

Samantha Stevenson

University of California at Santa Barbara
Bren School of Environmental Sciences & Management
2400 Bren Hall
Santa Barbara, CA 93106

stevenson@bren.ucsb.edu
203-206-3999
<http://samanthalstevenson.com>

Education

2007-2011 Ph.D. Atmospheric & Oceanic Sciences, University of Colorado at Boulder
Advisor: Baylor Fox-Kemper
2000-2003 M.A. Astronomy, Wesleyan University, Middletown, CT
1995-2000 B.A. Mathematics, Western Connecticut State University, Danbury, CT

Professional Appointments

August 2017-present **Assistant Professor:** University of California at Santa Barbara,
Bren School of Environmental Sciences and Management
May 2014-July 2017 **Project Scientist I:** National Center for Atmospheric Research,
Climate & Global Dynamics Laboratory
July 2013-June 2017 **NSF Ocean Sciences Postdoctoral Fellow:** University of Hawaii
at Manoa, Department of Oceanography
Jan 2012-June 2013 **Postdoctoral Fellow:** University of Hawaii at Manoa,
International Pacific Research Center
Aug 2007-Jan 2011 **Graduate Research Fellow:** University of Colorado at Boulder,
Department of Atmospheric & Oceanic Sciences

Fellowship Awards

2013-2017	NSF Ocean Sciences Postdoctoral Fellowship OCE-1323104	\$173,000
2009-2012	NASA Earth & Space Science Fellowship, CU-Boulder	100%
2008-2009	CIRES Graduate Student Fellowship, CU-Boulder	100%
2006-2007	Graduate College Fellowship, University of Arizona,	100%

Grants

Pending	NSF Paleo Perspectives on Climate Change	\$341,531
2014-2015	NSF RAPID Division of Ocean Sciences 1446930	\$73,000
2010	CIRES Innovative Research Program seed grant, CU-Boulder	\$15,000

Leadership and Community Service Activities

2017-2018 *Scientific organizing committee member*, US CLIVAR workshop
"Bridging Sustained Observations and Data Assimilation in Advance of the
Next Generation Tropical Pacific Observing System"
2017 *Liaison*, AGU Fall Meeting Outstanding Student Poster Award
2016-2019 *Member*, US CLIVAR Processes, Observations, and Syntheses panel
2017-present *Lead*, PAGES Hydro2k working group
2017-present *Member*, PAGES CoralHydro2k working group
2016-present *Member*, PAGES Iso2k working group

- 2017 *Session convener*, AGU Fall Meeting
- 2013 *Contributing author*, Intergovernmental Panel on Climate Change Fifth Assessment Report, Working Group I
- 2007-present *Reviewer*: NSF proposals, scientific journals (>9 journals)

Honors

- 2016 Editors' Citation for Excellence in Refereeing, *Geophysical Research letters*
- 2011 WCRP Open Science Conference, outstanding student presentation award
- 2011 Sigma Xi, University of Colorado chapter
- 2009 University of Colorado, outstanding student presentation award
- 2005 NASA Public Service Group Achievement Award
- 2003 Connecticut State Congress citation for academic achievement (M.A. recipient, age 19)
- 2000 Connecticut State Congress citation for academic achievement (B.A. recipient, age 16)

Field Experience

- 2016 Coastal monitoring and coral sample collection at Christmas Island, Kiribati
CTD, salinity logger assembly, deployment assistance; fossil coral processing and cataloging
- 2014 Monitoring El Nino impacts on near-reef conditions at Palmyra Atoll.
CTD, ADCP assembly, deployment assistance
- 2012 Study on biologically generated noise in Hawaiian Island reef environments, Oahu. *Hydrophone deployment and retrieval*
- 2011 Research assistant in McGregor lab, Wollongong, Australia.
Processing of coral paleoclimate samples
- 2010 Impact of Typhoons on the Ocean in the Pacific (ITOP) cold-wake cruise, Taiwan. *CTD, glider and vertical microstructure profiler operations, data analysis*

Mentoring Experience

- 2017-present Postdoctoral researcher: C. Harrison (UCSB)
- 2016-present Postdoctoral researcher: S. Coats (NCAR ASP)
- 2014-2017 Graduate students: L. Parsons, G. Loope, N. Buckle, J. King (U. Arizona)
- 2015 Undergraduate students: T. Conroy (U. Hawaii), J. McCoy (U. Michigan)

Teaching and Outreach Experience

- 2017 *Guest lecturer*: CESM tutorial, NCAR, Boulder, CO
- 2017 *Participant*, Expert Witness Training Academy
- 2016 *Guest lecturer*: University of Colorado graduate physical oceanography course
- 2015 *Guest lecturer*: CESM tutorial, NCAR, Boulder, CO

2014-2016 *Instructor:* Climate Science Teacher Institute professional development program for Pacific Islands middle/high school teachers

2010-2011 *Guest lecturer:* University of Colorado climate and oceanography courses

2007-2008 *Teaching assistant:* University of Colorado

2003-2004 *Presenter:* Charles Hayden Planetarium, Boston Museum of Science

2000-2003 *Teaching assistant:* Wesleyan University undergraduate astronomy courses

Collaborators

T. Ault (Cornell), S. Bates (NCAR), E. Brady (NCAR), A. Capotondi (NOAA ESRL), J. Carilli (UMass), Y. Chikamoto (UH), S. Coats (WHOI), J. Cole (U. Arizona), K. Cobb (Georgia Tech), S. Dee (Brown), C. Deser (NCAR), E. Di Lorenzo (Georgia Tech), J. Fasullo (NCAR), B. Fox-Kemper (Brown), C. Gao (Zhejiang U.), E. Guilyardi (IPSL), C. Harrison (CU), M. Jochum (NBI), B. Konecky (WUSTL), H. McGregor (UOW), G. Meehl (NCAR), M. Merrifield (UH), R. Neale (NCAR), D. Noone (OSU), J. Nusbaumer (CU), B. Otto-Bliesner (NCAR), J. Overpeck (U. Arizona), S. Phipps (UNSW), B. Powell (UH), B. Rajagopalan (CU), J. Smerdon (LDEO), A. Subramanian (Scripps), A. Timmermann (UH), A. Wittenberg (GFDL)

Technical Skills

Climate, atmosphere, and ocean modeling; multivariate statistics; Fortran; Matlab; IDL; R; NCL; HTML; Perl; Bash/csh; Python

Presentations

Seminars

2017 Brown University

2017 Bren School, University of California at Santa Barbara

2017 Georgia Institute of Technology

2016 NOAA Geophysical Fluid Dynamics Laboratory

2016 Earth Research Institute, University of California at Santa Barbara

2016 Department of Atmospheric & Oceanic Sciences, McGill University

2016 Climate and Global Dynamics division, National Center for Atmospheric Research

2015 Institute for Arctic and Alpine Research, University of Colorado

2014 Department of Geosciences, University of Arizona

2014 University of Colorado at Boulder/CIRES

2013 NOAA Geophysical Fluid Dynamics Laboratory

2013 Georgia Institute of Technology

2012 Scripps Institute of Oceanography

2012 International Pacific Research Center, University of Hawaii

2011 Climate Change Research Centre, University of New South Wales

2010 Climate and Global Dynamics division, National Center for Atmospheric Research

2010 Division of Ocean and Climate Physics, Lamont-Doherty Earth Observatory

Conference Presentations

- 2017 American Geophysical Union Fall Meeting, New Orleans, LA (*invited*)
- 2017 Keynote lecture, Last Millennium Reanalysis Workshop, Boulder, CO (*invited*)
- 2017 Paleoclimate Model Intercomparison Project phase 4 meeting, Stockholm, Sweden
- 2017 US CLIVAR Summit, Baltimore, MD (*invited*)
- 2017 Community Earth System Model Workshop, Boulder, CO
- 2017 PAGES Open Science Meeting, Zaragoza, Spain
- 2016 American Geophysical Union Fall Meeting, San Francisco, CA
- 2016 CLIVAR Open Science Conference, Qingdao, China
- 2016 PICES-2016 25th Anniversary Meeting (*invited*), San Diego, CA
- 2016 Community Earth System Model Workshop, Breckenridge, CO
- 2016 PAGES 2K-PMIP3 Workshop on Hydroclimate (*invited*), Palisades, NY
- 2016 American Geophysical Union Ocean Sciences Meeting, New Orleans, LA
- 2015 American Geophysical Union Fall Meeting (*invited*), San Francisco, CA
- 2015 Community Earth System Model Workshop, Breckenridge, CO
- 2015 Gordon Research Conference on Coastal Ocean Modeling (*invited*), Biddeford, ME
- 2015 European Geophysical Union Fall Meeting, Vienna, Austria
- 2014 Antarctic Climate of the 21st Century (*invited*), San Francisco, CA
- 2014 European Geophysical Union Fall Meeting, Vienna, Austria (*invited; declined*)
- 2013 American Geophysical Union Fall Meeting (*invited*), San Francisco, CA
- 2013 CLIVAR Pacific panel workshop, "Evaluation of ENSO Processes in Climate Models", Hobart, Australia
- 2012 Physical Oceanography Dissertation Symposium (PODS VII), Lihue, HI
- 2012 European Science Foundation workshop "Modes of Variability in the Climate System", Obergurgl, Austria
- 2012 American Geophysical Union Ocean Sciences Meeting, Salt Lake City, UT
(*Winner: Outstanding Scientific Presentation)
- 2011 World Climate Research Programme Open Science Conference, Denver, CO
(*Winner: Outstanding Scientific Presentation)
- 2011 Pattullo conference (Mentoring Women in Physical Oceanography), Warrenton, VA
- 2011 Ocean Model Working Group, NCAR CESM workshop, Breckenridge, CO
- 2010 European Geophysical Union meeting, Vienna, Austria
- 2009 CCSM Ocean Model Working Group meeting, Boulder, CO
- 2008 CIRES graduate student seminar series
(*Winner: best student presentation in series)

Publications

- [26] Gregoire, L. J., Ivanovic, R., Maycock, A. C., Valdes, P. J., & **Stevenson, S.** 2017, "Holocene lowering of the Laurentide ice sheet affects North Atlantic gyre circulation and climate", *Climate Dynamics*, in revision
- [25] **Stevenson, S.**, Overpeck, J. T., Fasullo, J., Coats, S., Parsons, L., Otto-Bliesner, B., Ault, T. R., Loope, G., & Cole, J. 2017, "Climate Variability, Volcanic Forcing, and Last Millennium Hydroclimate Extremes", *Journal of Climate*, in revision
- [24] Ault, T. R., St. George, S., Smerdon, J., Coats, S., Mankin, J., Carrillo, C., Cook, B., & **Stevenson, S.** 2017, "A robust null hypothesis for the potential causes of megadrought in western North America", *Journal of Climate*, in press
- [23] Smerdon, J., Luterbacher, J., Phipps, S., Anchukaitis, K., Ault, T., Coats, S., Cobb, K., Cook, B., Colose, C., Felis, T., Gallant, A., Jungclaus, J., Konecky, B., LeGrande, A., Lewis, S., Lopatka, A., Man, W., Mankin, J., Maxwell, J., Bette Otto-Bliesner, Partin, J., Singh, D., Steiger, N., **Stevenson, S.**, Tierney, J., Zanchettin, D., Zhang, H., Atwood, A., Andreu-Hayles, L., Baek, S., Buckley, B., Cook, E., D'Arrigo, R., Dee, S., Griffiths, M., Kulkarni, C., Kushnir, Y., Lehner, F., Leland, C., Linderholm, H., Okazaki, A., Palmer, J., Piovano, E., Raible, C., Rao, M., Scheff, J., Schmidt, G., Seager, R., Widmann, M., Williams, A. P., and Xoplaki, E. 2017, "Comparing data and model estimates of hydroclimate variability and change over the Common Era", *Climate of the Past PAGES 2k special issue*, accepted
- [22] Fasullo, J. T., Tomas, R., **Stevenson, S.**, Otto-Bliesner, B., Brady, E. & Wahl, E. 2017, "The Amplifying Influence of Increased Ocean Stratification on A Future Year Without A Summer", *Nature Communications*, in press
- [21] **Stevenson, S.**, Otto-Bliesner, B., Fasullo, J., Tomas, R., & Gao, C. 2017, "The Role of Eruption Season in Reconciling Model and Proxy Responses to Tropical Volcanism", *PNAS*, 114, 8, 1822-1826, doi: 10.1073/pnas.1612505114
- [20] Dassie, E. & **MARPA Project Members** 2016, "Save Our Marine Annually-Resolved Proxy Archives", *EOS*
- [19] **Stevenson, S.**, Capotondi, A., Fasullo, J. & Otto-Bliesner, B., 2016, "Forced Changes to 20th Century ENSO Diversity in a Last Millennium Context", *Climate Dynamics ENSO diversity special collection*, doi:10.1007/s00382-017-3573-5
- [18] **Stevenson, S.**, Otto-Bliesner, B., Fasullo, J. & Brady, E. 2016, "El Nino-Like Hydroclimate Responses to Last Millennium Volcanic Eruptions", *Journal of Climate*, 29, 2907-2921
- [17] **Stevenson, S.**, Powell, B., Cobb, K., Merrifield, M., Nusbaumer, J., & Noone, D. 2015, "Characterizing Seawater Oxygen Isotopic Variability in a Regional Ocean Modeling Framework: Implications for Coral Proxy Records", *Paleoceanography*, 30 (11), 1573-1593
- [16] Otto-Bliesner, B., Brady, E., Fasullo, J., Jahn, A., Landrum, L., Rosenbloom, N., **Stevenson, S.**, Fasullo, J., Mai, A. & Strand, G. 2015 "Climate Variability and Change since 850 C.E.: An Ensemble Approach with the Community Earth System Model (CESM)", *BAMS*, 97 (5), 735-754, doi:10.1175/BAMS-D-14-00233.1
- [15] Bracegirdle, T. J., Bertler, J., Carleton, A. M., Ding, Q., Fogwill, J., Fyfe, J. C., Hellmer,

- H., Karpechko, A. Y., Kushara, K., Larour, E., Mayewski, P. A., Meier, W. N., Polvani, L. M., Russell, J. M., **Stevenson, S.**, Turner, J., van Wessel, J. M., & Wainer, I. 2015, "A process-based approach to climate model evaluation for Antarctica and the Southern Ocean", *BAMS*, 92, ES23-ES26, doi:10.1175/BAMS-D-15-00108.1
- [14] Carilli, J., McGregor, H.V., Gaudry, J., **Stevenson, S.**, Donner, S., Gagan, M., Wong, H. & Fink, D., 2015 "Response to comment: Geochemical records from equatorial Pacific corals suggest a weakening Walker circulation", *Paleoceanography*, 29 (11), 1031-1045
- [13] Chikamoto, Y., Timmermann, A., **Stevenson, S.** & Langford, S. 2015, "Decadal predictability of soil water, vegetation, and wildfire frequency over North America", *Climate Dynamics*
- [12] **Stevenson, S.**, Timmermann, A., Chikamoto, Y. & Langford, S. 2015, "Stochastically Generated North American Megadroughts", *Journal of Climate*, 28 (5), 1865-1880
- [11] Carilli, J., McGregor, H.V., Gaudry, J., **Stevenson, S.**, Donner, S., Gagan, M., Wong, H. & Fink, D., 2014 "Geochemical records from equatorial Pacific corals suggest a weakening Walker circulation", *Paleoceanography*, 29 (11), 1031-1045
- [10] Langford, S., **Stevenson, S.**, & Noone, D. 2014, "Analysis of Low-Frequency Precipitation Variability over North America in the CMIP5 20th Century Simulations", *Journal of Climate*, 27, 2735-2756
- [9] Haney, S., Bachman, S., Cooper, B., Haney, S., Kupper, S., McCaffrey, K., van Roekel, L., **Stevenson, S.**, Webb, A., Fox-Kemper, B. and Ferrari, R. 2013: "Hurricane wake restratification by 1, 2 and 3-dimensional processes", *Journal of Marine Research*, 70(6), 824-850
- [8] **Stevenson, S.**, McGregor, H.V., Phipps, S. & Fox-Kemper, B. 2013, "Quantifying Errors in Coral-Based ENSO Estimates: Towards Improved Forward Modeling of $\delta^{18}\text{O}$ ", *Paleoceanography*, 28, 1-17
- [7] Phipps, S., McGregor, H. V., Gergis, J., Gallant, A., Neukom, R., **Stevenson, S.**, Ackerley, D., Brown, J., Fischer, M., Lorrey, D., & van Ommen, T. 2013, "Palaeoclimate data-model integration: Concepts and application to the climate of the past 1,500 years", *Journal of Climate* Aus2K special issue, 26, 6915-6936.
- [6] **Stevenson, S.**, Rajagopalan, B., & Fox-Kemper, B. 2013, "Generalized Linear Modeling of the El Niño/Southern Oscillation with Application to Seasonal Forecasting and Climate Change Projections", *Journal of Geophysical Research-Oceans*, 118 (8), 3764-3781
- [5] **Stevenson, S.**, Fox-Kemper, B. & Jochum, M.: 2012, "Understanding the ENSO-CO₂ Link Using Stabilized Climate Simulations", *Journal of Climate*, 25 (22), 7917-7936
- [4] Bates, S. C., Fox-Kemper, B., Jayne, S., Large, W. G., **Stevenson, S.**, & Yeager, S. G.: 2012, "Seasonal to interannual variability in air-sea fluxes and the upper-ocean", *Journal of Climate* CCSM4 special issue, 25 (22), 7781-7801
- [3] **Stevenson, S.** 2012, "Significant Changes to ENSO Strength and Impacts in the 21st Century: Results from CMIP5", *Geophysical Research Letters*, 39, L17703
- [2] **Stevenson, S.**, Fox-Kemper, B., Jochum, M., Neale, R., Deser, C. & Meehl, G. 2012, "Will There Be A Significant Change to El Niño in the 21st Century?", *Journal of Climate*

CCSM4 special issue, 25, 2129-2145 (doi:10.1175/JCLI-D-11-00252.1)

- [1] **Stevenson, S.**, Fox-Kemper, B., Jochum, M., Rajagopalan, B. & Yeager, S.: 2010, "ENSO Model Validation Using Wavelet Probability Analysis", *Journal of Climate*, 23, 5540-5547