collaborative Dalton Highway Artist-in-Residence opportunity to visual, auditory, or performing artists and writers. The residency will run for five to seven days between June and September 2023, with exact dates at the discretion of the artist.

Applications are due March 24, 2023. More information, including how to apply, is available on the <u>program's website</u>. Please share widely with your community!

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.

- April 7, 2021—<u>In Cold Polar Skies, NASA Rocket Will Watch Aurora Turn Up the</u> Heat
- April 4, 2022 <u>Don't Look Down</u>
- May 6, 2022 <u>Drone Harmony is a Great Help in Alaska</u>
- August 22, 2022 <u>Students Conduct Plant-Pollinator Research in Alaska</u>
- September 6, 2022 <u>Frigid but not rigid researchers discover surprising plant phenomenon</u>
- September 11, 2022 Sound artist Nikki Lindt on recording a hidden universe
- December 12, 2022 <u>Creating a community of respect at Toolik Field Station</u>
- December 14, 2022 <u>Long-term records track climate change effects on Alaska's North Slope</u>
- December 16, 2022 <u>Study shows depth of Alaska's thawing permafrost</u>

Recent Toolik Community Research Publications

Contact us at <u>uaf-toolik-communication@alaska.edu</u> if you want to see your publication featured in our next newsletter. To view more community publications, go to our <u>publication database</u>.

- Can plant functional traits explain shifts in community composition in a changing Arctic?, Betway-May et al.
- Resolving Vertical Variations of Horizontal Neutral Winds in Earth's High Latitude Space-Atmosphere Interaction Region, <u>Branning et al.</u>
- From Intra-plant to Regional Scale: June Temperatures and Regional Climates
 Directly and Indirectly Control Betula nana Growth, <u>Buchwal et al.</u>

- Wolverines in the Arctic, Glass et al.
- Variation in White spruce needle respiration at the species range limits: A potential impediment to Northern expansion, <u>Griffin et al.</u>
- The Changing Biogeochemical Cycles of Tundra, Hicks Pries et al.
- A Statistical Study of Auroral Medium Frequency Bursts and Anomalous Incoherent Scatter Radar Echoes, <u>Hudson et al.</u>
- Retrogressive thaw slumps in the Alaskan Low Arctic may influence tundra shrub growth more strongly than climate, <u>Huebner et al.</u>
- Trapped Under Ice: Spatial and Seasonal Dynamics of Dissolved Organic Matter Composition in Tundra Lakes, Kurek et al.
- Herbivores in Arctic ecosystems: Effects of climate change and implications for carbon and nutrient cycling, Koltz et al.
- Bacterioplankton dispersal and biogeochemical function across Alaskan Arctic catchments, Lee et al.
- Short-term effects of summer warming on caribou forage quality are mitigated by long-term warming, <u>Leffler et al.</u>
- Broad Whitefish isotopic niches: Stable isotopes reveal diverse foraging strategies and habitat use in Arctic Alaska, <u>Leppi et al.</u>
- Leaf and root phenology and biomass of Eriophorum vaginatum in response to warming in the Arctic, <u>Ma et al.</u>
- Cryocampsis: a biophysical freeze-bending response of shrubs and trees under snow loads, <u>Ray & Bret-Harte</u>
- Summer thaw duration is a strong predictor of the soil microbiome and its response to permafrost thaw in arctic tundra, <u>Romanowicz & Kling</u>
- The Impact of Freeze-Thaw History on Soil Carbon Response to Experimental Freeze-Thaw Cycles, Rooney et al.
- Small but mighty: Impacts of rodent-herbivore structures on carbon and nutrient cycling in arctic tundra, Roy et al.
- Plant-Soil Relationships Influence Observed Trends Between Manganese and Carbon Across Biomes, <u>Santos & Herndon</u>
- Atmospheric biogenic volatile organic compounds in the Alaskan Arctic tundra, Selimovic et al.
- Landscape Genomics Provides Evidence of Ecotypic Adaptation and a Barrier to Gene Flow at Treeline for the Arctic Foundation Species Eriophorum vaginatum, <u>Stunz et al.</u>
- Using atmospheric trace gas vertical profiles to evaluate model fluxes, <u>Sweeney</u> et al.
- Source and variability of formaldehyde at northern high latitudes, Zhao et al.

To view all publications, visit our **Zotero library**.

Do you have an item to add to the quarterly newsletter? Send any additions or general suggestions/comments to Haley at hdunleavy@alaska.edu.



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