Rong Zhang

GFDL / NOAA
201 Forrestal Road
Princeton, NJ 08540
Email: Rong.Zhang@noaa.gov
Phone: 609-987-5061

Education

1997-2001 **Massachusetts Institute of Technology,** Cambridge, MA
Ph. D. Climate Physics and Chemistry, Department of Earth, Atmospheric and Planetary Sciences

1996-1997 **Boston University,** Boston, MA
M. A. Physics, Department of Physics

1990-1995 **Tsinghua University,** Beijing, P. R. China
B. E. Electronic Engineering, Department of Electronic Engineering

Research Interests

Abrupt climate change and low frequency variability in the coupled ocean-atmosphere system, global teleconnections of climate change, impact of Atlantic meridional overturning circulation (AMOC) on global and regional climate change (such as Sahel, Indian, and East Asian monsoon, Atlantic Hurricane activity, Arctic sea ice, northern hemisphere mean surface temperature, North Pacific climate variability), meridional coherence and fingerprints of AMOC variability, mechanisms of Atlantic multidecadal variability (AMV)

Work Experience

2016 - Present **Oceanographer,** ZP-5, GFDL, NOAA**,** Princeton, NJ
2006 - 2016 **Oceanographer,** ZP-4, GFDL, NOAA**,** Princeton, NJ
2015 - Present **Lecturer**, AOS Program, Princeton University, Princeton, NJ
2004 - 2006 **Research Staff Member**, AOS Program, Princeton University, Princeton, NJ
2002 - 2003 **Postdoctoral Research Associate**, AOS Program, Princeton University, Princeton, NJ

Teaching Experience

2014 - Present Lectures for graduate class AOS 573: Physical Oceanography, AOS Program, Princeton University, Princeton, NJ

2008 - Present Guest Lectures for graduate class AOS577: Weather and Climate Dynamics, Climates of the Earth: Present, Past, and Future, AOS Program, Princeton University, Princeton, NJ

Publications

Knutson, T. R., **R. Zhang**, and L. Horowitz, 2016, Prospects for a Prolonged Slowdown in Global Warming in the Early 21st Century, Nature Communications, In Press.

Barcikowska, M., T. R. Knutson, and **R. Zhang**, 2016, Observed and simulated fingerprints of multidecadal climate variability, and their contributions to periods of global SST stagnation. Journal of Climate. DOI:10.1175/JCLI-D-16-0443.1, In Press.

Zhang, R., R. Sutton, G. Danabasoglu, T. L. Delworth, W. M. Kim, J. Robson, and S. G. Yeager, 2016, Comment on "The Atlantic Multidecadal Oscillation without a role for ocean circulation". Science, 352, doi:10.1126/science.aaf1660.

Delworth, T. L., F. Zeng, G. A. Vecchi, X. Yang, L. Zhang, and **R. Zhang**, 2016, The North Atlantic Oscillation as a driver of rapid climate change in the Northern Hemisphere. Nature Geoscience, 9, doi:10.1038/ngeo2738.

Brown, P. T., S Lozier, **R. Zhang**, and W. Li, 2016, The necessity of cloud feedback for a basin-scale Atlantic Multidecadal Oscillation. Geophys. Res. Lett., 43, doi:10.1002/2016GL068303.

Saba, V. S., S. M. Griffies, W. G. Anderson, M. Winton, M. A. Alexander, T. L. Delworth, J. A. Hare, M. J. Harrison, A. Rosati, G. A. Vecchi, and **R. Zhang,** 2016, Enhanced warming of the northwest Atlantic Ocean under climate change. Journal of Geophysical Research, 121, doi:10.1002/2015JC011346.

Sanchez-Franks, A. and **R. Zhang**, 2015, Impact of the Atlantic meridional overturning circulation on the decadal variability of the Gulf Stream

path and regional chlorophyll and nutrient concentrations, Geophys. Res. Lett., 42, doi:10.1002/2015GL066262.

Zhang J. and **R. Zhang,** 2015, On the evolution of Atlantic Meridional Overturning Circulation Fingerprint and implications for decadal predictability in the North Atlantic, Geophys. Res. Lett., 42, doi:10.1002/2015GL064596.

Zhang, R. 2015, Mechanisms for low frequency variability of summer Arctic sea ice extent, PNAS, 112, doi: 10.1073/pnas.1422296112.

Zhang, R. 2015, Atlantic Meridional Overturning Circulation (AMOC) and Climate, Chapter 8 in the book "Climate Change: Multidecadal and Beyond", World Scientific Series on Asia-Pacific Weather and Climate, Vol. 6, pp125-140.

Keenlyside N. S., J. Ba, J. Mecking, N. Omrani, M. Latif, **R. Zhang**, R. Msadek, 2015, North Atlantic Multi-Decadael Variability –Mechanisms and Predictability, Chapter 9 in the book "Climate Change: Multidecadal and Beyond", World Scientific Series on Asia-Pacific Weather and Climate, Vol. 6, pp 141-158.

Griffies, S. M., M. Winton, W. G. Anderson, R. Benson, T. L Delworth, C. O. Dufour, J. P. Dunne, P. Goddard, A. K. Morrison, A. T. Wittenberg, J. Yin, and **R. Zhang**, 2015, Impacts on ocean heat from transient mesoscale eddies in a hierarchy of climate models. Journal of Climate, 28, DOI:10.1175/JCLI-D-14-00353.1.

Msadek, R., T. L Delworth, A. Rosati, W. G. Anderson, G. A. Vecchi, Y.-S. Chang, K. W. Dixon, R. Gudgel, W. F. Stern, A. T. Wittenberg, X.-Q. Yang, F. Zeng, **R. Zhang**, and S. Zhang, 2014: Predicting a Decadal Shift in North Atlantic Climate Variability Using the GFDL Forecast System. Journal of Climate, 27, DOI:10.1175/JCLI-D-13-00476.1.

Lynch-Stieglitz, J, M Schmidt, L G Henry, W B Curry, L C Skinner, S Mulitza, **R. Zhang**, and P Chang, 2014: Muted change in Atlantic overturning circulation over some glacial-aged Heinrich events. Nature Geoscience, 7(2), DOI:10.1038/ngeo2045.

Vecchi, G. A., R. Msadek, W. G Anderson, Y-S Chang, T. L. Delworth, K. W Dixon, R. Gudgel, A. Rosati, W. F Stern, G. Villarini, A. T.

Wittenberg, X. Yang, F. Zeng, **R. Zhang**, and S. Zhang, 2014: Reply to Comment on Multi-year Predictions of North Atlantic Hurricane Frequency: Promise and limitations. Journal of Climate, 27(1), DOI:10.1175/JCLI-D-13-00381.1.

Zhang, R., and T. R. Knutson, 2013: The role of global climate change in the extreme low summer Arctic sea ice extent in 2012 [in "Explaining Extreme Events of 2012 from a Climate Perspective"]. Bull. Amer. Meteor. Soc., 94 (9).

Zhang, R., T. L Delworth, R Sutton, D Hodson, K. W Dixon, I. M. Held, Y. Kushnir, J. Marshall, Y. Ming, R. Msadek, J. Robson, A. Rosati, M. Ting, and G. A. Vecchi, 2013, Have Aerosols Caused the Observed Atlantic Multidecadal Variability?. Journal of the Atmospheric Sciences, 70, DOI:10.1175/JAS-D-12-0331.1.

Vecchi, G. A., R. Msadek, W. G Anderson, Y-S Chang, T. L Delworth, K. W Dixon, R. Gudgel, A. Rosati, W. F Stern, G Villarini, A. T Wittenberg, X. Yang, F. Zeng, **R. Zhang**, and S. Zhang, 2013, Multi-year Predictions of North Atlantic Hurricane Frequency: Promise and limitations. Journal of Climate. 26, DOI:10.1175/JCLI-D-12-00464.1.

Leech, P J., J Lynch-Stieglitz, and **R. Zhang**, 2013, Western Pacific Thermocline Structure and the Pacific Marine Intertropical Convergence Zone during the Last Glacial Maximum. Earth and Planetary Science Letters, 363, DOI:10.1016/j.epsl.2012.12.026.

Lee, H C., T. L Delworth, A. Rosati, **R. Zhang**, W. G. Anderson, F. Zeng, C. A Stock, A. Gnanadesikan, K. W Dixon, and S. M Griffies, 2013, Impact of climate warming on upper layer of the Bering Sea. Climate Dynamics, 40, DOI:10.1007/s00382-012-1301-8.

Yang, X., A. Rosati, S. Zhang, T. L Delworth, R. Gudgel, **R. Zhang**, G. A Vecchi, W. G Anderson, Y-S Chang, T. DelSole, K. W Dixon, R. Msadek, W. F Stern, A. T Wittenberg, and F. Zeng, 2013, A predictable AMO-like pattern in GFDL's fully-coupled ensemble initialization and decadal forecasting system. Journal of Climate, 26, DOI:10.1175/JCLI-D-12-00231.1.

Delworth, T. L., A. Rosati, W. G Anderson, A. Adcroft, V. Balaji, R. Benson, K. W. Dixon, S. M. Griffies, H C Lee, R. C Pacanowski, G. A Vecchi, A. T Wittenberg, F. Zeng, and **R. Zhang**, 2012, Simulated climate

and climate change in the GFDL CM2.5 high-resolution coupled climate model. Journal of Climate. 25, DOI:10.1175/JCLI-D-11-00316.1

Vecchi, G. A., R. Msadek, T. L Delworth, K. W. Dixon, E Guilyardi, E Hawkins, A R Karspeck, J Mignot, J Robson, A. Rosati, and **R. Zhang**, 2012: Comment on "Multiyear Prediction of Monthly Mean Atlantic Meridional Overturning Circulation at 26.5^{o}N". Science, 338(6107), DOI:10.1126/science.1222566.

Zhang, R., T. L Delworth, A. Rosati, W. G Anderson, K. W. Dixon, H C Lee, and F. Zeng, 2011, Sensitivity of the North Atlantic Ocean circulation to an abrupt change in the Nordic Sea overflow in a high resolution global coupled climate model. Journal of Geophysical Research. 116, DOI:10.1029/2011JC007240

Mahajan, S, **R. Zhang**, and T. L Delworth, 2011, Impact of the Atlantic Meridional Overturning Circulation (AMOC) on Arctic surface air temperature and sea-ice variability. Journal of Climate. 24, DOI:10.1175/2011JCLI4002.1.

Mahajan, S, **R. Zhang**, T. L Delworth, S. Zhang, A. Rosati, and Y-S Chang, 2011, Predicting Atlantic meridional overturning circulation (AMOC) variations using subsurface and surface fingerprints. Deep-Sea Research, Part II, 58(17-18), DOI:10.1016/j.dsr2.2010.10.067.

Wu, S, Z Liu, **R. Zhang**, and T. L Delworth, 2011: On the observed relationship between the Pacific Decadal Oscillation and the Atlantic Multi-decadal Oscillation. Journal of Oceanography, 67, DOI:10.1007/s10872-011-0003-x.

Chen, M-T, X. Lin , Y. Chang , Y. Chen , L. Lo , C. Shen , Y. Yokoyama , D. W. Oppo , W. Thompson, and **R. Zhang**, 2010, Dynamic millennial-scale climate changes in the Northwestern Pacific over the past 40,000 years. Geophysical Research Letters, 37, L23603, doi:10.1029/2010GL045202.

Zhang, R., 2010: Northward Intensification of Anthropogenically Forced Changes in the Atlantic Meridional Overturning Circulation (AMOC). Geophysical Research Letters, 37, L24603, doi:10.1029/2010GL045054.

Zhang, R., 2010: Latitudinal dependence of Atlantic Meridional Overturning Circulation (AMOC) variations. Geophysical Research Letters, 37, L16703, doi:10.1029/2010GL044474.

Joyce, T M., and **R. Zhang**, 2010: On the path of the Gulf Stream and the Atlantic Meridional overturning circulation. Journal of Climate, 23, doi:10.1175/2010JCLI3310.1.

Cheng, H, R. L. Edwards, W. S. Broecker, G. H. Denton, X. Kong, Y. Wang, **R. Zhang**, X. Wang., 2009: Ice age terminations. Science, 326, doi:10.1126/science.1177840.

Zhang, R., S M Kang, and I. Held, *2010*, Sensitivity of climate change induced by the weakening of the Atlantic Meridional Overturning Circulation to cloud feedback. *Journal of Climate*, 23, doi:10.1175/2009JCLI3118.1.

Erukhimova, T, **R. Zhang,** and K P Bowman, 2009: The climatological mean atmospheric transport under weakened Atlantic thermohaline circulation climate scenario. *Climate Dynamics*, 32(2-3)**,** 343-354.

Wan, X, P Chang, R Saravanan, **R. Zhang**, and M Schmidt, 2009: On the interpretation of Caribbean paleo-temperature reconstructions during the Younger Dryas**.** *Geophysical Research Letters*, 36**,** L02701, doi:10.1029/2008GL035805.

Zhang, R., and T. L Delworth, 2009: A new method for attributing climate variations over the Atlantic Hurricane Basin's main development region**.** *Geophysical Research Letters*, 36, L06701, doi:10.1029/2009GL037260.

Chang, P, **R. Zhang**, W Hazeleger, C. Wen, X Wan, L Ji, R J Haarsma, W-P Breugem, and H. Seidel, 2008: Oceanic link between abrupt changes in the North Atlantic Ocean and the African monsoon**.** *Nature Geoscience*, 1(7)**,** 444-448.

Delworth, T. L., P. U. Clark, M. Holland, W. E. Johns, T. Kuhlbrodt, J. Lynch-Stieglitz, C. Morrill, R. Seager, A. J. Weaver, and **R. Zhang**, 2008: The potential for abrupt change in the Atlantic Meridional Overturning Circulation In *Abrupt Climate Change: Final Report, Synthesis & Assessment Product 3.4*, CSSP, Reston, VA, U.S. Geological Survey, 117-162.

Zhang, R., 2008: Coherent surface-subsurface fingerprint of the Atlantic meridional overturning circulation. *Geophysical Research Letters*, 35**,** L20705, doi:10.1029/2008GL035463.

Delworth, T. L., **R. Zhang**, and M E Mann, 2007: Decadal to centennial variability of the Atlantic from observations and models In *Ocean Circulation: Mechanisms and Impacts, Geophysical Monograph Series 173*, Washington, DC, American Geophysical Union, 131-148.

Schmittner, A, E D Galbraith, S W Hostetler, T F Pedersen, and **R. Zhang**, 2007: Large fluctuations of dissolved oxygen in the Indian and Pacific oceans during Dansgaard-Oeschger oscillations caused by variations of North Atlantic Deep Water subduction. *Paleoceanography*, 22, PA3207, doi:10.1029/2006PA001384.

Zhang, R., T. L Delworth, and I. Held, 2007: Can the Atlantic Ocean drive the observed multidecadal variability in Northern Hemisphere mean temperature? *Geophysical Research Letters*, 34, L02709, doi:10.1029/2006GL028683.

Zhang, R., 2007: Anticorrelated multidecadal variations between surface and subsurface tropical North Atlantic. *Geophysical Research Letters*, 34, L12713, doi:10.1029/2007GL030225.

Zhang, R., and G. K Vallis, 2007: The role of bottom vortex stretching on the path of the North Atlantic Western Boundary Current and on the Northern Recirculation Gyre. *Journal of Physical Oceanography*, 37(8), 2053-2080.

Zhang, R., and T. L Delworth, 2007: Impact of the Atlantic Multidecadal Oscillation on North Pacific climate variability. *Geophysical Research Letters*, 34, L23708, doi:10.1029/2007GL031601.

Zhang, R., and T. L Delworth, 2006: Impact of Atlantic multidecadal oscillations on India/Sahel rainfall and Atlantic hurricanes. *Geophysical Research Letters*, 33, L17712, doi:10.1029/2006GL026267.

Zhang, R., 2006: How Cold Were the Tropics and Subtropics at the Last Glacial Maximum? *Quaternary Science Reviews*, 25, 1150-1151.

Zhang, R., and G. K. Vallis, 2006: Impact of Great Salinity Anomalies on the Low Frequency Variability of the North Atlantic Climate. *Journal of Climate*, 19, 470-482.

Zhang, R., and T. L. Delworth, 2005: Simulated Tropical Response to a Substantial Weakening of the Atlantic Thermohaline Circulation. Letter in *Journal of Climate,* 18, 1853-1860.

Griffies, S. M., A. Gnanadesikan, K. W. Dixon, J. P. Dunne, R. Gerdes, M. J. Harrison, A. Rosati, J. L. Russell, B. L. Samuels, M. J. Spelman, M. Winton, and **R. Zhang**, 2005: Formulation of an ocean model for global climate simulations. *Ocean Science*, 1, 45-79.

Gnanadesikan, A., K. W. Dixon, S. M. Griffies, V. Balaji, M. Barreiro, J. A. Beesley, W. F. Cooke, T. L. Delworth, R. Gerdes, M. J. Harrison, I. M. Held, W. J. Hurlin, H. Lee, Z. Liang, G. Nong, R. C. Pacanowski, A. Rosati, J. Russell, B. L. Samuels, Q. Song, M. J. Spelman, R. J. Stouffer, C. O. Sweeney, G. Vecchi, M. Winton, A. T. Wittenberg, F. Zeng, **R. Zhang**, 2006. GFDL's CM2 Global Coupled Climate Models. Part II: The Baseline Ocean Simulation. *Journal of Climate*, 19, 675-697.

Delworth, T. L., A. J. Broccoli, A. Rosati, R. J. Stouffer, V. Balaji, J. A. Beesley, W. F. Cooke, K. W. Dixon, J. Dunne, K. A. Dunne, J. W. Durachta, K. L. Findell, P. Ginoux, A. Gnanadesikan, C. T. Gordon, S. M. Griffies, R. Gudgel, M. J. Harrison, I. M. Held, R. S. Hemler, L. W. Horowitz, S. A. Klein, T. R. Knutson, P. J. Kushner, A. R. Langenhorst, H. Lee, S. Lin, J. Lu, S. L. Malyshev, P. C. D. Milly, V. Ramaswamy, J. Russell, M. D. Schwarzkopf, E. Shevliakova, J. J. Sirutis, M. J. Spelman, W. F. Stern, M. Winton, A. T. Wittenberg, B. Wyman, F. Zeng, **R. Zhang**, 2006. GFDL's CM2 Global Coupled Climate Models. Part I: Formulation and Simulation Characteristics. *Journal of Climate*, 19, 643-674.

Cessi, P., K. Bryan, and **R. Zhang**, 2004: Global Seiching of Thermocline Waters between the Atlantic and the Indian-Pacific Ocean Basins. *Geophysical Research Letters*, 31, L04302, doi:10.1029 / 2003GL019091.

Zhang, R., M. J. Follows and J. Marshall, 2003: Reply to Comment by Roberta M. Hotinski, Lee R. Kump, and Karen L. Bice on "Could the Late Permian Deep Ocean Have Been Anoxic?" *Paleoceanography*, 18(4), 1095, doi:10.1029/2002PA00851.

Zhang, R., M. J. Follows and J. Marshall, 2002: Mechanisms of Thermohaline Mode Switching with Application to Warm Equable Climates. *Journal of Climate*, 15, 2056-2072.

Zhang, R., M. J. Follows, J. P. Grotzinger, and J. Marshall, 2001: Could the Late Permian Deep Ocean Have Been Anoxic? *Paleoceanography*, 16, 317-329.

Harrington, S., **R. Zhang**, P. H. Poole, F. Sciortino, and H. E. Stanley, 1997: Liquid-liquid Phase Transition: Evidence from Simulations, *Physical Review Letters*, 78: (12) 2409-2412.

Stanley H. E., L. Cruz, S. Harrington, P. H. Poole, S. Sastry, F. Sciortino, F. W. Starr, and **R. Zhang**, 1997: Cooperative Molecular Motions in Water: The Liquid-liquid Critical Point Hypothesis, *Physica A*, 236: (1-2) 19-37.

Conference Talks

Zhang, R., Invited talk: "Mechanisms for low frequency variability and predictability in the North Atlantic Sector and Arctic" at Workshop on Climate Prediction in the Arctic-Atlantic Sector, Bergen, Norway, June, 2016.

Zhang, R., Invited talk: "AMOC Impacts on Climate" at International Paleo-AMOC Workshop, Boulder, CO, May, 2016.

Zhang, R., Invited talk: "The impact of low-frequency variability of the Atlantic on Arctic sea ice extent" at CLIVAR-ICTP International Workshop on Decadal Climate Variability and Predictability, Trieste, Italy, November, 2015.

Zhang, R., Invited talk: "Impact of AMOC on the Low Frequency Variability of Summer Arctic Sea Ice Extent" at RAPID-US AMOC International Science Meeting, Bristol, UK, July, 2015.

Zhang, R., Invited talk: "Impact of AMOC on Arctic sea ice and atmosphere heat transport into the Arctic" at 2014 US AMOC Science Team Meeting, Seattle, WA, September, 2014.

Zhang, R., Invited talk: "Atlantic Meridional Overturning Circulation and Climate" at forum "The Role of Oceans in Multidecadal Climate Variability" Beijing, China, September, 2013.

Zhang, R., Invited talk: "Atlantic Meridional Overturning Circulation and Climate" at Davos Atmosphere and Cryosphere Assembly 2013,

Davos, Switzerland, July, 2013.

Zhang, R., et al., Have Aerosols Caused the Observed Atlantic Multidecadal Variability? 2013 AMOC/ RAPID Meeting, Baltimore, MD, July, 2013.

Zhang, R., Review talk of AMOC Fingerprints at the 2012 US AMOC Annual meeting, mini-workshop of AMOC Fingerprints, Boulder, CO, August, 2012.

Zhang, R., Invited talk: "Atlantic Meridional Overturning Circulation and Climate" at the National Taiwan University (NTU) International Science Conference on Climate Change, Taipei, Taiwan, September, 2012.

Zhang R, Invited talk on the review of US AMOC Program at the 2011 US CLIVAR Summit, July, 2011, Woods Hole, MA.

Zhang, R, Atlantic Meridional Overturning Circulation (AMOC) Adjustment to an Abrupt Change in the Nordic Sea Overflow in a High Resolution Global Coupled Climate Model, RAPID/USAMOC International Science Meeting, July, 2011, Bristol, UK.

Zhang R, Latitudinal Dependence of Atlantic Meridional Overturning Circulation (AMOC) Variations, 2010 US Atlantic Meridional Overturning Circulation (AMOC) Annual Meeting, June, 2010, Miami, FL.

Zhang R, Invited talk "Observed and Modeled Fingerprints of the Atlantic Meridional Overtuning Circulation". First U.S. Atlantic Meridional Overtuning Circulation (AMOC) Annual Meeting, Annapolis, MD, May, 2009.

Zhang R. and T. L. Delworth, Invited talk "Impact of the Atlantic Multidecadal Oscillation on North Pacific Climate Variability". AGU Ocean Sciences Meeting, Orlando, FL, March, 2008.

Zhang R., and T. L. Delworth, The impact of the Atlantic ocean variability on Indian summer monsoon rainfall. EGU General Assembly, Vienna, Austria, April, 2007.

Zhang R., and T. L. Delworth, Simulated Tropical Response to a Substantial Weakening of the Atlantic Thermohaline Circulation. *U.S. CLIVAR Atlantic Science Conference*, Miami, FL, February 2005

Zhang R., and G. Vallis, The Great Salinity Anomalies Events and the Low Frequency Variability in the North Atlantic. *AGU Ocean Sciences Meeting*, Portland, OR, January, 2004.

Zhang R., M. Follows and J. Marshall, Self-sustained Thermohaline Oscillations in Paleo Oceans. *AMS 13th Conference on Atmospheric and Oceanic Fluid Dynamics*, Breckenridge, CO, June, 2001.

Zhang R., M. Follows, J. P. Groztinger and J. Marshall, Modeling Circulation and Biogeochemical Cycles in the Late Permian Ocean. *AGU Ocean Sciences Meeting*, San Antonio, TX, January, 2000.

Professional Activities

2016-Present, Editor, Journal of Climate

2016-Present, U.S .AMOC Task Team IV, Chair

2016, Scientific Organizing Committee, International Paleo-AMOC Workshop, Boulder, CO, May, 2016.

2015, Scientific Steering Committee, RAPID/US AMOC International Science Meeting, Bristol, UK, July, 2015

2015-2016, U.S .AMOC Task Team IV, Vice-Chair

2014-Present, Research Council Member, GFDL

2012-Present, Steering Committee, Model Development Team, GFDL

2010-2014, 2015-Present, U.S. AMOC Executive Committee Member

2013-2014, U.S. AMOC Task Team II, Chair

2010-2013, U.S .AMOC Task Team II, Vice-Chair

2011-2013, U.S. CLIVAR Phenomena, Observations, and Synthesis (POS) Panel Member

2011-2012, Invited Contributing Author of IPCC AR5 Chapter 10: Detection and Attribution of Global and Region Climate Change

2012, AGU Editors' Citation for Excellence in Refereeing for Geophysical Research Letters

2012, Organizing committee, US AMOC Annual Meeting and Mini-Workshop on AMOC Fingerprint, Boulder, CO, August, 2012

Memberships: AMS, AGU

Reviewer of manuscripts for:

The Cryosphere
Journal of Marine Systems
Oceanography
Journal of Climate
Journal of Physical Oceanography
Progress in Oceanography
Quaternary Science Reviews
Ocean Dynamics
Earth and Planetary Science Letters
Theoretical and Applied Climatology
Geophysical Research Letters
Advances in Atmospheric Sciences
AGU book
Climate Dynamics
Journal of Applied Meteorology and Climatology
JGR-Atmospheres
JGR-Oceans
Environmental Research Letters
Ocean Science
Climate of the Past
Ocean Modelling
Journal of the Atmospheric Sciences
Plos One
PNAS
Science
Nature
Nature Geoscience
Nature Climate Change
Nature Communications
Nature Scientific Reports

Reviewer of Proposals for:

NSF (Division of Ocean Sciences; Climate and Large-scale Dynamics Program, Decadal and Regional Climate Prediction using Earth System Models (EaSM) Program; Arctic Natural Sciences Program)
NOAA (Climate Variability and Predictability)
CICS, Princeton University