

CURRICULUM VITAE

Arthur J. Miller

Climate, Atmospheric Science and Physical Oceanography (CASPO) Division
Oceans and Atmosphere Section
Scripps Institution of Oceanography
University of California, San Diego
La Jolla, CA 92093-0206
(858) 534-8033
ajmiller@ucsd.edu
<http://meteora.ucsd.edu/miller>

BIRTH: July 6, 1958 Cleveland, Ohio

DEGREES: 1980 B.S. in Physical Oceanography
Florida Institute of Technology

1986 Ph.D. in Physical Oceanography
Scripps Institution of Oceanography, UCSD

POSITIONS HELD:

2019-present Distinguished Research Oceanographer
2000-present Senior Lecturer in Climate Sciences

2015-2020 Head, Oceans and Atmosphere Section
2010-2015 Director, CASPO Division
2009-2010 Associate Director, CASPO Division
2008-2009 Director, CASPO Division
2007-2008 Associate Director, CASPO Division
2000-2007 Associate Director, Climate Research Division
Scripps Institution of Oceanography

2000-2019 Research Oceanographer

1996-2000 Associate Research Oceanographer
Lecturer in Climate Sciences
Climate Research Division
Scripps Institution of Oceanography

1988-1996 Assistant Research Oceanographer
Climate Research Division
Scripps Institution of Oceanography

1992-1994 Scientist (while on leave from SIO)
SACLANT Undersea Research Centre, La Spezia, Italy

- 1991 Orson Anderson Visiting Scholar
IGPP, Los Alamos National Laboratory, Los Alamos, NM
- 1988 Lecturer (while at SIO)
Department of Geography, San Diego State University
- 1986-1988 Andrew W. Mellon Foundation Postdoctoral Fellow
Climate Research Group
Scripps Institution of Oceanography
- 1980-1986 Research Assistant
Institute of Geophysics and Planetary Physics
Scripps Institution of Oceanography
- 1980 Physicist
Naval Research Laboratory, Orlando, Florida

PROFESSIONAL

SOCIETIES: American Meteorological Society, American Geophysical Union,
The Oceanography Society

RESEARCH

INTERESTS: Ocean and Coupled Ocean-Atmosphere Modeling and Dynamics,
Pacific Decadal Variability, Marine Ecosystem Response to Climate,
Ocean Data Assimilation, Predictability, Rossby Waves, Long-Period Tides

PUBLICATIONS

SUMMARY: Refereed publications: ~140
Total citations: over 7,000 (Web of Science); over 11,000 (Google Scholar)
H-Index (N papers with N citations): 41 (WoS); 48 (GS)
Papers exceeding 100 citations: 18 (WoS); 26 (GS)

DISSERTATION:

Miller, A. J., 1986: Barotropic planetary-topographic oscillations in ocean basins. Ph.D. dissertation. Scripps Institution of Oceanography, University of California, San Diego, 133 pp. [Advisor: Prof. Myrl C. Hendershott]

REFEREED PUBLICATIONS:

Miller, A. J., 1986: Non-divergent planetary oscillations in mid-latitude ocean basins with continental shelves. *Journal of Physical Oceanography*, **16**, 1914-1928.
Miller, A. J., W. R. Holland and M. C. Hendershott, 1987: Open-ocean response and normal mode excitation in an eddy-resolving general circulation model. *Geophysical & Astrophysical Fluid Dynamics*, **37**, 253-278.

- Miller, A. J., 1989: On the barotropic planetary oscillations of the Pacific. *Journal of Marine Research*, **47**, 569-594.
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- Miller, A. J., 1992: Large-scale ocean-atmosphere interactions in a simplified coupled model of the midlatitude wintertime circulation. *Journal of the Atmospheric Sciences*, **49**, 273-286.
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- Miller, A. J., D. S. Luther and M. C. Hendershott, 1993: The fortnightly and monthly tides: Resonant Rossby waves or nearly equilibrium gravity waves? *Journal of Physical Oceanography*, **23**, 879-897.
- Miller, A. J., T. P. Barnett and N. E. Graham, 1993: A comparison of some tropical ocean models: Hindcast skill and El Nino evolution. *Journal of Physical Oceanography*, **23**, 1567-1591.
- Miller, A. J., D. R. Cayan, T. P. Barnett, N. E. Graham and J. M. Oberhuber, 1994: Interdecadal variability of the Pacific Ocean: Model response to observed heat flux and wind stress anomalies. *Climate Dynamics*, **9**, 287-302.
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- Miller, A. J., P.-M. Poulain, A. R. Robinson, H. G. Arango, W. G. Leslie and A. Warn-Varnas, 1995: Quantitative skill of quasigeostrophic forecasts of a baroclinically unstable Iceland-Faroe Front. *Journal of Geophysical Research-Oceans*, **100**, 10,833-10,849.
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- Robinson, A. R., H. G. Arango, A. J. Miller, P.-M. Poulain, A. Warn-Varnas and W. G. Leslie, 1996: Real time operational forecasting on shipboard of the Iceland-Faroe frontal variability. *Bulletin of the American Meteorological Society*, **77**, 243-259.
- Robinson, A. R., H. G. Arango, A. Warn-Varnas, W. G. Leslie, A. J. Miller, P. J. Haley and C. J. Lozano, 1996: Real-time regional forecasting. In: *Modern Approaches to Data Assimilation in Ocean Modeling*, P. Malanotte-Rizzoli, ed., Elsevier Science, B.V., pp. 377-410.
- Miller, A. J., 1996: Recent advances in California Current modeling: Decadal and interannual thermocline variations. In: *California Cooperative Oceanic Fisheries Investigations Reports*, **37**, 69-79.
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- Miller, A. J., W. B. White and D. R. Cayan, 1997: North Pacific thermocline variations on ENSO time scales. *Journal of Physical Oceanography*, **27**, 2023-2039.
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Ducklow, H., M. Cimino, K. O. Denton, W. R. Fraser, R. R. Hopcroft, R. Ji, A. J. Miller, M. D. Ohman and H. M. Sosik, 2022: Marine pelagic ecosystem responses to climate variability and change. *BioScience*, in press.

SCIENTIFIC SERVICE:

Associate Editor, *Atmospheric Science Letters* (Royal Meteorological Soc.), 2000-present

Associate Editor, *Journal of Geophysical Research-Oceans* (AGU), 2007-2013

Special Issue Editorial Board, *Dynamics of Atmospheres and Oceans*, 2010-2011

Special Issue Editorial Board, *Journal of Oceanography* (The Oceanographic Society of Japan), 2002

Advisory Board, *The Sea, Volume 17: The Science of Ocean Prediction*, 2013-2015

Reviewer for *Journal of Physical Oceanography*, *Journal of Climate*,
Journal of Geophysical Research-Oceans, *Geophysical Research Letters*,
Journal of Geophysical Research-Atmospheres, *Tellus-A*, *Tellus-B*,
Dynamics of Atmospheres and Oceans, *Journal of the Atmospheric Sciences*,
Fisheries Oceanography, *Journal of Marine Systems*, *Progress in Oceanography*,
Oceanologica Acta, *EOS*, *Deep-Sea Research*, *Conservation Biology*,
Canadian Journal of Fisheries and Aquatic Sciences, *Journal of Marine Research*,
International Journal of Remote Sensing, *Journal of Oceanography*, *Oceanography*,
Bulletin of the American Meteorological Society, *Climate Dynamics*,
Atmosphere-Ocean, *Journal of Oceanic and Atmospheric Technology*,
CalCOFI Reports, *Atmospheric Research*, *Monthly Weather Review*,
International Journal of Climatology, *ICES Journal of Marine Science*,
Continental Shelf Research, *Proceedings of the National Academy of Sciences*,
Journal of Coastal Research, *Ocean Science*, *Marine Geodesy*, *Fish and Fisheries*,
PLoS ONE, *Limnology and Oceanography: Fluids and Environments*,
Ocean Modelling, *Nature Scientific Reports*, *Marine and Freshwater Research*,
Journal of Sea Research, *Science Advances*, *Frontiers in Marine Science*, *Ocean Dynamics*, *International Journal of Climatology*, *Ecosystems*, United Nations University Press and Cambridge University Press.

Reviewer for NSF, NOAA, NASA, PFRP, NPRB, California Sea Grant, Oregon Sea Grant, GoMRI, Louisiana Board of Regents, University of Wisconsin-Madison, CEC, IRI, NCAR, EVOSTC, CRDF, NERC (UK), Marsden Fund (New Zealand), Marine National Facility (Australia), ARC (Australia), OSR (Netherlands), AXA (EU), BSF (Israel-USA), Chilean National Science and Technology Commission, Partnership for Advanced Computing in Europe (PRACE), Israel's Ministry of Innovation, Science and Technology, KAUST, and Kuwait Foundation for the Advancement of Sciences

Panelist for NSF Ocean Sciences Division, NSF GLOBEC, NSF Arctic, NOAA CLIVAR, NASA MAP, NOAA-NSF CAMEO, GoMRI "Theme 1", and University of Wisconsin "Research Growth Initiative"

Program Review Panel Member for NOAA Joint Institute for the Study of the Atmosphere and Ocean (JISAO - University of Washington), NOAA Joint Institute for Marine Research (JIMAR - University of Hawaii), NOAA Physical Systems Laboratory, Oceanography and Marine Geosciences of NRL-Stennis Space Center, and NSF Life Cycle Objectives for Ocean Observing Initiative Cyberinfrastructure Implementing Organization

Member, American Meteorological Society Committee on Climate Variability and Change (2022-present)

Member, American Meteorological Society Committee on Coastal Environment (2013-2019)

Reichelderfer Award Committee, American Meteorological Society (Chair, 2018; Member, 2016, 2017)

Member, CLIVAR Research Focus Group on “Eastern Boundary Upwelling Systems” (2015-present)

Member, NOAA MAPP “Marine Prediction Task Force” (2017-2021)

Member, U.S. CLIVAR Science Steering Committee (2015-2016)

Co-Chair, U.S. CLIVAR Panel on Phenomena, Observations and Synthesis (2015-2016)

Member, U.S. CLIVAR Panel on Phenomena, Observations and Synthesis (2013-2016)

Member, U.S. GLOBEC Scientific Steering Committee (2004-2012)

Member, VAMOS Ocean-Cloud-Atmosphere-Land Study (VOCALS) Modeling Group (2004-2006)

Member, PICES Evaluations of Climate Change Projections Working Group (2006-2010)

Member, Bering Ecosystem Study (BEST) Scientific Steering Committee (2005-2007)

Member, U.S. CLIVAR Pacific Sector Implementation Panel (2002-2005)

Member, Overview Advisory Group, GLOBEC Climate Impacts on Open Ocean Top Predators Program (2003-2004)

Co-Organizer: Surfside Climate Workshop, SIO:

“California Current Modeling: Do Observations Corroborate the Modeled Phenomena?” (1999)

“Climate Forcing of Oceanic Ecosystems: Are Significant Biological Feedbacks Possible on Interdecadal Timescales?” (2001)

Co-Organizer: Climate-Culture Workshop, SIO-UCSD Department of Anthropology:

“Impacts of El Nino Climate Variability on Cultural Development in Peru and the Andes” (2003)

Co-Organizer: NOAA-CIFAR Synthesis Workshop:

“The Climate Regime Shift Hypothesis and the Decline of the Steller Sea Lion Population” (2003)

Co-Organizer: SIO-UCSD Department of Music Workshop: “The Confluence of Art, Music, Science and the Environment” (2006)

Organizer: “Hendershott Symposium” Career Recognition Event (2007)

Co-Organizer: “LTER Cross-Site Regional Ocean Modeling Workshop” (2011)

Co-Organizer and Acting Workshop Chair, “GLOBEC/PICES/ICES Workshop on Forecasting Ecosystem Indicators with Process-Based Models (ECOFOR)” (2012)

Co-Organizer, U.S. CLIVAR ENSO Ecosystem Forecasting Workshop, SIO (2016)
Steering Committee, “2014-16 Pacific Anomalies Symposia”, La Jolla (2015) and Seattle (2016)
Co-Organizer, “AORI-SIO Joint Symposium”, La Jolla, CA, (2016)
Co-Coordinator, “1st Meridional Modes Workshop”, University of Wisconsin, Madison, WI, (2016)
Co-Coordinator, “2nd Meridional Modes Workshop”, Ohio State University, Columbus, OH, (2019)
Co-Organizer, “Excellence and Equity are Not Mutually Exclusive: A Two-Part SIO Black History Month Seminar”, La Jolla, CA, (2021)
Co-Organizer, "Oahu Workshop on Ocean-Atmosphere Interactions and Climate Predictability", University of Hawaii, Honolulu, HI, (2022)
Scientific Organizing Committee, “Daily to Decadal Ecological Forecasting along North American Coastlines Workshop”, Woods Hole (2022)

Advising Scientist, “Weather on Steroids: The Art of Climate Change” Exhibition

Numerous invited seminars, keynote lectures, and talks at universities, research institutions, conferences, and workshops around the world
Interviewed by numerous local, national, and international newspaper, magazine, radio, and television reporters

UNIVERSITY SERVICE:

Head of Oceans and Atmosphere Section, 2015-2020
Director of CASPO, 2008-2009, 2010-2015
Associate Director of CASPO, 2007-2008, 2009-2010
Associate Director of CRD, 2000-2007

SIO Committee on Academic Personnel, 1998-2001, 2005-2008
Administrator, SIO Climate Computing Facility, 2000-2011
SIO CRD/CASPO Seminar Series Coordinator, 1998-present
Birch Aquarium/Museum Panel, 2005-06, 2007-2012
SIO Staff Council nominations committee, 2001
Chair, SIO Alumni Network Leadership Team, 2006-07
SIO Heritage Committee, 2008-present, Chair, 2015-2021
SIO Committee on Committees, 2009-2011
Frieman Prize Committee, 2011
Chair, Keeling Memorial Lecture Committee, 2013-2020
Chair, SIO Institutional Post-doctoral Fellowship Selection Committee, 2009, 2010
Chair, Ritter Memorial Fellowship Selection Committee, 2017, 2018, 2019, 2020
SIO Editorial and Publications Committee, 2014-2018
Scripps Research and Academics Committee (*ex officio*), 2015-2020
Scripps Space Management Committee (*ex officio*), 2015-2020
Scripps Awards Committee (*ex officio*), 2015-2020
UCSD Council of Chairs (*ex officio*), 2015-2020

Supervisor to MSO Anne Footer, 2015-2020 (*ex officio*)
Supervisor to Director of CW3E, Dr. Marty Ralph, 2014-2020 (*ex officio*)
Supervisor to Programmer/Analyst Jack Ritchie, 1990-1992, 2010-2020
Supervisor to Programmer/Analyst Bill Higgins, 1999-01
Supervisor to Programmer/Analyst Martin Olivera, 2001-2011
Supervisor to Assistant Project Scientist Dr. Guillermo Auad, 1999-2011
Supervisor to Assistant Project Scientist Dr Doug Neilson, 1999-2006

IRDAC "Coastal" Assistant Professor Search Committee, 1999-00
COMPAS Researcher (Triple) Search Committee, 2000-03
NHBO MSO Search Committees, 2001-2002, 2004-05
Chair, OA Section Researcher Search Committee, 2005-2006
Dynamic Meteorology and Data Assimilation (Double) Assistant Professor Search Committee, 2007-08
Physical Oceanography and Climate Assistant Professor Search Committee, 2008-09
OA Section "Unfunded Researchers" (Triple) Search Committee Chair, 2011-12

Climate Sciences Admissions Committee Member, 1996-present
SIO "Diversity Admission Committee" Member, 2016-17, 2017-18
Climate Sciences Open House, Coordinator 1999, 2004-11; Participant 2012-18
Climate Sciences Departmental Exam Committee, 1998 (Chair), 03, 06-07, 09-11, 16-17

EDUCATIONAL SERVICE:

Currently Doctoral Advisor to:

Mr. Anthony Wilson, Climate Sciences, SIO (2021-present)

Formerly Doctoral Advisor/Co-Advisor to:

Dr. Emanuele Di Lorenzo, Climate Sciences, SIO (Ph.D. 2003)

Post-doc: SIO/UCSD

Currently: Full Professor, Georgia Tech

Dr. Hyodae Seo, Climate Sciences, SIO (Ph.D. 2007)

Post-doc: NOAA Climate and Global Change Postdoctoral Fellow, UCLA/Hawaii

Currently: Associate Scientist with tenure, Woods Hole Oceanographic Institution

Dr. Hey-Jin Kim, Climate Sciences, SIO (Ph.D. 2008),

Post-doc: Monterey Bay Aquarium Research Institute Postdoctoral Fellow

Currently: Private sector

Dr. Hajoon Song, Climate Sciences, SIO (Ph.D. 2011)

Post-docs: University of California, Santa Cruz, and M.I.T.

Currently: Assistant Professor, Yonsei University, Korea

Dr. Dian Putrasahan, Climate Sciences, SIO (Ph.D. 2012)

Post-doc: University of Miami

Currently: Scientist, Max-Planck-Institut für Meteorologie, Hamburg

Dr. Aneesh Subramanian, Climate Sciences, SIO (Ph.D. 2012)

Post-docs: SIO/UCSD and Oxford University

Currently: Assistant Professor, University of Colorado

Dr. Linghan Li, Physical Oceanography, SIO (Ph.D. 2013)
Post-doc: University of Washington and SIO

Dr. Lauren Franck, Climate Sciences, SIO (Ph.D. 2013)
Post-doc: NRC Fellow, Naval Research Laboratory, Washington, DC
Currently: Scientist, Naval Undersea Warfare Center, Newport, RI

Dr. Nicholas Cavanaugh, Climate Sciences, SIO (Ph.D., 2014)
Post-doc: Lawrence Berkeley National Laboratory
Currently: Founder, Sensible, Boulder, CO

Dr. Michael DeFlorio, Climate Sciences, SIO (Ph.D. 2015)
Post-doc: JPL/Caltech, Pasadena, CA
Currently: Research Analyst, CW3E, SIO

Dr. Jonathan Eliashiv, Climate Sciences, SIO (Ph.D. 2019)
Currently: Climate Scientist, Sensible, Denver, CO

Dr. Dillon Amaya, Climate Sciences, SIO (Ph.D. 2019)
Post-doc: CIRES Postdoctoral Fellow
Currently: Research Physical Scientist, NOAA PSL, Boulder, CO

Dr. Daniela Faggiani Dias, Climate Sciences, SIO (Ph.D. 2020)
Post-doc: Colorado State University

Dr. Osinachi Ajoku, Climate Sciences, SIO (Ph.D. 2020)
Post-doc: NCAR ASP Postdoctoral Fellow
Currently: Assistant Professor, Howard University, Washington, DC

Dr. Meredith Fish, Climate Sciences, SIO (Ph.D. 2020)
Post-doc: Rutgers University
Currently: Senior Data Scientist, McKinsey & Company, Denver, CO

Dr. Nathali Cordero Quiros, Climate Sciences, SIO (Ph.D. 2020)
Post-doc: University of California, Santa Cruz

Dr. Momme Hell, Physical Oceanography, SIO (Ph.D. 2020)
Post-docs: SIO/UCSD and Brown University

Dr. Tashiana Osborne, Climate Sciences, SIO (Ph.D. 2021)
Post-doc: Johns Hopkins University

Masters Advisor to:

Mr. Jack Weil, Climate Sciences, SIO (M.S., 2022)
Ms. Chelsey Nieman, Biodiversity and Conservation, SIO (M.A.S. 2014)
Mr. Ankur Gupta, Climate Sciences, SIO (M.S. 2012)
Mr. Gino Passalacqua, Climate Sciences, SIO (M.S. 2009)

Doctoral Committee Member to:

Dr. Xiang San Liang, Applied Mathematics, Harvard University (Ph.D. 2002)
Dr. Thomas Reichler, Climate Sciences, SIO (Ph.D. 2002)
Dr. Catherine Johnson, Biological Oceanography, SIO (Ph.D. 2003)
Dr. David Field, Biological Oceanography, SIO (Ph.D. 2004)
Mr. Ehecatl Munoz-Mejia, Fisheries Ecology, CIBNOR, La Paz, Mexico, (2002-2005)
Dr. Chih-Hao Zac Hsieh, Biological Oceanography, SIO (Ph.D. 2006)
Dr. Elena Brambilla, Physical Oceanography, SIO (Ph.D. 2006)
Dr. Alex Ruane, Climate Sciences, SIO (Ph.D., 2007)

Dr. Elizabeth Douglass, Physical Oceanography, SIO (Ph.D., 2007)
Dr. Daniel Birch, Physical Oceanography, SIO (Ph.D., 2007)
Mr. Miles Woodard, Climate Sciences, SIO (M.S. 2008, pending submission of thesis)
Dr. Xue Fan, Physical Oceanography, SIO (Ph.D., 2014)
Dr. Ethan Deyle, Biological Oceanography, SIO (Ph.D., 2015)
Mr. Cotton Rockwood, Biological Oceanography, SIO (Ph.D. candidate, 2013-present)
Dr. Sara Sanchez, Climate Sciences, SIO (Ph.D., 2018)
Dr. Weijie Wang, Climate Sciences, SIO (Ph.D., 2017)
Dr. Will Crawford, Ocean Sciences, UC, Santa Cruz (Ph.D., 2017)
Ms. Adi Khen, Marine Biology, SIO (Ph.D. candidate, 2017-present)
Ms. Caroline Lowcher, Physical Oceanography, SIO (Ph.D. candidate, 2019-present)
Mr. Erik Saberski, Biological Oceanography, SIO (Ph.D. candidate, 2021-present)

Masters Committee Member to:

Mr. Tony Shiao, Biodiversity and Conservation, SIO (M.A.S. 2013)

Visiting Doctoral Students mentored:

Dr. Anamitra Saha, Civil Engin., Indian Institute of Technology Bombay (2016-2017)
Dr. Daling Li Yi, Phys. Oceanogr., Ocean University of China Qingdao (2016-2018)
Dr. Lin Piao, Meteorology, Peking University (2016-2017)
Dr. Yu Zhang, Phys. Oceanogr., Ocean University of China Qingdao (2017-2019)
Dr. Soumik Ghosh, Geophysics, Banaras Hindu University, India (2019-2020)
Mr. Giacomo Lucidi, Physics of Earth System, University of Bologna, Italy (2019-20)
Ms. Elise Beaudin, Ocean Science and Engineering, Georgia Tech (2021-present)

External Thesis Examiner, Griffith University (2009, 2010, 2014, 2015, 2022)

Postdoctoral researchers mentored:

Dr. Guillermo Auad, Ph.D., Scripps Institution of Oceanography (1995-1999)
Dr. Sutara "Ata" Suanda, Ph.D., Oregon State University (2014-2015)
Dr. Liz Drenkard, Ph.D., MIT-Woods Hole Joint Program (2016-2019)
Dr. Rui Sun, Ph.D., Virginia Tech (2017-2022)

Research Experiences for Undergraduates (REU) Advisor to:

Ms. Emma Nuss, UCSD (2012-13)
Ms. Ana-Patricia Lopez, Environmental Engineering, SDSU (2013-2014)
Ms. Maria Winters, Environmental Engineering, UCSD (2015-2017)
Mr. Nathan Cusson-Nadeau, Environmental Engineering, UCSD (2016-2017)
Ms. Cristina Curiel, Marine Biology, UCSD (2017)
Ms. Sara Ramirez, Environmental Systems, UCSD (2018-2019)
Ms. Yunchun (Pauline) Pan, Applied Mathematics, UCSD (2019-2020)
Mr. Lawrence Balitaan, Oceanic and Atmospheric Science, UCSD (2019)

Summer High School Intern Advisor to:

Ms. Hannah Cohen, Horace Greeley High School, Chappaqua, NY, 2018

Science Olympiad Event Coach for “Compute This: Ocean-Atmosphere,”
“Oceanography” and “Remote Sensing”, University City High School (2005-2008)
National Ocean Science Bowl (NOSB) Science Judge (2013 and 2014)

Participant, "Exploring Ocean Careers Night" at Birch Aquarium (2014-2019)

Founding Member, Stay Cool for Grandkids (2013-present)