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EDUCATION

Massachusetts Institute of Technology, Cambridge, MA
Woods Hole Oceanographic Institution, Woods Hole, MA 2008
PhD in Physical Oceanography
The East Greenland Coastal Current: its structure, variability, and large-scale impact. Advisor: Robert S. Pickart
University of North Carolina at Wilmington, Wilmington, NC 2001
B.A. in Mathematics, *magna cum laude* with Departmental Honors

RESEARCH EXPERIENCE

National Research Council, Postdoctoral Research Associate 2011–present
NOAA, Marine Initiative of the Natural Capital Project
Postdoctoral Research Associate, University of Washington 2009–2010
Numerical model simulations, estuarine dynamics, with P. MacCready.
Postdoctoral investigator, Woods Hole Oceanographic Institution 2008
Ice-ocean interactions, Greenland fjord-glacier systems, with F. Straneo.
Graduate Research Assistant, Woods Hole Oceanographic Institution 2002–2007
Coastal and estuarine fluid dynamics course, Friday Harbor Laboratories, WA 2006
Summer Intern, US Army Corps of Engineers Field Research Facility, Duck, NC 2000
Research Experiences for Undergraduates, University of Hawaii 1999

TEACHING EXPERIENCE

Undergraduate mentor, UW School of Oceanography 2010
Assisted undergraduate student, C. Sparr, in pursuing summer research topic.
Teaching Assistant, UW/Friday Harbor Labs 2009
Coastal and Estuarine Fluid Dynamics summer course, P. MacCready and R. Geyer
Teaching Assistant, MIT/WHOI Joint Program 2006
Introduction to Observational Physical Oceanography course, J. Price.
Teaching Assistant, MIT/WHOI Joint Program 2005
Intro to Geophysical Fluid Dynamics of the Ocean and Atmosphere, J. Pedlosky.
Assistant Scientist, Sea Education Association 2005
Teaching Assistant, Massachusetts Institute of Technology 2003
Physics of the Ocean and Atmosphere undergraduate course, J. Marshall

FIELD EXPERIENCE

MY Arctic Sunrise, 14 days, Aug. 2009.

Collected hydrographic, velocity, and bathymetric data in a study of fjord circulation along east Greenland. Used helicopter to deploy XBTs. Chief Scientist, F. Straneo. *Sermilik Fjord, Greenland*, 14 days, July/Sept. 2008.

Collected hydrographic, velocity, and bathymetric data in a study of fjord circulation from a small boat. Deployed 2 shallow moorings. Chief Scientist, F. Straneo. *R/V Knorr*, 9 days, August 2008.

Mooring deployment in Hudson Strait and CTD casts. Chief Scientist, F. Straneo. *R/V Knorr*, 9 days, September 2007.

Mooring deployment off W. Greenland, and XCTD casts. Chief Scientist, A. Bower. *SSV Corwith Cramer*, 10 days, July 2005 and July 2002.

Sailed as Assistant Scientist on board the MIT/WHOI Joint Program cruise in 2005, and participated as a student in 2002, out of Woods Hole, MA. Chief Scientist, L. Graziano. *RRS James Clark Ross*, 20 days, July-August 2004.

Hydrographic survey and mooring operations on the southeast Greenland shelf. Worked with CTDs and ran nutrient samples. Chief Scientist, R.S. Pickart.

Numerous short cruises: Puget Sound (*R/V Barnes*, *R/V Robertson*, *R/V Centennial*), Vineyard Sound (*R/V Tioga*), Connecticut River (*R/V Tioga*), Panama (*Liquid Jungle Lab*), Monterey Canyon (*R/V Point Lobos*, 2003), Bahamas (*R/V Walton Smith*, 2003), Hawaiian Ocean Time Series (*R/V Kaimikai-O-Kanaloa*, 1999). Sermilik Fjord (2010).

REVIEWED PUBLICATIONS

- Sutherland, D.A.**, Straneo, F., G.S. Hamilton, and L.A. Stearns, 2011: Observations of the subtidal circulation in Sermilik Fjord, Greenland, and its impact on ice-ocean interactions. Manuscript in preparation.
- Sutherland, D.A.**, P. MacCready, N.S. Banas, and L.F. Smedstad, 2011: A model study of the Salish Sea estuarine circulation. In review, *Journal of Physical Oceanography*.
- Straneo, F., R.G. Curry, **D.A. Sutherland**, G.S. Hamilton, C. Cenedese, K. Vage, and L.A. Stearns, 2011: Impact of ocean stratification and glacier run-off on submarine melting of Helheim Glacier in Greenland. In review, *Nature Geoscience*.
- Sutherland, D.A.**, F. Straneo, P. St-Laurent, and S.J. Lentz, 2010: Observations of fresh, anticyclonic eddies in the Hudson Strait outflow. *Journal of Marine Systems*, 10.1016/j.jmarsys.2010.12.004.
- Straneo, F., G.S. Hamilton, **D.A. Sutherland**, L.A. Stearns, F. Davidson, M.O. Hammill, G.B. Stenson, and A. Rosing-Asvid, 2010: Rapid circulation of warm subtropical waters in a major glacial fjord off East Greenland. *Nature Geoscience*, doi:10.1038/ngeo764.
- Sutherland, D.A.**, and C. Cenedese, 2009: Laboratory experiments on the interaction of a buoyant coastal current with a canyon: application to the East Greenland Coastal Current. *Journal of Physical Oceanography*, 39, 1258–1271.
- Sutherland, D.A.**, R.S. Pickart, E.P. Jones, K. Azetsu-Scott, A.J. Eert, and J. Olafsson, 2009: The freshwater composition of the waters off of southeast Greenland and their link to the Arctic Ocean. *Journal of Geophysical Research*, 114, C05020, doi:10.1029/2008JC004808.
- Sutherland, D.A.** and R.S. Pickart, 2008: The East Greenland Coastal Current: structure, variability, and forcing. *Progress in Oceanography*, doi:10.1016/j.pocean.2007.09.006.

- Bacon, S., P.G. Myers, B. Rudels, and **D.A. Sutherland**, 2008: Accessing the inaccessible: buoyancy-driven coastal currents on the shelves of Greenland and eastern Canada. *Arctic-Subarctic ocean fluxes: Defining the role of the Northern Seas in climate*. Eds. Dickson, Meincke, and Rhines. Springer, 703–722.
- Girton, J.B., L.J. Pratt, **D.A. Sutherland**, and J.F. Price, 2006: Is the Faroe Bank Channel overflow hydraulically controlled? *Journal of Physical Oceanography*, 12, 2340–2349.
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INVITED PRESENTATIONS

- A tale of two fjords: from Puget Sound to southeastern Greenland*. Seminar, Scripps Institute of Oceanography, San Diego, CA. Apr. 2010.
- Observations of the East Greenland Coastal Current and its connection to the East Greenland Current*, URI-GSO seminar, U. Rhode Island, November 2008.
- Observations of freshwater pathways in the high-latitude North Atlantic: How fjords, coastal currents, and the Hudson Strait outflow connect*, TAO seminar, U. Victoria, July 2008.
- Wave-induced porewater transport in permeable sediments*. Poster, Ocean Sciences Meeting, San Antonio, TX, 2000.

PRESENTATIONS

- Observations of subtidal circulation variability in Sermilik Fjord and its implications for ice-ocean interactions*. AGU Fall Meeting, Dec. 2010.
- Exploring the patterns of salt flux in Puget Sound and its connection to the coastal ocean*. Ocean Sciences Meeting, Portland, OR. Feb. 2010.
- Connecting the sound to the shelf: a numerical model study of the Salish Sea and processes affecting estuarine circulation over multiple time and space scales*. CERF meeting, Portland, OR, Nov. 2009.
- Connecting the sound to the sea: a numerical model study of the Salish Sea*. Eastern Pacific Ocean Conference, Sidney, BC, Sept. 2009.
- A preview: modeling Puget Sound and the Salish Sea with ROMS*. Poster, Gordon Conference, Coastal Ocean Circulation, Colby-Sawyer College, NH. June 2009.
- How do changes in river input and sea ice cover affect the Hudson Strait outflow?* AGU Fall Meeting, poster, December 2008.
- Composition, transport, and variability of fresh water in the branches of the East Greenland Current*. Ocean Sciences Meeting, Orlando, FL. March 2008.
- The East Greenland Coastal Current: a subarctic freshwater pathway*. Poster, Gordon Conference on Polar Marine Science, Ventura, CA. March 2007.
- Observations of the East Greenland Coastal Current: A high-latitude, wind-forced, buoyant plume*. Poster, Ocean Sciences Meeting, Honolulu, HI. February 2006.
- Structure and variability of the East Greenland Coastal Current*. Arctic/Subarctic Ocean Fluxes (ASOF) Meeting, Torshavn, Faroe Islands. June 2006.
- Observations of the East Greenland Coastal Current*. Poster, Gordon Conference on Coastal Ocean Circulation, Colby-Sawyer College, NH. June 2005.
- The role of eddies in a laboratory study of the Antarctic Circumpolar Current*. Poster, MTS/IEEE Oceans Conference, San Diego, CA. 2003.
- Tidal dynamics of Onslow Bay, NC*. Undergraduate Honors thesis defense, University of North Carolina at Wilmington. Advisor: Dr. F. Bingham, Wilmington, NC, 2001.

PROFESSIONAL ACTIVITIES

Reviewer: National Science Foundation; Geophysical Research Letters; Estuarine, Coastal and Shelf Science; Marine Environmental Research; Journal of Geophysical Research; Journal of Marine Research; Journal of Physical Oceanography

Assistant to WHOI Development Office 2008

Representative to WHOI Gender Equity Program Advisory Committee 2006–2008

Member, American Geophysical Union, Estuarine Research Foundation

Student representative to *ad hoc* WHOI committee on Gender Equity at Sea, 2006
appointed by WHOI Dean of Education, John Farrington.

Student representative, MIT/WHOI Joint Program Student Advisory council. 2004

Outreach: several lectures on Puget Sound oceanography; Orca Bowl volunteer 2009–present

RELATED EXPERIENCE

AAUS certified, research SCUBA diver 2006–present

Swim Coach, USA Swimming certified coach. 2004–2007

Community Sanitation/Health Advisor, US Peace Corps, Kingston, Jamaica. 2001–2002

Athletic Scholarship, UNC-Wilmington, Men's Varsity Swimming 1998–1999

Eagle Scout rank, Boy Scouts of America. 1997

REFERENCES

Dr. Robert S. Pickart (PhD advisor)
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