

Curriculum Vitae (updated 5/17/2017)

PERSONAL INFO

David A. Sutherland
Department of Earth Sciences
1272 University of Oregon
Eugene, OR 97403
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204 Volcanology
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EDUCATION

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

PROFESSIONAL EXPERIENCE

- 2011– Assistant Professor, Dept. of Earth Sciences, U. Oregon (9/16/2011)
2011 National Research Council, Postdoctoral Fellow, NOAA, Seattle, WA
2009–2010 Postdoctoral Research Associate, University of Washington
2008 Postdoctoral investigator, Woods Hole Oceanographic Institution
2002–2007 Graduate Research Assistant, Woods Hole Oceanographic Institution
2000 Summer Intern, USACE Field Research Facility, Duck, NC
1999 Research Experiences for Undergraduates, University of Hawaii

PEER-REVIEWED PUBLICATIONS

(* denotes direct student or postdoc advisee)

33. *Moon, T., D.A. Sutherland, D. Carroll, D. Felikson, L. Kehrl, and F. Straneo, 2017: Iceberg melt primary Greenland fjord freshwater source. *In review*.
32. *Carroll, D., D.A. Sutherland, J.D. Nash, E.L. Shroyer, G.A. Catania, and L.A. Stearns, 2017: Subglacial discharge-driven renewal of tidewater glacial fjords. *In review*.
31. Fried, M.J., G.A. Catania, T.C. Bartholomaus, D.A. Sutherland, L.A. Stearns, E.L. Shroyer, and J.D. Nash, 2017: Runoff drives seasonal terminus advance and retreat at west Greenland tidewater glaciers. *In review*.
30. Jackson, R.H., E.L. Shroyer, J.D. Nash, D.A. Sutherland, D. Carroll, M.J. Fried, G.A. Catania, T.C. Bartholomaus, and L.A. Stearns, 2017: Subglacial plume structure and

transport from repeat near-glacier surveying: implications for plume parameterizations. *In review*.

29. *Sulak, D.J., D.A. Sutherland, E.M. Enderlin, L.A. Stearns, and G.S Hamilton, 2017: Quantification of iceberg properties and distributions in three Greenland fjords using satellite imagery. *Annals Glaciol.*, doi:10.1017/aog.2017.5.

28. Felikson, D., T.C. Bartholomaus, G.A. Catania, K.H. Kjaer, N. Korsgaard, M. Morlighem, B.P.Y. Noel, M.R. van den Broeke, L.A. Stearns, J.D. Nash, E.L. Shroyer, and D.A. Sutherland, 2016: Geometric control on inland thinning propagation for Greenland outlet glaciers. *Nature Geosci.*, doi:10.1038/ngeo2934.

27. Enderlin, E.M., G.S Hamilton, F. Straneo, and D.A. Sutherland, 2016: Iceberg meltwater fluxes dominate the freshwater budget in Greenland's iceberg-congested glacial fjords. *Geophys. Res. Lett.*, doi:10.1002/2016GL070718.

26. Straneo, F., G.S Hamilton, L.A. Stearns, and D.A. Sutherland, 2016: Connecting the Greenland ice sheet and the ocean: a case study of Helheim Glacier and Sermilik Fjord. *Oceanography*, 29(4), doi:10.5670/oceanog.2016.97.

25. *Carroll, D., D.A. Sutherland, B. Hudson, T. Moon, J.D. Nash, E.L. Shroyer, G.A. Catania, T.C. Bartholomaus, D. Felikson, L.A. Stearns, B.P.Y. Noël, M.R. van den Broeke, 2016: Glacier geometry controls meltwater plume structure and submarine melt in Greenland fjords. *Geophys. Res. Lett.*, doi:10.1002/2016GL070170.

24. Bartholomaus, T.C., L.A. Stearns, D.A. Sutherland, E.L. Shroyer, J.D. Nash, R. Walker, G. Catania, D. Felikson, D. Carroll, M.J. Fried, B. Noel, and M. van den Broeke, 2016: Contrasts in the response of adjacent fjords and glaciers to surface melt in western Greenland. *Annals Glaciol.*, doi:10.1017/aog.2016.19.

23. Sutherland, D.A., and M.A. O'Neill*, 2016: Hydrographic and dissolved oxygen variability in a seasonal Pacific Northwest estuary. *Estuar., Coast., Shelf Sci.*, doi.org/10.1016/j.ecss.2016.01.042.

22. Fried, M.J., G.A. Catania, T.C. Bartholomaus, D. Duncan, M. Davis, L.A. Stearns, J.D. Nash, E.L. Shroyer, and D.A. Sutherland, 2015: Distributed subglacial discharge drives significant submarine melt at a Greenland tidewater glacier. *Geophys. Res. Lett.*, doi:10.1002/2015GL065806.

21. *Carroll, D., D.A. Sutherland, E.L. Shroyer, J.D. Nash, G. Catania, and L.A. Stearns, 2015: Modeling turbulent subglacial meltwater plumes: implications for fjord-scale buoyancy-driven circulation. *J. Phys. Oceanog.*, doi:10.1175/JPO-D-15-0033.1.

20. Sutherland, D.A., G.E. Roth*, G.S. Hamilton, S.H. Mernild, L.A. Stearns, and F. Straneo, 2014: Quantifying flow regimes in a Greenland glacial fjord using iceberg drifters. *Geophys. Res. Lett.*, doi:10.1002/2014GL062256.

19. Harden, B.E., F. Straneo, and D.A. Sutherland, 2014: Moored observations of synoptic and seasonal variability in the East Greenland Coastal Current. *J. Geophys. Res.-Oceans*. doi:10.1002/2014JC010134.

18. Banas, N.S., L. Conway-Cranos, D.A. Sutherland, P. MacCready, P. Kiffney, and M. Plummer, 2014. Patterns of river influence and connectivity among subbasins of Puget Sound, with application to bacterial and nutrient loading. *Estuaries and Coasts*. doi:10.1007/s12237-014-9853-y.

17. Sutherland, D.A., F. Straneo, and R.S. Pickart, 2014: Characteristics and dynamics of two major Greenland glacial fjords. *J. Geophys. Res.-Oceans*, doi:10.1002/2013JC009786.

16. Jackson, R.H., F. Straneo, and D.A. Sutherland, 2014: Externally-forced fluctuations in ocean temperature at Greenland glaciers in non-summer months. *Nature Geosci.*, doi:10.1038/ngeo2186.

15. Andresen, C.S., M.-A. Sicre, F. Straneo, D.A. Sutherland, M.H. Ribergaard, A. Kuijpers, T. Schmith, and J.M. Lloyd, 2013: A 100-yr long record of alkenone-derived SST changes by Southeast Greenland. *Cont. Shelf Res.*, doi:10.1016/j.csr.2013.10.003.

14. Toft, J.E., J.L. Burke, M.P. Carey, C.K. Kim, G. Spiridonov, M. Marsik, D.A. Sutherland, K.K. Arkema, A.D. Guerry, P.S. Levin, T.J. Minello, M. Plummer, M.H. Ruckelshaus, and H.M. Townsend, 2013: From mountains to sound: modeling the sensitivity of Dungeness crab and Pacific oyster to land-sea interactions in Hood Canal, WA. *ICES J. Mar. Sci.*, doi:10.1093/icesjms/fst072.

13. Sutherland, D.A., F. Straneo, G.B. Stenson, F. Davidson, M.O. Hammill, and A. Rosing-Asvid, 2013: Atlantic water variability on the SE Greenland shelf and its relationship to SST and bathymetry. *J. Geophys. Res.*, doi:10.1029/2012JC008354.

12. Sutherland, D.A. and F. Straneo, 2012: Estimating ocean heat transport and submarine melt rate in Sermilik Fjord, Greenland, using lowered ADCP profiles, *Ann. Glaciol.*, 53(60), doi:10.3189/2012AoG60A050.

11. Straneo, F., D.A. Sutherland, D. Holland, C. Gladish, G. Hamilton, H. Johnson, E. Rignot, Y. Xu, and M. Koppes, 2012: Characteristics of ocean waters reaching Greenland's glaciers. *Ann. Glaciol.*, 53(60), doi:10.3189/2012AoG60A059.

10. Guerry, A.D., M.H. Ruckelshaus, J.R. Bernhardt, G. Guannel, C.K. Kim, M. Marsik, J.E. Toft, D.A. Sutherland, et al., 2012: Modeling benefits from nature: using ecosystem services to inform coastal and marine spatial planning. *Intl. J. Biodivers. Sci., Ecosys. Serv., Manag.*, doi:10.1080/21513732.2011.647835.

9. Sutherland, D.A., P. MacCready, N.S. Banas, and L.F. Smedstad, 2011: A model study of the Salish Sea estuarine circulation. *J. Phys. Oceanogr.*, doi:10.1175/2011JPO4540.1.
8. 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. *Nature Geosci.*, doi:10.1038/ngeo1109.
7. Sutherland, D.A., F. Straneo, P. St-Laurent, and S.J. Lentz, 2010: Observations of fresh, anticyclonic eddies in the Hudson Strait outflow. *J. Mar. Sys.*, doi:10.1016/j.jmarsys.2010.12.004.
6. 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 Geosci.*, doi:10.1038/ngeo764.
5. 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. *J. Phys. Oceanogr.*, 39, 1258–1271.
4. 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. *J. Geophys. Res.*, 114, C05020, doi:10.1029/2008JC004808.
3. Sutherland, D.A. and R.S. Pickart, 2008: The East Greenland Coastal Current: structure, variability, and forcing. *Prog. Oceanogr.*, doi:10.1016/j.pcean.2007.09.006.
2. 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.
1. Girton, J.B., L.J. Pratt, D.A. Sutherland, and J.F. Price, 2006: Is the Faroe Bank Channel overflow hydraulically controlled? *J. Phys. Oceanogr.*, 12, 2340–2349.

OTHER PUBLICATIONS

Sutherland, D.A., F. Straneo, and B.E. Harden, 2014: Atlantic water variability on the southeast Greenland shelf. *US CLIVAR Variations*, Vol. 12(2), 20-25.

FUNDING AND GRANTS

Total current and past external grant funding (Sutherland as PI portion only): \$2,498,703

Current External Research Funds

“CAREER: Chasing Icebergs: quantifying iceberg motion and melt in Greenland’s glacial fjords”, PI, NSF-PLR Arctic Natural Sciences. UO portion and total: \$799,723. 11/1/2016–10/31/2021.

“Improved understanding of sediment dynamics and direct management applications for the South Slough National Estuarine Research Reserve and the greater Coos Bay Estuary”, lead-PI with D.K. Ralston (WHOI), F. Reasor (Coos Watershed Assoc.), and P. Ruggiero (OSU), National Estuarine Research Reserve Science Collaborative, 11/1/2016–10/31/2019. UO portion: \$423,740 (total: \$718,940).

“EarthCube RCN: Collaborative research: engaging the Greenland ice sheet ocean (GRISO) science network”, co-PI with Fiamma Straneo (WHOI), NSF-EAR. UO portion: \$43,424 (total: \$299,396). 9/1/2016–8/31/2018.

“Collaborative research: the impact of oceanic forcing on the melting of west Antarctic Peninsula glaciers”, co-PI with Carlos Moffat (UDeI) and John Klinck (ODU), NSF-PLR Antarctic Sciences. UO portion: \$299,302 (total: \$706,203). 6/15/2016–6/14/2019.

“Collaborative research: impact of subglacial discharge on turbulent plume dynamics and submarine melting”, co-PI with Jason Amundson (UA-S) and Jonathan Nash (OSU), NSF-PLR 1504521, UO portion \$201,208 (total: \$1,618,868). 9/1/2015–8/31/2019.

Past External Funded Research

“Understanding oceanic and terrestrial controls on dissolved oxygen variability in the Coos Bay estuary”, lead PI with J. Roering (UO-Geol.) and D. Gavin (UO-Geog.), Oregon Sea Grant, UO portion and total: \$156,428. 2/1/2014–1/31/2016 (no-cost extension until 1/31/2017).

"Spawning during storms and the subsequent dispersal and settlement of coastal invertebrate larvae?", co-PI with A. Shanks and R. Emler (UO-Biology), NSF-OCE 1259603, Sutherland portion: \$67,070 (total UO: \$629,141). 1/1/2013–12/31/2016 (no-cost extension until 12/31/2016).

“Physical controls on ocean-terminating glacier variability in central west Greenland”, NASA-IDS, co-I with Lead-I G. Catania (UT-Austin), UO portion: \$453,133 (total award: \$1,537,073). 8/1/2012–7/31/2015.

"Collaborative research: submarine melting of Greenland's glaciers: what are the relevant ocean dynamics?", co-PI with F. Straneo and C. Cenedese (WHOI), NSF-OCE 1130008, \$996,431. 1/1/2012–12/31/2014 (subaward to UO for \$28,724).

“Collaborative Research: Glacier-Ocean coupling in a Large East Greenland Fjord”, with co-PI F. Straneo (WHOI), NSF-OPP 0909373, \$541,986: 8/1/2009–1/31/2013 (subaward to UO for \$25,951).

Internal Funding

“Creating capability to use icebergs as natural drifters”, sole PI on University of Oregon Faculty Research Award, \$5000. 7/1/2015–6/30/2016.

FIELD EXPERIENCE

MV Steller, 8 days, May 2017. LeConte Bay, AK. Multibeam sonar, VMP, CTD, SADCP, moorings in ice-covered waters. Co-Chief Scientist with R. Jackson.

MV Steller, 7 days, Aug 2016. LeConte Bay, AK. Multibeam sonar, VMP, CTD, SADCP, moorings in ice-covered waters. Co-Chief Scientist with J. Nash.

MV Steller and MV Pelican, 5 days, Mar-Apr 2016. LeConte Bay, AK. CTD, SADCP, moorings in ice-covered waters. Co-Chief Scientist with J. Mickett.

RV Sanna, 6 days, July 2015. Uummannaq Fjord CTD, small boat work, moorings. Co-Chief Scientist with J. Nash.

RV Sanna, 20 days, July/Aug. 2014. Uummannaq Fjord CTD, small boat work, moorings, and surface drifters. Co-Chief Scientist with J. Nash and E. Shroyer.

RV Sanna, 12 days, Sept. 2013. Uummannaq Fjord CTD survey and moorings. Co-Chief Scientist with J. Nash and E. Shroyer.

MV Fox, 14 days, Sept. 2012. Kangerdlugssuaq and Sermilik Fjord, hydrography, moorings, and iceberg work. Co-Chief Scientist with F. Straneo.

RV Viking Mads Alex, 10 days, Aug. 2011. Sermilik Fjord study, hydrography and helicopter work. Co-Chief Scientist with F. Straneo.

MY Arctic Sunrise, 14 days, Aug. 2009. Hydrographic, ADCP, bathymetry, helicopter XBTs up east coast of Greenland. Chief Scientist, F. Straneo.

Sermilik Fjord, Greenland, 14 days, July/Sept. 2008. Collected hydrographic, velocity, and bathymetric data. 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.

Friday Harbor Laboratories, July 2006. 7 days of small boat work in East Sound, WA. Coastal and Estuarine Fluid Dynamics Course. Friday Harbor, WA.

SSV Corwith Cramer, 10 days, July 2005 and July 2002. Sailed as Asst. Scientist (2005) and participated as a student (2002), 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 (<3 days): 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), Coos Bay (*R/V Pugettia*; *R/V Pluteus*: 2012-present).

Total days at-sea: 241

TEACHING AND EDUCATION

Courses taught

Undergraduate

Geo-communication (GEOL 420/520, UO)

–Fall 2014, 8 students (mix undergrad/grad)

Intro to Physical Oceanography (GEOL 410, UO)

–Winter 2016, 21 students (undergrad)

Oceanography of the Oregon Coast (GEOL 410/510, UO)

–Winter 2017, 15 students (mix undergrad/grad)

–Winter 2014, 17 students (mix undergrad/grad)

Introduction to Environmental Studies: Natural Sciences (ENVS 202, UO),

–Winter 2016, 220 students

–Winter 2015, 200 students

–Spring 2014, 105 students

–Winter 2012, 240 students

Introduction to Oceanography (GEOL 307, UO)

–Winter 2017, 144 students

–Fall 2015, 103 students

–Fall 2013, 150 students

–Spring 2012, 148 students

–Fall 2012, 132 students

Physics of the Ocean and Atmosphere, Teaching assistant, 2003, MIT

Graduate

Coastal physical oceanography short course, March 2013, OIMB, Charleston, OR

Interdisciplinary Science Research, Guest panelist, ENVS 610, UO

Coastal and Estuarine Fluid Dynamics, Teaching assistant, summer 2009, UW

Intro. Observational Physical Oceanography, Teaching assistant, 2006, WHOI

Intro. Geophysical Fluid Dynamics, Teaching assistant, 2005, WHOI

Postdoctoral advisor

Twila Moon NSF Ocean Sciences Fellowship 2015–2016

Graduate thesis advisor

Maria Marin Jarrin PhD candidate Dept. of Earth Sciences, 2016–

Ted Conroy MSc candidate Dept. of Earth Sciences, 2016–

Dustin Carroll PhD candidate Dept. of Earth Sciences, 2012–

Dan Sulak	MSc completed	Dept. of Geological Sciences, 2014–2016
Molly O’Neill	MSc completed	Dept. of Geological Sciences, 2012–2014
George Roth	MSc completed	Dept. of Geological Sciences, 2012–2014

Graduate thesis committee member

Geoffrey Johnson	MSc, Dept. of Geography	2013–2016
Leif Rasmusson	PhD, Oregon Institute of Marine Biology	2011–2015
Nathan Mathabane	MSc, Dept. of Geological Sciences	2013–2015
Julia Irizarry	MSc, Dept. of Geological Sciences	2014–2015
Shane M. Tom	MSc, Dept. of Biology, IE ²	2014
Ryan Seward	MSc, Dept. of Geological Sciences	2012–2014

Undergraduate research advising

Richelle Cabatic, Dept. of Physics, UO, 2017–
Bjorn Anthony, Dept. of Earth Sciences, UO, 2016–
Nicole D’Entremont, Dept. of Geography, UO, winter/spring 2015
Sarah Herbert, Dept. of Geography, UO, summer 2012
Cameron Sparr, UW School of Oceanography, 2010

PRESENTATIONS

Invited talks

Estuary circulation and its link to water quality in Coos Bay. Nov 2016. Southwestern Oregon Community College Geology Lecture series. Coos Bay, OR.

Observed spatial and temporal variability of subglacial discharge-driven plumes in Greenland’s outlet glacial fjords. 2015. Abstract C13E-07. AGU Fall Meeting, San Francisco, CA.

The ocean’s role in outlet glacier variability: observations of near terminus plume circulation near Uummannaq, Greenland. May 2015. Univ. Washington, Seattle, WA.

The ocean’s role in outlet glacier variability: a case study from Uummannaq, Greenland. 2014. Abstract C34B-03. AGU Fall Meeting, San Francisco, CA.

Circulation regimes in Greenland’s outlet glacial fjords. 2014. Abstract 163-9. GSA Annual Meeting, Vancouver, BC, Canada.

The importance of icebergs in Greenland’s large outlet glacial fjords. 2014. Oregon State Univ. PO seminar series, Corvallis, OR.

Circulation regimes in Greenland’s outlet glacial fjords. 2014. Univ. Washington, Future of Ice initiative, Seattle, WA.

Glacial fjord circulation. 2014. Association of Early Career Polar Scientists (APECS), webinar, series on Ice-Ocean Interactions (available <http://vimeo.com/89560562>).

Circulation regimes in Greenland’s outlet glacial fjords. 2013. Abstract OS13D-06. AGU Fall Meeting, San Francisco, CA.

Greenland fjord circulation: what do we expect from theory and models? 2013.

Greenland Ice Sheet-Ocean Workshop, US CLIVAR. Boston, MA.

Hydrodynamic modeling of the Puget Sound estuary and the Salish Sea—what can we do for Coos Bay? OIMB spring seminar series, Charleston, OR.

What controls ocean heat transport in the Sermilik-Helheim fjord-glacier system? 2011. U of Texas, Inst. of Geophysics, Austin, TX.

A tale of two fjords: from Puget Sound to southeastern Greenland. 2010. Scripps Institute of Oceanography, San Diego, CA.

Observations of the East Greenland Coastal Current and its connection to the East Greenland Current. 2008. U. Rhode Island Physical Oceanography seminar series.

Observations of freshwater pathways in the high-latitude North Atlantic: How fjords, coastal currents, and the Hudson Strait outflow connect. 2008. U. Victoria.

Wave-induced porewater transport in permeable sediments. 2000. Abstract OS12F-09. Poster, Ocean Sciences Meeting, San Antonio.

Seminars and other presentations

*Student presentations (where student is presenter and my direct advisee)

*** denotes best student presentation awarded

2017

Sutherland, D.A., T. Moon, D. Carroll, L. Kehrl, D. Felikson, and F. Straneo: 4D freshwater flux from icebergs. Talk, Program for Arctic Regional Climate Assessment (PARCA) meeting. NASA Goddard, D.C.

2016

*Carroll, D., D.A. Sutherland, J.D. Nash, E.L. Shroyer, L. de Steur, G.A. Catania, and L.A. Stearns: Modeling the impact of fjord-glacier geometry on subglacial plume, wind, and tidally-forced circulation in outlet glacier fjords. Abstract C51A-0646. Poster, AGU Fall Meeting, San Francisco, CA.

Sutherland, D.A., T. Moon, J.D. Nash, E.L. Shroyer, L.A. Stearns, and G. Catania: Do icebergs matter to fjord circulation? Abstract 74A2138. Talk, IGS Meeting, La Jolla, CA.

*Carroll, D., D.A. Sutherland, J.D. Nash, E.L. Shroyer, L. de Steur, G.A. Catania, and L.A. Stearns: Using an idealized ocean circulation model to assess the role of fjord glacier geometry on circulation in tidewater glacier fjords. Abstract 74A2108. Talk, IGS Meeting, La Jolla, CA.

*Carroll, D., D.A. Sutherland, J.D. Nash, E.L. Shroyer, G.A. Catania, and L.A. Stearns: The impact of fjord-glacier geometry on circulation and renewal in tidewater glacier fjords. Abstract C13E-08. Talk, HE52A-03 Ocean Sciences Meeting, New Orleans, LA.

Sutherland, D.A., L. de Steur, J. Mickett, J.D. Nash, E.L. Shroyer, L.A. Stearns, and G. Catania: Observed hydrographic variability connecting the continental shelf to the marine-terminating glaciers of Uummannaq Bay, west Greenland. Poster HE54A-1562, Ocean Sciences Meeting, New Orleans, LA.

2015

Sutherland, D.A., D. Gavin, J. Roering, G. Johnson, and N. Mathabane. Examining estuarine dissolved oxygen levels from the mid-20th century to present in Coos Bay, Oregon. Abstract 0480-000280. Talk, CERF Meeting, Portland, OR.

*Sulak, D.J., D.A. Sutherland, L.A. Stearns, and G.S. Hamilton. Calculating freshwater input from iceberg melt in Greenlandic fjords by combining *in situ* observations of iceberg movement with high resolution satellite imagery. Abstract C43B-0806, Poster, AGU Fall Meeting, San Francisco, CA.

*Carroll, D., D.A. Sutherland, T. Moon, J.D. Nash, E.L. Shroyer, G.A. Catania, D. Felikson, B. Hudson, and L.A. Stearns: Modeling subglacial meltwater plumes across Greenland's outlet glaciers: implications for ice-ocean coupling in a warming climate. Abstract C13E-08. Talk, AGU Fall Meeting, San Francisco, CA.

2014

Sutherland, D.A., G.E. Roth, L.A. Stearns, G.S. Hamilton, and F. Straneo. Using icebergs to constrain fjord circulation and link to glacier dynamics. Abstract C23A-0399, Poster, AGU Fall Meeting, San Francisco, CA.

*Carroll, D., D.A. Sutherland, J.D. Nash, and E.L. Shroyer: Numerical simulation and sensitivity analysis of subglacial meltwater plumes: implications for ocean-glacier coupling in Rink Isbrae, West Greenland. Abstract C23C-0413. Poster, AGU Fall Meeting, San Francisco, CA.

Sutherland, D.A., J.D. Nash, and E.L. Shroyer. The impact of icebergs on freshwater distribution and stratification in the subpolar North Atlantic Ocean. Abstract 16499. Ocean Sciences Meeting, Honolulu, HI.

*Carroll, D., D.A. Sutherland, J.D. Nash, and E.L. Shroyer: Using a coupled observational and modeling approach to investigate buoyant plume structure in a Greenlandic outlet glacial fjord. Abstract 16540. Poster, Ocean Sciences Meeting, Honolulu, HI.

Sutherland, D.A., J.D. Nash, E.L. Shroyer, L.A. Stearns, R. Walker, and G. Catania. Using a coupled observational and modeling approach to investigate buoyant plume structure in two adjacent west Greenland outlet glacial fjords. Program for Arctic Regional Climate Assessment (PARCA) meeting. NASA Goddard, D.C.

2013

*O'Neill, M. and D.A. Sutherland: Along-estuary dissolved oxygen variability in the Coos Bay estuary, Oregon, USA. Abstract B13F-0572. Poster, AGU Fall Meeting, San Francisco, CA.

***Carroll, D., D.A. Sutherland, E.L. Shroyer and J.D. Nash: Oceanic response to buoyancy, wind, and tidal forcing in a Greenlandic glacial fjord. Abstract OS11A-1638. Poster, AGU Fall Meeting, San Francisco, CA.

*Roth, G., D.A. Sutherland, G.S Hamilton, and L.A. Stearns: Modeling fjord circulation using iceberg-mounted GPS as real-time drifters. Abstract OS11A-1644. Poster, AGU Fall Meeting, San Francisco, CA.

***O'Neill, M. and D.A. Sutherland: Along-estuary dissolved oxygen variability in the Coos Bay estuary, Oregon, USA. Poster, Heceta Head Conference, Florence, OR.

*Carroll, D., D.A. Sutherland, E.L. Shroyer and J.D. Nash: The response of a fjord to subsurface buoyancy forcing and wind-driven circulation on the shelf. Poster, Coastal Ocean GRC, Biddeford, ME.

2012

Sutherland, D.A., F. Straneo, A. Rosing-Asvid, G. Stenson, F.J. Davidson, and M. Hammill. Atlantic water variability on the SE Greenland continental shelf and its relationship to SST. Abstract C43D-0652. Poster, AGU Fall Meeting, San Francisco, CA.

Sutherland, D.A. and F. Straneo. Dynamics of a major outlet glacial fjord system: circulation and variability in Sermilik Fjord, SE Greenland. Abstract 10666. Ocean Sciences Meeting, Salt Lake City, UT.

2011

Sutherland, D.A., M.H. Ruckelshaus, M. Plummer, P. Levin, and M. Marsik. Modeling the impact of watershed management policies on marine ecosystem services with application to Hood Canal, WA, USA. Eastern Pacific Ocean Conference, Stanford Center, CA.

Sutherland, D.A. and F. Straneo. Estimating heat transport in Sermilik Fjord and Kangerdlugssuaq Fjord, Greenland. Intl. Glaciological Soc. (IGS) Meeting, San Diego, CA.

2010

Sutherland, D.A., L.A. Stearns, G.S. Hamilton, and F. Straneo. Observations of subtidal circulation variability in Sermilik Fjord and its implications for ice-ocean interactions. Abstract C12B-06. AGU Fall Meeting, San Francisco, CA.

Sutherland, D.A., P. MacCready, and N.S. Banas. Exploring the patterns of salt flux in Puget Sound and its connection to the coastal ocean. Abstract PO44C-07. Ocean Sciences Meeting, Portland, OR.

2009

Sutherland, D.A., P. MacCready, and N.S. Banas. 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.

Sutherland, D.A., P. MacCready, and N.S. Banas. Connecting the sound to the sea: a numerical model study of the Salish Sea. Eastern Pacific Ocean Conference, Sidney, BC.

Sutherland, D.A., P. MacCready, and N.S. Banas. A preview: modeling Puget Sound and

the Salish Sea with ROMS. Poster, Gordon Conference, Coastal Ocean Circulation, Colby-Sawyer College, NH.

2008

Sutherland, D.A., F. Straneo, S.J. Dery, and K.F. Drinkwater. How do changes in river input and sea ice cover affect the Hudson Strait outflow? Abstract OS11D-1164. Poster, AGU Fall Meeting, San Francisco, CA.

Sutherland, D.A., R.S. Pickart, E.P. Jones, K. Azetsu-Scott, and J. Olafsson. Composition, transport, and variability of fresh water in the branches of the East Greenland Current. Ocean Sciences Meeting, Orlando, FL.

2007

Sutherland, D.A. and R.S. Pickart. The East Greenland Coastal Current: a subarctic freshwater pathway. Poster, Gordon Conference on Polar Marine Science, Ventura, CA.

2006

Sutherland, D.A. and R.S. Pickart. Observations of the East Greenland Coastal Current: A high-latitude, wind-forced, buoyant plume. Abstract OS35J-07. Poster, Ocean Sciences Meeting, Honolulu, HI.

Sutherland, D.A. and R.S. Pickart. Structure and variability of the East Greenland Coastal Current. Arctic/Subarctic Ocean Fluxes (ASOF) Meeting, Torshavn, Faroe Islands.

2005

Sutherland, D.A. and R.S. Pickart. Observations of the East Greenland Coastal Current Poster, Gordon Conference on Coastal Ocean Circulation, Colby-Sawyer College, NH.

2003

Sutherland, D.A. and C. Cenedese. The role of eddies in a laboratory study of the Antarctic Circumpolar Current. Poster, MTS/IEEE Oceans Conference, San Diego, CA.

2001

Sutherland, D.A. Tidal dynamics of Onslow Bay, NC. Undergraduate Honors thesis defense, University of North Carolina at Wilmington. Wilmington, NC.

PROFESSIONAL SERVICE AND ACTIVITIES

International committees and related activities

- 2014– Acting Committee Member, Greenland Ice Sheet Ocean interactions (GRISO) Network
- 2015– Executive Committee, Greenland Ice Sheet Ocean Observing System (GrIOOS) development and workshop

National committees and related activities

- 2015 Panelist, NSF Paleo Perspectives on Climate Change (P2C2), Geosciences
- 2014 Keck Institute of Space Studies (KISS) workshop, Pasadena, CA, June.
- 2010 Panelist, NSF Office of Polar Programs, Arctic Natural Sciences

Professional Society

- 2016 Co-convener, Ocean Sciences Meeting session, *Dynamics on the edge: Ice-Ocean, Fjord, and Slope Processes in the Arctic*. New Orleans, LA.
- 2015 Co-convener, AGU Fall Meeting session, *Glacier ice-ocean interactions: synthesis studies*. San Francisco, CA.
- 2014 Co-convener, AGU Fall Meeting session, *Understanding ice loss in coupled glacier-ocean systems through observations, modeling, and theory*. San Francisco, CA.
- 2012 Co-convener, AGU Fall Meeting session, *Ocean interactions with glaciers and ice shelves*. San Francisco, CA.
- 2012 Co-chair, Eastern Pacific Ocean Conference, Mt. Hood, OR
- 2012 Co-convener, Ocean Sciences Meeting session, *Links between Coastal Ocean and Estuarine Processes*. Salt Lake City, UT.
- 2011 Co-convener, Eastern Pacific Ocean Conference session, *Links in the Coastal Ocean-Estuary Zone*. Mt. Hood, OR.

University Service

- 2012– Core faculty, Environmental Studies Program
- 2015 Center on Diversity and Community panelist on “Teaching in Context”
- 2014 Postdoctoral Association panelist on Dual-Career couples
- 2013–2015 University Scholarship Committee member
- 2014 Chair, Joint Campus Conference, graduate Environmental Studies research

Departmental Service

- 2016– Publications & Publicity Committee, Environmental Studies Program
- 2013– Meierjurgan Committee, Dept. Earth Sciences
- 2016–2017 Geodesy Search Committee, Dept. Earth Sciences
- 2015–2016 Graduate Studies & Admissions, Environmental Studies Program
- 2013–2015 Seminar Coordinator, Environmental Studies Program
- 2013–2014 Graduate Admissions Committee, Environmental Studies Program
- 2012–2013 Curriculum Committee, Dept. Geological Sciences
- 2012–2013 Paleontology Search Committee, Dept. Geological Sciences

Outreach and public activities

- 2017 Petersburg, AK, public science talk, ~50 people from local community
- 2017 STEMposium organizer and keynote speaker: >300 students at ATA Middle School, Eugene, OR
- 2017– Participant in Partnership for Coastal Watersheds, Coos Bay, OR
- 2016 Radio interview: Jefferson Exchange on NPR, Coos Bay circulation
- 2016 Participant in Alan Alda Science Communication workshop
- 2016 Creator, Charleston Marine Life Center exhibit on Coos Bay

2014–2015 STEM Lab School Project, ATA Middle School, Eugene, OR
2014–2016 Co-organizer, Coos Bay Water Quality network
2014 Presentation to South Slough NERR Management Commission
2013–2014 College Scholars colloquium speaker, University of Oregon
2012 Article in UO Cascade magazine on Coos Bay estuary research
2009 Gig Harbor Yacht club, invited lecture on Puget Sound oceanography
2009 Orca Bowl volunteer

Reviewer for NSF (OCE, OPP—Antarctic and Arctic), and the following journals:
Geophysical Research Letters; Estuarine, Coastal and Shelf Science;
Marine Environmental Research; J. Geophysical Research (Oceans and
Earth Surface); J. Marine Research; J. Physical Oceanography; Estuaries
and Coasts; J. Marine Systems; Annals of Glaciology; Nature Geoscience;
Ocean Dynamics; Progress in Oceanography; Earth and Planetary Science
Letters; Deep-Sea Research I&II; Limnology and Oceanography; J.
Glaciology; Cold Regions Res. Tech.; Natural Hazards; Scientific Reports;
(average ~6 per year)

Professional Society memberships

American Geophysical Union (AGU)
Coastal and Estuarine Research Foundation (CERF)
International Glaciological Society (IGS)

Related other activities and experience

2006– AAUS certified, research SCUBA diver
2004–2007 Swim Coach, USA Swimming certified coach.
2001–2002 US Peace Corps, Community Sanitation Advisor: Kingston, Jamaica.
1998–2000 Athletic Scholarship, UNC-Wilmington, Men’s Varsity Swimming
1997 Eagle Scout rank, Boy Scouts of America.

COLLABORATORS

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Jason Amundson (UAS), Camilla Andresen (GEUS), Tim Bartholomaeus (UIIdaho), Ginny Catania (UTIG), Claudia Cenedese (WHOI), Laura de Steur (NPI), Mike Dinniman (ODU), Eugene Domack (USF), Ellyn Enderlin (UMaine), Patrick Heimbach (UT-Austin), Gordon Hamilton (UMaine), John Klinck (ODU), Carlos Moffat (UDel), Twila Moon (UBristol), Roman Motyka (UAS), Jonathan Nash (OSU), Dave Ralston (WHOI), Peter Ruggiero (OSU), Emily Shroyer (OSU), Eric Skyllingstad (OSU), Leigh Stearns (KU), Fiamma Straneo (WHOI)

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PhD: Robert S. Pickart (WHOI)
Postdoc: Parker MacCready (UW)
Postdoc: Mary Ruckelshaus (NOAA)