

Taryn E. Black, Ph.D.

Seattle, WA

black.taryn.e@gmail.com

tarynblack.github.io

EDUCATION

- 2016-09 – 2022-08 **Ph.D. Earth and Space Sciences**
 Graduate Certificate in Climate Science
 University of Washington
- 2013-08 – 2016-05 **M.S. Earth and Atmospheric Sciences**
 Georgia Institute of Technology
- 2009-09 – 2013-06 **B.S. Earth and Space Sciences (with Department Honors, cum laude)**
 B.S. Physics
 University of Washington

RESEARCH EXPERIENCE

- 2016-09 – 2022-09 **Graduate Research Assistant**
 Polar Science Center, Applied Physics Laboratory, University of Washington
 Investigations of glacier terminus processes on weekly to decadal time scales
- 2020-06 – 2020-08 **Future Park Leaders Intern**
 Kenai Fjords National Park, U.S. National Park Service
 Communicating the rapid loss of coastal glaciers through terminus mapping
- 2013-08 – 2016-05 **Graduate Research Assistant**
 School of Earth and Atmospheric Sciences, Georgia Institute of Technology
 Effects of pulsating flow on explosive volcanic eruption column dynamics

TEACHING EXPERIENCE

- 2021-06 – 2021-09 **Field Science Guide**
 Mountain Madness, Inc.
 Cascade Glacier Walking Tour
- 2020 Autumn **Graduate Teaching Assistant**
 Department of Earth and Space Sciences, University of Washington
2018 Summer ESS 431: Principles of Glaciology
2018 Spring ESS 101: Introduction to Geology and Societal Impacts
 ESS 213: Evolution of the Earth
- 2020 Winter **Predoctoral Instructor**
 College of the Environment, University of Washington
 CENV 500: Communicating Science to the Public Effectively
- 2015-06 – 2016-05 **Professional Development Assistant Instructor**
 Gwinnett County (Georgia) Public Schools/Georgia Institute of Technology
 Math and Science Partnership, K-5 Science Endorsement Program
- Graduate Teaching Assistant**
 School of Earth and Atmospheric Sciences, Georgia Institute of Technology

2014 Spring

EAS 2600: Earth Processes

FIELD EXPERIENCE

Glaciology

2020-08 Nisqually Glacier (Mount Rainier, WA) – mass balance, repeat photography
 2019-07 Coleman Glacier (Mount Baker, WA) – ice-penetrating radar
 2016-08 Columbia Glacier (Cascades, WA) – mass balance
 2012-12 – 2013-02 West Antarctic Ice Sheet – rock sampling, ice-penetrating radar, traverse support

Volcanology

2016-03 Trans-Mexican Volcanic Belt – rock and ash sampling, ground truthing
 2015-08 Mount St. Helens (WA) – supervised projects and field trips for GeoGirls camp
 2014-04 Aegean Islands (Greece) – pumice sampling/analysis, volcanic stratigraphy

Other Earth Science

2020-08 Mount Rainier National Park (WA) – alpine lake surveys, amphibian surveys
 2016-05 Quebrada Honda (Bolivia) – paleosol collection, stratigraphy
 2012 Summer UW-ESS 400 (Dillon, MT) – structural geology, glacial geology, fluvial geomorphology

HONORS AND AWARDS

2022 Julian D. Barksdale Distinguished Service Award (UW-ESS)
 2021 Best Glaciology Talk, ESS Research Gala
 2019 Pacific Science Center Science Communication Fellow
 2014 National Science Foundation Graduate Research Fellowship
 2013 Georgia Tech Graduate President's Fellowship

ACADEMIC SERVICE

2020-09 – 2022-08 Peer Mentor – UW-ESS First-Year Mentoring Program
 2019-08 – 2022-08 Board Member – UW Engage (science communication program)
 2018-09 – 2022-08 Graduate Representative – UW-ESS Curriculum Committee
 2018-08 – 2022-08 Coordinator – UW-ESS New Student Welcome Guide
 2017-02 – 2022-08 Coordinator – UW-ESS Graduate Student Housing Survey
 2018-09 – 2020-12 Graduate Representative – UW-ESS Graduate Representative to the Faculty
 2018-12, 2019-12 Peer Mentor – CryoMentoring, AGU Fall Meeting
 2019-09 Panelist – UW-Coll. Environment New Grad Student Orientation
 2017-06 – 2018-06 Graduate Representative – UW-Coll. Environment Student Advisory Council
 2018-01 – 2018-04 Committee Member – UW-ESS Research Gala
 2017-01 – 2018-03 Coordinator – UW-ESS Glaciology Lunch
 2017-01 – 2017-02 Committee Member – UW-ESS Prospective Student Open House
 2016-10 Committee Member – Northwest Glaciologists Meeting
 2014-01 – 2016-05 Co-founder/Organizer – GT-EAS Women in Geosciences
 2014-05 – 2015-05 Committee Chair – GT-EAS First-Year Mentoring Program

PUBLIC SCIENCE COMMUNICATION

* indicates invited contribution

Speaking

- * Geology and Paleoecology of the Puget Sound, *Delridge Neighborhood Development Association, Wetland Workshop Series (virtual)*, 2020-11-22. [[video](#)]
- The 440-mile view: Monitoring glacier change from space, *UW ESS Rockin' Out Speaker Series (virtual)*, 2020-09-24. [[video](#)]
- 400 miles high and 1400 miles away: Studying glacier change in Kenai Fjords National Park, *Future Park Leaders of Emerging Change, PechaKucha Series (virtual)*, 2020-09-09. [[video](#)]
- * How much, how fast? Watching glacier change in Greenland, *Skype a Scientist: No Time Like the Presentation Speaker Series (virtual)*, 2020-05-12. [[video](#)][[video abstract](#)]
- * Rapid Changes: The evolution of ice sheets and how we study them, *Association for Women in Science, Seattle Chapter*, 2019-11-13.
- How much, how fast? Deciphering a record of glacier change in Greenland, *Town Hall Seattle, UW Engage Science Speaker Series*, 2019-04-02. [[video](#)]
- * How much, how fast? Building a record of glacier change in Greenland, *Seattle University, Arctic Environmental Change course*, 2019-03-08.

Writing

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

Media

- Glacial studies point to retreat, and advance, of Kenai Fjords National Park glaciers, *National Parks Traveler*, 2022-09-12. [[story](#)][[podcast](#)]
- Alaskan glaciers advance and retreat in satellite imagery, *Eos*, 2022-09-12. [[story](#)]
- New study charts changes at glaciers in Kenai Fjords National Park, *KDLL Public Radio*, 2022-05-08. [[story/recording](#)]
- New study calculates retreat of glacier edges in Alaska's Kenai Fjords National Park, *University of Washington News*, 2022-08-05. [[story](#)]
- You don't have to be a climber to explore the Cascades' mightiest glaciers, *King 5 Evening*, 2021-08-10. [[video](#)][[story](#)]
- A visit to Mt. Baker's Easton Glacier, *University of Washington News*, 2021-07-30. [[video](#)]

Other Service Activities

- | | |
|-------------------|---|
| 2019-03 – present | Guest Speaker – Skype a Scientist |
| 2016-09 – 2020-03 | Volunteer – UW-ESS Rockin' Out (<i>K12 outreach group</i>) |
| 2019-03 | Activity Coordinator – Polar Science Weekend (glaciers and ice cores) |
| 2017-03 – 2019-03 | Volunteer – Polar Science Weekend @ Pacific Science Center |
| 2020-07-17 | Guest Speaker – GeoFORCE, UT Austin (virtual) |
| 2019-09 – 2020-06 | Volunteer – Letters to a Pre-Scientist |
| 2019-12-20 | Panelist – Winterfest climate panel, The Northwest School |
| 2019-04-16 | Guest Speaker – Honors Earth Science, Timbercrest Middle School |
| 2019-04-12 | Guest Speaker – Freshmen Earth Science, Monroe High School |
| 2015-08 | Volunteer – GeoGirls summer camp, Mount St. Helens Institute/USGS |

SCIENTIFIC PUBLICATIONS

Datasets

- [4] **Black, T.** and I. Joughin (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/DGBOSSIULSTD](https://doi.org/10.5067/DGBOSSIULSTD).
- [3] Moon, T., B. Cohen, **T. Black**, K. Laidre, H. Stern, and I. Joughin [in press] Southeast Greenland fjord fast ice, glacier-derived ice, and freshwater metrics. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. [doi:10.5067/R86BW8LR6PZH](https://doi.org/10.5067/R86BW8LR6PZH)
- [2] **Black, T.** and D. Kurtz (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>
- [1] Joughin, I., T. Moon, J. Joughin, and **T. Black** (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)

Journal Articles

- [5] **Black, T.E.** and I. Joughin (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).
- [4] **Black, T.** and D. Kurtz (2022) Maritime glacier retreat and terminus area change in Kenai Fjords National Park, Alaska, between 1984 and 2021. *Journal of Glaciology*, [doi:10.1017/jog.2022.55](https://doi.org/10.1017/jog.2022.55).
- [3] Goliber, S., **T. Black**, G. Catania, J. Lea, H. Olsen, D. Cheng, S. Bevan, A. Bjørk, C. Bunce, S. Brough, J.R. Carr, T. Cowton, A. Gardner, D. Fahrner, E. Hill, I. Joughin, N. Korsgaard, A. Luckman, T. Moon, T. Murray, A. Sole, M. Wood, and E. Zhang (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).
- [2] **Black, T.E.** and I. Joughin (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).
- [1] Spector, P., J. Stone, G. Balco, T. Hillebrand, M. Thompson, and **T. Black** (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

* indicates invited contribution as presenting author

Talks

- [13] King, M.D., I. Joughin, I.M. Howat, and **T.E. Black** (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](#).
- [12] Laidre, K.L., T. Moon, B. Cohen, H.L. Stern III, and **T.E. Black** (2022) Polar bears, glaciers and fjord ice in southeast Greenland. *American Geophysical Union Fall Meeting*, [B12A-01](#).
- [11] * **Black, T.** and D. Kurtz (2022) Remote work: Monitoring glacier change in Kenai Fjords National Park. *Western Washington University Environmental Speaker Series*. [\[video\]](#)
- [10] **Black, T.** and D. Kurtz (2022) Maritime glacier change in Kenai Fjords National Park between 1984 and 2021. *International Glaciological Society Symposium on Maritime Glaciers*.

- [9] * **Black, T.E.** and D. Kurtz (2022) Satellite observations of maritime glacier change at Kenai Fjords National Park. *U.S. National Park Service Alaska Region GIS First Tuesday*.
- [8] **Black, T.E.** and I. Joughin (2021) Weekly to Monthly Terminus Variability of Greenland's Marine-Terminating Outlet Glaciers. *American Geophysical Union Fall Meeting*, [C31A-05](#).
- [7] Goliber, S.A., **T.E. Black**, G.A. Catania, J.M. Lea, and D. Cheng (2021) Lessons learned from TermPicks: A century of Greenland glacier terminus data. *American Geophysical Union Fall Meeting*, [C51A-05](#).
- [6] King, M.D., I.R. Joughin, I. Howat, and **T.E. Black** (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](#).
- [5] **Black, T.** and I. Joughin (2021) Climatic drivers of outlet glacier retreat in northwestern and west-central Greenland. *UW ESS Research Gala*.
- [4] **Black, T.** and D. Kurtz (2020) Satellite observations of coastal glacier change at Kenai Fjords National Park. *Northwest Glaciologists Annual Meeting*.
- [3] **Black, T.** and I. Joughin (2019) An annual record of outlet glacier termini in northwestern Greenland from 1972 – 2018. *Northwest Glaciologists Annual Meeting*.
- [2] * **Black, T.** (2019) Observations of Greenlandic marine-terminating outlet glaciers on multiple time scales. *UW Oceanography Graduate & Postdoc Symposium*.
- [1] **Black, T.** and I. Joughin (2019) A Multidecadal Record of Outlet Glaciers in Northwestern Greenland. *UW ESS Research Gala*.

Posters

- [6] Moon, T.A., B. Cohen, K.L. Laidre, H.L. Stern, and **T.E. Black** (2021) Revealing the Southeast Greenland physical environment to enhance biological knowledge. *American Geophysical Union Fall Meeting*, [B25E-1518](#).
- [5] Goliber, S., **T. Black**, J. Lea, D. Cheng, and G. Catania (2020) IcePicks: a collaborative database and toolset for identifying Greenland outlet glacier termini. *American Geophysical Union Fall Meeting*, [C004-0016](#).
- [4] Goliber, S., **T. Black**, and G. Catania (2020) IcePicks: a collaborative database of Greenland outlet glacier termini. *European Geophysical Union General Assembly*, EGU2020-11237. [doi:10.5194/egusphere-egu2020-11237](https://doi.org/10.5194/egusphere-egu2020-11237).
- [3] **Black, T.** and I. Joughin (2019) Controls on multi-decadal variability of marine-terminating outlet glaciers in northwestern Greenland. *American Geophysical Union Fall Meeting*, [C41C-1475](#).
- [2] **Black, T.** and I. Joughin (2018) Multidecadal climate response of outlet glaciers in northwestern and west central Greenland. *American Geophysical Union Fall Meeting*, [C11C-1137](#).
- [1] **Black, T.** and I. Joughin (2018) Multidecadal outlet glacier changes in northwestern and west central Greenland. *Graduate Climate Conference*.