

Molly (Mary Elizabeth) McCammon

mccammon@aoos.org

Work Telephone: (907) 644-6703 or Mobile Telephone: (907) 227-7634
1007 West Third Avenue, Suite 100, Anchorage, Alaska 99501

PROFESSIONAL EXPERIENCE

July 2003 – Present

Alaska Ocean Observing System (AOOS). Executive Director.

- Responsible for developing the Alaska regional component of the national Integrated Ocean Observation System (IOOS), guided by a board made up of federal and state resource agencies, marine research entities and marine industries.
- Represent Alaska interests in IOOS Association and further development of national IOOS.
- Work with Alaska members to establish an integrated system of ocean observations for Alaska to meet the needs of a wide variety of users.

Other current projects

Lead PI, Long-term monitoring program, funded by *Exxon Valdez* Oil Spill Trustee Council
Co-PI, Marine Arctic Ecosystem Study, funded by Bureau of Ocean Energy Management
Co-PI, Climate resilience tools, funded by DOI AK Landscape Conservation Cooperatives

1993 - 2003

***Exxon Valdez* Oil Spill Trustee Council.** Executive Director.

- Implemented policies and direction of six-member, joint federal-state Trustee Council with requirement of unanimity for all decisions.
- Administered programs funded by \$900 million trust fund established by settlement of government claims against Exxon Corporation following 1989 oil spill, including annual research and monitoring work plans ranging in size from \$6 million - \$25 million a year.
- Developed oil spill restoration program now viewed as international model.
- Guided planning and successful review by National Academy of Sciences of groundbreaking long-term environmental monitoring program.
- Negotiated and implemented one of largest habitat acquisition programs in nation.

Recent Professional Activities

- 2016 – present, member, External Review Group for international Sustained Arctic Observing Network (SAON)
- 2016 – present, elected trustee, Consortium for Ocean Leadership
- 2013 – 2014, member, National Academy of Sciences Gulf Program Advisory Group.
- 2003- present, Alaska representative to IOOS Association, treasurer and member, Executive Committee; 2005-2011, national chair.
- 2011 – present and 2006-2009, member national Ocean Research Advisory Panel.
- 2004 - present, Board member representing city of Anchorage and past President, Cook Inlet Regional Citizens' Advisory Council.

- 2004 – present, Alaska Sea Grant, Advisory Group member.
- 2005 – present, Fellow, Cooperative Institute for Arctic Research, University of Alaska Fairbanks.
- 2008 – 2013, member, National Academy of Sciences Polar Research Board.
- 2011-2012, writing team Alaska Regional Climate Assessment and Alaska chapter of national Climate Assessment.
- 2004 – 2006, member, National Research Council Committee to Establish an Arctic Observing Network.

Recent Projects

- PI, Beluga Ecosystem Portal, funded by National Fish and Wildlife Foundation
- Co-PI for COSEE Alaska, funded by NSF
- Lead PI, Ocean planning tools project, funded by NOAA under Regional Ocean Partnership Program
- Lead PI, Bering Strait wave monitoring, funded by Western AK Landscape Conservation Coop
- Lead PI, Climate vulnerability assessment, funded by Aleutian Bering Sea Islands LCC

Past Experience 1984-1993

Ten years experience in Alaska public policy, specializing in natural resources, fisheries and Alaska Native issues, working for Alaska Governor Bill Sheffield, the Alaska Department of Fish and Game, Chief of Staff for Senate Finance Committee Chair John Binkley, and Senate Fisheries Committee aide.

Education

B.A. in Journalism, University of California, Berkeley, 1973. Phi Beta Kappa.

Publications

- Calder, J., McCammon, M. et al., Observations for climate: an Integrated International Approach to Arctic Ocean Observatories for Society: A Legacy of the International Polar Year; white paper, Proceedings of OceanObs09. 2010.
- Colt, S.; Fay, G.; and McCammon, M.; A Simple Effective Project Selection System for the Alaska Ocean Observing System, Marine Technology Society Journal, Volume 45, No. 1, p 68-74.
- Markon, C.J., Trainor, S.F., and Chapin, F.S., III, eds., 2012. The United States National Climate Assessment – Alaska Technical Regional Report: U.S. Geological Survey Circular 1379, 148 p.
- McCammon, M. co-author “Bering Strait chapter”: Arctic Marine Shipping Assessment 2009 Report, Arctic Council, April 2009.
- Schoch, G.C., McCammon, M., Demonstrating the Alaska Ocean Observing System in Prince William Sound, Continental Shelf Research – Volume 63, Supplement, July 2013.
- Schoch, G. C., McCammon, M., et al., Integrated Observing and Forecasting for Prince William Sound, Bulletin of the American Meteorological Society – Volume 92, Number 8, Aug 2011.

Carol D. Janzen, Ph.D.

Janzen@aos.org

AOOS, 1007 West 3rd Ave, Anchorage, AK 99501, USA

Work Telephone: 907-644-6717 or Mobile: 907-891-6543; Email: janzen@aos.org

Professional Preparation

University of Washington, Seattle	Oceanography	B.S.	1986
University of Delaware, Newark	Physical Oceanography	M.S.	1996
University of Delaware, Newark	Physical Oceanography	Ph.D.	2000
University of Wales, Bangor, UK	Physical Oceanography	Post Doc	2002

Appointments

06/2015- present	Observations System Manager/Director of Operations and Development, Alaska Ocean Observing System, AK, USA
07/2006-06/2015	Senior Oceanographer, Sea-Bird Electronics, Inc, WA, USA
11/2002-08/2006	Research Scientist-Physical Oceanographer, School of Marine Sciences, University of Maine, ME, USA
09/2000-10/2002	Physical Oceanographer (Post-Doctoral Researcher), School of Ocean Sciences, University of Wales (Bangor), UK
06/1993-08/2000	Research Assistant-Graduate Student (M.S. 1996, Ph.D. 2000), Graduate College of Marine Studies, Univ. of Delaware, DE, USA
01/1989-06/1993	Ecology Supervisor, Wash. State Dept. of Ecology, WA, USA
05/1985-12/1988	Assistant Scientist-Oceanographer, Envirosphere Company, WA, USA
03/1984-08/1984	Oceanographer-Intern, URS Engineers, WA, USA

Professional Activities

Industry Representative (non-voting) on the NANOOS Regional Association Governing Council for Integrated Ocean Observing Systems (2007 – 2015)

External Graduate Faculty Member, University of Maine (2006 - *)

Marine Technology Society Oceanographic Instrumentation Committee Chair (2011 - *)

Professional Memberships

American Geophysical Union (1992 - *)

CERF-Coastal and Estuarine Research Federation (1998 - 2013)

Marine Technology Society (2007 - *), Ocean Instrumentation Committee Chair;

OES/IEEE/MTS OCEANS'17 Conference, Anchorage Technical Co-Chair

Select Relevant Publications

Janzen, C.D., M. McCammon, H. Kent, D. Dugan, R. Bochenek, W. Koeppen, **2016**. The Alaska Ocean Observing System's Past and Future Presence in the Arctic.. IEEE Conference Publication, Oceans 2016 MTS/IEEE, Monterey, CA, USA, September 19-22, 2017.

Murphy, D.J., **C. D. Janzen**, **2015**. Designing CTDs to meet the challenges of monitoring climate change in the ocean, Marine Technology Society Journal, May/June 2015, Vol 49, No. 3, pp. 50-55.

- Janzen, C.**, and E. Creed, **2011**. Physical oceanographic data from Seaglider trials in stratified coastal waters using a new pumped payload CTD. IEEE Conference Publication, OCEANS 2011 MTS/IEEE, Kona, Hawaii, USA, September 19-23, 2011. *Reprint with permission:*
http://www.seabird.com/technical_references/PhysOcDataFromSeagliderTrials_JanzenCreed_MTS2011.pdf
- Edwards, B., **C. Janzen**, D. Murphy, N. Larson, **2010**. Calibration response and hysteresis in deep sea dissolved oxygen measurements. *Journal of Atmospheric and Oceanic Technology*, 27(5). DOI:10.1175/2009JTECHO693.1
- Janzen, C.**, **2009**. Considerations for CTD spatial and temporal resolution on moving platforms. In: *Ocean News and Technology*, Vol. 15, Issue 6, pp. 54-55. Reprint with permission:
<http://www.seabird.com/sites/default/files/documents/ResolutionOnMovingPlatformsReprint.pdf>
- Janzen, C.D.**, J.H. Simpson, M.E. Inall, F. Cottier, **2005**. Across-sill circulation near a tidal mixing front in a broad fjord. *Continental Shelf Research*, 25, pp. 1805-1824.
- Janzen, C.D.**, Jim Churchill, Neal Pettigrew, **2005**. Observations of bay/shelf exchange between eastern Casco Bay and the western Gulf of Maine. *Deep-Sea Research Part II: Special Issue: The Ecology and Oceanography of Toxic Alexandrium fundyense Blooms in the Gulf of Maine*, Vol. 52, Issue 19-21 September-October 2005, pp. 2411-2429. DOI 10.1016/j.dsr2.2005.06.032
- Janzen, C.D.**, K.-C. Wong, **2002**. Wind forced dynamics at the estuary-shelf interface of a large coastal plain estuary. *Journal of Geophysical Research*, Vol. 107, No.C10.
- Janzen, C.D.**, and L.B. Eisner, **1993**. Marine Water Column Ambient Monitoring Program Annual Data Report for Wateryear 1991. Prepared for the Washington State Department of Ecology and the Puget Sound Water Quality Authority, Pub.No.93-13.
<https://fortress.wa.gov/ecy/publications/documents/9313.pdf>
- Janzen, C. D.**, K. S. Short, L. E. Hachmeister, **1991**. Long-term marine water quality and climatological trends in the Pacific Northwest. Oral presentation/Paper, Oceans' 91 Conference, Oceanic Engineering Society, Institute of Electrical and Electronics Engineers, Honolulu, HI. 1991 IEEE Oceans Proceedings, Vol. 2, No. 91CH3063-5, pp. 1044-1048.
- Short, K.S., **C.D. Janzen**, C.J. Van Zee, and D.J. Hanzlick, **1991**. Oceanography. In: 1987 Final Report for the Endicott Environmental Monitoring Program, Volume 3, Part II, Chapter 3. Prepared for by Envirosphere Company for the U.S. Army Corps of Engineers, Alaska District, Anchorage, AK.

Synergistic Activities

Contributions to the science of learning: Customer liaison for product users at Sea-Bird Electronics, and initiated, developed and managed Sea-Bird Scientific's Graduate Student Equipment Loan Program (2006-2015); plans, prepares and implements educational seminars and instrument training workshops; What you should know about data collection from moving platforms: Basic sampling theory, project considerations, and sources of error - Workshop, Coastal Estuarine Research Federation Conference, Daytona, FL, November 6, 2011; guest lecturer at local universities (continuous); assisted marine science teacher training for marine science curriculum for K1-12 (1989-1993).

Service to state and national organizations: Industry representative on the NANOOS Governing Council (2007-2015); Oceanographic Instrumentation Committee Chair for Marine Technology Society (2011-*); Guest editor of MTS Journal on polar research instrumentation and methods (MTSJ, 2014, 48(5)); contributing author of the Environment 2010 Report prepared for the Washington State Governor's office; invited participant in EPA's Marine Water Quality Indicators workshop, 1989; represented Wash. State Dept. of Ecology on the Pacific Northwest Outer Continental Shelf Technical Subcommittee to recommend studies prior to oil and gas development in Washington and Oregon (1989-1993).

Development/Refinement of Research Tools: Instrument characterization assessment and performance testing in the lab and field; develops/evaluates data processing and sampling implementation protocols; develops calibration/validation methodologies for QA/QC of data; active industry/science expert in QARTOD (Quality Assurance of Real Time Ocean Data).

Collaborators and Other Affiliations

Molly McCammon, AOOS, USA; Rob Bochenek, Axiom Data Science, LLC; David J. Murphy, Sea-Bird Electronics, Inc., USA; Neal Pettigrew, University of Maine; Matt Walkington, NIWA (National Inst of Water and Atmospheric Research), NZ; Phil Sutton, NIWA; R.Venkatasen, NIOT (National Institute of Ocean Technology), Chennai, India; James Kendall, Bureau of Ocean Energy Management (BOEM), Warren Horowitz, BOEM; Peter Winsor, University of Alaska, Fairbanks (UAF); Seth Danielson, UAF; Wiley Evans, Hakai Institute, British Columbia, Canada

Graduate Advisors (5)

Kuo-C. Wong, M.S., Ph.D. Advisor, University of Delaware, College of Marine Studies (CMS)
Richard Garvine, M.S., Ph.D. Co-Advisor, University of Delaware, CMS, Deceased
Marlene Noble, Ph.D. Co-Advisor, USGS (United States Geological Survey), emeritus
Steve Lentz, Ph.D. Co-advisor, WHOI (Woods Hole Oceanographic Institution)
Richard Geider, M.S. Co-advisor, University of Essex, School of Biological Sciences, UK

Postdoctoral Advisors (1)

John Simpson, Post-Doctoral Advisor, Bangor University (Wales), School of Ocean Sciences

Thesis Advisor (2) and Postgraduate-Scholar Sponsor (1)

Laura Brothers, M.S. Co-Advisor, University of Maine; now at USGS, Woods Hole, USA
Gregg Sinnett, M.S. Co-Advisor, University of Maine; now a Ph.D. student at SCRIPPS Institute of Oceanography, USA
Neil Fisher, Postgraduate-Scholar Sponsor, University of Maine, USA

Rob Bochenek
Information Architect
Axiom Data Science, LLC
Phone: 907.230.0304; Email: rob@axiomdatascience.com

Professional Qualifications

University of Michigan, Ann Arbor, MI; Aerospace Engineering; B.S.E., 2001

Appointments

2013 – Present	Technical Lead, Central and Northern California Ocean Observing System, Moss Landing, CA
2010 – Present	Technical Lead, Alaska Ocean Observing System, Anchorage, AK
2006 – Present	Information Architect, Axiom Consulting and Design, Anchorage, AK
2003 – 2006	Data Systems Manager, Exxon Valdez Oil Spill Trustee Council (EVOSTC), Anchorage, AK
2001 – 2002	Analyst Programmer, Alaska Department of Fish & Game, Anchorage, AK

Products

Bochenek, R.B., S. StClaire, B.Stone (2012), AOOS Arctic Portal. Accessible from http://portal.aos.org/?v=rand&portal_id=3.

Bochenek, R.B., S. StClaire, D. Snowden, L. Finfrock (2013), IOOS Sensor Observation Service. Accessible from <http://ioos.aos.org/>.

Bochenek, R.B., S. StClaire, L. Finfrock (2013), Central and Northern California Data System. Accessible from <http://data.cencoos.org/>.

Bochenek, R.B., S. StClaire, B.Stone, L. Finfrock (2013), Gulf Watch Data Portal . Accessible from <http://www.gulfwatch.org/>.

Bochenek, R.B., S. StClaire, B.Stone (2012), Alaska Ocean Observing System Data Management System. Accessible from <http://data.aos.org>.

Synergistic Activities

2012 – Present	Funded under the NOAA High Performance Computing program for exploratory research in applying HPC concepts to serving and visualizing gridded multidimensional models and observational data sets
2011 – Present	Member of the IOOS Sensor Observation Service standardization Committee
2010 – Present	Member of the Alaska Data integration Working Group (ADIWG) focused on developing frameworks for interchange of scientific information across Alaskan Agencies.
2008 – 2010	Development of the Prince William Sound Data Portal, A tool for scientists, educators and the public to visualize four dimensional fisheries data

Collaborators and Co-editors (16)

Broderson, Dayne	Geographic Information Network of Alaska (GINA), Fairbanks, AK
Dugan, Darcy	Alaska Ocean Observing System, Anchorage, AK
Howard, Katherine	Alaska Department of Fish and Game, Anchorage, AK
Jones, Matt	National Center for Ecological Analysis and Synthesis, Santa Barbara, CA
Krueger, Charles	Great lakes Fishery Council, Ann Arbor, MI
McCammon, Molly	Alaska Ocean Observing System, Anchorage, AK
Moffit, Steve	Alaska Department of Fish and Game, Anchorage, AK
Moss, Jamal	Alaska Fisheries Science Center, Juneau, AK
Mueter, Franz	University of Alaska, Juneau, AK
Mundy, Phillip	Alaska Fisheries Science Center, Juneau, AK
Pegau, Scott	Oil Spill Recovery Institute, Cordova, AK
Saupe, Susan	Cook Inlet Citizen's Advisory Council, Anchorage, AK
Smith, Stan	United states geological Survey, Anchorage, AK
Snowden, Derrick	Integrated Ocean Observing System, Silver Springs, MD
Svoboda, Michael	Environment Canada, Whitehorse, Canada
Wiese, Francis	North Pacific Research Board, Anchorage, AK