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RESEARCH STATEMENT

My research interests include (1) understanding the ocean's role in the global climate system, with special emphasis on Atlantic and Southern Ocean dynamics, sea level, and transport; (2) formulating subgrid-scale parameterizations for turbulent ocean stirring and mixing processes; (3) elucidating novel analysis methods of use for comprehending the ocean as a turbulent fluid with multiple flow regimes; (4) developing consistent numerical algorithms for ocean circulation models; and (5) teaching the fundamentals of ocean fluid mechanics.

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

2017–present	Partner Investigator, Australian Research Council Centre of Excellence for Climate Extremes
2015–present	Lecturer, Princeton University Atmospheric and Oceanic Sciences Program
2013–2017	NOAA/GFDL Model Development Team Steering Committee
Jun-Aug 2012	Visiting Scientist, National Center for Atmospheric Research, Boulder, USA
2011–2017	Partner Investigator, Australian Research Council Centre of Excellence for Climate System Science
Jan-Jun 2011	CSIRO Distinguished Visiting Scientist Fellow, Hobart, Australia
2011-present	NOAA/GFDL Senior Scientist (equivalent to university professor)
Mar 2009	Visiting Professor, Universite catholique de Louvain, Belgium
Jan-Nov 2005	Visiting Scientist, CSIRO Marine and Atmospheric Research, Hobart, Australia
2001–2005	NOAA/GFDL Oceans and Climate Group Leader
2000–2011	NOAA/GFDL Ocean Model and Climate Model Development Team (co-lead)
1996-present	NOAA/GFDL Physical Scientist
1995–1996	NOAA/GFDL Visiting Research Scientist
1993–1995	UCAR Climate & Global 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 Laboratory Technician

OCEANOGRAPHIC FIELD WORK

Mar-May 2017: Eight week cruise on the *RRS JC Ross* to the Orkney Passage and Scotia Sea, as part of the Dynamics of the Orkney Passage Outflow (DynOPO) project. Principal Scientific Officer: A. Naveira Garabato.
Jul 1993: Two week cruise on the *CCGS Hudson* to the Labrador Sea in support of the WOCE Line AR7W Atlantic Circulation Experiment. Chief Scientist: J. Lazier.

AWARDS AND HONORS

- 2017 [Elected Fellow of the American Geophysical Union](#)
- 2017 NOAA Administrator's Award for scientific leadership for the innovation of the versatile community-based Modular Ocean Model MOM6
- 2014 [European Geosciences Union Fridtjof Nansen Medal for oceanographic research](#) for outstanding contribution and leadership in ocean general circulation model development and critical insights in the physical nature and parameterization of ocean processes
- 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 [WCRP/CLIVAR Scientific Steering Group](#)
- 2014-2016 NCEP Climate Model Development Task Force (co-lead)
- 2013-present [WCRP/CLIVAR Ocean Model Development Panel \(ex-officio\)](#)
- 2012-2014 CLIVAR/CliC/SCAR Southern Ocean Region Implementation Panel
- 2010-present Member European Geosciences Union
- 2009-2015 Scientific Advisory Board for the Catalan Climate Institute IC3, Barcelona, Spain
- 2007-present Editor of the journal [Ocean Modelling](#)
- 2006-2009 CLIVAR Scientific Steering Group
- 2004-2009 CLIVAR Working Group on Coupled Modelling (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 AND SABBATICAL HOSTING

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|--------------|--------------------|---|
| 2017-2018 | Laure Zanna | Princeton University visiting scholar (from Oxford University) |
| 2017 | Jianjun Yin | Princeton University visiting scholar (from University of Arizona) |
| 2016-present | Brandon Reichl | Princeton University post-doc researcher |
| 2016-present | Nathaniel Tarshish | Princeton University pre-doc researcher (with Jorge Sarmiento) |
| 2015-present | Amanda O'Rourke | University of Michigan post-doc researcher (with Brian Arbic) |
| 2015-2016 | Henri Drake | Princeton University pre-doc researcher (with Jorge Sarmiento) |
| 2014-present | Alison Gray | Princeton University post-doc (with Jorge Sarmiento) |
| 2014-present | Anna FitzMaurice | Princeton University PhD student (with Sonya Legg and Robert Hallberg) |
| 2014-2015 | Ivy Frenger | Princeton University post-doc (with Jorge Sarmiento) |
| 2013-present | Robert Nazarian | Princeton University PhD student (with Sonya Legg and Robert Hallberg) |
| 2013-2016 | Adele Morrison | Princeton University post-doc (with Jorge Sarmiento) |
| 2013 | Terrence O'Kane | Visiting senior scientist from CSIRO Marine Laboratory, Hobart, Australia |
| 2012-2017 | Carolina Dufour | Princeton University post-doc (with Jorge Sarmiento) |
| 2012-2013 | Yalin Fan | Princeton University post-doc |
| 2011-2014 | Michael Buetti | 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 researcher |
| 1999-2002 | Shafer Smith | Princeton University and GFDL post-doc researcher |

UNIVERSITY TEACHING

- Autumn semester 2017: Princeton University Geosciences 571: Geophysical Fluid Dynamics (24 lectures)
- Spring semester 2017: Princeton University Geosciences 580: Special Topics on Great Papers in Atmospheric and Oceanic Sciences (led one two-hour discussion session)
- Autumn semester 2016: Princeton University Geosciences 571: Geophysical Fluid Dynamics (12 lectures covering the second half of the course)
- Spring semester 2016: Princeton University Geosciences 503: Responsible Conduct of Research in Geosciences (co-taught one three-hour discussion session)
- Autumn semester 2015: Princeton University Geosciences 571: Geophysical Fluid Dynamics (12 lectures covering the second half of the course)
- Autumn semester 2014: Princeton University Geosciences 571: Geophysical Fluid Dynamics (12 lectures covering the first half of the course)
- Autumn semester 1993: Princeton University Geosciences 580: Data Assimilation in Atmospheric and Oceanic Models (co-lecturer and coordinator of visiting lectures)
- 1990–1993: Instructor, Undergraduate Physics Laboratory, University of Pennsylvania
- 1990–1993: Teaching Assistant, General Relativity and Quantum Field Theory, University of Pennsylvania

PARTICIPANT/COLLABORATOR ON RESEARCH GRANTS AND PROJECTS

- Program advisory board for the UK NERC funded project: Transient tracer-based Investigation of Circulation and Thermal Ocean Change (TICTOC) (2017-2020)
- Australian Research Council (2017-2023): Centre of Excellence for Climate Extremes, AU\$30,050,000.
- Co-PI for the Ocean Model Intercomparison Project (OMIP), which is part of the Coupled Model Intercomparison Project (CMIP6) (2016-present).
- Co-PI for the Flux Anomaly Forcing Model Intercomparison Project (FAFMIP), which is part of the Coupled Model Intercomparison Project (CMIP6) (2016-present).
- NOAA Modeling, Analysis, Predictions, and Projections Program (01Jul2016–30Jun2018): Development toward NCEP's fully-coupled global forecast and data assimilation system: A coupled wave-ocean system. \$316,000.
- Australian Research Council (2016-2020): An Australian Consortium for Eddy-Resolving Ocean-Sea Ice Modelling, AU\$599,223.
- US Department of Energy (15Aug2014–14Aug2017): Three-dimensional structure of the Southern Ocean overturning circulation. \$624,213.
- US National Science Foundation (01Sep2014–31Aug2020): Southern Ocean Carbon and Climate Observations and Modeling (SOCCOM). \$20,983,626.
- NASA (26Jun2014–25 Jun2017): The role of mesoscale eddies in cross-frontal transport and subduction of nutrients and carbon in the Southern Ocean. \$715,123.
- NOAA (01Sep2013–31Aug2016): Signature of the Atlantic meridional overturning circulation in the North Atlantic dynamic sea level. \$393,172.
- US Department of Energy (15Sep2011–14Sep2015): Mode and intermediate waters in Earth System Models. \$519,741.
- Australian Research Council (2011-2018): Centre of Excellence for Climate System Science, AU\$21,400,000.
- NOAA Climate Program Office and US National Science Foundation (2003–2008): Climate Processes Team on ocean eddy mixed layer interactions.

- NOAA Climate Program Office and US National Science Foundation (2003–2008): Climate Processes Team on gravity current entrainment.
- NOAA Climate Program Office and US National Science Foundation (2010–2015): Climate Processes Team on representing internal-wave driven mixing in global ocean models.

INVITED PEDAGOGICAL LECTURES AND COURSES

- Jul 2016: OCEAN MODELLING AND SEA LEVEL ANALYSIS: three lectures (two hours each) at the International Centre for Theoretical Physics / Indian Institute for Tropical Meteorology: ADVANCED SCHOOL ON EARTH SYSTEM MODELLING, Pune, India
- Aug 2013: OCEAN MODELS AND OCEAN MODELING: LECTURES ON THE FUNDAMENTALS AND PRACTICES: Five lectures (two hours each) at the International Centre for Theoretical Physics School: FUNDAMENTALS OF OCEAN CLIMATE MODELING AT GLOBAL AND REGIONAL SCALES, Hyderabad, India
- Mar 2009: PHYSICAL PROCESSES SETTING THE OCEAN'S WATER MASSES: four lectures (two hours each) at the Université Catholique de Louvain, Belgium
- Nov 2007: OCEAN MODEL FUNDAMENTALS: 10 lectures (two hours each) at the University of Tasmania, Australia
- Aug 2006: OCEAN MODEL FUNDAMENTALS: two lectures (one hour each) at the NSF summer school, MODERN MATHEMATICAL METHODS IN PHYSICAL OCEANOGRAPHY, Breckenridge, USA
- Oct 2004: OCEAN MODEL FUNDAMENTALS: 10 lectures (two hours each) at the INDIAN INTENSIVE SCHOOL ON LARGE-SCALE OCEAN MODELLING, Bangalore, India
- Sep 2004: OCEAN MODEL FUNDAMENTALS: three lectures (two hours each) at the GLOBAL OCEAN DATA ASSIMILATION EXPERIMENT SUMMER SCHOOL, La Londe Les Maures, France
- May 2003: OCEAN CLIMATE MODELING AT NOAA-GFDL: two lectures (one hour each) for a workshop on ocean modeling, Hobart, Australia
- May 2002: OCEAN CLIMATE MODELING WITH MOM4: three lectures (one hour each) for a workshop on ocean modeling, Kiel, Germany
- Jan 2001: OCEAN DYNAMICS AND MODELING: three lectures (two hours each) at La Escuela de Verano de Universidad de Concepción, Chile
- Mar 1999: OCEAN AND CLIMATE MODELING: two lectures (90 minutes each) at CONFERENCE ON GLOBAL CLIMATE, Barcelona, Spain

PEDAGOGICAL MEDIA OUTREACH

- Dec 2016: [Animation of the ocean's role in El Niño](#)
- Nov 2015: [Animation of Southern Ocean circulation](#)
- 2011: [Animation of ocean surface temperatures from eddy climate model](#)

INVITED RESEARCH PRESENTATIONS WITHIN PAST 10 YEARS

- Jul 2017: LOCALIZED RAPID WARMING OF WEST ANTARCTIC SUBSURFACE WATERS BY REMOTE WINDS: WCRP Conference on Regional Sea-level Changes and Coastal Impacts, Columbia University, New York City, USA.
- May 2017: LOCALIZED RAPID WARMING OF WEST ANTARCTIC SUBSURFACE WATERS BY REMOTE WINDS: RRS JC Ross research cruise JR16005 to Orkney Passage, Southern Ocean.
- Jan 2017: THE OCEAN MESOSCALE: OBSERVATIONS, THEORY, AND MODELING: Banff International Research Station (BIRS) workshop: *Transport in unsteady flows: From deterministic structures to stochastic models and back again*, Banff, Canada.

- July 2016: ELEMENTS OF SEA LEVEL IN A CHANGING CLIMATE: Indian Institute of Tropical Meteorology, Pune, India.
- July 2016: OCEAN MODELLING: AN INTRODUCTION FOR MATHEMATICAL PHYSICISTS: Department of Mathematics, Savitribai Phule Pune University, Pune, India.
- May 2016: ELEMENTS OF SEA LEVEL IN A CHANGING CLIMATE: University of New South Wales, Sydney, Australia & Australian National University, Canberra, Australia.
- Jan 2016: ELEMENTS OF SEA LEVEL IN A CHANGING CLIMATE: Louisiana State University Chemical Engineering Department, Baton Rouge, Louisiana, USA.
- Oct 2015: IMPACTS ON OCEAN HEAT FROM THE MESOSCALE: Lamont-Doherty Earth Observatory / Columbia University, USA.
- Oct 2015: IMPACTS ON OCEAN HEAT FROM THE MESOSCALE: Stony Brook Marine Sciences, Stony Brook, 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 eddyding 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.
- 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
- 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

CONVENER/ORGANIZER OF WORKSHOPS & MEETINGS

- Sep 2016: Science Organizing Committee and Executive Planning Team for CLIVAR OPEN SCIENCE CONFERENCE, Qingdao, China.
- 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 INVITED SPECIAL TOPIC 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.

DOCUMENTS UNDER REVIEW OR IN PREPARATION

1. An extrema-diminishing general-coordinate implementation of neutral diffusion, 2017: A.J. Adcroft, R.W. Hallberg, Andrew Shao, and **S.M. Griffies**, *in preparation for Ocean Modelling*.
2. JRA-55 based surface dataset for driving ocean-sea-ice models (JRA55-do), 2017: H. Tsujino, S. Urakawa, H. Nakano, R. J. Small, W.M. Kim, S.G. Yeager, G. Danabasoglu, W.G. Large, S.A. Josey, T. Suzuki, Y. Komuro, D. Yamazaki, S.M. **Griffies**, H. Tomita, M. Valdivieso, S.J. Marsland F. Boeira Dias, *in preparation for Ocean Modelling*.
3. Surface winds from atmospheric reanalysis lead to contrasting oceanic forcing and coastal upwelling patterns, 2017: F.G. Taboada, C.A. Stock, **S.M. Griffies**, J.P. Dunne, J.G. John, R.J. Small, H. Tsujino, *in preparation for Ocean Modelling*.
4. Roles of the ocean mesoscale in the lateral supply of mass, heat, carbon, and nutrients to the Northern Hemisphere subtropical gyres, 2017: A. Yamamoto, J.B. Palter, C.O. Dufour, **S.M. Griffies**, C. Dianchi, M. Claret, J.P. Dunne, I. Frenger, and E.D. Galbraith, *in preparation for Journal of Geophysical Research*.
5. Lagrangian timescales of Southern Ocean upwelling in a hierarchy of model resolutions, 2017: H.F. Drake, A.K. Morrison, **S.M. Griffies**, J.L. Sarmiento, W. Weijer, A. Gray, *in review with Geophysical Research Letters*.
6. Do high-resolution global ocean models promise benefits for coupled prediction on short-range to climate timescales?, 2017: H.T. Hewitt, M.J. Bell, E.P. Chassignet, A. Czaja, D. Ferreira, **S.M. Griffies**, P. Hyder, J. McClean, A.L. New, M.J. Roberts, *in review at Ocean Modelling*.
7. CO₂-induced ocean warming around the Antarctic ice sheet in an eddying global climate model, 2017: P. Goddard, C.O. Dufour, J. Yin, **S.M. Griffies**, M. Winton, *in revision with Journal of Geophysical Research*.
8. Mechanistic drivers of re-emergence of anthropogenic carbon in the Equatorial Pacific, 2017: P. Zhai, K.B. Rodgers, **S.M. Griffies**, R.D. Slater, D. Iudicone, J.L. Sarmiento, and L. Resplandy, *in revision with Geophysical Research Letters*.
9. Multi-decadal weakening of Indian Ocean summer monsoon circulation induces an increasing northern Indian Ocean sea level, 2017: Swapna P., J. Jyoti, R. Krishnan, S. Setti, and **S.M. Griffies**, *in review at Geophysical Research Letters*.
10. Lagrangian ocean analysis: fundamentals and practices, 2017: E. van Sebille, **S.M. Griffies**, R. Abernathey, T.P. Adams, P. Berloff, A. Biastoch, B. Blanke, E.P. Chassignet, Y. Cheng, C.J. Cotter, E. Deleersnijder, K. Döös, H. Drake, S. Drijfhout, S.F. Gary, A.W. Heemink, J. Kjellsson, I.M. Koszalka, M. Lange, C. Lique, G.A. MacGilchrist, R. Marsh, G.C. Mayorga Adame, R. McAdam, F. Nencioli, C.B. Paris, M.D. Piggott, J.A. Polton, S. Rühls, S.H. Shah, M.D. Thomas, J. Wang, P.J. Wolfram, L. Zanna, and D. Zika, *in revision with Ocean Modelling*.

PEER-REVIEWED PUBLICATIONS

1. Frequency-domain analysis of forced versus intrinsic ocean surface kinetic energy variability in GFDL's CM2-O model hierarchy, 2017: A.K. O'Rourke, B.K. Arbic, and **S.M. Griffies**, *accepted to Journal of Climate*.
2. Preconditioning of the Weddell Sea polynya by the ocean mesoscale and dense water overflows, 2017: C.O. Dufour, A.K. Morrison, **S.M. Griffies**, I. Frenger, H.M. Zanowski, M. Winton, *Journal of Climate*, doi.org/10.1175/JCLI-D-16-0586.1
3. Spiraling pathways of global deep waters to the surface of the Southern Ocean, 2017: V. Tamsitt, H. Drake, A.K. Morrison, L.D. Talley, C.O. Dufour, A.R. Gray, **S.M. Griffies**, M.R. Mazloff, J.L. Sarmiento, J. Wang, and W. Weijer, *Nature Communication*, doi: 10.1038/s41467-017-00197-0.
4. Localized rapid warming of West Antarctic Peninsula subsurface waters by remote winds, 2017: P.J. Spence, R. Holmes, A. McC. Hogg, **S.M. Griffies**, K.D. Stewart, and Matthew H. England, *Nature Climate Change*, DOI: 10.1038/NCLIMATE3335.
5. Biogeochemical protocols and diagnostics for the CMIP6 Ocean Model Intercomparison Project (OMIP), 2017: J.C. Orr, R.G. Najjar, O. Aumont, L. Bopp, J. Bullister, G. Danabasoglu, S. Doney, J.P. Dunne, J.-C. Dutay, H. Graven, **S.M. Griffies**, J.G. John, F. Joos, I. Levin, K. Lindsay, R. J. Matear, A. Mouchet, G. McKinley, A. Oschlies, A. Romanou, R. Schlitzer, A. Tagliabue, T. Tanhua, and A. Yool, *Geoscientific Model Development*, **10**, 2169–2199, doi: 10.5194/gmd-10-2169-2017.
6. Climate Process Team on Internal-Wave Driven Ocean Mixing, 2017: J.A. MacKinnon, M.H. Alford, J.K. Ansong, B.K. Arbic, A. Barna, B.P. Briegleb, F.O. Bryan, M.C. Buijsman, E.P. Chassignet, G. Danabasoglu, S. Diggs, P. Gent, S.M. Griffies, R.W. Hallberg, S.R. Jayne, M. Jochum, J.M. Klymak, E. Kunze, W.G. Large, S. Legg, B. Mater, A.V. Melet, L.M. Merchant, R. Musgrave, J.D. Nash, N.J. Norton, A. Pickering, R. Pinkel, K. Polzin, H.L. Simmons, L.C. St. Laurent, O.M. Sun, D.S. Trossman, A.F. Waterhouse, C.B. Whalen, Z. Zhao, *Bulletin of the American Meteorological Society*, doi: 10.1175/BAMS-D-16-0030.1.
7. Vertical resolution of baroclinic modes in global ocean models, 2017: K. Stewart, A. McC Hogg, S.M. Griffies, A.P. Heerdegen, M.L. Ward, P.J. Spence, M.H. England, *Ocean Modelling*, **113**, 50–65, doi.org/10.1016/j.ocemod.2017.03.012.
8. The Flux-Anomaly-Forced Model Intercomparison Project (FAFMIP) for investigation of sea-level and ocean climate change in response to CO₂ forcing, 2016: J. Gregory, N. Bouttes-Mauhourat, **S.M. Griffies**, H. Haak, W.J. Hurlin, J. Jungclaus, M. Kelley, W.G. Lee, J. Marshall, A. Romanou, O.A. Saenko, D. Stammer, and M. Winton, *Geoscientific Model Development*, **9**, 3993–4017, doi: 10.5194/gmd-9-3993-2016.

9. OMIP contribution to CMIP6: experimental and diagnostic protocol for the physical component of the Ocean Model Inter-comparison Project, 2016: **S.M. Griffies**, G. Danabasoglu, P.J. Durack, A.J. Adcroft, V. Balaji, C. Böning, E.P. Chassignet, E. Curchitser, J. Deshayes, H. Drange, B. Fox-Kemper, P.J. Gleckler, J.M. Gregory, H. Haak, R.W. Hallberg, P. Heimbach, H.T. Hewitt, D.M. Holland, T. Ilyina, J.H. Jungclaus, Y. Komuro, J.P. Krasting, W.G. Large, S.J. Marsland, S. Masina, T.J. McDougall, A.J.G. Nurser, J.C. Orr, A. Pirani, F. Qiao, R.J. Stouffer, K.E. Taylor, A.M. Treguir, H. Tsujino, P. Uotila, M. Valdivieso, Q. Wang, M. Winton, and S.G. Yeager, *Geoscientific Model Development*, **9**, 3231–3296, doi:10.5194/gmd-9-3231-2016.
10. North and Equatorial Pacific Ocean Circulation in the CORE-II Hindcast Simulations, 2016: Y. Tseng, H. Lin, H. Chen, K. Thompson, M. Bentsen, C. Böning, A. Bozec, C. Cassou, E. Chassignet, C. Chow, G. Danabasoglu, S. Danilov, R. Farneti, Y. Fujii, **S.M. Griffies**, M. Ilicak, T. Jung, S. Masina, A. Navarra, L. Patara, B.L. Samuels, M. Scheinert, D. Sidorenko, C. Sui, H. Tsujino, S. Valcke, A. Voldoire, Q. Wang, *Ocean Modelling*, **104**, 143–160, <http://dx.doi.org/10.1016/j.ocemod.2016.06.003>.
11. The influence of geothermal heating on Southern Ocean circulation in a global climate model, 2016: S.M. Downes, A. McC. Hogg, **S.M. Griffies**, and B.L. Samuels, *Journal of Climate*, **29**, 5689–5708, <http://dx.doi.org/10.1175/JCLI-D-15-0458.1>.
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