

DR. SYLVIA G. DEE | CURRICULUM VITAE | October 1st, 2020

RESEARCH: climate variability, water isotope physics, climate & proxy system modeling.

PROFESSIONAL APPOINTMENTS:

- 8/2018-present: *Assistant Professor*, Rice University
Department of Earth, Environmental, and Planetary Sciences.
- 10/2017-8/2018: *Postdoctoral Fellow, Institute for Geophysics*
University of Texas at Austin, Jackson School of Geosciences.
- 9/2015-9/2017: *Voss Postdoctoral Fellow, Institute at Brown for Environment and Society*.
Brown University, Department of Earth, Environmental and Planetary Science.

EDUCATION:

- 2010-2015: University of Southern California, College Doctoral Fellow. (Los Angeles, CA).
 - Department of Earth Sciences, Climate Dynamics
 - Ph.D. defended May 7th, 2015. Doctoral degree conferred: August 15th, 2015.
- 2006-2010: Princeton University, Bachelors of Science and Engineering. (Princeton, NJ)
 - Major: Civil and Environmental Engineering
 - Minors: Geological Engineering, Environmental Studies

PUBLICATIONS:

(\diamond *denotes Rice mentee publication*)

- submitted Wiman, C., B. Hamilton, **S. G. Dee**, S. E. Muñoz. “Reduced lower Mississippi River discharge during the Medieval era.” *Geophysical Research Letters*.
- submitted Garelick, S., J. Russell, **S.G. Dee**, D. Verschuren, D. Olago, “Atmospheric Controls on Precipitation Isotopes and Hydroclimate in High-Elevation Regions in Eastern Africa Since the Last Glacial Maximum.” *Earth and Planetary Science Letters*.
- in review \diamond **Hu, J., S. G. Dee**, C. Wong, C. J. Harman, J. L. Banner, K. E. Bunnell: Assessing proxy system models of cave dripwater $\delta^{18}O$ variability. *Quaternary Science Reviews*.
- in revision **Dee S.G.**, Morrill, C., Russell J.M., Kim, S. H. “Hot Air, Hot Lakes, or both? Exploring Mid-Holocene African Temperatures using Proxy System Modeling. ” *Journal of Geophysical Research - Atmospheres*.
- revised Konecky, B. and members of the Iso2k PAGES working group (including **S. G. Dee**), “The Iso2k Database: A global compilation of paleo- $\delta^{18}O$ and δ^2H records to aid understanding of Common Era climate.” *Earth System Science Data*.
- in press Doughty A.M, Kelly M.A, Russell J.M., Jackson M, Anderson BM, Chipman JW, Nakileza B, **Dee SG**. “The dynamics of equilibrium line altitudes over the past 31,000 years in the Rwenzori Mountains, East Africa.” *Geological Society of America Special Paper in Memory of Stephen Porter*.
- 2020 **Dee, S.G.**, K.M. Cobb, J. Emile-Geay, T. R. Ault, R. L. Edwards, H. Cheng, “Response to Technical Comment: No consistent ENSO response to volcanic forcing over the last millennium.” *Science*, <https://science.sciencemag.org/content/369/6509/eabc1733.full>.
- 2020 \diamond **Hu, J., S. G. Dee**, and J. Nusbaumer, “The role of isotope-enabled GCM complexity in simulating tropical circulation changes in high- CO_2 scenarios,” *Journal of Advances in Modeling Earth Systems*, <http://dx.doi.org/10.1029/2020MS002163>.
- 2020 **Dee, S.G.**, Okumura, Y., Stevenson, S., and P. DiNezio, “Enhanced North American ENSO teleconnections during the Little Ice Age revealed by Paleoclimate Data Assimilation.” *Geophysical Research Letters*, 47, e2020GL087504. <https://doi.org/10.1029/2020GL087504>
- 2020 \diamond **Lawman, A.**, J.W. Partin, **S.G. Dee**, C.A. Casadio, P. Di Nezio, T.M. Quinn, “Developing a coral proxy system model to compare coral and climate model estimates of changes in paleo-ENSO variability.” *Paleoceanography and Paleoclimatology*.
- 2020 Muñoz, S.E., T. J. Porter, A. Bakkellund, J. Nusbaumer, **S.G. Dee**, L. Giosan, J. E. Tierney, “Lipid biomarker record documents hydroclimatic variability of the Mississippi River basin during the Common Era.” *Geophysical Research Letters*. DOI: 10.1029/2020GL087237

- 2020 **Dee, S.G.**, K.M. Cobb, J. Emile-Geay, T. R. Ault, R. L. Edwards, H. Cheng, “No consistent ENSO response to volcanic forcing over the last millennium.” *Science*, 367, 1477–1481. doi/10.1126/science.aax2000
- 2019 O'Mara N.A, Cheung Y., Kelly, C.S., Sandwick S., Herbert T.D., Russell, J.M., Abella-Gutiérrez, **Dee, S.G.**, Swarzenski P., Herguera, J.C. “Subtropical Pacific Ocean temperature fluctuations in the Common Era: Multidecadal variability and its relationship with Southwestern North American megadroughts.” *Geophysical Research Letters*.
- 2019 **Dee, S.G.**, Torres, M. A., Martindale, R. C., Weiss, A., DeLong, K. “The future of reef ecosystems in the Gulf of Mexico: insights from coupled climate model simulations and ancient hot-house reefs.” *Frontiers in Marine Science - Coral Reef Research*. <https://doi.org/10.3389/fmars.2019.00691>
- 2019 Rodysill, J., Russell, J.M., Vuille, M., **Dee, S.G.**, Lunghino, B., Bijaksana, S. “La Niña-driven flooding in the Indo-Pacific warm pool during the past millennium.” *Quaternary Science Reviews*. 225, 106020. doi: <https://doi.org/10.1016/j.quascirev.2019.106020>
- 2019 Lee, C. and **Dee, S.G.**. “Does volcanism cause warming or cooling?” *Geology*. <https://doi.org/10.1130/focus072019.1>
- 2019 Zhu, F., Emile-Geay, J., Ault, T.R., McKay, N., Hakim, G., Khider, D., Steig, E., **Dee, S.G.**, and Kirchner, J. “Climate models can correctly simulate the continuum of temperature variability.” *PNAS*. DOI: <https://doi.org/10.1073/pnas.1809959116>
- 2019 Konecky, B.L, **Dee, S.G.**, and Noone, D.C. “WaxPSM: A forward model of leaf wax hydrogen isotope ratios to bridge proxy and model estimates of past climate” *JGR, Biogeosciences*. DOI: <https://doi.org/10.1029/2018JG004708>
- 2019 Vachula R.S., Huang Y., Longo W.M., **Dee S.G.**, Daniels W.C., Russell J.M. “Evidence of Ice Age humans in eastern Beringia suggests early migration to North America.” *Quaternary Science Reviews*.
- 2018 Hakim, G., **S. G. Dee**, J. Emile-Geay, N. McKay and K. Rehfeld, “Accelerating progress in proxy-model synthesis using open standards.” *Past Global Changes Magazine*, vol. 26(2), 73. <https://doi.org/10.22498/pages.26.2.73>.
- 2018 Jones, M.D. and **Dee, S.G.**, “Global-Scale Proxy System Modeling of Oxygen Isotopes in Lacustrine Carbonates: new insights from data-model comparison.” *Quaternary Science Reviews*. <https://doi.org/10.1016/j.quascirev.2018.09.009>
- 2018 **Dee S.G.**, Russell J.M., Morrill, C., Chen, Z. “PRYSM v2.0: A Proxy System Model for Lacustrine Archives.” *Paleoceanography & Paleoclimatology*. DOI: 10.1029/2018PA003413
- 2018 **Dee, S.G.**, Nusbaumer, J., Bailey, A. R., Russell, J. M., Lee, J.E., Konecky, B., Buening, N., and Noone, D. “Tracking the Strength of the Walker Circulation with Stable Isotopes in Water Vapor.” *Journal of Geophysical Research, Atmospheres*, 123. <https://doi.org/10.1029/2017JD027915>
- 2017 **Dee, S.G.**, Parsons, L.A., Loope, G., Ault, T.R., Emile-Geay, J. and Overpeck, J. “Improved spectral comparisons of paleoclimate models and observations via proxy system modeling: Implications for multi-decadal variability.” *Earth and Planetary Science Letters*, 476 (2017): 34-46.
- 2017 Smerdon, J. E. and Hydro2k Consortium (including **S.G. Dee**). “Comparing proxy and model estimates of hydroclimate variability and change over the Common Era.” *Climate of the Past*, doi: <https://doi.org/10.5194/cp-13-1-2017>.
- 2017 Munoz, S. E. and **Dee, S.G.**, “El Niño increases the risk of lower Mississippi River flooding,” *Scientific Reports* 7, Article number: 1772. doi:10.1038/s41598-017-01919-6
- 2017 Steiger N.J., E.J. Steig, **S.G. Dee**, G.H. Roe, and G.J. Hakim: Climate reconstruction using data assimilation of water-isotope ratios from ice cores, *J. Geophys. Res.*, 122, doi:10.1002/2016JD026011
- 2016 **Dee, S.G.**, N.J. Steiger, J. Emile-Geay, and G.J. Hakim: On the utility of proxy system modeling for estimating climate states over the Common Era. *Journal of Advances in Modeling Earth Systems*. doi:10.1002/2016MS000677, with Commentary by Hugues Goosse: An additional step toward comprehensive paleoclimate reanalyses. (<http://onlinelibrary.wiley.com/doi/10.1002/2016MS000739/full>)
- 2016 Jones, M. D., **S.G. Dee**, L. Anderson, A. Baker, G. Bowen, and D. C. Noone: Water isotope systematics: improving our palaeoclimate interpretations. *Quaternary Science Reviews* 131: 243-249.
- 2015 **Dee et al.**, PRYSM: An open-source framework for PRoxY System Modeling, with applications to oxygen-isotope systems. *Journal of Advances in Modeling Earth Systems*. DOI: 10.1002/2015MS000447
- 2015 **Dee, S.G.**, Noone, D., Buening, N., Emile-Geay, J., Zhou, Y.: SPEEDY-IER: A Fast Atmospheric GCM with Water Isotope Physics. *Journal of Geophysical Research Atmospheres*. DOI: 10.1002/2014JD022194

AWARDS & HONORS

- 2018 Editors' Citation for Excellence in Refereeing - Geophysical Research Letters
- NSF Expert Witness Training Academy Fellow, Mitchell Hamline School of Law, August, 2017
- 2016 Editors' Citation for Excellence in Refereeing - Geophysical Research Letters
- Earth Science Department Teaching Assistant Award, Fall 2012.
- Sigma Xi, Princeton University Department Civil and Environmental Engineering, 2010.

FUNDING:

- Pending NSF Climate and Large-Scale Dynamics. Lead PI: "Evaluating the Past and Future of Mississippi River Hydroclimatology to constrain risk via integrated climate modeling, observations, and reconstructions." Submitted 8/10/2020.
- 2020-2022 NSF GOLD-EN EAGER. Co-PI: "Using allies to expand your network: Implementing a psychological methodology to attract and retain underrepresented (UR) students in the geosciences," \$253,432.
- 2020 COVID-19 Research Fund, Rice University. Lead PI: "The Environmental Impacts of COVID19 in Texas: Understanding Trade-Offs of Plausible Low-Carbon Futures," \$15,020.
- 2020-2023 NASA ROSES: Weather and Atmospheric Dynamics (NNH19ZDA001N-ATDM), "Shallow convective mixing, precipitation processes, and their influence on low-level clouds." Co-PI. \$287,980.
- 2019-2021 NSF Paleoclimate Perspectives on Climate Change, Lead PI: "Constraining African Climate Sensitivity since the Last Glacial Maximum", \$350,000.
- 2019-2021 NSF Paleoclimate Perspectives on Climate Change, Co-PI: "Quantifying Holocene climate variations through data assimilation using proxies and GCM output," \$9,000.
- 2018-2019 Microsoft Artificial Intelligence for the Earth. Azure Machine Learning Grant Recipient. 11/2018, \$5,000.
- 2019-2021 NOAA Ocean Observing and Monitoring, Lead PI: "Assessing the Predictability of ENSO Teleconnections using Paleoclimate Data from the Last Millennium." \$325,000.
- 2017-2018 Postdoctoral Fellowship, University of Texas Institute for Geophysics. Recipient: March, 2017. University of Texas at Austin.
- 2015-2017 Voss Postdoctoral Fellowship, Institute at Brown for Environmental and Society. Recipient: January, 2015 (through 9/2017). Brown University.
- 2010-2015 College Doctoral Fellowship, Recipient: 2010-2015. University of Southern California.

MEDIA HIGHLIGHTS

- 2020 EOS.org, "Corals Make Reliable Recorders of El Niño Fluctuations." <https://eos.org/research-spotlights/corals-make-reliable-recorders-of-el-nino-fluctuations>
- 2020 Climate.gov, "Can volcanic eruptions cause El Niño? Maybe, maybe not." <https://climate.gov/news-features/blogs/enso/can-volcanic-eruptions-cause-el-ni%C3%B1o-maybe-maybe-not>
- 2020 NSF Research News: "Corals tell a tale of El Niño's past." https://www.nsf.gov/discoveries/disc_summ.jsp?cntn_id=300314&org=NSF&from=news
- 2020 Rice News: "Corals tell own tale of El Niño's past." <https://news.rice.edu/2020/03/26/coral-tells-own-tale-about-el-ninos-past-2/>
- 2020 Houstonia Magazine: "WHITE OUT: Why We Need To Help Texas Coral Reefs Now." <https://www.houstoniamag.com/travel-and-outdoors/2020/05/texas-coral-reefs-now-in-danger-global-warming>
- 2019 Houston Chronicle: "Rice study predicts 'catastrophic' damage to Gulf coral reefs from climate change." <https://www.houstonchronicle.com/news/houston-texas/houston/article/Rice-study-predicts-catastrophic-damage-to-14935183.php>
- 2019 NPR Houston Interview on Dee et al., Coral Reef Research: <https://www.houstonpublicmedia.org/articles/news/energy-environment/2019/12/20/354741/report-gulf-coast-coral-likely-to-face-widespread-destruction-by-the-end-of-the-century/>
- 2019 Texas Monthly, Dee et al., Coral Reefs: <https://www.texasmonthly.com/news/coral-reefs-in-the-gulf-of-mexico-could-bleach-from-climate-change/>

- 2019 NPR Houston Matters Guest Speaker, 9/6/2019: <https://www.houstonpublicmedia.org/articles/shows/houston-matters/2019/09/06/345179/full-show-pollution-from-plastics-plants-moving-because-of-climate-change-and-latin-dance-sept-6-2019/>
- 2018 Earth and Space Science News highlight: "Translating Climate Models to the Language of Paleoclimate Data." <https://eos.org/research-spotlights/translating-climate-models-to-the-language-of-paleoclimate-data>, and in Spanish translation: <https://eos.org/research-spotlights/traduciendo-modelos-climaticos-al-lenguaje-de-datos-paleoclimaticos>
- 2018 NPR interview with Travis Bubenik:
<https://www.houstonpublicmedia.org/articles/news/energy-environment/2019/01/08/317117/scientists-to-abbott-climate-change-is-happening/>
- 2016 KQED.org, Interview with Brian Kahn on being a young climate scientist: <https://www.kqed.org/science/1093456/what-being-a-young-climate-scientist-is-like>

TEACHING & MENTORING:

Teaching at Rice

- Inhabiting Planet Earth (ESCI 111), Fall 2020
- Climate Dynamics (ESCI 422/622), Fall 2020
- The Science of Climate Change (ESCI 201), Spring 2019, 2020
- Environmental Earth Science (ESCI 110), Fall 2019

Other Teaching:

- Lecturer, Brown International Advanced Research Institute (BIARI): Climate Change and Its Impacts 2017, Connecting Local Variability and Knowledge in a Global System
- Workshop/Practicum Leader: Demonstration of PRYSM (climate proxy system modeling tools in Python). PAGES Proxy System modelling and data assimilation in paleosciences, May, 2017, UCL, Louvain-la-Neuve, Belgium.
- Guest Lecturer: Brown University Geosciences Department.
 - The Global Water Cycle (Dr. Jung-Eun Lee): Water Isotopes and the Hydrological Cycle
 - Weather and Climate (Dr. Meredith Hastings): Lightning, Thunderstorms and Tornados
 - Atmospheric Physics (Dr. Amanda Lynch): Balanced Flows, Departures from Balance
- Teaching Assistant and Lab Instructor: Climate Change, GEOL 150 (University of Southern California), 4 semesters. Professors: Dr. Julien Emile-Geay and Dr. Lowell Stott. Assisted with lab curriculum development. Departmental TA Award, Fall 2012.
- TA Training, USC: Instructor, Fall 2012, Fall 2014.

Mentoring

Ph.D. Students (Rice):

- Charles Marshall (Rice University, EEPS), Ph.D. student, F2020-present.
- Xinyue Luo (Rice University, EEPS), Ph.D. student, F2019-present.

Ph.D. Students (Postdoc Institutions):

- Natallia Piatrunia (UT Austin Geosciences), Ph.D. candidate, 2018-present.
- Hima Hassenruck-Gudipati (UT Austin Geosciences), Ph.D. candidate, 2017-present.
- Richard Vachula (Brown U. Geosciences), Ph.D. candidate, 2015-present.

Undergraduate Students (Rice):

- Sue Kim (Rice University, Statistics), 2018-2020.
- Melinda Ding (Rice University, Computer Science), 2018-present.
- Jackson Parthasarathy (Rice University, Mechanical Engineering), 2018-2019.

Undergraduate Students (Other Institutions):

- Zihan Chen (Brown U. Geosciences), 2017-2018. UTRA Recipient, Summer, 2017.
- Rod Hasbun (Brown U. Computer Science). 2015-2017.
- Yuxin Zhou, (USC Earth Sciences), (2012-2014).

SERVICE:

University Service

- Admissions Committee (2020-present)
- Duncan College: Faculty Associate
- External search committee member: biosciences evolution and global change search (2019)
- Institute for the Environment Task Force appointed by the VP for Research (task force member, 2019).
- Admitted Students' weekend, Natural Sciences Faculty Representative for Earth Sciences (2019).
- Environmental Science Major Steering Committee, (2019-present).

Departmental Service

- Diversity and Inclusion Committee (2020-present)
- Ad-Hoc committee on Undergraduate Curriculum (2019)
- Co-Chair, Data Science Search (2019)
- Information Technology Committee (2019-present)
- Graduate Admissions Committee (2019-present)

Peer Review

- Reviewer: Nature, Science, Science Advances, Earth & Planetary Science Letters, Geophysical Research Letters, Journal of Climate, Climate Dynamics, JGR-Atmospheres, Quaternary Science Reviews, Geochimica et Cosmochimica Acta, Journal of Advances in Modeling Earth Systems, Climate of the Past, Atmosphere, P³, TREES, Biogeosciences.
- Panelist / Reviewer: National Science Foundation, National Oceanic and Atmospheric Administration.

Leadership & Service in Scientific Community

- Convener: Water Isotope Systematics: Improving Modern & Paleoclimate Interpretations. AGU 2018, 2020.
- Chair: Water Isotope Systematics: Improving Modern & Paleoclimate Interpretations. AGU 2017.
- Convener: Quantitative Approaches to Paleoclimate Data, Models, and their Intercomparison. AGU 2016.
- Chair: Water Isotope Systematics: Improving Paleoclimate Interpretations. AGU 2015.
- Convener: Water Isotope Systematics: Improving Paleoclimate Interpretations. AGU 2013.
- Paleoenvironmental Seminar Coordinator (2014-2015) (Earth Sciences Department, weekly seminar). Scheduled speakers, organized travel.
- Department Graduate Student Representative (2011-2012): Organized Earth Sciences Department Seminars for 1 academic year and led incoming graduate student field trip.
- USC Water Conservation Task Force (2014-2015)

STEM Outreach

- Speaker, Girl Scouts of San Jacinto Chemistry Camp (Theme: Water) (6/19/2019)
- Organizer, Rice Earth Day, Girl Scouts of San Jacinto Texas (4/20/2019)
- Girl Scouts of San Jacinto Texas, STEM volunteer (Rock Stars, Engineering Days)
- Girl Scouts of New England Senior Leadership Conference (March 2016, March 2018): Workshop leader, "The Science of Climate Change."
- Skype a Scientist (K-12, regular participant)
- Climate Voices Speaker
 - Austin TOWN (Outdoor Womens' Network), 5/22/18
 - Congregation Beth Elohim, 4/26/17
- Keynote Speaker, United Methodist Women Climate Justice Conference (10/22/16)
- Graduate Student Senator, USC Earth Sciences Department, Social Committee (2013-2014)

- Society of Women Engineers: Member (2010-2012)
- Taught elementary school teachers basics for teaching weather and climate at the K-12 level (2011)
- Brown University Graduate Women in Science and Engineering (GWISE) (2015-2017)
- Climate Change Risks; Letter for California Congressman Henry Waxman; co-author, precipitation, water scarcity, sea-level rise (2013)

INVITED TALKS & SEMINARS:

- University of Illinois, "On the Reliability of the El Niño Southern Oscillation over the Last Millennium." Department Seminar, October 2020.
- University of Hawaii, *ibid.* Department Seminar, November 2020.
- Massachusetts Institute of Technology, *'ibid.* WHOI Climate Seminar, May 2020.
- Texas A&M University, September 2019, *ibid.*
- "Decoding Past, Present, and Future Changes in Large-Scale Circulation with Water Isotopes," (*invited*). Goldschmidt Geochemistry Meeting, August 2019.
- PRYSM: open code for Proxy System Modeling (*invited*), AGU Fall Meeting 2018.
- California Institute of Technology, October 25th, 2018. GeoClub Speaker.
- University of Arizona, October 11th, 2018, Department Seminar Speaker.
- Rice University, March 23rd, 2018. "What's Past is Prologue: Atmospheric Variability from 2000B.C. to 2100A.D."
- Louisiana State University, March 14th, 2018. *ibid.*
- Vanderbilt University, February 21st, 2018. *ibid.*
- James Madison University, February 5th, 2018. *ibid.*
- Dartmouth College, June 3rd, 2017. Seminar: "A Lingua Franca for the Climate System: Linking Models and Data to Characterize Decadal Climate Variability."
- Massachusetts Institute of Technology, April 26th, 2017. Atmospheric Sciences Seminar. *ibid.*
- University of California, Riverside, April 11th, 2017. *ibid*
- Rowan University, March 8th, 2017. *ibid*
- NASA Goddard Institute for Space Studies, February 16th, 2017, Seminar. *ibid*
- Lamont-Doherty Earth Observatory, Columbia University. February 17th, 2017, Oceans and Climate Seminar.
- Boston College, January 30th, 2017. Seminar: "A Lingua Franca for the Climate System: Using Models and Data to Characterize Decadal Climate Variability."
- Woods Hole Oceanographic Institute, November 17th, 2016. Seminar: "Characterizing Decadal Variability in a Fickle Climate: new methods in high-resolution paleoclimatology."
- University of Texas at Austin, Institute for Geophysics, October 14th, 2016. Seminar: "Characterizing Decadal Variability in a Fickle Climate: new methods in high-resolution paleoclimatology."

CONFERENCE PRESENTATIONS AND WORKSHOPS:

Dee First-Authored Presentations

- American Geophysical Union (AGU) Fall Meeting, Dec 2019, Poster: "Enhanced North American ENSO teleconnection during the Little Ice Age revealed by Paleoclimate Data Assimilation."
- Goldschmidt Geochemistry Meeting, August 2019. "Decoding Past, Present, and Future Changes in Large-Scale Circulation with Water Isotopes," (*invited*).
- American Geophysical Union (AGU) Fall Meeting, Dec 2018, Washington, D.C.
Talk: Improving ENSO-driven rainfall prediction in North America,
Talk: PRYSM: open code for PROXY SYSTEM MODELING (*invited*)

- Goldschmidt Geochemistry Conference, August, 2018, Boston MA. Talk: Tracking the Strength of the Walker Circulation with Water Isotopes.
- American Geophysical Union (AGU) Fall Meeting, Dec 2017, New Orleans, LA. Talk: How Hot was Africa during the Mid-Holocene? Reexamining Africa's Thermal History via integrated Climate and Proxy System Modeling, in Session PP22A: Integrating Data and Models in Paleoclimatology and Paleocology: Current Approaches, Emerging Challenges, and Next Steps
- PAGES Proxy System modelling and data assimilation in paleosciences, May, 2017, UCL, Louvain-la-Neuve, Belgium. Keynote Speaker: Proxy system (data) models in paleoclimatology. Workshop/Practicum Leader: Demonstration of PRYSM (climate proxy system modeling tools in Python).
- PAGES KR8: The Karst Record. May 2017, Austin, TX. Workshop leader: Connecting climate models and paleo records. Poster: Improved Spectral Comparisons Of Paleoclimate Models And Speleothem Observations Via Proxy System Modeling: Implications For Multi-Decadal Variability
- PAGES Open Science Meeting, May 2017, Zaragoza, Spain. Talk: Reconstructing African Hydroclimate since the Last Glacial Maximum via integrated Climate and Proxy System Modeling.
- American Geophysical Union (AGU) Fall Meeting, Dec 2016, San Francisco, CA.
Talk: Partitioning the effects of Global Warming on the Hydrological Cycle with Stable Isotopes in Water Vapor
Talk: Last Millennium External Forcing Undetectable in Coral Records of Central Pacific Climate
Convener: Quantitative Approaches to Paleoclimate Data, Models, and Their Intercomparison
- Goldschmidt Annual Geochemistry Meeting, June-July 2016, Yokohama, Japan. Talk: Reexamining Disagreement between Simulated and Observed Climate Variability with Water Isotope Physics and Proxy System Models, in Session 16b: Reconstructing Warm and Cold Climates: Insights from Data and Models.
- PAGES2k/PMIP3 Hydroclimate Workshop, June 2016, Lamont-Doherty Earth Observatory, Columbia University, New York, NY. Talk: An Update on Proxy System Modeling and Data Model Comparison: Progress, Applications, and Challenges.
- American Geophysical Union (AGU) Fall Meeting, Dec 2015, San Francisco, CA. Talk: It might take three: proxy system models as the missing link between proxies and climate models, and their potential for paleoclimate data assimilation, in Session PP41D-04: It Takes Two: Using Paleodata and Climate Models to Understand Climate Dynamics I Primary Convener and Chair, PP34B: Water Isotope Systematics: Improving Paleoclimate Interpretations
- American Geophysical Union (AGU) Fall Meeting, Dec 2014, San Francisco, CA. Talk: A proxy system modeling toolbox for comparing water isotope observations to simulations, in Session PP34B: Water Isotope Systematics: Improving Paleoclimate Interpretations
- PAGES Workshop: Holocene Climate as Context for Future Climate Change, October 13-16, 2014, Mt. Hood, Oregon, USA. Talk: Climate-Proxy System Modeling: A New Paradigm for Paleodata-Model Intercomparison
- European Geosciences Union (EGU), General Assembly, April 2014, Vienna, Austria. Talk: Comparing Apples to Apples: Paleoclimate Model-Data comparison via Proxy System Modeling
- American Geophysical Union (AGU) Fall Meeting, Dec 2013, San Francisco, CA. Session Convener: PP031 Water Isotope Systematics: Improving our Paleoclimate Interpretations. Poster presented: Refining the Interpretation of Hydroclimate Paleodata via the Integration of an Isotope-Enabled AGCM and Proxy System Models
- NCCR Climate Summer School, September 2013, Grindelwald, Switzerland. Participant and Presentation: Poster; Integrated climate-proxy modeling using the isotope-enabled SPEEDY-IER with a focus on tropical climate.
- Urbino Summer School in Paleoclimatology, July 2013, Urbino, Italy. Participant and Presentation: Poster; Integrated climate-proxy modeling using the isotope-enabled SPEEDY-IER.
- University of Utah Stable Isotope Mapping Short Course, June 2013, Salt Lake City, Utah. Participant.
- PAGES Young Scientist Meeting, Feb 2013, Goa, India. Talk: Integrated climate-proxy modeling using the isotope-enabled SPEEDY-IER with a focus on tropical climate, and PAGES Open Science Meeting, Feb 2013, Goa, India. Poster: (same as talk).
- AGU Fall Meeting, Dec 2012, San Francisco, CA. Poster: SPEEDY-IER: Development and Validation of a Simplified Atmospheric GCM with Water Isotope Physics

- AGU Science Policy Meeting, Apr 2012, Washington, D.C. Poster: The Application of Multi-Variable Geospatial Analysis to an Environmentally Sustainable Reconstruction of Afghanistan.
- AGU Fall Meeting, Dec 2011, San Francisco, CA. Poster: SPEEDY-IER: development of a simplified atmospheric GCM with isotope physics

Dee Mentee First-Authored Presentations

- Jun Hu, AGU FM 2019: Talk: "The role of isotope-enabled GCM complexity in simulating circulation changes in high-CO2 scenarios."

COMPUTATIONAL PROFICIENCY:

- GitHub Repository: <https://github.com/sylvia-dee/>
- Climate Modeling: SPEEDY-IER developer, Post Processing for CCSM4/CESM, IsoGSM, CAM5, ECHAM5
- Programming: Python, Matlab, Fortran, ArcGIS, LaTeX

AFFILIATIONS:

- American Geophysical Union
- PAGES - Past Global Changes

WORK EXPERIENCE & PROFESSIONAL DEVELOPMENT:

- Environmental Business Intern: NRG Energy, Inc. (Princeton, NJ; Houston, TX) July 2009-August 2010
- Post Doctoral Research Assistant: to Bethany Bradley (Woodrow Wilson School of Public Policy and International Affairs, Princeton University), December 2008-July 2009.
- Land Stewardship Intern: D&R Greenway Land Trust, June 2007-August 2007 Full time (40 hours/week) for duration of internship.