

## STEPHEN MATTHEW GRIFFIES

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### EDUCATION

1993	Ph.D in Theoretical Physics	University of Pennsylvania
1988	Physics undergraduate training	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)
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-present	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

2011	CSIRO Distinguished Visiting Scientist Fellow, Australia
2009	Visiting Professor, Universite catholique de Louvain, Belgium
2001	NOAA/Oceanic and Atmospheric Research Outstanding Scientific 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

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

## EDUCATIONAL ADVISING

1999-2002	Shafer Smith	Princeton University post-doc
2001-2002	Harper Simmons	GFDL visiting scientist
2005-2009	Andreas Klocker	co-advisor (with Trevor McDougall), University of Tasmania
2008-2011	Michael Bates	co-advisor (with Matthew England), University of New South Wales

## INVITED PRESENTATIONS AND TEACHING EXPERIENCE

- Feb 2012: OCEAN MODELLING WITH MOM AND ITS RELATION TO AUSTRALIAN OCEAN CLIMATE SCIENCE: First meeting of Australian ocean modelling consortia, Hobart, Australia
- Feb 2011: OCEAN MODEL ALGORITHMS DIRECTLY IMPACTING SEA LEVEL SIMULATIONS, AND ANALYSIS METHODS USED TO CHARACTERIZE SEA LEVEL CHANGE: WCRP/IOC Workshop on Regional Sea Level Change, Paris, France
- 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 presentations 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**

- 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 Geophysical 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 Geophysical 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. Influence of Ocean and Atmosphere Components on Simulated Climate Sensitivities, 2012: M. Winton, A.J. Adcroft, **S.M. Griffies**, R.W. Hallberg, L.W. Horowitz and R.J. Stouffer, *in revision with Journal of Climate*.
2. 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, *in revision with Ocean Modelling*.
3. 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, *in revision with Ocean Modelling*.
4. Northern high latitude heat budget decomposition and transient warming, 2012: M.A.A. Rugenstein, M. Winton, R.J. Stouffer, **S.M. Griffies**, and R.W. Hallberg, *in revision with Journal of Climate*.
5. The catalytic role of beta effect in barotropization processes, 2012: A. Venaille, G.K. Vallis, and **S.M. Griffies**, *in revision with Journal of Fluid Mechanics*.
6. 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, H. Levy, 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, *in revision with Journal of Climate*.
7. 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, H. Levy, 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, *in preparation for Journal of Climate*.
8. 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, doi:10.1029/2011JC007733, *Journal of Geophysical Research*.
9. 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.
10. 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*, doi: 10.1007/s00382-012-1301-8.
11. 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.
12. Spurious diapycnal 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.
13. Different magnitudes of projected subsurface ocean warming around Greenland and Antarctica, 2011: J. Yin, J.T. Overpeck, **S.M. Griffies**, A. Hu, J.L. Russell, and R.J. Stouffer, *Nature Geosciences*, doi:10.1038/NGEO1189.
14. Water mass exchange in the Southern Ocean in coupled climate models, 2011: S.M. Downes, A. Gnanadesikan, **S.M. Griffies**, and J.L. Sarmiento, *Journal of Physical Oceanography*, **41**, 1756–1771. doi:10.1175/2011JPO4586.1.
15. The Impact of Decadal-Centennial Climate Variability on the Distribution of Radiocarbon in CM2Mc, a New Earth System Model, 2011: E. Galbraith, E.Y. Hwon, A. Gnanadesikan, **S.M. Griffies**, J. Dunne, K. Rodgers, J.L. Sarmiento, D. Bianchi, J. Simeon, A. Wittenberg, I.M. Held, and R. Slater, *Journal of Climate*, **24**, 4230–4254. doi:10.1175/2011JCLI3919.1.
16. GFDL's CM3 Coupled Climate Model: Characteristics of the Ocean and Sea Ice Simulations, 2011: **S.M. Griffies**, M. Winton, L.J. Donner, L.W. Horowitz, S.M. Downes, R. Farneti, A. Gnanadesikan, W.J. Hurlin, H.-C. Lee, Z. Liang, J.B. Palter, B.L. Samuels, A.T. Wittenberg, B.L. Wyman, J. Yin, and N.T. Zadeh, *Journal of Climate*, **24**, 3520–3544. doi: 10.1175/2011JCLI3964.1.
17. The Dynamical Core, Physical Parameterizations, and Basic Simulation Characteristics of the Atmospheric Component of the GFDL Global Coupled Model CM3, 2011: L.J. Donner, B.L. Wyman, R.S. Hemler, L.W. Horowitz, Y. Ming, M. Zhao, J.-C. Golaz, J. Austin, W.F. Cooke, S.R. Freidenreich, P. Ginoux, C.T. Gordon, **S.M. Griffies**, I.M. Held, W.J. Hurlin, S.A. Klein, A.R. Langenhorst, H.-C. Lee, S.-J. Lin, S. L. Maleyshev, P.C.D. Milly, R. Pincus, J.J. Ploshay, V. Ramaswamy, M.D. Schwarzkopf, C.J. Seman, E. Shevliakova, W.F. Stern, R.J. Stouffer, R. John Wilson, M. Winton, and A.T. Wittenberg, *Journal of Climate*, **24**, 3484–3519. doi: 10.1175/2011JCLI3955.1.
18. Realistic test cases for limited area ocean modelling, 2011: M. Herzfeld, M. Schmidt, **S.M. Griffies**, and Z. Liang, *Ocean Modelling*, **37**, 1–34, doi:10.1016/j.ocemod.2010.12.008.
19. On the use of IPCC-class models to assess the impact of climate on living marine resources, 2010: C.A. Stock, M.A. Alexander, N.A. Bond, K. Brander, W.W.L. Cheung, E.N. Curchitser, T.L. Delworth, J.P. Dunne, **S.M. Griffies**, M.A. Haltuch, J.A. Hare, A.B. Hollowed, P. Lehodey, S.A. Levin, J.S. Link, K.A. Rose, R.R. Rykaczewski, J.L. Sarmiento, R.J. Stouffer, F.B. Schwing, G.A. Vecchi, and F.E. Werner, *Progress in Oceanography*, **88**, 1–27, doi:10.1016/j.pocean.2010.09.001.

20. Parameterization of mixed layer eddies. III: Implementation and impact in global ocean climate simulations, 2010: N. Fox-Kemper, G. Danabasoglu, R. Ferrari, **S.M. Griffies**, R.W. Hallberg, M.M. Holland, M.E. Maltrud, S. Peacock, and B.L. Samuels, *Ocean Modelling*, doi:10.1016/j.ocemod.2010.09.002.
21. The impact of Greenland melt on regional sea level: a preliminary comparison of dynamic and static equilibrium effects, 2010: R.E. Kopp, J.X. Mitrovica, **S.M. Griffies**, C.C. Hay, J. Yin, and R.J. Stouffer, *Climatic Change Letter*, **103**, 619–625, doi:10.1007/s10584-010-9935-1.
22. The role of mesoscale eddies in the rectification of the Southern Ocean response to climate change, 2010: R. Farneti, T.D. Delworth, A.J. Rosati, **S.M. Griffies**, and F. Zeng, *Journal of Physical Oceanography*, **40**, 1539–1557.
23. Spatial Variability of Sea-Level Rise in 21st Century Projections, 2010: J. Yin, **S.M. Griffies**, and R.J. Stouffer, *Journal of Climate*, **23**, 4585–4607.
24. Boundary-Value Problem for the Parameterized Mesoscale Eddy Transport, 2010: R. Ferrari, **S.M. Griffies**, A.J.G. Nurser, and G.K. Vallis, *Ocean Modelling*, **32**, 143–156.
25. Evaluating the Uncertainty Induced by the Virtual Salt Flux Assumption in Climate Simulations and Future Projections, 2010: J. Yin, R.J. Stouffer, M.J. Spelman, and **S.M. Griffies**, *Journal of Climate*, **23**, 80–96.
26. Improving oceanic overflow representation in climate models: the Gravity Current Entrainment Climate Process Team, 2009: S. Legg, B. Briegleb, Y. Chang, E.P. Chassignet, G. Danabasoglu, T. Ezer, A.L. Gordon, **S.M. Griffies**, R. Hallberg, L. Jackson, W. Large, T. Özgökmen, H. Peters, J. Price, U. Riemenschneider, W. Wu, X. Xu, and J. Yang. *Bulletin of the American Meteorological Society*, **90**, 657–670.
27. The science of ocean climate models, 2009: **S.M. Griffies**. In *Encyclopedia of Ocean Sciences* 2nd Edition, J.H. Steele, K.K. Turekian, and S.A. Thorpe, editors. Elsevier, 133–140.
28. Coordinated Ocean-ice Reference Experiments (COREs), 2009: **S.M. Griffies**, A. Biastoch, C. Böning, F. Bryan, E. Chassignet, M. England, R. Gerdes, H. Haak, R.W. Hallberg, W. Hazeleger, J. Jungclaus, W.G. Large, G. Madec, B.L. Samuels, M. Scheinert, A. Sen Gupta, C.A. Severijns, H.L. Simmons, A.-M. Treguier, M. Winton, S. Yeager, J. Yin. *Ocean Modelling*, **26**, 1–46.
29. Effects in a climate model of slope tapering in neutral physics schemes, 2007: A. Gnanadesikan, **S.M. Griffies**, B.L. Samuels, *Ocean Modelling*, **16**, 1–16.
30. Algorithms for density, potential temperature, conservative temperature and freezing temperature of seawater, 2006: D.R. Jackett, T.J. McDougall, R. Feistel, D.G. Wright, and **S.M. Griffies**. *Journal of Atmospheric and Oceanic Technology*, **23**, 1709–1728.
31. GFDL's CM2 Global Coupled Climate Models-Part 2: The Baseline Ocean Simulation, 2006: A. Gnanadesikan, K.W. Dixon, **S.M. Griffies**, V. Balaji, J.A. Beesley, W.F. Cooke, T.L. Delworth, R. Gerdes, M.J. Harrison, I.M. Held, W.J. Hurlin, H.-C. Lee, Z. Liang, G. Nong, R.C. Pacanowski, A. Rosati, J. Russell, B.L. Samuels, S.M. Song, M.J. Spelman, R.J. Stouffer, C.O. Sweeney, G. Vecchi, M. Winton, A.T. Wittenberg, F. Zeng, and R. Zhang. *Journal of Climate*, **19**, 675–697.
32. GFDL's CM2 Global Coupled Climate Models-Part 1: Formulation and Simulation Characteristics, 2006: T.L. Delworth, A.J. Broccoli, A. Rosati, R.J. Stouffer, V. Balaji, J.A. Beeseley, 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.L. Langenhorst, H.-C. Lee, S.J. Lin, L. Lu, S.L. Malyshev, P.C. Milly, V. Ramaswamy, J. Russell, M.D. Schwarzkopf, E. Shevliakova, J. Sirutis, M.J. Spelman, W.F. Stern, M. Winton, A.T. Wittenberg, B. Wyman, F. Zeng, R. Zhang. *Journal of Climate*, **19**, 643–674.
33. Sensitivity of a global ocean model to increased run-off from Greenland, 2006: R. Gerdes, W.J. Hurlin, and **S.M. Griffies**, *Ocean Modelling*, **12**, 416–435.
34. Formulation of an ocean model for global climate simulations, 2005: **S.M. Griffies**, A. Gnanadesikan, K.W. Dixon, J.P. Dunne, R. Gerdes, M.J. Harrison, A. Rosati, J. Russell, B.L. Samuels, M.J. Spelman, M. Winton, R. Zhang. *Ocean Science*, **1**, 45–79.
35. Impacts of shortwave penetration depth on large-scale ocean circulation and heat transport, 2005: C. Sweeney, A. Gnanadesikan, **S. M. Griffies**, M. J. Harrison, A. J. Rosati, and B. L. Samuels. *Journal of Physical Oceanography*, **35**, 1103–1119.
36. Tracer Conservation with an Explicit Free Surface Method for Z-coordinate Ocean Models, 2001: **S.M. Griffies**, R.C. Pacanowski, M. Schmidt, and V. Balaji, *Monthly Weather Review*, **129**, 1081–1098.
37. Developments in Ocean Climate Modelling, 2000: **S.M. Griffies**, C. Böning, F.O. Bryan, E.P. Chassignet, R. Gerdes, H. Hasumi, A. Hirst, A.-M. Treguier, and D. Webb, *Ocean Modelling*, **2**, 123–192. **NOAA/Oceanic and Atmospheric Research Laboratories 2001 Outstanding Scientific Review Paper Award.**
38. Biharmonic friction with a Smagorinsky-like viscosity for use in large-scale eddy-permitting ocean models, 2000: **S.M. Griffies** and R. W. Hallberg. *Monthly Weather Review*, **128**, 2935–2946.
39. Spurious diapycnal mixing associated with advection in a z-coordinate ocean model, 2000: **S.M. Griffies**, R. C. Pacanowski, and R. W. Hallberg. *Monthly Weather Review*, **128**, 538–564.
40. A conceptual framework for predictability studies, 1999: T. Schneider and **S.M. Griffies**. *Journal of Climate*, **12**, 3133–3155.

41. The Gent-McWilliams Skew-Flux, 1998: **S.M. Griffies**, *Journal of Physical Oceanography*, **28**, 831-841.
42. Isonutral diffusion in a z-coordinate ocean model, 1998: **S.M. Griffies**, A. Gnanadesikan, R. C. Pacanowski, V. Larichev, J. K. Dukowicz, and R. D. Smith, *Journal of Physical Oceanography*, **28**, 805–830. **NOAA/Oceanic and Atmospheric Research Laboratories 1999 Outstanding Scientific Paper Award.**
43. A Predictability Study of Simulated North Atlantic Multidecadal Variability, 1997: **S.M. Griffies** and K. Bryan, *Climate Dynamics*, **13**, 459–488.
44. Predictability of North Atlantic Multidecadal Climate Variability, 1997: **S.M. Griffies** and K. Bryan, *Science* **275**, 181–184. **NOAA/Environmental Research Laboratories 1997 Outstanding Scientific Paper Award.**
45. Reply to Comment on “Instability of the Thermohaline Circulation with Respect to Mixed Boundary Conditions”, 1996: J. R. Toggweiler, E. Tziperman, Y. Feliks, K. Bryan, **S.M. Griffies**, and B. Samuels, *Journal of Physical Oceanography*, **26**, 1106–1110.
46. A Linear Thermohaline Oscillator Driven by Stochastic Atmospheric Forcing, 1995: **S.M. Griffies** and E. Tziperman, *Journal of Climate*, **8**, 2440–2453.
47. Local and global aspects of domain wall space-times, 1993: M. Cvetič, **S.M. Griffies**, and H. H. Soleng, *Physical Review D* **48**, 2613–2634.
48. Nonextreme and ultraextreme domain walls and their global space-times, 1993: M. Cvetič, **S.M. Griffies**, and H. H. Soleng, *Physical Review Letters*, **71**, 670–673.
49. Cauchy horizons, thermodynamics and closed time-like curves in planar supersymmetric space-times, 1993: M. Cvetič, R. Davis, **S.M. Griffies**, and H. H. Soleng, *Physical Review Letters*, **70**, 1191–1194.
50. Nonperturbative stability of supergravity and superstring vacua, 1993: M. Cvetič, **S.M. Griffies**, and S.-J. Rey, *Nuclear Physics*, **B389**, 3–24.
51. Gravitational effects in supersymmetric domain wall backgrounds, 1992: M. Cvetič and **S.M. Griffies**, *Physics Letters*, **285B**, 27–34.
52. Static domain walls in  $N = 1$  supergravity, 1992: M. Cvetič, **S.M. Griffies**, and S.-J. Rey, *Nuclear Physics* **B381**, 301–328.
53. Two skyrmion interaction for the Atiyah-Manton ansatz, 1990: A. Hosaka, **S.M. Griffies**, M. Oka, and R. D. Amado, *Physics Letters* **251B**, 1–5.

## BOOKS, BOOK CHAPTERS, SPECIAL JOURNAL EDITIONS, AND CONFERENCE PROCEEDINGS

1. **Ocean Circulation & Climate**, 2nd Edition, 2013: edited by G. Siedler, J. Church, J. Gould, and **S.M. Griffies**, *in preparation*.
2. Understanding the Dynamic Response of Greenlands Marine Terminating Glaciers to Oceanic and Atmospheric Forcing: A White Paper by the U.S. CLIVAR Working Group on Greenland Ice Sheet-Ocean Interactions (GRISO), 2012: F. Straneo, O. Sergienko, P. Heimbach, C. Bitz, D. Bromwich, G. Catania, **S. M Griffies**, R. Hallberg, G. Hamilton, A. Jenkins, I. Joughin, R. Motyka, A. Munchow, F. M. Nick, L. Padman, W. T. Pfeffer, S. F. Price, E. Rignot, T. Scambos, M. Spall, M. Truffer, A. Vieli.
3. Impact of CO<sub>2</sub> on climate: What have we learned since the Charney Report? What recommendations for the future?, 2011: S. Bony, B. Stevens, I. Held, J. Mitchell, J.-L. Dufresne, K. Emanuel, P. Friedlingstein, **S.M. Griffies**, and C. Senior, *submitted as a WCRP Position Paper to the Open Science Meeting Oct 2011*.
4. Modelling and understanding the ocean mesoscale and submesoscale, 2011: **S.M. Griffies**, editor. Special issue of *Ocean Modelling*, **39**, 1–207.
5. Problems and Prospects in Large-Scale Ocean Circulation Models, 2010: **S.M. Griffies**, A.J. Adcroft, H. Banks, C.W. Böning, E.P. Chassignet, G. Danabasoglu, S. Danilov, E. Deleersnijder, H. Drange, M. England, B. Fox-Kemper, R. Gerdes, A. Gnanadesikan, R.J. Greatbatch, R.W. Hallberg, E. Hanert, M.J. Harrison, S.A. Legg, C.M. Little, G. Madec, S. Marsland, M. Nikurashin, A. Pirani, H.L. Simmons, J. Schröter, B.L. Samuels, A.-M. Treguier, J.R. Toggweiler, H. Tsujino, G.K. Vallis, L. White. Proceedings of the “OceanObs09: Sustained Ocean Observations and Information for Society” Conference (Vol. 2), J. Hall, D.E. Harrison, and D. Stammer, editors. ESA Publication WPP-306. doi:10.5270/OceanObs09.cwp.38.
6. Decadal Climate Prediction: Opportunities and Challenges, 2010: J. W. Hurrell, T. Delworth, G. Danabasoglu, H. Drange, K. Drinkwater, **S.M. Griffies**, N. Holbrook, B. Kirtman, N. Keenlyside, M. Latif, J. Marotzke, G. A. Meehl, J. Murphy, T. Palmer, H. Pohlmann, T. Rosati, R. Seager, D. Smith, R. Sutton, A. Timmermann, K. E. Trenberth, J. Tribbia, and M. Visbeck. Proceedings of the “OceanObs09: Sustained Ocean Observations and Information for Society” Conference (Vol. 2), J. Hall, D.E. Harrison, and D. Stammer, editors. ESA Publication WPP-306. doi:10.5270/OceanObs09.cwp.45.
7. Synthesis and Assimilation Systems: Essential Adjuncts to the Global Ocean Observing System, 2010: M. Rienecker, T. Awaji, M. Balmaseda, B. Barnier, D. Behringer, M. Bell, M. Bourassa, P. Brasseur, L.-A. Breivik, J. Carton, J. Cummings, E. Dombrowsky, C. Fairall, N. Ferry, G. Forget, H. Freeland, W. Gregg, **S.M. Griffies**, K. Haines, D.E. Harrison, P. Heimbach, M. Kamachi, E. Kent, T. Lee, P.-Y. Le Traon, M. McPhaden, M. Martin, P. Oke, M. Palmer, E. Remy, A. Rosati, A. Schiller, D.M. Smith, D. Stammer, N. Sugiura, K.E. Trenberth, and Y. Xue. Proceedings of the “OceanObs09: Sustained Ocean Observations and Information for Society” Conference (Vol. 2), J. Hall, D.E. Harrison, and D. Stammer, editors. ESA Publication WPP-306. doi:10.5270/OceanObs09.cwp.31.

8. The Future of Ocean Modeling, 2009: S. Legg, A. J. Adcroft, W. Anderson, V. Balaji, J. P. Dunne, S. M. Griffies, R. W. Hallberg, M. J. Harrison, I. Held, T. Rosati, J. R. Toggweiler, G. K. Vallis, and L. White, in **Oceanography in 2025: Proceedings of a Workshop**, edited by Deborah Glickson; National Research Council publishers.
9. Formulating the equations of an ocean model, 2008: **S.M. Griffies** and A.J. Adcroft. In **Ocean Modeling in an Eddy Regime**, Geophysical Monograph 177, M.W. Hecht and H. Hasumi, editors, Washington, DC: American Geophysical Union, 281-318.
10. Some ocean model fundamentals, 2005: **S.M. Griffies**, in **Ocean Weather Forecasting: an Integrated View of Oceanography**, edited by E.P. Chassignet and J. Verron, pages 19–73. Springer Publishing.
11. **Fundamentals of Ocean Climate Models**, 2004: **S.M. Griffies**. Princeton University Press. Princeton, USA. 518+xxxiv pages. More than 800 copies in circulation as of July 2010.
12. An Introduction to Linear Predictability Analysis, 2003: **S.M. Griffies**. In **Global Climate: Current Research and Uncertainties in the Climate System**. X. Rodo and R. A. Comín, editors, pages 55–79. Springer Publishing.
13. An Introduction to Ocean Climate Modeling. 2003: **S.M. Griffies**, In **Global Climate: Current Research and Uncertainties in the Climate System**. X. Rodo and R. A. Comín, editors. Springer.
14. Physical climate processes and feedbacks. In **Climate Change 2001: Contribution of Working Group I to the Third Assessment Report of the Intergovernmental Panel on Climate Change**, 2001: T.F. Stocker, G. K. C. Clarke, H. Le Treut, R. S. Lindzen, V. P. Meleshko, R. K. Mugara, T. N. Palmer, R. T. Pierrehumbert, P. J. Sellers, K. E. Trenberth, J. Willebrand, R. B. Alley, O. E. Anisimov, C. Appenzeller, R. G. Barry, J. J. Bates, R. Bindshadler, G. B. Bonan, C. W. Böning, S. Bony, H. Bryden, M. A. Cane, J. A. Curry, T. Delworth, A. S. Denning, R. E. Dickinson, K. Echelmeyer, K. Emanuel, G. Flato, I. Fung, M. Geller, P. R. Gent, **S.M. Griffies**, I. Held, A. Henderson-Sellers, A. A. M. Holtslag, F. Hourdin, J. W. Hurrell, V. M. Kattsov, P. D. Killworth, Y. Kushnir, W. G. Large, M. Latif, P. Lemke, M. E. Mann, G. Meehl, U. Mikolajewicz, W. O’Hirok, C. L. Parkinson, A. Payne, A. Pitman, J. Polcher, I. Polyakov, V. Ramaswamy, P. J. Rasch, E. P. Salathe, C. Schar, R. W. Schmitt, T. G. Shepherd, B. J. Soden, R. W. Spencer, P. Taylor, A. Timmermann, K. Y. Vinnikov, M. Visbeck, S. E. Wijffels, and M. Wild. Cambridge, UK: Cambridge University Press, 418-470.
15. Domain walls in  $N = 1$  supergravity, 1993: M. Cvetič and **S.M. Griffies**, in **Proceedings of the International Symposium on Black Holes, Membranes, Wormholes, and Superstrings**. (S. Kalara and D. Nanopoulos editors), World Scientific.

## UNREFEREED REPORTS

1. **Elements of the Modular Ocean Model (MOM)**, 2012: **S.M. Griffies**, NOAA/Geophysical Fluid Dynamics Laboratory Technical Report No. 7. Princeton, USA. 620 pages.
2. Physical ocean fields in CMIP5, 2011: **S.M. Griffies** and G. Danabasoglu. *CLIVAR Exchanges*, Newsletter of the Climate Variability and Predictability Programme. Volume **16**, 32–34.
3. Working Group on Ocean Model Development (WGOMD) Activities and Future Directions, 2009: A. Pirani, **S.M. Griffies**, G. Danabasoglu, and H. Drange. *CLIVAR Exchanges*, Newsletter of the Climate Variability and Predictability Programme. Volume **14**, 26–27.
4. CLIVAR WGOMD Workshop on Ocean Mesoscale Eddies: Representations, Parameterizations, and Observations, 2009: **S.M. Griffies**, *CLIVAR Exchanges*, Newsletter of the Climate Variability and Predictability Programme. Volume **14**, 40–41.
5. Sampling physical ocean fields in WCRP CMIP5 simulations, 2009: **S.M. Griffies**, A.J. Adcroft, H. Aiki, V. Balaji, M. Benson, F. Bryan, G. Danabasoglu, S. Denvil, H. Drange, M. England, J. Gregory, R.W. Hallberg, S. Legg, T. Martin, T. McDougall, A. Pirani, G. Schmidt, D. Stevens, and H. Tsujino. Southampton, UK, International CLIVAR Project Office, 56pp. (ICPO Publication Series, 137) <http://eprints.soton.ac.uk/65415/>
6. **Elements of MOM4p1**, 2009: **S.M. Griffies**, NOAA/Geophysical Fluid Dynamics Laboratory Technical Report No. 6. Princeton, USA. 444 pages.
7. Furthering the science of ocean climate modelling, 2008: **S.M. Griffies**, H. Banks and A. Pirani. *CLIVAR Exchanges*, Newsletter of the Climate Variability and Predictability Programme. Volume **13**(1), 2.
8. Report from the CLIVAR Working Group on ocean model development (WGOMD), 2008: A. Pirani, **S.M. Griffies**, and H. Banks. *CLIVAR Exchanges*, Newsletter of the Climate Variability and Predictability Programme. Volume **13**(1), 30-32.
9. Ocean modelling with MOM, 2007: **S.M. Griffies**, M.J. Harrison, R.C. Pacanowski, and A. Rosati, *CLIVAR Exchanges*, Newsletter of the Climate Variability and Predictability Programme. Issue No. Volume **12**(3), pages 3–5.
10. Design considerations for Coordinated Ocean-ice Reference Experiments, 2007: **S.M. Griffies**, C. Böning, and A.M. Treguier, *Flux News*, a publication of the WCRP Working Group on Surface Fluxes, Issue **3**, pages 3–5.
11. Reaction of the oceanic circulation to increased melt water flux from Greenland - a test case for ocean general circulation models, 2005: R. Gerdes, **S.M. Griffies**, and W.J. Hurlin, *CLIVAR Exchanges*, Newsletter of the Climate Variability and Predictability Programme. Volume **10**, pages 28–31.

12. **A Technical Guide to MOM4**, 2004: **S.M. Griffies**, M. J. Harrison, R.C. Pacanowski, and A. Rosati, NOAA/Geophysical Fluid Dynamics Laboratory Technical Report No. 5. Princeton, USA. 337 pages.
13. **The MOM 3 Manual**, 1999: R. C. Pacanowski and **S.M. Griffies**. NOAA/Geophysical Fluid Dynamics Laboratory Technical Report No. 4. Princeton, USA. 680 pages.
14. Predictability of North Atlantic climate on decadal times scales estimated using a coupled ocean-atmosphere model, 1997: K. Bryan and **S.M. Griffies**. *International WOCE Newsletter*, **26**, 5–9.
15. Predictability of North Atlantic climate variability on multidecadal time scales, 1994: **S.M. Griffies** and K. Bryan. *The Atlantic Climate Change Program, Proceedings from the principal investigators meeting*. NOAA: University Corporation for Atmospheric Research, 77–80.