

Michael Wood

Assistant Professor

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Research Interests

Regional Ocean Modeling; Remote Sensing; Glacier-Ocean Interactions; Ice Sheets

Experience

- 2023-Present **Assistant Professor**, *San José State University*.
Dual Appointment: Moss Landing Marine Laboratories and Department of Computer Science
Principal Investigator of the Computational Oceanography Lab
- 2019-2022 **Postdoctoral Fellow**, *Jet Propulsion Laboratory, California Institute of Technology*.
NASA Postdoctoral Program
Research Advisor: Ian Fenty

Education

- 2019 **Ph.D. in Earth System Science**, *University of California, Irvine*.
School of Physical Sciences
M.S. in Earth System Science received June 2016
Faculty Advisor: Eric Rignot
- 2013 **B.S. in Mathematical Science**, *University of California, Santa Barbara*.
College of Letters and Science
Minor in Earth Science
Study Abroad 2012 at the University of Auckland, New Zealand (1 year)

Publications (32)

°Manuscript in review, †Manuscript accepted

- 2026° A. KC, E. M. Enderlin, D. Carroll, T. Moon, **M. Wood**, A. Friel, I. Welk, A. Iturriria, M. Woods, A. Dickson. Linking Observed Iceberg Melt to Modeled Ocean Conditions Around Greenland. *Geophysical Research Letters*
- 2026† M. Morlighem, R. Charrassin, N. Maffezzoli, R. Millan, H. Ockenden, N. Schlegel, H. Seroussi, **M. Wood**. New high-resolution subglacial bed topography and coastal bathymetry of the Antarctic and Greenland Ice Sheets. *Philosophical Transactions A*.
- 2026 M. Zahn, S. Fournier, I. Fenty, M. Steele, **M. Wood**, P. Gaube. Mackenzie River Freshwater Anomalies Control Early Sea Ice Formation in the Eastern Beaufort Sea. *Geophysical Research Letters* doi:[10.1029/2025GL118871](https://doi.org/10.1029/2025GL118871)
- 2025 **M. Wood**, D. Carroll, I. Fenty, C. Bertin, B. Darby, S. Dutkiewicz, M. Hopwood, A. Khazendar, L. Meire, H. Oliver, T. Parker, J. Willis. Melt from Greenland's most active glacier drives vigorous nutrient upwelling and enhanced coastal productivity. *Nature Communications: Earth and Environment*. doi:[10.1038/s43247-025-02599-1](https://doi.org/10.1038/s43247-025-02599-1)
- 2025 D. Fahrner, D. Slater, A. KC, C. Cenedese, D. Sutherland, E. Enderlin, F. de Jong, K. Kjeldsen, **M. Wood**, P. Nienow, S. Nowici, T. Wagner. A Frontal Ablation Dataset for 49 Tidewater Glaciers in Greenland. *Nature Scientific Data*. doi:[10.1038/s41597-025-04948-3](https://doi.org/10.1038/s41597-025-04948-3)

- 2025 **M. Wood**, I. Fenty, A. Khazendar, J. Willis. Feedbacks between fjord circulation, mélange melt, and the subglacial discharge plume at Kangerlussuaq Glacier, East Greenland. *Journal of Geophysical Research: Oceans*. doi:[10.1029/2024JC021639](https://doi.org/10.1029/2024JC021639)
- 2024 M. Jakobsson, ..., **M. Wood**, (70 Authors). The International Bathymetric Chart of the Arctic Ocean Version 5.0. *Nature Scientific Data*. doi: [10.1038/s41597-024-04278-w](https://doi.org/10.1038/s41597-024-04278-w)
- 2024 M. Zahn, K. Laidre, M. Simon, K. Stafford, **M. Wood**, J. Willis, E. Phillips, I. Fenty. Consistent seasonal hydrography from moorings at Northwest Greenland glacier fronts. *Journal of Geophysical Research: Oceans*. doi: [10.1029/2024JC021046](https://doi.org/10.1029/2024JC021046)
- 2024 **M. Wood**, A. Khazendar, I. Fenty, K. Mankoff, A. Nguyen, K. Schulz, J. Willis, H. Zhang. Decadal evolution of ice-ocean interactions at a large East Greenland glacier resolved at fjord scale with downscaled models and observations. *Geophysical Research Letters*. doi: [10.1029/2023GL107983](https://doi.org/10.1029/2023GL107983)
- 2023 C. Greene, A. Gardner, **M. Wood**, J. Cuzzone. Ubiquitous Calving of the Greenland Ice Sheet 1985-2023. *Nature*. [10.1038/s41586-023-06863-2](https://doi.org/10.1038/s41586-023-06863-2)
- 2023 R. Millan, E. Jager, J. Mouginit, **M. Wood**, S. Larsen, P. Mathiot, N. Jourdain, A. Bjørk. Rapid disintegration and weakening of ice shelves in North Greenland. *Nature Communications*. doi: [10.1038/s41467-023-42198-2](https://doi.org/10.1038/s41467-023-42198-2)
- 2023 H. Oliver, D. Slater, D. Carroll, **M. Wood**, M. Morlighem, M. Hopwood. Greenland subglacial discharge as a driver of hotspots of increasing coastal chlorophyll since the early 2000s. *Geophysical Research Letters*. doi: [10.1029/2022GL102689](https://doi.org/10.1029/2022GL102689)
- 2023 J. Willis, **M. Wood**. Lessons From Oceans Melting Greenland, a NASA Airborne Mission. *2022 NOAA Arctic Report Card*. doi: [10.25923/b076-sj26](https://doi.org/10.25923/b076-sj26)
- 2022 D. Slater, D. Carroll, H. Oliver, M. Hopwood, F. Straneo, **M. Wood**, J. Willis, M. Morlighem. Characteristic Depths, Fluxes, and Timescales for Greenland's Tidewater Glacier Fjords From Subglacial Discharge-Driven Upwelling During Summer. *Geophysical Research Letters*. [10.1029/2021GL097081](https://doi.org/10.1029/2021GL097081)
- 2022 S. Goliber, 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**, E. Zhang. TermPicks: A century of Greenland glacier terminus data for use in machine learning applications. *The Cryosphere*. [10.5194/tc-16-3215-2022](https://doi.org/10.5194/tc-16-3215-2022)
- 2022 M. Muilwijk, F. Straneo, D. Slater, L. Smedsrud, J. Holte, **M. Wood**, C. Andresen, B. Harden. Export of ice sheet melt water from Upernavik Fjord, West Greenland. *Journal of Physical Oceanography*. doi: [10.1175/JPO-D-21-0084.1](https://doi.org/10.1175/JPO-D-21-0084.1)
- 2021 D. Cheng, W. Hayes, E. Larour, Y. Mohajerani, **M. Wood**, I. Velicogna, E. Rignot. Calving Front Machine (CALFIN): Glacial Termini Dataset and Automated Deep Learning Extraction Method for Greenland, 1972-2019. *The Cryosphere*. doi: [10.5194/tc-15-1663-2021](https://doi.org/10.5194/tc-15-1663-2021)
- 2021 E. Rignot, L. An, N. Chauche, M. Morlighem, S. Jeong, **M. Wood**, J. Mouginit, J. Willis, I. Klaucke, W. Weinrebe. Retreat of Humboldt Glacier, North Greenland, driven by undercutting from a warmer ocean. *Geophysical Research Letters*. doi:[10.1029/2020GL091342](https://doi.org/10.1029/2020GL091342)
- 2021 Y. Choi, M. Morlighem, E. Rignot, **M. Wood**. Ice dynamics will remain a primary driver of Greenland ice sheet mass loss over the next century. *Nature Communications Earth and Environment*. doi:[10.1038/s43247-021-00092-z](https://doi.org/10.1038/s43247-021-00092-z)
- 2021 **M. Wood**, E. Rignot, I. Fenty, L. An, A. Bjørk, M. van den Broeke, C. Cai, E. Kane, D. Menemenlis, R. Millan, M. Morlighem, J. Mouginit, B. Noël, B. Scheuchl, I. Velicogna, J. Willis, H. Zhang. Ocean Forcing Drives Glacier Retreat in Greenland. *Science Advances*. doi:[10.1126/sciadv.aba7282](https://doi.org/10.1126/sciadv.aba7282)

- 2021 L. An, E. Rignot **M. Wood**, J. Willis, J. Mouginot, S. Khan. Ocean melting of the Zachariae Isstrøm and Nioghalvfjærdsfjorden glaciers, northeast Greenland. *Proceedings of the National Academy of Sciences*. doi:[10.1073/pnas.2015483118](https://doi.org/10.1073/pnas.2015483118)
- 2020 M. Jakobsson, L. A. Mayer, ..., **M. Wood**, ..., K. B. Zinglensen. The International Bathymetric Chart of the Arctic Ocean Version 4.0. *Nature: Scientific Data* doi:[10.1038/s41597-020-0520-9](https://doi.org/10.1038/s41597-020-0520-9)
- 2019 L. An, E. Rignot, N. Chauché, D. Holland, D. Holland, M. Jakobsson, E. Kane, **M. Wood**, I. Klaucke, M. Morlighem, I. Velicogna, W. Weinrebe, J. Willis. Bathymetry of Southeast Greenland from Ocean Melting Greenland (OMG) Data. *Geophysical Research Letters*. doi:[10.1029/2019GL083953](https://doi.org/10.1029/2019GL083953)
- 2019 J. Mouginot, E. Rignot, A. Bjørk, M. van den Broeke, R. Millan, M. Morlighem, B. Noël, B. Scheuchl, **M. Wood**. Forty-six years of Greenland Ice Sheet mass balance from 1972 to 2018. *Proceedings of the National Academy of Sciences*. doi:[10.1073/pnas.1904242116](https://doi.org/10.1073/pnas.1904242116)
- 2019 M. Morlighem, **M. Wood**, H. Seroussi, Y. Choi, E. Rignot. Modeling the response of Northwest Greenland to enhanced ocean thermal forcing and subglacial discharge. *The Cryosphere*. doi:[10.5194/tc-13-723-2019](https://doi.org/10.5194/tc-13-723-2019)
- 2019 Y. Mohajerani, **M. Wood**, I. Velicogna, E. Rignot Detection of Glacier Calving Margins with Convolutional Neural Networks: A Case Study. *Remote Sensing*. doi:[10.3390/rs11010074](https://doi.org/10.3390/rs11010074)
- 2018 Bondzio, J.H., Morlighem, M., Seroussi, H., **Wood, M.H.** and Mouginot, J., Control of ocean temperature on Jakobshavn Isbræ's present and future mass loss. *Geophysical Research Letters*. doi:[10.1029/2018GL079827](https://doi.org/10.1029/2018GL079827)
- 2018 Y. Choi, M. Morlighem, **M. Wood**, J. Bondzio. Comparison of four calving laws to model Greenland outlet glaciers. *The Cryosphere*. doi:[10.5194/tc-12-3735-2018](https://doi.org/10.5194/tc-12-3735-2018)
- 2018 **M. Wood**, E. Rignot, I. Fenty, D. Menemenlis, R. Millan, M. Morlighem, J. Mouginot, H. Seroussi. Ocean-induced melt triggers glacier retreat in northwest Greenland. *Geophysical Research Letters*. doi:[10.1029/2018GL078024](https://doi.org/10.1029/2018GL078024)
- 2018 R. Millan, E. Rignot, A. Bjork,, J. Mouginot, **M. Wood**, J. Mouginot, M. Morlighem. Vulnerability of Southeast Greenland glaciers to warm Atlantic Water from Operation Ice Bridge and Ocean Melting Greenland data. *Geophys. Res. Lett.* doi:[10.1002/2017GL076561](https://doi.org/10.1002/2017GL076561)
- 2017 Y. Choi, M. Morlighem, E. Rignot, J. Mouginot, **M. Wood**. Modeling the response of Nioghalvfjærdsfjorden and Zachariae glaciers, Greenland, to ocean forcing over the next century. *Geophys. Res. Lett.* doi:[10.1002/2017GL075174](https://doi.org/10.1002/2017GL075174)
- 2017 M. Morlighem, C. N. Williams, ... , **M. Wood**, and K. B. Zinglensen. Bedmachine v3: Complete bed topography and ocean bathymetry mapping of greenland from multi-beam echo sounding combined with mass conservation. *Geophys. Res. Lett.* doi:[10.1002/2017GL074954](https://doi.org/10.1002/2017GL074954)

Funding Awards

- 2024-2026 **NASA ROSES Early Career Investigator Program in Earth Science, PI.**
Estimating the past, present, and future response of marine primary productivity to Greenland ice sheet melt
- 2024-2026 **NASA ROSES Studies with ICESat-2, Co-PI.**
IS2AD: Using ICESat-2 observations to reduce uncertainty in future ice sheet model projections
- 2023-2025 **NASA ROSES Physical Oceanography, Science-PI.**
Estimating Heat and Freshwater Variability in Greenland's Fjords Over the Next Century
- 2021-2023 **NASA ROSES Studies with ICESat-2, Science-PI.**
BedMachine v4: Using time series of observations to reduce the uncertainty in bed mapping and reassess the vulnerability of the Greenland Ice Sheet to ocean warming

- 2021-2023 **NASA ROSES Cryospheric Sciences, Science-PI.**
Elucidating the Temporal and Spatial Variability of Factors Underlying the Dynamic Ice Loss from Greenland's Glaciers
- 2019-2021 **NASA Postdoctoral Program, Postdoctoral Fellow.**
Ice-Ocean Feedbacks in West Greenland: Glacier Evolution, Freshwater Discharge, and Ocean State in Baffin Bay 1992-2018

Field Work

National Geographic Visiting Scientist

- 2025 West Greenland, National Geographic Endurance (22 days at Sea)

Arctic Chief Scientist Training Cruise

- 2024 Chukchi Sea, USCGC Healy (10 days at Sea)

ARGO Float Deployment

- 2023 Disko Bay, West Greenland (August)
2023 Nuup Kangerlua, Southwest Greenland (April)

NASA Oceans Melting Greenland - AXCTD

Airborne eXpendable CTD Deployment

- 2021 Entire Greenland Coastline (128 flight hours)
2020 Entire Greenland Coastline (135 flight hours)
2019 Northeast, North, and West Greenland (64 flight hours)

UCI Torssukataq Fjord Measurements

- 2018 Torssukataq fjord, West Greenland, June 30 - July 21, 2018. GAMMA Portable Radar Interferometer measurements of Sermeq Avannarleq and Sermeq Kujalleq.

NASA Oceans Melting Greenland - Bathymetry Mapping

CTD Measurements and Bathymetry Mapping

- 2017 Northwest Greenland, S/Y Ivalia (14 days at sea)
2016 Southeast Greenland, M/V Neptune (30 days at sea)
2015 Northwest Greenland, M/V Cape Race (26 days at sea)

Recent Presentations (since 2020)

Invited Talks

- 2026 **M. Wood** Investigating drivers of an exceptional sea surface salinity anomaly in the Chukchi Sea during late summer 2024. *Presented at the Consortium for the Advancement of Marine Arctic Science*, Monterey, CA. 10 Apr
- 2024 **M. Wood** Ice melt and biological productivity at the edge of the Greenland Ice Sheet. *Presented at the Dartmouth College Earth and Environment Seminar Series*, Dartmouth, NH. 31 May
- 2024 **M. Wood** Ice melt and biological productivity at the edge of the Greenland Ice Sheet. *Presented at the Boise State Geoscience Seminar Series*, Boise, ID. 15 Apr
- 2024 **M. Wood** Ice melt and biological productivity at the edge of the Greenland Ice Sheet. *Presented at the UC Santa Cruz Department of Ocean Sciences Seminar Series*, Santa Cruz, CA. 1 Mar.
- 2021 **M. Wood** Ocean forcing drives glacier retreat in Greenland. *Presented at the Department of Earth, Ocean, and Atmospheric Sciences, Oregon State University, Virtual Talk*, 9 Mar

- 2021 **M. Wood** Melt from below: Ocean warming and the demise of Greenland's glaciers. *Presented at the International Glaciological Society Global Seminar Series*, Virtual Talk, 10 Feb

Conference and Science Team Presentations

- 2025 **M. Wood** Melt from Sermeq Kujalleq, Greenland's most active glacier, drives vigorous nutrient upwelling and enhanced coastal productivity. *Presented at the 2025 AGU Fall Meeting*, New Orleans, LA. 17 Dec
- 2025 **M. Wood** Ice-ocean Interactions. *Presented at the 2025 ECCO Summer School*, Asilomar, CA, May 26
- 2024 **M. Wood** Melt from Greenland's most active glacier drives vigorous nutrient upwelling and enhanced primary productivity. *Presented at the 2024 AGU Fall Meeting*, Washington, DC. 14 Dec
- 2024 **M. Wood**, D. Carroll, I. Fenty, A. Khazendar, B. Darby, T. Parker, A. Nguyen. Decadal scale evolution of glacier melt-driven upwelling and productivity from Greenland's largest glacier. *Presented at the 2024 Ocean Sciences Meeting*, New Orleans, LA. 19 Feb
- 2023 **M. Wood**, A. Khazendar, I. Fenty, K. Mankoff, A. Nguyen, K. Schulz, J. Willis, H. Zhang. Decadal evolution of ice-ocean interactions at a large East Greenland glacier resolved at fjord scale with downscaled models and observations. *Presented at American Geophysical Union Fall Meeting*, San Francisco, C.A., 11-15 Dec.
- 2023 **M. Wood**, Ian Fenty. Downscaled Regional Models from ECCO Solutions. *Presented at the ECCO Science Team Meeting*, Virtual, 25 Jan
- 2021 **M. Wood** Melt from below: The role of ocean warming in the continued demise of the Greenland Ice Sheet. *Presented at the JPL Postdoc Seminar Series*, Virtual Talk, 21 Jan
- 2020 **M. Wood**, I. Fenty, J. Willis. Temporary Decline in Dynamic Thinning at Greenland Glaciers 2016-2020 revealed by GLISTIN-A and ICESat-2. *Presented at OMG Science Team Meeting*, Virtual Talk, 23 June
- 2020 **M. Wood**, I. Fenty, A. Khazendar, J. Mouginot, H. Seroussi, E. Rignot, J. Willis. Dynamic elevation change on Greenland glaciers 2016-2019 revealed by NASA's GLISTIN-A radar interferometer. *Presented at Program for Arctic Regional Climate Assessment*, NASA Goddard Space Flight Center, Greenbelt, MD, 20 Feb.

Campus and Department Presentations

- 2024 **M. Wood** Ice melt and biological productivity at the edge of the Greenland Ice Sheet. *Presented at the College of Science Seminar Series*, 22 Mar
- 2023 **M. Wood** Ice melt and biological productivity at the edge of the Greenland Ice Sheet. *Presented at the Moss Landing Marine Labs Seminar Series*, 2 Nov

Teaching (since faculty appointment)

Moss Landing Marine Labs

- Spring 2026 MS 285: Machine Learning Applications in Marine Science
- Fall 2025 MS 274: Numerical Ocean Modeling
- Spring 2025 MS 263: Data Analysis Techniques in Marine Science
- Fall 2024 MS 274: Advanced Topics in Oceanography: Ocean Remote Sensing
- Spring 2024 MS 263: Data Analysis Techniques in Marine Science
- Fall 2023 MS 274: Advanced Topics in Oceanography: Ocean Remote Sensing
- Spring 2023 MS 263: Data Analysis Techniques in Marine Science

Computer Science

- Fall 2025 CS 185C: Introduction to Machine Learning
- Spring 2025 CS 185C: Introduction to Ocean Modeling
- Spring 2025 CS 122: Advanced Programming in Python
- Fall 2024 CS 185C: Introduction to Ocean Modeling
- Spring 2024 CS 46A: Introduction to Programming
- Fall 2023 CS 122: Advanced Programming in Python
- Spring 2023 CS 46A: Introduction to Programming

Service (2020 - present)

Research Mentor

- 2023 NSF GeoBridges Program (Jun-Dec)
- 2023 NSF REU Program (Jun-Aug)

Proposal Reviews

- 2026 NSF Office of Polar Programs Panel (1), Ad Hoc Reviews (1)
- 2024 NSF Ad Hoc Reviews (2)

Manuscript Reviews

- 2026 Nature (1), Nature Communications (1), JGR: Oceans (1)
- 2025 Geophysical Research Letters (1), Nature Communications (1), Nature (1), JGR: Oceans (1)
- 2024 Geophysical Research Letters (1), Nature Communications (1), JGR: Earth Surface (1), JGR: Oceans (4)
- 2023 JGR: Earth Surface (1), JGR: Oceans (3)
- 2021 JGR: Earth Surface (1), The Cryosphere (2), Geophysical Research Letters (1)
- 2020 Journal of Atmospheric and Oceanic Technology (1)
Geophysical Research Letters (1), JGR: Earth Surface (2), JRG: Oceans (1)

Working Groups

- 2024-Present Ice Sheet Model Inter-comparison Project 7 (ISMIP7) Ocean Forcing Greenland Working Group Member
- 2023-2024 Greenland Ice Sheet Ocean Science Network (GRISO) Ocean Forcing Ice Working Group Member