

Ian G. Fenty

- CONTACT INFORMATION Jet Propulsion Laboratory, California Institute of Technology Office: (818) 393-1506
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Pasadena, CA 91109-8099
- RESEARCH INTERESTS **Climate dynamics:** coupled ice-atmosphere-ocean variability, quantitative estimation and attribution of high-latitude climate variability. **Numerical modeling:** high resolution coupled sea ice-ocean general circulation models. **Observation systems:** remote sensing platforms, geophysical transfer algorithms, adaptive/targeted observation system design. **Model-data synthesis:** strategies for efficient state estimation, adjoint optimization, model/data error estimation.
- EDUCATION + WORK EXPERIENCE **NASA Jet Propulsion Laboratory/Caltech** Pasadena, CA
Scientist II 2013-Present
NASA Jet Propulsion Laboratory/Caltech Pasadena, CA
NASA Postdoctoral Program Fellowship 2010–2013
Massachusetts Institute of Technology Cambridge, MA
Ph.D. in Climate Physics and Chemistry, Carl Wunsch advisor 2003–2010
Thesis: State Estimation of the Labrador Sea with a Coupled Sea Ice-Ocean Adjoint Model
Icosystem Corporation Paris, France and Cambridge, MA
Business Consultant + Dynamical System Modeller 2001–2003
Worcester Polytechnic Institute Worcester, MA
Bachelor of Science in System Dynamics, awarded with high honors 1996–2001
- PUBLICATIONS Xu, Y., Rignot, E., Fenty, I., Menemenlis, D., Mar Flexas, M., 2013. **Subaqueous melting of Store Glacier, West Greenland from three-dimensional, high-resolution numerical modeling and ocean observations** *Geophysical Research Letters*, accepted
Khazendar, Ala, Schodlok, M., Fenty, I. 2013 **Thickness changes and ice-ocean interactions of the Totten and Moscow University Glaciers, East Antarctica.** *Nature Geoscience*, in review
Fenty, I., Heimbach, P., 2012. **Coupled Sea Ice-Ocean State Estimation in the Labrador Sea and Baffin Bay.** *Journal of Physical Oceanography*
doi:10.1175/JPO-D-12-065.1
Fenty, I., Heimbach, P., 2012. **Hydrographic Preconditioning for Seasonal Sea Ice Anomalies in the Labrador Sea.** *Journal of Physical Oceanography*
doi:10.1175/JPO-D-12-064.1
Rignot, E., Fenty, I., Menemenlis, D., Xu, Y., 2012. **Spreading of warm ocean waters around Greenland as a possible cause for glacier acceleration.** *Annals of Glaciology* 53(60)
Fenty, I., Bonabeau, E., Branke, J., 2005. **Co-evolving business models: A case study with the Internet service provider (ISP) industry.** *New Mathematics and Natural Computation* 1(3), 359-369

RECENT
PRESENTATIONS

Monitoring Ocean Heat Variability around the Greenland Ice Sheet-Insights from Numerical Models

International Symposium on the Contribution of Glaciers and Ice Sheets to Sea-Level Change
Chamonix, France 2014

Understanding recent Greenland ice sheet mass loss: Insights from a numerical ocean model *invited*

U.S. CLIVAR International Workshop Boston, MA 2013

Investigating the Role of Ocean Variability on Polar Ice Sheet Mass Loss

JPL Postdoc Seminar Series Pasadena, CA 2012
Danish Meteorological Institute Copenhagen, Denmark 2012
University of Hamburg Hamburg, Germany 2012

Ocean-Ice Sheet Numerical Modelling Research: Progress and Challenges

University of California, Irvine Irvine, CA 2012

Current Status of Sea Ice Data Assimilation around the World *invited*

U.S. CLIVAR Integrated Earth System Analysis workshop Baltimore, MD 2010

Dynamical Reconstruction of the Ocean-Sea Ice State

University of Washington, Applied Physics Laboratory Seattle, WA 2010
NASA Jet Propulsion Laboratory Pasadena, CA 2010
Scripps Institute of Oceanography La Jolla, CA 2009
MIT Oceanography and Climate Sack Lunch Seminar Cambridge, MA 2009

Reproduction of Ocean and Sea Ice Variability in the Labrador Sea: 1992-2004

MOCA-09, the IAMAS/IAPSO/IACS 2009 Joint Assembly Montreal, QC 2009

Variational Assimilation of Sea Ice Concentration Observations

MOCA-09, the IAMAS/IAPSO/IACS 2009 Joint Assembly Montreal, QC 2009

An Argument for Simple Sea Ice Models in Global Climate Models

2009 Meeting of the Arctic Ocean Model Intercomparison Project Woods Hole, MA 2009

The Assimilation of Sea Ice Observations in a Coupled Ocean Sea Ice State Estimate of the Labrador Sea Using the Adjoint Method

2008 workshop on Assimilation of sea ice data into models of the Arctic of the International Ice Charting Working Group and Search for Damocles Copenhagen, DK 2008

PROFESSIONAL
AFFILIATION /
SERVICE

Oceanographic Cruises

1. M/V Cape Race Lead: E. Rignot W. Greenland, 2013
2. ESLE. Lead: E. Rignot W. Greenland, 2012
3. R/V Oceanus Cruise 442, Lead: D. Fratantoni Line W, 2007

Reviewer for NSF, NASA, Nature Geoscience, Journal of Climate, Journal of Geophysical Research, and Ocean Dynamics

Member : American Meteorological Society, American Geophysical Union, International Glaciological Society