

Isabela Le Bras

Assistant Scientist
Woods Hole Oceanographic Institution
email: ilebras@whoi.edu
phone: (858) 952-3233

EDUCATION

- Ph.D. in Physical Oceanography** 2011–2017
Massachusetts Institute of Technology – Woods Hole Oceanographic Institution Joint Program
“Dynamics of North Atlantic Western Boundary Currents”
Thesis advisor: John M. Toole
- B.A. in Physics, Minor in Mathematics** 2006–2010
University of California, Berkeley
Highest honors in physics and general scholarship

RESEARCH POSITIONS

- Postdoctoral Scholar** 2017–2020
Scripps Institution of Oceanography
Postdoctoral advisor: Fiammetta Straneo
- Postdoctoral Investigator** Jan-Aug 2017
Woods Hole Oceanographic Institution
Postdoctoral advisor: John M. Toole
- Graduate Research Assistant** 2011–2017
Woods Hole Oceanographic Institution
Graduate supervisor: John M. Toole

PUBLICATIONS

10. **I. A. Le Bras**, F. Straneo, J. Holte, M.F. de Jong, and N. P. Holliday , “Rapid export of waters formed by convection near the Irminger Sea’s western boundary”, *Geophysical Research Letters* doi.org/10.1029/2019GL085989, (2020).
9. **I. A. Le Bras**, M. Sonnewald, and J.M. Toole, “A barotropic vorticity budget for the subtropical North Atlantic based on observations”, *Journal of Physical Oceanography* [doi:10.1175/JPO-D-19-0111.1](https://doi.org/10.1175/JPO-D-19-0111.1), (2019).
8. E. Frajka-Williams,...**I. A. Le Bras**, ... and 35 others, “Atlantic Meridional Overturning Circulation: Observed transports and variability”, *Frontiers in Marine Science* **6**, (2019).
7. J. Hopkins, N. P. Holliday, D. Rayner, L. Houpert, **I. A. Le Bras**, F. Straneo, C. Wilson, and S. Bacon, “Transport variability of the Irminger Sea Deep Western Boundary Current from a mooring array”, *Journal of Geophysical Research: Oceans* **124**, (2019).

6. M. S. Lozier, F. Li, ... **I. A. Le Bras**, ... and 35 others, “A sea change in our view of overturning— first results from the Overturning in the Subpolar North Atlantic Program”, *Science* **363**, 516–521 (2019).
5. **I. A. Le Bras**, F. Straneo, J. Holte, and N. P. Holliday , “Seasonality of Freshwater in the East Greenland Current System from 2014 to 2016”, *Journal of Geophysical Research: Oceans* **123**, (2018).
4. **I. A. Le Bras**, S. Jayne, and J. M. Toole, “The interaction of recirculation gyres and a deep boundary current”, *Journal of Physical Oceanography* **48**, 573-590 (2018).
3. J. M. Toole, M. Andres, **I. A. Le Bras**, T. Joyce and M. McCartney, “Moored observations of the Deep Western Boundary Current in the NW Atlantic: 2004-2014”, *Journal of Geophysical Research: Oceans* **122**, 7488-7505 (2017).
2. **I. A. Le Bras**, I. Yashayaev, and J. M. Toole, “Tracking Labrador Sea Water property signals along the Deep Western Boundary Current”, *Journal of Geophysical Research: Oceans* **122**, 5348-5366 (2017).
1. **I. A. Le Bras** and T. Karin (co-first authors), A. Kehlberger, K. Singer, N. Daniilidis, and H. Haeffner, “Transport of charged particles by adjusting RF voltage amplitudes”, *Applied Physics B* **106**, 117-125 (2012).

INVITED PRESENTATIONS

Lamont Doherty Earth Observatory, Ocean and Climate Physics Seminar “Seasonality of Freshwater in the East Greenland Current System”	Nov 2018
Ocean Sciences Meeting, Portland, Oregon “Observing and Modeling the Deep Western Boundary Current”	Feb 2018

SEMINARS

Caltech “Freshwater, Convection, and Overturning in the Irminger Sea”	January 2020
U Mass Dartmouth “The East Greenland Current System: Seasonality of Freshwater and Boundary Current - Convection Interactions”	Oct 2019
Applied Physics Laboratory - University of Washington seminar “Seasonality of Freshwater in the East Greenland Current System”	June 2019
Woods Hole Oceanographic Institution “Seasonality of Freshwater in the East Greenland Current System”	Mar 2019
Scripps Institution of Oceanography, CASPO Seminar “Seasonality of Freshwater in the East Greenland Current System”	Jan 2019
Oregon State University, College of Earth, Ocean and Atmospheric Sciences	Oct 2018

“Seasonality of Freshwater in the East Greenland Current System”	
Scripps Institution of Oceanography, CASPO Seminar “Advection and Stirring of the Deep Western Boundary Current”	Oct 2017
Bjerknes Center, GFI seminar, Bergen, Norway “Observing and modeling stirring of the Deep Western Boundary Current”	May 2017
Oregon State University, College of Earth, Ocean and Atmospheric Sciences “Stirring in the Deep Western Boundary Current”	Mar 2017
Series of seminars in Germany	
1. GEOMAR, Kiel; 2. Marum, Universität Bremen; 3. Universität Hamburg “Observing and Modeling Stirring of the Deep Western Boundary Current”	Jan 2016
University of California, Los Angeles “Observing and Modeling Stirring of the Deep Western Boundary Current”	Dec 2015

CONFERENCE PRESENTATIONS

Ocean Sciences Meeting, San Diego, CA (oral presentation) I. A. Le Bras , F. Straneo, J. Holte, M. F. de Jong and N. P. Holliday “Rapid export of waters formed by convection near the Irminger Sea’s western boundary”	Feb 2020
Ocean Obs’19, Honolulu, HI (poster presentation) I. A. Le Bras , F. Straneo, J. Holte, M. F. de Jong and N. P. Holliday “Observing the link between convection and deep water export”	Sep 2019
EGU Meeting, Vienna, Austria (poster presentation) I. A. Le Bras , F. Straneo, J. Holte, and N. P. Holliday “Convection and deep water export in the Irminger Sea”	Apr 2019
AGU Fall Meeting, Washington D.C. (poster presentation) I. A. Le Bras , N. Beaird, and F. Straneo “Freshwater budgets for the ocean east of Greenland”	Dec 2018
Ocean Sciences Meeting, Portland, OR (oral presentation) I. A. Le Bras , F. Straneo, J. Holte and N. P. Holliday “Seasonality of Freshwater in East Greenland Current System”	Feb 2018
Irminger Sea Workshop, Southampton, UK (oral presentation) I. A. Le Bras , F. Straneo, J. Holte and N. P. Holliday “Seasonality of Freshwater in East Greenland Current System”	Nov 2017
USAMOC meeting, Santa Fe, NM (oral presentation) I. A. Le Bras , I. Yashayaev, and J.M. Toole “Labrador Sea Water property changes along the Deep Western Boundary Current”	May 2017
EGU meeting, Vienna, Austria (poster presentation)	Apr 2017

- I. A. Le Bras** and J.M. Toole “A vorticity budget for the Gulf Stream”
 Ocean Sciences Meeting, New Orleans, LA (poster presentation) Feb 2016
I. A. Le Bras and J.M. Toole “Line W Measurements of the Deep Western Boundary Current reflect changes in Labrador Sea Convection”
- Ocean Sciences Meeting, New Orleans, LA (poster presentation) Feb 2016
I. A. Le Bras “Clubes de Ciencia: Intensive science workshops in Mexico provide a unique opportunity for teaching, scientific and cultural exchange”
- RAPID-USAMOC International Science Meeting, Bristol, UK (oral presentation) Jul 2015
I. A. Le Bras and J. M. Toole
 “A decade of Line W observations of the Deep Western Boundary Current”
- Graduate Climate Conference, Pack Forest, WA (poster presentation) Oct 2014
I. A. Le Bras and J. M. Toole
 “Deep western boundary current exchange with the interior”
- Ocean Sciences Meeting, Honolulu, HI (poster presentation) Feb 2014
I. A. Le Bras and J. M. Toole
 “Testing classic theories of western boundary currents in the North Atlantic”

SYNERGISTIC ACTIVITIES

Panel member: CLIVAR POS panel

Reviewer: Journal of Physical Oceanography; Journal of Geophysical Research: Oceans; Journal of Climate; Nature Scientific Reports; Ocean Modelling; Ocean Science Discussions; Earth System Science Data Discussions (ESSDD)

Session chair: EGU meeting 2019, Ocean Circulation and Climate Open Session; Graduate Climate Conference 2013, Physical Oceanography session

Steering committee member: Mentoring Physical Oceanography Women to Increase Retention (2016-2020)

Article for the general public: “Detours on the oceanic highway” Oceanus Magazine

OUTREACH

2020: Two presentations to summer undergraduate students from underrepresented backgrounds
 “Chimneys into the deep ocean: measuring the ocean circulation around Greenland”

2018, 2020: Organized LGBTQ+ event at Ocean Sciences Meeting

2019: Talked about science careers and did experiments with groups of underrepresented sixth graders from San Diego on the Scripps Pier in collaboration with Birch Aquarium.

2018: Did experiments with students at Ocean Beach Elementary School for their “Science Night”.

2015-2016: Served as a judge for Falmouth High School Science Fair.

2014: Submerge! New York City marine science festival. Manned booth of hands-on activities for WHOI. Estimated more than 4000 people in attendance.

RESEARCH CRUISES

Fall 2018: Overturning in the Subpolar North Atlantic Program (OSNAP) cruise AR30-06. Cape Farewell mooring specialist and responsible party for CTD χ -pod measurements. Chief Scientist: Robert Pickart; Reykjavik, Iceland.

July 2017: Sermilik fjord research expedition. CTD specialist. Chief Scientist: Fiamma Straneo; Tassilaq, Greenland,

May 2014: Line W research cruise KN218. CTD watch leader. Chief Scientist: John M. Toole; Woods Hole, MA.

Aug 2012: Line W research cruise KN208. CTD watch stander. Chief Scientist: John M. Toole; Woods Hole, MA.

May 2012: WOCE/CLIVAR A22 hydrography cruise AT20-1A. CTD watch stander. Chief Scientist: Ruth Curry; Woods Hole, MA - Bridgetown, Barbados.

TEACHING

April 2018: Guest lecture on water mass analysis and the overturning circulation for ice-ocean interactions course, Scripps Institution of Oceanography, CA.

September 2016: Teaching assistant for introductory course on github and python through the Software Carpentry program, Woods Hole, MA.

January 2016: Designed and taught 3 lectures of an undergraduate short-course entitled “Anthropocene”, Woods Hole, MA.

January 2015: Created curriculum and taught a week-long, all-day workshop on ocean physics to college and high school students using lab experiments and numerical simulations (in English and Spanish) at UABC in Ensenada, Mexico through Clubes de Ciencia program.

Spring 2014: Took course through MIT’s Teaching and Learning Laboratory on teaching methods culminating in MIT Teaching Certificate, Cambridge, MA.

Fall 2013: Teaching assistant for introduction to observational physical oceanography, MIT course 12.808 with Dr. Magdalena Andres and Dr. Jake Gebbie. MIT-WHOI Joint Program.

Summer 2013 and 2015: Short Course Instructor for graduate student math refresher. MIT-WHOI Joint Program.