

# Stephen Gerald Yeager

[www.cgd.ucar.edu/oce/yeager/yeager.html](http://www.cgd.ucar.edu/oce/yeager/yeager.html)

Climate and Global Dynamics (CGD) Laboratory  
National Center for Atmospheric Research (NCAR)  
1850 Table Mesa Drive, Boulder, CO 80305

yeager@ucar.edu  
tel: 303-497-1721  
fax: 303-497-1700

## EDUCATION

- 2009-2013 Ph.D., Atmospheric and Oceanic Sciences, University of Colorado, Boulder, CO  
Advisor: Baylor Fox-Kemper  
1997-1998 M.Sc., Physics, Brown University  
1989-1993 B.A., Physics with High Honors, Dartmouth College, *Summa cum Laude*

## EMPLOYMENT

- 2013- Project Scientist II, CGD, NCAR  
2009-2013 Project Scientist I, CGD, NCAR  
2004-2009 Associate Scientist III, CGD, NCAR  
1998-2004 Associate Scientist II, CGD, NCAR  
1996-1997 Research Assistant, Scripps Institution of Oceanography (La Jolla, CA), supervisor:  
D. Roemmich  
1993-1995 Peace Corps, Physics/Math teacher, Bucalevu Secondary School (Taveuni, Fiji)  
1992-1993 Research Assistant, Plasma Physics Lab, Dartmouth College (Hanover, NH),  
supervisor: J. Walsh  
1992 Research Intern, Department of Energy Science and Engineering Research Semester  
(SERS) program, Battelle Pacific Northwest Labs (Richland, WA)  
1991-1992 Physics and Writing Tutor, Academic Skills Center, Dartmouth College (Hanover,  
NH)

## HONORS AND AWARDS

- 2014 University Corporation for Atmospheric Research (UCAR) Outstanding Publication  
Award (*Yeager et al., 2012, A Decadal Prediction Case Study: Late 20th Century  
North Atlantic Ocean Heat Content. J. Climate, 25, 5173-5189, doi:10.1175/JCLI-D-  
11-00595.1*)  
2014 CGD Special Recognition Award to recognize Outstanding Publication nomination  
2010 NCAR Computational & Information Systems Lab (CISL) Special Recognition  
Award for contributing to the implementation of ensemble data assimilation in the  
CESM Parallel Ocean Program (POP) model  
1997 University Fellowship, Brown University  
1993 Haseltine Physics prize, Dartmouth College  
1992 Phi Beta Kappa (Junior Year), Dartmouth College  
1990/2/3 Rufus Choate Scholar (top 5% of class), Dartmouth College  
1991 Second Honor Group (top 15% of class), Dartmouth College

## PROFESSIONAL SERVICE AND LEADERSHIP

- 2014- **Supervisor:** Who Kim (NCAR Post-doc then Associate Scientist II)  
2015-2016 **Supervisor:** Fred Castruccio (NCAR Project Scientist I)  
2015-2016 **Chair:** Task Team 3, U.S. AMOC Executive Committee  
2015 **Reviewer:** German MiKlip Decadal Prediction Project renewal evaluation  
2015 **Member:** Scientific Steering Committee, UK RAPID/US AMOC International  
Science Meeting (Bristol, UK)  
2015 **Mentor:** Hrishikesh Chandanpurkar (NCAR Advanced Study Program Graduate  
Student Visitor; 08/2015-01/2016)  
2015 **Participant:** UCAR Manager Mojo leadership program  
2014-2015 **Member:** Organizing Committee of the Community Earth System Model (CESM)  
Tutorial Workshop (Boulder, CO)

- 2014 **Member:** Organizing Committee of the U.S. AMOC Science Team Meeting (Seattle, WA)
- 2013-2015 **vice-Chair:** Task Team 3, U.S. AMOC Executive Committee
- 2004-2009 **Science Liaison:** Community Climate System Model Ocean Model Working Group

**Member:** American Meteorological Society, American Geophysical Union, Sigma Xi, and Phi Beta Kappa

**Reviewer:** *Journal of Advances in Modeling Earth Systems, Nature, Nature Geoscience, Dynamics of Atmospheres and Oceans, Journal of Climate, Journal of Physical Oceanography, Ocean Modelling, Ocean Science, Geophysical Research Letters, Journal of Geophysical Research, Bulletin of the American Meteorological Society, Climate Dynamics, Quarterly Journal of the Royal Meteorological Society, Scientific Reports, the National Science Foundation (NSF), and the Natural Sciences and Engineering Research Council of Canada (NSERC)*

#### COMPUTING AWARDS

02/2017 NCAR Computational & Information Systems Laboratory Accelerated Scientific Discovery. *Predicting Near-Term Changes in the Likelihood of Climate Extremes: Initialized Decadal Climate Prediction Using Large Ensemble*; Project Lead: Yeager; Award: 35.4M core-hours on Cheyenne.

#### ACTIVE FUNDING AWARDS

- 06/01/2017-05/31/2018 **DOE RGCM:** Danabasoglu G. (NCAR), W. Weijer (LANL), and S. Yeager (NCAR). *Investigating the predictability of high-latitude/low-latitude linkages using a large ensemble of CESM retrospective decadal prediction simulations*, \$140K. (co-PI and funded participant).
- 07/01/2016-06/30/2019 **NOAA CVP/DOE RGCM:** Cheng, W. (UW), D. Zhang (UW), W. Weijer (LANL), G. Danabasoglu (NCAR), S. Yeager (NCAR), and J. Chiang (Berkeley). *Understanding the freshwater budget of the Atlantic Ocean: Controls, Responses, and the role of the AMOC*, \$1.2M. (co-PI and funded participant).
- 11/01/2012-10/31/2017 **NSF:** Danabasoglu G. (NCAR), J. Anderson (NCAR), G. Branstator (NCAR), K. Lindsay (NCAR), J. Tribbia (NCAR), C. Frankignoul (WHOI), Y.-O. Kwon (WHOI), M. Zhang (SUNY), S. Yeager (NCAR), A. Karspeck (NCAR), M. Long (NCAR), L. Jiang (NCAR), and H. Teng (NCAR). *Collaborative Research EaSM2: Mechanisms, Predictability, Prediction, and Regional and Societal Impacts of Decadal Climate Variability*, \$2.8M. (co-I and funded participant).

#### COMPLETED FUNDING AWARDS

- 08/01/2013-07/31/2016 **NOAA CVP:** Danabasoglu, G. (NCAR), T. Delworth (GFDL), Y.-O. Kwon (WHOI), A. Karspeck (NCAR), S. Yeager (NCAR), J. Tribbia (NCAR), R. Msadek (GFDL), A. Rosati (GFDL), and C. Frankignoul (WHOI). *A Collaborative Multi-model Study: Understanding AMOC Variability Mechanisms and Their Impacts on Decadal Prediction*, \$1.8M. (co-PI and funded participant).
- 08/01/2013-07/31/2016 **NOAA CVP:** Chang, P. (TAMU), G. Danabasoglu (NCAR), and S. Yeager (NCAR). *Collaborative Research: Understanding Changes in the Atlantic Meridional Overturning Circulation (AMOC) during the 20<sup>th</sup> Century using IPCC AR5 Model Ensembles*, \$860K. (co-PI and funded participant).
- 08/01/2009-07/31/2013 **NOAA CVP:** Danabasoglu G. (NCAR), J. Tribbia (NCAR), T. Delworth (GFDL), A. Rosati (GFDL), and J. Marshall (MIT). *A Collaborative Investigation of the Mechanisms, Predictability, and Climate Impacts of Decadal Scale AMOC Variability Simulated in a Hierarchy of Models*, \$2.5M. (funded participant).

## INVITED TALKS

- 03/2017 “Decadal climate prediction using CESM”, International Forum on High-resolution Global Earth System Prediction Studies, Qingdao National Laboratory for Marine Science, Qingdao, China.
- 06/2016 “Decadal prediction with the CESM model”, Workshop on Climate Prediction in the Arctic-Atlantic sector, University of Bergen, Bergen, Norway.
- 06/2016 “What caused the Atlantic cold blob of 2015?”, US CLIVAR *Variations* Webinar Series. [<https://usclivar.org/archived-webinars>]
- 05/2016 “Mechanisms associated with predictable North Atlantic variability”, US CLIVAR Paleo AMOC Workshop, Boulder, CO.
- 01/2016 “Evaluation of CESM ocean-ice hindcast experiments forced by JRA55 data”, CLIVAR Ocean Model Development Panel extended meeting on forcing ocean-ice models, Yokohama, Japan.
- 06/2015 “Predicted Growth of Atlantic Sea-ice in the Coming Decade”, Aspen Global Change Institute workshop on decadal prediction, Aspen, CO.
- 03/2014 “On the dynamics of large-scale Atlantic circulation variability”, Texas A&M University, College Station, TX; Department of Atmospheric Sciences Seminar.
- 10/2013 “On the dynamics of historical AMOC variability”, NCAR, Boulder, CO; Climate and Global Dynamics Seminar.
- 09/2013 “The past, present, and future of the meridional overturning circulation in the Atlantic”, University of Colorado, Boulder, CO; Department of Atmospheric and Oceanic Science, Oceanography Seminar.
- 07/2013 “On the dynamics of historical AMOC variability”, U.S. AMOC/U.K. RAPID International Science Meeting, Baltimore, MD.
- 06/2011 “A CCSM4 decadal prediction case study: Abrupt North Atlantic ocean heat content change in the 1990s”, Aspen Global Change Institute workshop on decadal prediction, Aspen, CO.
- 11/2008 “Addressing the Gulf Stream problem in the 1° POP model”, University of Colorado, Boulder, CO; Department of Atmospheric and Oceanic Science, Oceanography Seminar.
- 10/2005 “Equatorial thermocline variability related to subtropical Atlantic spine formation zones”, U.S. CLIVAR Tropical Atlantic Variability workshop, Venice, Italy.

## REFEREED PUBLICATIONS

- Yeager**, S. G., and J. I. Robson, 2017: Recent progress in understanding and predicting Atlantic decadal climate variability, *Curr. Clim. Change Rep.*, doi: 10.1007/s40641-017-0064-z.
- Tseng, Y., H. Lin, H. Chen, K. Thompson, M. Bentsen, et al., and S. **Yeager**, 2016: North and equatorial Pacific Ocean circulation in the CORE-II hindcast simulations, *Ocean Modelling*, 104, 143-170, doi:10.1016/j.ocemod.2016.06.003.
- Ruprich-Robert, Y., R. Msadek, F. Castruccio, S. **Yeager**, T. Delworth, and G. Danabasoglu, 2017: Assessing the climate impacts of the observed Atlantic Multidecadal Variability using the GFDL CM2.1 and NCAR CESM1 global coupled models, *J. Climate*, 30, 2785-2810, doi:10.1175/JCLI-D-16-0127.1.
- 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, 6293, pp. 1527, doi: 10.1126/science.aaf1660.
- Griffies, S. M., G. Danabasoglu, P. J. Durack, et al., and S. **Yeager**, 2016: Experimental and diagnostic protocol for the physical component of the CMIP6 Ocean Model Intercomparison Project (OMIP), *Geosci. Model Dev.*, 9, 3231-3296, doi:10.5194/gmd-2016-77.
- Kim, W., S. **Yeager**, P. Chang, and G. Danabasoglu, 2016: Atmospheric conditions associated with Labrador Sea deep convection: New insights from a case study of the 2006-2007 and 2007-2008 winters, *J. Climate*, 29, 5281-5297, doi:10.1175/JCLI-D-15-0527.1.

- Ilicak, M., H. Drange, Q. Wang, R. Gerdes, et al., and S. G. **Yeager**, 2016: An assessment of the Arctic Ocean in a suite of interannual CORE-II simulations. Part III: Hydrography and fluxes, *Ocean Modelling*, 100, 141-161, doi:10.1016/j.ocemod.2016.02.004.
- Wang, Q., M. Ilicak, R. Gerdes, H. Drange, et al., and S. G. **Yeager**, 2016: An assessment of the Arctic Ocean in a suite of interannual CORE-II simulations. Part II: Liquid freshwater, *Ocean Modelling*, 99, 86-109, doi:10.1016/j.ocemod.2015.12.009.
- Wang, Q., M. Ilicak, R. Gerdes, H. Drange, et al., and S. G. **Yeager**, 2016: An assessment of the Arctic Ocean in a suite of interannual CORE-II simulations. Part I: Sea ice and solid freshwater, *Ocean Modelling*, 99, 110-132, doi:10.1016/j.ocemod.2015.12.008.
- Danabasoglu, G., S. **Yeager**, W. Kim, et al., 2016: North Atlantic Simulations in Coordinated Ocean-ice Reference Experiments phase II (CORE-II). Part II: Inter-annual to decadal variability, *Ocean Modelling*, 97, 65-90, doi:10.1016/j.ocemod.2015.11.007.
- Schoonover, J., W. Dewar, N. Wienders, J. Gula, J. C. McWilliams, M. J. Molemaker, S. C. Bates, G. Danabasoglu, and S. **Yeager**, 2016: North Atlantic barotropic vorticity balances in numerical models, *J. Phys. Oceanogr.*, 46, 289-303, doi: 10.1175/JPO-D-15-0133.1.
- Yeager**, S., A. Karspeck, and G. Danabasoglu, 2015: Predicted slowdown in the rate of Atlantic sea ice loss, *Geophys. Res. Lett.*, 42, 10,704-10,713, doi: 10.1002/2015GL065364.
- Yeager**, S., 2015: Topographic coupling of the Atlantic overturning and gyre circulations, *J. Phys. Oceanogr.*, 45, 1258-1284, doi: 10.1175/JPO-D-14-0100.1.
- Downes, S., R. Farneti, P. Uotila, S. M. Griffies, S. J. Marsland, et al., and S. G. **Yeager**, 2015: An Assessment of Southern Ocean water masses and sea ice during 1988-2007 in a suite of interannual CORE-II simulations, *Ocean Modelling*, 94, 67-94, doi:10.1016/j.ocemod.2015.07.022.
- Farneti, R., S. M. Downes, S. M. Griffies, S. J. Marsland, et al., and S. G. **Yeager**, 2015: An Assessment of Antarctic Circumpolar Current and Southern Ocean meridional overturning circulation during 1958-2007 in a suite of interannual CORE-II simulations, *Ocean Modelling*, 93, 84-120, doi:10.1016/j.ocemod.2015.07.009.
- Kleppin, H., M. Jochum, B. Otto-Bliesner, C. A. Shields, and S. **Yeager**, 2015: Stochastic atmospheric forcing as a cause of Greenland climate transitions, *J. Climate*, 28, 7741-7763, doi:10.1175/JCLI-D-14-00728.1.
- Karspeck, A., S. **Yeager**, G. Danabasoglu, H. Teng, 2014: Evaluation of experimental initialized decadal predictions using CCSM4, *Clim. Dyn.*, 44, 907-923, doi: 10.1007/s00382-014-2212-7.
- Yeager**, S. and G. Danabasoglu, 2014: The origins of late 20th century variations in the large-scale North Atlantic circulation, *J. Climate*, 27, 3222-3247, doi:10.1175/JCLI-D-13-00125.1.
- Danabasoglu, G., S. **Yeager**, D. Bailey, et al., 2014: North Atlantic Simulations in Coordinated Ocean-ice Reference Experiments phase II (CORE-II). Part I: Mean States, *Ocean Modelling*, 73, 76-107, doi:10.1016/j.ocemod.2013.10.005.
- Karspeck, A., S. **Yeager**, G. Danabasoglu, T. Hoar, N. Collins, K. Raeder, J. Anderson, and J. Tribbia, 2013: An Ensemble Adjustment Kalman Filter for the CCSM4 Ocean Component, *J. Climate*, 26, 7392-7413, doi:10.1175/JCLI-D-12-00402.1.
- Meehl, G. A., L. Goddard, B. Kirtman, G. Branstator, G. Danabasoglu, E. Hawkins, A. Kumar, T. Rosati, D. Smith, R. Sutton, G. Boer, R. Burgman, C. Cassou, S. Corti, A. Karspeck, N. Keenlyside, M. Kimoto, D. Matei, J. Mignot, R. Msadek, A. Navarra, H. Pohlmann, M. Rienecker, E. Schneider, C. Tebaldi, H. Teng, G. J. van Oldenborgh, G. Vecchi, and S. **Yeager**, 2013: Decadal Climate Prediction: An Update from the Trenches, *Bull. Amer. Meteor. Soc.*, 95, 243-267, doi:10.1175/BAMS-D-12-00241.1.
- Msadek, R., W. E. Johns, S. G. **Yeager**, G. Danabasoglu, T. L. Delworth, and A. Rosati, 2013: The Atlantic Meridional Heat transport at 26.5°N and its relationship with the MOC in the RAPID array and the GFDL and NCAR coupled models, *J. Climate*, 26, 4335-4356, doi:10.1175/JCLI-D-12-00081.1.
- Bates, S. C., B. Fox-Kemper, S. R. Jayne, W. G. Large, S. Stevenson, and S. G. **Yeager**, 2012: Mean biases, variability, and trends in air-sea fluxes and SST in the CCSM4, *J. Climate*, 25, 7781-7801, doi:10.1175/JCLI-D-11-00442.1.

- Large, W. G., and S. G. **Yeager**, 2012: On the Observed Trends (1984-2006) and Changes in Global Sea Surface Temperature and Air-Sea Heat Fluxes. *J. Climate*, 25, 6123-6135, doi:10.1175/JCLI-D-11-00148.1.
- Yeager**, S., A. Karspeck, G. Danabasoglu, J. Tribbia, and H. Teng, 2012: A Decadal Prediction Case Study: Late 20th Century North Atlantic Ocean Heat Content. *J. Climate*, 25, 5173-5189, doi:10.1175/JCLI-D-11-00595.1
- Danabasoglu, G., S. **Yeager**, Y-O. Kwon, J. Tribbia, A. Phillips, and J. Hurrell, 2012: Variability of the Atlantic Meridional Overturning Circulation in CCSM4, , *J. Climate*, 25, 5153-5172, doi:10.1175/JCLI-D-11-00463.1.
- Lee, S.-K., W. Park, E. van Sebille, M. Baringer, C. Wang, D. B. Enfield, S. G. **Yeager**, and B. Kirtman, 2011: What caused the significant increase in Atlantic Ocean heat content since the mid-20<sup>th</sup> Century?, *Geophys. Rev. Lett.*, 38, L17607, doi:10.1029/2011GL048856.
- Danabasoglu, G., S. Bates, B. P. Briegleb, S. R. Jayne, M. Jochum, W. G. Large, S. Peacock, and S. G. **Yeager**, 2012: The CCSM4 Ocean Component. *J. Climate*, 25, 1361-1389, doi:10.1175/JCLI-D-11-00091.1.
- Yeager**, S. G., and G. Danabasoglu, 2012: Sensitivity of Atlantic Meridional Overturning Circulation variability to parameterized Nordic Sea overflows in CCSM4. *J. Climate*, 25, 2077-2103, doi:10.1175/JCLI-D-11-00149.1.
- Han, W., G. A. Meehl, B. Rajagopalan, J. T. Fasullo, A. Hu, J. Lin, W. G. Large, J. Wang, X-W. Quan, L. L. Trenary, A. Wallcraft, T. Shinoda, and S. **Yeager**, 2010: Patterns of Indian Ocean sea-level change in a warming climate, *Nat. Geo.*, 3, 546-550, doi:10.1038/NGEO901.
- Stevenson, S., B. Fox-Kemper, M. Jochum, B. Rajagopalan, and S. **Yeager**, 2010: ENSO Model Validation Using Wavelet Probability Analysis, *J. Climate*, 23 (20), 5540-5547, doi:10.1175/2010JCLI3609.1.
- Jochum, M., S. **Yeager**, K. Lindsay, K. Moore, and R. Murtugudde, 2010: Quantification of the feedback between phytoplankton and ENSO in the Community Climate System Model. *J. Climate*, 23 (11), 2916-2925, doi:10.1175/2010JCLI3254.1.
- Gent, P., R. Neale, S. Levis, D. Bailey, and S. **Yeager**, 2010: Improvements in a Half Degree Atmosphere/Land version of the CCSM. *Climate Dynamics*, 34 (6), 819-833, doi:10.1007/s00382-009-0614-8.
- Yeager**, S. G., and M. Jochum, 2009: The Connection between Labrador Sea buoyancy loss, Deep Western Boundary Current strength, and Gulf Stream path in an ocean circulation model. *Ocean Modelling*, 30 (2-3), 207-224, doi:10.1016/j.ocemod.2009.06.014.
- Griffies, S. M., A. Biastoch, C. Böning, F. Bryan, G. Danabasoglu, E. Chassignet, M. England, R. Gerdes, H. Haak, R. Hallberg, W. Hazeleger, J. Jungclaus, W. Large, G. Madec, A. Pirani, B. Samuels, M. Scheinert, A. Gupta, C. Severijns, H. Simmons, A. Treguier, M. Winton, S. **Yeager**, and J. Yin, 2009: Coordinated Ocean-ice Reference Experiments (COREs). *Ocean Modelling*, 26 (1-2), 1-46, doi:10.1016/j.ocemod.2008.08.007.
- Large, W. G., and S. G. **Yeager**, 2009: The Global Climatology of an Interannually Varying Air-Sea Flux Data Set. *Climate Dynamics*, 33 (2-3), 341-364, doi:10.1007/s00382-008-0441-3.
- Yeager**, S. G., and W. G. Large, 2007: Observational evidence of winter spice injection. *J. Phys. Oceanogr.*, 37, 2895-2919, doi:10.1175/2007JPO3629.1.
- Doney, S. C., S. G. **Yeager**, G. Danabasoglu, W. G. Large, and J. C. McWilliams, 2007: Mechanisms governing interannual variability of upper ocean temperature in a global ocean hindcast simulation. *J. Phys. Oceanogr.*, 37, 1918-1938, doi:10.1175/JPO3089.1.
- Hack, J. J., J. M. Caron, S. G. **Yeager**, K. W. Oleson, M. M. Holland, J. E. Truesdale, and P. J. Rasch , 2006: Simulation of the global hydrological cycle in the CCSM Community Atmosphere Model version 3 (CAM3): Mean features. *J. Climate*, 19, 2199-2221, doi:10.1175/JCLI3755.1.
- Yeager**, S. G., C. A. Shields, W. G. Large, and J. J. Hack, 2006: The low-resolution CCSM3. *J. Climate*, 19, 2545-2566, doi:10.1175/JCLI3744.1.
- Yeager**, S. G., and W. G. Large, 2004: Late-winter generation of spiciness on subducted isopycnals. *J. Phys. Oceanogr.*, 34, 1528-1547, doi:10.1175/1520-0485(2004)034<1528:LGOSOS>2.0.CO;2.

Walsh, J., K. Woods, and S. **Yeager**, 1994: Intensity of Smith-Purcell radiation in the relativistic regime. *Nuclear Instruments & Methods in Physics Research*, A 341, 277-279.

#### NON-REFEREED PUBLICATIONS

- Yeager**, S., W. Kim, and J. Robson, 2016: What caused the Atlantic cold blob of 2015? *US CLIVAR Variations*, Project Office, 14, No 2, 24-29.
- Danabasoglu, G., R. Curry, A. Karspeck, C. Meinen, R. Msadek, M. Patterson, R. Perez, A. Schmittner, L. Thompson, and S. **Yeager**, 2015: 2014 US AMOC Science Team Annual Report on Progress and Priorities. Report 2015-1, US CLIVAR Project Office, 165 pp.
- Danabasoglu, G., R. Curry, P. Heimbach, Y. Kushnir, C. Meinen, R. Msadek, M. Patterson, L. Thompson, S. **Yeager**, and R. Zhang, 2014: 2013 US AMOC Science Team Annual Report on Progress and Priorities. Report 2014-4, US CLIVAR Project Office, 162 pp.
- Yeager**, S., 2013: Understanding and predicting changes in North Atlantic Sea Surface Temperature, Ph.D. dissertation, University of Colorado, Boulder, advisor: Baylor Fox-Kemper.
- Rosenbloom, N., C. Shields, E. Brady, S. Levis, and S. **Yeager**, 2011: Using CCSM3 for paleoclimate applications. Technical Report TN-483+STR, NCAR, 81pp., doi:10.5065/D69S1P09.
- Smith, R., P. Jones, B. Briegleb, F. Bryan, G. Danabasoglu, J. Dennis, J. Dukowicz, C. Eden, B. Fox-Kemper, P. Gent, M. Hecht, S. Jayne, M. Jochum, W. Large, K. Lindsay, M. Maltrud, N. Norton, S. Peacock, M. Vertenstein, and S. **Yeager**, 2010: The Parallel Ocean Program (POP) reference manual: Ocean component of the Community Climate System Model (CCSM). Los Alamos National Laboratory Tech. Rep. LAUR-10-01853, 141 pp. [Available online at <http://www.cesm.ucar.edu/models/cesm1.0/pop2/doc/sci/POPRefManual.pdf>].
- W. G. Large and S. G. **Yeager**, 2004: Diurnal to decadal global forcing for ocean and sea-ice models: The data sets and flux climatologies. Technical Report TN-460+STR, NCAR, 105pp.
- Doney, S. C., S. G. **Yeager**, G. Danabasoglu, W. G. Large, and J. C. McWilliams, 2003: Modeling global oceanic inter-annual variability (1958-1997): Simulation design and model-data evaluation. Technical Report TN-452+STR, NCAR, 48pp.
- Yeager**, S., 1993: A dipole model of Smith Purcell radiation, Senior honors thesis, Department of Physics, Dartmouth College, Hanover, NH.

#### TALKS

- 03/2017 “AMOC-related climate prediction using CESM”, US AMOC Science Team Task Team 3 webinar series. [https://usclivar.org/archived-webinars]
- 03/2017 “CISL Accelerated Scientific Discovery. Predicting Near-term changes in the likelihood of climate extremes: initialized decadal climate prediction using large ensembles”, CESM Winter Working Group meeting, Boulder, CO.
- 11/2016 “Decadal climate prediction using CESM”, NOAA Climate Variability Program webinar series. [http://cpo.noaa.gov/ClimateDivisions/EarthSystemScienceandModeling/ClimateVariabilityandPredictability/AMOCMechanisms.aspx]
- 10/2016 “Decadal climate prediction using CESM”, CGD research report, Boulder, CO.
- 06/2016 “What caused the Atlantic cold blob of 2015?”, US CLIVAR *Variations* webinar series. [https://usclivar.org/archived-webinars]
- 05/2016 “Mechanisms associated with predictable North Atlantic decadal variability”, US CLIVAR Paleo-Modern AMOC Workshop, Boulder, CO.
- 04/2016 “Mechanisms underpinning skillful decadal prediction in the North Atlantic”, NCAR Day of Networking and Discovery, Boulder, CO.
- 02/2016 “Mechanisms underpinning skillful decadal prediction in the North Atlantic”, Ocean Sciences Meeting, New Orleans, LA.
- 02/2016 “Evaluation of CESM ocean-ice hindcast experiments forced by JRA55 data”, CESM Ocean Model Working Group meeting, Boulder, CO.

- 01/2016 “Towards a new Normal Year Forcing (NYF)”, 2<sup>nd</sup> session of the CLIVAR Ocean Model Development Panel – Extended meeting on forcing ocean-ice climate models, Yokohama, Japan.
- 01/2016 “Evaluation of CESM ocean-ice hindcast experiments forced by JRA55 data”, 2<sup>nd</sup> session of the CLIVAR Ocean Model Development Panel – Extended meeting on forcing ocean-ice climate models, Yokohama, Japan.
- 09/2015 “Mechanisms, predictability, and regional and societal impacts of decadal climate variability”, 2015 EaSM PI Meeting, Bethesda, MD.
- 07/2015 “Predicted growth of Atlantic sea ice in the coming decade”, RAPID/US AMOC International Science Meeting, Bristol, UK.
- 06/2015 “Reconstructing ocean/sea-ice variability over the 1871-2010 period using NOAA 20<sup>th</sup> Century reanalysis”, CESM Workshop, Breckenridge, CO.
- 02/2015 “Should we expect a rebound of Arctic sea ice extent in coming years? Initialized predictions of AMOC and sea ice extent using CCSM4”, CESM Climate Variability and Change Working Group Meeting, Boulder, CO.
- 01/2015 “Exploration of new POP grids for CESM2”, CESM Ocean Model Working Group Meeting, Boulder, CO.
- 08/2014 “Ocean Modeling II: parameterized physics”, CESM Tutorial Workshop, Boulder, CO.
- 08/2014 “Ocean Modeling I: ocean modeling basics and the CESM ocean model”, CESM Tutorial Workshop, Boulder, CO.
- 03/2014 “Topographic control of the Atlantic Meridional Overturning Circulation”, CGD research report, Boulder, CO.
- 02/2014 “Topographic control of the Atlantic Meridional Overturning Circulation”, Ocean Sciences Meeting, Honolulu, HI.
- 08/2013 “Ocean Modeling I: ocean modeling basics and the CESM ocean model”, CESM Tutorial Workshop, Boulder, CO.
- 05/2013 “The origins of large-scale North Atlantic ocean circulation changes in the late 20<sup>th</sup> century: implications for decadal prediction”, World Climate Research Program (WCRP) International Workshop on Seasonal to Decadal Prediction, Toulouse, France.
- 04/2013 “Understanding and predicting changes in North Atlantic sea surface temperature”, doctoral dissertation defense, University of Colorado, Department of Atmospheric and Oceanic Science, Boulder, CO.
- 08/2012 “On the origins and mechanisms of North Atlantic decadal variability between 1948-2007”, U.S. AMOC Annual PI Meeting, Boulder, CO.
- 06/2012 “Exploring the origins and mechanisms of recent decadal variations in the North Atlantic using CCSM4”, CESM Workshop, Breckenridge, CO.
- 02/2012 “A decadal prediction case study: late 20<sup>th</sup> century North Atlantic ocean heat content”, Ocean Sciences Meeting, Salt Lake City, UT.
- 12/2011 “A decadal prediction case study: late 20<sup>th</sup> century North Atlantic ocean heat content”, CCSM Ocean Model Working Group Meeting, Boulder, CO.
- 06/2011 “A CCSM4 decadal prediction case study: Abrupt North Atlantic ocean heat content change in the 1990s”, CCSM Workshop, Breckenridge, CO.
- 01/2011 “Initialized decadal prediction experiments using CCSM4”, 91<sup>st</sup> Annual Meeting of the American Meteorological Society, Seattle, WA.
- 10/2010 “Community Climate System Model (CCSM4) decadal prediction experiments initialized from best-estimates of the historical ocean state between 1970 and 2000”, CGD research report, Boulder, CO.
- 06/2010 “Decadal prediction with CCSM4: Update on ocean data assimilation efforts and the latest coupled results”, CCSM Workshop, Breckenridge, CO.
- 04/2010 “Decadal prediction with CCSM4”, IMAGE Theme of the Year Workshop, Boulder, CO.

- 02/2010 “Estimating the strength and variability of the Atlantic Meridional Overturning Circulation in recent decades using CCSM4”, Ocean Sciences Meeting, Portland, OR.
- 12/2009 “Towards decadal prediction with CCSM4”, CCSM Ocean Model Working Group Meeting, Boulder, CO.
- 11/2009 “Estimating the strength and variability of the Atlantic Meridional Overturning Circulation in recent decades”, CGD research report, Boulder, CO.
- 06/2009 “Low resolution POP”, CCSM Workshop, Breckenridge, CO.
- 12/2008 “The nonlinear connection between Labrador Sea buoyancy loss, Deep Western Boundary Current strength, and Gulf Stream path in 1° POP”, CCSM Ocean Model Working Group Meeting, Boulder, CO.
- 11/2008 “Mixed boundary conditions, thermohaline circulation, and the Gulf Stream”, CGD research report, Boulder, CO.
- 06/2008 “Amelioration of North Atlantic circulation biases in non-eddy resolving POP”, CCSM Workshop, Breckenridge, CO.
- 03/2008 “Observed diapycnal injection of salinity anomalies”, Ocean Sciences Meeting, Orlando, FL.
- 12/2007 “POP vertical grids for CCSM4”, CCSM Ocean Model Working Group Meeting, Boulder, CO.
- 06/2007 “Optimizing the POP vertical grid”, CCSM Workshop, Breckenridge, CO.
- 02/2007 “CCSM3.5 sensitivity to ocean vertical grid resolution”, CGD research report, Boulder, CO.
- 12/2006 “CCSM4 POP grid formulation”, CCSM Ocean Model Working Group Meeting, Boulder, CO.
- 06/2006 “Exploration of increased vertical grid resolution for POP”, CCSM Workshop, Breckenridge, CO.
- 12/2005 “CORE I and II in CCSM3”, CCSM Ocean Model Working Group Meeting, Boulder, CO.
- 05/2005 “NCOM Hindcast (1958-1997)”, CGD research report, Boulder, CO.
- 07/2004 “Origins of isopycnic interannual variability”, CCSM Workshop, Breckenridge, CO.
- 01/2004 “Diurnal to decadal forcing for ocean models”, CCSM Ocean Model Working Group Meeting, Boulder, CO.
- 06/2003 “Tools for implementing new displaced pole ocean grids in CCSM2”, CCSM Workshop, Breckenridge, CO.
- 03/2003 “Tools for displaced-pole ocean grid generation for CCSM2”, CCSM Ocean Model Working Group Meeting, Boulder, CO.

#### SELECTED POSTERS

- 05/2017 “JRA-55 based surface data set for driving ocean-sea ice models (JRA55-do). Part II: Assessment on the results of global ocean-sea ice models forced by the data set” by H. Tsujino, S. Urakawa, H. Nakano, J. Small, S. **Yeager**, W. Kim, G. Danabasoglu, W. Large, S. Josey, T. Suzuki, Y. Komuro, D. Yamazaki, S. Griffies, H. Tomita, and M. Valdivieso. Joint JpGU/AGU meeting, Tokyo, Japan.
- 09/2016 “Atmospheric conditions associated with Labrador Sea deep convection” by W. Kim, S. **Yeager**, P. Chang, and G. Danabasoglu. CLIVAR Open Science Conference, Qingdao, China.
- 02/2016 “Atlantic multidecadal variability climate impacts: idealized experiments with NCAR and GFDL coupled climate models” by F. Castruccio, Y. Ruprich-Robert, R. Msadek, S. **Yeager**, G. Danabasoglu, and T. Delworth. Ocean Sciences Meeting, New Orleans, LA.
- 02/2016 “Understanding multidecadal SST changes in the tropical North Atlantic” by W. M. Kim, S. **Yeager**, P. Chang, and G. Danabasoglu. Ocean Sciences Meeting, New Orleans, LA.



- 12/2015 “Sensitivity of ocean processes to changes and uncertainties in global river discharge” by H. Chandanpurkar, S. **Yeager**, J. Reager, and J. Famiglietti. AGU Meeting, San Francisco, CA.
- 09/2015 “Predictive skill of the CESM in forecasting the 2014-2015 cold winter in the eastern United States” by J. Xie, M. Zhang, S. **Yeager**, and G. Danabasoglu. EaSM PI Meeting, Bethesda, MD.
- 09/2015 “Predicted growth of Atlantic sea ice in the coming decade” by S. **Yeager**, H. Teng, and G. Danabasoglu. EaSM PI Meeting, Bethesda, MD.
- 09/2014 “Simulated Atlantic multidecadal variability (AMV) during the 20th century in CESM large ensemble and forced ocean simulations” by W. Kim, S. **Yeager**, P. Chang, and G. Danabasoglu. US AMOC Science Team Meeting, Seattle, WA.
- 09/2014 “Community Earth System Model (CESM) projections of AMOC in the coming decade: mechanisms and impacts” by S. **Yeager**, H. Teng, G. Danabasoglu, and A. Karspeck. US AMOC Science Team Meeting, Seattle, WA.
- 06/2014 “Atlantic hindcast sensitivity to historical Greenland freshwater forcing” by L. Landrum, S. **Yeager**, J. Box, J. Fyke, and S. Mernild. CESM Workshop, Breckenridge, CO.
- 10/2011 “A decadal prediction case study: late 20<sup>th</sup> century North Atlantic ocean heat content” by S. **Yeager**, A. Karspeck, G. Danabasoglu, J. Tribbia, and H. Teng. World Climate Research Program (WCRP) Open Science Conference, Denver, CO.
- 09/2010 “Community Climate System Model (CCSM4) decadal prediction experiments initialized from best-estimates of the historical ocean state between 1970 and 2000” by S. **Yeager**, G. Danabasoglu, J. Tribbia, J. Anderson, T. Hoar, N. Collins, K. Raeder, H. Teng, and J. Hurrell. CLIVAR WGOMD-GSOP Workshop on decadal variability, predictability, and prediction: understanding the role of the ocean, Boulder, CO.
- 01/2010 “Initialization of Community Climate System Model (CCSM4) decadal prediction experiments: hindcast estimates of the Atlantic Meridional Overturning Circulation in recent decades” by S. **Yeager**, G. Danabasoglu, J. Tribbia, J. Anderson, T. Hoar, and N. Collins. U.S. CLIVAR Workshop on predicting climate of the coming decades, Miami, FL.
- 01/2009 “The connection between Labrador Sea buoyancy loss, Deep Western Boundary Current Strength, and Gulf Stream path in a 1° ocean circulation model” by S. **Yeager** and M. Jochum. U.S. CLIVAR Western Boundary Current Workshop, Phoenix, AZ.
- 05/2006 “Observational evidence of winter spice injection” by S. **Yeager** and W. Large. U.S. CLIVAR Salinity Workshop, Woods Hole, MA.
- 11/2002 “On the extratropical origins of isopycnic variability” by S. **Yeager** and W. Large. WOCE and Beyond conference, San Antonio, TX.