

Adam Phillips

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EDUCATION

B.S. Atmospheric Science, University of Missouri-Columbia, May 1997
M.S. Atmospheric Science, University of Illinois at Urbana-Champaign, August 1999

TECHNICAL EXPERIENCE

NCL, CESM, CESM diagnostic packages, fortran77, C-shell scripting, Adobe Photoshop, Adobe Acrobat Professional, Microsoft Office, Image Magik, Adobe Illustrator, GrADS, Python, HTML

PROFESSIONAL EXPERIENCE

Associate Scientist IV, CGD/NCAR (April 2013 – present)

Organized and led the annual CESM Tutorial in both 2014 and 2016. Coordinated and led meetings, set agenda, solved innumerable logistical and computational challenges, and was the point person for 90 attendees and 30 participants. Created the Climate Variability Diagnostics (CVDP) and Climate Variability Diagnostics Package for Large Ensembles (CVDPLE), tools that calculate, display and compare the major modes of climate variability across model simulations and observations. The CVDP has garnered significant praise in the community and has been incorporated into the ESMValTool, an international collaboration that brought diagnostics packages from leading institutions together for more comprehensive model evaluation. Am the primary scientific support staff member for the Climate Analysis Section. Serve as a liaison for the CESM Climate Variability and Change Working Group, providing expert programming and community support.

Associate Scientist III, CGD/NCAR (March 2005 – April 2013)

Configured and ran CESM1/CAM3 in support of my position as co-liaison of the Climate Variability and Change Working Group. Took a lead role in the preparation of the annual CESM tutorial and directed a half day session that taught the students about the various processing tools our division uses as well as how to run the four major diagnostics packages. As primary support staff for two senior scientists I provided timely expert programming assistance and high-quality graphical output that is suitable for publication. Overhauled and redesigned the 1000+ page NCL website, and created and maintained a variety of web sites for various people and projects. Provided programming, data management and technical assistance to CGD staff, visitors and scientists at other institutions on a daily basis.

Associate Scientist II, CGD/NCAR (January 2000 – March 2005)

Provided scientific analysis, programming, and graphical and web support for two senior research scientists. Managed large volumes of model output and observational data sets. Designed web pages and provided NCL and data support to other scientists at NCAR and other institutions. Contributed diagrams to articles submitted for publication in refereed journals and books. Configured and ran atmospheric general circulation model (CAM2/CAM3) for a variety of different scenarios.

Research Assistant, University of Illinois at Urbana-Champaign (May 1998 – December 1999)

Researched the duration, strength, gestation region, path, and thermodynamics of the air masses responsible for European/North American cold waves. Primarily used the NCEP/NCAR reanalysis in this study and gained experience in managing large datasets.

Teaching Assistant, University of Illinois at Urbana-Champaign (August 1997 – December 1999)

Gave weekly weather briefings, graded homework and tests, organized study sessions, and tutored students in two introductory meteorology classes across four semesters.

Internship, National Weather Service, Columbia, Missouri (May 1996 – August 1996)

Observed the NWS personnel go through their daily routines. Helped write and broadcast various nowcasts. Gained experience with NWS equipment and procedures.

HONORS AND AWARDS

CGD Special Recognition Award (December 2015)

I received a CGD award in recognition of the development of the Climate Variability Diagnostics Package (CVDP). The CVDP has been used extensively in the development of CESM2 and in the evaluation of CCSM/CESM1 and the climate models within the CMIP5 and CMIP3 archives.

CGD Special Recognition Award (December 2013)

The CESM Tutorial Committee was nominated for a CGD award for outstanding service to the CESM community and for being nominated for a 2013 UCAR Education and Outreach Award.

CGD Special Recognition Award (December 2012)

Received an award for my involvement in the annual CESM Tutorial. I lead an afternoon lecture and laboratory session where attendees receive hands-on experience learning how to use various software tools (including the four major CESM diagnostics packages) that CGD scientists use to analyze model output.

CISL Special Recognition Award (December 2009)

Received recognition for creating and implementing a new webpage design across the 1000+ page NCL website. The overhaul was complicated due to the extraordinarily large number of pages and the years of inconsistent coding practices by various NCL-team members. Instead of having to edit each page individually, I developed a method where all the pages could be updated at once, despite the handful of different coding styles on each page.

NCAR Distinguished Achievement Award (April 2002)

Received an award for the redesign of the Climate Analysis Section's website. All of the top-level pages were redone, as was the CAS logo, mission statement, and many individual staff members' top banners. The end result was more coherent, easier to navigate web pages that were pleasing to look at. The redesign also gave the section a more consistent look across various staff and CAS web pages.

REFEREED PUBLICATIONS

1. Fasullo, J., A. S. Phillips and C. Deser, 2020: Evaluation of Leading Modes of Climate Variability in the CMIP Archives. *J. Climate*, 33, 5527–5545, doi:10.1175/JCLI-D-19-1024.1.
2. Lynn, B. H., S. Cohen, L. Druryan, M. Haley, A. Phillips, C. Krugliach, D. Shea and A. Khain, 2020: An Examination of the Impact of Grid Spacing on WRF Simulations of Wintertime Precipitation in the Mid-Atlantic United States. *Wea. Forecasting*, 35, 2317-2343, doi:10.1175/WAF-D-19-0154.1.
3. Deser, C., A. S. Phillips, I. R. Simpson, N. Rosenbloom, D. Coleman, F. Lehner, A. Pendergrass, P. DiNezio and S. Stevenson, 2020: Isolating the Evolving Contributions of Anthropogenic Aerosols and Greenhouse Gases: A New CESM1 Large Ensemble Community Resource. *J. Climate*, 33, 7835-7858, doi:10.1175/JCLI-D-20-0123.1.
4. Eyring, V., L. Bock, A. Lauer, M. Righi, M. Schlund, B. Andela, E. Arnone, O. Bellprat, B. Brötz, L.-P. Caron, N. Carvalhais, I. Cionni, N. Cortesi, B. Crezee, E. Davin, P. Davini, K. Debeire, L. de Mora, C. Deser, D. Docquier, P. Earnshaw, C. Ehbrecht, B. K. Gier, N. Gonzalez-Reviriego, P. Goodman, S. Hagemann, S. Hardiman, B. Hassler, A. Hunter, C. Kadow, S. Kindermann, S. Koirala, N. V. Koldunov, Q. Lejeune, V. Lembo, T. Lovato, V. Lucarini, F. Massonnet, B. Müller, A. Pandde, N. Pérez-Zanón, A. Phillips, V. Predoi, J. Russell, A. Sellar, F. Serva, T. Stacke, R. Swaminathan, V. Torralba, J. Vegas-Regidor, J. von Hardenberg, K. Weigel, and K. Zimmermann, 2020: ESMValTool v2.0 – Extended set of large-scale diagnostics for quasi-operational and comprehensive evaluation of Earth system models in CMIP. *Geosci. Model Dev. Discuss.*, 13, 3383–3438, doi:10.5194/gmd-13-3383-2020.
5. Capotondi, A., C. Deser, A. S. Phillips, Y. Okumura and S. M. Larson, 2020: ENSO and Pacific Decadal Variability in the Community Earth System Model Version 2. *J. Adv. Model. Earth Sy.*, doi: 10.1029/2019MS002022.

6. Danabasoglu, G., J. -F. Lamarque, J. Bacmeister, D. A. Bailey, A. K. DuVivier, J. Edwards, L. K. Emmons, J. Fasullo, R. Garcia, A. Gettelman, C. Hannay, M. M. Holland, W. G. Large, D. M. Lawrence, J. T. M. Lenaerts, K. Lindsay, W. H. Lipscomb, M. J. Mills, R. Neale, K. W. Oleson, B. Otto-Bliesner, A. S. Phillips, W. Sacks, S. Tilmes, L. van Kampenhout, M. Vertenstein, A. Bertini, J. Dennis, C. Deser, C. Fischer, B. Fox-Kemper, J. E. Kay, D. Kinnison, P. J. Kushner, M. C. Long, S. Mickelson, J. K. Moore, E. Nienhouse, L. Polvani, P. J. Rasch and W. G. Strand, 2020: The Community Earth System Model version 2 (CESM2). *J. Adv. Model. Earth Sy.*, doi: 10.1029/2019MS001916.
7. Gettelman, A., M. J. Mills, D. E. Kinnison, R. R. Garcia, A. K. Smith, D. R. Marsh, S. Tilmes, F. Vitt, C. G. Bardeen, J. McInerney, H. -L. Liu, S. C. Solomon, L. M. Polvani, L. K. Emmons, J. -F. Lamarque, J. H. Richter, A. S. Glanville, J. T. Bacmeister, A. S. Phillips, R. B. Neale, I. R. Simpson, A. K. DuVivier, A. Hodzic and W. J. Randel, 2019: The Whole Atmosphere Community Climate Model Version 6 (WACCM6). *J. Geophys. Res.*, 124, 12380-12403, doi: 10.1029/2019JD030943.
8. Tilmes, S., J. H. Richter, B. Kravitz, D. M. Martin, M. J. Mills, I. Simpson, A. S. Glanville, J. T. Fasullo, A. S. Phillips, J. -F. Lamarque, J. Tribbia, J. Edwards, S. Mickelson and S. Gosh, 2018: CESM1(WACCM) Stratospheric Aerosol Geoengineering Large Ensemble (GLENS) Project. *Bull. Amer. Met. Soc.*, 99, 2361-2371, doi: 10.1175/BAMS-D-17-0267.1.
9. Hurrell, J. W., C. Deser and A. S. Phillips, 2018: North Atlantic Oscillation (NAO). *Encyclopedia of Ocean Sciences* (3rd edition), doi: 10.1016/B978-0-12-409548-9.11621-5.
10. Deser, C., I. R. Simpson, A. S. Phillips and K. A. McKinnon, 2018: How well do we know ENSO's climate impacts over North America, and how do we evaluate models accordingly? *J. Climate*, 30, 4991-5014, doi: 10.1175/JCLI-D-17-0783.1.
11. Tilmes, S., J. H. Richter, B. Kravitz, D. M. Martin, M. J. Mills, I. Simpson, A. S. Glanville, J. T. Fasullo, A. S. Phillips, J. -F. Lamarque, J. Tribbia, J. Edwards, S. Mickelson and S. Gosh, 2018: CESM1(WACCM) Stratospheric Aerosol Geoengineering Large Ensemble (GLENS) Project. *Bull. Amer. Met. Soc.*, doi: 10.1175/BAMS-D-17-0267.1.
12. Deser, C., J. W. Hurrell and A. S. Phillips, 2017: The Role of the North Atlantic Oscillation in European Climate Projections. *Clim. Dyn.*, doi: 10.1007/s00382-016-3502-z.
13. Deser, C. and A. Phillips, 2017: An overview of decadal-scale sea surface temperature variability in the observational record. *Joint Issue of CLIVAR Exchanges and PAGES Magazine*, doi: 10.22498/pages.25.1.2.
14. Deser, C., I. R. Simpson, K. A. McKinnon and A. S. Phillips, 2017: The Northern Hemisphere extra-tropical atmospheric circulation response to ENSO: How well do we know it and how do we evaluate models accordingly? *J. Climate*, 30, 5059-5082, doi: 10.1175/JCLI-D-16-0844.1.
15. Gamelon, M., V. Grøtan, A. L. K. Nilsson, S. Engen, J. W. Hurrell, K. Jerstad, A. S. Phillips, O. W. Røstad, T. Slagsvold, B. Walseng, N. C. Stenseth, and B.-E. Saether, 2017: Interactions between demography and environmental effects are important determinants of population dynamics. *Sci. Adv.*, 3, e1602298 (2017).
16. Deser, C., J. W. Hurrell and A. S. Phillips, 2016: The Role of the North Atlantic Oscillation in European Climate Projections. *Clim. Dyn.*, doi: 10.1007/s00382-016-3502-z.
17. Eyring, V., M. Righi, A. Lauer, M. Evaldsson, S. Wenzel, C. Jones, A. Anav, O. Andrews, I. Cionni, E. L. Davin, C. Deser, C. Ehbrecht, P. Friedlingstein, P. Gleckler, K.-D. Gottschaldt, S. Hagemann, M. Jukes, S. Kindermann, J. Krasting, D. Kunert, R. Levine, A. Loew, J. Mäkelä, G. Martin, E. Mason, A. S. Phillips, S. Read, C. Rio, R. Roehrig, D. Senftleben, A. Sterl, L. H. van Ulft, J. Walton, S. Wang and K. D. Williams, 2016: ESMValTool (v1.0) – a community diagnostic and performance metrics tool for routine evaluation of Earth system models in CMIP, *Geosci. Model Dev.*, 9, 1747-1802, doi:10.5194/gmd-9-1747-2016.
18. Deser, C., L. Terray and A. S. Phillips, 2016: Forced and internal components of winter air temperature trends over North America during the past 50 years: Mechanisms and implications. *J. Climate*, 29, 2237-2258, doi: 10.1175/JCLI-D-15-0304.1.
19. Newman, M., M. A. Alexander, T. R. Ault, K. M. Cobb, C. Deser, E. Di Lorenzo, N. J. Mantua, A. J. Miller, S. Minobe, H. Nakamura, N. Schneider, D. J. Vimont, A. S. Phillips, J. D. Scott, and C. A. Smith, 2016: The Pacific decadal oscillation, revisited. *J. Climate*, 29, 4399-4427, doi: 10.1175/JCLI-D-15-0508.1.
20. Kay, J. E., C. Deser, A. Phillips, A. Mai, C. Hannay, G. Strand, J. Arblaster, S. Bates, G. Danabasoglu, J. Edwards, M. Holland, P. Kushner, J. -F. Lamarque, D. Lawrence, K. Lindsay, A. Middleton, E. Munoz, R. Neale, K. Oleson, L. Polvani, and M. Vertenstein, 2015: The Community Earth System Model (CESM) Large Ensemble Project: A community resource for studying climate change in the presence of internal climate variability. *Bull. Amer. Met. Soc.*, 96, 1333-1349, doi: 10.1175/BAMS-D-13-00255.1.

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22. Phillips, A. S., C. Deser, and J. Fasullo, 2014: A new tool for evaluating modes of variability in climate models. *EOS*, 95, 453-455, doi: 10.1002/2014EO490002.
23. Trenberth, K. E., J. T. Fasullo, G. Branstator and A. S. Phillips, 2014: Seasonal aspects of the recent pause in surface warming. *Nat. Clim. Change*, doi: 10.1038/nclimate2341.
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25. Wallace, J. M., C. Deser, B. V. Smoliak, and A. S. Phillips, 2013: Attribution of climate change in the presence of internal variability, In *Climate Change: Multidecadal and Beyond* (Eds: C.P. Chang, M. Ghil, M. Latif, and J. M. Wallace). World Scientific Series on Asia-Pacific Weather and Climate, Vol. 6. (under review).
26. Ghatak, D., C. Deser, A. Frei, G. Gong, A. Phillips, D. Robinson, and J. Stroeve, 2012: Simulated Eurasian Snow Cover Response to Observed Arctic Sea Ice Loss, 1979-2009. *J. Geophys. Res.*, 117, D23108, doi:10.1029/2012JD018047.
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29. Danabasoglu, G., S. G. Yeager, Y. -O. Kwon, J. J. Tribbia, A. S. Phillips, and J. W. Hurrell, 2012. Variability of the Atlantic Meridional Overturning Circulation in CCSM4. *J. Climate*, 25, 5153-5172, doi:10.1175/JCLI-D-11-00463.1.
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31. Anderson, B. T., J. R. Knight, M. A. Ringer, C. Deser, A. S. Phillips, J. -H. Yoon, and A. Cherchi, 2010: Climate forcings and climate sensitivities diagnosed from atmospheric global circulation models. *Climate Dyn.*, 35, 1461-1475, doi:10.1007/s00382-010-0798-y.
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37. Hoerling, M.P., J.W. Hurrell, J. Eischeid, and A.S. Phillips, 2006: Detection and Attribution of 20th Century Northern and Southern African Monsoon Change. *J. Climate*, 19, 3989-4008.
38. Deser, C., and A. S. Phillips, 2006: Simulation of the 1976/1977 climate transition over the North Pacific: Sensitivity to tropical forcing. *J. Climate*, 19, 6170-6180.
39. Deser, C., A. Capotondi, R. Saravanan, and A. S. Phillips, 2006: Tropical Pacific and Atlantic Climate Variability in CCSM3. *J. Climate*, 19, 2451-2481.
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41. Cassou, C., L. Terray, A. S. Phillips, 2005: Tropical Atlantic Influence on European Heatwaves. *J. Climate*, 18, 2805-2811.
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46. Walsh, J. E., A. S. Phillips, D. H. Portis, and W. L. Chapman, 2001: Extreme Cold Outbreaks in the United States and Europe, 1948-99. *J. Climate*, 14, 2642-2658.

PRESENTATIONS (2007- PRESENT)

1. CGD Seminar Series, NCAR, Boulder, CO, Nov 2020
2. CESM Tutorial, NCAR, Boulder, CO, annually 2010-2020
3. CGD Research Reports, NCAR, Boulder, CO, 2011, 2013, 2015, 2019
4. CESM CVCWG Winter Meeting, Boulder, CO, 2014, 2017
5. ASP Summer Colloquium, 2015
6. CESM Scientists Meeting, NCAR, Boulder, CO, 2013
7. Eldorado K-8, Superior, CO, 2011
8. CESM Annual Meeting, Breckenridge, CO, 2007, 2010, 2015

THESIS

A.S. Phillips, 1999: A Climatological Study of the Evolution and Thermodynamics of Severe Arctic Cold Waves East of the Rockies. Thesis Advisor: John E. Walsh.

REFERENCES

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