

**Taryn E. Black**

Postdoctoral Associate

University of Maryland, Earth System Science Interdisciplinary Center

NASA Goddard Space Flight Center, Cryospheric Sciences Laboratory

tarynblack.github.io

Remote / Seattle, WA, USA

teblack@umd.edu

taryn.e.black@nasa.gov

**Appointments**

---

<b>Postdoctoral Associate</b> , University of Maryland (co-op with NASA GSFC)	09-2023 – present
<b>Graduate Research/Teaching Assistant</b> , University of Washington	09-2017 – 09-2022
<b>Research Intern</b> , Kenai Fjords National Park/Ecological Society of America	06-2020 – 08-2020
<b>NSF Graduate Research Fellow</b> , University of Washington	09-2016 – 09-2017
<b>NSF Graduate Research Fellow</b> , Georgia Institute of Technology	08-2014 – 05-2016
<b>Graduate Research/Teaching Assistant</b> , Georgia Institute of Technology	08-2013 – 08-2014

**Educational Background**

---

<b>Ph.D. Earth and Space Sciences</b> , University of Washington	2022
<i>Dissertation: Investigations of glacier terminus changes on weekly to decadal time scales</i>	
<i>Advisor: Ian Joughin</i>	
<b>Graduate Certificate in Climate Science</b> , UW Program on Climate Change	
<b>M.S. Earth and Atmospheric Sciences</b> , Georgia Institute of Technology	2016
<b>B.S. Earth and Space Sciences, B.S. Physics</b> , University of Washington	2013

**Fellowships and Awards**

---

<b>Julian D. Barksdale Distinguished Service Award</b> , UW Earth and Space Sciences	2022
<b>Best Glaciology Talk</b> , UW Earth and Space Sciences Research Gala	2021
<b>Graduate Research Fellowship</b> , National Science Foundation	2014
<b>Graduate President's Fellowship</b> , Georgia Institute of Technology	2013
<b>Undergraduate Dean's Medalist</b> , UW College of the Environment	2013

**Teaching**

---

**Guest Lectures**

Arctic and Environmental Change, Seattle University	03-08-2019
---	------------

**Courses Taught**

<b>ESS 431: Principles of Glaciology</b> , University of Washington (TA)	Autumn 2020
<b>CENV 500: Communicating Sci. to the Public Effectively</b> , University of Washington	Winter 2020
<b>ESS 101: Intro to Geology and Societal Impacts</b> , University of Washington (TA)	Summer 2018
<b>ESS 213: Evolution of the Earth</b> , University of Washington (TA)	Spring 2018
<b>EAS 2600: Earth Processes</b> , Georgia Institute of Technology (TA)	Spring 2014

**Service and Outreach**

---

**Journal Peer Review**

Geological Society of Denmark and Greenland (GEUS) Bulletin

Journal of Glaciology

The Cryosphere

### ***Professional and Campus Service***

<b>Peer Mentor</b> , UW Earth and Space Sciences First-Year Mentoring Program	09-2020 – 08-2022
<b>Board Member</b> , UW Engage (science communication program)	08-2019 – 08-2022
<b>Graduate Representative</b> , UW Earth and Space Sciences Curriculum Comm.	09-2018 – 08-2022
<b>Coordinator</b> , UW Earth and Space Sciences New Student Welcome Guide	08-2018 – 08-2022
<b>Coordinator</b> , UW Earth and Space Sciences Graduate Housing Survey	02-2017 – 08-2022
<b>Graduate Representative to the Faculty</b> , UW Earth and Space Sciences	09-2018 – 12-2020
<b>Cryomentoring Peer Mentor</b> , American Geophysical Union Fall Meeting	12-2018, 12-2019
<b>Panelist</b> , UW College of the Environment New Graduate Student Orientation	09-2019
<b>Graduate Representative</b> , UW Coll. Environment Student Advisory Council	06-2017 – 06-2018
<b>Organizer</b> , UW Earth and Space Sciences Research Gala	01-2018 – 04-2018
<b>Coordinator</b> , UW Earth and Space Sciences Glaciology Lunch	01-2017 – 03-2018
<b>Organizer</b> , UW Earth and Space Sciences Prospective Student Open House	01-2017 – 02-2017
<b>Organizer</b> , Northwest Glaciologists Annual Meeting	10-2016
<b>Co-Founder</b> , GT Earth and Atmospheric Sciences Women in Geosciences	01-2014 – 05-2016
<b>Committee Chair</b> , GT Earth and Atmospheric Sciences First-Year Mentoring	05-2014 – 05-2015

### ***Community Engagements***

<b>Volunteer</b> , Polar Science Weekend at Pacific Science Center	Winters 2017-2019, 2023-2024
<b>Guest Speaker</b> , Skype a Scientist	03-2019 – 09-2020
<b>Volunteer</b> , UW Earth and Space Sciences Rockin' Out K-12 Outreach	09-2016 – 03-2020
<b>Guest Speaker</b> , University of Texas at Austin GeoFORCE Program	07-17-2020
<b>Volunteer</b> , Letters to a Pre-Scientist	09-2019 – 06-2020
<b>Panelist</b> , The Northwest School, Winterfest Climate Panel	12-20-2019
<b>Volunteer</b> , Mount St. Helens Institute/USGS, GeoGirls Summer Camp	08-2015

### ***Invited Outreach Presentations***

- Delridge Neighborhood Development Association, Wetland Workshop Series**, Geology and Paleocology of the Puget Sound, 11-22-2020 (virtual). ([recording](#))
- Skype a Scientist, No Time Like the Presentation Speaker Series**, Watching glacier change in Greenland, 05-12-2020 (virtual). ([recording](#); [video abstract](#))
- Association for Women in Science, Seattle Chapter**, Rapid Changes: The evolution of ice sheets and how we study them, 11-13-2019.

### ***Other Outreach Presentations***

- UW Earth and Space Sciences Rockin' Out Speaker Series**, The 440-mile view: Monitoring glacier change from space, 09-24-2020 (virtual).
- Future Park Leaders of Emerging Change PechaKucha Series**, 400 miles high and 1400 miles away: Studying glacier change in Kenai Fjords National Park, 09-09-2020 (virtual).
- Town Hall Seattle, UW Engage Science Speaker Series**, How much, how fast? Deciphering a record of glacier change in Greenland, 04-02-2019. ([recording](#))
- Timbercrest Middle School Honors Earth Science**, Geology: Traveling through space and time, 04-16-2019.

### ***Blog Posts***

- University of Washington Program on Climate Change**, Effectiveness of a multimedia StoryMap for communicating rapid glacier change in Kenai Fjords National Park, Alaska, 08-19-2022. <https://pcc.uw.edu/blog/2022/08/19/effectiveness-of-a-multimedia-storymap-for-communicating-rapid-glacier-change-in-kenai-fjords-national-park-alaska/>

**Union of Concerned Scientists USA Blog**, Building Relationships to Promote Science-Based Decision Making, 03-02-2018, with M. Diamond and E. Kahle. <https://blog.ucsusa.org/science-blogger/building-relationships-to-promote-science-based-decision-making>

### **Media Engagement**

**Knowable Magazine**, As glaciers retreat, new streams for salmon, 03-28-2023. <https://knowablemagazine.org/content/article/living-world/2023/glaciers-climate-change-salmon>

**Eos**, Alaskan Glaciers Advance and Retreat in Satellite Imagery, 09-12-2022. <https://eos.org/articles/alaskan-glaciers-advance-and-retreat-in-satellite-imagery>

**National Parks Traveler blog**, Glacial Studies Point to retreat, and Advance, of Kenai Fjords National Park Glaciers, 09-12-2022. <https://www.nationalparkstraveler.org/2022/09/glacial-studies-point-retreat-and-advance-kenai-fjords-national-park-glaciers>

**National Parks Traveler podcast**, Kenai Fjords' Glaciers, 09-11-2022. <https://www.nationalparkstraveler.org/podcast/2022-09-11-national-parks-traveler-episode-187-kenai-fjords-glaciers>

**KDLL radio**, New study charts changes at glaciers in Kenai Fjords National Park, 08-08-2022. <https://www.kdll.org/local-news/2022-08-08/new-study-charts-changes-at-glaciers-in-kenai-fjords-national-park>

**University of Washington News**, New study calculates retreat of glacier edges in Alaska's Kenai Fjords National Park, 08-05-2022. <https://www.washington.edu/news/2022/08/05/kenai-fjords>

**King 5 Evening**, You don't have to be a climber to explore the Cascades' mightiest glaciers, 08-10-2021. <https://www.king5.com/video/entertainment/television/programs/evening/you-dont-have-to-be-a-climber-to-explore-the-cascades-mightiest-glaciers/281-aa1b3865-0350-432e-9cf1-c1b298b162d4>

**University of Washington News**, A visit to Mt. Baker's Easton Glacier, 07-30-2021. <https://www.washington.edu/news/2021/07/30/a-visit-to-mt-bakers-easton-glacier>

### **Continuing Education**

<b>GeoSMART Hackweek</b> , University of Washington eScience Institute	10-2023
<b>ICESat-2 Hackweek</b> , University of Washington eScience Institute	06-2019
<b>GeoHackweek</b> , University of Washington eScience Institute	09-2017

### **Published Datasets**

**Black, T.** and Joughin, I. (2022) MEaSURES Weekly-To-Monthly Greenland Outlet Glacier Terminus Positions from Sentinel-1 Mosaics, Version 1. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. [doi:10.5067/DGBOSIULSTD](https://doi.org/10.5067/DGBOSIULSTD)

**Black, T.** and Kurtz, D. (2022) Satellite observations of maritime glacier terminus positions at Kenai Fjords National Park. NPS Integrated Resource Management Applications DataStore. Geospatial Dataset Code 2293309. <https://irma.nps.gov/Datastore/Reference/Profile/2293309>

Goliber, S. and **Black, T.** (2021) TermPicks: A century of Greenland glacier terminus data for use in machine learning applications, Version 1. Zenodo. [doi:10.5281/zenodo.6557981](https://doi.org/10.5281/zenodo.6557981)

Joughin, I., Moon, T., Joughin, J., and **Black, T.** (2021) MEaSURES Annual Greenland Outlet Glacier Terminus Positions from SAR Mosaics, Version 2. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. [doi:10.5067/ESFWE11AVFKW](https://doi.org/10.5067/ESFWE11AVFKW)

## Refereed Journal Articles

---

- (in review) Moon, T., Cohen, B., **Black, T.**, Laidre, K., Stern, H., and Joughin, I. (2024) Characterizing Southeast Greenland fjord surface ice and freshwater flux to support biological applications. *The Cryosphere*, [doi:10.5194/egusphere-2024-184](https://doi.org/10.5194/egusphere-2024-184)
- Black, T.E.** and Joughin, I. (2023) Weekly to monthly terminus variability of Greenland's marine-terminating outlet glaciers. *The Cryosphere*, 17, 1-13, [doi:10.5194/tc-17-1-2023](https://doi.org/10.5194/tc-17-1-2023).
- Black, T.** and Kurtz, D. (2023) Maritime glacier retreat and terminus area change in Kenai Fjords National Park, Alaska, between 1984 and 2021. *Journal of Glaciology*, 69 (274), 251-265, [doi:10.1017/jog.2022.55](https://doi.org/10.1017/jog.2022.55).
- Goliber, S., **Black, T.**, Catania, G., Lea, J., Olsen, H., Cheng, D., Bevan, S., Bjørk, A., Bunce, C., Brough, S., Carr, J.R., Cowton, T., Gardner, A., Fahrner, D., Hill, E., Joughin, I., Korsgaard, N., Luckman, A., Moon, T., Murray, T., Sole, A., Wood, M., and Zhang, E. (2022) TermPicks: a century of Greenland glacier terminus data for use in scientific and machine learning applications. *The Cryosphere*, 16, 3215-3233, [doi:10.5194/tc-16-3215-2022](https://doi.org/10.5194/tc-16-3215-2022).
- Black, T.E.** and Joughin, I. (2022) Multi-decadal retreat of marine-terminating outlet glaciers in northwest and central-west Greenland. *The Cryosphere*, 16, 807-824, [doi:10.5194/tc-16-807-2022](https://doi.org/10.5194/tc-16-807-2022).
- Spector, P., Stone, J., Balco, G., Hillebrand, T., Thompson, M., and **Black, T.** (2020) Miocene to Pleistocene glacial history of West Antarctica inferred from nunatak geomorphology and cosmogenic-nuclide measurements on bedrock surfaces. *American Journal of Science*, 320 (8) 637-676, [doi:10.2475/10.2020.01](https://doi.org/10.2475/10.2020.01).

## Scientific Presentations

---

### Invited Conference Presentations

- Black, T.** (2019) Observations of Greenlandic marine-terminating outlet glaciers on multiple time scales. *University of Washington School of Oceanography Graduate and Postdoc Symposium*.

### Invited Seminar Presentations

- Black, T.** and Kurtz, D. (2022) Remote work: Monitoring glacier change in Kenai Fjords National Park. *Western Washington University Environmental Speaker Series*.

### Conference Presentations

- King, M.D., Joughin, I., Howat, I.M., and **Black, T.E.** (2022) Constraining the capabilities and limitations of existing satellite observations in resolving subglacial meltwater impacts on outlet glacier dynamics. *American Geophysical Union Fall Meeting*, [C15A-01](#).
- Laidre, K.L., Moon, T., Cohen, B., Stern III, H.L., and **Black, T.E.** (2022) Polar bears, glaciers and fjord ice in southeast Greenland. *American Geophysical Union Fall Meeting*, [B12A-01](#).
- Black, T.** and Kurtz, D. (2022) Maritime glacier change in Kenai Fjords National Park between 1984 and 2021. *International Glaciological Society Symposium on Maritime Glaciers*.
- Goliber, S.A., **Black, T.E.**, Catania, G.A., Lea, J.M., and Cheng, D. (2021) Lessons learned from TermPicks: A century of Greenland glacier terminus data. *American Geophysical Union Fall Meeting*, [C51A-05](#).
- King, M.D., Joughin, I.R., Howat, I., and **Black, T.E.** (2021) A recent assessment of variability in rigid mélange coverage and the associated impacts at highly dynamic calving fronts in Greenland. *American Geophysical Union Fall Meeting*, [C34A-03](#).
- Black, T.E.** and Joughin, I. (2021) Weekly to monthly terminus variability of Greenland's marine-terminating outlet glaciers. *American Geophysical Union Fall Meeting*, [C31A-05](#).

- Black, T.** and Joughin, I. (2021) Climatic drivers of outlet glacier retreat in northwestern and west-central Greenland. *University of Washington Earth and Space Sciences Research Gala*.
- Black, T.** and Kurtz, D. (2020) Satellite observations of coastal glacier change at Kenai Fjords National Park. *Northwest Glaciologists Annual Meeting*.
- Black, T.** and Joughin, I. (2019) An annual record of outlet glacier termini in northwestern Greenland from 1972 – 2018. *Northwest Glaciologists Annual Meeting*.
- Black, T.** and Joughin, I. (2019) A multidecadal record of outlet glaciers in northwestern Greenland. *University of Washington Earth and Space Sciences Research Gala*.
- Black, T.E.,** Dufek, J., and Benage, M.C. (2015) The effects of pulsating flow on eruption column dynamics. *American Geophysical Union Fall Meeting*, [V44B-06](#).

### **Conference Posters**

- Berry, J., Pettit, E.C., Rennermalm, A.K., Roth, A., **Black, T.E.**, Abib, N., Waghorn, L., Wanzer, L., Trunz, C. (2023) Historical evolution and future retreat of Bear Glacier, Alaska. *American Geophysical Union Fall Meeting*, [C21F-1308](#).
- Moon, T.A., Cohen, B., Laidre, K.L., Stern, H.L., and **Black, T.E.** (2021) Revealing the Southeast Greenland physical environment to enhance biological knowledge. *American Geophysical Union Fall Meeting*, [B25E-1518](#).
- Goliber, S., **Black, T.**, Lea, J., Cheng, D., and Catania, G. (2020) IcePicks: a collaborative database and toolset for identifying Greenland outlet glacier termini. *American Geophysical Union Fall Meeting*, [C004-0016](#).
- Goliber, S., **Black, T.**, and Catania, G. (2020) IcePicks: a collaborative database of Greenland outlet glacier termini. *European Geophysical Union General Assembly*, EGU2020-11237, [doi:10.5194/egusphere-egu2020-11237](#).
- Black, T.** and Joughin, I. (2019) Controls on multi-decadal variability of marine-terminating outlet glaciers in northwestern Greenland. *American Geophysical Union Fall Meeting*, [C41C-1475](#).
- Black, T.** and Joughin, I. (2018) Multidecadal climate response of outlet glaciers in northwestern and west central Greenland. *American Geophysical Union Fall Meeting*, [C11C-1137](#).
- Black, T.** and Joughin, I. (2018) Multidecadal outlet glacier changes in northwestern and west central Greenland. *Graduate Climate Conference*.
- Light, B., Perovich, D.K., Holland, M.M., Dickinson, S., and **Black, T.** (2012) Arctic sea ice albedo through the summer melt cycle: CCSM4 compared with a satellite/empirical record over 1979-2005. *American Geophysical Union Fall Meeting*, C41B-0564.
- Light, B., **Black, T.**, Carns, R., Brandt, R., Dadic, R., and Warren, S. (2012) Albedo of cold sea ice with precipitated salt on the tropical ocean of Snowball Earth: field measurements and laboratory experiments. *European Geophysical Union General Assembly*, [EGU2012-6686](#).