

Fiammetta Straneo

Dept. of Physical Oceanography, MS 21

Woods Hole Oceanographic Institution

Woods Hole, MA 02543, USA

email: fstraneo@whoi.edu

Tel. 508-2892914

Fax 508-457-2181

<http://www.whoi.edu/science/PO/people/fstraneo/>

EDUCATION

1993-1999: Ph.D., Physical Oceanography, University of Washington, Seattle, WA. Thesis:
Dynamics of Rotating Convection Including a Horizontal Stratification and Wind
Adviser: Prof. M. Kawase

1987-1992: Laurea cum Laude (with honors) in Physics, Università Statale di Milano, Italy.
Thesis: *Ring absorption in the Gulf Stream*
Adviser: Prof. N. Pinardi

EMPLOYMENT

2006-present: Associate Scientist, Physical Oceanography Department, WHOI

2002-2006: Assistant Scientist, Physical Oceanography Department, WHOI

1999-2002: Post-doctoral Scholar, Cooperative Institute for Climate and Ocean Research, WHOI

1993-1999: Research Assistant, University of Washington.

1992-1993: Research Assistant at IMGA-CNR (National Research Institute), Modena, Italy

TEACHING AND EDUCATIONAL ACTIVITIES

WHOI-MIT Joint Program

2004-present: Member, Joint Committee in Physical Oceanography (MIT-WHOI).

Member, Graduate Admissions Committee

2003-2005: Course Instructor: *Modern and Classical Works in Physical Oceanography*

Ph. Adviser: Tatiana Rykova (MIT-WHOI PhD Student in Physical Oceanography)

Postdoc Adviser: Julie Deshayes

External Co-Adviser:

Dorotea Iovino (Univ. of Bergen, Norway, PhD in Physical Ocean.)

Pierre St. Laurent (Univ. of Quebec a Rimouski, PhD. in Phys. Ocean)

AWARDS AND FELLOWSHIPS

Bjerknes Visiting Scientist Fellowship: April-July 2006.

Best Poster: Bjerknes Centenary Conference: Climate Change in High Latitudes, Norway, September 2004

Bjerknes Fellow: Fall 2002, 2003 and 2004. Bjerknes Center for Climate Research, Norway.

Ferruccio Mosetti Prize 2002, awarded by the University of Trieste, Italy, for the best physical oceanography work by a young, Italian scientist.

Fellow: Colloquium on Decadal and Centennial Climate Variability, NCAR, Boulder, July 2000.

Post-Doctoral Scholarship: Woods Hole Oceanographic Institution, 1999-2001.

Best Student Paper: Honorable Mention, 1997: 11th Conference on Atmospheric and Oceanic Fluid Dynamics (AMS), Tacoma, WA.

Fellow: Geophysical Fluid Dynamics Summer Program on *Rotating Convection*, WHOI, 1995.

RECENT INVITED TALKS

Meetings:

2006 Plenary Speaker: Canadian Meteorological and Oceanographic Society, Toronto, CA
Oceanic Convective Regions: A change in the way we see them

2006 Invited Speaker: Arctic-SubArctic Ocean Fluxes, Faeroe Islands.
The outflow of heat, mass and freshwater from Hudson Strait

2004 Invited Speaker: CLIVAR Meeting Variability of the Thermohaline Circulation, Germany
Variability of Convection in the Subpolar North Atlantic: What we understand and what we don't

2003 Invited Speaker: Circulation, Ventilation and Spreading in the Nordic Seas, Meeting organized by the Bjerknes Center for Climate Research, Norway, October 2003
Convection in the Labrador Sea and its parallels with the Nordic Seas

2003 Invited Lecturer: *Course on Climate Variability Studies in the Ocean*, organized by the International Center for Theoretical Physics, Trieste, Italy.
Oceanic Deep Convection and its role in Climate:
Lecture I: Mean State
Lecture II: Variability

Seminars:

University of Maine, Orono April 2007
The contribution of Hudson Strait to the Arctic-SubArctic Exchange

University of Quebec a Rimouski, February 2007
The contribution of Hudson Strait to the Arctic-SubArctic Exchange

NERSC, Bergen, Norway, December 2005
The Outflow from Hudson Strait

MIT, Sacks Lunch Seminar, October 2004
On the Variability of Dense Water Formed in, and Exported from, the Labrador Sea

Bjerknes Center for Climate Research, Bergen, Norway, September 2004
Variability in Convection, Export and Downwelling in a Convective Basin

LODYC, Univ. Pierre et Marie-Curie, Paris, France, April 2004:

On the Memory of a Convective Basin: data and model results from the Labrador Sea

Graduate School of Oceanography, University of Rhode Island, May 2003

The Seasonal Cycle of Convection in the Labrador Sea: A General Framework

REFEREED PUBLICATIONS

Straneo, F., and F. Saucier, 2007b. The freshwater flux from Hudson Strait. *The role of the Northern Seas in Climate: Proceedings of the ASOF Conference*, Eds. Dickson, Meincke, and Rhines (*submitted*).

Straneo, F., and F. Saucier, 2007a. The Outflow from Hudson Strait into the Labrador Sea. *Deep Sea Research*, *submitted*.

White, Hinzman, Alessa, Cassano, Chambers, Falkner, Francis, Gutowski, Holland, Holmes, Huntington, Kane, Kliskey, Lee, McClelland, Peterson, Straneo, Steele, Woodgate, Yang, Yoshikawa and Zhang, 2007: The Arctic Freshwater System: Changes and Impacts. *Journal of Geophysical Research - Biogeosciences* (*submitted*).

Straneo F., 2006: On the connection between dense water formation, overturning, and poleward heat transport in a convective basin. *Journ. Phys. Ocean.*, 36, 1822-1840.

Straneo F., 2006: On the heat and freshwater transport through the central Labrador Sea, *Journ. Phys. Ocean.*, 36, 606-628.

Eldevik, T., F. Straneo, A. Sando and T. Furevik, 2005: Pathways and export of Greenland Sea Deep Water. *The Nordic Seas: An integrated Perspective*, Geophysical Monograph Series, AGU, 158, Eds. Drange, Dokken, Furevik, Gerdes and Berger, pp 365.

Straneo F., R.S. Pickart and K. Lavender, 2003: Spreading of Labrador Sea Water: An Advective-Diffusive Study Based on Lagrangian Data, *Deep Sea Res.*, 50, 701-719.

Pickart, R.S., F. Straneo and G.W.K. Moore, 2003: Is Labrador Sea Water formed in the Irminger Basin?, *Deep Sea Res.I*, 50, 23-52.

Straneo F., M. Kawase and R.S. Pickart, 2002: The Effects of Wind on Convection in Strongly and Weakly Baroclinic Flows, *J. Phys. Ocean.*, 32, 2603-2618.

Straneo F., M. Kawase and S. Riser, 2002: Idealized Models of Slantwise Convection in a

Baroclinic Flow. *J. Phys. Ocean.*, 32 (2), 558-572.

Straneo F. and M. Kawase, 1999: Comparisons of Localized Convection due to a Localized Forcing and to Preconditioning. *J. Phys. Ocean.*, 29, 55-68.

In preparation:

Iovino, D., F. Straneo and M. Spall, 2007: On the buoyancy driven flow in a marginal sea with a sill. *Journal of Physical Oceanography*.

Rykova, T. and F. Straneo, 2007: The evolution of Irminger Rings in the Labrador Sea (*Deep Sea Research*)

NON-REFEREED PUBLICATIONS

Straneo F. and R. Pickart, 2001: Interannual Variability in Labrador Sea Water Formation and Export: How Does it Correlate with the Atmospheric Forcing ? Proceed. U.S. CLIVAR Atlantic Conference, 125-127.

Straneo F. , 1995: Circulation in a 2D Convective Chimney, *WHOI Tech. Rep.* WHOI-96-09.

Straneo F. and N. Pinardi, 1992: Ring-Stream Interaction in the Gulf Stream Region. *CNR Tech. Rep.* 9-92.

PROFESSIONAL SERVICES

National Science Foundation: Proposal Reviewer 2002-present; panelist

Scientific Paper Reviewer: *Journal of Physical Oceanography*, *Deep-Sea Research*,
Geophysical Research Letters, *Atmosphere-Oceans*.

MPOWIR (Mentoring Physical Oceanography Women to Increase Retention) Workshop,
October 2005, Virginia.

FIELDWORK

Freshwater Outflow from Hudson Strait and Bay (PI for Hudson Strait Observations)

August 2004: with F. Saucier (Univ. du Quebec, Rimouski)

August 2005: with M. Harvey (IML-DFO, Quebec)

August 2006: with M. Harvey (IML-DFO, Quebec)

Is Labrador Sea Water Formed in the Irminger Sea?

August 2002: Co-Chief Scientist with G. Tupper

- Hydrography, Mooring Work, Gravity Cores

August 2001: with Drs. R. Pickart(WHOI) and W. Smethie (WHOI)

- Hydrography and Mooring Work, Analysis and interpretation of data.

Red Sea Deep Outflow Experiment

Feb 2001: Drs. A. Bower, D. Fratantoni (WHOI), and W. Johns, H. Peter (RSMAS)

- interpretation of hydrographic and velocity (ADCP) data

Okhotsk Sea Experiment

April-May 1995: with Drs. S. Riser and M. Warner

- hydrographic data collection and analysis