

# Chris Guiterman

*Research Scientist*

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*Cooperative Institute for Research in Environmental Sciences, University of Colorado at Boulder and the Paleoclimate team at NOAA's National Centers for Environmental Information*

## 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 (with honors), Lewiston, ME

## Work Experience

- 2022– Research Scientist II. Cooperative Institute for Research in Environmental Sciences, University of Colorado at Boulder, Boulder, CO
- 2021–2022 Assistant Research Professor. Laboratory of Tree-Ring Research, University of Arizona, Tucson, AZ
- 2017–2021 Research Associate. 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 Specialist (FIA, CVS, timber cruises). Camp II Forest Management, Joseph, OR

## Grants & Fellowships

Total research funding: \$1,389,807

*Note: I served as the project lead and/or PI unless otherwise specified*

- 2021–2023 **Resilience in a longleaf savanna: Historical tree recruitment in response to frequent disturbance and climate variability**, Wade Research Foundation, \$75,000.
  - with Monica Rother

- 2021–2023 **Developing data and knowledge toward the preservation, protection, and forest management of culturally modified trees on the Navajo Nation**, *BIA Navajo Regional Office*, \$100,000.  
 ● with William Tsosie (Navajo Heritage and Historic Preservation Department)
- 2022–2023 **Synthesis of the new North American tree-ring fire-scar network: using past and present fire-climate relationships to improve projections of future wildfire**, *USGS Powell Center for Analysis and Synthesis*, \$155,381.  
 ● with Ellis Margolis, Sean Parks, and Rachel Loehman
- 2022–2023 **Designing climate adaptation plans for the forests of the Navajo Nation (supplemental award to 2020 grant)**, *USGS Southwest Climate Adaptation Science Center*, \$80,760.  
 ● with Margaret Evans (PI), Erin Riordin, and Justin DeRose
- 2021–2022 **Delivering the North American tree-ring fire history network through a web application and an R package**, *USGS Community for Data Integration (CDI)*, \$50,000.  
 ● with Ellis Margolis and Mike Crimmins
- 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**, *USGS 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 peel-tree grove on the Navajo Nation**, *University of Arizona Foundation Small Grants Program*, \$20,000.  
 ● with William Tsosie (Navajo Heritage and Historic 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**, *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.

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## Awards & 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

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## Publications

### Papers in refereed journals

- Bigio, E. R., Swetnam, T., Baisan, C. H., Guiterman, C. H., Kisilyakhov, Y. K., Andreev, S. G., Batotsyrenov, E. A., & Ayurzhanayev, A. A. (2022). The influence of land-use activities and regional drought on historical fire regimes of Buryatia, Siberia. *Ecological Research Letters*. <https://doi.org/10.1088/1748-9326/ac6964>
- Falk, D. A., van Mantgem, P. J., Keeley, J. E., Gregg, R., Guiterman, C. H., Marshall, L. A., Tepley, A. J., & Young, D. J. (2022). Tamm Review: Mechanisms of forest resilience. *Forest Ecology and Management*, 512, 120129. <https://doi.org/10.1016/j.foreco.2022.120129>
- Guiterman, C. H., Gregg, R., Marshall, L. A., Beckman, J., van Mantgem, P. J., Falk, D. A., Keeley, J. E., Caprio, A. C., Coop, J. D., Haffey, C., Haggmann, R. K., Jackson, S. T., Lynch, A. M., Margolis, E. Q., Marks, C., Meyer, M. D., Safford, H., Syphard, A. D., Taylor, A. H., Wilcox, C., Enquist, C. A. F., Fornwalt, P. J., Huffman, D. W., Iniguez, J., Molinari, N. A., Restaino, C., & Stevens, J. T. (2022). Vegetation type conversion in the US Southwest: Frontline observation and management responses. *Fire Ecology*. In press.
- Margolis, E. Q., Guiterman, C. H., Chavardès, R. D., Coop, J. D., Copes-Gerbitz, K., Dawe, D. A., Falk, D. A., Johnston, J. D., Larson, E., Li, H., Marschall, J. M., Naficy, C. E., Naito, A. T., Parisien, M.-A., Parks, S. A., Portier, J., Poulos, H. M., Robertson, K. M., Speer, J. H., Stambaugh, M., Swetnam, T. W., Tepley, A. J., Thapa, I., Allen, C. D., Bergeron, Y., Daniels, L. D., Fulé, P. Z., Gervais, D., Girardin, M. P., Harley, G. L., Harvey, J. E., Hoffman, K. M., Huffman, J. M., Hurteau, M. D., Johnson, L. B., Lafon, C. W., Lopez, M. K., Maxwell, R. S., Meunier, J., North, M., Rother, M. T., Schmidt, M. R., Sherriff, R. L., Stachowiak, L. A., Taylor, A., Taylor, E. J., Trouet, V., Villarreal, M. L., Yocom, L. L., Arabas, K. B., Arizpe, A. H., Arseneault, D., Azpeleta Tarancòn, A., Baisan, C., Bigio, E., Biondi, F., Cahalan, G. D., Caprio, A., Cerano-Paredes, J., Collins, B. M., Dey, D. C., Drobyshev, I., Farris, C., Fenwick, M. A., Flatley, W., Floyd, M. L., Gedalof, Z., Holz, A., Howard, L. F., Huffman, D. W., Iniguez, J., Kipfmüller, K. F., Kitchen, S. G., Lombardo, K., McKenzie, D., Merschel, A. G., Metlen, K. L., Minor, J., O'Connor, C. D., Platt, L., Platt, W. J., Saladyga, T., Stan, A. B., Stephens, S., Sutheimer, C., Touchan, R., & Weisberg, P. J. (2022). The North American tree-ring fire scar network. *Ecosphere*. In press.
- Brice, B., Guiterman, C. H., Woodhouse, C., McClellan, C., & Sheppard, P. R.

- (2021). Comparing tree-ring based reconstructions of snowpack variability at different scales for the Navajo Nation. *Climate Services*, 22, 100213. <https://doi.org/10.1016/j.cliser.2021.100213>
- Roos, C. I., & Guiterman, C. H. (2021). Dating the origins of persistent oak shrubfields in northern New Mexico using soil charcoal and dendrochronology. *The Holocene*. <https://doi.org/10.1177/09596836211003255>
- Roos, C. I., Swetnam, T. W., Ferguson, T. J., Liebmann, M. J., Loehman, R. A., Welch, J. R., Margolis, E. Q., Guiterman, C. H., Hockaday, W. C., Aiuvalasit, M. J., Battillo, J., Farella, J., Kiahtipes, C. A., Toya, C., & Tosa, C. (2021). Native American fire management at an ancient wildland-urban interface in the Southwest US. *Proceedings of the National Academies of Sciences*, 118(4). <https://doi.org/10.1073/pnas.2018733118>
- 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). dfoiliatR: 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., Ettinger, A., Griesbauer, H., Guiterman, C. H., Harley, G., Harvey, J. E., Lo, Y. H., Lynch, A. M., O'Connor, C., Restaino, C., Sauchyn, D., Shaw, J. D., Smith, D. J., Wood, L., Villanueva-Díaz, 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., Benakoun, L. R., Cutter, A., Hart, M. E., Murray, M. P., Nash, S. E., Shepard, R., Stewart, A. K., & 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 preparation

Lynch, A. M., Guiterman, C. H., & Axelson, J. N. (in prep). Abruptness of western spruce budworm outbreaks in Colorado and New Mexico. *Canadian Journal of Forest Research*.

## 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/](https://chguiterman.github.io/Nav_report/)

Eusden, J., Anderson, B., Castro, C., Gardner, P., Guiterman, C., Higgens, S., Kugel, K., Rodda, C., & 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.

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## Software

- 2021 **rIMPD: An R package and Shiny App to search and explore tree-ring fire history data on the WDS-Paleo International Multi-proxy Paleofire Database**, *CH Guiterman, EQ Margolis, and M Crimmins*, <https://github.com/chguiterman/rIMPD>.
- 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>.

## Presentations

### Workshops

- Nov 2021 **Exploring tree-ring fire history across North America**, *Guiterman, C.H. and Margolis, E.Q.*, AFE Fire Congress, Online.

### Invited seminars

- Sep 2021 **Tracing the origins of Chacoan beams**, Crow Canyon Archaeological Center, Available on YouTube: <https://www.youtube.com/watch?v=8CdqcYmrI6o&t=4048s>.
- 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.
- 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.
- 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.
- 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*)

- Jun 2022 **Historical diversity of fire regimes across Arizona and New Mexico**, Guiterman, C.H. and Margolis, E.Q., Ameridendro 2022, Montreal, Canada.
- Dec 2021 **The seasonal impact of climate on wildfire in the American Southwest (1600-1900)**, Groeneveld, D., Morrill, C., Gross, W., Guiterman, C., and Margolis, E., AGU Fall Meeting, New Orleans, LA.
  - Daniel Groeneveld is an undergraduate intern at NOAA's National Centers for Environmental Information
- Dec 2021 **Drivers, types, and management responses to vegetation type conversions in the US Southwest**, Guiterman, C.H., Gregg, R.M., Marshall, L.A.E., Beckmann, J.J., van Mantgem, P., Falk, D.A., and Keeley, J.E., AFE Fire Congress, Online.

- Dec 2021 **The North American tree-ring fire-scar network**, *Margolis, E., Guiterman, C. and 84 co-authors*, AFE Fire Congress, Online.
- Dec 2021 **Mechanisms of forest resilience**, *Falk, D.A., van Mantgem, P., Keeley, J.E., Guiterman, C.H., Gregg, R.M., Marshall, L.A.E., Tepley, A., and Young, D.*, AFE Fire Congress, Online.
- Dec 2021 **Quantifying fire regime divergence at tree-ring fire history sites in dry forests of the American southwest**, *McClure, E.J., Coop, J.D., Guiterman, C.H., Margolis, E.Q., and Parks, S.A.*, AFE Fire Congress, Online.  
 ● Emma McClure is a Masters student at Western Colorado University
- Aug 2021 **The North American tree-ring fire-scar network**, *Margolis, E. and Guiterman, C.*, ESA Virtual Meeting, Online.
- Dec 2020 **Fire and climate in the eastern Siberia over the past 500 years (1500-2010 CE)**, *Xu, G., Guiterman, C., Swetnam, T., Trouet, V., Anchukaitis, K., and Baisan, C.*, AGU Fall Meeting, Online.
- 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, and 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.

## Teaching

### Lead or co-instructor

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

- Win. 2013 Our Changing Climate (Online; 230). School of Geography and Development, University of Arizona
- Sum. 2012 North American Dendroecological Fieldweek (NADEF). Intro group, Jemez Mountains, New Mexico
- Sum. 2011 Dendroecology Fieldcourse (497/597). Laboratory of Tree-Ring Research, University of Arizona
- Fall 2011 Field Course – Reading a Landscape (397). School of Geography and Development, University of Arizona
- Fall 2011 Our Dynamic Landscape (240). School of Geography and Development, University of Arizona
- Teaching assistant**
- Fall 2010 Physical Geography (101). School of Geography and Development, University of Arizona
- Sum. 2009 Forestry Summer Field Experience (300). School of Forest Resources, University of Maine
- Sum. 2008 Forestry Summer Field Experience (300). School of Forest Resources, University of Maine
- Fall 2003 Structural Geology (230). Geology Department, Bates College

## Service

**Journal peer reviews:** *American Antiquity, Dendrochronologia, Fire Ecology, Forests, Forest Ecology and Management, Forest Science, Frontiers in Environmental Science, Global Ecology and Biogeography, Geophysical Research Letters, International Journal of Wildland Fire, Journal of Archaeological Method and Theory, Journal of Archaeological Science, 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*

- 2021 **Five-year administration review committee, Laboratory of Tree-Ring Research**, University of Arizona.
- 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.

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## 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

## Student Research Assistants & Mentees

**Eze Ahanonu**, undergraduate, field and lab (2014-2016)  
**Royale Billy-Wilson**, undergraduate, field and lab (2015-2017)  
**Patrick Brewer**, undergraduate, field and lab (2015-2016)  
**Alec Gagliano**, undergraduate, field and lab (2016-2018)  
**Galen Gudenkauf**, undergraduate, field (2014)  
**Jordan Krcmaric**, post-graduate, field (2017)  
**Ben Olimpio**, undergraduate, lab (2016-2017)  
**Anna Penaloza**, undergraduate, lab (2013)  
**Gabryl Sam**, post-graduate, field (2019)  
**Melissa Schwan**, undergraduate and post-graduate, field and lab (2015-2018)  
**Eric Shreve**, undergraduate, lab (2012-2013)  
**Jaime Yazzie**, post-graduate, field (2019)

## Additional references

**Alexious Becenti**, Head Forester, Navajo Forestry Department, Ft Defiance, AZ. 928-729-4007, [acbecenti\\_nfd@frontiernet.net](mailto:acbecenti_nfd@frontiernet.net)  
**William Tsoie**, Forest Archaeologist, *retired*, Navajo Heritage and Historic Preservation Department, Window Rock, AZ. 928-871-6540, [wtsosie@navajo-nsn.gov](mailto:wtsosie@navajo-nsn.gov)  
**John Neely**, Assistant Fire Management Officer (South Zone), White Mountain National Forest, Campton, NH. 603-536-6261, [john.neely@usda.gov](mailto:john.neely@usda.gov)  
**Thomas Swetnam**, Regents Professor Emeritus of Dendrochronology, University of Arizona, Tucson, AZ. 575-829-4649, [swetnamt@arizona.edu](mailto:swetnamt@arizona.edu)  
**Ann Lynch**, Research Entomologist, USDA Forest Service Rocky Mountain Research Station, Tucson, AZ. 520-626-9582, [ann.m.lynch@usda.gov](mailto:ann.m.lynch@usda.gov)  
**Craig Allen**, Research Ecologist Emeritus, United States Geological Survey, Los Alamos, NM. 505-672-3861 ext. 1720, [craigdallen@unm.edu](mailto:craigdallen@unm.edu)  
**Julio Betancourt**, Scientist Emeritus, United States Geological Survey, Reston, VA. 703-648-5840, [jlbetanc51@gmail.com](mailto:jlbetanc51@gmail.com)