

Taryn E. Black

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ATG 208B / RTB 562

EDUCATION

2016 – present	Ph.D. Earth and Space Sciences Graduate Certificate in Climate Science University of Washington
2013 – 2016	M.S. Earth and Atmospheric Sciences Georgia Institute of Technology
2009 – 2013	B.S. Earth and Space Sciences (Dept. Honors, <i>cum laude</i>) B.S. Physics University of Washington

RESEARCH EXPERIENCE

Sept. 2016 – present	Graduate Research Assistant <i>Polar Science Center, Applied Physics Laboratory, University of Washington</i> Investigations of glacier terminus processes on weekly to decadal time scales
June – Aug. 2020	Future Park Leaders Intern <i>Kenai Fjords National Park, U.S. National Park Service</i> Understanding and communicating the rapid loss of coastal glaciers through terminus mapping
Aug. 2013 – May 2016	Graduate Research Assistant <i>School of Earth and Atmospheric Sciences, Georgia Institute of Technology</i> Effects of pulsating flow on eruption column dynamics

TEACHING EXPERIENCE

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

Graduate Teaching Assistant*School of Earth and Atmospheric Sciences, Georgia Institute of Technology*

EAS 2600: Earth Processes

Spring 2014

FIELD EXPERIENCE

Glaciology

Aug. 2020	Nisqually Glacier (Mount Rainier, WA) – mass balance, repeat photography
July 2019	Coleman Glacier (Mount Baker, WA) – ice-penetrating radar
Aug. 2016	Columbia Glacier (Cascades, WA) – mass balance
Winter 2012-13	West Antarctic Ice Sheet – rock sampling, ice-penetrating radar, traverse support

Volcanology

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

Other Earth Science

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

FELLOWSHIPS AND AWARDS

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

Sept. 2020 – present	Peer Mentor – UW-ESS First-Year Mentoring Program
Aug. 2019 – present	Board Member – UW Engage (science communication program)
Sept. 2018 – present	Graduate Representative – UW-ESS Curriculum Committee
Aug. 2018 – present	Coordinator – UW-ESS New Student Welcome Guide
Feb. 2017 – present	Coordinator – UW-ESS Graduate Student Housing Survey
Sept. 2018 – Dec. 2020	Graduate Representative – UW-ESS Graduate Representative to the Faculty
Dec. 2018, 2019	Peer Mentor – CryoMentoring, AGU Fall Meeting
Sept. 2019	Panelist – UW-Coll. Environment New Grad Student Orientation
June 2017 – June 2018	Graduate Representative – UW-Coll. Environment Student Advisory Council
Jan. 2018 – Apr. 2018	Committee Member – UW-ESS Research Gala
Jan. 2017 – Mar. 2018	Coordinator – UW-ESS Glaciology Lunch
Jan. 2017 – Feb. 2017	Committee Member – UW-ESS Prospective Student Open House
Oct. 2016	Committee/Webmaster – Northwest Glaciologists Meeting
Jan. 2014 – May 2016	Co-founder/Organizer – GT-EAS Women in Geosciences
May 2014 – May 2015	Committee Chair – GT-EAS First-Year Mentoring

PUBLIC SCIENCE COMMUNICATION

* indicates invited contribution

Speaking

“The ice edges of the not-green land are going away” ESS Research Gala “UpGoer5” session, 31 Mar. 2021.

* “Geology and Paleocology of the Puget Sound” Delridge Neighborhood Development Association, Wetland Workshop Series, 22 Nov. 2020. [[watch it here](#)]

“The 440 mile view: Monitoring glacier change from space” UW ESS Rockin’ Out, 24 Sept. 2020. [[watch it here](#)]

“400 miles high and 1400 miles away: Studying glacier change in Kenai Fjords National Park” Future Park Leaders of Emerging Change PechaKucha Series, 9 Sept. 2020. [[watch it here](#)]

* “How much, how fast? Watching glacier change in Greenland” Skype a Scientist: No Time Like the Presentation Speaker Series, 12 May 2020. [[watch it here](#)]/[[video abstract](#)]

* “Rapid Changes: The evolution of ice sheets and how we study them” Association for Women in Science, Seattle Chapter, 13 Nov. 2019.

“How much, how fast? Deciphering a record of glacier change in Greenland” Town Hall Seattle, 2 Apr. 2019. [[watch it here](#)]

* “How much, how fast? Building a record of glacier change in Greenland” Seattle University, 8 Mar. 2019.

“The big ice up top is getting smaller: pictures from a space box” ESS Research Gala “UpGoer5” session, 30 Mar. 2018.

Writing

Mount St. Helens is not acting up. *UW Engage Science Blog*, 20 Mar. 2019. Retrieved from <https://www.engage-science.space/blog/2019/3/20/mt-st-helens-is-not-acting-up>

Building Relationships to Promote Science-Based Decision Making. *Union of Concerned Scientists USA Blog*, 2 Mar. 2018, with M. Diamond and E. Kahle. Retrieved from <https://blog.ucsusa.org/science-blogger/building-relationships-to-promote-science-based-decision-making>

Other Service Activities

Winters 2019 – present Activity Coordinator – Polar Science Weekend (glaciers and ice cores)

Winters 2017 – present Volunteer – Polar Science Weekend @ Pacific Science Center

Sept. 2016 – present Volunteer – UW-ESS Rockin’ Out (*K12 outreach group*)

Jul. 2020 Guest Speaker – GeoFORCE, UT Austin (virtual)

Sept. 2019 – June 2020 Volunteer – Letters to a Pre-Scientist

Dec. 2019 Panelist – Winterfest climate panel, The Northwest School, Seattle, WA

Apr. 2019 Guest Speaker – Honors Earth Science, Timbercrest Middle School, Woodinville, WA

Apr. 2019 Guest Speaker – Freshmen Earth Science, Monroe High School, Monroe, WA

Mar. 2019 Guest Speaker – Skype a Scientist

Aug. 2015 Volunteer – GeoGirls summer camp, Mount St. Helens Institute/USGS

PROFESSIONAL SKILLS

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

In Preparation

Black, T. & D. Kurtz (2021) Coastal Glacier Change in Kenai Fjords National Park between 1984 and 2020.

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.

Datasets

Joughin, I., T. Moon, J. Joughin, & **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

Black, T. & I. Joughin (2021) Multi-decadal retreat of marine-terminating outlet glaciers in northwest and central-west Greenland. *The Cryosphere* [in review]

Spector, P., J. Stone, G. Balco, T. Hillebrand, M. Thompson, & **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

* indicates invited contribution

Talks

Black, T. & I. Joughin. Climatic drivers of outlet glacier retreat in northwestern and west-central Greenland. ESS Research Gala, 1 Apr. 2021.

Black, T. & D. Kurtz. Satellite observations of coastal glacier change at Kenai Fjords National Park. Northwest Glaciologists, 15 Oct. 2020.

Black, T. & I. Joughin. An annual record of outlet glacier termini in northwestern Greenland from 1972 – 2018. Northwest Glaciologists, 5 Oct. 2019.

* **Black, T.** Observations of Greenlandic marine-terminating outlet glaciers on multiple time scales. Oceanography Graduate & Postdoc Symposium, Seattle, WA, 31 May 2019.

Black, T. A Multidecadal Record of Outlet Glaciers in Northwestern Greenland. ESS Research Gala, 4 Apr. 2019.

Posters

Goliber, S., **T. Black**, J. Lea, D. Cheng, & G. Catania. IcePicks: a collaborative database and toolset for identifying Greenland outlet glacier termini. Abstract C004-0016 presented at 2020 AGU Fall Meeting, Online, 7 Dec. 2020.

- Goliber, S., **T. Black**, & G. Catania. IcePicks: a collaborative database of Greenland outlet glacier termini. Abstract EGU2020-11237 presented at EGU General Assembly 2020, Online, 4 – 8 May 2020. doi: <https://doi.org/10.5194/egusphere-egu2020-11237>
- Black, T.** & I. Joughin. Controls on multi-decadal variability of marine-terminating outlet glaciers in northwestern Greenland. Abstract C41C-1475 presented at 2019 AGU Fall Meeting, San Francisco, CA, 9 – 13 Dec. 2019.
- Black, T.** & I. Joughin. Multidecadal climate response of outlet glaciers in northwestern and west central Greenland. Abstract C11C-1137 presented at 2018 AGU Fall Meeting, Washington D.C., 10 – 14 Dec. 2018.
- Black, T.** & I. Joughin. Multidecadal outlet glacier changes in northwestern and west central Greenland. Graduate Climate Conference, 2 – 4 Nov. 2018.
- Black, T.** Housing and lifestyle patterns among ESS graduate students. ESS Research Gala, Seattle, WA, 30 – 31 Mar. 2017.