Curriculum Vitae: Adrienne J. Sutton

NOAA/PMEL, 7600 Sand Point Way NE, Seattle, WA 98115
work: 206.526.6879 fax: 206.526.6744 email: adrienne.sutton@noaa.gov

RESEARCH INTERESTS/SKILLS

My current research focus is on characterizing the extent and magnitude of ocean acidification in the surface of coastal and open ocean waters. Specifically, I am interested in using interdisciplinary approaches to explore how local and regional biogeochemical mechanisms drive variations in ocean carbon chemistry across time and space. One of these approaches uses bio-optical sensors on mooring platforms to understand the biologically-driven uptake of carbon dioxide in the ocean.

EDUCATION

Ph.D., University of Maryland Center for Environmental Science (UMCES), Horn Point Laboratory, Cambridge, MD **2000-2006**
GPA 3.7, Area of Study: Oceanography, Advisor: Dr. Thomas Fisher
Dissertation: *Evaluation of agricultural nutrient reductions in restored riparian buffers*

B.S., University of North Carolina at Wilmington (UNCW), Wilmington, NC **1996-2000**
GPA 3.6, B.S. in Biology and Marine Biology with Chemistry minor, *cum laude*
Honors Directed Individual Study with Dr. Stephen Skrabal **2000**
Research Experience for Undergraduates (REU), Scripps Institution of Oceanography with Dr. Peter J.S. Franks **1999**

PROFESSIONAL AND RESEARCH EXPERIENCE

National Research Council (NRC) Research Associate, National Oceanic and Atmospheric Administration (NOAA), Pacific Marine Environmental Laboratory (PMEL), Seattle, WA **2010-present**
Postdoctorate researcher with Dr. Richard Feely
Cruise experience: R/V Wecoma, West Coast Cruise, 9 August – 3 September 2011
Lab work: DIC measurements; use of $MAPCO_2$, SAMI pH, SeaBird CTD, Aanderaa Oxygen Optode, WetLabs ECOFLNTUS autonomous sensors; ocean acidification mooring data quality control (CO_2, pH, SSTC, dissolved oxygen, fluorescence, and turbidity)

Assistant Director of Strategic Planning, Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO), Oregon State University, Corvallis, OR **2008-2009**
Postdoctorate researcher with Drs. Jane Lubchenco and Bruce Menge
Developed PISCO's 5-Year Science Plan

Congressional Affairs Specialist, NOAA Office of Legislative Affairs, Washington, DC **2007-2008**
Issue areas: NOAA's Office of Oceanic and Atmospheric Research, including climate science, ocean exploration and undersea research, weather and air quality research, hurricane research, invasive species, NOAA's Laboratories and Cooperative Institutions, National Sea Grant College Program
Congressional Affairs Specialist for NOAA's role in the U.S. Climate Change Science Program and the Intergovernmental Panel on Climate Change
Office of Legislative Affairs representative for NOAA's Science Advisory Board

Knauss Sea Grant Fellow, NOAA Office of Legislative Affairs 2006-2007
Issue areas: harmful algal blooms, hypoxia, oceans and human health, fishery regulations, marine protected areas, coral reefs, northeast and Chesapeake Bay fisheries, sea turtles

Research Assistant, laboratory of Dr. Thomas Fisher, UMCES 2000-2006
Lab work: nutrient analyses (NH_4, NO_{3+2}, NO_2, TN, PO_4, TP, PP, TSS, Si, DOC); gas and liquid chromatography; membrane inlet mass spectrometry; stream water flow measurements; groundwater hydrologic characterizations; soil property characterizations; use of ISCO 3700 portable samplers; use of Solinst automatic temperature and pressure loggers; use of GPS

Undergraduate Honors Student, laboratory of Dr. Stephen Skrabal, UNCW 2000
Lab work: trace metal analyses including cathodic stripping voltammetry

REU Fellow, laboratory of Dr. Peter J.S. Franks, 1999
Scripps Institution of Oceanography
Lab work: methods used to culture phytoplankton; fluorometer for analysis of photosynthesis in phytoplankton; water column measurements (e.g., phytoplankton, zooplankton, chlorophyll, CTD)

GUEST LECTURES AND SELECTED PRESENTATIONS

Sutton, A.J., R.A. Feely, C.L. Sabine, J. Newton, J. Salisbury, D. Vandemark, S. Musielewicz, S. Maenner, R. Bott, and N. Lawrence-Slavas. 2011. Natural variability of pCO_2 and pH in the Atlantic and Pacific coastal margins of the U.S. AGU Fall Meeting. San Francisco, CA (poster).

Sutton, A.J. 2011. Ocean acidification: the other CO_2 Problem. Institutes for Journalism and Natural Resources Puget Sound Learning Expedition, Quilcene, WA (Invited).

Sutton, A.J. 2011. Ocean acidification and the Pursuit to Understand the Impacts in Pacific Northwest Marine Ecosystems. Northwest Aquatic and Marine Educators Annual Conference, Port Angeles, WA (poster).

Sutton, A.J. 2011. Biogeochemistry overview: global and coastal ocean acidification. National Council for Science and the Environment, Washington, DC (Invited).

Sutton, A.J. 2010. Ocean acidification: an overview. Centers for Ocean Sciences Education Excellence (COSEE) Pacific Partnerships - Community College Faculty Summer Teaching Institute: Climate change and eutrophication in coastal and marine ecosystem. Shannon Point Marine Center, Western Washington University, Anacortes, WA (Invited).

Sutton, A.J. 2010. Ocean acidification and the Global Carbon Cycle. COSEE Pacific Partnerships - Community College Faculty Summer Teaching Institute: Climate change and eutrophication in coastal and marine ecosystem. Shannon Point Marine Center, Western Washington University, Anacortes, WA (Invited).

Sutton, A.J. 2010. Ocean acidification: the other CO_2 Problem. Washington State Ocean Caucus outreach meeting. Westport, WA (Invited).

Regular presentations on ocean and climate policy and legislation to NOAA's Science Advisory Board and other NOAA Leadership panels. 2006-2008.

Sutton, A.J. 2008. Ocean issues in the 110th Congress and why Washington needs more scientists. UMCES Horn Point Laboratory Cambridge, MD (Guest lecture).

Sutton, A.J. and T.R. Fisher. 2006. Watershed-scale assessment of restored riparian buffers and water quality. American Water Resources Association Annual Conference, Baltimore, Maryland.

Sutton, A.J. 2005. Water quality effects of restored riparian buffers at multiple scales in the natural environment, Delmarva Peninsula, USA. ESA Annual Meeting, Montreal, Canada.

Sutton, A.J. 2005. Restored riparian buffers reduce nutrients at an individual farm scale but not at a watershed scale. MEES Colloquium (Poster).

Sutton, A.J. 2002. Effectiveness of Maryland's CREP: reducing the nutrient load to the Chesapeake Bay. MEES Colloquium (Poster).

PEER-REVIEWED PUBLICATIONS

Sutton, A.J., R.A. Feely, C.L. Sabine, J. Newton, S. Noakes, J. Salisbury, D. Vandemark, S. Musielewicz, S. Maenner, R. Bott, and N. Lawrence-Slavas. in prep. Present day range and variability of ocean acidification in coastal oceans.

Hively, W.D., C.J. Hapeman, L.L. McConnell, T.R. Fisher, C.P. Rice, G.W. McCarty, A.M. Sadeghi, D.R. Whitall, P.M. Downey, G.N. de Guzman, K. Bialek, M.W. Lang, A.B. Gustafson, **A.J. Sutton**, K.A. Sefton, J.A. Harman Fetcho. 2011. Relating Nutrient and Herbicide Fate with Landscape Features and Characteristics of 15 Subwatersheds in the Choptank River Watershed. *Science of the Total Environment*.

Sutton, A.J., T.R. Fisher, and A.B. Gustafson. 2010. Effects of re-established stream buffers on water quality in non-tidal streams in the Choptank River basin. *Water, Air, and Soil Pollution* 208: 101-118.

Sutton, A.J., T.R. Fisher, and A.B. Gustafson. 2009. Historical changes in water quality at German Branch watershed in the Choptank River basin. *Water, Air, and Soil Pollution* 199: 353-369.

Fisher, T.R., J.A. Benitez, K.-Y. Lee, and **A.J. Sutton**. 2006. History of land cover change and biogeochemical impacts in the Choptank River basin in the mid-Atlantic region of the U.S. *International Journal of Remote Sensing* 27: 3683-3703.

BOOK CHAPTERS, ENCYCLOPEDIA ENTRIES, AND REPORTS

Sutton, A.J. in review. Ocean Acidification – Measurements. In Encyclopedia of Sustainability: Measurements, Indicators, and Research Methods for Sustainability, edited by I. Spellerberg, D. Fogel, and S. Fredericks: Berkshire Publishing. Great Barrington, MA.

Feely, R.A., R. Wanninkhof, J. Stein, M.F. Sigler, E. Jewett, F. Arzayus, D.K. Gledhill, and **A.J. Sutton.** 2010. NOAA Ocean and Great Lakes Acidification Research Plan. NOAA Special Report, April 2010, 143 pp.

Fisher, T.R., T.E. Jordan, K.W. Staver, A.B. Gustafson, A.I. Koskelo, R.J. Fox, **A.J. Sutton**, T. Kana, K.A. Beckert, J.P. Stone, G. McCarty, and M. Lang. 2010. The Choptank Basin in transition: intensifying agriculture, slow urbanization, and estuarine eutrophication. In Coastal Lagoons: Systems of Natural and Anthropogenic Change, edited by M. J. Kennish and H. W. Paerl: CRC Press. Boca Raton, FL.

Sutton, A.J. 2006. Evaluation of agricultural nutrient reductions in restored riparian buffers. University of Maryland Dissertation.

OUTREACH PUBLICATIONS

Sutton, A.J. 2011. Coral Reefs Face Increasing Stress from Local Human Activities, Warming Waters, and Ocean Acidification. *Sources: The Journal of Underwater Education*. 23(3): 34-35. [pdf]

Sutton, A.J. 2010. Ocean Acidification: A Fundamental Problem for the Future of Recreational Diving. *Sources: The Journal of Underwater Education* 22(2): 54-57. [pdf]

Sutton, A.J. 2010. Deep-Sea Corals and the Changing Chemistry of the Sea. NOAA National Marine Sanctuary Deep-Sea Coral Expedition online cruise report. [website]

SELECTED GRANTS AND AWARDS *(* proposals written by Sutton)*

National Research Council Postdoctoral Research Associate Fellowship (2010) *
One of 25 honorary members of the Colonial Athletic Association's (CAA) Silver Anniversary Team for Women's Swimming and Diving (2009)
NOAA Administrator's Award for outstanding leadership in and dedication to developing U.S. Climate Change Science Program (CCSP) Synthesis & Assessment Products integrating climate research for decision support (July 2008)
NOAA Recognition Award for exceptional performance (July 2007 and Nov 2007)
John A. Knauss Marine Policy Fellowship (Feb. 2006-Jan. 2007) *
"Most Outstanding Poster" MEES Colloquium (October 2005)
Horn Point Laboratory Student Travel Award (Ecological Society of America 2005 Annual Meeting in Montreal, Quebec, Canada) *
Horn Point Laboratory Small Grants (awarded annually, 2002-2005) *
U.S. Department of Agriculture Cooperative State Research, Education, and Extension Service Conservation Effects Assessment Project Grant (2003)
U.S. Department of Agriculture Cooperative State Research, Education, and Extension Service National Research Initiative Grant (2002) *
U.S. Department of Agriculture Chesapeake Watershed Forestry Grants (2002) *
Horn Point Laboratory Graduate Fellowship (2000-2002)
UNCW Departmental Honors in Biology (2000)
CAA Conference Scholar Athlete (1997-2000)
UNCW Golden Seahawk Academic Award (1997-2000)
Dean's List UNCW (1996-2000)
Athletic scholarship (1996-2000)
NSF Research Experience for Undergraduates Grant (1999) *
CAA Conference Rookie of the Year (1997)

SCIENCE EDUCATION AND COMMUNITY OUTREACH ACTIVITIES

High school student mentor, pilot project of the Educurious Expert Network, Bellevue Big Picture School, ongoing.
Workshop presenter, Expanding Your Horizons for Middle School Girls, Bellevue Community College, annual since 2011.
Guest speaker, Seattle Girls School science class, 2010.
National Association of Underwater Instructors (NAUI) SCUBA Instructor, 2007-present.
American Red Cross First Aid and CPR Instructor, 1995-2008.
Swim coach, various teams, 1993-2005.
Summer science camp teacher, Wilmington, NC, 1998.

PROFESSIONAL SERVICE

American Society of Limnology and Oceanography, Dissertations Initiative for the Advancement of Limnology and Oceanography, 2007-present.
American Geophysical Union. Member, 2009-present.
NOAA Science Advisory Board Congressional Liaison, 2007-2008.
NAUI Member, 2007-present.
Scientific Session Convener at AGU Fall Meeting 2010 and Ocean Sciences 2012.
Reviewer for *Limnology and Oceanography*, *Journal of Geophysical Research – Oceans*.