

## BIOGRAPHICAL SKETCH

### SCOTT C. DONEY

#### Senior Scientist

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### EDUCATION

Ph.D. Chemical Oceanography, September 1991, Massachusetts Institute of Technology--Woods Hole Oceanographic Institution Joint Program, Woods Hole, MA 02543; Thesis titled: "A Study of North Atlantic Ventilation Using Transient Tracers" (Dr. William J. Jenkins, advisor)  
B.A. Chemistry (*magna cum laude*), Japanese Studies Minor, 1986, Revelle College, University of California at San Diego, La Jolla, CA 92093

### PROFESSIONAL EXPERIENCE:

Scientist, Marine Chemistry and Geochemistry, Woods Hole Oceanographic Institution, Woods Hole, MA, June 2002 to present.  
Scientist, Climate and Global Dynamics Division, National Center for Atmospheric Research, Boulder, CO, August 1993 to June 2002.  
Postdoctoral Fellow, Advanced Study Program, National Center for Atmospheric Research, Boulder, CO, September 1991 to August 1993.

### EXTERNAL PROFESSIONAL ACTIVITIES:

Ocean Carbon and Biogeochemistry (OCB) Program, Chair Scientific Steering Committee (2006-present)  
NCAR Community Climate System Model (CCSM), Co-Chair Biogeochemistry Working Group, 1998-2007, Scientific Steering Committee, 2002-present  
U.S. Carbon Cycle Science Program, Scientific Steering Group (2002-present); Chair Ocean Implementation Group (2002-2004); Chair Ocean Carbon and Climate Change (OCCC) SSG (2005-present)  
Editor, U.S. JGOFS Synthesis and Modeling Special Issues, *Deep-Sea Res. II*, **49**(1-3), 2002; *Deep-Sea Res. II*, **50**(22-26), 2003; *Deep-Sea Res. II*, **53**(5-7), 2006  
Associate Editor, *Reviews of Geophysics*, 1997-2001; *Global Biogeochemical Cycles*, 2002-2004; *J. Geophysical Research, Biogeosciences*, 2004-present  
AAAS *Science* magazine, Board of Reviewing Editors, 2007-present  
Faculty of 1000, Member Ecology Section, [www.facultyof1000.com](http://www.facultyof1000.com), 2004-present  
Author of article "Dangers of Ocean Acidification", *Scientific American*, March 2006 Issue  
NASA Ocean Color Science Team (1997-present); Orbiting Carbon Observatory (OCO) Science Team (2002-present)  
Joint Global Ocean Flux Study (JGOFS), US Scientific Steering Committee (1993-2004); Synthesis and Modeling Coordinator (1997-2005)  
World Ocean Circulation Experiment (WOCE), US Scientific Steering Committee (1997-2002)  
Congressional Testimony: U.S. House Committee on Science and Technology, Subcommittee on Energy and Environment (2008); U.S. Senate Committee on Commerce, Science and Transportation, Subcommittee on Oceans, Atmosphere, Fisheries and Coast Guard (2007)

## **ACADEMIC HONORS:**

W. Van Alan Clark Sr. Chair, Woods Hole Oceanographic Institution, 2007  
Aldo Leopold Leadership Program, Fellow, 2004  
James B. Macelwane Medal, American Geophysical Union, 2000  
Fellow, American Geophysical Union, 2000--present  
Outstanding Student Poster Award, American Geophysical Union, Fall 1990 Meeting  
National Science Foundation Graduate Fellowship, 1987--90  
Urey Award, Dept. of Chemistry, University of California at San Diego, 1986

## **SELECTED RECENT PUBLICATIONS (from a total of 120 peer-reviewed publications)**

Large, W.G., J.C. McWilliams, and S.C. Doney, 1994. Oceanic vertical mixing: A review and a model with a nonlocal boundary layer parameterization. *Rev. Geophys.*, **32**, 363-403.

Doney, S.C., D.M. Glover, and R.G. Najjar, 1996. A new coupled, one-dimensional biological--physical model for the upper ocean: applications to the JGOFS Bermuda Atlantic Time Series (BATS) site. *Deep-Sea Res. II*, **43**, 591-624.

Doney, S.C., 1999: Major challenges confronting marine biogeochemical modeling, *Global Biogeochem. Cycles*, **13**, 705--714.

Boyd, P.W., S.C. Doney, 2002: Modelling regional responses by marine pelagic ecosystems to global climate change, *Geophys. Res. Lett.*, **29**(16), 53-1 to 53-4, doi:10.1029/2001GL014130.

Dilling, L., S.C. Doney, J. Edmonds, K.R. Gurney, R. Harriss, D. Schimel, B. Stephens, G. Stokes, 2003: The role of carbon cycle observations and knowledge in carbon management, *Annual Review of Environment and Resources*, **28**, 521-558, doi: 10.1146/annurev.energy.28.011503.163443.

Doney, S.C., et al. 2004: Evaluating global ocean carbon models: the importance of realistic physics, *Global Biogeochem. Cycles*, **18**, GB3017, doi:10.1029/2003GB002150.

Moore, J.K., S.C. Doney and K. Lindsay, 2004: Upper ocean ecosystem dynamics and iron cycling in a global 3-D model, *Global Biogeochem. Cycles*, **18**, 4, GB4028.

Fung, I., S.C. Doney, K. Lindsay, and J. John, 2005: Evolution of carbon sinks in a changing climate, *Proc. Nat. Acad. Sci. (USA)*, **102**, 11201-11206, doi:10.1073/pnas.0504949102.

Orr, J.C., et al. 2005: Anthropogenic ocean acidification over the twenty-first century and its impact on marine calcifying organisms, *Nature*, **437**, 681-686, doi:10.1038/nature04095.

Doney, S.C., K. Lindsay, I. Fung and J. John, 2006: Natural variability in a stable 1000 year coupled climate-carbon cycle simulation, *J. Climate*, **19**(13), 3033-3054.

Collins, W.D. et al. 2006: The Community Climate System Model: CCSM3, *J. Climate*, **19**(11), 2122-2143.

Gruber, N., et al. 2006: Eddy-resolving simulation of plankton ecosystem dynamics in the California Current System, *Deep-Sea Res. I*, **53**, 1483-1516, doi:10.1016/j.dsr.2006.06.005.

Doney, S.C. et al. 2007: The impact of anthropogenic atmospheric nitrogen and sulfur deposition on ocean acidification and the inorganic carbon system, *Prod. Nat. Acad. Sci. USA*, **104**, 14580-14585.

Doney, S.C. et al. 2007: Mechanisms governing interannual variability of upper ocean temperature in a global hindcast simulation, *J. Phys. Oceanogr.*, **37**, 1918-1938.

Lovenduski, N.S., N. Gruber, and S.C. Doney, 2008: Toward a mechanistic understanding of the decadal trends in the Southern Ocean carbon sink, *Global Biogeochem. Cycles*, **22**, GB3016.

Steinacher et al. 2008: Imminent ocean acidification projected with the NCAR global coupled carbon cycle-climate model, *Biogeosciences Discuss.*, **5**, 4353-4393.

Goodkin, N.F., K.A. Hughen, S.C. Doney, and W.B. Curry, 2008: Increased multidecadal variability of the North Atlantic Oscillation since 1781, *Nature Geosciences*, **1**, 844-848.

Doney, S.C., V.J. Fabry, R.A. Feely, J.A. Kleypas, Ocean acidification: the other CO<sub>2</sub> problem, *Ann. Rev. Mar. Sci.*, in press.

## **SELECTED PUBLICATIONS FOR GENERAL PUBLIC (from a total of 7)**

Doney, S.C., 2006: The dangers of ocean acidification. *Scientific American*, **294**(3), March 2006, 58-65.