

KIM M. COBB

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EDUCATION

2002 Ph.D., Oceanography, Scripps Inst. of Oceanography, UCSD
1996 B.A., Geology and Biology, with Honors, Yale University

PROFESSIONAL EXPERIENCE

2018- Director, Global Change Program, Georgia Tech
2016- Georgia Power Chair, Georgia Tech
2016- ADVANCE Professor for Institutional Diversity, Georgia Tech
2016- Director and Founder, Carbon Reduction Challenge
2015- Professor, Earth and Atmospheric Sciences, Georgia Tech
2010-2015 Associate Professor, Earth and Atmospheric Sciences, Georgia Tech
2004-2010 Assistant Professor, Earth and Atmospheric Sciences, Georgia Tech
2002-2004 Postdoctoral Fellow, California Inst. of Technology, Pasadena
1996-2002 Graduate Student Researcher & Teaching Assistant, Scripps Inst. of Oceanography, UCSD
1998-2001 Visiting Summer Scientist, University of Minnesota Isotope Lab

HONORS AND AWARDS

2019 Hans Oeschger Medal, European Geoscience Society
2019 Groetzinger Moving Forward Award, Georgia Tech
2019 Congressional testimony for US House Comm. Natural Resources
2018 Reimagine Education Award for the Carbon Reduction Challenge
2018 Innovation in Co-Curricular Education Award, Georgia Tech
2015 Fellow, Brooks Byers Institute for Sustainable Systems, Georgia Tech
2013 Sigma Xi Best Faculty Paper Award for *Cobb et al., Science, 2013*
2011 Invited Guest, White House Workplace Flexibility Policies Event
2010 Poptech Science and Public Leadership Fellow
2010 EAS Undergraduate Research Mentor Award
2009 Kavli 'Frontiers of Science' Fellow
2008 Presidential Early Career Award for Scientists and Engineers (PECASE)
2007 Georgia Tech Education Partnership Award
2007 NSF CAREER Award
2003 Comer Abrupt Climate Change Postdoctoral Fellowship
2002 Caltech Postdoctoral Fellowship
1997 NSF Graduate Research Fellowship

RESEARCH INTERESTS

Tropical Pacific climate variability and change
Global hydrology
Isotope and trace element geochemistry
Paleoclimate modeling
Coral reefs

REFEREED PUBLICATIONS (symbols designate *student or †postdoc author)
h-index=30 (ISI Web of Science)

SUBMITTED

1. Dee, S.G., **K. M. Cobb**, J. Emile-Geay, T. R. Ault, R. L. Edwards, H. Cheng, Multi-century fossil corals reveal large thresholds for aerosol forcing impacts on the tropical Pacific, In revision, *Science*.

2019

2. Grothe, P.M. *, **K.M. Cobb**, G. Liguori, E. Di Lorenzo, A. Capotondi, Y. Lu, H. Cheng, R.L. Edwards, J.R. Southon, G.M. Santos, D.M. Deocampo, J. Lynch-Stieglitz, T. Chen, H.R. Sayani, K. Townsend, M. Hagos, G. O'Connor, D.M. Thompson, L.T. Toth, J.L. Conroy, A.L. Moore. Evidence for intensification of El Niño-Southern Oscillation over the late 20th century, In press, *GRL*.
3. Emile-Geay, J., **K.M. Cobb**, M. Elliott, J.E. Cole, F. Zhu, Paleoclimate constraints on ENSO, AGU Monograph, In press.
4. Munksgaard, N.C. et al., Tropical daily observations of stable isotope compositions in rainfall and calculated stratiform rainfall fractions, *Scientific Reports*, DOI: 10.1038/s41598-019-50973-9, 2019.
5. Claar, D.C., **K.M. Cobb**, J.K. Baum, *In situ* and remotely-sensed temperature comparisons on a Central Pacific atoll, *Coral Reefs*, doi.org/10.1007/s00338-019-01850-4, 2019.
6. Khider, D, J. Emile-Geay, et al., PaCTS 1.0: A crowdsourced reporting standard for paleoclimate data, *Paleoceanography*, doi.org/10.1029/2019PA003632, 2019.
7. Sanchez-Murillo, R., A.M. Duran-Quesada, G. Esquivel-Hernandez, D. Rojas-Cantillano, C. Birkel, K. Welsh, M. Sanchez-Lull, C.M. Alonso-Hernandez, D. Tetzlaff, C. Soulsby, J. Boll, **K.M. Cobb**, N. Kurita, Hurricane isotope anatomy and rainfall variations in a climate change hotspot of the tropics, *Nature Communications*, doi.org/10.1038/s41467-019-12062-3, 2019.

8. Sayani, H.R.*, **K.M. Cobb**, K. DeLong, N.T. Hitt, E.R.M. Druffel, Intercolony $\delta^{18}\text{O}$ and Sr/Ca variability among *Porites* spp. corals at Palmyra Atoll: towards more robust coral-based estimates of climate, *G-cubed*, doi: 10.1029/2019GC008420, 2019.
9. Liu, Y., W. Cai, C. Sun, H. Song, **K.M. Cobb**, J. Li, S.W. Leavitt, Z. An, W. Zhou, L. Wu, Q. Cai, R. Liu, P. Cherubinu, U. Buentgen, Y. Song, G. Wang, Y. Lei, L. Yan, Q. Li, Y. Ma, C. Fang, J. Sun, X. Li, Anthropogenic aerosols cause recent pronounced weakening of Asian Summer Monsoon relative to last four centuries, *Geophysical Research Letters*, DOI: 10.1029/2019GL082497, 2019.
10. Konecky, B.L.†, D.C. Noone, **K.M. Cobb**, The influence of competing hydroclimate processes on stable water isotope ratios in tropical rainfall, <https://doi.org/10.1029/2018GL080188>, 2019.

2018

11. Timmermann, A., S.I. An, J.S. Kug, F.F. Jin, W. Cai, A. Capotondi, **K.M. Cobb**, M. Lengaigne, M.J. McPhaden, M. Stuecker, K. Stein, A. Wittenberg, K.S. Yun, et al. El Niño-Southern Oscillation complexity, *Nature*. doi: 10.1038/s41586-018-0252-6, 2018.
12. Rudd, M. et al., Climate research priorities for policy-makers, practitioners, and scientists in Georgia, USA, *Environmental Management* Vol 62, pp 190-209, 2018.
13. Stevenson, S., B. Powell, **K.M. Cobb**, J. Nusbaumer, M. Merrifield, D. Noone, 20th century seawater $\delta^{18}\text{O}$ dynamics and implications for coral-based climate reconstructions, *Paleoceanography and Paleoclimatology* <https://doi.org/10.1029/2017PA003304>, 2018.
14. Chen, T.†, **K.M. Cobb**, H.R. Sayani, P.M. Grothe, Coral-derived western Pacific tropical sea surface temperatures during the last millennium, *Geophys. Res. Lett* doi.org/10.1002/2018GL077619, 2018.
15. Lu, Z., Z. Liu, J. Zhu, **K.M. Cobb**, A review of paleo-ENSO, *Atmosphere* doi.org/10.3390/atmos9040130, 2018.
16. Martin, N.J., J.L. Conroy, D. Noone, **K.M. Cobb**, B.L. Konecky, S. Rea, The times-transgressive nature of the amount effect in Galapagos precipitation, *JGR-Atmospheres*, [10.1002/2017JD027380](https://doi.org/10.1002/2017JD027380), 2018.

2017

17. Smerdon, J.E., Luterbacher, J., Phipps, S.J., Anchukaitis, K.J., Ault, T., **K.M. Cobb** & Hydro2K consortium, Comparing proxy and model estimates of hydroclimate variability and change over the Common Era. *Climate of the Past* doi: 10.5194/cp-2017-37.
18. Carilli, J.E., A.C. Hartmann, S.F. Heron, J.M. Pandolfi, **K.M. Cobb**, H.R. Sayani, R. Dunbar, S. Sandin, Porites coral response to an oceanographic and human impact gradient in the Line Islands, *Limnology & Oceanography*. DOI: 10.1002/lno.10670, 2017.

19. Pausata, F.S.R., Q. Zhang, F. Muschitiello, Z. Lu, L. Chafik, E.M. Niedermeyer, J.C. Stager, **K.M. Cobb**, Z. Liu, Greening of the Sahara suppressed ENSO activity during the mid-Holocene, *Nature Communications*, DOI: 10.1038/ncomms16020, 2017.
20. Conroy, J.L., D.M. Thomspon, **K.M. Cobb**, D. Noone, S. Rea, A. LeGrande, Spatiotemporal variability in the d18O-salinity relationship of seawater across the tropical Pacific Ocean, *Paleoceanography*, 10.1002/2016PA003073. 2017.
21. Dassie, E., et al., Save our marine annually-resolved proxy archives (MARPA), *Eos: Transactions of the American Geophysical Union*, vol 98, doi:10.1029/2017EO068159, 2017.
22. Liu, Y., **K.M. Cobb**, H. Song, Q. Li, Q. Li, T. Nakatuska, J. Li, Z. An, S.W. Leavitt, C. Sun, L. Yan, D. Chen, H.W. Linderholm, Q. Cai, J. Sun, Y. Lei, Y. Ma, X. Li. 20th century central Pacific El Niño variability higher than last eight centuries. *Nature Communications*, DOI: 10.1038/ncomms15386, 2017.

2016

23. **Conroy**, J.L.†, D. Noone, **K.M. Cobb**, J.W. Moerman, B.L. Konecky, Paired precipitation-vapor isotope evidence for the amount effect, precipitation efficiency, and rain evaporation in western tropical Pacific storms, *JGR-Atmospheres*, DOI: 10.1002/2015JD023844, 2016.
24. Chen, S., S.S. Hoffmann, D.C. Lund, **K.M. Cobb**, J. Emile-Geay, J.F. Adkins, A high-resolution speleothem record of western equatorial Pacific rainfall: implications for Holocene ENSO evolution, *Earth and Planetary Science Letters*, doi:10.1016/j.epsl.2016.02.050, 2016.
25. Newman, M., M.A. Alexander, T. Ault, **K.M. Cobb**, C. Deser, E. Di Lorenzo, N. Mantua, A. Miller, S. Minobe, H. Nakamura, N. Schneider, D. Vimont, A. Phillips, J.D. Scott, C.A. Smith. The Pacific Decadal Oscillation, Revisited. *Journal of Climate* DOI: http://dx.doi.org/10.1175/JCLI-D-15-0508.1, 2016.
26. Wang, X., Sigman, D.M, Cohen, A.L, Sinclair, D.J., Sherrell, R.M., **Cobb**, K.M., Erler, D.V., Stolarski, J., Kitahara, M.K., Ren, H., Influence of open ocean nitrogen supply on the skeletal $\delta^{15}\text{N}$ of modern shallow-water scleractinian corals. *Earth and Planetary Science Letters*, doi:10.1016/j.epsl.2016.02.032, 2016.
27. **Carolin**, S.* , **K.M. Cobb**, J.F. Adkins, J. Lynch-Stieglitz, J.W. Moerman, S. Lejau, J. Malang, B. Clark, A.A. Tuen, Northern Borneo rainfall variability across MIS 5 and 6 revealed in stalagmite oxygen isotopic records. *Earth and Planetary Science Letters*, doi:10.1016/j.epsl.2016.01.028, 2016.
28. **Grothe**, P.M.* , **K.M. Cobb**, S. Bush, C.D. Charles, H. Cheng, R.L. Edwards, G. Santos, J. Southon, A comparison of rapid screening radiocarbon and U-series dates from fossil

corals: implications for paleoclimate reconstruction, *G-cubed*, DOI: 10.1002/2015GC005893, 2016.

29. Chikamoto, M.O., A. Timmermann, M. Yoshimori, F. Lehner, A. Laurian, A. Abe-Ouchi, A. Mouchet, F. Joos, K.M. **Cobb**. Volcanic eruptions boost tropical Pacific biological productivity, *Geophys. Res. Lett.* doi: 10.1002/2015GL067359, 2016.

2015

30. **Stevenson**, S.†, B. Powell, M. Merrifield, K.M. **Cobb**, J. Nusbaumer, D. Noone, Characterizing seawater oxygen isotopic variability in a regional ocean model: implications for coral proxy records, *Paleoceanography* doi:10.1002/2015PA002824, 2015.
31. Emile-Geay, J., K.M. **Cobb**, M. Carre, P. Braconnot, J. Leloup, Y. Zhou, S.P. Harrison, T. Correge, M. Collins, R. Driscoll, M. Elliot, H.V. McGregor, B. Schneider, A. Tudhope. Holocene constraints on tropical Pacific dynamics. *Nature Geoscience* doi:10.1038/ngeo2608, 2015.
32. Meckler, A.N., A. Affolter, Y.V. Dublyansky, Y. Kruger, N. Vogel, J.F. Adkins, S.M. Bernasconi, S. Carolin, K.M. **Cobb**, M. Frenz, R. Kipfer, M. Leuenberger, J.W. Moerman, C. Spotl, D. Fleitmann, Glacial-interglacial temperature change in the tropical West Pacific revealed by multiple stalagmite proxies. *Quaternary Science Research* doi:10.1016/j.quascirev.2015.06.015, 2015.
33. Cai, W., A. Santoso, G. Wang, S.W. Yeh, S.I An, K.M. **Cobb**, M. Collins, E. Guilyardi, F.F. Jin, J.S. Kug, M. Lengaigne, M.J. McPhaden, K. Takahashi, A. Timmermann, G. Vecchi, M. Watanabe, L. Wu. ENSO Extremes in a warming climate, *Nature Climate Change* doi: 10.1038/nclimate2743, 2015.
34. Karamperidou, C., P. DiNezio, A. Timmermann, F.F. Jin, K.M. **Cobb**, The response of ENSO flavors to mid-Holocene climate: implications for proxy interpretation, *Paleoceanography* doi:10.1002/2014PA002742, 2015.
35. Toth, L.T., R.B. Aronson, K.M. **Cobb**, H. Cheng, R.L. Edwards, H.R. Sayani, P.M. Grothe, Climatic and biotic thresholds of coral reef shutdown, *Nature Climate Change* doi:10.1038/2015nclimate2541, 2015.

2014

36. **Moerman**, J.W.*, K.M. **Cobb**, J. Malang, S. Lejau, B. Clark, A. Tuen, Transformation of ENSO-related rainwater to dripwater $\delta^{18}\text{O}$ variability by vadose water mixing, *Geophys. Res. Lett.* doi:10.1002/2014GL061696, 2014.
37. Liu, Z., Z., Lu, X. Wen, B. Otto-Bleisner, A. Timmerman, K.M. **Cobb**, Evolution and forcing mechanisms of El Niño over the last 21,000 years. *Nature* doi:10.1038/nature13963, 2014.

38. **Conroy, J.L.** †, **K.M. Cobb, J. Lynch-Stieglitz, P. Polissar**, Constraints on the salinity-oxygen isotope relationship in the central tropical Pacific Ocean, *Marine Chemistry* doi: 10.1016/j.marchem.2014.02.001, 2014.
39. Marchitto, T.M., W.B. Curry, J. Lynch-Stieglitz, S.P. Bryan, **K.M. Cobb**, D.C. Lund, Improved oxygen isotope temperature calibrations for cosmopolitan benthic foraminifera. *Geochim. Cosmo. Acta.*, doi: 10.1016/j.gca.2013.12.034, 2014.
40. Comboul, M., Emile-Geay, J., Evans, M.N., Mirnateghi, N., **K.M. Cobb**, D.M. Thompson, A probabilistic model of chronological errors in layer-counted climate proxies: applications to annually-banded coral archives, *Climate of the Past Discussions* doi: doi:10.5194/cp-10-825-2014, 2014.

2013

41. **Cobb, K.M.**, N. Westphal, H. **Sayani***, E. Di Lorenzo, C.D. Charles, H. Cheng, R.L. Edwards, Highly variable El Niño-Southern Oscillation throughout the Holocene, *Science* 10.1126/science.1228246, 2013.
42. **Carolin, S.***, **K.M. Cobb**, J.F. Adkins, B. Clark, A. Tuen. Varied response of western tropical Pacific hydrology to abrupt climate changes. *Science* doi: 10.1126/science.1233797, 2013.
43. **Partin, J.W.***, **K.M. Cobb**, J.F. Adkins, B. Clark. Trace element and carbon isotopic variations in cave dripwaters and stalagmites from northern Borneo. *G-cubed*, doi: 10.1002/ggge.20215, 2013.
44. **Conroy, J.L.** †, **K.M. Cobb**, D. Noone. Model-data comparisons of precipitation isotope variability across the tropical Pacific in the SWING2 climate model simulations. *JGR-Atmospheres* doi: 10.1002/jgrd.50412, 2013.
45. **Moerman, J.W.***, **K.M. Cobb**, J.F. Adkins, H. Sodemann, B. Clark, A. Tuen, Large-scale climate controls on rainfall oxygen isotope variability in the west Pacific Warm Pool. *Earth Planet. Sci. Lett.* doi: 10.1016/J.EPSL.2013.03.014, 2013.
46. **Emile-Geay, J.** †, **K.M. Cobb**, M.E. Mann, A. Wittenberg, Estimating tropical Pacific SST variability over the last millennium; Part 1: Methodology and validation. *J. Climate*, doi: 10.1175/JCLI-D-11-00510.1, 2013.
47. **Emile-Geay, J.** †, **K.M. Cobb**, M.E. Mann, A. Wittenberg, Estimating tropical Pacific SST variability over the last millennium; Part 2: Reconstructions and uncertainties. *J. Climate* doi: 10.1175/JCLI-D-11-00511.1, 2013.
48. Anderson, B.T., J.C. Furtado, **K.M. Cobb**, E. Di Lorenzo, Extra-tropical forcing of El Niño/Southern Oscillation asymmetry, *Geophys. Res. Lett.*, doi: 10.1002/grl.50951, 2013.
49. Hathorne, E.C., et al., Inter-laboratory study for coral Sr/Ca and other element/Ca ratio

measurements, *Paleoceanography*, doi: 10.1002/ggge.20230, 2013.

50. LaVigne, M., I.S. **Nurhati***, K.M. **Cobb**, H.V. McGregor, D. Sinclair, R.M. Sherrell, Systematic ENSO-driven nutrient variability recorded by central equatorial Pacific corals. *Geophys. Res. Lett.*, doi: 10.1002/grl.50765, 2013.

2012

51. Meckler, A., M. Clarkson, K.M. **Cobb**, J. Eiler, H. Sodemann, J.F. Adkins. Interglacial hydroclimate in the tropical West Pacific through the late Pleistocene, *Science* 336: 1301-1304, 2012.
52. Maibach, E., A. Leiserowitz, S. Cobb, M. Shank, K.M. **Cobb**, J. Gullledge, “The legacy of ‘Climategate’: revitalizing or undermining climate science and policy?” *WIREs Climate Change* 3(3): 289-295, 2012.
53. Gomez, B., L. Carter, K.M. **Cobb**, A.R. Orpin, M.J. Page, N.A. Trustrum, A.S. Palmer, Influence of the Southern Annular Mode on ENSO teleconnections to New Zealand. *Holocene* 22(1): 23-30, 2012.

2011

54. **Sayani**, H.* , K.M. **Cobb**, A. Cohen, L.K. Zaunbrecher, I.S. Nurhati, “Diagenetic effects on the morphology and geochemistry of young fossil coral skeletons”, *Geochimica Cosmochimica Acta* 75: 6361-6373, 2011.
55. **Nurhati**, I.S.* , K.M. **Cobb**, E. Di Lorenzo, Decadal-scale SST and salinity variations in the central tropical Pacific: signatures of natural and anthropogenic climate change. *Journal of Climate* doi: 10.1175/2011JCLI3852.1, 2011.

2010

56. Di Lorenzo, E., K.M. **Cobb**, N. Schneider, J.C. Furtado, M.A. Alexander, Central Pacific El Niño and decadal climate change in the North Pacific. *Nature Geoscience* doi: 10.1038/NGEO984, 2010.
57. Graham, N.E., C.M. Ammann, D. Fleitmann, K. M. **Cobb**, and J. Luterbacher, Support for a global climate reorganization during the “Medieval Climate Anomaly”. *Climate Dynamics* doi:10.1007/s00382-010-0914-z, 2010.
58. **Zaunbrecher**, L.K.* , K.M. **Cobb**, J.W. Beck, C.D. Charles, E.R.M. Druffel, R.G. Fairbanks, S. Griffin, H. Sayani, Coral records of central tropical Pacific radiocarbon variability during the last millennium, *Paleoceanography* 25, PA4212, doi:10.1029/2009PA001788, 2010.
59. LaVigne, M., K.A. Matthews, A.G. Grottoli, E. Anagnostou, K.M. **Cobb**, R.M. Sherrell, Calibration of coral skeleton P/Ca with a local seawater phosphate record: inter-colony reproducibility and potential for global application, *Geochimica et Cosmochimica Acta* 74(4): 1282-1293, 2010.

2009

60. **Nurhati**, I.S. *, K.M. **Cobb**, C.D. Charles, and R.B. Dunbar. Late 20th century warming and freshening in the central tropical Pacific. *Geophys. Res. Lett.* doi:10.1029/2009GL040270, 2009.
61. Jones, P.D. et al., High-resolution paleoclimatology of the last millennium: a review of current status and future prospects, *Holocene* 19(1): 3-29, 2009.
62. Furtado, J., Di Lorenzo, E., **Cobb**, K.M., Bracco, A. Reconstructing tropical sea surface temperatures using precipitation proxy records: methods and uncertainties, *J. Climate* DOI: 10.1175/2008JCLI2415.1., 2009.

2001-2008

63. Di Lorenzo, E., Schneider, N., **Cobb**, K.M., Chhak, K., Franks, P.J., Miller, A.J., Bograd, S.J., Arango, H., Curchister, E., Powell, T.M., Riviere, P. North Pacific gyre oscillation controls salinity, nutrients, and Chl-a. *Geophysical Research Letters* doi:10.1029/2007GL032838, 2008.
64. **Partin**, J.W. *, K.M. **Cobb**, J.F. Adkins, B. Clark, D.P. Fernandez. Millennial-scale trends in west Pacific warm pool hydrology since the Last Glacial Maximum. *Nature* 449: 452-455, 2007.
65. **Cobb**, K.M., J.F. Adkins, J.W. **Partin**, B. Clark. Regional-scale climate influences on temporal variations of rainwater and cave dripwater oxygen isotopes in northern Borneo. *Earth and Planetary Science Letters* 263: 207-220, 2007.
66. Graham, N.E., Hughes, M.K., Ammann, C., **Cobb**, K.M., Hoerling, M.P., Kennett, D.J., Kennett, J.P., Rein, B., Stott, L., Wigand, P.E., Xu, T., Tropical Pacific-Mid-latitude teleconnections during medieval times, *Climatic Change* 81(1-2): 241-285, 2007.
67. **Cobb**, K.M., C.D. Charles, H. Cheng, R.L. Edwards. The El Niño-Southern Oscillation and tropical Pacific climate during the last millennium. *Nature* 424: 271-276, 2003.
68. **Cobb**, K.M., C.D. Charles, H. Cheng, M. Kastner, R.L. Edwards. U/Th-dating living and young fossil corals from the central tropical Pacific. *Earth and Planetary Science Letters* 210: 91-103, 2003.
69. Charles, C.D., K.M. **Cobb**, M.D. Moore, R.G. Fairbanks. Monsoon-tropical ocean interaction in a network of coral records spanning the 20th century. *Marine Geology* 201(1-3): 207-222, 2003.
70. Paytan, A, S. Mearon, K.M. **Cobb**, M. Kastner. Origin of barite deposits: Sr and S isotope characterization. *Geology* 30(8): 747-750, 2002.

71. Cobb, K.M., D.E. Hunter, C.D. Charles. A central tropical Pacific coral demonstrates Pacific, Indian, and Atlantic decadal climate connections. *Geophys. Res. Lett.* 28(11): 2209-2212, 2001.

NON-REFEREED PUBLICATIONS

- Glass, J.B., Cobb, K.M., “Incentivizing equity and diversity in AGU Honors nominations”, EOS-Transactions of the AGU, March 15, 2019.
- Kalmus, P., Cobb, K.M., Romps, D. “We study climate. We chose not to fly to DC for a conference on it.”, Washington Post, December 10, 2018.
- Cobb, K.M. “Hurricanes like Michael show why we can’t ignore climate change”, Washington Post, October 14, 2018.
- Cobb, K.M. “A southern misfit”, Nature Climate Change, News & Views, doi:10.1038/nclimate2219, 2014.
- Cobb, K.M. and J. Emile-Geay, “ENSO diversity in the paleorecord”, CLIVAR Newsletter, 2013.
- Cobb, K.M., “A climate science day participant describes the experience”, *EOS-Transactions of the American Geophysical Union* vol. 94, March 19, 2013.
- Cobb, K.M. et al., “Representing and reducing uncertainties in high-resolution proxy climate data”, Final workshop Report, 20pp., Trieste, 2008.
<http://www.ncdc.noaa.gov/paleo/reports/trieste2008/trieste2008final.pdf>
- Partin, J.W.* , K.M. Cobb, J.L. Banner, “Climate variability recorded in tropical and subtropical speleothems”, PAGES News 16(3): 9-10, 2008.
- Cobb, K.M. “Ten thousand years of climate change”, *Nature Geosciences* 1: 725, 2008.
- Cobb, K.M. “Letters from Palmyra” in *An Illustrated Guide to Climate Change*, eds. Schmidt, G. and Wolfe, J., W.W. Norton, New York, 2009.

FIELD EXPERIENCE

- Caving expeditions to Gunung Mulu National Park, 2003, 2005, 2008, 2010, 2012, 2016, 2017
Research expeditions and cruises to Line Islands atolls, 1998, 2000, 2005, 2012-2017
Research expedition to Andros, Bahamas, 2008

INVITED TALKS

International (last 5yrs only)

Keynote, International Conference in Paleoceanography, 9/19
Keynote, Urbino Summer School in Paleoclimatology, 8/19
Keynote, Goldschmidt Conference, 8/19
Keynote, ENSO in a warmer climate, Guayagil, Ecuador, 10/18
University of Bologna, Dept of Geophysics seminar, 6/18
Keynote, ENSO Diversity Workshop, Busan, Korea, 10/17
Keynote speaker, IPCC-PMIP4 Meeting, Stockholm, Sweden, 9/17
University of Bologna, CCMC Seminar speaker, 6/17
Plenary Lecture, CLIVAR Open Science Meeting, Qindao, China, 9/16
Keynote, 4th International Scherochronology Workshop, 6/16
CLIVAR Pacific Panel Workshop, Santiago, Chile, 10/15
Plenary Lecture, INQUA, Nagoya, Japan, 8/15
4th CLIVAR ENSO workshop, Evaluation of ENSO in climate models: ENSO in a changing climate, Paris, 7/15
IAEA “Water isotopes in the tropics” workshop, Vienna, 6/15

National (last 5yrs only)

Keynote, AGU Ocean Sciences Meeting, 2/20
Speaker, Centre College Presidential Sustainability Convocation, 10/19
Keynote, Scripps Student Symposium, 9/19
Speaker & panelist, National Intelligence University “Compound Climate Extremes”, 9/19
Speaker, Departmental Seminar Series, Williams College, 10/19
Speaker, Departmental Seminar Series, UGA Geography, 4/19
Keynote, US CLIVAR workshop on “Sea Level Hotspots”, 4/19
Two invited talks at the AGU Fall Meeting, 12/18
Speaker, U. of South Carolina Departmental seminar, 10/18
Keynote, U. Southern California Center for Sustainability Solution, 9/18
Speaker, National Intelligence University, Washington DC, 8/18
Speaker, Thompson Lecture Series, National Center for Atmospheric Research, 5/18
Speaker, Georgetown Environment Initiative, 5/18
Speaker, Eminent Lecturer Series, University of South Florida, 4/18
Keynote, Geography in Practice Symposium, Indiana University, 3/18
Keynote, Climate Change Symposium, U-Wisconsin, 2/18
Last Millennium Reanalysis Workshop, 10/17
Keynote speaker, NOAA Blue Planet Symposium, 5/17
U. of Illinois-Champaign/Urbana Miller Lecture, 4/17
Keynote, Ecological Integration Symposium, TAMU, 3/17
Two invited talks at American Geophysical Union Fall Meeting, 12/16
Last Millennium Reconstruction Workshop, Friday Harbor, Washington, 10/16
MIT Program on Atmospheres, Oceans, and Climate Departmental Seminar, 10/16
PAGES workshop on Volcanic Impacts on Climate & Society, Columbia University, 6/16
Distinguished Lecturer Series, COLA, George Mason University, 1/16
Keynote speaker, Georgia Perimeter College, 12/15

Climate and Society speaker, UGA, 12/15
Two invited talks at Fall Meeting, American Geophysical Union, 12/15
Rutgers University, Departmental seminar, 10/15
Cornell University, Departmental seminar, 8/15
NC State Dept. of Marine, Earth, and Atmospheric Sciences, 8/15
University of Pittsburgh Honor's College Keynote, 4/15
Climate@Emory Day of Scholarship, Emory University, 4/15
Clemson University, School of Agriculture, Forestry, and Env. Science, 11/14
NSF/PAGES workshop on Holocene Climate Change, Mt. Hood, Oregon 10/14
Penn State, Dept. of Geosciences, 9/14
University of Southern California, Dept. of Earth Sciences, 9/14

PROFESSIONAL ACTIVITIES

Member, AGU and AAAS

Appointments

Lead Author, Working Group 1, IPCC Sixth Assessment Report
Co-chair, US-CLIVAR Working Group on "Observations and Modeling of Water Isotopes in the Climate System" (2018-2021)
Co-chair, PAGES "CoralHydro2K" Working Group (2018-2021)
Editor, Geophysical Research Letters, 2015-2018

National and International Panels

2018-2019 Member, Scientific Panel, 2019 AMS Climate Change Statement
2013-2018 Member, CLIVAR Pacific Panel
2015-2018 Member, Advisory Council, Leshner Leadership Institute for Public Engagement, AAAS
2014-2017 Member, AGU Perlman Award Selection Committee
2013-2014 Member, AAAS Climate Science Panel
2010-2014 Councilmember, American Quaternary Association
2012-2015 Representative, Consortium of Universities for the Advancement of Hydrologic Science (CUAHSI)
2009-2013 Member, PAGES-CLIVAR Intersection Panel

Selected Workshops and Panels

US CLIVAR workshop on "Water Isotopes in Climate", 10/19
MPOWER Pattullo conference for Women in Physical Oceanography, 9/19
US CLIVAR workshop on "Sea Level Hotspots: Florida to Maine", 4/19
Last Millennium Re-analysis workshop, 10/17
NSF Earthcube Paleodata Standards workshop, 6/16
Selection Committee, AAAS Leshner Leadership Institute Fellows, 2015
National Academy of Science "Frontiers in Decadal Climate Variability", 9/15
AAAS workshop "The economic and financial risks of a changing climate", 11/14
Selection committee, AGU David Perlman Award for Science Journalism, 2015, 2016

National Academy of Science workshop to review NSF-AGS “Goals & Objectives”, 4/14
Panelist, AAAS “Engaging with Social Media” workshop, 2/14
2013 Gender Summit of North America invited panelist
2013 “Climate Science Day on Capitol Hill” invited participant
NSF Expert Witness Training Academy, 8/11
NAS “Frontiers of Science” Invited Participant, 11/09
NOAA Climate Change Data and Detection Proposal Review Panelist, 1/09
NSF Paleo-Perspectives on Climate Change Proposal Review Panelist, 4/08
NOAA Abrupt Climate Change Proposal Review Panelist, 1/08
NSF Graduate Research Fellowship Program Panelist, 2007, 2008, 2009
NSF Earth System History Workshop, 3/07
NSF Earth System History Panelist, 3/03, 2/04

Conferences/Sessions Convened

Scientific Committee, International Conference on “ENSO in a warmer climate”, 10/18
Co-convenor, AGU session PP43: “Paleoclimatic History of ENSO”, 12/18
Co-convenor, AGU session GC049: “Mechanisms and Impacts of Natural and Anthropogenic Tropical Pacific Decadal Variations and Trends”, 12/17
Co-convenor, AGU session PP009 “Climate of the Common Era”, 2014-2019
Co-Chair, Goldschmidt 2017 “Climate and Atmosphere of the Anthropocene” Theme, 8/17
Co-Chair, CLIVAR Open Science Meeting “Decadal-Centennial Climate Change”, 9/16
Co-convenor, AAAS Workshop “Communicating Climate Science”, 1/15
Co-convenor, INQUA session “Ocean-atmosphere interaction in the tropical South Pacific during the Late Quaternary”, 7/15
Co-convenor, Kastner Symposium, Scripps Inst. of Oceanography, 9/14
Co-convenor, AGU session “Thirty years of ENSO research: dynamics, predictability, modeling, and impacts”, 12/13
Co-convenor, AGU session “Indo-Pacific records of abrupt climate change”, 12/08
Co-convenor, Goldschmidt conference session “Marine and terrestrial reconstructions of seasonal and annual scale variability”, Vancouver, Canada, 7/08
Lead organizer, NSF/NOAA/PAGES/CLIVAR workshop “Reducing and representing uncertainties in high-resolution proxy climate data”, Trieste, Italy, 6/08
Co-convenor, AGU Session “Understanding and predicting Pacific decadal to centennial variability”, 12/06

Other Professional Service

Co-Author, Tropical Pacific Observing System (TPOS2020) Second Report, 2019
Founder, AGU PP Section ‘Dansgaard’ Mid-Career Award, instituted in 2015
Founder and Chair, SWAG Committee on Diversity in Geoscience Awards, 2012-2016
Nominator, 2+ underrepresented minority nominees/yr, AGU Honors Program, 2012-present

GEORGIA TECH SERVICE

Member, President’s Steering Committee for Strategic Planning, 2019-2020
Founder and Co-Director, Carbon Reduction Challenge, 2008-

GT Presidential Scholar Program Faculty Guide, 2016-
Co-Director, Climate Change Fellows Program, 2018-2019
Member, College of Science Dean's Search Committee, 2018-2019
Chair, 'Excellence through Diversity in Faculty Hiring' Committee, 2017-2018
GT Strategic Energy Institute Faculty Advisory Committee, 2014-2019
GT Student Energy Club Faculty Board, 2014-2018
GT SLS Faculty Advisory Board, 2014-2017
EAS Chair Advisory Committee, 2014-2017
GT Strategic Plan Advisory Group, 2013-2016
EAS Undergraduate Recruitment Committee, 2014-2015
EAS Strategic Planning Committee, 2014-2015
GT QEP Search Committee for "Serve-Learn-Sustain" Program Director, 2015
'Frontiers in Science speaker', Georgia Tech, 9/15
Keynote, College of Science Recruitment Day, 2015
Sigma Chi "Best Faculty Paper" Selection Committee, 2015
Featured speaker, College of Science Advisory Board Meeting, 2014, 2015
Panelist, GT Young Professional's "Career Work-Life Balance", 4/2014
Founder and director, GT "Energy on the Hill" internship program, 2013
EAS Representative to GT Honor's Program, 2009-present
Co-Chair, EAS Graduate Admissions Committee, 2011-2014
Member, Brooks Byers Institute for Sustainable Systems Review Committee, 2012-2013
EAS Georgia Power Endowed Chair Search Committee, 2011-2012
Panelist, Preparing a NSF GRFP application, 2011, 2012
GT Energy/Sustainability Strategic Planning Committee, 2011-2012
GT Search Committee for Provost, 2010
EAS Faculty Search Committees – 2008-2009, 2009-2010, 2010-2011, 2011-2012
ChBE Forum on Energy and the Environment Speaker, 3/09
Graduate Studies Committee – 2004-2005
Undergraduate Studies Committee – 2006-2008
EAS Faculty Search Committee – 2006-2007
Sustainable Energy Roundtable Speaker – 2006
CEISMC Ocean Sciences Workshop Speaker – 2006

PUBLIC ENGAGEMENT ACTIVITIES

Featured

Twitter: @coralsncaves (verified; >18,000 followers)
Blog, cobblab.blogspot.com (>300 views/day)
TEDxCentennial park speaker, 12/19
Featured Scientist, Emmy Award-winning Showtime documentary "Years of Living Dangerously", 2014
Featured story on front page of New York Times, April 9, 2016
Featured interview and story on NBC's "Today Show", 4/16
Featured guest, NPR's "Diane Rehm Show", 4/16
TEDxEmory speaker, 2/16

Last year only

Co-convener, “Global Climate Action Symposium”, European Climate Diplomacy Week, 9/19
Skype-A-Scientist participant, 10/17, 1/18, 4/18, 4/19
Keynote, Say-So community meeting on climate change, 5/19
Featured guest, “Climate Aware” Podcast, 4/19
Featured guest, Weather with Kate Podcast (The Weather Channel), 3/19
Panelist, The Ethics of Climate Change, Middlebury College, 4/19
Sunday Assembly speaker, 4/19
Exploring by the Sea of Your Pants presenter, 4/19
Keynote, Citizen’s Climate Lobby Southeastern Regional meeting, 3/19
Minnesota Public Radio guest, 1/19
AGU Congressional Visit Day, 12/18
Fernbank Science Center speaker, 10/18
STEMPower “Corals and Climate Change”, Grades 2-7, 9/18

Led student visit to Capitol Hill to meet with GA lawmakers, yearly since 2009
Research regularly featured in TV, print, on-line, and radio media, including CNN, NBC, CTV,
ABC, NYTimes, LATimes, Washington Post, Associated Press, Gizmodo,
Earther, Mother Jones, Climate Central

TEACHING EXPERIENCE (* indicates co-taught courses, † indicates lead instructor role)

<i>Course #</i>	<i>Course Title</i>	<i>Level</i>
EAS 2803	Engineering our Climate Future†*	undergrad
GT1000	Freshman seminar – climate change†*	undergrad
EAS/HP 3110	Energy, the Environment, and Society†*	undergrad
EAS 6216	Isotope Geochemistry	grad
EAS 4350	Oceanography*	undergrad
EAS 4803/6136	Paleoclimatology & Paleoceanography*	mixed
SLS 3120	Sustainable Systems*	undergrad

Graduate seminars as lead instructor

Monsoons: past, present, and future
Abrupt Climate Change
The “Hockey Stick”
Multi-decadal climate variability
Paleoclimate modeling
Water Isotopes
Ocean acidification past and present
The Warming Papers
The Global Hydrological Cycle
Corals and Climate Change
The 2015/2016 El Niño event

STUDENTS SUPERVISED (* indicates member of under-represented group)

Postdoctoral:

Alyssa Atwood*, NOAA Climate & Global Change Fellow, joint w/ J. Chiang (UC-Berkeley), 2015-2019; currently Asst. Prof. Florida State University

Bronwen Konecky*, NSF-AGS Postdoctoral Fellow, joint w/ D. Noone (OSU) 2013-2015, currently Asst. Prof. Washington University, St. Louis

Samantha Stevenson*, NSF-AGS Postdoctoral Fellow, joint w/ B. Powell (U-Hawaii), 2013-2015, currently Asst. Prof., UCSB

Jessica Conroy*, NSF-EAR Postdoctoral Fellow 2011-2013, currently Asst. Prof., U. Illinois Urbana-Champaign

Julien Emile-Geay, 2006-2008, currently Assoc. Prof., Univ. Southern California

Graduate:

Shelly Ellis*, 2016-2019

Annika Jersild*, 2016-2018

Pamela Grothe*, 2012-2017; Women in Geoscience Fellow, Asst. Prof. Mary Washington

Hussein Sayani, 2011-2017; NSF Graduate Research Fellow, currently Research Scientist II

Jessica Moerman*, 2010-2015; NSF Graduate Research Fellow, PEO Sisterhood Fellow, EAS 2013 Best Student Paper Award; currently AAAS Science & Policy Fellow

Stacy Carolin*, 2011-2014; NSF Graduate Research Fellow, EAS 2011 Bradshaw Award for Graduate Research; currently Postdoctoral Fellow, Oxford University

Michele LaVigne* (external committee member, Rutgers), PhD 2011

Intan Suci Nurhati*, PhD 2011, Research Scientist, MIT-SMART, Singapore

Jason Furtado, PhD 2011 (co-advised), currently Asst. Prof., University of Oklahoma

Laura Zaunbrecher*, MS 2009, PhD Georgia State 2013, currently tri-athlete on Team USA

Jud Partin, PhD 2009, currently Research Scientist VII, UT-Austin

Undergraduate:

Rachel Walker* (EAS), 2018-

Madeleine Hardt* (EAS), 2018-

Hudson Moss (EAS), 2017-2019

Jessie Torres* (Emory College), 2018-2019

Aaron Jones* (Vassar College), 2017-2018

Robert Johnson (PUBP), 2016-2017

Megan Gottshalk* (CEE), 2016-2018

Melat Hagos* (EAS), 2016-2017

Gemma O'Connor* (ISYE), 2016-2017, AGU Fall Meeting Oral Presenter, NSF Graduate Research Fellow, Univ. Washington PhD student

Nicholas Hitt (EAS), 2015-2017, 2016 AGU-Ocean Sciences, AGU Fall Meeting Oral presenter; Univ. Wellington PhD student

Sam Pak (ME), 2016-2017

Katie Tokos* (EAS), Jan 2016-Aug 2016

Lucas Everitt (EAS), 2015-2016

Shelby Miller* (EAS), 2014- 2016, 2015 AGU Fall Meeting presenter

Kayla Townsend* (CEE), 2014-2016

Christopher Bosma (EAS), 2014-2015, 2015 AGU Fall Meeting presenter; U-Michigan PhD student
Macon Abernathy (REU), summer 2015
Colin Stone (CHEM), 2014-2015
Corey Drozdowski (ME), 2013-2014
Susan Hess* (EAS), 2013
Eleanor Middlemas* (MATH), 2011-2013, 2012 AGU poster presenter, NSF Graduate Research Fellow 2013, currently PhD student w/ Amy Clement, U. Miami
Elizabeth Wiggins* (EAS), 2010-2013, 2012 AGU poster presenter, NSF Graduate Research Fellow 2013, currently PhD student with Jim Randerson, UC-Irvine
Danja Mewes* (EAS), 2012-2013
Alexander Hoffman (EAS), 2010-2011
Rebecca Kollenberg* (EAS), 2009-2011, currently graduate student at U. Alabama
Heather Crespo* (EAS), 2008-2011
Hussein Sayani (EAS), 2007-2009, Recipient of the 2009 College of Science Excellent Undergraduate Researcher Award, currently NSF Graduate Research Fellow
Sarah Mostafa* (CEE), 2008
Jordan Simpkins (EAS), 2008
Kerry Caslow* (EAS), 2008
Julian McAdams (EAS), 2008
Stacy Carolin* (EAS), 2007-2008, currently Oxford postdoctoral fellow
Alison Graab* (EAS), 2007-2008, currently environmental law consultant
Megan Smith* (BIO), 2006-2007
Sara Harrold* (UC-Boulder), REU, 2006, currently UW graduate student
Jenni Williams* (EAS), 2005-2007, currently EPA employee
Kim Brady* (EAS), 2006, MS EAS, currently Schmidt Ocean Institute technician
Anna Williams* (EAS), 2005
Kathleen Salome* (EAS), 2005, currently researcher, Sigma Aldrich
Mindy Drinkuth* (EAS), 2005
Sean Ryan (EAS), 2005

High School:

Chandler Morris*, Grady Public High School Gifted and Talented Program, 2016-2017
Pooja Sharma*, Johns Creek High School, Summer Intern, 2017
Francesca Tine*, Italian summer exchange student, 2017
Ariana Lewis*, Northside Public High School, 2012-2013, Recipient of “Einstein Award” and Winner of High School Science Fair, Dec 2012, currently at Brown University
Tessa Szalkowski*, Grady Public High School Gifted and Talented Program, 2015-2016
Ben Wilson, Westminster High School, Summer 2016