

# CURRICULUM VITAE

KEVIN J. ANCHUKAITIS

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APPOINTMENTS	UNIVERSITY OF ARIZONA <b>2021</b> – Professor, School of Geography, Development, and Environment Joint Appointment, Laboratory of Tree-Ring Research Joint Appointment, Department of Geosciences Chair, Graduate Interdisciplinary Program in Global Change Associate, Center for Climate Adaptation Science and Solutions (CCASS) Affiliated Faculty, Latin American Studies  <b>2015</b> – <b>2021</b> Associate Professor, School of Geography, Development, and Environment	Tucson, AZ
	LAMONT DOHERTY EARTH OBSERVATORY OF COLUMBIA UNIVERSITY <b>2012</b> – Adjunct Research Scientist	New York, NY
	WOODS HOLE OCEANOGRAPHIC INSTITUTION <b>2012</b> – <b>2015</b> Assistant Scientist	Woods Hole, MA
	LAMONT DOHERTY EARTH OBSERVATORY OF COLUMBIA UNIVERSITY <b>2010</b> – <b>2012</b> Lamont Assistant Research Professor <b>2009</b> – <b>2010</b> Doherty Associate Research Scientist <b>2007</b> – <b>2009</b> Lamont-Doherty Postdoctoral Research Fellow	New York, NY
EDUCATION	UNIVERSITY OF ARIZONA <b>2007</b> Ph.D., Geosciences	Tucson, AZ
	UNIVERSITY OF TENNESSEE <b>2002</b> M.S., Geography	Knoxville, TN
	GEORGETOWN UNIVERSITY <b>1998</b> B.S., ( <i>cum Laude</i> ) Science, Technology, & International Affairs Major Field: Environmental Science (with Honors) Foreign study at University of Costa Rica, Institute for Tropical Studies (Golfito), 1996 – 1997	Washington, DC
PUBLICATIONS	<i>Submitted or in Revision</i> († = postdoctoral author, ‡ = student author)  Williams, A.P., <b>K.J. Anchukaitis</b> , A.M. Varuolo-Clarke, Atmospheric rivers are responsible for cyclicity in Sierra Nevada precipitation, submitted, 2023  Zhu, F., J. Emile-Geay, <b>K.J. Anchukaitis</b> , N. McKay, S. Stevenson, Z. Meng, A pseudoproxy emulation of the PAGES 2k database using a hierarchy of proxy system models, submitted, 2023	

- Anchukaitis, K.J.**, R. Touchan, D.M. Meko, D. Kherchouche, S. Slimani, F. Sivrikaya, R. Ilmen, I. Mitsopoulos, J. Stephan, J. Attieh, F. Hasnaoui, J.J. Camarero, R. Sánchez-Salguero, F. Guibal, A. Piermattei, A. Christou, J. Krcmaric, B.I. Cook, Enhancing spatiotemporal reconstructions of hydroclimate variability across the Mediterranean during the last millennium, in review, 2023
- ‡ King, J., J.E. Tierney, M. Osman, E. Judd, **K.J. Anchukaitis**, DASH: A MATLAB Toolbox for Paleoclimate Data Assimilation, *Geoscientific Model Development*, in review, 2023
- Burke, A., H. Innes, L. Crick, **K.J. Anchukaitis**, M. Byrne, W. Hutchison, J. McConnell, K. Moore, J. Rae, M. Sigl, and R. Wilson, High sensitivity of summer temperatures to stratospheric sulfur loading from volcanoes in the Northern Hemisphere, in revision, 2023
- Esper, J. K. Allen, **K.J. Anchukaitis**, E.R. Cook, R. D’Arrigo, S. Guillet, F.C. Ljungqvist, F. Reinig, L. Schneider, J.E. Smerdon, M. Stoffel, R. Wilson, U. Buntgen, The IPCC’s reductive Common Era temperature history, in revision, 2022

*Peer-Reviewed and Invited Papers* († = postdoctoral author, ‡ = student author)

- [127] Schneider, L., O. Konter, J. Esper, and **K.J. Anchukaitis**, Constraining the 19th century temperature baseline for global warming, *Journal of Climate*, [doi:10.1175/JCLI-D-22-0806.1](https://doi.org/10.1175/JCLI-D-22-0806.1), 2023
- [126] ‡ Dye, L.A., B.L. Coulthard, B. Hatchett, I.K. Homfeld, T.N. Salazar, J.S. Littell, **K.J. Anchukaitis**, The severity of the 2014-2015 snow drought in the Oregon Cascades in a multicentury context, *Water Resources Research*, 59, 5, [doi:10.1029/2022WR032875](https://doi.org/10.1029/2022WR032875), 2023
- [125] ‡ King, J., **K.J. Anchukaitis**, K. Allen, T. Vance, A. Hessler, Trends and variability in the Southern Annular Mode during the Common Era, *Nature Communications*, 14, 2324, [doi:10.1038/s41467-023-37643-1](https://doi.org/10.1038/s41467-023-37643-1), 2023
- [124] † Leland, C., R. D’Arrigo, N. Davi, **K.J. Anchukaitis**, L. Andreu-Hayles, T.J. Porter, T. Galloway, M. Mant, G. Wiles, R. Wilson, S. Beaulieu, R. Oelkers, B. Gaglioti, M.P. Rao, E. Reid, T. Nixon, A Spatiotemporal Assessment of Extreme Cold in Northwestern North America Following the Unidentified 1809 CE Volcanic Eruption, *Paleoceanography and Paleoclimatology*, 38, 5, [doi:10.1029/2022PA004581](https://doi.org/10.1029/2022PA004581), 2023
- [123] ‡ Heeter, K., G. Harley, J. Abatzoglou, **K.J. Anchukaitis**, E.R. Cook, B.L. Coulthard, L.A. Dye, and I.K. Homfeld, Unprecedented 21st century heat across the Pacific Northwest of North America, *npj Climate and Atmospheric Science*, 6, 5, [doi:10.1038/s41612-023-00340-3](https://doi.org/10.1038/s41612-023-00340-3), 2023
- [122] ‡ Walker, M., A. Mueller, K. Allen, P. Fenwick, V. Agrawal, **K.J. Anchukaitis**, A. Hessler, High Resolution Radiocarbon Spike Confirms Tree Ring Dating with Low Sample Depth, *Dendrochronologia*, 77, 126048, [doi:10.1016/j.dendro.2022.126048](https://doi.org/10.1016/j.dendro.2022.126048), 2022
- [121] † Leland, C., L. Andreu-Hayles, E.R. Cook, **K.J. Anchukaitis**, O. Byambasuren, N. Davi, A. Hessler, D. Martin-Benito, B. Nachin, N. Pederson, Impacts of Climate and Tree Morphology on Tree-ring Stable Isotopes in Central Mongolia, *Tree Physiology*, 43, 4, 539–555, [doi:10.1093/treephys/tpac142](https://doi.org/10.1093/treephys/tpac142), 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. Herrera, M. Ionita, F. Lehner, C. Leland, K.D. Marvel, M. Morales, V. Mishra, J. Ngoma, H. Nguyen, A. O’Donnell, J. Palmer, M.P. Rao, M. Rodriguez, D. Stahle, S. Stevenson, U.K. Thapa, A. Varuolo-Clarke, E. Wise, Megadroughts in the Common Era and the Anthropocene, *Nature Reviews Earth and Environment*, 3, 741–757, [doi:10.1038/s43017-022-00329-1](https://doi.org/10.1038/s43017-022-00329-1), 2022
- [119] ‡ Grzywacz, Z., A. Hessler, **K.J. Anchukaitis**, S. Sharma, M.N. Evans, S. Nichols, Investigating the potential for Southern Hemisphere climate reconstruction using stable isotopes in Tasmanian tree rings, *Dendrochronologia*, 76, 126016, [doi:10.1016/j.dendro.2022.126016](https://doi.org/10.1016/j.dendro.2022.126016), 2022

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- [117] **Anchukaitis, K.J.** and J.E. Smerdon, Progress and uncertainties in global and hemispheric temperature reconstructions of the Common Era, *Quaternary Science Reviews*, 286, 107537, [doi:10.1016/j.quascirev.2022.107537](https://doi.org/10.1016/j.quascirev.2022.107537), 2022
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- [111] † Gauthier, N., B.L. Coulthard, **K.J. Anchukaitis**, Pattern-based downscaling of snowpack variability in the western United States, *Climate Dynamics*, 58, 3225–3241, [doi:10.1007/s00382-021-06094-z](https://doi.org/10.1007/s00382-021-06094-z), 2022
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#### *arXiv Preprints*

- Karnauskas, K.B., J.P. Donnelly, **K.J. Anchukaitis**, An intercomparison of monthly surface air temperature on islands and proximate moorings across the tropical Indo-Pacific, arXiv:[1707.04603](https://arxiv.org/abs/1707.04603), 2017.

#### *Conference Proceedings and Reports*

- Hessl, A.E., N. Pederson, O. Byambasuran, **K.J. Anchukaitis**, and C. Leland, How Unusual Was the 21st Century Drought in Mongolia? Placing Recent Extremes in a 2000-Year Context, *Proceedings of the Trans-disciplinary Research Conference: Building Resilience of Mongolian Rangelands*, Ulaanbaatar, Mongolia, [doi:10.25675/10217/181727](https://doi.org/10.25675/10217/181727), 80–86, 2015.
- Cook, E.R., R.D. D'Arrigo, and **K.J. Anchukaitis**, ENSO Reconstructions from Long Tree-Ring Chronologies: Unifying the Differences? in *Workshop on ENSO reconstructions for the past 500 years*, edited by H. F. Diaz, MEDIAS-FRANCE/METEO-FRANCE/NOAA, Moorea, French Polynesia, 2008.

#### MENTORING

##### *Postdoctoral*

- Laia Andreu-Hayles, **2009–2012**, Postdoctoral Fellow and Marie Curie Postdoctoral Fellow, Lamont Doherty Earth Observatory (co-mentor with Rosanne D'Arrigo). Currently Lamont Associate Research Professor, Lamont-Doherty Earth Observatory of Columbia University.
- Dario Martin-Benito, **2012–2013**, Postdoctoral Scientist, Lamont Doherty Earth Observatory. Currently Senior Scientist (*Científico Titular*) at the Forest Research Center, Instituto Nacional de Investigación, Madrid, Spain
- Daniel Griffin, **2013–2014**, WHOI Postdoctoral Scholar and NOAA/UCAR Climate and Global Change Postdoctoral Fellowship, Woods Hole Oceanographic Institution. Currently Assistant Professor, University of Minnesota.

Bethany Coulthard, **2016–2018**, Postdoctoral Research Scientist, Laboratory of Tree-Ring Research and School of Geography and Development, University of Arizona. Currently Marine Projects Supervisor, Cowichan Tribes, British Columbia

Nicolas Gauthier, **2019–2021**, Postdoctoral Research Scientist, Laboratory of Tree-Ring Research and School of Geography, Development, and Environment, University of Arizona. Currently Assistant Curator (tenure track), AI for Cultural and Biological Diversity, Florida Museum of Natural History, University of Florida

#### *Graduate Students*

Gloria Jimenez, **Ph.D. 2018**, Geosciences, University of Arizona (co-advisor with Julie Cole, 2017–2018)

Jessie Pearl, **Ph.D. 2019**, Geosciences, University of Arizona (2014–2019)

Talia Anderson, **M.A. 2020**; Ph.D., Geography, University of Arizona (2017–present)

Julie Edwards, **M.A. 2020**; Ph.D., Geography, University of Arizona (2018–present)

Kira Harris, **M.A. 2022**, Ph.D., Geography, University of Arizona (2020–present)

Jonathan King, **Ph.D. 2022**, Geosciences, University of Arizona (2018–2022)

Ana Isabel González Mendez, M.A., Geography, University of Arizona (2022–present)

#### *Dissertation, Thesis Committee, or External Reviewer*

Petra Breitenmoser, **2013**, external referee, Ph.D., University of Bern, Switzerland

Kristina Seftigen, **2014**, *fakultetsopponent*, Ph.D., Gothenburg University, Sweden

Brewster Malevich, **2017**, committee member, Ph.D., Geosciences, University of Arizona

Diego Pons, **2017**, external committee member, Ph.D., University of Denver

Patrick Murphy, **2018** committee member, M.S., Geography, University of Arizona

Sarah Frederick, **2018** committee member, M.S., Geography, University of Arizona

Grace Windler, **2018** committee member, M.S., Geosciences, University of Arizona

Chris Zemp, **2018**, committee member, M.S., Geography, University of Arizona

Anne Billingsley, **2019**, committee member, Ph.D., Geosciences, University of Arizona

Grace Windler, **2021**, committee member, Ph.D., Geosciences, University of Arizona

Emma Reed, **2021**, committee member, Ph.D., Geosciences, University of Arizona

Lucie Luecke, **2021**, external examiner, Ph.D., School of Geosciences, University of Edinburgh

Zack Grzywacz, **2021**, external committee member, M.S., Geography, West Virginia University

William Tintor, **2021**, committee member, Ph.D., Geography, University of Arizona

Manuel Hernandez, **2022**, external committee member, Ph.D., Geography, University of North Carolina

Aria Blumm, **2022**, committee member, M.S., Geosciences, University of Arizona

Dervla Meegan Kumar, **2022**, committee member, Ph.D., Geosciences, University of Arizona

Andrew Zimmer, **2022**, committee member, Ph.D., Geography, University of Arizona

Holly Thomas, **2023**, committee member, M.S., Geosciences, University of Arizona

Brandon Strange, **2023**, committee member, Ph.D., School of Natural Resources and the Environment, University of Arizona

Asiya Badarunnisa Sainudeen, committee member, Ph.D., Geosciences, University of Arizona

Mudith Weerabaddana, committee member, Ph.D., Geosciences, University of Arizona

#### *Undergraduates and Interns*

Kristin Campbell, **2010**, Climate and Society Intern, Columbia University (co-mentor with Ben Cook)

Hannah Aizenman, **2011**, Google Summer of Code, City University of New York and Columbia University (co-mentor with Julien Emile-Geay and Jason Smerdon)

Diego Pons, **2011**, US State Department and LASPAU Global Change Professional Fellow (mentor and host)

Liora Hostyk, **2012**, Lamont-Doherty Earth Observatory Summer Internship (NSF REU), Barnard College and Columbia University (co-mentor with Ben Cook and Richard Seager).

Manuel Hernandez, **2013, 2014**, WHOI Summer Student Fellow and UCAR/NCAR SOARS protégé, Texas A&M University (co-mentor with Caroline Ummenhofer).

Mariel Herzog, **2013**, Lamont-Doherty Earth Observatory Summer Internship (NSF REU), University of Colorado (co-mentor with Allegra LeGrande)

Laura Fleming, **2013, 2014–2015**, Northeastern University Co-op Semester, Visiting Student at Woods Hole Oceanographic Institution

Melissa Schwan, **2016**, University of Arizona, Department of Geosciences, Senior Honors Thesis

Andrea Lara-Garcia, **2020–2021**, University of Arizona, School of Geography, Development, and Environment, Senior Honors Thesis

Zanubia Sethuraju, **2021–2022**, University of Arizona, School of Geography, Development, and Environment, undergraduate research intern and Senior Honors Thesis

Ifeoluwa Godwin Ale, **2022–**, University of Arizona, College of Science, Computer Science, undergraduate research programmer

Francisca Molina, **2023–**, University of Arizona, College of Social and Behavior Sciences, Environmental Studies and Law, undergraduate research assistant

## TEACHING

UNIVERSITY OF ARIZONA

Tucson, AZ

### **School of Geography, Development, and Environment**

GEOG 170A1 *Introduction to Physical Geography* (every Spring)

GEOG 230 *Our Changing Climate* (Autumn 2015, 2016, 2020, 2021)

GEOG 430/530 *The Climate System* (Spring 2016, 2017, 2018, 2019, 2021, 2023)

GEOS 599-010 *Models of the North Atlantic jet (Independent Study)* (Spring 2018)

GEOG 696C *Spatiotemporal Data Analysis* (Autumn 2016, 2019, 2021, 2023)

GEOG 696C *State-of-the-Art Climate Science* (Autumn 2020)

GEOG 696M *Hydroclimate: Past, Present, and Future* (Autumn 2017)

GEOG 699-013 *Topics in Paleobiogeography (Independent Study)* (Spring 2016)

GEOG 699-013 *Statistics for Biogeography (Independent Study)* (Spring 2017)

MIT-WHOI JOINT PROGRAM IN OCEANOGRAPHY

Cambridge and Woods Hole, MA

### **Marine Geology and Geophysics**

12.708 *Topics in Paleoceanography* (Autumn 2013)

COLUMBIA UNIVERSITY

New York, NY

### **Masters in Sustainability Management Program**

SUMA K4230 *The Earth's Climate System* (Spring 2011, Spring 2012)

### **Department of Earth and Environmental Science**

EESC V2011 *Earth's Environmental Systems: The Climate System* (Spring 2012)

## GRANTS

### *Current and Recent*

- “Pilot dendrochronology studies in the Maya Biosphere Reserve”, PI: **K.J. Anchukaitis**, University of Arizona Social and Behavioral Science Research Institute (SBSRI), Faculty Small Grant, 04/2023-03/2024, \$4,656
- “Indigenous forest management in a non-stationary climate”, PI: Diego Pons, co-PIs: **K.J. Anchukaitis**, M. Taylor, R. DeRose, N. vonHedemann, R. Trosper, NSF Dynamics of Integrated Socio-Environmental Systems (DISES), 01/2023-06/2027, \$1,599,397



- “MRI2: Acquisition of a Mini Carbon Dating System for Multi-Millennial, Multi-User Sequences of Annually Resolved 14C and Other High Precision Applications”, PI: Charlotte Pearson, co-PIs: B. Black, **K.J. Anchukaitis**, and K. Thirumalai, NSF Major Research Instrumentation Program (MRI), 09/2022-08/2025, \$2,032,379
- “Tracking Divergent Warming and Tree Growth at Arctic Treeline”, PI: Rosanne D’Arrigo, co-PIs: **K.J. Anchukaitis** and Benjamin Gaglioti, NSF Arctic Natural Sciences, ANS-2124889, 03/2022-02/2025, \$203,991
- “Drivers of Oscillations in Western US Cool-Season Precipitation”, PI: Park Williams, coPI: **K.J. Anchukaitis**. California Department of Water Resources, 10/2021 – 9/2022, No-Cost Extension to 09/2023, \$213,182
- “High-Resolution Reconstruction of Last Millennium North American Arctic Temperatures Using Quantitative Wood Anatomy”, PI: **K.J. Anchukaitis**, coPIs: Adam Csank and Stephanie McAfee, NSF Paleoclimate Perspectives on Climate Change (P2C2), AGS-2102993, 08/2021-07/2024, \$471,704
- “Rainfall variability, extreme events, and vulnerability in heterogeneous social and environmental systems”, PI: **K.J. Anchukaitis**, coPIs: Matthew Taylor, Diego Pons, Tom Evans, Diana Liverman, NSF Human-Environment and Geographical Sciences (HEGS), BCS-2049657, 06/2021 – 05/2024, \$396,593
- “OpenDendro - Advanced Open-source Tools for Paleoenvironmental Reconstruction”, PI: Andy Bunn, coPIs: Edward Cook, **K.J. Anchukaitis**, Tyson Swetnam, NSF Paleoclimate, AGS-2054516, 06/2021-05/2023, No-Cost Extension to 05/2024, \$143,148
- “PaleoCAMP (Paleoclimate training in Climate Archives, Models, and Proxies): A multidisciplinary summer school for graduate students in paleoclimatology”, PI: Jessica Tierney, co-PIs: **K.J. Anchukaitis**, Tripti Bhattacharya, Daniel Ibarra, Kathleen Johnson, Heising-Simons Foundation, 01/2021 – 12/2024, \$425,166
- “Spatiotemporal Variability in Western United States Snowpack During the Common Era”, PI: **K.J. Anchukaitis**, co-PI: Bethany Coulthard, NSF Paleoclimate Perspectives on Climate Change (P2C2), AGS-1803995, 09/01/2018 – 08/31/2021, \$397,055; No-Cost Extension to 08/2023

#### *Completed*

- “Developing Tree-Ring Based Streamflow Reconstructions for Large and Complex River Basins”, PI: **K.J. Anchukaitis**, co-PI: Bethany Coulthard, NSF Geography and Spatial Sciences, BCS-1759629, 09/01/2018 – 02/28/2022, \$279,672; No-Cost Extension to 03/2023
- “Precision dating of North American medieval megadroughts using cosmogenic radiocarbon spikes in tree-ring chronologies”, PI: **K.J. Anchukaitis**, University of Arizona Social and Behavioral Science Research Institute (SBSRI), Faculty Small Grant, 03/2022-02/2023, \$4,950
- “2000 Years of Variability in the Southern Annular Mode (SAM) from Tree Rings and Ice”, PI: Amy Hessel, co-PIs: **K.J. Anchukaitis**, NSF Paleoclimate Perspectives on Climate Change (P2C2), AGS-1803946, 02/01/2019 – 01/31/2022, \$369,192 (UA Scope: \$149,929); No-Cost Extension to 02/2023
- “A stable isotope dendroclimatology approach toward reconstructing paleoclimate dynamics in Central America”, PIs: Laia Andreu-Hayles and **K.J. Anchukaitis**, Columbia University Climate Center, 12/2020, \$8,360
- “The global climate response to volcanic eruptions in the Last Millennium Reanalysis”, PI: J. Emile-Geay, co-PIs: **K.J. Anchukaitis** and G. Hakim. NOAA Climate Program Office, Climate Monitoring Program and Climate Variability and Predictability Program, NA18OAR4310420, 09/01/2018 – 08/31/2020, \$299,973 (UA Scope: \$64,004)

- “Stable and Radiogenic Isotope Approach to Paleoclimate Dynamics in Central America” PI: **K.J. Anchukaitis**, University of Arizona, Research, Discovery & Innovation (RDI) International Research and Program Development Grant, 07/01/2018-06/30/2019, \$26,510
- “Recent Northeastern United States Temperature Records in the Context of the Late Holocene” PIs: **K.J. Anchukaitis**, Jeff Donnelly, and Neil Pederson, NSF Paleoclimate Perspectives on Climate Change (P2C2), AGS-1304262, 08/2013 – 07/2016 (No Cost Extensions to 07/2019), \$447,183
- “Past Ocean-Atmosphere Variability from Spatiotemporal Patterns of North Atlantic Climate During the Common Era” (with Lamont-Doherty Earth Observatory, PI: Ed Cook), coPIs: **K.J. Anchukaitis**, Rosanne D’Arrigo. NSF Paleoclimate Perspectives on Climate Change (P2C2), AGS-1501856, 05/2015 – 04/2018 (No Cost Extensions to 04/2019), (UA scope: \$93,491)
- “Spatiotemporal Variability of Northwestern North American Temperatures in Response to Climatic Forcing” (with Lamont-Doherty Earth Observatory, PI: Rosanne D’Arrigo), coPIs: **K.J. Anchukaitis**, Laia Andreu-Hayles, Greg Wiles, Rob Wilson, NSF Paleoclimate Perspectives on Climate Change (P2C2), AGS-1501834, 05/2015 – 04/2018 (No Cost Extensions to 04/2019), (UA scope: \$105,155)
- “Water Resource Relevant Hydroclimatic Reconstructions for Western North America” PI: **K.J. Anchukaitis**, Postdoctoral Researcher: Bethany Coulthard. U.S. Geological Survey (G16AC00266), 09/02/2016 – 9/01/2018, \$118,886
- “Reconstructing Changes in Asian Monsoon Circulation during the Last Millennium from Stable Isotopes in Tropical Tree Rings” PIs: **K.J. Anchukaitis**, B.M. Buckley, C. Ummenhofer, NSF Paleoclimate Perspectives on Climate Change (P2C2), AGS-1203818, 8/15/2012 – 8/14/2015 (No Cost Extension to 08/2017), \$688,279
- “Reconstructing Droughts in the Tropical Americas Using Tree-Ring Analysis” PIs: **K.J. Anchukaitis** and Matthew Taylor, NSF Geography and Spatial Sciences, BCS-1263609, 07/2013–12/2016, \$278,599
- “CNH: Pluvials, Droughts, Energetics, and the Mongol Empire” (with West Virginia University, PI: Amy Hessl), coPIs: Neil Pederson and **K.J. Anchukaitis**, Coupled Natural-Human Systems (CNH), BCS-1210360, 05/2012 – 04/2016 (No Cost Extension to 05/2017) , \$1,394,398; (Pederson & Anchukaitis scope: \$317,576)
- “Tree-Ring Reconstructions of Western North Pacific Climate Dynamics”, PIs: R.D. D’Arrigo, **K.J. Anchukaitis**, N. Davi. NSF Paleoclimate Perspectives on Climate Change (P2C2) AGS-1159430, 06/2012 – 05/2015 (No Cost Extension to 05/2016), \$686,982
- “Past and Future Drought Variability in the Mediterranean Basin” PI: Ramzi Touchan, coPIs: **K.J. Anchukaitis**, David Meko, and B.I. Cook, NSF Paleoclimate Perspectives on Climate Change (P2C2) AGS-1103450, 06/2011 – 05/2014, No-cost extension to 5/2015, (Anchukaitis and Cook scope: \$70,388).
- “Paleoclimate shocks: environmental variability, human vulnerability, and societal adaptation during the last millennium in the Greater Mekong Basin”, PIs: B.M. Buckley, T. Heikkilä, **K.J. Anchukaitis**, and 7 others, Coupled Natural-Human Systems (CNH), ATM-0908971, 10/2009 – 9/2013 (No Cost Extension to 09/2014), \$1,401,351
- “Shifting Seasonality of Northern Forest Response to Arctic Environmental Change”, PIs: R.D. D’Arrigo, **K.J. Anchukaitis**, NSF ARC-0902051, 4/2009 – 3/2012, \$381,154
- “Developing multicentury drought reconstructions from Guatemala and the context for past and future hydroclimatic change”, PIs: **K.J. Anchukaitis**, M. Taylor, and E. Castellanos, Geography and Spatial Sciences, NSF BCS-0852652, 04/2009 - 03/2012 (No Cost Extension to 03/2013), \$203,351
- “Annual climate during the rise and fall of the Great Mongol Empire: Rapid collection of an ancient and endangered paleoclimate resource”, PIs: N. Pederson and **K.J. Anchukaitis**, Columbia University Climate Center, 11/2011, \$7,850.

- “Building capacity for managing climate risk from drought in Guatemala”, PI: **K.J. Anchukaitis**, Columbia University Earth Institute Cross-Cutting Initiative, 11/2010, \$24,000
- “Construction of a device for rapid cellulose extraction from wood for applications in isotope dendrochronology and organic biogeochemistry”, PI: **K.J. Anchukaitis**, Columbia University Climate Center, 05/2011, \$8,000
- “MRI-R2: Acquisition of Stable Isotope Instrumentation for High Precision Paleoclimatic and Environmental Research at the Lamont Doherty Earth Observatory”, PIs: B. Linsley, B. Yan, **K.J. Anchukaitis**, P. deMenocal, P. Schlosser, NSF AGS-0959148, 5/2010 – 4/2012, \$811,868
- “Dating the World Trade Center Ship”, PIs: B.M. Buckley, **K.J. Anchukaitis**, N. Pederson, E.R. Cook, R.D. D’Arrigo. AKRF, Inc., The Lower Manhattan Development Corporation, and The Port Authority of NY & NJ, 8/2010 – 7/2011, \$12,306
- “Establishing the stable oxygen isotope signature of precipitation in the Central Highlands of Vietnam for application to dendroclimatology”, PI: **K.J. Anchukaitis** and B.M. Buckley, Columbia University Climate Center, 11/2008, \$8,000
- “Assessing the dendrochronological potential of tree species in highland Guatemala”, PI: **K.J. Anchukaitis**, Columbia University Climate Center, 12/2007, \$5,000

#### HONORS, AWARDS, AND FELLOWSHIPS

Udall Center for Studies in Public Policy Fellowship, University of Arizona, Autumn 2018

George H. Davis Travel Fellowship, Office of Research, Discovery & Innovation, University of Arizona, Spring 2018

Research Professorship, College of Social and Behavioral Sciences, University of Arizona, Autumn 2017

Henry Cowles Award for Excellence in Publication, Biogeography Specialty Group, Association of American Geographers, 2015

Stephen S. Visser Lecturer in Climatology, Indiana University, February 2015

Marsico Visiting Scholar, University of Denver, Autumn 2011

Newton International Postdoctoral Fellowship at Oxford University, The Royal Society (United Kingdom), 2009-2011 (*declined*)

Andrew Ellicott Douglass Memorial Scholarship, The University of Arizona, 2007

US Department of Energy (DOE) Global Change Education Program, Graduate Research and Education Fellowship (GCEP-GREF), 2004 – 2006; *declined* in 2007.

NSF Integrative Graduate Education Research and Training Fellowship (IGERT), IGERT Program for Archaeological Sciences, The University of Arizona, 2003 – 2004, 2007.

Galileo Circle Scholar, The University of Arizona College of Science, 2004

Robert G. Long Outstanding Graduate Student Award, The University of Tennessee, 2002

Stewart A. McCroskey Memorial Research Grant, The University of Tennessee, 2001

U.S. Environmental Protection Agency (EPA) STAR Fellowship, 1999 – 2001.

Departmental Honors; First & Second Honors (Dean’s List) Georgetown University, 1998

PRESENTATIONS Recent (previous 3 years only) † = postdoctoral author, ‡ = student author

- [38] Burke, A., H. Innes, L. Crick, **K.J. Anchukaitis**, W. Hutchison, J. McConnell, J. Rae, M. Sigl, R. Wilson, High-resolution sulfur isotopes from ice cores: improved estimates of the volcanic forcing of climate, EGU General Assembly 2023, Vienna, Austria, 24–28 Apr 2023, EGU23-7109, <https://doi.org/10.5194/egusphere-egu23-7109>, 2023.

- [37] ‡ González-Mendez, A.I., **K.J. Anchukaitis**, Z. Sethuraju, T.G. Anderson, K. Morino, D. Pons, M. Taylor, Dendrochronology and quantitative wood anatomy of Guatemala’s high elevation conifers, Paper presented at the annual meeting of the American Association of Geographers, Denver, Colorado, 23-27 March, 2023
- [36] ‡ Anderson, T.G., K. McKinnon, D. Pons, **K.J. Anchukaitis**, How exceptional was the 2015–2019 Central American Drought? Paper presented at the annual meeting of the American Association of Geographers, Denver, Colorado, 23-27 March, 2023
- [35] ‡ Edwards, J., **K.J. Anchukaitis**, S. McAfee, A. Csank, L. Andreu-Hayles, R. D’Arrigo, G. von Arx, Records of past temperatures in wood anatomy of high-latitude trees, Paper presented at the annual meeting of the American Association of Geographers, Denver, Colorado, 23-27 March, 2023
- [34] ‡ Harris, K., J.E. Tierney, S. Munoz, **K.J. Anchukaitis**, Late Holocene sea surface temperatures and monsoon rainfall variability in the Gulf of California, Paper presented at the annual meeting of the American Association of Geographers, Denver, Colorado, 23-27 March, 2023
- [33] **Anchukaitis, K.J.**, B. Coulthard, N. Gauthier, G.T. Pederson, S.T. Gray, Reconstructed snowpack variability in the western United States over the last millennium, Paper presented at the annual meeting of the American Association of Geographers, Denver, Colorado, 23-27 March, 2023
- [32] Marshall, L., A. Schmidt, L. Luecke, L. Abraham, A.P. Schurer, R. Wilson, **K.J. Anchukaitis**, G.C. Hegerl, K.S. Carslaw, P. Forster, Last Millennium Volcanic Radiative Forcing and Climate Effects Simulated in an Interactive Aerosol-Climate Model, Abstract A15H-1334 presented at 2022 Fall Meeting, American Geophysical Union, Chicago, IL, 12-17 December, 2022
- [31] Smerdon, J.E. and **K.J. Anchukaitis**, Progress and uncertainties in global and hemispheric temperature reconstructions of the Common Era, Abstract NG25A-08 presented at 2022 Fall Meeting, American Geophysical Union, Chicago, IL, 12-17 December, 2022 (**Invited**)
- [30] ‡ Homfeld, I.K., B.L. Coulthard, R. Brice, L.A. Dye, G.L. Harley, K.J. Heeter, **K.J. Anchukaitis**, Freshet- and drought-season runoff reconstructions for the Fraser Basin Headwaters, British Columbia, Canada, Paper presented at AmeriDendro 2022, Montreal, Canada, 27-30 June, 2022
- [29] Schneider, L., O. Konter, J. Esper, **K.J. Anchukaitis**, The pre-industrial temperature baseline for global warming from a tree-ring perspective, Tree-Rings in Archaeology, Climatology and Ecology (TRACE), May 24-27, Erlangen, Germany, 2022
- [28] † Leland, C. R.D. D’Arrigo, N. Davi, T. Porter, L. Andreu-Hayles, R. Oelkers, G. Wiles, R. Wilson, **K.J. Anchukaitis**, M.P. Rao, B. Gaglioti, E. Reid, S. Beaulieu, T. Nixon, The Unidentified 1809 Volcanic Event: Evidence from Tree Rings and Historical Data, Past Global Changes (PAGES) Open Science Meeting, OSM12: Volcanic impacts on climate and society, Agadir, Morocco, May 16-20, 2022
- [27] Zhu, F. J. Emile-Geay, **K.J. Anchukaitis**, G.J. Hakim, A.T. Wittenberg, M. Morales, M. Toohey, J. King, Do volcanoes influence ENSO? A re-appraisal with paleoclimate data assimilation, Past Global Changes (PAGES) Open Science Meeting, OSM12: Volcanic impacts on climate and society, Agadir, Morocco, May 16-20, 2022
- [26] ‡ Edwards, J.A., W. Tintor, **K.J. Anchukaitis**, C. Woodhouse, G. von Arx, Multiple climate signals in quantitative wood anatomical measurements of Rocky Mountain bristlecone pine, Paper presented (online) at the annual meeting of the American Association of Geographers, February 25-March 5, 2022
- [25] **Anchukaitis, K.J.**, B. Coulthard, N. Gauthier, G.T. Pederson, S.T. Gray, Reconstructed and simulated snowpack variability in the western United States over the last millennium, Abstract PP44A-01 presented at 2021 Fall Meeting, American Geophysical Union, New Orleans, LA, 11-17 December, 2021

- [24] ‡ King, J.M., **K.J. Anchukaitis**, K.J. Allen, T. Vance, A. Hessler, Assimilating the Southern Annular Mode over the Common Era using Drought Atlases and a Global Proxy Network, Abstract PP54A-07 presented at 2021 Fall Meeting, American Geophysical Union, New Orleans, LA, 11-17 December, 2021
- [23] ‡ Anderson, T.G., **K.J. Anchukaitis**, K. Morino, L. Andreu-Hayles, D. Pons, D. Griffin, E.J. Castellanos, M.J. Taylor, Multiproxy insights into past climate variability from a Central American tree-ring chronology network, Abstract GC55C-0448 presented at 2021 Fall Meeting, American Geophysical Union, New Orleans, LA, 11-17 December, 2021
- [22] ‡ Harris, K., K. Flor, J.E. Tierney, **K.J. Anchukaitis**, High-Resolution Hydroclimate Reconstruction of the North American Monsoon over the Common Era, Abstract PP55C-0673 presented at 2021 Fall Meeting, American Geophysical Union, New Orleans, LA, 11-17 December, 2021
- [21] ‡ Harris, K. J.E. Tierney, **K.J. Anchukaitis**, A. Arens, J.M. Cervenec, Virtual Field-Meets-Lab Experiences: Using VFEs to Showcase Organic Geochemistry and Paleoclimate Research, Abstract ED51A-08 presented at 2021 Fall Meeting, American Geophysical Union, New Orleans, LA, 11-17 December, 2021
- [20] ‡ Edwards, J.A., **K.J. Anchukaitis**, B.E. Gunnarson, C. Pearson, K. Seftigen, G. von Arx, H.W. Linderholm, The origin of tree-ring reconstructed summer cooling in Northern Europe during the 18th century eruption of Laki, Abstract PP44A-04 presented at 2021 Fall Meeting, American Geophysical Union, New Orleans, LA, 11-17 December, 2021
- [19] ‡ Marshall, L., A. Schmidt, A.P. Schurer, L. Abraham, R. Wilson, **K.J. Anchukaitis**, G.C. Hegerl, K.S. Carslaw, P. Forster, Last Millennium Volcanic Eruptions in the UK Earth System Model: Comparison to PMIP4 Reconstructions and Proxy Records, Abstract PP52A-07 presented at 2021 Fall Meeting, American Geophysical Union, New Orleans, LA, 11-17 December, 2021
- [18] ‡ Reed, E., D.M. Thompson, **K.J. Anchukaitis**, Coral-based Sea Surface Salinity Reconstructions and the Role of Observational Uncertainties in Inferred Variability and Trends, Abstract PP43A-03 presented at 2021 Fall Meeting, American Geophysical Union, New Orleans, LA, 11-17 December, 2021
- [17] ‡ Zhu, F. J. Emile-Geay, **K.J. Anchukaitis**, G.J. Hakim, A.T. Wittenberg, M. Morales, M. Toohey, J. King, Volcanoes and ENSO: a re-appraisal with the Last Millennium Reanalysis, EGU General Assembly 2021 (online), EGU21-753, April 19-30, 2021
- [16] ‡ Dye, L. B. Coulthard, J.S. Littell, **K.J. Anchukaitis**, When Two Records Are Better Than One: Reconstructing Warm and Dry Snow Droughts in the Cascade Mountains, USA, Paper presented (online) at the annual meeting of the American Association of Geographers, April 7-11, 2021
- [15] ‡ Edwards, J., **K.J. Anchukaitis**, B. Gunnarson, C. Pearson, G. von Arx, H. Linderholm, The enigmatic climate response to the 1783-1784 Laki eruption, Paper presented (online) at the annual meeting of the American Association of Geographers, April 7-11, 2021
- [14] **Anchukaitis, K.J.**, Temperature reconstructions from tree rings: state-of-the-art, challenges, and opportunities, Paper presented (online) at the annual meeting of the American Association of Geographers, April 7-11, 2021 (**Invited**)
- [13] ‡ Anderson, T.G., **K.J. Anchukaitis**, K. Morino, D. Pons, D. Griffin, C. Leland, E. Castellanos, M.J. Taylor, Regional and local climate responses in a Central American tree-ring chronology network, Paper presented (online) at the annual meeting of the American Association of Geographers, April 7-11, 2021
- [12] Brice, R., B. Coulthard, **K.J. Anchukaitis**, I. Homfeld, L. Dye, A new approach to streamflow reconstructions in complex, non-arid river basins: a case study for the Fraser River, B.C., Canada, Paper presented (online) at the annual meeting of the American Association of Geographers, April 7-11, 2021



- [11] ‡ Dye, L. B. Coulthard, J.S. Littell, **K.J. Anchukaitis**, Tree Rings Reveal Multi-century Snowpack Dynamics of the Cascade Range, USA, AGU Fall Meeting, PP030-0014 (Online), December 2020
- [10] Emile-Geay, J., F. Zhu, G.J. Hakim, **K.J. Anchukaitis**, A.T. Wittenberg, M. Morales, J. King, Volcano-induced ENSO occurrences: an integrated assessment using targeted paleo-climate data assimilation experiments, AGU Fall Meeting, OS015-0014 (Online), December 2020
- [9] English, N.B. A. Adriaanse-Tucker, H. Barton, P.J. Baker, **K.J. Anchukaitis** J. King, A.E. Hessel, K.J. Allen, Frequency-Dependent Covariance of Warm- and Cool-Season Temperature Reconstructions for Southern Australia over the Last Five Centuries, AGU Fall Meeting, PP030-0006 (Online), December 2020
- [8] Xu, G. C.H. Guiterman, T. Swetnam, V. Trouet, **K.J. Anchukaitis**, C.H. Baisan, Fire and climate in eastern Siberia over the past 500 years (1500-2010 CE), AGU Fall Meeting, PP047-0008, (Online), December 2020
- [7] Emile-Geay, J. F. Zhu, G.J. Hakim, **K.J. Anchukaitis**, J. King, Resolving the differences in the simulated and reconstructed temperature response to volcanism over the Last Millennium Reanalysis, Workshop on the Impacts of Large Volcanic Eruptions on Climate and Societies: Proxies, models and solutions for the future, Saas-Fee, Switzerland (Online), August 11-15, 2020
- [6] **Anchukaitis, K.J.**, J. King, R. Wilson, and the NTREND Consortium, Northern Hemisphere temperature reconstructions and the climate response to volcanic eruptions, Workshop on the Impacts of Large Volcanic Eruptions on Climate and Societies: Proxies, models and solutions for the future, Saas-Fee, Switzerland (Online), August 11-15, 2020
- [5] ‡ Zhu, F., J. Emile-Geay, G.J. Hakim, **K.J. Anchukaitis**, J. King, Resolving the differences in the simulated and reconstructed temperature response to volcanism over the Last Millennium Reanalysis, EGU General Assembly (Online), May 4–8, EGU2020–2477, 2020
- [4] Andreu-Hayles, L., R. D’Arrigo, R. Oelkers, **K.J. Anchukaitis**, G. Wiles, R. Wilson, D. Frank, N. Davi, Comparison between Blue Intensity (BI) and Maximum Latewood Density (MXD) tree-ring chronologies from the North American Boreal forests, EGU General Assembly (Online), May 4–8, EGU2020-21137, 2020
- [3] **Anchukaitis, K.J.** and J. King, Inference from the periphery: large-scale climate variability and Nile riverflow during the Common Era, International Conference on Climate Change in the Breadbasket of the Roman Empire: Reconstructing Nile Floods for the Roman Period, Swiss Institute in Rome, January 23–24, 2020 (**Invited**)
- [2] **Anchukaitis, K.J.**, T. Anderson, K. Morino, D. Pons, D. Griffin, C. Leland, E. Castellanos, M.J. Taylor, Progress in Central American dendrochronology, Paper presented at the 36th Conference of Latin American Geographers, Antigua Guatemala, January 2-4, 2020
- [1] ‡ Anderson, T., **K.J. Anchukaitis**, D. Pons, M.J. Taylor, Multiscale Trends in the Central American Midsummer Drought and Regional Precipitation Extremes, Paper presented at the 36th Conference of Latin American Geographers, Antigua Guatemala, January 2-4, 2020

#### SERVICE & SYNERGISTIC ACTIVITIES

*University of Arizona, 2015–*: College of Social and Behavioral Sciences Promotion and Tenure Committee (2021); School of Geography, Development, and Environment Promotion and Tenure Committee (2021); School of Geography, Development, and Environment Colloquium Committee (2017 – 2018; 2019 – 2021); Chair, Global Change Graduate Interdisciplinary Program (2017 – present); School of Geography, Development, and Environment Annual Performance Review Committee (2018 – 2021, Chair in 2020–2021); School of Geography, Development, and Environment Committee for Diversity, Equity, and Inclusion (2019–2020); Graduate Admissions Committee, School of Geography and Development (2015 to 2018; 2023

onward); Earth System Genomics faculty search committee (2016); Integrated Land Use Science/Human-Environment Systems faculty search committee (2016–2017); Forests, Carbon & Climate faculty search committee (2017); Paleoclimatology Faculty Search committee (2017–2018); Data Science and Spatial Analysis Faculty Search committee (2019–2020)

Organizer, co-PI, and instructor, paleoCAMP: Paleoclimate Training in Climate Archives, Models, and Proxies, 2022 – present

President-elect, The American Quaternary Association (AMQUA), 2022 – present

Guest Instructor, ‘Climate Diplomacy’, School of Professional and Area Studies (SPAS), Foreign Service Institute (FSI), 2021 – present

Guest editor, special issue on ‘Interdisciplinary studies of volcanic impacts on climate and society’ for *Climate of the Past*, 2020 – present

*Editorial Advisory Board, Quaternary Science Reviews*, 2008 – present.

*Steering Group*, PAGES Working Group on Volcanic Impacts on Climate and Society 2015 – present.

*Member*, PAGES Asia2k (2011–2014), Ocean2k (2011 – 2015), North America 2k (2015 – present) Working Groups.

U.S. National Committee (USNC) for the International Union for Quaternary Research, National Academy of Sciences, 2018 – 2023

*Program Committee chair*, Conference of Latin American Geography (CLAG) meeting, Tucson, AZ, 2021 – 2023

*Contributing Author*, Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6), 2019 – 2021

*Organizer and co-chair*, ‘Climate of the Common Era’ for the American Geophysical Union Annual Meeting (AGU), 2010 – 2019; ‘Monsoon Effects on Past Civilizations’, 2012.

*US Secretariat and Scientific Committee*, 10th International Conference on Dendrochronology, Thimphu, Bhutan (2018)

University of Arizona Museum of Art panelist, ‘Fires of Change’ exhibit (2016).

*Coordinator*, PAGES2k Transregional Reconstruction Methods Development, 2014 – 2016.

Scientific Committee, 3rd American Dendrochronology Conference, Mendoza, Argentina, March 2016

Guest editor, *PAGES Magazine*, 2015.

*Founder, organizer, and lead instructor*, Central American Dendroecological Fieldweek, Chancol, Cuchumatanes, Guatemala, March 2015.

Fellow, Expert Witness Training Academy, NSF Paleoclimate Program and William Mitchell College of Law, St. Paul, Minnesota, August 2015.

*Chair and co-organizer*, PAGES Advances in Climate Field Reconstructions, April 15–16, 2014, Woods Hole, Massachusetts.

*Scientific Advisory Committee*, 9th International Conference on Dendrochronology, Melbourne, Australia, January 2014.

*Contributing Author*, Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5; 2013)

*Instructor*, North American Dendroecological Fieldweek, Black Rock Forest, New York, June–July 2013.

Arctic Research Consortium of the U.S. (ARCUS) PolarTREC Selection Committee, 2012–2013

International Workshop on Climate Informatics, Program Committee and Breakout Group Leader, 2012

*Lamont-Doherty Earth Observatory, 2007–2012:* Columbia Climate Center, 2011 - 2012; Promotion and Careers Committee, 2009 - 2012; Campus Life Committee, 2008 - 2010; Volunteer and Speaker, Annual Open House, 2007, 2008, Panelist on Climate Extremes, 2011.

*Organizer and co-chair, ‘Advances in Paleoclimatology’* for the Annual Meetings of the Association of American Geographers, 2004 – 2009; ‘Challenges in Dendrochronology’, 2012.

*Mentor, ‘Google Summer of Code’,* Climate Code Foundation, Summer 2011.

*Guest editor, Dendrochronologia,* 2003 – 2004.

*Professional reviewer* of journal manuscripts for *Science*, *Nature*, *Nature Geoscience*, *Nature Climate Change*, *Science Advances*, *Proceedings of the US National Academy of Sciences*, *Journal of Climate*, *Geology*, *Journal of Geophysical Research*, *Geophysical Research Letters*, *Paleoceanography and Paleoclimatology*, *Climate Dynamics*, *Physical Geography*, *Geochimica et Cosmochimica Acta*, *Ecology*, *Earth and Planetary Science Letters*, *Global Change Biology*, *Climate of the Past*, *Quaternary Research*, *Climatic Change*, *The Holocene*, *Geochemistry*, *Geophysics*, *Geosystems*, *Tellus B*, *Chemical Geology*, *Canadian Journal of Forest Research*, *Forest Ecology and Management*, *International Journal of Biometeorology*, *Canadian Water Resources Journal*, *Journal of Volcanology*, *Earth Interactions*, *Historical Geography*, *Current Anthropology*, *Tree-Ring Research*, *Dendrochronologia*, and others.

*Proposal reviewer* for the National Science Foundation (NSF, USA), National Aeronautics and Space Administration (NASA, USA), Natural Environment Research Council (NERC, UK), Deutsche Forschungsgemeinschaft (the German Research Foundation, DFG), the Swiss National Science Foundation, Fonds de Recherche du Québec, NAS/USAID PEER, and the National Geographic Society.