

STEPHEN MATTHEW GRIFFIES

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RESEARCH STATEMENT

My research interests include (1) understanding the ocean's role in the global climate system, (2) formulating physically and mathematically sound subgrid-scale parameterizations for ocean dynamics, especially those related to ocean mesoscale eddies, (3) developing robust and efficient numerical algorithms for ocean circulation models, (4) articulating/teaching the fundamentals of ocean fluid dynamics and ocean climate models, and (5) developing physically sound methods for analyzing the ocean as a complex hydro-thermodynamic system.

EDUCATION

1993	Ph.D in Theoretical Physics	University of Pennsylvania
1988	Physics undergraduate studies	University of Washington
1987	Masters in Engineering Sciences & Applied Mathematics	Northwestern University
1986	Bachelor of Science in Chemical Engineering	Louisiana State University

EMPLOYMENT AND APPOINTMENTS

1996-present	GFDL Physical Scientist (civil service grade GS-15 as of 2011)
2013-present	GFDL Model Development Team Steering Committee
Jun-Aug 2012	Visiting Scientist, National Center for Atmospheric Research, Boulder, USA
Jan-Jun 2011	CSIRO Distinguished Visiting Scientist Fellow, Hobart, Australia
Mar 2009	Visiting Professor, Universite catholique de Louvain, Belgium
Jan-Nov 2005	Visiting Scientist, CSIRO Marine and Atmospheric Research, Hobart, Australia
2001-2005	GFDL Oceans and Climate Group Leader
2000-2011	GFDL Ocean Model and Climate Model Development Team co-Leader
1995-1996	GFDL Visiting Research Scientist
1993-1995	UCAR Global & Climate Change Fellow at Princeton University
1988-1993	University of Pennsylvania Physics Graduate Research Fellow
1986-1987	Northwestern University Engineering Sciences and Applied Mathematics Fellow
1984-1986	Louisiana State University Chemical Engineering Research Technician

OCEANOGRAPHIC CRUISES

1993 **Technical Assistant:** WOCE Line AR7W / Atlantic Circulation Experiment, Labrador Sea, CCGS Hudson (John Lazier, Chief Scientist)

AWARDS AND HONORS

2014	European Geosciences Union Fridtjof Nansen Medal for oceanographic research
2013	Department of Commerce Silver Medal Award (with nine other GFDL staff scientists): For development and application of NOAA's first comprehensive Earth System Model that couples the carbon cycle and climate for projection of changes
2012	NOAA Administrator's Award for scientific vision, leadership and development of the Modular Ocean Model (MOM) for climate modeling, research and predictions
2011	CSIRO Distinguished Visiting Scientist Fellow, Australia
2009	Visiting Professor, Universite catholique de Louvain, Belgium
2001	NOAA/Oceanic and Atmospheric Research Outstanding Scientific Review Paper
1999	NOAA/Oceanic and Atmospheric Research Outstanding Scientific Paper
1998	NOAA/Oceanic and Atmospheric Research Employee of the Year
1997	NOAA/Environmental Research Laboratories Outstanding Scientific Paper

PROFESSIONAL SERVICES AND MEMBERSHIPS

2014-present	CLIVAR Scientific Steering Group
2012-2014	CLIVAR/CliC/SCAR Southern Ocean Region Implementation Panel
2010-present	European Geosciences Union
2009-present	Scientific Advisory Board for the Catalan Climate Institute IC3, Barcelona, Spain
2007-present	Associate Editor of the journal Ocean Modelling
2006-2009	CLIVAR Scientific Steering Group
2004-2009	CLIVAR Working Group on Coupled Modeling (ex officio)
2004-2007	Editorial Board of the journal Ocean Science
1999-2012	CLIVAR Working Group on Ocean Model Development (co-chair 2004-2009)
1993-present	American Geophysical Union
1993-present	American Meteorological Society

MENTORING

2014-present	Ivy Frenger	Princeton University post-doc (with Jorge Sarmiento)
2014-present	Anna FitzMaurice	Princeton University PhD student (with Sonya Legg and Bob Hallberg)
2013-present	Robert Nazarian	Princeton University PhD student (with Sonya Legg and Bob Hallberg)
2013-present	Adele Morrison	Princeton University post-doc (with Jorge Sarmiento)
2013	Terrence O'Kane	Visiting senior scientist from CSIRO Marine Laboratory, Hobart, Australia
2012-present	Carolina Dufour	Princeton University post-doc (with Jorge Sarmiento)
2012-2013	Yalin Fan	Princeton University post-doc
2011-2014	Michael Bueti	University of Rhode Island PhD student (with Isaac Ginis)
2008-2011	Michael Bates	University of New South Wales PhD student (with Matthew England)
2005-2009	Andreas Klocker	University of Tasmania PhD student (with Trevor McDougall)
2001-2002	Harper Simmons	GFDL post-doc
1999-2002	Shafer Smith	Princeton University / GFDL post-doc

INVITED PRESENTATIONS AND TEACHING EXPERIENCE

- Sep-Nov 2014: Princeton University graduate course on geophysical fluid dynamics (taught at level of Vallis, 2006), Princeton, USA.
- Oct 2014: IMPACTS ON OCEAN HEAT FROM THE MESOSCALE: Meeting on ocean heat uptake at National Oceanography Centre, Southampton, UK.
- Jun 2014: IMPACTS ON OCEAN HEAT FROM THE MESOSCALE: University of Stockholm, Sweden.
- Apr 2014: PROBLEMS AND PROSPECTS WITH OCEAN MESOSCALE EDDYING CLIMATE MODELS: Nansen Medal lecture at the European Geosciences Union annual meeting, Vienna, Austria.
- Apr 2014: PROBLEMS AND PROSPECTS WITH OCEAN MESOSCALE EDDYING CLIMATE MODELS: lecture given at a CLIVAR workshop on eddy ocean climate models, Kiel, Germany.
- Sep 2013: PROBLEMS AND PROSPECTS OF MODEL COMPARISONS: AN OCEAN PROCESS PERSPECTIVE: lecture given at a symposium celebrating the 80th birthday of Gerold Siedler, Kiel, Germany.
- Aug 2013: OCEAN MODELS AND OCEAN MODELING: LECTURES ON THE FUNDAMENTALS AND PRACTICES: 10 hour intensive course. International Centre for Theoretical Physics School: FUNDAMENTALS OF OCEAN CLIMATE MODELING AT GLOBAL AND REGIONAL SCALES, Hyderabad, India
- Feb 2013: SEA LEVEL IN A SUITE OF FORCED GLOBAL OCEAN-ICE SIMULATIONS: CLIVAR workshop on Sea-Level Rise, Ocean/Ice-Shelf Interactions, and Ice Sheets, Hobart, Australia
- Jan 2013: OCEAN MODEL NUMERICS AND PHYSICS: CHALLENGES FOR MESOSCALE EDDYING GLOBAL CLIMATE SIMULATIONS: 10th annual meeting of the Drakkar Ocean Modelling Consortia, Grenoble, France
- Sep 2012: SEA LEVEL IN OCEAN CLIMATE MODELS: FUNDAMENTALS AND PRACTICES: University of Tasmania, Hobart, Australia

- Sep 2012: OCEAN MODELLING WITH MOM AND ITS RELATION TO AUSTRALIAN OCEAN CLIMATE SCIENCE: Second meeting of Consortia for Ocean Modelling in Australia, Hobart, Australia
- Feb 2012: OCEAN MODELLING WITH MOM AND ITS RELATION TO AUSTRALIAN OCEAN CLIMATE SCIENCE: First meeting of Consortia for Ocean Modelling in Australia, Hobart, Australia
- Mar 2011: DYNAMIC SEA LEVEL, STATIC SEA LEVEL, AND THE NON-BOUSSINESQ STERIC EFFECT: Australia National University, Canberra, Australia
- Nov 2010: OCEAN CLIMATE MODELING AT GFDL: Scientific Workshop for the Centre for Australian Weather and Climate Research, Hobart, Australia
- Sep 2010: SENSITIVITY OF ATLANTIC OCEAN VARIABILITY TO OCEAN PHYSICS AND VERTICAL COORDINATE: CLIVAR WGOMD/GSOP Workshop on Decadal Variability, Predictability, and Predictions: Understanding the Role of the Ocean. Boulder USA
- Mar 2009: PHYSICAL PROCESSES SETTING THE OCEAN'S WATER MASSES: four lectures at Université Catholique de Louvain, Belgium
- Apr 2008: PHYSICAL PROBLEMS IN SIMULATING THE OCEAN CLIMATE SYSTEM: presentation given during a workshop on Oceans and Climate at Yale University
- Mar 2008: PHYSICAL PROBLEMS IN SIMULATING THE OCEAN CLIMATE SYSTEM: presentation given during a special session on Climate Physics at the American Physical Society's March Meeting of Condensed Matter Physics
- Nov 2007: OCEAN MODEL FUNDAMENTALS: 20 hour intensive course at the University of Tasmania, Australia
- Aug 2006: OCEAN MODEL FUNDAMENTALS: two lectures at the NSF summer school, MODERN MATHEMATICAL METHODS IN PHYSICAL OCEANOGRAPHY, Breckenridge, USA
- Oct 2004: OCEAN MODEL FUNDAMENTALS: 20 hour intensive course at the INDIAN INTENSIVE SCHOOL ON LARGE-SCALE OCEAN MODELLING, Bangalore, India
- Sep 2004: OCEAN MODEL FUNDAMENTALS: three lectures at the GLOBAL OCEAN DATA ASSIMILATION EXPERIMENT SUMMER SCHOOL, La Londe Les Maures, France
- May 2003: OCEAN CLIMATE MODELING AT NOAA-GFDL: two presentations for a workshop on ocean modeling. Hobart, Australia
- May 2002: OCEAN CLIMATE MODELING WITH MOM4: three presentations for a workshop on ocean modeling. Kiel, Germany
- Jan 2001: OCEAN DYNAMICS AND MODELING: three lectures at La Escuela de Verano de Universidad de Concepción, Chile
- Mar 1999: OCEAN AND CLIMATE MODELING: two lectures at CONFERENCE ON GLOBAL CLIMATE. Barcelona, Spain
- Sep-Dec 1993: Co-Lecturer: Atmospheric and Oceanic Data Assimilation, Princeton University
- 1990–1993: Instructor, Undergraduate Physics Laboratory, University of Pennsylvania
- 1990–1993: Teaching Assistant, General Relativity and Quantum Field Theory, University of Pennsylvania

CONVENER/ORGANIZER OF WORKSHOPS & MEETINGS

- Apr 2014: PHYSICAL AND BIOGEOCHEMICAL OCEAN MODELLING: DEVELOPMENT, ASSESSMENT, AND APPLICATIONS, Session at the European Geosciences Union General Assembly, Vienna, Austria.
- Feb 2014: PHYSICAL AND BIOGEOCHEMICAL OCEAN MODELING: DEVELOPMENT, ASSESSMENT AND APPLICATIONS, Session at the Ocean Sciences meeting, Honolulu, Hawaii.
- Apr 2013: PHYSICAL AND BIOGEOCHEMICAL OCEAN MODELLING: DEVELOPMENT, ASSESSMENT, AND APPLICATIONS, Session at the European Geosciences Union General Assembly, Vienna, Austria.

- Feb 2013: CLIVAR WGOMD/SOP WORKSHOP ON SEA-LEVEL RISE, OCEAN/ICE-SHELF INTERACTIONS, AND ICE SHEETS, Hobart, Australia.
- Apr 2012: PHYSICAL AND BIOGEOCHEMICAL OCEAN MODELLING: DEVELOPMENT, ASSESSMENT, AND APPLICATIONS, Session at the European Geosciences Union General Assembly, Vienna, Austria.
- Oct 2011: OCEAN CIRCULATION AND VENTILATION, Session at the WCRP Open Science Conference, Denver, USA.
- Apr 2011: PHYSICAL AND BIOGEOCHEMICAL OCEAN MODELLING: DEVELOPMENT, ASSESSMENT, AND APPLICATIONS, Session at the European Geosciences Union General Assembly, Vienna, Austria.
- Oct 2009: WORKSHOP ON OCEAN CLIMATE MODELING, GFDL/Princeton, USA.
- Apr 2009: CLIVAR WORKSHOP ON OCEAN MESOSCALE EDDIES: OBSERVATIONS, SIMULATIONS, AND PARAMETERIZATIONS, Exeter, UK.
- Aug 2007: CLIVAR WORKSHOP ON NUMERICAL METHODS IN OCEAN MODELLING, Bergen, Norway.
- Nov 2005: CLIVAR WORKSHOP ON MODELLING THE SOUTHERN OCEAN, Hobart, Australia.
- Jun 2004: CLIVAR WORKSHOP ON EVALUATING THE OCEAN COMPONENT OF IPCC MODELS, Princeton, USA.
- Aug 2002: WORKSHOP ON Z-COORDINATE OCEAN MODELING, Massachusetts Institute of Technology, USA.
- Nov 1999: MEETING OF Z-COORDINATE OCEAN MODELING AT GFDL, LANL, MIT, AND NCAR, Princeton, USA.
- Jul 1999: OCEAN/ATMOSPHERE VARIABILITY AND PREDICTABILITY, Session at the International Union of Geodesy and Geophysics, Session, Birmingham, UK.

PARTICIPANT IN SCHOOLS

- Jan 1998: NATO Advanced Study Institute: OCEAN MODELING AND PARAMETERIZATION, Les Houches, France.
- Jan 1996: NATO Advanced Study Institute: CLIMATE VARIABILITY AND PREDICTABILITY, Les Houches, France.
- Jul 1994: Meeting of UCAR Global and Climate Change Fellows. Steamboat Springs, USA.
- Jul 1992: Theoretical Advanced Study Institute: FROM STRING THEORY TO BLACK HOLES, Boulder, USA.
- Jul 1991: High Energy Physics and Cosmology School, Center for Theoretical Physics. Trieste, Italy.
- Jun 1991: Theoretical Physics Summer School: PARTICLE PHYSICS IN THE 1990's, Les Houches, France.

REFEREED PUBLICATIONS AND MANUSCRIPTS UNDER REVIEW

1. An assessment of the Arctic Ocean in a suite of interannual CORE-II simulations: sea ice and freshwater, 2015: Q. Wang, M. Ilicak, R. Gerdes, H. Drange, Y. Aksenov, D. Bailey, M. Bentsen, A. Biastoch, A. Bozec, C. Böning, C. Cassou, E. Chassignet, A.C. Coward, B. Curry, G. Danabasoglu, S. Danilov, E. Fernandez, P. Giuseppe Fogli, Y. Fujii, **S.M. Griffies**, R. Ingvaldsen, D. Iovino, A. Jahn, T. Jung, W.G. Large, C. Lee, C. Lique, J. Lu, S. Masina, A.J.G. Nurser, B. Rabe, C. Roth, D. Salas y Mélia, B.L. Samuels, P. Spence, H. Tsujino, S. Valcke, A. Voldoire, X. Wang, S.G. Yeager, *in preparation for Ocean Modelling*.
2. An assessment of Antarctic Circumpolar Current and Southern Ocean Meridional Overturning Circulation sensitivity during 1958-2007 in a suite of inter-annual CORE-II simulations, 2015: R. Farneti, S. Downes, **S.M. Griffies**, S. Marsland, D. Bailey, E. Behrens, M. Bentsen, D. Bi, A. Biastoch, C. Böning, A. Bozec, V.M. Canuto, E. Chassignet, G. Danabasoglu, S. Danilov, N. Diansky, H. Drange, P. Giuseppe Fogli, A. Gusev, A. Howard, M. Ilicak, T. Jung, M. Kelley, W.G. Large, A. Leboissetier, M. Long, J. Lu, S. Masina, A. Mishra, A. Navarra, A.J.G. Nurser, L. Patara, B.L. Samuels, D. Sidorenko, P. Spence, H. Tsujino, Q. Wang, S.G. Yeager, *submitted to Ocean Modelling*.
3. Simulated South Atlantic transports and their variability during 1958-2007, 2015: L.E. Sitz, R. Farneti, **S.M. Griffies**, *in revision with Ocean Modelling*.
4. Sensitivity of abyssal watermasses to overflow parameterizations, 2015, K. Snow, A. McC. Hogg, S.M. Downes, B.M. Sloyan, M.L. Bates, and **S.M. Griffies**, *in revision with Ocean Modelling*.
5. An assessment of Southern Ocean water masses and sea ice during 1988-2007 in a suite of inter-annual CORE-II simulations, 2015: S.M. Downes, R. Farneti, P. Uotila, **S.M. Griffies**, S. Marsland, D. Bailey, E. Behrens, M. Bentsen, D. Bi, A. Biastoch, C. Böning, A. Bozec, V.M. Canuto, E. Chassignet, G. Danabasoglu, S. Danilov, N. Diansky, H. Drange, P. Giuseppe Fogli, A. Gusev, A. Howard, M. Ilicak, T. Jung, M. Kelley, W.G. Large, A. Leboissetier, M. Long, J. Lu, S. Masina, A. Mishra, A. Navarra, A.J.G. Nurser, L. Patara, B.L. Samuels, D. Sidorenko, P. Spence, H. Tsujino, Q. Wang, S.G. Yeager, *in revision with Ocean Modelling*.
6. An extreme event of sea level rise along the northeast coast of North America in 2009-2010, 2015: P. Goddard, J. Yin, **S.M. Griffies**, and S. Zhang, *Nature Communication*, DOI: 10.1038/ncomms7346.
7. Has coarse ocean resolution biased simulations of transient climate sensitivity?, 2014: M. Winton, W.G. Anderson, T.L. Delworth, **S.M. Griffies**, W.J. Hurlin and A. Rosati, *Geophysical Research Letters*, DOI: 10.1002/2014GL061523.
8. Impacts on ocean heat from transient mesoscale eddies in a hierarchy of climate models, 2014: **S.M. Griffies**, M. Winton, W.G. Anderson, R. Benson, T.L. Delworth, C.O. Dufour, J.P. Dunne, P. Goddard, A.K. Morrison, A. Rosati, A.T. Wittenberg, J. Yin, and R. Zhang, *Journal of Climate*, **28**, 952-977, doi: <http://dx.doi.org/10.1175/JCLI-D-14-00353.1>
9. Tropical cyclone-induced thermocline warming and its regional and global impacts, 2014: M.R. Buetti, I. Ginis, L.M. Rothstein, and **S.M. Griffies**, *Journal of Climate*, **27**, 6978-6999, doi: <http://dx.doi.org/10.1175/JCLI-D-14-00152.1>.
10. On the subtropical Pacific meridional overturning circulation variability over the second half of the 20th century, 2014: R. Farneti, S. Dwivedi, F. Kucharski, F. Molteni, and **S.M. Griffies**, *Journal of Climate*, **27**, 7102-7112. doi:10.1175/JCLI-D-13-00707.1.
11. On geometrical aspects of interior ocean mixing, 2014: T.J. McDougall, S. Groeskamp, and **S.M. Griffies**, *Journal of Physical Oceanography*, **44**, 2164-2175, doi:10.1175/JPO-D-13-0270.1.
12. Rapid subsurface warming and circulation changes of Antarctic coastal waters by poleward shifting winds, 2014: P. Spence, **S.M. Griffies**, M.H. England, A. McC. Hogg, O.A. Saenko, and N.C. Jourdain, **41**, doi:10.1002/2014GL060613.
13. An assessment of global and regional sea level in a suite of interannual CORE-II simulations, 2013: **S.M. Griffies**, J. Yin, P.J. Durack, P. Goddard, S.C. Bates, E. Behrens, M. Bentsen, D. Bi, A. Biastoch, C. Böning, A. Bozec, C. Cassou, E. Chassignet, G. Danabasoglu, S. Danilov, C. Domingues, H. Drange, R. Farneti, E. Fernandez, R. J. Greatbatch, D.M. Holland, M. Ilicak, J. Lua, S.J. Marsland, A. Mishra, K. Lorgacher, A.J.G. Nurser, D. Salas y Mélia, J.B. Palter, B.L. Samuels, J. Schröter, F.U. Schwarzkopf, D. Sidorenko, A.-M. Treguier, Y. Tseng, H. Tsujino, P. Uotila, S. Valcke, A. Voldoire, Q. Wang, M. Winton, and X. Zhang, *Ocean Modelling*, **78**, 35-89, 10.1016/j.ocemod.2014.03.004.
14. Impacts of parameterized Langmuir turbulence and non-breaking wave mixing in global climate simulations, 2014: Y. Fan and **S.M. Griffies**, *Journal of Climate*, **27**, 4752-4775, <http://dx.doi.org/10.1175/JCLI-D-13-00583.1>.
15. Simulated global swell and wind sea climate and their responses to anthropogenic climate change at the end of the 21st century, 2014: Y. Fan, S.-J. Lin, **S.M. Griffies**, and M.A. Hemer, *Journal of Climate*, **27**, 3516-3536, <http://dx.doi.org/10.1175/JCLI-D-13-00198.1>.
16. Development of a regional model for the north Indian Ocean, 2014: H. Rahaman, M. Harrison, D. Sengupta, M. Ravichandran, and **S.M. Griffies**, **75**, 1-19, *Ocean Modelling*, <http://dx.doi.org/10.1016/j.ocemod.2013.12.005>.
17. North Atlantic Simulations in Coordinated Ocean-ice Reference Experiments phase II (CORE-II). Part I: Mean States, 2013: G. Danabasoglu, S. Yeager, D. Bailey, E. Behrens, M. Bentsen, D. Bi, A. Biastoch, C. Böning, A. Bozec, V.M. Canuto, C. Cassou, E. Chassignet, C. Coward, S. Danilov, N. Diansky, H. Drange, R. Farneti, E. Fernandez, P. G. Fogli, G. Forget, Y. Fujii, **S.M. Griffies**, A. Gusev, P. Heimbach, A. Howard, T. Jung, M. Kelley, W.G. Large, A. Leboissetier, J. Lu, G. Madec, S.J. Marsland, S. Masina, A. Navarra, A.J.G. Nurser, A. Pirani, D. Salas y Mélia, B.L. Samuels, M. Scheinert, D. Sidorenko, A.-M. Treguier, H. Tsujino, P. Uotila, S. Valcke, A. Voldoire, and Q. Wang, *Ocean Modelling*, doi:10.1016/j.ocemod.2013.10.005.

18. The deep ocean buoyancy budget and its temporal variability, 2013: J.B. Palter, **S.M. Griffies**, E.D. Galbraith, A. Gnanadesikan, B.L. Samuels, and A. Klocker, *Journal of Climate*, **27**, 551–573, <http://dx.doi.org/10.1175/JCLI-D-13-00016.1>.
19. Sea level changes forced by Southern Ocean winds, 2013: L.M. Frankcombe, P. Spence, A. McC. Hogg, M.H. England, and **S.M. Griffies**, *Geophysical Research Letters*, **40**, doi:10.1002/2013GL058104.
20. Challenges to Understanding the Dynamic Response of Greenland’s Marine Terminating Glaciers to Oceanic and Atmospheric Forcing, 2012: F. Straneo, P. Heimbach, O. Sergienko, G. Hamilton, G. Catania, **S.M. Griffies**, R. W. Hallberg, A. Jenkins, I. Joughin, R. Motyka, W. T. Pfeffer, S. F. Price, E. Rignot, T. Scambos, M. Truffer, A. Vieli, *Bulletin of the American Meteorological Society*, **94**, 1131–1144.
21. The ACCESS coupled model: description, control climate and evaluation, 2013: D. Bi, M. Dix, S.J. Marsland, S. O’Farrell, H. Rashid, P. Uotila, A.C. Hirst, E. Kowalczyk, M. Golebiewski, A. Sullivan, H. Yan, N. Hanna, C. Franklin, Z. Sun, P. Vohralik, I. Watterson, X. Zhou, R. Fiedler, M. Collier, Y. Ma, J. Noonan, L. Stevens, P. Uhe, H. Zhu, **S.M. Griffies**, R. Hill, C. Harris, and K. Puri, *Australian Meteorological and Oceanographic Journal*, **63**, 41–64.
22. Evaluation of ACCESS climate model ocean metrics in CMIP5 simulations, 2013: S.J. Marsland, D. Bi, P. Uotila, R. Fiedler, **S.M. Griffies**, K. Lorbacher, S. O’Farrell, A. Sullivan, P. Uhe, X. Zhou, and A.C. Hirst, *Australian Meteorological and Oceanographic Journal*, **63**, 101–119.
23. ACCESS-OM: the ocean and sea ice core of the ACCESS coupled model, 2013: D. Bi, S.J. Marsland, P. Uotila, S. O’Farrell, R. Fiedler, A. Sullivan, **S.M. Griffies**, X. Zhou, and A.C. Hirst, *Australian Meteorological and Oceanographic Journal*, **63**, 213–232.
24. GFDLs ESM2 global coupled climate-carbon Earth System Models Part II: Carbon system formulation and baseline simulation characteristics, 2013: J.P. Dunne, J.G. John, E.N. Shevliakova, R.J. Stouffer, J.P. Krasting, S.L. Malyshev, P.C.D. Milly, L.A. Sentman, A.J. Adcroft, W. Cooke, K.A. Dunne, **S.M. Griffies**, R.W. Hallberg, , M.J. Harrison, H. Levy, A.T. Wittenberg, P.J. Phillipps, N. Zadeh, *Journal of Climate*, **26**, 2247–2267, doi: 10.1175/JCLI-D-12-00150.1.
25. Influence of Ocean and Atmosphere Components on Simulated Climate Sensitivities, 2013: M. Winton, A.J. Adcroft, **S.M. Griffies**, R.W. Hallberg, L.W. Horowitz and R.J. Stouffer, *Journal of Climate*, **26**, 231–245, <http://dx.doi.org/10.1175/JCLI-D-12-00121.1>.
26. Northern high latitude heat budget decomposition and transient warming, 2013: M.A.A. Rugenstein, M. Winton, R.J. Stouffer, **S.M. Griffies**, and R.W. Hallberg, *Journal of Climate*, **26**, 609–621, <http://dx.doi.org/10.1175/JCLI-D-11-00695.1>.
27. Connecting changing ocean circulation with changing climate, 2012: M. Winton, **S.M. Griffies**, B.L. Samuels, J.L. Sarmiento, and T.L. Froelicher, *Journal of Climate*, **26**, 2268–2278, <http://dx.doi.org/10.1175/JCLI-D-12-00296.1>.
28. GFDLs ESM2 global coupled climate-carbon Earth System Models Part I: Physical formulation and baseline simulation characteristics, 2012: J.P. Dunne, J.G. John, A.J. Adcroft, **S.M. Griffies**, R.W. Hallberg, E.N. Shevliakova, R.J. Stouffer, W. Cooke, K.A. Dunne, M.J. Harrison, J.P. Krasting, S.L. Malyshev, P.C.D. Milly, P.J. Phillipps, L.A. Sentman, B.L. Samuels, M.J. Spelman, M. Winton, A.T. Wittenberg, N. Zadeh, *Journal of Climate*, **25**, 6646–6665, <http://dx.doi.org/10.1175/JCLI-D-11-00560.1>.
29. The catalytic role of beta effect in barotropization processes, 2012: A. Venaille, G.K. Vallis, and **S.M. Griffies**, *Journal of Fluid Mechanics*, **709**, 490–515, doi:10.1017/jfm.2012.344.
30. A dynamic, embedded Lagrangian model for ocean climate models, Part II: Idealised overflow tests, 2012: M.L. Bates, **S.M. Griffies**, and M.H. England, *Ocean Modelling*, **59–60**, 60–76, <http://dx.doi.org/10.1016/j.ocemod.2012.08.003>.
31. A dynamic, embedded Lagrangian model for ocean climate models, Part I: Theory and implementation, 2012: M.L. Bates, **S.M. Griffies**, and M.H. England, *Ocean Modelling*, **59–60**, 41–59, <http://dx.doi.org/10.1016/j.ocemod.2012.05.004>.
32. Rapid barotropic sea level rise from simulated ice-sheet melting scenarios, 2012: K. Lorbacher, S. J. Marsland, J. A. Church, **S.M. Griffies**, and D. Stammer, *Journal of Geophysical Research*, doi:10.1029/2011JC007733, **117**, C06003.
33. Physical processes that impact the evolution of global mean sea level in ocean climate models, 2012: **S.M. Griffies** and R. J. Greatbatch, *Ocean Modelling*, **51**, 37–72, doi:10.1016/j.ocemod.2012.04.003.
34. Impact of climate warming on upper layer of the Bering Sea, 2012: H.-C. Lee, T.L. Delworth, A. Rosati, R. Zhang, W.G. Anderson, F. Zeng, C.A. Stock, A. Gnanadesikan, K.W. Dixon, **S.M. Griffies**, *Climate Dynamics*, **40**, 327340, doi:10.1007/s00382-012-1301-8.
35. Simulated climate and climate change in the GFDL CM2.5 high-resolution coupled climate model, 2012: T.L. Delworth, A. Rosati, W. Anderson, A.J. Adcroft, V. Balaji, R. Benson, K. Dixon, **S.M. Griffies**, H.-C. Lee, R.C. Pacanowski, G.A. Vecchi, A.T. Wittenberg, F. Zeng, and R. Zhang, *Journal of Climate*, **25**, 2755–2781, doi:10.1175/JCLI-D-11-00316.1.
36. Spurious dianeutral mixing and the role of momentum dissipation, 2012: M. Ilicak, A. J. Adcroft, **S.M. Griffies**, and R. W. Hallberg, *Ocean Modelling*, **45–46**, 37–58, doi:10.1016/j.ocemod.2011.10.003.
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