

Ian G. Fenty

CONTACT INFORMATION	Jet Propulsion Laboratory, California Institute of Technology 4800 Oak Grove Dr, M/S 300-323 Pasadena, CA 91109-8099	Office: (818) 393-1506 Ian.Fenty@jpl.nasa.gov
RESEARCH INTERESTS	Climate dynamics: coupled ice-ocean variability, high-latitude climate variability. Numerical modeling: coupled sea ice-ocean general circulation models. Model-data synthesis: state estimation, adjoint optimization, model/data error estimation.	
PROFESSIONAL PREPARATION	NASA Jet Propulsion Laboratory/Caltech <i>NASA Postdoctoral Program Fellow</i>	Pasadena, CA 2010–2013
	Massachusetts Institute of Technology <i>Ph.D. in Climate Physics and Chemistry</i>	Cambridge, MA 2003–2010
	Worcester Polytechnic Institute <i>Bachelor of Science in System Dynamics, awarded with high honors</i>	Worcester, MA 1996–2001
APPOINTMENTS	NASA Jet Propulsion Laboratory/Caltech <i>Scientist, Sea Level and Ice Group</i>	Pasadena, CA 2013–Present
MENTOR AND ADVISING EXPERIENCE	Mentor for JPL Interns <i>D. Bark (UCSC), M. Gonzalzo (Caltech), F. Graham (Caltech), G. Kohli (UCLA), K. Marlis (CSLA), N. Melbourne (UH at Manoa), A. Shin (Glendale College, UC Berkeley)</i>	2016–2020
	Mentor for Visiting Graduate Student <i>S. Koga, UCSD</i>	2017
PUBLICATIONS	Wood, M., E. Rignot, A. Bjork, M. van en Broeke, I. Fenty, et al, 2020, Greenland Marine-Terminating Glacier Retreat Data, <i>Dryad</i>, doi:10.7280/D1667W	
	ECCO Consortium, I. Fukumori, O. Wang, I. Fenty, G. Forget, P. Heimbach, R. Ponte, (2020, April 24). Synopsis of the ECCO Central Production Global Ocean and Sea-Ice State Estimate (Version 4 Release 4) . Zenodo. doi:10.5281/zenodo.3765929	
	Fenty, I., M. Wood, B. Bachman, M. Gonzalzo, F. Graham, L. Yunling, D. Moller, R. Mullerschoen, J. Willis, Y. Zhang, 2020, OMG Glacial Elevations from GLISTIN-A Ver.1. , <i>NASA Phys. Ocean. Distr. Active Archive Center</i> , Pasadena, CA, doi:10.5067/OMGEV-GLNA1	
	Carroll, D., D. Menemenlis, J. Adkins, K. Bowman, H. Brix, S. Dutkiewicz, I. Fenty, et al., 2020. The ECCO-Darwin Data-assimilative Global Ocean Biogeochemistry Model: Estimates of Seasonal to Multi-decadal Surface Ocean pCO₂ and Air-sea CO₂ Flux. <i>Journal of Advances in Modeling Earth Systems</i> . doi:10.1029/2019MS001888	
	Heimbach, P., I. Fukumori, C. Hill, R. Ponte, D. Stammer, C. Wunsch, J-M Campin J-M, B. Cornuelle, I. Fenty, 2019, Putting It All Together: Adding Value to the Global Ocean and Climate Observing Systems With Complete Self-Consistent Ocean State and Parameter Estimates. <i>Frontiers in Marine Science</i> , 6, doi:10.3389/fmars.2019.00055	
	Khazendar, A., I. Fenty, D. Carroll, et al., 2018, Interruption of two decades of Jakobshavn Isbrae acceleration and thinning as regional ocean cools, <i>Nature Geosci.</i> , doi:10.1038/s41561-019-0329-3	
	Wood, M., Rignot, E., Fenty, I., Menemenlis, D., Millan, R., Morlighem, M., et al. 2018. Ocean-Induced Melt Triggers Glacier Retreat in Northwest Greenland. <i>Geophysical Research Letters</i> . doi:10.1029/2018GL078024	
	Willis, J., Carroll, D., Fenty, I., Kohli, G., Khazendar, A., Rutherford, M., et al. (2018). Ocean-Ice Interactions in Inglefield Gulf: Early Results from NASA's Oceans Melting Greenland Mission. <i>Oceanography</i> , 31(2). doi:10.5670/oceanog.2018.211	
	Fenty, I., D. Menemenlis, H. Zhang, 2017, Global Coupled Sea Ice-Ocean State Estimation, <i>Climate Dynamics</i> , 49(3), doi:10.1007/s00382-015-2796-6	
	Morlighem, M, C. Williams. ... I. Fenty, et al., 2017, BedMachine v3: Complete Bed Topography and Ocean Bathymetry Mapping of Greenland From Multibeam Echo Sounding Combined With Mass Conservation, <i>Geophys. Res. Lett.</i> 44(21), doi:10.1002/2017GL074954	

- Williams, C. N., Cornford, S. L., Jordan, T. M., Dowdeswell, J. A., Siegert, M. J., Clark, C. D., Swift, D.A., Sole, A., Fenty, I., Bamber, J. L. 2017, **Generating synthetic fjord bathymetry for coastal Greenland**, *The Cryosphere*, 11(1), doi:10.5194/tc-11-363-2017
- Fenty, I., J. Willis, A. Khazendar, et al., 2016, **Oceans Melting Greenland: Early Results from NASA's Ocean-Ice Mission in Greenland**, *Oceanography*, 29(4), doi:10.5670/oceanog.2016.100
- Rignot, E., Xu, Y., Menemenlis, D., Mouginot, J., Scheuchl, B., Li, X., Fenty, I., ... Fleurian, B. de. 2016. **Modeling of ocean-induced ice melt rates of five west Greenland glaciers over the past two decades**. *Geophys. Res. Lett.*, 43(12), doi.org/10.1002/2016GL068784
- Rignot, E., I. Fenty, Y. Xu, C. Cai, I. Velicogna, C. O. Cofaigh, J. A. Dowdeswell, W. Weinrebe, G. Catania, D. Duncan, 2016, **Bathymetry data reveal glaciers vulnerable to ice-ocean interaction in Uummannaq and Vaigat glacial fjords, west Greenland**, *Geophys. Res. Lett.*, 43, doi:10.1002/2016GL067832
- Mouginot, J., E. Rignot, A. Buzzi, I. Fenty, A. Khazendar, M. Morlighem, B. Scheuchl, J. Paden, 2015, **Fast retreat of Zacharia Isstrom, northeast Greenland**, *Science*, doi:10.1126/science.aac7111
- Rignot, E., I. Fenty, X. Yun X, C. Cai., C. Kemp, 2015, **Undercutting of Greenland marine-terminating glaciers**, *Geophys. Res. Lett.*, 42, doi:10.1002/2015GL064236
- Fukumori, I., O. Wang, W. Llovel, I. Fenty, G. Forget, 2015, **A Near-Uniform Fluctuation of Ocean Bottom Pressure and Sea Level across the Deep Ocean Basins of the Arctic Ocean and the Nordic Seas**, *Progress in Oceanography*, 134, doi:10.1016/j.pocean.2015.01.013
- Xu, Y., E. Rignot, I. Fenty, D. Menemenlis, M. Mar Flexas, 2013, **Subaqueous melting of Store Glacier, West Greenland from three-dimensional, high-resolution numerical modeling and ocean observations**, *Geophys. Res. Lett.*, 40(17), doi:10.1002/grl.50825
- Khazendar, A., M. Schodlok, I. Fenty, 2013, **Thickness changes and ice-ocean interactions of the Totten and Moscow University Glaciers, East Antarctica**, *Nature Communications*, doi:10.1038/ncomms3857
- Rignot, E., I. Fenty, D., Menemenlis, Y. Xu, 2012, **Spreading of warm ocean waters around Greenland as a possible cause for glacier acceleration**, *Annals of Glaciology*, 53(60), doi:10.3189/2012AoG60A136
- Fenty, I. and P. Heimbach, 2012, **Coupled Sea Ice-Ocean State Estimation in the Labrador Sea and Baffin Bay**, *J. Phys. Oceanogr.*, 43(5), doi:10.1175/JPO-D-12-065.1
- Fenty, I. and P. Heimbach, 2012, **Hydrographic Preconditioning for Seasonal Sea Ice Anomalies in the Labrador Sea**, *J. Phys. Oceanogr.*, 43(5), doi:10.1175/JPO-D-12-064.1

AWARDS

- 2020:** JPL Team Award: Oceans Melting Greenland
2019: NASA Early Career Public Achievement Medal
2019: JPL Group Achievement Award: Oceans Melting Greenland team
2018: JPL Charles Elachi Award for Outstanding Early Career Achievement
2017: NASA Honor Award: Oceans Melting Greenland Team
2017: NASA Honor Award: Climate Sciences School Group Projects Design Team
2015: JPL Team Award: Earth Science Senior Review Proposal Support
2015: JPL Discovery Award

PROFESSIONAL SOCIETIES AND AFFILIATIONS

- NASA Ocean Surface Topography Science Team
 NASA Sea Level Change Team
 American Geophysical Union
 Interagency Arctic Research Policy Committee
 The Oceanography Society

SYNERGISTIC
ACTIVITIES

Estimating the Circulation and Climate of the Oceans [ECCO] consortium

Session chair: Glacier Front Dynamics and the Fate of Icebergs

Session chair: High-Resolution Ocean Modeling for Ocean-Ice Interaction Around the Greenland and Antarctic Ice Sheets—

American Geophysical Union, 2018 Fall Meeting

Washington DC

Session chair: Ocean Modelling around Greenland and Antarctica

Session chair: Ice-Ocean Interactions on Greenland and Antarctica

American Geophysical Union, 2018 Oceans Sciences Meeting

Portland, OR

Session co-chair: On the Impact of Land Ice-Ocean Interactions on Greenland and Antarctica Ice Mass Balance II

American Geophysical Union, 2014 Fall Meeting

San Francisco, CA