

# Taryn E. Black

Ph.D. Candidate  
University of Washington

teblack@uw.edu  
tarynblack.github.io  
ATG 208B / RTB 562

## EDUCATION

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- 2016-09 – present     **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 (Dept. Honors, *cum laude*)**  
                                 **B.S. Physics**  
                                 University of Washington

## RESEARCH EXPERIENCE

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- 2016-09 – present     **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*  
                                 Understanding and 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 eruption column dynamics

## TEACHING EXPERIENCE

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- 2021-06 – present     **Field Science Guide**  
                                 Mountain Madness  
                                 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 Summer     ESS 101: Introduction to Geology and Societal Impacts  
2018 Spring     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**

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***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  
 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

**FELLOWSHIPS AND AWARDS**

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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**

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2020-09 – present Peer Mentor – UW-ESS First-Year Mentoring Program  
 2019-08 – present Board Member – UW Engage (science communication program)  
 2018-09 – present Graduate Representative – UW-ESS Curriculum Committee  
 2018-08 – present Coordinator – UW-ESS New Student Welcome Guide  
 2017-02 – present 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/Webmaster – 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

## PUBLIC SCIENCE COMMUNICATION

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\* indicates invited contribution

### *Speaking*

- 2021-03-31 The ice edges of the not-green land are going away  
*ESS Research Gala “UpGoer5” session, virtual*
- 2020-11-22 \* Geology and Paleocology of the Puget Sound  
[\[watch it here\]](#)  
*Delridge Neighborhood Development Association, Wetland Workshop Series, virtual*
- 2020-09-24 The 440-mile view: Monitoring glacier change from space  
[\[watch it here\]](#)  
*UW ESS Rockin’ Out Speaker Series, virtual*
- 2020-09-09 400 miles high and 1400 miles away: Studying glacier change in Kenai Fjords National Park  
[\[watch it here\]](#)  
*Future Park Leaders of Emerging Change, PechaKucha Series, virtual*
- 2020-05-12 \* How much, how fast? Watching glacier change in Greenland  
[\[watch it here\]](#)[\[video abstract\]](#)  
*Skype a Scientist: No Time Like the Presentation Speaker Series, virtual*
- 2019-11-13 \* Rapid Changes: The evolution of ice sheets and how we study them  
*Association for Women in Science, Seattle Chapter, Seattle, WA*
- 2019-04-02 How much, how fast? Deciphering a record of glacier change in Greenland  
[\[watch it here\]](#)  
*Town Hall Seattle, UW Engage Science Speaker Series, Seattle, WA*
- 2019-03-08 \* How much, how fast? Building a record of glacier change in Greenland  
*Seattle University, Arctic Environmental Change course, Seattle, WA*
- 2018-03-30 The big ice up top is getting smaller: pictures from a space box  
*ESS Research gala, “UpGoer5” session, Seattle, WA*

### *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*

- “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
- 2019-03 – present Activity Coordinator – Polar Science Weekend (glaciers and ice cores)
- 2017-03 – present Volunteer – Polar Science Weekend @ Pacific Science Center
- 2016-09 – present Volunteer – UW-ESS Rockin’ Out (*K12 outreach group*)
- 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, Seattle, WA
- 2019-04-16 Guest Speaker – Honors Earth Science, Timbercrest Middle School, Woodinville, WA

2019-04-12                      Guest Speaker – Freshmen Earth Science, Monroe High School, Monroe, WA  
2015-08                         Volunteer – GeoGirls summer camp, Mount St. Helens Institute/USGS

## PROFESSIONAL SKILLS

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### *Certifications*

Basic First Aid/CPR, Wilderness First Aid, PADI Open Water Diver

### *Scientific Computing*

Python (pandas/geopandas, xarray, cartopy, numpy), MATLAB, ArcGIS, Git/GitHub, Bash, Markdown

## SCIENTIFIC PUBLICATIONS

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### *In Review*

**Black, T.E.** and D. Kurtz (2022) Maritime glacier change in Kenai Fjords National Park between 1984 and 2021. *Journal of Glaciology*.

Goliber, S., **T. Black**, G. Catania, J. Lea, H. Olsen, D. Cheng, S. Bevan, A. Bjørk, C. Bunce, 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 (2021) TermPicks: A century of Greenland glacier terminus data for use in machine learning applications. *The Cryosphere Discussions*. doi:10.5194/tc-2021-311

**Black, T.E.** and I. Joughin (2021) Multi-decadal retreat of marine-terminating outlet glaciers in northwest and central-west Greenland. *The Cryosphere Discussions*. doi:10.5194/tc-2021-164

### *Datasets*

Joughin, I., T. Moon, J. Joughin, and **T. Black** (2015, 2017) MEaSUREs Annual Greenland Outlet Glacier Terminus Positions from SAR Mosaics, Version 1. Boulder, Colorado USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. doi: doi.org/10.5067/DC0MLBOCL3EL.

### *Journal Articles*

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

## SCIENTIFIC PRESENTATIONS

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\* indicates invited contribution as presenting author

### *Talks*

**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.

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.

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.

- Black, T.** and I. Joughin (2021). Climatic drivers of outlet glacier retreat in northwestern and west-central Greenland. *UW ESS Research Gala*.
- Black, T.** and D. Kurtz (2020). Satellite observations of coastal glacier change at Kenai Fjords National Park. *Northwest Glaciologists Annual Meeting*.
- Black, T.** and I. Joughin (2019). An annual record of outlet glacier termini in northwestern Greenland from 1972 – 2018. *Northwest Glaciologists Annual Meeting*.
- \* **Black, T.** (2019). Observations of Greenlandic marine-terminating outlet glaciers on multiple time scales. *UW Oceanography Graduate & Postdoc Symposium*.
- Black, T.** and I. Joughin (2019). A Multidecadal Record of Outlet Glaciers in Northwestern Greenland. *UW ESS Research Gala*.

### **Posters**

- 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.
- 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.
- 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: <https://doi.org/10.5194/egusphere-egu2020-11237>
- 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.
- 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.
- Black, T.** and I. Joughin (2018). Multidecadal outlet glacier changes in northwestern and west central Greenland. *Graduate Climate Conference*.
- Black, T.** (2017). Housing and lifestyle patterns among ESS graduate students. *UW ESS Research Gala*.