

CURRICULUM VITAE

Seth L. Danielson

Seth Lombard Danielson, Ph.D.

Research Assistant Professor of Oceanography
Institute of Marine Science
School of Fisheries and Ocean Sciences
University of Alaska Fairbanks

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Professional Preparation

University of Alaska Fairbanks, Ph.D. Oceanography, 2012
University of Alaska Fairbanks; M.S. Oceanography, 1996
Lehigh University; B.S. Electrical Engineering, 1990, with honors

Appointments

Research Assistant Professor of Oceanography, IMS-UAF, Fairbanks, AK, 2013-present
Research Professional, Institute of Marine Science, UAF, Fairbanks, AK, 2002–2013
Research Analyst, Institute of Marine Science, UAF, Fairbanks, AK, 1997–2002
Technician, Institute of Marine Science, UAF, Fairbanks, AK, 1997
Driller, Polar Ice Coring Office, University of Nebraska, Lincoln, NB, 1996-1997
Research Assistant, Institute of Marine Science, UAF, Fairbanks, AK, 1994-1996
Driller, Polar Ice Coring Office, Institute of Marine Science, UAF, Fairbanks, AK, 1993-1994
Junior Engineer, Allen Organ Company, Macungie, PA, 1990-1992

Memberships

American Geophysical Union
The Oceanography Society

Peer-Reviewed Publications

Accepted

Danielson, S. L., E. L. Dobbins, M. Jakobsson, M. J. Johnson, T. J. Weingartner, W. J. Williams, and Y. Zarayskaya, A New Western Arctic and North Pacific Digital Elevation Model, resubmitted to *EOS*.

In review

Hunt, G. L., K. F. Drinkwater, K. Arrigo, J. Berge, K. L. Daly, **S. L. Danielson**, M. Daased, H. Hop, E. Isla, N. Karnovsky, K. Laidrea, E. J. Murphy, F. Mueter, P. E. Renaud, W. O. Smith, Jr., P. Trathan, and D. Wolf-Gladrow, Advection in polar and sub-polar environments: Impacts on high latitude marine ecosystems. *Prog. Oceanogr.*

Marsh, J., Mueter, F. J., Iken, K., & **Danielson, S. L.** (2015). Ontogenetic and spatial variation in trophic roles of Chukchi Sea fishes. *Deep-Sea Research II*.

Sigler, M.F., F. J. Mueter, B. A. Bluhm, M. S. Busby, E. D. Cokelet, **S. L. Danielson**, A. De Robertis, L. B. Eisner, E. V. Farley, K. Iken, K. J. Kuletz, R. R. Lauth, E. A. Logerwell, and A. I. Pinchuk, Summer zoogeography of the northern Bering and Chukchi seas, special issue on ArcticEIS program in *Deep-Sea Res. II*

Whitehouse, G. A., T. W. Buckley, and **S. L. Danielson**, Diet compositions and trophic guild structure of the eastern Chukchi Sea demersal fish community, special issue on ArcticEIS program in *Deep-Sea Res. II*

In revision

Danielson, S. L., L. Eisner, C. Ladd, Water masses, macronutrients, and phytoplankton standing crop in the northern Bering and Chukchi Seas of late summer 2012 and 2013, in prep. for special issue on ArcticEIS program in *Deep-Sea Res. II*

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- Stabeno, P.J., **S. L. Danielson**, D. Kachel, N. B. Kachel, and C. W. Mordy, (in review). Currents and transport on the eastern Bering Sea shelf. resubmitted to *Deep-Sea Res. II*.
- Stabeno, P.J. S. Bell, W. Cheng, **S. L. Danielson**, N. B. Kachel, C. W. Mordy, Long-term observations of Alaska Coastal Current in the northern Gulf of Alaska, resubmitted to *Deep-Sea Res. II*

Published

- Lu, K., T. J. Weingartner, **S. L. Danielson**, P. Winsor, E. Dobbins, K. Martini, and H. Statscewich (2015), Lateral mixing across ice meltwater fronts of the Chukchi Sea shelf, *Geophys. Res. Lett.*, 42, 6754–6761, doi:10.1002/2015GL064967.
- Grebmeier, J. M., B. A. Bluhm, L. W. Cooper, **S. L. Danielson**, K. R. Arrigo, A. L. Blanchard, J. T. Clarke, R. H. Day, K. E. Frey, R. R. Gradinger, M. Kedra, B. Konar, K. J. Kuletz, S. H. Lee, J. R. Lovvorn, B. L. Norcross, S. R. Okkonen. (2015) Ecosystem Characteristics and Processes Facilitating Persistent Macrobenthic Biomass Hotspots and Associated Benthivory in the Pacific Arctic, *Prog. Oceanogr.*, V136, August 2015, pp. 92-114, doi:10.1016/j.pocean.2015.05.006
- Wood, K. R., N. A. Bond, **S. L. Danielson**, J. E. Overland, S. A. Salo, P. Stabeno, J. Whitefield. A decade of change in the Pacific Arctic region, *Prog. Oceanogr.*, V136, August 2015, pp 12-31., doi:10.1016/j.pocean.2015.05.005
- Cross, J.N., J. T. Mathis, K. E. Frey, C. E. Cosca, **S. L. Danielson**, N. R. Bates, R. A. Feely, T. Takahashi and W. Evans, (2014) Annual sea-air CO₂ fluxes in the Bering Sea: Insights from new autumn and winter observations of a seasonally ice-covered continental shelf, *J. Geophys. Res.*, DOI: 10.1002/2013JC009579
- Danielson, S.L.**, T. W. Weingartner, K. Hedstrom, K. Aagaard, R. Woodgate, E. Curchitser, and P. Stabeno, (2014), Coupled wind-forced controls of the Bering–Chukchi shelf circulation and the Bering Strait through-flow: Ekman transport, continental shelf waves, and variations of the Pacific–Arctic sea surface height gradient. *Prog. Oceanogr.* <http://dx.doi.org/10.1016/j.pocean.2014.04.006>
- Pickart, R.S., L.M. Schulze, G.W.K. Moore, M.A. Charette, K. R. Arrigo, G. van Dijken, and **S.L. Danielson**, (2013), Long-term trends of upwelling and impacts on primary productivity in the Alaskan Beaufort Sea, *Deep Sea Res. Part I: Oceanographic Research Papers*, Volume 79, September 2013, <http://dx.doi.org/10.1016/j.dsr.2013.05.003>.
- Weingartner, T. E. Dobbins, **S. Danielson**, P. Winsor, R. Potter, H. Statscewich (2013), Hydrographic variability over the northeastern Chukchi Sea shelf in summer-fall 2008–2010, *Cont. Shelf Res.* ISSN 0278-4343, <http://dx.doi.org/10.1016/j.csr.2013.03.012>
- Danielson, S.**, T. Weingartner, K. Aagaard, J. Zhang, and R. Woodgate (2012), Circulation on the central Bering Sea shelf, July 2008 to July 2010, *J. Geophys. Res.*, 117, C10003, doi:10.1029/2012JC008303.
- Danielson, S.**, K. Hedstrom, K. Aagaard, T. Weingartner, and E. Curchitser (2012), Wind-induced reorganization of the Bering shelf circulation, *Geophys. Res. Lett.*, 39, L08601, doi:10.1029/2012GL051231.
- Danielson, S. L.**, E. N. Curchitser, K. S. Hedstrom, T. J. Weingartner, and P. J. Stabeno (2011) On ocean and sea ice modes of variability in the Bering Sea, *J. Geophys. Res.*, doi:10.1029/2011JC007389
- Danielson, S.**, L. Eisner, T. Weingartner, and K. Aagaard (2011), Thermal and haline variability over the central Bering Sea shelf: Seasonal and inter-annual perspectives, *Cont. Shelf Res.*, 31, 539–554, doi:10.1016/j.csr.2010.12.010.
- Sigler, M.F., M. Renner, **S.L. Danielson**, L.B. Eisner, R.R. Lauth, K.J. Kuletz, E.A. Logerwell, and G.L. Hunt Jr., 2011. Fluxes, fins, and feathers: Relationships among the Bering, Chukchi, and Beaufort Seas in a time of climate change. *Oceanography* 24(3): 250–265, <http://dx.doi.org/10.5670/oceanog.2011.77>.
- Statscewich, H., T. Weingartner, **S. Danielson**, B. Grunau, G. Egan, and J. Timm (2011) A High-Latitude Modular Autonomous Power, Control, and Communication System for Application to High-Frequency Surface Current Mapping Radars, *Mar. Tech. Soc. J.*, 45:3, pp 59-68

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- Janout, M.A., T.J. Weingartner, T. C. Royer, **S. L. Danielson** (2010), On the nature of winter cooling and the recent temperature shift on the northern Gulf of Alaska shelf, *J. Geophys. Res.*, 2009JC005774R, DOI: 10.1029/2009JC005774.
- Wu, J., A. Aguilar-Islas, R. Rember, T. Weingartner, **S. Danielson**, and T. Whitledge (2009), Size-fractionated iron distribution on the northern Gulf of Alaska, *Geophys. Res. Lett.*, 36, L11606, doi:10.1029/2009GL038304.
- Weingartner, T. J., L. Eisner, G. L. Eckert, **S. L. Danielson** (2008), Southeast Alaska: oceanographic habitats and linkages (p 387-400), *J. of Biogeography*, DOI: 10.1111/j.1365-2699.2008.01994.x.
- Aagaard, K., T. J. Weingartner, **S. L. Danielson**, R. A. Woodgate, G. C. Johnson, and T. E. Whitledge (2006), Some controls on flow and salinity in Bering Strait, *Geophys. Res. Lett.*, 33, L19602, doi:10.1029/2006GL026612.
- Danielson, S.**, K. Aagaard, T. Weingartner, S. Martin, P. Winsor, G. Gawarkiewicz, and D. Quadfasel (2006), The St. Lawrence polynya and the Bering shelf circulation: New observations and a model comparison, *J. Geophys. Res.*, 111, C09023, doi:10.1029/2005JC003268.
- Danielson, S. L.**, and Z. Kowalik (2005), Tidal currents in the St. Lawrence Island region, *J. Geophys. Res.*, 110, No. C10, C10004, 10.1029/2004JC002463.
- Weingartner T. J., K. Aagaard, R. A. Woodgate, **S. L. Danielson**, Y. Sasaki, and D. Cavalieri. (2005), Circulation on the north central Chukchi Sea shelf, *Deep-Sea Res. II*, 52 (24-26): 3150-3174.
- Weingartner, T. J., **S. L. Danielson**, T. C. Royer (2005), Fresh Water Variability in the Gulf of Alaska: Seasonal, Interannual and Decadal Variability, *Deep-Sea Res. II*, 52 (1-2): 169-191.
- Okkonen, S.R., T.J. Weingartner, **S. L. Danielson**, D. L. Musgrave and G. M. Schmidt (2003), Satellite and Hydrographic Observations of Eddy-Induced Shelf-Slope Exchange in the Northwestern Gulf of Alaska, *J. Geophys. Res.*, 108 (C2): Art. No. 3033
- Weingartner, T.J., **S. L. Danielson**, Y. Sasaki, V. Pavlov and M. Kulakov (1999), The Siberian Coastal Current: A wind- and buoyancy-forced Arctic coastal current, *J. Geophys. Res.*; V104; No. C12; 29,697-29,713.

Other Publications

- Curchitser, E.N., K.S. Hedstrom, **S. L. Danielson** and T.J. Weingartner. (2013) Adaptation of an Arctic Circulation Model. U.S. Dept. of the Interior, Bureau of Ocean Energy Management, Environmental Studies Program, Headquarters, Herndon, VA. OCS Study BOEM 2013-202, 82 pp.
- Weingartner, T.J., **S. L. Danielson**, L. Dobbins, and R. Potter. (2013) Physical Oceanographic Measurements in the northeastern Chukchi Sea: 2012. Chukchi Sea Environmental Studies Program Annual Report. University of Alaska. 64 pp.
- Weingartner, T.J., **S. L. Danielson**, L. Dobbins, and R. Potter. (2012) Physical Oceanographic Measurements in the northeastern Chukchi Sea: 2011. Chukchi Sea Environmental Studies Program Annual Report. University of Alaska. 38 pp.
- Danielson, S. L.**, (2012) Glacier Bay oceanographic monitoring program analysis of observations, 1993–2009. Natural Resource Technical Report NPS/SEAN/NRTR—2012/527. National Park Service, Fort Collins, Colorado.
- Weingartner, T.J., **S. L. Danielson**, L. Dobbins, and R. Potter. (2011) Physical Oceanographic Measurements in the Klondike and Burger survey areas of the Chukchi Sea: 2008-2010. Chukchi Sea Environmental Studies Program Annual Report. University of Alaska. 89 pp.
- Danielson, S.**, W. Johnson, L. Sharman, G. Eckert, and B. Moynahan (2010) Glacier Bay National Park and Preserve oceanographic monitoring protocol: Version OC–2010.1. Natural Resource Report NPS/SEAN/NRR—2010/265. National Park Service, Fort Collins, Colorado.
- Weingartner, T.J. and **S. L. Danielson**. (2010) Physical Oceanographic Measurements in the Klondike and Burger survey areas of the Chukchi Sea: 2008 and 2009. Chukchi Sea Environmental Studies Program Annual Report. University of Alaska. 50 pp.
- Curchitster, E.C. K. S. Hedstrom, **S. L. Danielson**, and T.J. Weingartner (2010), Modeling of Circulation

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in the North Aleutian Basin, final report prepared for BOEM contract M07PC13368, OCS Study BOEMRE 2010-028

Weingartner, T. J., **S. L. Danielson**, J. L. Kasper and S. R. Okkonen (2009), Circulation and Water Property Variations in the Nearshore Alaska Beaufort Sea, prepared for MMS, Contract M03PC00015, 155 pp.

Danielson, S. L., and T. J. Weingartner (2007), Estimates of Oil Spill Dispersion Extent in the Nearshore Alaskan Beaufort Sea Based On In-Situ Oceanographic Measurements, prepared for ADEC, 154 pp.

Synergistic Activities

Lead author of workshop results dissemination pamphlet *Sustaining the Yukon River Chinook System – A Resilience Approach*, 2015

Presenter at UAF Museum of the North's Ocean Science Discovery Day, November 2014

Lecturer for the Osher Lifelong Learning Institute (OLLI) fall 2014 lecture series "Dive into Ocean Science"

Invited speaker at 18 April 2014 Fairbanks Golden Heart Rotary Club function in Fairbanks, AK.

Invited speaker in 25-26 November 2013 Kawerak Corporation's workshop "Indigenous Knowledge and Use of Bering Strait Region Ocean Currents" in Nome, AK.

Participant and presenter at the annual Pribilof Island *Bering Sea Days* week of ocean exploration for St. Paul Island and St. George Island students and community members (annually 2011-2014).

Participant and presenter in the October 2010 BEST/BSIERP Professional Development Workshop in Anchorage, AK and the October 2009 Center for Ocean Science Education Excellence (COSEE) "Salmon in the Classroom" teacher workshops in Fairbanks AK.

Reviewer on the November 2008 technical final design review (FDR) panel for the NSF-funded Ocean Observatories Initiative (OOI) and in 2010 for the OOI program's awardee (WHOI) during the RFP phase in selecting manufacturers for the buoy power system.

Reviewer for peer reviewed journal articles in: *Geophysical Research Letters*, *Journal of Geophysical Research*, *Continental Shelf Research*, *Deep-Sea Research*, *Climate Dynamics*

Reviewer for peer-reviewed proposals submitted for funding to EPSCOR, NOAA, NSF, and NPRB

Creator of numerous outreach-directed marine science web pages, including:

- Retrospective analysis of Norton Sound benthic communities (www.ims.uaf.edu/NS/)
- GAK1 long-term oceanographic monitoring timeseries (www.ims.uaf.edu/gak1/)
- GLOBEC NEP monitoring program (www.ims.uaf.edu/GLOBEC/)
- Real-time data and plot delivery webpage for community-based satellite-tracked drifter projects in the Bering and Chukchi Seas (www.ims.uaf.edu/drifters/)

Author of comprehensive Oceanographic Monitoring Protocol for the National Park Service's (NPS) Glacier Bay National Park and Preserve. This document serves as a field manual for the long-term monitoring CTD survey program and specifies the data collection, processing and archiving protocols.

Danielson's graphical cartoons of Alaska region surface circulation patterns and other oceanographic processes are broadly incorporated within science planning documents, encyclopedia articles, review books, and educational outreach materials.

Committee Service

2014-present UA Center for Salmon and Society Core Team, proposal and research project subcommittees

2014-present GEBCO Sub-Committee on Regional Undersea Mapping

2014 Co-convener, ICES Annual Meeting Special Session: Physical and biological consequences of North Atlantic circulation patterns

2014 SFOS Web Committee

2013-2014 UAF Chapman Chair workshop organizing committee "Fostering Yukon Chinook Resilience"

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2007 SFOS Search Committee for Marine Superintendent at the Seward Marine Center

2004 UAF Search Committee for SFOS Dean

2003 IARC Search Committee for Marine Technician

1999 SFOS Search Committee for Research Analyst

Collaborators

K. Aagaard, (University of Washington); C. Carothers (University of Alaska Fairbanks); E. Curchitser (Rutgers University); L. De Sousa, (North Slope Borough); G. Eckert (University of Alaska Fairbanks); L. Eisner (National Oceanic and Atmospheric Administration); K. Coyle (University of Alaska Fairbanks); K. Hedstrom (University of Alaska Fairbanks); C. Harui (University of Alaska Fairbanks); R. Hopcroft (University of Alaska Fairbanks); K. Iken, (University of Alaska Fairbanks); M. Janout (Alfred Wegener Institute for Polar and Marine Research), S. Jewett (University of Alaska Fairbanks); Z. Kowalik (University of Alaska Fairbanks); J. Mathis (NOAA-PMEL); A. McDonnell, (University of Alaska Fairbanks); B. Moynahan (National Park Service); F. Mueter, (University of Alaska Fairbanks); B. Norcross (University of Alaska Fairbanks); A. Pinchuk (University of Alaska Fairbanks); T. Royer (ret.); P. Stabeno (National Oceanic and Atmospheric Administration); T. Weingartner (University of Alaska Fairbanks); W. Williams (Institute of Ocean Science, Fisheries and Oceans Canada); P. Winsor, (University of Alaska Fairbanks); T. Whitledge (University of Alaska Fairbanks); R. Woodgate (University of Washington); J. Zhang (University of Washington).

Thesis Titles

Variability in the circulation, temperature, and salinity fields of the eastern Bering Sea shelf in response to atmospheric forcing, 2012 Ph.D. Thesis

Chukchi Sea Tidal Currents: Model and Observations, 1996 Masters Thesis.

PhD Committee

Thomas J. Weingartner (chair)

Knut Aagaard

Kenneth O. Coyle

Katherine S. Hedstrom

Zygmunt Kowalik

MS Committee

Thomas J. Weingartner (chair)

Mark A. Johnson

Andrey Proshutinsky

Bruce Finney

Teaching

MSL F494, Spring 2015: Computer Programming for Scientific Applications

MSL F697, Spring 2014: Chukchi Sea Ocean and Ice Dynamics and Kinematics, Independent Study

Graduate Student Committees (active)

Alyssa Lind, M.S. Marine Biology

Carlos Serratos, M.S. Marine Biology

KoFan Lu, Ph.D. Oceanography, co-chair

Jen Marsh, Ph.D. Fisheries

Graduate Student Committees (graduates)

Greg Deemer, M.S. Sea Ice Geophysics, 2014

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Stacey Reisdorph, M.S. Oceanography, 2015

Awards

Mentor Award for dedication to the "Scientists in the Classroom" mentor-ship program, May 2015

Mentor Award for dedication to the "Scientists in the Classroom" mentor-ship program, May 2014

University of Alaska Top Scholar Award, 2013

Instrumentation Society of America student award for design of Electronic Flow Meter, 1990

Conference and workshop activities 2008-2015 (lead author citations only)

- Oral presentation: Physical oceanography of Barrow Canyon in August 2013, Shelf Habitat and EcoLogY of Fish and Zooplankton (SHELFZ) PI meeting, January 2015
- **Invited oral presentation** Coupled wind-forced controls of the Bering-Chukchi shelf circulation and the Bering Strait throughflow: Ekman transport, continental shelf waves, and variations of the Pacific-Arctic sea surface height gradient, AGU Fall Meeting, San Francisco, CA, December 2014
- Oral presentation: GEBCO Sub-Committee on Regional Undersea Mapping workshop, Google Headquarters, Mountain View, CA, December 2014
- Oral presentation: Ramifications of a longitudinally shifting Aleutian Low, ICES Fall Meeting Sustainability in a Changing Ocean, A Coruna, Spain, September 2014
- Oral presentation: Ocean physics: relevant mechanisms, length scales, and time scales. Fostering Resilience of Yukon Chinook Chapman Chair workshop, April 2014
- Oral presentation: Coupled wind-forced controls of the Bering-Chukchi shelf circulation and the Bering Strait throughflow. AGU/ASLO Ocean Sciences Meeting, March 2014
- Oral presentation: What's New in Bering Strait 2013 and Remote forcing of Bering Strait Transport. RUSALCA PI Meeting (Danielson, Woodgate, Weingartner), March 2014
- **Invited oral presentation** at 18 April 2014 Fairbanks Golden Heart Rotary Club function in Fairbanks, AK.
- Oral presentation: Northern Bering and Chukchi Sea Physics, Nutrients, and Chlorophyll of late summer 2012 and 2013. ArcticEIS PI meeting, June 2014
- Oral presentation: Coupled wind-forced controls of the Bering-Chukchi shelf circulation and the Bering Strait throughflow: Ekman transport, continental shelf waves, and variations of the Pacific-Arctic sea surface height gradient. Alaska Marine Science Symposium, January 2014
- **Invited oral presentation** at special AOOS workshop at Alaska Marine Science Symposium on ocean modeling in Alaskan waters, January 2014
- Poster presentation at Alaska Marine Science Symposium on the Alaska Region Bathymetric Digital Elevation Model (ARDEM), Anchorage AK, January 2013
- **Invited participant** at Bering Sea Synthesis Workshop on population dynamics of large crustacean zooplankton, Friday Harbor, WA, February 2013
- Participation in Chukchi Sea Synthesis Of Arctic Research (SOAR) Benthic System Analysis workshop, Anchorage, AK, March 2013
- Participation in Wakefield symposium workshop *Toward a Conceptual Model for Arctic Shelf Ecosystems*, March 2013
- Oral presentation to Bureau of Ocean Energy Management Model Review Board on results and validation of Arctic circulation-ice modeling, Herndon, VA, June 2013
- **Invited oral presentation** in 25-26 November 2013 Kawerak Corporation's workshop "Indigenous Knowledge and Use of Bering Strait Region Ocean Currents" in Nome, AK.
- **Invited participant** in February 2012 BEST Synthesis workshop at Bermuda Institute of Ocean Science: Impact of sea-ice on bottom-up and top-down controls of crustacean zooplankton and the mediation of carbon and energy flow in the eastern Bering Sea

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- Oral presentation at February 2012 AGU/ALSO Ocean Science meeting in Salt Lake City, UT: Danielson, S., T. Weingartner, K. Aagaard, J. Zhang, P. Stabeno, 2012. Circulation Dynamics of the central eastern Bering Sea shelf.
- **Invited oral presentation** in Hiroshima, Japan at PICES meeting Ecosystem Studies of Subarctic Seas (ESSAS) workshop on Arctic-Subarctic interactions, October 2012
- Seminar on Bering Sea circulation given at Institute of Ocean Science, Victoria, BC, Canada, November 2012
- **Invited oral presentation** at US-Canada Northern Oil and Gas Research Forum in Anchorage, AK, November 2012
- Participant and presenter at the April 2011 Pribilof Island Bering Sea Days week of ocean exploration for St. Paul Island and St. George Island students and community members.
- Oral presentation at May 2011 Ecosystem Studies of Sub-Arctic Seas (ESSAS), Comparative Studies of Climate Effects on Polar and Sub-Polar Ecosystems: Progress in Observation and Prediction, Seattle, WA: Danielson, S., E. Curchitser, K. Hedstrom, T. Weingartner, 2011. Evaluation of a numerical model and application of results to understanding modes of variability in the Bering Sea ice/ocean/ecosystem.
- Oral presentation at September 2011 American Fisheries Society (AFS) national meeting, Seattle, WA: Danielson, S., 2011. Oceanography of the Eastern Bering Sea Shelf: Important Processes, Inter-Annual Variability and Linkages to the Greater Ecosystem.
- Poster presentation at 2010 Alaska Marine Science Symposium, Anchorage, AK: Danielson, S., L. Eisner, T. Weingartner and K. Aagaard, 2010. Seasonal and inter-annual temperature and salinity variability over the eastern Bering Sea shelf.
- Poster presentation at the 2010 AGU/ASLO Ocean Sciences meeting, Portland, OR: Danielson, S., L. Eisner, T. Weingartner and K. Aagaard, 2011. Thermal and haline variability over the central Bering Sea shelf: Seasonal and inter-annual perspectives.
- **Invited oral presentation** and participant at the October 2010 workshop The Bering Sea Ecosystem Professional Development Workshop: transforming BEST-BSIERP science into educational resources, Anchorage, AK
- Oral presentation at 2009 Alaska Marine Science Symposium, Anchorage, AK: Danielson, S., T. Weingartner, T. Reeve, W. Jones, 2009. A satellite-tracked drifter perspective of the nearshore Bering Sea: science and outreach.
- **Invited oral presentation** at 2009 Kuskokwim Area Interagency Fisheries Meeting, Anchorage, AK: S. Danielson, T. Reeve, T. Weingartner, W. Jones: Kuskokwim Bay current study
- **Invited oral presentation** at the October 2009 Center for Ocean Science Education Excellence (COSEE) "Salmon in the Classroom" teacher workshops in Fairbanks, AK.
- Poster presentation at the 2008 Alaska Marine Science Symposium: Danielson, S., L. Eisner, K. Hedstrom, T. Weingartner, Z. Kowalik, 2008. A look at the summer evolution of stratification over the central Bering Sea shelf under changing climate conditions.
- Poster presentation at the 2008 Alaska Marine Science Symposium, Anchorage, AK: Danielson, S., M. Johnson, S. Solomon and W. Perrie, 2008. 1 km Gridded Bathymetric Dataset Based on Ship Soundings: A research tool for the waters of eastern Russia, Alaska & western Canada.
- Poster presentation at the 2008 AGU/ASLO Ocean Sciences meeting in Orlando, FL: Danielson, S., L. Eisner, K. Hedstrom, T. Weingartner, Z. Kowalik, 2008. A look at the summer evolution of stratification over the central Bering Sea shelf under changing climate conditions.
- Oral presentation at the 2008 North Pacific Anadromous Fish Commission (NPAFC) International Symposium on Bering-Aleutian Salmon International Surveys (BASIS): Climate Change, Production Trends, and Carrying Capacity of Pacific Salmon in the Bering Sea and Adjacent Waters, Seattle, WA: Danielson, S., L. Eisner, and T. Weingartner, 2008. Physical oceanographic conditions over the Bering Sea shelf, 2002-2007

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Sponsored Projects and Commissions

- Development of a Very High-resolution Regional Circulation Model of the Beaufort Sea Nearshore Areas, *BOEM* (September 1, 2015 - August 31, 2017) , **\$364,926.00**, co-PI
- Glacier Bay Oceanographic Investigations, *NPS* (September 1, 2015 – August 31, 2017), **\$64,806.00**, PI
- Initiating an Arctic Marine Biodiversity Observing Network (AMBON), *NOAA-NOPP* (August 1, 2014 - August 31, 2019) , **\$6,000,000.00**, co-PI
- Arctic Gadids in a Changing Climate, *NPRB* (September 1, 2015 – August 31, 2017), \$264,054.00, coPI
- Circulation and Hydrographic Structure of Kotzebue Sound, *Native Village of Kotzebue* (July 1, 2014 - June 30, 2016) , **\$30,879.00**, PI
- Improvements to bathymetric digital elevation models spanning Alaska region waters, *NPRB* (July 1, 2012 – June 30 2015), **\$99,000.00**, coPI
- Measuring the pulse of the Gulf of Alaska: Oceanographic observations along the Seward Line, *NPRB* (September 1, 2014-August 31 2019), **\$997,500.00**, coPI
- Ecosystem monitoring and detection of wind and ice-mediated changes through a year-round physical and biogeochemical mooring in the Northeast Chukchi Sea., *NPRB*, (September 1, 2014-August 31 2019), **\$542,000.00**, PI
- Northeast Chukchi Sea Physical and Chemical Mooring, *AOOS* (July 1, 2013 – 31 May 2016), **\$390,000.00**, PI
- Shelf Habitat and EcoLogY of Fish and Zooplankton (SHELFZ), *CIAP* (March 1, 2014 – June 30, 2017), **\$44,000.00**, coPI
- Ecology of Forage Fishes in the Arctic Nearshore, *North Slope Borough/Shell Baseline Studies program*, (July 1, 2014 – June 30, 2017), **\$1,500,000.00** Spring 2014, coPI
- Coastal Community Ocean Observers (C2O2): A network of community-driven coastal ocean observations, *NPRB* (August 1, 2014 – July 31, 2016), **\$182,000.00**, coPI
- The southern Chukchi Sea's response to variations in Bering Sea circulation pathways., *NPRB* (August 31, 2014 – August 30, 2016), **\$165,000.00**, PI
- Cook Inlet Circulation Model Calculations, *BOEM* (December 1, 2013 – April 30, 2016), **\$499,000.00**, PI
- Collaborative Research – BEST Synthesis: The variable transport of pollock eggs and larvae over the Bering shelf: A marriage of physics and biology, *NSF* (August 31, 2011 – August 31, 2015), **\$500,000.00**, coPI

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Seth L. Danielson

Biographical Sketch

Seth Danielson earned his Ph.D. in oceanography from the University of Alaska Fairbanks (UAF) in May 2012, an M.S. in oceanography from UAF in 1996 and a B.S. in electrical engineering from Lehigh University in 1990. His employment at UAF began in 1993 as a hot water ice driller for the NSF-funded Polar Ice Coring Office (PICO) and continued as a graduate student, technician, analyst, and research professional at the UAF School of Fisheries and Ocean Science's Institute of Marine Science (SFOS-IMS). Since 2013, he has been a Research Assistant Professor of Oceanography at SFOS, leading and contributing to research programs that focus on the oceanography, ecology, and ecosystems of the Gulf of Alaska, the Bering Sea, the Chukchi Sea, and the Beaufort Sea.

Danielson has participated in over 30 research cruises, over half of which he served on as chief scientist. These cruises included both discipline-specific physical oceanography process study missions as well as multi-disciplinary oceanographic and ecosystem research cruises. Many of these cruises were aboard the University of Alaska's *R/V Alpha Helix*; others include cruises on National Park Service research launch *R/V Fog Lark* in Glacier Bay National Park and Preserve, the *R/V Wecoma* (Oregon State University) in the Gulf of Alaska, the *R/V Thomas G. Thompson* (University of Washington) in the Gulf of Alaska, the United States Coast Guard Cutter *Healy* in the Chukchi and Beaufort seas, the *R/V Norseman II* in the Chukchi Sea, BOEM *Launch 1271* in the Beaufort Sea, and the *R/V Annika Marie* in the Beaufort Sea.

Danielson has authored numerous peer-reviewed publications that focus on the circulation and the heat, salt, and freshwater budgets of the Bering Sea shelf. A 2014 manuscript proposed a conceptual framework for understanding variability of the Pacific-Arctic oceanic pressure head based on the location and strength of the Aleutian Low atmospheric pressure system in the North Pacific and the strength of polar easterlies over Western Arctic continental shelves. Many of Danielson's graphical cartoons of Alaska region surface circulation patterns and other oceanographic processes are broadly incorporated within science planning documents, educational outreach materials, and appear near the top of Google image internet searches for many topics associated with Alaska region oceanography.

In his personal time, Danielson plays and teaches banjo in the melodic clawhammer style and is a founding member of the Fairbanks-area festival and contra dance band *Ice Jam*. Since 1997, Danielson and other *Ice Jam* musicians have hosted a weekly open jam session at the College Coffeehouse and have released two CDs of original songs and instrumental tunes. With his bass- and fiddle-playing daughters, Danielson performs at the summer and winter Fairbanks Folk Fest as *DFB*. They live outside of Fairbanks, Alaska in a self-designed and self-built wind and solar powered off-grid home.