

JASON E. SMERDON

Columbia University
Lamont-Doherty Earth Observatory
61 Route 9W, P.O. Box 1000
Palisades, NY 10964
Email: jsmerdon@ldeo.columbia.edu
Web: <http://smerdon.ldeo.columbia.edu>
Phone: (845) 365-8493

EDUCATION

2004	Ph.D.	<i>Applied Physics</i>	University of Michigan, Ann Arbor, MI
2000	M.S.	<i>Physics</i>	University of Michigan, Ann Arbor, MI
1998	B.A.	<i>Physics Major</i>	Gustavus Adolphus Coll., St. Peter, MN

PROFESSIONAL APPOINTMENTS

2023-	<i>Professor of Climate</i>	Columbia Climate School, Columbia University, New York, NY
2022-	<i>Co-Senior Director for Education</i>	Columbia Climate School, Columbia University, New York, NY
2011-	<i>Co-Director, Undergraduate Program in Sustainable Development</i>	Earth Institute, Columbia University, New York, NY
2014-23	<i>Earth Institute Faculty</i>	Earth Institute, Columbia University, New York, NY
2017-23	<i>Lamont Research Professor</i>	Lamont-Doherty Earth Observatory, Columbia University, New York, NY
2014-17	<i>Lamont Associate Research Professor (Senior Staff)</i>	Lamont-Doherty Earth Observatory, Columbia University, New York, NY
2012-14	<i>Lamont Associate Research Professor (Junior Staff)</i>	Lamont-Doherty Earth Observatory, Columbia University, New York, NY
2012-14	<i>Earth Institute Faculty, Junior Member</i>	Earth Institute, Columbia University, New York, NY
2010-12	<i>Lamont Assistant Research Professor</i>	Lamont-Doherty Earth Observatory, Columbia University, New York, NY
2008-15	<i>Adjunct Assistant Professor</i>	School of International and Public Affairs, Columbia University, New York, NY
2008-10	<i>Doherty Associate Research Scientist</i>	Lamont-Doherty Earth Observatory, Columbia University, New York, NY
2008-12	<i>Storke-Doherty Lecturer</i>	LDEO and Dept. of Earth and Env. Sci., Columbia University, New York, NY
2007-08	<i>Barnard Environmental Science/Mellon Postdoctoral Fellow</i>	Department of Environmental Science, Barnard College, New York, NY
2005-07	<i>Lamont Postdoctoral Fellow</i>	Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY

HONORS AND AWARDS

- 2018 *LDEO Excellence in Mentoring Award*
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2013 *Editors' Citation for Excellence in Refereeing*
Geophysical Research Letters
- 2009 *Distinguished Visiting Researcher at the UCM-Grupo Santander*
Universidad Complutense de Madrid, Madrid, Spain
- 2008 *James Chair Visiting Professor*
St. Francis Xavier University, Antigonish, Canada
- 2008 *First Decade Award for Early Professional Achievement*
Gustavus Adolphus College, St. Peter, MN
- 2007 *Storke-Doherty Lectureship Award*
LDEO and Dept. of Earth and Env. Sci., Columbia University, New York, NY
- 2007 *Barnard Environmental Science/Mellon Postdoctoral Fellowship*
Department of Environmental Science, Barnard College, New York, NY
- 2005 *Lamont-Doherty Postdoctoral Fellowship*
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2005 *John Dorr Graduate Academic Achievement Award*
Department of Geological Sciences, University of Michigan, Ann Arbor, MI
- 1998-2001 *GAANN Fellowship*
Applied Physics Program, University of Michigan, Ann Arbor, MI
- 1997 *Julian A. Crawford Memorial Prize in Physics*
Department of Physics, Gustavus Adolphus College, St. Peter, MN

PROFESSIONAL ACTIVITIES

Intergovernmental Panel on Climate Change

- 2011-13 Contributing Author, Working Group I, Assessment Report 5, *Chapter 5: Information from Paleoclimate Archives*.

Conference and Workshop Convening

- 2021-23 Co-Organizer (with Rhiannon Stephens), *History and Climate Change: Africa, Indigenous and Latin America, and South Asia*, Columbia University, NY
- 2010-19 Co-Convener (with K.J. Anchukaitis, E.R. Cook, J. Emile-Geay and K. Cobb), *The Climate of the Common Era*, AGU Fall Meeting
- 2017 Co-Covener (with E. Cook), *Large-scale hydroclimate variability and change of the Common Era: Patterns, Impacts, and Processes*, PAGES Open Science Meeting, Zaragoza, Spain
- 2016 Chair, PAGES 2k-PMIP3 Workshop: *Comparing data and model estimates of hydroclimate variability and change over the Common Era*, Lamont-Doherty Earth Observatory, NY
- 2013 Co-Chair, *Third International Workshop on Climate Informatics*, National Center for Atmospheric Research, Boulder, CO
- 2012 Program Committee Chair, *Second International Workshop on Climate Informatics*, National Center for Atmospheric Research, Boulder, CO
- 2012 Organizer, *Decadal-to-Centennial Tropical Pacific Climate Variability: Perspectives from Proxies and Multi-Century Model Simulations*, Lamont-Doherty Earth Observatory, New York, NY

2008 Co-Convener (with C. Ammann, N. Graham, and M. Evans): *Advancing Process Understanding in Proxy Climate Records*, AGU Fall Mtg., San Francisco, CA

Workshop Participation

2016 *Sixth International Workshop on Climate Informatics* (Keynote Speaker), National Center for Atmospheric Research, Boulder, CO

2014 *PAGES 2k Climate Field Reconstruction Workshop* (Speaker), Woods Hole Oceanographic Institution, Woods Hole, MA

2013 *PAGES2k/PMIP3 Workshop on Integrated Analysis of Reconstructions and Multi-Model Simulations for the Past Two Millennia* (Speaker), Madrid, Spain

2013 *CICAR Symposium, Climate Change: Recent Discoveries and Future Challenges* (Participant), Lamont-Doherty Earth Observatory, Palisades, NY

2013 *PAGES EuroMed2k Hydroclimate Workshop* (Speaker), Univ. of Reading, UK

2012 *PAGES EuroMed2k Workshop* (Speaker), Max Plank Institute for Meteorology, Hamburg, Germany

2012 *Workshop on using paleo-climate model/data comparisons to constrain future projections* (Participant), The Bishop Museum, Honolulu, Hawaii

2011 *First International Workshop on Climate Informatics* (Breakout Session Leader) New York Academy of Sciences, New York, NY

2011 *Bayesian Hierarchical Models for High-Resolution Climate Reconstructions* (Invited Speaker) National Center for Atmospheric Research, Boulder, CO

2011 *Bayesian Hierarchical Models (BHMs) for Climate Field Reconstruction (CFR) and Comparison to Existing CFR Methods* (Participant), Lamont-Doherty Earth Observatory, Palisades, NY

2010 *Climate Sensitivity Extremes: Assessing the Risk* (Participant), Goddard Institute for Space Studies, New York, NY

2010 *Climate of the Last Millennium: Natural and Forced Climate Variability from the Medieval Period to the Greenhouse Future* (Invited talk), Goddard Institute for Space Studies, New York, NY

2009 *Abrupt Climate Change in a Warming World* (Invited talk), Lamont-Doherty Earth Observatory, Palisades, NY

Editorial Positions and Reviewer Service

2004- Reviewer: *Science, Science Advances, Nature, Nature Geosciences, Nature Climate Change, Nature Communications, Journal of Climate, Geophysical Research Letters, Climate Dynamics, Journal of Geophysical Research (Atmospheres and Earth Surface), Earth and Planetary Science Letters, Climate of the Past, International Journal of Climatology, Climatic Change, Environmental Modeling and Software, Hydrology and Earth System Science, Earth and Space Science, Columbia University Press, National Science Foundation, Department of Energy, National Oceanographic and Atmospheric Administration*

2006-08 Guest Editor (with V. Rath): *Climate of the Past*, Interpreting subsurface Temperature signals of climate change – Special Issue, http://www.climate-past.net/special_issue8.html

Invited Lectures and Panels (Last 5 Years)

2022 Lecture, Woods Hole Oceanographic Institution, Falmouth, MA

2022 Keynote Speaker, Columbia Alumni Association, Washington D.C., Virtual

2022 Lecture, Climate Change: A Primer, Trumbull Library, Dinner Disrupted Series, Virtual

2022 Lecture, Salty Shorts, Great Salt Lake Institute, Westminster College, Virtual

2022 Keynote Speaker, Desert Tortoise Council, 47th Symposium, Virtual

- 2021 Lecture, 2021 PAGES 2K Network Seminar Series, Virtual
- 2021 Keynote Lecture, 2021 Columbia Youth Climate Summit, Virtual
- 2021 Keynote Lecture, 2021 Bergan Academies Climate Summit, Virtual
- 2020 Colloquium Speaker, University of Connecticut, Storrs, CT
- 2020 Colloquium Speaker, American Museum of Natural History, New York, NY
- 2020 Keynote Lecture, 2020 Columbia Youth Climate Summit, New York, NY
- 2020 Guest Speaker, Initiative for Sustainable Futures, Teachers College, New York, NY
- 2019 Keynote Lecture, Energy Journalism Initiative, Center on Global Energy Policy, Columbia Univ., New York, NY
- 2019 Spring Keynote Lecture, Legacy Project, County College of Morris, Randolph, NJ
- 2019 Workshop Leader, 2019 Columbia Youth Climate Summit, Columbia Univ., New York, NY
- 2018 Fall Keynote Lecture, Legacy Project, County College of Morris, Randolph, NJ
- 2018 Workshop Leader, Columbia Univ., 2018 Columbia Youth Climate Summit, New York, NY

UNIVERSITY SERVICE

Committees, Coordinating and Administration

- 2023- Chair: *Administrative Advisory Group*
Columbia Climate School, Columbia University, New York, NY
- 2023- Member: *Interim Steering Committee*
Columbia Climate School, Columbia University, New York, NY
- 2022- Co-Senior Director for Education
Columbia Climate School, Columbia University, New York, NY
- 2022 Member: *Lecturer in Discipline Search Committee (Climate Justice)*
Columbia Climate School, Columbia University, New York, NY
- 2022 Member: *Postdoctoral Research Scholar Search Committee (Climate Justice)*
Columbia Climate School, Columbia University, New York, NY
- 2021-22 Member: *Salary Equity Committee for Staff Officers of Research*
Vice Provost Office for Faculty Affairs, Columbia University, New York, NY
- 2021-22 Chair: *Undergraduate Programs Design Committee*
Climate School, Columbia University, New York, NY
- 2021-22 Co-Chair: *Masters Programs Design Committee*
Columbia Climate School, Columbia University, New York, NY
- 2021- Member: *Executive Group for Education*
Climate School, Columbia University, New York, NY
- 2019- Representative: *Executive Committee (Ocean and Climate Physics Division)*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2018-22 Member: *Executive and Leadership Committee*
Earth Institute/Columbia Climate School, Columbia University, New York, NY
- 2016- Member: *Senior Sustainability Advisory Committee*
Columbia University Sustainability Planning Team, New York, NY
- 2011- Co-Director: *Undergraduate Program in Sustainable Development*
Earth Institute/Columbia Climate School, Columbia University, New York, NY
- 2018-21 Chair: *Earth Institute Education Committee*
Earth Institute, Columbia University, New York, NY
- 2020-21 Member: *Programming Working Group for Diversity, Equity and Inclusion*
Earth Institute, Columbia University, New York, NY
- 2020-21 Co-Chair: *Education Working Group*
Columbia Climate School, Columbia University, New York, NY

- 2016-19 Member: *Promotions and Careers Committee*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2018-19 Member: *Faculty Search Committee* (Environmental Sustainability – Successful)
Department of Environmental Science, Barnard College, New York, NY
- 2018-19 Chair: *Education Task Force*
Earth Institute, Columbia University, New York, NY
- 2018 Member: *LARP Search Committee* (Atmospheric Science – Successful)
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2016-18 Member: *GHG/Energy Focus Team Member*
Columbia University Sustainability Planning Team, New York, NY
- 2016-17 Chair: *LARP Search Committee* (Atmospheric Science – Successful)
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2016-17 Chair: *Lecturer in Discipline Search Committee* (Successful)
Earth Institute, Columbia University, New York, NY
- 2014-15 Chair: *LARP Search Committee* (Climate/Paleoclimate – Successful)
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2011-14, 2016-17 Member: *Education Committee*
Earth Institute, Columbia University, New York, NY
- 2011-12 Member: *Faculty Search Committee* (Physical Oceanography – Successful)
Dept. of Earth and Env. Sciences, Columbia University, New York, NY
- 2010-15 Executive Advisor: *NSERC CREATE Training Program in Climate Science*
St. Francis Xavier University, Antigonish, Nova Scotia, Canada
- 2010-12 Chair: *Website Advisory Committee*
Dept. of Earth and Env. Sciences, Columbia University, New York, NY
- 2009-12 Member: *Advisory Committee to the Office of Academic Affairs and Diversity*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2008-11 Chair: *Campus Life Committee*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2010 Member: *Search Committee for Junior Science Writer*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2008-10 Member: *Website Advisory Committee*
Dept. of Earth and Env. Sciences, Columbia University, New York, NY
- 2008 Member: *Search Committee for Junior Science Writer*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2007-08 Coordinator: *The Earth Science Colloquium at the LDEO*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2006-08 Member: *Campus Life Committee*
Lamont-Doherty Earth Observatory, Columbia University, Palisades, NY
- 2007 Co-Coordinator (with H.-P. Huang): *Summer reading seminar on the IPCC AR4*
Lamont-Doherty Earth Observatory, Columbia University

MEDIA EXPERIENCE AND OUTREACH (LAST 5 YEARS)

I am regularly interviewed for print and broadcast media. The most up-to-date list of my media appearances and examples of my outreach efforts can be found at the following URLs:

<https://smerdon.ldeo.columbia.edu/recent-news>

<https://smerdon.ldeo.columbia.edu/content/teaching-and-outreach>

- 2022 Podcast Guest, What Next with Mary Harris, Slate, Virtual

- 2022 Video Interview, Yale Climate Connections, Virtual
- 2021 Podcast Guest, Learning for Life, Gustavus Adolphus College, Virtual
- 2021 Video Interview, Global Conscience World, Virtual
- 2021 Radio Guest, GBH Radio, Boston, MA, Virtual
- 2021 Guest Lecturer, Retirees in Service to the Environment, Virtual
- 2021 PIRE CREATE Webinar Speaker, Volcanoes and Climate, Virtual
- 2021 Radio Guest, ARD German Radio, Virtual
- 2020 Live Radio Guest, The Takeaway, New York Public Radio, New York, NY
- 2020 Project Rousseau, STEM Horizons Talk, New York, NY
- 2020 Live Radio Guest, The Source, Texas Public Radio, San Antonio, TX
- 2020 Co-Host, Pod of the Planet, Earth Institute, Columbia University, NY
- 2020 Live Radio Guest, CT Today with Ann Karrick, WICC 600, Bridgeport, CT
- 2019 Live Radio Guest, The Lisa Wexler Show with Ann Karrick, WICC 600, Bridgeport, CT
- 2019 Podcast Guest (2 episodes), The Environmental Breakdown, New York, NY
- 2019 Radio Guest, KTOO Public Media, Juneau, AK
- 2019 Teachers College Webinar Series on Sustainability and Education – Keynote Speaker
Teachers College, New York, NY
- 2018 Teacher Renewal for Urban Science Teaching (TRUST), Summer Institute: Earth
and Space Science, American Museum of Natural History, New York, NY

TEACHING AND MENTORING

Teaching and Course Development

- 2023 Co-Instructor (with Rhiannon Stephens): *Climate and History in Africa* (HIST3712 Spring)
Climate School, Columbia University, New York, NY
- 2021 Guest Climate Lecture: *Environmental and Sustainability Education*, Teachers College,
Columbia University, New York, NY
- 2021 Guest Climate Lecture: *Climate Change Policy*, School of International and Public Affairs,
Columbia University, New York, NY
- 2020 Guest Climate Lecture: *Environmental and Sustainability Education*, Teachers College,
Columbia University, New York, NY
- 2017-20 Guest Climate Lecture: *The Business of Climate Change: Investing and Managing in a
Changing Environment*, Columbia Business School, New York, NY
- 2011- Instructor: *Introduction to Sustainable Development* (SDEV1900 Fall and Spring)
Earth Institute, Columbia University, New York, NY
- 2008-15 Instructor: *Climatology* (U6115 Summer; MPA in Environmental Science and Policy)
School of International and Public Affairs, Columbia University, New York, NY
- 2010 Instructor (with J. McManus): *Earth's Environmental Systems: Climate* (EES2100 Fall)
Dept. of Earth and Env. Science, Columbia University, New York, NY
- 2008 Guest Instructor: *Earth's Environmental Systems: Climate* (multiple lectures on
climate change adaptation/mitigation), Barnard College, New York, NY
- 2007-08 Lab Developer and Instructor: *Earth's Environmental Systems: Climate* (worked to
revise existing climate labs and include more hands-on exercises in the lab course,
including two climate model labs), Barnard College, New York, NY
- 2007 Guest Instructor: *Data Analysis* (taught multiple 2-hour undergraduate lectures on
introductory statistics), Barnard College, New York, NY

Undergraduate Students

- 2018-19 Jacob Naimark (CC' 20), EI Research Intern

- Columbia College, New York, NY
- 2017 George-Costin Dobrin (CC' 20), Columbia College Science Fellow
Columbia College, New York, NY
- 2017 Sofia Gouin, (CC' 19), EI Research Intern
Earth Institute, New York, NY
- 2015 Grant Gutierrez (CC '15), EI Research Intern
Earth Institute, New York, NY
- 2014-15 Timothy Kirby Jr. (GS '16), EI Research Intern
Earth Institute, New York, NY
- 2014 Ryan Creedon (PSU '16), Lamont Summer Intern
Lamont-Doherty Earth Observatory, Palisades, NY
- 2014 Meredith Fish (PSU '15), Lamont Summer Intern
Lamont-Doherty Earth Observatory, Palisades, NY
- 2014 Stephanie Goldstein (BC '15), Lamont Summer Intern
Lamont-Doherty Earth Observatory, Palisades, NY
- 2013-14 Seung Hun Baek (CC '14), EI Research Intern and Senior Thesis
Department of Earth and Environmental Science, New York, NY
- 2008 E.B. Tupper (BC '08), Summer Research Assistant
Department of Environmental Science, Barnard College, New York, NY
- 2007 Alison Powell (BC '09), Summer Research Assistant
Department of Environmental Science, Barnard College, New York, NY
- 2007-08 Diana Chang (BC '08), Hughes Fellow, Summer Intern and Senior Thesis
Department of Environmental Science, Barnard College, New York, NY
- 2006, 08 Amanda Rook (BC '08), Summer Research Assistant
Department of Environmental Science, Barnard College, New York, NY
- 2006 A.J. Carver (UW-Madison, '07), NOAA Hollings Fellow, Summer Intern
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY

Research Assistants

- 2011 Hannah Aizenman (CUNY Graduate Student), Summer Code Developer
Google Summer of Code Internship, Hosted at LDEO, Palisades, NY
- 2009-10 Dan Amrhein (CC '09), Full-Time Research Assistant (*now a research scientist at NCAR*)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY

Graduate Students

- 2023- Hannah Byrne (Incoming 2023 Ph.D. student, Primary Advisor)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2023- Miriam Neilsen (Ph.D., Advisory Committee)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2023 Erika Kessler (Thesis Committee)
Teachers College, Columbia University, New York, NY
- 2022-23 Rebecca Orrison (Thesis Committee)
Department of Atmospheric and Environmental Sciences, SUNY Albany, NY
- 2022- Aandishah Samara (Ph.D. student, Expected Graduation: 2027, Primary Co-Advisor)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2022- Ibuki Sugiura (Ph.D. student, Expected Graduation: 2027, Primary Co-Advisor)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2022 Adam Massmann (Ph.D. 2022, Thesis Committee)
School of Engineering and Applied Science, Columbia University, New York, NY
- 2021 Norman Steinert (Ph.D. 2021, Thesis Committee)

- Universidad Complutense de Madrid, Madrid, Spain
- 2018- Arianna Varuolo-Clarke (Ph.D., Expected Graduation: 2023, Primary Co-Advisor)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2016-17 Yuxin Zhou (Ph.D., Advisory Committee)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2015-20 Seung Hun Baek (Ph.D., 2020, Primary Advisor, *now a postdoc fellow at Yale University*)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2015-16 Xiaomeng Jin (Ph.D., Advisory Committee)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2014-19 Colin Raymond (Ph.D., 2019, Thesis Committee)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2014-19 Bor-Ting Jong (Ph.D., 2019, Thesis Committee)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2013-17 Lea Schneider (Ph.D. 2017, 2nd Reader of Doctoral Thesis)
Johannes Gutenberg University, Mainz, Germany
- 2012-14 Nandini Ramesh (Ph.D., 2017, Advisory Committee)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY
- 2010-15 Sloan Coats (Ph.D., 2015, Primary Advisor; *now an Assistant Professor, Univ. Hawaii*)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY 2008
- 2008 Miriam Jones (Ph.D. 2008, Outside Reader, Thesis Committee)
Lamont-Doherty Earth Observatory of Columbia University, Palisades, NY

Postdoctoral Scientists

- 2023- Anson Cheung, Lamont Postdoctoral Fellow
- 2023- Yelin Jiang, Postdoctoral Research Scientist
- 2018 Gijs de Cort, BAEF Postdoctoral Fellow (*now a Research Sci. at U. of Ghent*)
- 2015-18 Justin Mankin, EI Postdoctoral Fellow (*now an Assoc. Prof. at Dartmouth*)
- 2015-18 Nathan Steiger, NOAA C&GC Postdoctoral Fellow (*now an Assist. Prof. at Hebrew U.*)

Research Scientists

- 2019-20 Nathan Steiger, Lamont-Doherty Earth Observatory of Columbia University

PENDING, FUNDED, AND COMPLETED GRANTS

Total Federal Funding Raised (since 2007): \$16,067,481

Total Federal Funding Raised as Lead PI, senior PI, or lead LDEO PI (since 2007): \$3,776,801

- Pending* NSF, \$715,831, *Collaborative Research: Multi-Decadal tropical and southern high-latitude teleconnections over the Common Era*, PIs: X. Yuan (lead), J. Smerdon and J. Liu (SUNY-Albany)
- 2023- NSF, \$493,421 (LDEO Portion), *Collaborative Research: Diagnosing global climatic responses to large volcanic eruptions in climate reconstructions and model simulations*, PIs: J. Smerdon (lead), M. Vuille (SUNY-Albany) and L. Polvani
- 2021- NSF, \$871,446, *Decadal Regime Shifts in the Pacific Ocean: Mechanisms, Hydroclimatic Imprints, and Predictability*, PIs: J. Smerdon (lead) and R. Seager
- 2021- DOE, \$478,471 (LDEO Portion), *The Role of Vegetation in Past and Future Global Hydroclimatic Change*, PIs: J. Smerdon (lead), J. Mankin (lead, Dartmouth), R. Seager, A.P. Williams, K. Marvel, and B. Cook
- 2021-22 Columbia ISERP, \$8,882, *History and Climate Change: Africa, Indigenous & Latin America*,

South Asia Workshop Series, PIs: R. Stephens (lead) and J. Smerdon

- 2020-23 NOAA, \$161,107 (LDEO Portion), *Regional influences of vegetation on complex droughts in North America*, PIs: J. Mankin (lead, Dartmouth), J. Smerdon (LDEO lead), R. Seager
- 2019-22 NSF, \$415,354, *GP-IMPACT: The Community College Compass - Mapping a Guided Pathway into Geosciences*, PIs: C. Xu (lead) and J.E. Smerdon
- 2019-23 NSF, \$371,596, *Diagnosing the dynamics of past and future North American megadroughts*, PIs: N. Steiger (lead) and J. Smerdon
- 2017-23 NSF, \$1,899,667 (LDEO Portion), *PIRE: Climate Research Education in the Americas using Tree-Ring Speleothem Examples (PIRE-CREATE)*, PIs: R. D'Arrigo (LDEO lead), Laia Andreu-Hayles, A.P. Williams, J. Smerdon, with lead PI: M. Vuille, SUNY-Albany
- 2016-20 NSF, \$157,085 (LDEO Portion), 3 years (1-yr NCE), *Collaborative Research: Derivation of Ensemble and Joint-Variable Climate Field Reconstructions of the Common Era Using New Random Field Methods*, PIs: B. Li (Lead, UIUC) and J. Smerdon (LDEO lead)
- 2016-20 NSF, \$626,108, *Reconstruction and Dynamics of Interhemispheric Hydroclimate Variability between the Americas*, PIs: J. Smerdon (lead), E. Cook, R. Seager, A.P. Williams
- 2015 PAGES, \$12,000, PMIP3/PAGES 2k Workshop: *Comparing data and model estimates of hydroclimate variability and change over the Common Era*, PI: J. Smerdon
- 2015 Lamont Climate Center, \$10,000, PMIP3/PAGES 2k Workshop: *Comparing data and model estimates of hydroclimate variability and change over the Common Era*, PI: J. Smerdon
- 2014-18 NSF, \$776,807, *Continental scale droughts in North America: Their frequency, character and causes over the past millennium and near-term future*, PIs: R. Seager (lead), N. Henderson, D. Lee, and J. Smerdon
- 2014 Lamont Climate Center, \$5,730, Climate Center Visitor: J. Fidel Gonzalez-Rouco, PI: J. Smerdon
- 2013-19 NSF, \$3,500,000 (LDEO Portion), *Collaborative Research, EaSM2: Linking near-term future changes in weather and hydroclimate in western North America to adaptation for ecosystem and water management*, PIs: R. Seager (lead), M. Ting, Y. Kushnir, M. Biasutti, J. Smerdon, B. Cook and A. Greene
- 2011-14 NOAA, \$30,463 (LDEO Portion), *Fossil Coral Estimates of Central Tropical Pacific SST and Hydrological Variability During the Last Millennium*, PIs: K. Cobb and J. Smerdon (LDEO lead)
- 2010-14 NOAA, \$2,383,473, *Global Decadal Hydroclimate Variability, Predictability and Change: A Data-Enriched Modeling Study*, PIs: R. Seager (lead), M. Cane, M. Ting, Y. Kushnir, J. Smerdon, A. Kaplan, M. Evans, L.Polvani
- 2009-13 NSF, \$274,418 (LDEO Portion), *Collaborative Research: Locally constrained climate field reconstructions of the last millennium: Methods and application*, PIs: J. Smerdon (lead), A. Kaplan, M. Evans
- 2008-11 NOAA, \$3,315,379, *Abrupt Climate Change in a Warming World: Lessons from Holocene Paleo and Modern Instrumental Records and Model Simulations*, PIs: R. Seager (lead), M. Cane, Y. Kushnir, A. Kaplan, M. Ting, N. Naik, X. Yuan, D. Martinson, and J. Smerdon
- 2007-11 NOAA, \$312,686, *Spectral characteristics of climate proxies and their expression in climate field reconstructions*, PIs: J. Smerdon (lead), A. Kaplan, E. Cook, and M. Evans

- 2007 Barnard Mini Mellon Grant, \$4,800, 1 year, *Campus Energy Assessment and Education for Sustainable Development*, PIs: J. Smerdon and S. Pfirman
- 2007 Black Rock Forest Consortium/Stiefel Foundation, \$3,350, 1 year, *Land-Atmosphere Coupling at Black Rock Forest: The role of snow, vegetation, and soil thermodynamics*, PIs: G. Gong, J. Smerdon and J. Cherry
- 2006 Black Rock Forest Consortium/Stiefel Foundation, \$4,989, 1 year, *Long-term data management for Black Rock Forest meteorological and snow-related research*, PIs: G. Gong, J. Smerdon and J. Cherry
- 2006 Climate Center, Lamont-Doherty Earth Observatory, \$5,200, 1 year, *Monitoring Snow Characteristics and the Evolution of Ground Temperatures at Black Rock Forest: Adding Capacity to the Snow Research Station*, Co-PIs: J. Cherry and J. Smerdon

PEER-REVIEWED PUBLICATIONS

Publications can be accessed online at: <https://smerdon.ldeo.columbia.edu/publications>
*Advised (principally or through collaborative projects) *student or **postdoctoral authors*
 ISI Data (6/29/23): 125 Publications, 7,892 Citations, h-index = 42
 Google Scholar (6/29/23): 11,873 Citations, h-index = 52

130. *Nielsen, M., B. I. Cook, K. Marvel, M. Ting, **J. E. Smerdon**, The changing influence of precipitation on soil moisture drought with warming in the Mediterranean and Western North America, *Earth's Future*, **submitted**.
129. **King, K. E., E. R. Cook, K. J. Anchukaitis, B. I. Cook, **J. E. Smerdon**, R. Seager, G. Harley, B. Spei, The increasing prevalence of hot drought across western North America since the 16th century, *Science Advances*, **submitted**.
128. *Varuolo-Clarke, A.M., **J.E. Smerdon**, and A.P. Williams, Jet dynamics do not explain climate model simulations of muted multidecadal summer precipitation trends in Southeastern South America, *Geophysical Research Letters*, **submitted**.
127. **Li, Z., **J. E. Smerdon**, R. Seager, N. Siebert, and J. S. Mankin, Emergent trends complicate interpretation of the United States Drought Monitor, *Journal of Hydrometeorology*, **submitted**.
126. *Roldán-Gómez, P.J., J.F. González-Rouco, **J. E. Smerdon**, F. García-Pereira, Model and proxy evidence for coordinated changes in the hydroclimate of distant regions over the Last Millennium, *Climate of the Past*, **in review**.
125. Mankin, J. S., N. Siebert, **J. E. Smerdon**, B. I. Cook, R. Seager, A. P. Williams, **C. Lesk, **Z. Li, H. Singh, and E. Martinez, Nonlinear plant responses to both carbon dioxide and climate diminish future freshwater availability, *Nature Climate Change*, **submitted**.
124. **Tejedor, E., L. M. Polvani, N. J. Steiger, M. Vuille, **J. E. Smerdon**, Last Millennium evidence of winter cooling over Eurasia following large, low-latitude volcanic eruptions, *Journal of Climate*, **in revision**.
123. **Smerdon, J.E.**, E.R. Cook, N.J. Steiger, The Historical Development of Large-Scale Paleoclimate Field Reconstructions over the Common Era, *Reviews of Geophysics*, **in review**.
122. Esper, J., K. J. Anchukaitis, E. R. Cook, R. D'Arrigo, S. Guillet, F. C. Ljungqvist, J. Luterbacher, T. Osborn, F. Reinig, L. Schneider, **J. E. Smerdon**, M. Stoffel, R. Wilson, U. Büntgen, The IPCC's reductive Common Era temperature history, *WIREs Climate Change*, **in revision**.
121. *Orrison, R. M. Vuille, **J. E. Smerdon**, J. Apaéstegui, J. L. P. S. Campos, F. W. Cruz, M. E. D. Libera (2022), South American Monsoon variability over the last millennium in paleoclimate records and

isotope-enabled climate models, *Climate of the Past*, 18, 2045-2062, <https://doi.org/10.5194/cp-18-2045-2022>.

120. Cook, B. I., **J. E. Smerdon**, E. R. Cook, A. P. Williams, K. J. Anchukaitis, J. S. Mankin, K. Allen, L. Andreu-Hayles, T. R. Ault, S. Belmecheri, S. Coats, B. Coulthard, B. Fosu, P. Grierson, D. Griffin, D. A. Herrera, M. Ionita, F. Lehner, C. Leland, K. Marvel, M. S. Morales, V. Mishra, J. Ngoma, H. TT. Nguyen, A. O'Donnell, J. Palmer, M. P. Rao, M. Rodriguez-Caton, R. Seager, D. W. Stahle, S. Stevenson, U. K. Thapa, *A. M. Varuolo-Clarke, E. K. Wise (2022), Megadroughts in the Common Era and the Anthropocene, *Nature Reviews | Earth and Environment*, <https://doi.org/10.1038/s43017-022-00329-1>.
119. *Kannad, A., N. Goodkin, D. Samantha, S. Murty, R. Ramos, **J.E. Smerdon**, A. Gordon (2022), Drivers of coral reconstructed salinity in the South China Sea and Maritime Continent: the influence of the 1976 Indo-Pacific climatic shift, *Paleoceanography and Paleoclimatology*, 127, e2021JC017787, <https://doi.org/10.1029/2021JC017787>.
118. Anchukaitis, K. J. and **J. E. Smerdon** (2022), Progress and uncertainties in global and hemispheric temperature reconstructions of the Common Era, *Quaternary Science Reviews*, 286, 107537, <https://doi.org/10.1016/j.quascirev.2022.107537>.
117. *Varuolo-Clarke, A.M., A.P. Williams, **J.E. Smerdon**, M. Ting, D.A. Bishop (2022), Influence of the South American low-level jet on the austral summer precipitation trend in southeastern South America, *Geophysical Research Letters*, 49, e2021GL096409, <https://doi.org/10.1029/2021GL096409>.
116. **Baek, S.H., Y. Kushnir, M. Ting, **J.E. Smerdon**, J. M. Lora (2022), Limited Regional Signatures of Forced North Atlantic SST Variability, *Geophysical Research Letters*, 49, e2022GL097794, <https://doi.org/10.1029/2022GL097794>.
115. *Roldán-Gómez, P.J., J.F. González-Rouco, C. Melo-Aguilar, and **J.E. Smerdon** (2022), The role of internal variability in ITCZ changes over the Last Millennium, *Geophysical Research Letters*, 49, e2021GL096487. <https://doi.org/10.1029/2021GL096487>.
114. Williams, A.P., B. Livneh, K.A. McKinnon, W.D. Hansen, J.S. Mankin, B.I. Cook, **J.E. Smerdon**, *A.M. Varuolo-Clarke, N.R. Bjarke, C.S. Juang, D.P. Lettenmaier (2022), Growing impact of wildfire on western United States water supply, *Proceedings of the National Academy of Sciences*, 119(10), e2114069119, <https://doi.org/10.1073/pnas.2114069119>.
113. Williams, A.P., B.I. Cook, **J.E. Smerdon** (2022), Rapid intensification of the emerging southwestern North American megadrought in 2020–2021, *Nature Climate Change*, 12, 232-234, <https://doi.org/10.1038/s41558-022-01290-z>.
112. Steiger, N.J., W.J. D'Andrea, **J.E. Smerdon**, R.S. Bradley (2022), Large infrequent rain events dominate the hydroclimate of Rapa Nui (Easter Island), *Climate Dynamics*, <https://doi.org/10.1007/s00382-022-06143-1>.
111. *Yun, S., **J.E. Smerdon**, B. Li, and X. Zhang (2021), A pseudoproxy assessment of why climate field reconstruction methods perform the way they do in time and space, *Climate of the Past*, 17, 2583-2605, <https://doi.org/10.5194/cp-17-2583-2021>
110. *Scholz, S.R., R. Seager, M. Ting, Y. Kushnir, **J.E. Smerdon**, B.I. Cook, E.R. Cook, **S.H. Baek (2021), Changing hydroclimate dynamics and the 19th to 20th century wetting trend in the English Channel region of northwest Europe, *Climate Dynamics*, <https://doi.org/10.1007/s00382-021-05977-5>.
109. Marvel, K., B.I. Cook, C. Bonfils, **J.E. Smerdon**, A.P. Williams (2021), Projected Changes to Hydroclimate Seasonality in the Continental United States, *Earth's Future*, 9, e2021EF002019. <https://doi.org/10.1029/2021EF002019>.

108. Cook, B.I., J.S. Mankin, A.P. Williams, K.D. Marvel, **J.E. Smerdon**, H. Liu (2021), Uncertainties, limits, and benefits of climate change mitigation for extreme drought risk in Southwestern North America, *Earth's Future*, e2021EF002014. <https://doi.org/10.1029/2021EF002014>.
107. *Varuolo-Clarke, A.M., **J.E. Smerdon**, A.P. Williams, and R. Seager (2021), Gross discrepancies between observed and simulated 20th to 21st-century precipitation trends in Southeastern South America, *Journal of Climate*, 34(15), 6441-6457.
106. Steiger, N.J., **J.E. Smerdon**, A.P. Williams, R. Seager, *A.M. Varuolo-Clarke (2021), ENSO-driven coupled megadroughts in North and South America over the last millennium, *Nature Geosciences*, 14, 739-744, <https://doi.org/10.1038/s41561-021-00819-9>.
105. **Tejedor, E., N.J. Steiger, **J.E. Smerdon**, R. Serrano-Notivoli and M. Vuille (2021), Global temperature responses to large tropical volcanic eruptions in paleo data assimilation products and climate model simulations over the Last Millennium, *Paleoceanography and Paleoclimatology*, 36, e2020PA004128. <https://doi.org/10.1029/2020PA004128>.
104. **Tejedor, E., N.J. Steiger, **J.E. Smerdon**, R. Serrano-Notivoli, and M. Vuille (2021), Global hydroclimatic response to tropical volcanic eruptions over the Last Millennium, *Proceedings of the National Academies of Sciences*, 118(12), e2019145118, <https://doi.org/10.1073/pnas.2019145118>.
103. McDermid, S., B.I. Cook, M. DeKauwe, J. Mankin, **J.E. Smerdon**, A.P. Williams, R. Seager, M.J. Puma, I. Aleinov, M. Kelley, and L. Nazarenko (2021), Disentangling the regional climate impacts of competing vegetation responses to elevated [CO₂], *Journal of Geophysical Research: Atmospheres*, 126, e2020JD034108, <https://doi.org/10.1029/2020JD034108>.
102. *Baek, S.H., **J.E. Smerdon**, B.I. Cook, and A.P. Williams (2021), US Pacific Coastal Droughts are Predominantly Driven by Internal Atmospheric Variability, *Journal of Climate*, 34(5), 1947-1962, doi:<https://doi.org/10.1175/JCLI-D-20-0365.1>.
101. Coats, S., **J.E. Smerdon**, S. Stevenson, J.T. Fasullo, B. Otto-Bliesner, T.R. Ault (2020), Paleoclimate constraints on the spatiotemporal character of past and future droughts, *Journal of Climate*, 33, 9883-9903, doi: <https://doi.org/10.1175/JCLI-D-20-0004.1>.
100. *Baek, S.H, **J.E. Smerdon**, *G.-C. Dobrin, *J. Naimark, E.R. Cook, B.I. Cook, R. Seager, M.A. Cane, *S.R. Scholz (2020), A Quantitative Hydroclimatic Context for the European Great Famine of 1315-1317, *Communications Earth and Environment*, 1(19). <https://doi.org/10.1038/s43247-020-00016-3>
99. *Harris, T., B. Li, **N.J. Steiger, **J.E. Smerdon**, N. Narisetty, J.D. Tucker (2020), Testing the exchangeability of two ensembles of spatial processes - Evaluating proxy influence in assimilated paleoclimate reconstructions, *Journal of the American Statistical Society*, doi:10.1080/01621459.2020.1799810.
98. *Roldán-Gómez, P.J., J.F. González-Rouco, C. Melo-Aguilar, and **J.E. Smerdon** (2020), Dynamical and hydrological changes in climate simulations of the last millennium, *Climate of the Past*, 16, 1285-1307, <https://doi.org/10.5194/cp-16-1285-2020>.
97. Morales, M.S., E.R. Cook, J. Barichivich, D.A. Christie, R. Villalba, C. LeQuesne, A.M. Srur, M.E. Ferrero, A. Gonzalez-Reyes, F. Couvreur, V. Masiokas, J.C. Aravena, A. Lara, I.A. Mundo, F. Rojas, M.R. Prieto, **J.E. Smerdon**, L.O. Bianchi, M.H. Masiokas, R. Urrutia, M. Rodriguez-Catón, A.A. Muñoz, M. RojasBadilla, C. Alvarez, L. Lopez, B. Luckman, D. Lister, I. Harris, P.D. Jones, A.P. Williams, G. Velazquez, D. Aliste, I. Aguilera-Betti, E. Marcotti, F. Flores, T. Muñoz, E. Cuq, J.A. Boninsegna (2020), 600 years of South American tree rings reveal an increase in severe hydroclimatic events since mid-20th century, *Proceedings of the National Academy of Sciences*, 117(29), 16816-16823, <https://doi.org/10.1073/pnas.2002411117>.
96. Cook, B.I., J.S. Mankin, K. Marvel, A.P. Williams, **J.E. Smerdon**, K. J. Anchukaitis, Twenty-first Century Drought Projections in the CMIP6 Forcing Scenarios (2020), *Earth's Future*, 8, e2019EF001461, <https://doi.org/10.1029/2019EF001461>.

95. Williams, A.P., E.R. Cook, **J.E. Smerdon**, B.I. Cook, J.T. Abatzoglou, **K. Bolles, *S.H. Baek, A. Badger, B. Livneh (2020), Large contribution from anthropogenic warming to an emerging North American megadrought, *Science*, 368(6488), 314-318, doi:10.1126/science.aaz9600.
94. Xu, C., **J.E. Smerdon**, R. DeFries, N. Unwin-Kuruner (2020), Education for Sustainability as a Pathway to Minority Participation in STEM, *New Directions for Teaching and Learning*, 139-154. doi:10.1002/tl.20378
93. **Mankin, J.S., R. Seager, **J.E. Smerdon**, B.I. Cook, and A.P. Williams (2019), Mid-latitude freshwater availability reduced by projected vegetation responses to climate change, *Nature Geoscience*, 12, 983-988, <https://doi.org/10.1038/s41561-019-0480-x>
92. *Baek, S.H., **N.J. Steiger, **J.E. Smerdon**, and R. Seager (2019), Oceanic drivers of widespread droughts in the contiguous US over the Common Era, *Geophysical Research Letters*, 46, 8271-8280. <https://doi.org/10.1029/2019GL082838>.
91. **Steiger, N.J., **J.E. Smerdon**, B.I. Cook, R. Seager, A.P. Williams, E.R. Cook (2019), Oceanic and radiative forcing of medieval megadroughts in the American Southwest, *Science Advances*, 5(7), eaax0087, DOI:10.1126/sciadv.aax0087.
90. Marvel, K., B.I. Cook, C. Bonfils, P.J. Durack, **J.E. Smerdon**, and A.P. Williams (2019), Evidence for human influence on twentieth century hydroclimate, *Nature*, 569:7754, pg. 59-65.
89. Cook, E.R., Y. Kusnir, **J.E. Smerdon**, A.P. Williams, K.J. Anchukaitis, and E.R. Wahl (2019), A Euro-Mediterranean Tree-Ring Reconstruction of the Winter NAO Index Since 910 C.E., *Climate Dynamics*, <https://doi.org/10.1007/s00382-019-04696-2>.
88. *García-García, A., *F.J. Cuesta-Valero, H. Beltrami, and **J.E. Smerdon** (2019), Characterization of air and ground temperature relationships within the CMIP5 historical and future climate simulations, *Journal of Geophysical Research - Atmospheres*, 124. <https://doi.org/10.1029/2018JD030117>.
87. *Baek, S.H., **J.E. Smerdon**, R. Seager, A.P. Williams, and B.I. Cook (2019), Pacific Ocean forcing and atmospheric variability are the dominant causes of spatially widespread droughts in the contiguous United States, *Journal of Geophysical Research - Atmospheres*, 124, <https://doi.org/10.1029/2018JD029219>.
86. *Bishop, D.A., A.P. Williams, R. Seager, A.M. Fiore, B.I. Cook, **J.S. Mankin, **D. Singh, **J.E. Smerdon**, and *M.P. Rao (2019), Investigating the causes of increased 20th-century precipitation over the southeastern United States, *Journal of Climate*, 32, 575-590, <https://doi.org/10.1175/JCLI-D-18-0244.1>.
85. Cook, B.I., A.P. Williams, **J.E. Smerdon**, J.G. Palmer, E.R. Cook, and D.W. Stahle (2018), Extreme tropical Pacific forcing of the late sixteenth century North American megadrought, *Journal of Geophysical Research – Atmospheres*, 123, <https://doi.org/10.1029/2018JD029323>.
84. Samanta, D., K.B. Karnauskas, N.F. Goodkin, S. Coats, **J.E. Smerdon**, and L. Zhang (2018), Coupled model biases breed low-frequency variability in the tropical Pacific, *Geophysical Research Letters*, 45, 10,609-10,618, <https://doi.org/10.1029/2018GL079455>.
83. **Steiger, N.J., **J.E. Smerdon**, E.R. Cook, and B.I. Cook (2018), A reconstruction of global hydroclimate and dynamical variables over the Common Era, *Nature Scientific Data*, 5:180086, doi: 10.1086/sdata.2018.86.
82. **Mankin, J.S., R. Seager, **J.E. Smerdon**, B.I. Cook, A.P. Williams, and R.M. Horton (2018), Blue water tradeoffs with vegetation in a CO₂-enriched climate, *Geophysical Research Letters*, 45, <https://doi.org/10.1002/2018GL077051>.
81. Cook, B.I., A.P. Williams, **J.S. Mankin, R. Seager, **J.E. Smerdon** and **D. Singh (2018), Revisiting the leading drivers of Pacific coastal drought variability in the Contiguous United States, *Journal of Climate*, 31, 25-43, <https://doi.org/10.1175/JCLI-D-17-0172.1>.

80. Ault, T.R., S. St. George, **J.E. Smerdon**, S. Coats, **J.S. Mankin, C.M. Carrillo, B.I. Cook, and S. Stevenson (2018), A robust null hypothesis for the potential causes of megadrought in western North America, *Journal of Climate*, 31, 3-24, <https://doi.org/10.1175/JCLI-D-17-0154.1>.
79. Williams, A.P., B.I. Cook, **J.E. Smerdon**, *D.A. Bishop, R. Seager and **J.S. Mankin (2017), The 2016 southeastern US drought: an extreme departure from centennial wetting and cooling, *Journal of Geophysical Research - Atmospheres*, 122(20), 10888-10905, doi:10.1002/2017JD027523.
78. **Steiger, N.J and **J.E. Smerdon** (2017), A pseudoproxy assessment of data assimilation for reconstructing the atmosphere-ocean dynamics of hydroclimate extremes, *Climate of the Past*, 13, 1435-1449, <https://doi.org/10.5194/cp-13-1435-2017>.
77. *PAGES Hydro2k Consortium*: **J.E. Smerdon**, J. Luterbacher, S. Phipps, K.J. Anchukaitis, T.R. Ault, **S. Coats, K.M. Cobb, B.I. Cook, C. Colose, T. Felis, A. Gallant, J.H. Jungclauss, B. Konecky, A. LeGrande, S. Lewis, *A.S. Lopatka, W. Man, **J.S. Mankin, J.T. Maxwell, B.L. Otto-Bliesner, J.W. Partin, D. Singh, **N.J. Steiger, S. Stevenson, J.E. Tierney, D. Zanchettin, H. Zhang, **A. Atwood, L. Andreu-Hayles, *S.H. Baek, B. Buckley, E.R. Cook, R. D'Arrigo, **S.G. Dee, M. Griffiths, C. Kulkarni, Y. Kushnir, F. Lehner, *C. Leland, H.W. Linderholm, A. Okazaki, J. Palmer, E. Piovano, C.C. Raible, *M.P. Rao, **J. Scheff, G.A. Schmidt, R. Seager, M. Widmann, A.P. Williams, E. Xoplaki (2017), Comparing proxy and model estimates of hydroclimate variability and change over the Common Era, *Climate of the Past*, 13, 1851-1900, <https://doi.org/10.5194/cp-13-1851-2017>.
76. Jungclauss, J.H., E. Bard, M. Baroni, P. Braconnot, J. Cao, L.P. Chini, T. Egorova, M. Evans, J.F. González-Rouco, H. Goosse, G.C. Hurtt, F. Joos, J.O. Kaplan, M. Khodri, K. Klein Goldewijk, N. Krivova, A.N. LeGrande, S.J. Lorenz, J. Luterbacher, W. Man, M. Meinshausen, A. Moberg, C. Nehrbass-Ahles, B.I. Otto-Bliesner, S.J. Phipps, J. Pongratz, E. Rozanov, G.A. Schmidt, H. Schmidt, W. Schmutz, A. Schurer, A.I. Shapiro, M. Sigl, **J.E. Smerdon**, S.K. Solanki, C. Timmreck, M. Toohey, I.G. Usoskin, S. Wagner, C.-J. Wu, K.L. Yeo, D. Zanchettin, Q. Zhang, and E. Zorita (2017), The PMIP4 contribution to CMIP6 - Part 3: the Last Millennium, Scientific Objective and Experimental Design for the PMIP4 past1000 simulations, *Geoscientific Model Development*, 10, 4005-4033, <https://doi.org/10.5194/gmd-10-4005-2017>.
75. **Hartl-Meier, C.T.M., U. Büntgen, **J. E. Smerdon**, E. Zorita, P. J. Krusic, F. C. Ljungqvist, *L. Schneider, and J. Esper (2017), Temperature covariance in tree ring reconstructions and model simulations over the past millennium, *Geophysical Research Letters*, 44, 9458-9469, <https://doi.org/10.1002/2017GL073239>.
74. **Mankin, J.S., **J.E. Smerdon**, B.I. Cook, A.P. Williams, and R. Seager (2017), The curious case of projected 21st-century drying but greening in the American West, *Journal of Climate*, 30, 8689-8710, <https://doi.org/10.1175/JCLI-D-17-0213.1>.
73. Lehner, F., **S. Coats, T.F. Stocker, A.G. Pendergrass, B.M. Sanderson, C.C. Raible, and **J.E. Smerdon** (2017), Projected drought risk in 1.5°C and 2°C warmer climates, *Geophysical Research Letters*, 44, 7419-7428, doi:10.1002/2017GL074117.
72. *Schneider, L., **J.E. Smerdon**, F. Pretis, **C. Hartl-Meier, and J. Esper (2017), A new archive of large volcanic events over the past millennium derived from reconstructed summer temperatures, *Environmental Research Letters*, 12, 094005, <https://doi.org/10.1088/1748-9326/aa7a1b>.
71. *Baek, S.H., **J.E. Smerdon**, **S. Coats, A.P. Williams, B.I. Cook, E.R. Cook, R. Seager (2017), Precipitation, temperature, and teleconnection signals across the combined North American, Monsoon Asia, and Old World Drought Atlases, *Journal of Climate*, 30, 7141-7155, <https://doi.org/10.1175/JCLI-D-16-0766.1>.
70. **Mankin, J.S., D. Viviroli, M.M. Mekonnen, A.Y. Hoekstra, R.M. Horton, **J.E. Smerdon**, and N.S. Diffenbaugh (2017), Influence of internal variability on population exposure to hydroclimatic changes, *Environmental Research Letters*, 12, 044007, <http://iopscience.iop.org/1748-9326/12/4/044007>.

69. Beltrami, H., G.S. Matharoo, **J.E. Smerdon**, L. Illanes, and L. Tarasov (2016), Impacts of the Last Glacial Cycle on Temperature Reconstructions over the Last Millennium, *Geophysical Research Letters*, 43, doi:10.1002/2016gl071317.
68. Ault, T.R., **J.S. Mankin, B.I. Cook and **J.E. Smerdon** (2016), Relative impacts of mitigation, temperature, and precipitation on 21st-Century megadrought risk in the American Southwest, *Science Advances*, 2(10), e1600873, doi:10.1126/sciadv.1600873.
67. **Coats, S., **J.E. Smerdon**, B.I. Cook, R. Seager, E.R. Cook, and K.J. Anchukaitis (2016), Internal ocean-atmosphere variability drives megadroughts in Western North American, *Geophysical Research Letters*, 43, 9886-9894, doi:10.1002/2016GL070105.
66. **Coats, S., **J.E. Smerdon**, K.B. Karnauskas, and R. Seager (2016), The improbable but unexceptional occurrence of megadrought clustering in the American West during the Medieval Climate Anomaly, *Environmental Research Letters*, 11(7), doi:http://dx.doi.org/10.1088/1748-9326/11/7/074025.
65. **Smerdon, J.E.**, and H.N. Pollack (2016), Reconstructing Earth's surface temperature over the past 2000 years: the science behind the headlines, *WIREs Climate Change*, 7: 746-771. doi:10.1002/wcc.418.
64. Li, B., X. Zhang and **J.E. Smerdon** (2016), Comparison between Spatio-Temporal Random Processes and Application to Climate Model Data, *Environmetrics*, 27(5), 267-279, doi:10.1002/env.2395.
63. *Cuesta-Valero, F.J., *A. García-García, H. Beltrami, and **J.E. Smerdon** (2016), First assessment of continental energy storage in CMIP5 simulations, *Geophysical Research Letters*, 43, doi:10.1002/2016GL068496.
62. *García-García, A., *F.J. Cuesta-Valero, H. Beltrami, and **J.E. Smerdon** (2016), Simulation of air and ground temperatures in PMIP3/CMIP5 last millennium simulations: implications for climate reconstructions from borehole temperature profiles, *Environmental Research Letters*, 11, 044022, doi:10.1088/1748-9326/11/4/044022.
61. *Pretis, F., *L. Schneider, **J.E. Smerdon** and D. Hendry (2016), Detection of Designed Break Functions with an Application to Volcanic Impacts on Hemispheric Surface Temperatures, *Journal of Economic Surveys*, 30(3), 403-429, doi:10.1111/joes.12148.
60. Cook, B.I., E.R. Cook, **J.E. Smerdon**, R. Seager, A.P. Williams. **S. Coats, D.W. Stahle, and J. Villanueva Díaz (2016), North American Megadroughts in the Common Era: Reconstructions and Simulations, *WIREs Climate Change*, doi:10.1002/wcc.394.
59. *Euro-Med2k Consortium*: Luterbacher, J., J.P. Werner, **J.E. Smerdon**, *L. Fernández-Donado, J. Gonzalez-Rouco, D. Barriopedro, F. Ljungqvist, U. Büntgen, E. Zorita, S. Wagner, J. Esper, D. McCarroll, A. Toreti, D. Frank, J. Jungclauss, M. Barriendos, C. Bertolin, O. Bothe, R. Brázdil, C. Dario, P. Dobrovolný, M. Gagen, E. García-Bustamante, Q. Ge, J. Gómez-Navarro, J. Guiot, Z. Hao, G. Hegerl, K. Holmgren, V. Klimentenko, J. Martín-Chivelet, C. Pfister, N. Roberts, A. Schindler, A. Schurer, O. Solomina, L. von Gunten, E. Wahl, H. Wanner, O. Wetter, E. Xoplaki, N. Yuan, D. Zanchetti, H. Zhang, C. Zerefos (2016), European summer temperatures since Roman times, *Environmental Research Letters*, 11, 024001, doi:10.1088/1748-9326/11/2/024001.
58. **Smerdon, J.E.**, *S. Coats, and T.R. Ault (2016), Model-Dependent Spatial Skill in Pseudoproxy Experiments Testing Climate Field Reconstruction Methods for the Common Era, *Climate Dynamics*, 46(5), 1921-1942, DOI: 10.1007/s00382-015-2684-0.
57. *PAGES2k-PMIP3 group*: Böthe, O., M. Evans, *L. Fernández-Donado, E. García-Bustamante, J. Gergis, J.F. González-Rouco, H. Goosse, G. Hegerl, A. Hind, J. Jungclauss, D. Kaufman, F. Lehner, N. McKay, A. Moberg, C.C. Raible, A. Schurer, F. Shi, **J.E. Smerdon**, L. von Gunten, S. Wagner, E. Warren, M. Widmann, P. Yiou, E. Zorita (2015), Continental-scale temperature variability in PMIP3 simulations and PAGES 2k regional temperature reconstructions over the past millennium, *Climate of the Past*, 11, 1673-1699, doi:10.5194/cp-11-1673-2015.

56. Williams, A.P., R. Seager, J.T. Abatzoglou, B.I. Cook, **J.E. Smerdon**, E.R. Cook (2015), Contribution of anthropogenic warming to the 2012-2014 California drought, *Geophysical Research Letters*, 42, 6819-6828, doi:10.1002/2015GL064924.
55. *Coats, S., **J.E. Smerdon**, R. Seager, D. Griffin, and B.I. Cook (2015), Winter-to-Summer Precipitation Phasing in Southwestern North America: A Multi-century perspective from Paleoclimatic Model-Data Comparisons, *Journal of Geophysical Research-Atmospheres*, 120, 8052-8064, doi:10.1002/2015JD023085.
54. Esper, J., *L. Schneider, **J.E. Smerdon**, B. Schöne, and U. Büntgen (2015), Signals and memory in tree-ring width and density data, *Dendrochronologia*, 35, 62-70.
53. *Schneider, L., **J.E. Smerdon**, U. Büntgen, R.J.S. Wilson, V.S. Myglan, A.V. Kirilyanov, and J. Esper (2015), Revising midlatitude summer temperatures back to AD 600 based on a wood density network, *Geophysical Research Letters*, 42, 4556-4562, doi:10.1002/2015GL063956.
52. Beltrami, H., G. Matharoo and **J.E. Smerdon** (2015), Impact of borehole depths on reconstructed estimates of ground surface temperature histories and energy storage, *Journal of Geophysical Research-Earth Surface*, 120, 763-778, doi: 10.1002/2014JF003382.
51. Cook, B.I., T.R. Ault, and **J.E. Smerdon** (2015), Unprecedented 21st-Century Drought Risk in the American Southwest and Central Plains, *Science Advances*, 1, e1400082.
50. **Smerdon, J.E.**, B.I. Cook, E.R. Cook, and R. Seager (2015), Bridging Past and Future Climate Across Paleoclimatic Reconstructions, Observations, and Models: A Hydroclimate Case Study, *Journal of Climate*, 28(8), 3212-3231.
49. Beltrami, H., G. Matharoo and **J.E. Smerdon** (2015), Ground surface temperature and continental heat gain in a warming climate: Uncertainties from underground, *Environmental Research Letters*, 10, 014009, doi:10.1088/1748-9326/10/1/014009.
48. *Coats, S., B.I. Cook, **J.E. Smerdon**, and R. Seager (2015), North American Pan-Continental Droughts in Model Simulations of the Last Millennium, *Journal of Climate*, 28, 2025-2043.
47. *Coats, S., **J.E. Smerdon**, B.I. Cook and R. Seager (2015), Are Simulated Megadroughts in the North American Southwest Forced?, *Journal of Climate*, 28, 124-142. doi:http://dx.doi.org/10.1175/JCLI-D-14-00071.1
46. Evans, M.N., **J.E. Smerdon**, A. Kaplan, S.E. Tolwinski-Ward, and J.F. Gonzalez-Rouco (2014), Climate field reconstruction uncertainty arising from multivariate and nonlinear properties of predictors, *Geophysical Research Letters*, 41, doi:10.1002/2014GL062063.
45. Cook, B.I., R. Seager, and **J.E. Smerdon** (2014), The Worst North American Drought Year of the Last Millennium: 1934, *Geophysical Research Letters*, 41, doi:10.1002/2014GL061661.
44. *PAGES 2k Consortium* (Primary Authors: K. Anchukaitis, U. Büntgen, J. Emile-Geay, M. N. Evans, H. Goosse, D. Kaufman, J. Luterbacher, **J. Smerdon**, M. Tingley, L. von Gunten) (2014), A Community-Driven Framework for Climate Reconstructions, *Eos Trans. AGU*, 95(40), 361.
43. Beltrami, H., G.S. Matharoo, L. Tarasov, V. Rath and **J.E. Smerdon** (2014), Numerical Studies on the Impact of the Last Glacial Cycle on recent borehole temperature profiles: implications for terrestrial energy balance, *Climate of the Past*, 10, 1693-1706, doi:10.5194/cp-10-1693-2014.
42. Wahl, E.R., H.F. Diaz, **J.E. Smerdon** and C.M. Ammann (2014), Late Winter Temperature Response to Large Tropical Volcanic Eruptions in Temperate Western North America: Relationship to ENSO Phases, *Global and Planetary Change*, 122, 238-250, doi: 10.1016/j.gloplacha.2014.08.005
41. *Ballard, T., R. Seager, **J.E. Smerdon**, B.I. Cook, A.J. Ray, B. Rajagopalan, Y. Kushnir, J. Nakamura, N. Henderson (2014), Hydroclimate Variability and Change in the Prairie Pothole Region, the “Duck Factory” of North America, *Earth Interactions*, 18, 1-28, doi: http://dx.doi.org/10.1175/EI-D-14-0004.1.

40. Cook, B.I., **J.E. Smerdon**, R. Seager, and *S. Coats (2014), Global warming and 21st century drying, *Climate Dynamics*, 43:2607-2627, DOI 10.1007/s00382-014-2075-y.
39. Cook, B.I., **J.E. Smerdon**, R. Seager and E.R. Cook (2014), Pan-continental droughts in North America over the last millennium, *Journal of Climate*, 27, 383-397.
38. Wang, J., J. Emile-Geay, D. Guillot, **J.E. Smerdon**, and B. Rajaratnam (2014), Evaluating climate field reconstruction techniques using improved emulations of real-world conditions, *Climate of the Past*, 10, 1-19, doi:10.5194/cp-10-1-2014.
37. *Coats, S., **J.E. Smerdon**, B.I. Cook and R. Seager (2013), Stationarity of the Tropical Pacific Teleconnection to North America in CMIP5/PMIP3 Model Simulations, *Geophysical Research Letters*, 40, doi:10.1002/grl.50938.
36. *Coats, S., J.E. Smerdon, R. Seager, B.I. Cook and J.F. González-Rouco (2013), Megadroughts in Southwest North America in Millennium-Length ECHO-G Simulations and their Comparison to Proxy Drought Reconstructions, *Journal of Climate*, 26, 7635-7649, doi:http://dx.doi.org/10.1175/JCLI-D-12-00603.1. 35.
35. **Smerdon, J.E.**, A. Kaplan, and *D. E. Amrhein (2013), Reply to comment by Rutherford et al. on “Erroneous Model Field Representations in Multiple Pseudoproxy Studies: Corrections and Implications,” *Journal of Climate*, Journal of Climate, 26, 3485-3486.
34. *PAGES 2k Consortium* (72 authors), (2013), Temperature variability at the continental scale over two millennia, *Nature Geoscience*, doi:10.1038/NNGEO1797.
33. Tierney, J.E., **J.E. Smerdon**, K.J. Anchukaitis, and R. Seager (2013), Decadal-to-centennial variability in East African hydroclimate controlled by the Indian Ocean, *Nature*, 493, 389-392.
32. Werner, J., J. Luterbacher, and **J.E. Smerdon** (2013), A Pseudoproxy Evaluation of Bayesian Hierarchical Modeling and Canonical Correlation Analysis for Climate Field Reconstructions over Europe, *Journal of Climate*, 26(3), 851-867.
31. Karnauskas, K.B., **J.E. Smerdon**, R. Seager, and J.F. González-Rouco (2012), A Pacific centennial oscillation predicted by coupled GCMs, *Journal of Climate*, 25, 5943-5961.
30. Li, B. and **J.E. Smerdon** (2012), Defining spatial assessment metrics for paleoclimate field reconstructions of the Common Era, *Environmetrics*, 23(5), 394-406. doi:10.1002/env.2142.
29. Wahl, E.R., and **J.E. Smerdon** (2012), Comparative performance of paleoclimatic field and index reconstructions derived from climate proxies and noise-only predictors, *Geophysical Research Letters*, 39, L06703, doi:10.1029/2012GL051086.
28. **Smerdon, J.E.** (2012), Climate models as a test bed for climate reconstruction methods: pseudoproxy experiments, *WIREs Climate Change*, 3:63-77, doi:10.1002/wcc.149.
27. Beltrami, H., **J.E. Smerdon**, G. Matharoo, and *N. Nickerson (2011), Impact of maximum borehole depths on inverted temperature histories in borehole paleoclimatology, *Climate of the Past*, 7, 745-756
26. **Smerdon, J.E.**, A. Kaplan, E. Zorita, J.F. Gonzalez-Rouco, and M.N. Evans (2011), Spatial performance of four climate field reconstruction methods targeting the Common Era, *Geophysical Research Letters*, 38, L11705, doi:10.1029/2011GL046696
25. **Smerdon, J.E.** (2011), Discussion of: A Statistical Analysis of Multiple Temperature Proxies: Are Reconstructions of Surface Temperatures Over the Last 1000 Years Reliable?, *Annals of Applied Statistics*, 5(1), 76-79.
24. D'Arrigo, R., R. Seager, **J.E. Smerdon**, A.N. LaGrande, and E.R. Cook (2011), The Anomalous winter of 1783-1784: Was the Laki eruption or an analog of the 2009-2010 winter to blame?, *Geophysical Research Letters*, 38, L05706, doi:10.1029/2011GL046696.

23. *Lesperance, M., **J. E. Smerdon**, and H. Beltrami (2010), Propagation of linear surface air temperature trends into the terrestrial subsurface, *Journal of Geophysical Research-Atmospheres*, 115, D2115, doi:10.1029/2010JD014377.
22. **Smerdon, J. E.**, A. Kaplan, *D. Chang, and M. N. Evans (2010), A pseudoproxy evaluation of the CCA and RegEM methods for reconstructing climate fields of the last millennium, *Journal of Climate*, 23, 4856-4880, doi:10.1175/2010JCLI3328.1.
21. **Smerdon, J. E.**, A. Kaplan, and *D. E. Amrhein (2010), Erroneous Model Field Representations in Multiple Pseudoproxy Studies: Corrections and Implications, *Journal of Climate*, 23, 5548-5554, doi:10.1175/2010JCLI3742.1.
20. **Smerdon, J. E.**, H. Beltrami, *C. Creelman, and *M.B. Stevens (2009), Characterization of land-surface processes: A quantitative analysis using air-ground thermal orbits, *Journal of Geophysical Research-Atmospheres*, 114, D15102, doi:10.1029/2009JD011768.
19. **Smerdon, J. E.**, A. Kaplan, and *D. Chang (2008), On the origin of the standardization sensitivity in RegEM climate field reconstructions, *Journal of Climate*, 21, 1889-1901.
18. D'Arrigo, R.D., R. Allan, R.J.S. Wilson, J. Palmer, J. Sakulich, **J.E. Smerdon**, S. Bijaksana, and L.O. Ngkoimani (2008), Pacific and Indian Ocean climate signals in a tree-ring record of Java monsoon drought, *International Journal of Climatology*, 28: 1889-1901, doi:10.1002/joc.1679.
17. **Smerdon, J. E.**, J.F. González-Rouco and E. Zorita (2008), Comment on "Robustness of proxy-based climate field reconstruction methods," by Mann et al., *Journal of Geophysical Research-Atmospheres*, 113, D18106, doi:10.1029/2007JD009542.
16. D'Arrigo, R.D. and **J. E. Smerdon** (2008), Tropical climate influences on drought variability over Java, Indonesia, *Geophysical Research Letters*, 35, L05707, doi:10.1029/2007GL032589.
15. **Smerdon, J. E.**, and A. Kaplan (2007), Comments on "Testing the fidelity of methods used in proxy-based reconstructions of past climate": The role of the standardization interval, by Mann et al., *Journal of Climate*, 20, 5666-5670.
14. Hegerl, G. C., T. J. Crowley, M. R. Allen, W. T. Hyde, H. N. Pollack, **J. Smerdon**, and E. Zorita (2007), Detection of human influence on a new, validated 1500-year temperature reconstruction, *Journal of Climate*, 20, 650-666.
13. *Stevens, M. B., **J. E. Smerdon**, J.F. González-Rouco, M. Stieglitz, and H. Beltrami (2007), Effects of bottom boundary placement on subsurface heat storage: Implications for climate model simulations, *Geophysical Research Letters*, 34, L02702, doi:10.1029/2006GL028546.
12. Stieglitz, M., and **J. E. Smerdon** (2007), Characterizing land-atmosphere coupling and the implications for subsurface thermodynamics, *Journal of Climate*, 20, 21-37.
11. **Smerdon, J. E.** and M. Stieglitz (2006), Simulating heat transport of harmonic temperature signals in the Earth's shallow subsurface: Lower-boundary sensitivities, *Geophysical Research Letters*, 33, L14402, doi:10.1029/2006GL026816.
10. **Smerdon, J. E.**, H. N. Pollack, V. Cermak, J. W. Enz, M. Kresl, J. Safanda, and J. F. Wehmiller (2006), Daily, seasonal and annual relationships between air and subsurface temperatures, *Journal of Geophysical Research-Atmospheres*, 111, D07101, doi:10.1029/2004JD005578.
9. Pollack, H. N., S. Huang and **J. E. Smerdon** (2006), Five centuries of climate change in Australia: The view from underground, *Journal of Quaternary Science*, 21(7), 701-706.
8. Pollack, H. N., **J. E. Smerdon**, and P. E. van Keken (2005), Variable seasonal coupling between air and ground temperatures: a simple representation in terms of subsurface thermal diffusivity, *Geophysical Research Letters*, 32, L15405, doi:10.1029/2005GL023869.

7. **Smerdon, J. E.**, H. N. Pollack, V. Cermak, J. W. Enz, M. Kresl, J. Safanda, and J. F. Wehmiller (2004), Air-ground temperature coupling and subsurface propagation of annual temperature signals, *Journal of Geophysical Research-Atmospheres*, 109, D21107, doi:10.1029/2004JD005056.
6. Pollack, H. N., and **J. E. Smerdon** (2004), Borehole climate reconstructions: Spatial structure and hemispheric averages, *Journal of Geophysical Research-Atmospheres*, 109, D11106, doi:10.1029/2003JD004163.
5. **Smerdon, J. E.**, H. N. Pollack, J. W. Enz, and M. J. Lewis (2003), Conduction-dominated heat transport of the annual temperature signal in soil, *Journal of Geophysical Research-Solid Earth*, 108(B9), 2431, doi:10.1029/2002JB002351.
4. Lin, X., **J.E. Smerdon**, A.W. England, and H.N. Pollack (2003), A model study of the effects of climatic precipitation changes on ground temperatures, *Journal of Geophysical Research-Atmospheres*, 108(D7), doi:10.1029/2002JD002872.
3. Pollack, H. N., D. Y. Demezhko, A. D. Duchkov, I. V. Golovanova, S. Huang, V. A. Shchapov, and **J.E. Smerdon** (2003), Surface temperature trends in Russia over the past five centuries reconstructed from borehole temperatures, *Journal of Geophysical Research-Solid Earth*, 108(B4), 2180, doi:10.1029/2002JB002154.
2. England, A. W., X. Lin, **J. E. Smerdon**, and H. N. Pollack (2003), The influence of soil moisture upon the geothermal climate signal, IGARSS Proceedings, *IEEE International*, 1, 419-421, doi:10.1109/IGARSS.2003.1293795.
1. Beltrami, H., **J. E. Smerdon**, H. N. Pollack, and S. Huang (2002), Continental heat gain in the global climate system, *Geophysical Research Letters*, 29(8), doi:10.1029/2001GL014310 (*chosen as a paper for the 'Editor's Highlights'*).

BOOKS, CHAPTERS AND REPORTS

- 2023 Stephens, R., and **J.E. Smerdon**, Responses to Drought in Eighteenth- and Nineteenth-Century East Africa, *Oxford Handbook on Climate Resilience*, **submitted**.
- 2021 Mankin, J.S., I. Simpson, A. Hoell, R. Fu, J. Lisonbee, A. Sheffield, D. Barrie (2021), *NOAA Drought Task Force Report on the 2020–2021 Southwestern U.S. Drought*, NOAA Drought Task Force, MAPP, and NIDIS. (**J.E. Smerdon** listed among Key Contributors to the Report)
- 2018 Mathez, E.A. and **J.E. Smerdon**, *Climate Change: The Science of Global Warming and Our Energy Future*, 2nd Ed., Columbia Univ. Press, New York, NY, Oct. 2018.
- 2017 Sustainability Planning Team (2017), *Columbia University Sustainability Plan 2017-2020, Sustainable Columbia*, Columbia University, New York.
- 2013 Contributing Author to: Masson-Delmotte, V., et al., Information from Paleoclimate Archives. In: *Climate Change 2013: The Physical Science Basis*. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA.
- 2012 Monteleoni, C., G. A. Schmidt, F. Alexander, A. Niculescu-Mizil, K. Steinhäuser, M. Tippett, A. Banerjee, M. B. Blumenthal, A. R. Ganguly, **J.E. Smerdon**, M. Tedesco, “Climate Informatics,” In *Computational Intelligent Data Analysis for Sustainable Development; Data Mining and Knowledge Discovery Series*. Yu, T., Chawla, N., and Simoff, S. (Eds.), CRC Press, Boca Raton, FL, 2013.
- 2009 **Smerdon, J.E.**, Student Companion to *Climate Change: The Science of Global Warming and Our Energy Future* by E. A. Mathez, Columbia University Press, New York, NY, 2009.

ADDITIONAL PUBLICATIONS

*Advised (principally or through collaborative projects) *student or **postdoctoral authors*

- 2019 Williams, A. P., B.I. Cook, and **J.E. Smerdon**, How severe is the megadrought in the West?, *The Hill*, <https://thehill.com/opinion/energy-environment/564591-how-severe-is-the-megadrought-in-the-west>
- 2019 Mankin, J.S., R. Seager, **J.E. Smerdon**, B.I. Cook, and A.P. Williams, Will plants help make the planet wetter or drier in a changing climate?, *Carbon Brief*, <https://www.carbonbrief.org/guest-post-will-plants-help-make-the-planet-wetter-or-drier-in-a-changing-climate>
- 2018 **Smerdon, J.E.**, Dropping the ball, *McSweeney's*, <https://www.mcsweeneys.net/articles/dropping-the-ball>
- 017 **Coats, S and **J.E. Smerdon**, The Atlantic's internal drum beat, *Nature Geoscience News & Views*, 10, 470-471, doi:10.1038/ngeo2970.
- 2017 **Smerdon, J.E.**, What was Earth's climate like before we were measuring it? *Significance*, 14: 24-29. doi:10.1111/j.1740-9713.2017.00999.x
- 2016 **Smerdon, J.E.**, J. Luterbacher, S.J. Phipps, Hydro2k: Integrating proxy data and models for insights into past and future hydroclimate, *PAGES Magazine*, 24(1), 45.
- 2015 **Smerdon, J.E.**, What historic megadroughts in the western US tell us about our climate future, *The Conversation*, 2/16/2015
- 2007 *Rook, A., *A. Powel, and **J.E. Smerdon**, *Initial Sustainability Report on Barnard College*, Barnard College, NY, NY, http://www.ldeo.columbia.edu/~jsmerdon/papers/ISR_9_08.pdf
- 2004 **Smerdon, J.E.**, *Spatial and Temporal Analyses of Geothermal Climate Signals: Implications for Borehole Paleoclimatology*, Doctoral Thesis, University of Michigan, Ann Arbor, MI.

PUBLISHED ABSTRACTS AND PRESENTATIONS (LAST 5 YEARS)

*Advised (principally or through collaborative projects) *student or **postdoctoral authors*

†Denotes an oral presentation and the associated presenter

- 2022 †*Varuolo-Clarke, A. M., **J. E. Smerdon**, and A. P. Williams, Low-level jet dynamics simulated by CMIP6 models don't account for their muted estimates of 20th-century precipitation trends in Southeastern South America, *Eos Trans. AGU*, Fall Meet. Suppl., A52B-06
- 2022 †Mankin, J. S., N. Siegert, H. Singh, E. Martinez, **Z. Li, **J. E. Smerdon**, B. I. Cook, R. Seager, A. P. Williams, Nonlinear plant responses to carbon dioxide and climate diminish water availability, *Eos Trans. AGU*, Fall Meet. Suppl., B16C-07
- 2022 †*Li, Z., J. S. Mankin, R. Seager, **J. E. Smerdon**, N. Siegert, Static Drought Assessment in a Nonstationary Climate, *Eos Trans. AGU*, Fall Meet. Suppl., GC46B-06
- 2022 (invited) †**Smerdon, J. E.**, and K. J. Anchukaitis, Progress and uncertainties in global and hemispheric temperature reconstructions of the Common Era, *Eos Trans. AGU*, Fall Meet. Suppl., NG25A-08
- 2022 †**Smerdon, J. E.**, R. Stephens, E. R. Cook and B. I. Cook, A Climate and History Case Study of 18th- and 19th-Century Multidecadal Droughts in East Africa Using a new Tree-Ring Drought Atlas, *Eos Trans. AGU*, Fall Meet. Suppl., PP42B-02
- 2021 †Williams, A.P., B. Livneh, K. A. McKinnon, W. Hansen, J. S. Mankin, B. Cook, **J. E. Smerdon**,

*A. M. Varuolo-Clarke, N. R. Bjarke, C. Juang, D. P. Lettenmaier, Growing Impact of Wildfire on Western United States Water Supply, *Eos Trans. AGU*, Fall Meet. Suppl., GC52A-01

- 2021 **Tejedor, E., N. J. Steiger, **J. E. Smerdon**, M. Morales, L. Andreu-Hayles, R. Villalba, E. Ferrero, M. F. Vuille, South American hydroclimatic response to large volcanic events over the last 600 years. A data-model intercomparison, *Eos Trans. AGU*, Fall Meet. Suppl., GC55C-0439
- 2021 †*Varuolo-Clarke, A. M., A. P. Williams, **J. E. Smerdon**, Intensified low-level jet and increased humidity drove half of the large wetting trend in southeastern South America from 1949-2020, *Eos Trans. AGU*, Fall Meet. Suppl., GC55C-0440
- 2021 †Cook, B., J. S. Mankin, P. Williams, K. Marvel, **J. E. Smerdon** and H. Liu, Uncertainties, limits, and benefits of climate change mitigation for soil moisture drought in Southwestern North America, *Eos Trans. AGU*, Fall Meet. Suppl., GC22B-02
- 2021 †Tesser, D., C. Xu, P. Marchese, H. Porter-Morgan, A. Ivanova, J. Trachman, P. Sen, N. Phillip, L. Gonzalez-Urbina, A. E. Navarro, and **J. E. Smerdon**, Making Collective Impact Count – Opportunities and Outcomes from Geoscience Pathways, *Eos Trans. AGU*, Fall Meet. Suppl., ED41B-07
- 2020 Marchese, P., C. Xu, J. Trachman, D. Tesser, **J.E. Smerdon**, P. Sen, H. Porter-Morgan, N. Phillip, L. Gonzalez-Urbina, A.E. Navarro, and A. Ivanova, Community College Compass Project, *Eos Trans. AGU*, Fall Meet. Suppl., ED015-0003
- 2020 †Mankin, J.S., H. Singh, **J.E. Smerdon**, and R. Seager, Impact of vegetation on historical North American droughts and the implications for a future greenhouse world, *Eos Trans. AGU*, Fall Meet. Suppl., GC011-05
- 2020 *Varoulo-Clarke, A.M., **J.E. Smerdon**, and A.P. Williams, Gross discrepancies between observed and simulated secular precipitation trends over the 20th-21st centuries in Southeastern South America, *Eos Trans. AGU*, Fall Meet. Suppl., A040-0006
- 2019 *Harris, T., B. Li, **J.E. Smerdon**, N.J. Steiger, N. Narisetty, J.D. Tucker, Testing The Exchangeability of Two Ensembles of Spatial Processes -- Evaluating Proxy Influence In Assimilated Paleoclimate Reconstructions, *Eos Trans. AGU*, Fall Meet. Suppl., PP43D-1636
- 2019 †**Tejedor Vargas, E., N.J. Steiger, **J.E. Smerdon**, R. Serrano-Notivoli, M.F. Vuille, Hydroclimatic Response to Volcanic Eruptions over the Last Millennium might be muted in the LME CESM, *Eos Trans. AGU*, Fall Meet. Suppl., PP41A-06
- 2019 **Smerdon, J.E.**, *S.H. Baek, *G. Dobrin, *J. Naimark, E.R. Cook, B. Cook, R. Seager, and M.A. Cane, A Paleoclimatic Context for the European Great Famine of 1315-1317, *Eos Trans. AGU*, Fall Meet. Suppl., PP11C-1399
- 2019 †*Baek, S.H., **J.E. Smerdon**, M. Ting, Y. Kushnir, R. Seager, Untangling Observed Atlantic Multidecadal Variability, *Eos Trans. AGU*, Fall Meet. Suppl., OS23A-06
- 2019 †Shukla McDermid, S., B. Cook, M.G. De Kauwe, J.S. Mankin, **J.E. Smerdon**, P. Williams, R. Seager, M.J. Puma, I.D. Aleinov, M. Kelley, and L. Nazarenko, Disentangling the regional climate impacts of competing vegetation responses to elevated [CO₂], *Eos Trans. AGU*, Fall Meet. Suppl., H44A-07
- 2019 †Steiger, N.J., **J.E. Smerdon**, P. Williams, Coupled megadrought risk in North and South America, *Eos Trans. AGU*, Fall Meet. Suppl., GC51A-07
- 2019 †Morales, M. et al., The South American Drivers of Megadroughts and Pluvials over the Past 600 years, *Eos Trans. AGU*, Fall Meet. Suppl., GC51A-06
- 2019 *Varoulo-Clarke, A., **J.E. Smerdon**, A.P. Williams, Investigating Opposing 20th-Century

Precipitation Trends in Chile and Argentina using Observations and Models, *Eos Trans. AGU*, Fall Meet. Suppl., GC43E-1442

- 2019 †Anchukaitis, K.J., K.M. Cobb, E.R. Cook, **J.E. Smerdon**, A retrospective on 10 years of the Climate of the Common Era Session at AGU, *Eos Trans. AGU*, Fall Meet. Suppl.
- 2019 Cane, M.A., †E.R. Cook, **J.E. Smerdon**, Experimental Gridded Tree-Ring Reconstruction of Indo-Pacific Winter Sea Surface Temperatures, *Eos Trans. AGU*, Fall Meet. Suppl., GC24A-07
- 2019 **Smerdon, J.E.**, Development and analysis of South American climate field reconstructions spanning the Common Era, 2nd Annual meeting for PIRE CREATE project, Sao Paulo, Brazil
- 2018 †Williams, A.P., E.R. Cook, **J.E. Smerdon**, B.I. Cook, and R. Seager, Twenty-first century megadrought in western North America: millennial context and anthropogenic contributions, *Eos Trans. AGU*, Fall Meet. Suppl.
- 2018 Ault, T., S. Coats, J.S. Mankin, C.M. Carrillo, **J.E. Smerdon**, S. St. George, A.P. Williams, B.I. Cook, F. Lehner, S. Stevenson, and N.J. Steiger, Megadrought Risk in Low-Warming Scenarios, *Eos Trans. AGU*, Fall Meet. Suppl.
- 2018 †Mankin, J.S., R. Seager, **J.E. Smerdon**, B.I. Cook, and A.P. Williams, Will plants ameliorate or amplify drought risks under global warming?, *Eos Trans. AGU*, Fall Meet. Suppl.
- 2018 †Marvel, K., B.I. Cook, **J.E. Smerdon**, and A.P. Williams, 20th-century emergence of a forced signal in global drought, *Eos Trans. AGU*, Fall Meet. Suppl.
- 2018 †**N.J. Steiger, **J.E. Smerdon**, B.I. Cook, and E.R. Cook, ENSO forcing of Medieval megadroughts in the American Southwest, *Eos Trans. AGU*, Fall Meet. Suppl.
- 2018 †*S.H. Baek, **N.J. Steiger, **J.E. Smerdon**, Parsing the dominant ocean influences on spatially widespread droughts in the contiguous US over the Common Era, *Eos Trans. AGU*, Fall Meet. Suppl.