

Taryn E. Black

Assistant Research Scientist

Earth System Science Interdisciplinary Center, University of Maryland
 Cryospheric Sciences Laboratory, NASA Goddard Space Flight Center

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ACADEMIC APPOINTMENTS

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| 2025 – present | Assistant Research Scientist , Earth System Science Interdisciplinary Center,
University of Maryland (co-op with NASA Goddard Space Flight Center) |
| 2023 – 2025 | Postdoctoral Associate , Earth System Science Interdisciplinary Center,
University of Maryland (co-op with NASA Goddard Space Flight Center) |
| 2020 | Research Intern , Kenai Fjords National Park/Ecological Society of America |

Affiliate Appointments

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| 2025 – present | Earth and Space Research |
| 2024 – present | Polar Science Center, Applied Physics Laboratory, University of Washington |
| 2023 – present | Cryospheric Sciences Laboratory, NASA Goddard Space Flight Center |

EDUCATION

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

TEACHING

Instructor of Record

College of the Environment, University of Washington

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| Winter 2020 | Communicating Science to the Public Effectively (<i>graduate</i>) |
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Teaching Assistant

Department of Earth and Space Sciences, University of Washington

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| Autumn 2020 | Principles of Glaciology (<i>undergraduate majors</i>) |
| Summer 2018 | Introduction to Geology and Societal Impacts (<i>undergraduate non-majors</i>) |
| Spring 2018 | Evolution of the Earth (<i>undergraduate majors</i>) |

School of Earth and Atmospheric Sciences, Georgia Institute of Technology

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| Spring 2014 | Earth Processes (<i>undergraduate non-majors</i>) |
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ACADEMIC SERVICE

Service to the Profession

Peer Review Activities

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| Journals | Geological Society of Denmark and Greenland (GEUS) Bulletin
Journal of Glaciology
The Cryosphere
Journal of Geophysical Research – Earth Surface
Scientific Reports |
| Agencies | U.S. Geological Survey |

National Science Foundation – Office of Polar Programs

Conference Organization

- 2023 Northwest Glaciologists Annual Meeting (Seattle, WA)
2016 Northwest Glaciologists Annual Meeting (Seattle, WA)

Campus Service

University of Washington, Department of Earth and Space Sciences

- 2021 – present **Field Trip Leader**, Opportunities in Glacier InVESTigation (OGIVE) SURP
2020 – 2022 **Peer Mentor**, First-Year Mentoring Program
2018 – 2022 **Graduate Representative**, Curriculum Committee
2018 – 2020 **Graduate Representative to the Faculty**
2018 **Organizer**, Annual Student Research Gala
2017 – 2018 **Coordinator**, Glaciology Lunch (weekly brown bag)
2017 **Organizer**, Prospective Student Open House

University of Washington, College of the Environment

- 2019 – 2022 **Board Member**, Engage (science communication program)
2019 **Panelist**, New Graduate Student Orientation
2017 – 2018 **Graduate Representative**, Dean's Student Advisory Council

Georgia Institute of Technology, School of Earth and Atmospheric Sciences

- 2014 – 2016 **Co-Founder**, Women in Geosciences
2014 – 2015 **Committee Chair**, First-Year Mentoring Program

PUBLIC OUTREACH AND EDUCATION

Community Engagement

Outreach Events

- 2017 – present **Volunteer**, Polar Science Weekend, Pacific Science Center (Seattle, WA)
2025 **Volunteer**, Edmonds Heights K-12 Science Fair (Edmonds, WA)
2020 **Guest Speaker**, GeoFORCE Program, University of Texas at Austin
2019 – 2020 **Scientist Pen Pal**, Letters to a Pre-Scientist
2016 – 2020 **Volunteer**, Rockin' Out (UW Earth and Space Sciences outreach program)
2019 **Panelist**, Winterfest Climate Panel, The Northwest School (Seattle, WA)
2015 **Guest Scientist**, GeoGirls Summer Camp, Mount St. Helens Institute/USGS

K-12 Classroom Visits

- 2019 – 2020 Skype a Scientist, various virtual classroom visits
2019 Honors Earth Science, Timbercrest Middle School (Woodinville, WA)
2019 Freshman Earth Science, Monroe High School (Monroe, WA)

Community Presentations

- 2025 **Ilulissat Icefjord Centre** (Ilulissat, Greenland)
Science from Space: What satellites reveal about Earth's ice
2020 **Wetland Workshop Series**, Delridge Neighborhood Development Association
(remote/Seattle, WA)
Geology and paleoecology of the Puget Sound
([recording](#))
2020 **Rockin' Out Speaker Series**, UW Earth and Space Sciences (remote/Seattle,
WA)
The 440-mile view: Monitoring glacier change from space

2020	PechaKucha Series , Future Park Leaders of Emerging Change (remote) 400 miles high and 1400 miles away: Studying glacier change in Kenai Fjords National Park
2020	No Time Like the Presentation Speaker Series , Skype a Scientist (remote) Watching glacier change in Greenland (recording ; video abstract)
2019	Association for Women in Science, Seattle Chapter (Seattle, WA) Rapid Changes: The evolution of ice sheets and how we study them
2019	Engage Science Speaker Series , Town Hall Seattle (Seattle, WA) How much, how fast? Deciphering a record of glacier change in Greenland (recording)

Blog Posts

2022-08-19	University of Washington Program on Climate Change Effectiveness of a multimedia StoryMap for communicating rapid glacier change in Kenai Fjords National Park, Alaska https://pcc.uw.edu/blog/2022/08/19/effectiveness-of-a-multimedia-storymap-for-communicating-rapid-glacier-change-in-kenai-fjords-national-park-alaska/
2018-03-02	Union of Concerned Scientists USA Building Relationships to Promote Science-Based Decision Making <i>With M. Diamond and E. Kahle</i> https://blog.ucsusa.org/science-blogger/building-relationships-to-promote-science-based-decision-making

Media Engagement

2024	Eos , Glaciers near active volcanoes flow faster https://eos.org/articles/glaciers-near-active-volcanoes-flow-faster
2023	Knowable Magazine , As glaciers retreat, new streams for salmon https://knowablemagazine.org/content/article/living-world/2023/glaciers-climate-change-salmon
2022	Eos , Alaskan glaciers advance and retreat in satellite imagery https://eos.org/articles/alaskan-glaciers-advance-and-retreat-in-satellite-imagery
2022	National Parks Traveler blog , Glacial studies point to retreat, and advance, of Kenai Fjords National Park glaciers https://www.nationalparkstraveler.org/2022/09/glacial-studies-point-retreat-and-advance-kenai-fjords-national-park-glaciers
2022	National Parks Traveler podcast , Kenai Fjords' glaciers https://www.nationalparkstraveler.org/podcast/2022-09-11-national-parks-traveler-episode-187-kenai-fjords-glaciers
2022	KDLL – Kenai Public Radio , New study charts changes at glaciers in Kenai Fjords National Park https://www.kdll.org/local-news/2022-08-08/new-study-charts-changes-at-glaciers-in-kenai-fjords-national-park
2022	University of Washington News , New study calculates retreat of glacier edges in Alaska's Kenai Fjords National Park https://www.washington.edu/news/2022/08/05/kenai-fjords
2021	KING 5 Evening , You don't have to be a climber to explore the Cascades' mightiest glaciers

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

CONTINUING EDUCATION

2024	GHub Tool Development Workshop , University at Buffalo
2023	GeoSMART Hackweek: Application of Machine Learning in Hydrology and Cryosphere Science , University of Washington eScience Institute
2023	CryoCloud Workshop , National Snow and Ice Data Center
2019	Summer Institute: Climate Change Impacts on 21st Century Food and Water Security , University of Washington Program on Climate Change
2019	ICESat-2 Hackweek , University of Washington eScience Institute
2018	Summer Institute: Sources of Uncertainty in Long-Term Climate Predictions , University of Washington Program on Climate Change
2017	Geohackweek , University of Washington eScience Institute

RESEARCH MENTORSHIP

Undergraduate

2025 – present	Sofia Suhimin – University of Washington OGIVE SURP
2018 – 2019	Courtney Shafer (postbaccalaureate) – University of Washington APL

High School

2025	Ada C., Varun C., Alex L., Srivishnu S. – Earth & Space Research Summer Institute
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HONORS AND AWARDS

2022	Julian D. Barksdale Distinguished Service Award , UW Earth & Space Sciences
2021	Best Glaciology Talk , UW Earth and Space Sciences Research Gala
2013	Undergraduate Dean's Medalist , UW College of the Environment

GRANTS AND FELLOWSHIPS

2025 – 2028	NASA ROSES-2024 Decadal Survey Incubation “Advancing surface topography science over land ice masses with a hybrid data fusion and modeling approach.” Co-I, with B. Medley (PI, NASA GSFC), D. Felikson, and C.M. Stevens.
2025 – 2028	NASA ROSES-2024 Cryospheric Sciences * “selectable” pending federal budget allocation “Greenland Ice Sheet Melt (GrISMelt) Toolbox: Understanding the temporal evolution of Greenland surface melt at high resolution using satellite and airborne laser altimetry.” Co-I, with S. Bhushan (PI, Univ. Maryland), B. Medley, D. Shean, B. Smith, and T. Sutterley.
2014 – 2017	NSF Graduate Research Fellowship Georgia Institute of Technology; transferred to University of Washington in 2016.
2013 – 2016	Georgia Institute of Technology President’s Fellowship

PUBLISHED DATASETS

- [5] Cohen, B., Moon, T., and **Black, T.** (2024) Glacial and fast ice distributions in southeast Greenland fjords (NSIDC-0796, Version 1). Boulder, Colorado, USA. NASA National Snow and Ice Data Center Distributed Active Archive Center. [doi:10.5067/GWJ0PLI2UF6E](https://doi.org/10.5067/GWJ0PLI2UF6E)
- [4] **Black, T.** and Joughin, I. (2022) MEaSUREs Weekly-to-monthly Greenland outlet glacier terminus positions from Sentinel-1 mosaics (NSIDC-0781, 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] **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>
- [2] 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)
- [1] Joughin, I., Moon, T., Joughin, J., and **Black, T.** (2021) MEaSUREs Annual Greenland outlet glacier terminus positions from SAR mosaics (NSIDC-0642, 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)

REFERRED JOURNAL ARTICLES

- [7] (*in review*) Smith, B., Sutterley, T.C., Fricker, H.A., Padman, L., Siegfried, M.R., **Black, T.**, Felikson, D., Freer, B.I.D., Gibbons, A., Howard, S.L., Jelley, B., King, M., Medley, B., Morlighem, M., Sadlik, C., and Sauthoff, W. (2025) ICESat-2 land ice products resolve Greenland and Antarctic ice-sheet height changes on seasonal to multiyear time scales. *Journal of Glaciology*.
- [6] Moon, T., Cohen, B., **Black, T.E.**, Laidre, K., Stern, H., and Joughin, I. (2024) Characterizing Southeast Greenland fjord surface ice and freshwater flux to support biological applications. *The Cryosphere*, 18, 4845-4872, [doi:10.5194/tc-18-4845-2024](https://doi.org/10.5194/tc-18-4845-2024).
- [5] **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).
- [4] **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).
- [3] 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).
- [2] **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).
- [1] 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

Seminars and Guest Lectures

2022	Environmental Speaker Series, Western Washington University
2019	Arctic and Environmental Change, Seattle University

Conference Presentations

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- * **Black, T.** and Medley, B. (2024) Estimating Antarctic surface mass balance from ICESat-2 surface height observations. *American Geophysical Union Annual Meeting*, [C21B-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*, [89A3714](#).
- 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.** (2019) Observations of Greenlandic marine-terminating outlet glaciers on multiple time scales. *University of Washington School of Oceanography Graduate and Postdoc Symposium*.
- 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

- 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*.

Other Contributions

- Medley, B., Bhushan, S., **Black, T.E.**, Dixon, T.H., Felikson, D., Michaelides, R.J., Milillo, P., Millstein, J.D., Petty, A., Shean, D.E., Siegfried, M., Smith, B.E., Sutterley, T.C., and Teisberg, T. (2024) Cryospheric science activities towards achieving NASA's surface topography and vegetation targeted observable. *American Geophysical Union Annual Meeting*, [GC54E-01](#).
- 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](#).
- 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](#).

- Berry, J., Pettit, E., **Black, T.**, and Kurtz, D. (2022) Historical evolution and possible triggers for the retreat of Bear Glacier Lagoon, Alaska, USA. *International Glaciological Society Symposium on Maritime Glaciers*, [89A3794](#).
- 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](#).
- 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 Geosciences Union General Assembly*, EGU2020-11237, [doi:10.5194/egusphere-egu2020-11237](#).
- 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 Geosciences Union General Assembly*, [EGU2012-6686](#).