

Chris Guiterman

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*Forest and fire ecology | Vegetation type conversion |
Forest vulnerabilities to climate change | Use-inspired
research | Applications in dendrochronology*

Education

- 2016 Ph.D. University of Arizona, School of Natural Resources and the Environment, Tucson, AZ
- 2009 M.S. University of Maine, Orono, School of Forest Resources, Orono, ME
- 2005 B.A. Bates College, Geology, Lewiston, ME

Work experience

- 2017– Research Scientist. Laboratory of Tree-Ring Research, University of Arizona, Tucson, AZ
- 2010–2016 Graduate Research Associate; Course Instructor; Teaching Assistant. University of Arizona, Tucson, AZ
- 2007–2009 Graduate Research Assistant; Teaching Assistant. University of Maine, Orono, ME
- 2005–2007 Forest Inventory Technician. Camp II Forest Management, Joseph, OR

Grants & Fellowships

Total research funding: \$928,666

Note: I served as the project lead and/or PI unless otherwise noted.

- Submitted **Resilience in a longleaf savanna: Historical tree recruitment in response to frequent disturbance and climate variability**, Wade Research Foundation, \$75,000.
 - with Monica Rother
- Submitted **burnrData: The North American tree-ring fire history database in R**, USGS Community for Data Integration, \$49,964.
 - with Ellis Margolis
- In-prep (2nd round) **Feedbacks and scale at an ancient wildland-urban interface**, NSF Dynamics of Integrated Socio-Environmental Systems, \$1,599,949.
 - with Chris Roos (PI). UofA (Guiterman co-PI) share \$362,117.

- 2019–2021 **Integrated watershed hazard assessment for wildfire, floods, and debris flows on the Navajo Nation**, *BIA Tribal Resilience Program*, \$150,000.
 ○ with Ann Youberg
- 2020–2021 **Designing Climate Adaptation Plans for the forests of the Navajo Nation**, *Southwest Climate Adaptation Science Center*, \$225,328.
 ○ with Margaret Evans (PI) and Justin DeRose
- 2020–2021 **A grove of stories: Dendrochronology of the Wheatfields Lake peeltree grove on the Navajo Nation**, *University of Arizona Foundation Small Grants Program*, \$20,000.
 ○ with William Tsosie (Navajo Historic and Heritage Preservation Department)
- 2017–2018 **Dendrochronology study for Wupakti Residence 1 viga preservation**, *National Park Service, Wupakti National Monument*, \$14,377.
 ○ with Ron Towner (PI)
- 2017–2018 **Sourcing construction timbers at Aztec Ruins National Monument**, *Western National Parks Association. Grant #17-01*, \$7,400.
 ○ with Ron Towner (PI)
- 2017–2018 **Ancient Trees and global change: A vulnerability assessment of old-growth forests on the Navajo Nation**, *BIA Tribal Climate Resilience Program*, \$216,694.
 ○ with Ellis Margolis, Craig Allen, and Alex Becenti
- 2015–2017 **Climate drivers of tree growth across Navajo Forestlands: Incorporating dendrochronology into Continuous Forest Inventory to improve management strategies for a future climate**, *BIA Bureau of Forest Resource Planning and the Navajo Nation*, \$99,632.
 ○ with Ellis Margolis and Thomas Swetnam
- 2014–2016 **Fire regimes, demography, and climatic sensitivities of Navajo forestlands: Insights from the past to inform tribal forest management**, *EPA STAR Fellowship # F13F51318*, \$84,000.
- 2013–2015 **Forest-to-shrub type conversions: climate-disturbance interactions in the southwestern U.S.**, *USGS Cooperative agreement G13AC00247*, \$53,000.
 ○ with Ellis Margolis (PI) and Craig Allen
- 2014–2015 **Climatic sensitivities of Navajo forestlands: Use-inspired research to guide tribal forest management**, *Climate Assessment of the Southwest (CLIMAS) Fellowship, University of Arizona*, \$5,000.
- 2012–2014 **Dendrochronological Sourcing of Timbers from the Great Houses of Chaco Canyon, New Mexico**, *Bandelier National Monument, Desert Southwest CESU. #UAZDS-381*, \$10,735.
 ○ with Thomas Swetnam, Jeffrey Dean, and Craig Allen

- 2013–2014 **Dendroecological analyses of fire-origin shrublands in former conifer forests of the Jemez Mountains, New Mexico**, *Bandelier National Monument, Desert Southwest CESU #UAZDS-402*, \$35,000.
 ○ with Ellis Margolis, Thomas Swetnam, and Craig Allen
- 2012–2013 **Dendrochronological Sourcing of Timbers from the Great Houses of Chaco Canyon, New Mexico**, *Western National Parks Association. Grant #13-02*, \$7,500.
 ○ with Thomas Swetnam, Jeffrey Dean, and Pearce Paul Creasman
- 2012 **Conference travel grant**, *University of Arizona Graduate and Professional Student Council*, \$500.

Awards and Honors

- 2018 Young Forester of the Year. Southwestern Section of the Society of American Foresters
- 2016 College of Science Scholarship. University of Arizona
- 2016 William G. McGinnies Graduate Scholarship in Arid Land Studies. School of Natural Resources & the Environment, University of Arizona
- 2015 Galileo Circle Scholar. College of Science, University of Arizona
- 2014 Best presentation, School of Earth and Environmental Sciences (SEES) Earth-week competitive plenary session. University of Arizona
- 2014 Andrew Ellicott Douglass Memorial Scholarship. Laboratory of Tree-Ring Research, University of Arizona
- 2011 Graduate College Fellowship. University of Arizona
- 2009 Phi Kappa Phi Honor Society. University of Maine
- 2009 Best Poster Presentation Award. Northeast Society of American Foresters (SAF) Conference Portland, Maine
- 2008 Golden Key International Honor Society. University of Maine
- 2008 Charles E. Schomaker Memorial Scholarship. School of Forest Resources, University of Maine
- 2004 Sigma Xi Honor Society. Bates College

Publications

Refereed Journal Papers

- Guiterman, C. H.**, Baisan, C. H., English, N. B., Quade, J., Dean, J. S., & Swetnam, T. W. (2020). Convergence of Evidence Supports a Chuska Mountains Origin for the Plaza Tree of Pueblo Bonito, Chaco Canyon. *American Antiquity*, 85(2), 331–346. <https://doi.org/10.1017/aaq.2020.6>
- Guiterman, C. H.**, Lynch, A. M., & Axelson, J. N. (2020). *dfoliatR*: An R package for detection and analysis of insect defoliation signals in tree rings. *Dendrochronologia*, 63, 125750. <https://doi.org/10.1016/j.dendro.2020.125750>
- Klesse, S., DeRose, R. J., Babst, F., Black, B. A., Anderegg, L. D. L., Axelson, J.,

- ... Evans, M. E. K. (2020). Continental-scale tree-ring-based projection of Douglas-fir growth: Testing the limits of space-for-time substitution. *Global Change Biology*, 26(9), 5146–5163. <https://doi.org/10.1111/gcb.15170>
- Rother, M. T., Huffman, J. M., **Guiterman, C. H.**, Robertson, K. M., & Jones, N. (2020). A history of recurrent, low-severity fire without fire exclusion in southeastern pine savannas, USA. *Forest Ecology and Management*, 475, 118406. <https://doi.org/10.1016/j.foreco.2020.118406>
- Guiterman, C. H.**, Margolis, E. Q., Baisan, C. H., Falk, D. A., Allen, C. D., & Swetnam, T. W. (2019). Spatiotemporal variability of human – fire interactions on the Navajo Nation. *Ecosphere*, 10(11), e02932. <https://doi.org/10.1002/ecs2.2932>
- Evans, M. E. K., Gugger, P. F., Lynch, A. M., **Guiterman, C.H.**, Fowler, J. C., Klesse, S., & Riordan, E. C. (2018). Dendroecology meets genomics in the common garden: new insights into climate adaptation. *New Phytologist*, 218(2). <https://doi.org/10.1111/nph.15094>
- Guiterman, C. H.**, Margolis, E. Q., Allen, C. D., Falk, D. A., & Swetnam, T. W. (2018). Long-Term Persistence and Fire Resilience of Oak Shrubfields in Dry Conifer Forests of Northern New Mexico. *Ecosystems*, 21(5), 943–959. <https://doi.org/10.1007/s10021-017-0192-2>
- Klesse, S., DeRose, R. J., **Guiterman, C. H.**, Lynch, A. M., O'Connor, C. D., Shaw, J. D., & Evans, M. E. K. (2018). Sampling bias overestimates climate change impacts on forest growth in the southwestern United States. *Nature Communications*, 9(1), 5336. <https://doi.org/10.1038/s41467-018-07800-y>
- Malevich, S. B., **Guiterman, C. H.**, & Margolis, E. Q. (2018). burnr: Fire history analysis and graphics in R. *Dendrochronologia*, 49(February), 9–15. <https://doi.org/10.1016/j.dendro.2018.02.005>
- Betancourt, J. L., & **Guiterman, C. H.** (2016). Revisiting human-environment interactions in Chaco Canyon and the American Southwest. *Past Global Change Magazine*, 24(2), 64–65. <https://doi.org/10.22498/pages.24.2.64>
- Brewer, P. W., & **Guiterman, C. H.** (2016). A new digital field data collection system for dendrochronology. *Dendrochronologia*, 38, 131–135. <https://doi.org/10.1016/j.dendro.2016.04.005>
- Guiterman, C. H.**, Swetnam, T. W., & Dean, J. S. (2016). Eleventh-century shift in timber procurement areas for the great houses of Chaco Canyon. *Proceedings of the National Academy of Sciences*, 113(5), 1186–1190. <https://doi.org/10.1073/pnas.1514272112>
- Creasman, P. P., Baisan, C. H., & **Guiterman, C. H.** (2015). Dendrochronological Evaluation of Ship Timber from Charlestown Navy Yard (Boston, MA). *Dendrochronologia*, 33, 8–15. <https://doi.org/10.1016/j.dendro.2014.10.001>
- Guiterman, C. H.**, Margolis, E. Q., & Swetnam, T. W. (2015). Dendroecological methods for reconstructing high severity fire in pine-oak forests. *Tree-Ring Research*, 71(2), 67–77. <https://doi.org/10.3959/1536-1098-71.2.67>
- Brice, B., Lorion, K. K., Griffin, D., Macalady, A. K., **Guiterman, C. H.**, Speer, J. H., ... Wang, H. (2013). Signal Strength In Sub-Annual Tree-Ring Chronologies from *Pinus ponderosa* In Northern New Mexico. *Tree-Ring Research*, 69(2), 81–86. <https://doi.org/10.3959/1536-1098-69.2.81>

- Guiterman, C.H.**, Seymour, R. S., & Weiskittel, A. R. (2012). Long-Term Thinning Effects on the Leaf Area of *Pinus strobus* L. as Estimated from Litterfall and Individual-Tree Allometric Models. *Forest Science*, 58(1), 85–93. <https://doi.org/10.5849/forsci.10-002>
- Guiterman, C. H.**, Weiskittel, A. R., & Seymour, R. S. (2011). Influences of Conventional and Low-Density Thinning on the Lower Bole Taper and Volume Growth of Eastern White Pine. *Northern Journal of Applied Forestry*, 28(3), 123–128. <https://doi.org/10.1093/njaf/28.3.123>

Papers in review

- Brice, B., **Guiterman, C. H.**, Woodhouse, C., McClellan, C., & Sheppard, P. R. (in review). Comparing tree-ring based reconstructions of snowpack variability at different scales. *Climate Services*.
- Roos, C. I., & **Guiterman, C. H.** (in review). Dating the origins of persistent oak shrubfields in northern New Mexico using soil charcoal and dendrochronology. *The Holocene*.
- Roos, C. I., Swetnam, T. W., Ferguson, T. J., Liebmann, M. J., Loehman, R. A., Welch, J. R., ... Tosa, C. (in review). Native American fire management at an ancient wildland-urban interface in the Southwest US. *Proceedings of the National Academies of Sciences*.

Other publications and reports

- Guiterman, C. H.**, & Baisan, C. H. (2019). The origins of great house construction timbers at Chaco Canyon. *Southwest Archaeology Magazine*. Retrieved from <https://www.archaeologysouthwest.org/product/asw32-3/>
- Guiterman, C. H.**, & Margolis, E. Q. (2019). *Vulnerabilities of Navajo Nation Forests to Climate Change*. Retrieved from https://chguiterman.github.io/Nav_report/
- Eusden, J., Anderson, B., Castro, C., Gardner, P., **Guiterman, C.**, Higgins, S., ... Tamposi, C. (2017). Bedrock Geology of Mt. Washington, Presidential Range, NH. In B. Johnson & J. Eusden (Eds.), *Guidebook for Field Trips in Western Maine and Northern New Hampshire: New England Intercollegiate Geological Conference* (pp. 177–196). Bates College.
- Guiterman, C. H.** (2015). *Climatic sensitivities of Navajo forestlands: use-inspired research to guide tribal forest management*. Final report for Climate & Society Fellowship, Climate Assessment of the Southwest.
- Guiterman, C. H.**, Margolis, E. Q., & Swetnam, T. W. (2015). *Dendroecological analyses of fire-origin shrublands in former conifer forests of the Jemez Mountains, New Mexico*. Final report to NPS Bandelier National Monument (DS CESU project UAZDS-402). Laboratory of Tree-Ring Research, University of Arizona, Tucson, AZ.
- Guiterman, C. H.**, Swetnam, T. W., Dean, J. S., & Creasman, P. P. (2014). *Dendrochronological sourcing of timbers from the Great Houses of Chaco Canyon, New Mexico* (p. 25). Final report to Chaco Culture National Historical Park and Western National Parks Association (WNPA Grant 13-02). Laboratory of

Tree-Ring Research, University of Arizona, Tucson, AZ.

Software

- 2020 **dfoliatR: detection and analysis of insect defoliation signals in tree rings**, *CH Guiterman, AM Lynch, JN Axelson*, <https://chguiterman.github.io/dfoliatR/>.
- 2016 **burnr: Advanced fire history tools in R**, *SB Malevich, CH Guiterman, EQ Margolis*, <https://cran.r-project.org/web/packages/burnr/index.html>.
- 2019 **suRge: An extension of dfoliatR to accomodate insect-induced growth surges in trees**, *developed for Amy Hessl (West Virginia University)*, <https://github.com/chguiterman/suRge>.
- 2018 **slideRun: An extension of burnr to assess avalanche damage patterns on trees**, *developed for Erich Peitzsch and Greg Pederson (USGS Montana)*, <https://github.com/chguiterman/slideRun>.
- 2017 **burnr_demo: A module-based R project for educating burnr users**, *CH Guiterman*, https://github.com/chguiterman/burnr_demo.

Presentations

Invited seminars

- Sep 2020 **dfoliatR empowers analyses of forest defoliator outbreak chronologies**, Laboratory of Tree-Ring Research seminar series, via Zoom.
- Mar 2020 **Unearthing the story of JPB-99, the Plaza Tree of Pueblo Bonito**, Laboratory of Tree-Ring Research seminar series, via Zoom.
- Feb 2018 **Shifting timber sources signal socioecological change at the descendant Chacoan cultural center, Aztec Ruins, New Mexico**, Laboratory of Tree-Ring Research seminar series, Tucson, AZ.
- Nov 2017 **On the vulnerabilities of Navajo forests to climate change**, Navajo Nation Department of Natural Resources Annual Summit, Twin Arrows Casino, AZ.
- Nov 2017 **Timber procurement patterns of the Aztec great houses**, Aztec Ruins National Monument, New Mexico, NA.

- Mar 2017 **Ancient origins for construction timbers of the Chacoan world (850-1240 CE)**, US Geological Survey seminar series, Tucson, AZ.
- May 2016 **Landscape-scale variability in forest response to climate, Navajo Nation, US Southwest**, William G. McGinnies Graduate Scholarship in Arid Land Studies annual lecture, Tucson, AZ.
- Mar 2016 **Persistence and fire regimes of oak shrubfields suggest increasing dominance with climate change**, Southwest Fire Science Consortium Webinar, (Available at: <https://www.youtube.com/watch?v=WeIuEKwV68M&feature=youtu.be>).
- Mar 2015 **Distant and shifting sources of Chaco timbers**, Tucson Festival of Books, Tucson, AZ.
- Oct 2014 **An integrated field data collection system for dendrochronology**, Laboratory of Tree-Ring Research seminar series, Tucson, AZ.
- Apr 2014 **Dendrochronological sourcing of timbers from the Great Houses of Chaco Canyon, New Mexico**, Laboratory of Tree-Ring Research seminar series, Tucson, AZ.
- Mar 2014 **The Beams of Chaco Culture: Unraveling an ancient environment in the Southwest**, Tucson Festival of Books, Tucson, AZ.
- Sep 2013 **Dendrochronological sourcing of timbers from the Great Houses of Chaco Canyon**, Visitors Center, Chaco Culture National Historical Park, NA.
- Mar 2013 **Tree-ring research and chronology building in the Chuska Mountains of the Navajo Nation**, Navajo Forestry Department, Ft Defiance, AZ.
- Apr 2012 **Three seasons of FIA adventures in the Pacific Northwest**, Southern Arizona Chapter of the Society of American Foresters, Tucson, AZ.

[Conference presentations \(last five years\)](#)

- Aug 2020 **Modern area burned in a historical context in the Jemez Mountains, New Mexico**, *Margolis, E., C. Farris, C. D. Allen, L. Johnson, D. Falk, T. Swetnam, and C. Guiterman*, ESA Virtual Meeting, Online.

- Nov 2019 **Modern area burned in a historical context in the Jemez Mountains, New Mexico**, *Margolis, E., C. Farris, C. D. Allen, L. Johnson, D. Falk, T. Swetnam, and C. Guiterman*, 8th International Fire Ecology and Management Congress, Tucson, AZ.
- Nov 2019 **Variable trajectories of Southwest ponderosa pine forests following high-severity fire**, *Iniguez, J., C. Guiterman, E. Margolis, C. Haffey, D. Carril*, 8th International Fire Ecology and Management Congress, Tucson, AZ.
- Nov 2019 **A synthesis of fire regimes in the southwestern United States**, *Guiterman, C., S. Malevich, E. Margolis, C. Baisan, E. Bigio, P. Brown, D. Falk, P. Fulé, and T. Swetnam*, 8th International Fire Ecology and Management Congress, Tucson, AZ.
- Jun 2019 **Beyond the tipping point in dry conifer forests of the US Southwest: Post-fire Gambel oak shrubfields as alternative stable states**, *Guiterman, C., E. Margolis, T. Assal, and C. Allen*, The North American Forest Ecology Workshop, Flagstaff, AZ.
 ○ Invited special session
- Apr 2019 **A Case Study for Using Digital Field Data Collection**, *Brice, R., P. Brewer, C. Guiterman*, American Association of Geographers, Washington, D.C..
- Apr 2019 **No evidence of fire exclusion in the fire-scar record for the Red Hills Region of the US Southeast**, *Rother, M., J. Huffman, K. Robertson, C. Guiterman*, American Association of Geographers, Washington, D.C..
- Aug 2018 **The fingerprint of transhumance and climate on fire regimes of the Navajo Nation**, *Guiterman, C.H., E.Q. Margolis, D.A. Falk, and T.W. Swetnam*, Ecological Society of America, New Orleans, LA.
 ○ Invited special session
- Jul 2018 **Disasters, natural variability, and resilience: How tree-ring data address today's challenges in forest ecosystems**, *Guiterman, C.H.*, Earth Science Information Partners (ESIP) Conference, Tucson, AZ.
 ○ Plenary presentation
- May 2018 **Persistent fire-induced vegetation state switches in southwestern ponderosa pine forests**, *Guiterman, C.H.*, The Fire Continuum Conference, Missoula, MT.
 ○ Invited special session
- Apr 2018 **Persistent fire-induced vegetation state switches in southwestern ponderosa pine forests**, *Guiterman, C.H.*, Society of American Foresters Southwest Section Meeting, Safford, AZ.

- Nov 2017 **Variability in tree-growth response to climate across dry conifer forests of the Navajo Nation**, *Guiterman, C.H., E.Q. Margolis, C.A. Woodhouse, A.P. Williams, D.A. Falk, and T.W. Swetnam*, Society of American Foresters, Albuquerque, NM.
- Aug 2017 **Targeted sampling designs influence tree-ring climate sensitivity: Implications for forest vulnerability assessments**, *Klesse, S., J. DeRose, C. O'Connor, D. Frank, C. Guiterman, J. Shaw, and M. Evans*, Ecological Society of America, Portland, OR.
- Apr 2017 **The origins of Chaco timbers by tree-ring based sourcing**, *Guiterman, C.H.*, Society of American Archaeologists, Vancouver, BC, Canada.
 ○ Invited oral presentation
- Dec 2016 **Persistence and fire regimes of oak shrubfields suggest increased dominance with climate change**, *Guiterman, C.H., E.Q. Margolis, T.W. Swetnam, D.A. Falk, and C.D. Allen*, 3rd Southwest Fire Ecology Conference, Tucson, AZ.
 ○ Invited special session oral presentation
- Dec 2016 **Navajo settlement, pastoralism, and the interruption of frequent fires in northeastern Arizona**, *Guiterman, C.H., E.Q. Margolis, C.H. Baisan, D.A. Falk, R.H. Towner, and T.W. Swetnam*, 3rd Southwest Fire Ecology Conference, Tucson, AZ.
- Oct 2015 **Climate Sensitivity of Navajo Forests: Use-inspired research to guide tribal forest management**, *Guiterman, C.H., A.C. Becenti, E.Q. Margolis, and T.W. Swetnam*, 13th Biennial Conference of Science and Management on the Colorado Plateau and Southwest Region, Flagstaff, AZ.
 ○ Invited special session; A.C. Becenti, Head Forester, Navajo Forestry Department
- Apr 2015 **Tree-Ring Sourcing of Great House Timbers and the Plaza Tree of Pueblo Bonito, Chaco Canyon, New Mexico**, *Guiterman, C.H., T.W. Swetnam, J.S. Dean, C.H. Baisan, and N.B. English*, Society of American Archaeology, San Francisco, CA.

--- Courses Taught

Lead or co-instructor

- Sum. 2019 Dendrochronology Intensive Summer Course (DISC). Laboratory of Tree-Ring Research, University of Arizona
- Spr. 2014 GEOG 303: Field Study in Environmental Geography. School of Geography and Development, University of Arizona
- Sum. 2013 GEOG 230: Our Changing Climate (Online). School of Geography and Development, University of Arizona
- Win. 2013 GEOG 230: Our Changing Climate (Online). School of Geography and Development, University of Arizona

- Sum. 2012 North American Dendroecological Fieldweek (NADEF). Intro group, Jemez Mountains, New Mexico
- Sum. 2011 GEOS 497K/597K: Dendroecology Fieldcourse. Laboratory of Tree-Ring Research, University of Arizona
- Fall 2011 GEOG 397A: Field Course – Reading a Landscape. School of Geography and Development, University of Arizona
- Fall 2011 GEOG 240: Our Dynamic Landscape. School of Geography and Development, University of Arizona
- [Teaching assistant](#)
- Fall 2010 NATS 101: Physical Geography. School of Geography and Development, University of Arizona
- Sum. 2009 SFR 300: Forestry Summer Field Experience. School of Forest Resources, University of Maine
- Sum. 2008 SFR 300: Forestry Summer Field Experience. School of Forest Resources, University of Maine
- Fall 2003 GEO: 230 Structural Geology. Geology Department, Bates College

Service

Journal peer reviews: *Dendrochronologia*, *Fire Ecology*, *Forest Ecology and Management*, *Forest Science*, *Geophysical Research Letters*, *International Journal of Wildland Fire*, *Journal of Archaeological Method and Theory*, *Journal of Biogeography*, *Journal of Contemporary Water Research and Education*, *Journal of Hydrology*, *Journal of Vegetation Science*, *Tree-Ring Research*, *Urban Forestry and Urban Greening*

- 2019 **Conference review committee**, 8th International Fire Ecology and Management Conference, Association for Fire Ecologist, Tucson, AZ, November 18-22, 2019.
- 2019 **Conference organizer**, Healthy Forests-Healthy Watersheds: Enabling a Cultural Shift Toward Understanding the Beneficial Aspects of Forest Fire in a Changing Climate. November 13-15, 2019. Tucson, AZ.
- 2018 **Conference organizing committee**, Society of American Foresters Southwest Section Meeting, Safford, AZ, April 19-21, 2018.
- 2018 **Education Chair**, Southwest Section of the Society of American Foresters.
- 2017 **Grant proposal reviewer**, National Geographic Society.
- 2015 **Session Chair (de facto), Resource use, Environments, and Landscapes**, Society of American Archaeology Conference, April 15-18, 2015, San Francisco, CA.

- 2015 **Contributor, Chaco Research Archive. Chaco great house tree-ring database. 6,421 records**, <http://www.chacoarchive.org/cra/chaco-resources/tree-ring-database/>.
- 2015 **Open Data contributor, International Tree-Ring Databank**, NM588, Canyon del Potrero (Ponderosa pine) AD 620-2011, NM589, Narbona Pass (Ponderosa pine) AD 842-2010.
- 2015 **Invited session co-chair, Collaborative environmental research in the Southwest: Examples from the field**, 13th Biennial Conference on Science and Management on the Colorado Plateau and Southwest Region. October 5-8, 2015, Flagstaff, AZ.
- 2014 **Fellowship proposal reviewer and selection committee member**, CLIMAS Climate & Society Fellowships, University of Arizona.
- 2014 **Search committee member, Laboratory of Tree-Ring Research Director position**, University of Arizona.
- 2013 **Organizer, Tree-Ring Day**, SEES Earthweek.
- 2012 **Science advisory committee, Forests, Fire, and Tree Ring displays**, Flandrau Science Center museum exhibit on Sky Islands.
- 2012 **Representative to University of Arizona School of Earth and Environmental Sciences (SEES) Earthweek**, 2012-2013 academic year.
- 2012 **Graduate student faculty representative, Laboratory of Tree-Ring Research**, 2012-2013 academic year.
- 2011 **Interim Treasurer**, Southern Arizona Chapter of the Society of American Foresters.

Professional Society Memberships

- Tree-Ring Society
- Forest Stewards Guild
- Society of American Foresters
- Association for Fire Ecology
- Association of American Geographers
- Society of American Archaeology