

*Curriculum Vita***DREW M. P. PELTIER**[Drew.Peltier@nau.edu](mailto:Drew.Peltier@nau.edu)**Postdoctoral Researcher****Center for Ecosystem Science and Society, and  
School of Informatics, Computing, and Cyber Systems  
Northern Arizona University, Flagstaff, AZ****RESEARCH INTERESTS AND SKILLS**

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Dendroecology • Drought legacies • Tree mortality • El Niño Southern Oscillation • North American Monsoon • Climate change ecology • Bayesian hierarchical modelling • Non-structural carbohydrates • Stable isotopes • Radiocarbon bomb-spike dating • Terrestrial carbon cycle • High-performance computing

**EDUCATION**

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- 2018      **Ph.D. Biology.**  
Department of Biological Sciences  
Northern Arizona University, Flagstaff, AZ.  
[2013-2015 at Arizona State University, Tempe, AZ]
- 2013      **M.S. Conservation Ecology.**  
School of Natural Resources and Environment  
University of Michigan, Ann Arbor, MI
- 2011      **B.S. Environmental Studies (*Cum Laude*)**  
University of Southern California, Los Angeles, CA

**APPOINTMENTS**

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- 2019-current    **Postdoctoral Researcher**  
Center for Ecosystem Science and Society  
Northern Arizona University, Flagstaff, AZ
- 2018-current    **Postdoctoral Researcher**  
School of Informatics, Computing, and Cyber Systems  
Northern Arizona University, Flagstaff, AZ
- 2016-2017      **Research Assistant**  
(Fall,  
Summers)      School of Informatics, Computing, and Cyber Systems  
Northern Arizona University, Flagstaff, AZ

- 2014            **Research Assistant**  
(Summer)      School of Life Sciences  
                    Arizona State University, Tempe, AZ
- 2012-2013     **Research Assistant**  
(Summers)    School of Natural Resources and Environment  
                    University of Michigan, Ann Arbor, MI
- 2010-2011     **Undergraduate Research Assistant**  
                    Loker Hydrocarbon Institute  
                    University of Southern California, Los Angeles, CA

## **GRANTS AND AWARDS**

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- 2019    RAPID: Leveraging an experimental drought on mature trees to study mechanisms of drought mortality and legacies with radiocarbon. NSF IOS RAPID. PI: Mariah Carbone; Co-PI: Drew Peltier [*lead writing*]. Awarded July 2019. \$197,752 (1 year).
- 2018    Outstanding Doctoral Dissertation Award in Biological Sciences. Department of Biological Sciences. Northern Arizona University, May 2018.
- 2018    Research and Creativity Award for Most Promising Graduate Student. Northern Arizona University. April 2018. \$2000.
- 2017    Dissertation Research: Role of non-structural carbohydrate dynamics in legacy effects of drought in Southwestern forests. PI: Ogle; PhD Fellow: Drew Peltier (NAU, Biology). NSF Doctoral Dissertation Improvement Grant (DDIG). Awarded March 2017. \$19,760 (1-year with 1-year no-cost extension).
- 2016    ESA Physiological Ecology Section Travel Award. May 2016. \$500.
- 2016    Best Published Paper with Graduate Student as Senior Author. Department of Biological Sciences, Northern Arizona University. April 2016. For "Legacy effects of drought in the southwestern United States: A multi-species synthesis." \$350.
- 2013    Doctoral Recruitment Award. School of Life Sciences, Arizona State University. March 2013. \$8,000.
- 2013    Donald M. Matthews Award for most promising student in forestry. University of Michigan. March 2013. \$500.

## **PUBLICATIONS** (asterisk, \*, denotes undergraduate mentee)

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[Google scholar](#) Citations 182, h-index 6, i10-index 5

1. **Peltier, D.M.P.**, and K. Ogle. 2019. Legacies of more frequent drought in ponderosa pine across the western United States. *Global Change Biology* 25: 3803-3816.
2. Ogle, K., **D.M.P. Peltier**, M. Fell, J. Guo, H. Kropp, and J.J. Barber. 2019. Should we be concerned about multiple comparisons in hierarchical Bayesian models? *Methods in*

*Ecology and Evolution* 10: 553-564.

3. **Peltier, D.M.P.**, and K. Ogle. 2019. Legacies of La Niña: North American monsoon can rescue trees from winter drought. *Global Change Biology* 25: 121-133.
4. **Peltier, D.M.P.**, J.J. Barber, and K. Ogle. 2018. Quantifying antecedent climatic drivers of tree growth in the Southwestern US. *Journal of Ecology* 106: 613-624.
5. Ryan, E. M., K. Ogle, **D.M.P. Peltier**, A. P. Walker, M. G. De Kauwe, B. E. Medlyn, D. G. Williams, W. Parton, S. Asao, B. Guenet, and others. 2017. Gross primary production responses to warming, elevated CO<sub>2</sub>, and irrigation: quantifying the drivers of ecosystem physiology in a semiarid grassland. *Global Change Biology* 23: 3092–3106.
6. **Peltier, D.M.P.**, M. Fell, and K. Ogle 2016. Legacy effects of drought in the southwestern United States: A multi-species synthesis. *Ecological Monographs* 86: 312-326.
7. **Peltier, D.M.P.**, I. Ibáñez. 2015. Patterns and variability in seedling carbon assimilation: implications for tree recruitment under climate change. *Tree Physiology* 35: 71–85.
8. Ibáñez, I., D.S. Katz, **D.M.P. Peltier**, S.M. Wolf, and B.T. Connor-Barrie. 2014. Assessing the integrated effects of landscape fragmentation on plants and plant communities: the challenge of multiprocess–multiresponse dynamics. *Journal of Ecology* 102: 882–895.
9. Czaun, M., A. Goepfert, R. B. May, **D. Peltier**, H. Zhang, G.K. Surya Prakash, and G. A. Olah. 2013. Organoamines grafted on nano-sized silica for carbon dioxide capture. *Journal of CO<sub>2</sub> Utilization* 1: 1-7.

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IN REVIEW OR IN REVISION

10. **Peltier, D.M.P.**, P. Nguyen\*, C. Ebert, G.W. Koch, E.A.G. Schuur, D. Auty, and K. Ogle. Moisture variability limits distribution of non-structural carbohydrates in sapwood of trembling aspen. (In review, *Tree Physiology*).
11. Marqués L., **D.M.P. Peltier**, J.J. Camarero, M.A. Zavala, J. Madrigal-González, G. Sangüesa-Barreda, and K. Ogle. Recovering ecological memory from tree ring data to disentangle the influences of climate and management in mixed silver-fir forests from the Pyrenees. (In review, *Journal of Ecology*).

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TO BE SUBMITTED (full draft available upon request)

12. **Peltier, D.M.P.**, P. Nguyen\*, M. Bangs\*, M. Wilson\*, L. Gear\*, J. Guo, K. Samuels-Crow, L. Yocom, Y. Liu, M.K. Fell, D. Auty, W.R.L. Anderegg, G.W. Koch, M. Litvak, J. Shaw, K. Ogle. Seasonal controls on canopy and tree ring non-structural carbohydrates in southwestern US forest species. (In prep for *Functional Ecology*).
13. **Peltier, D.M.P.** and K. Ogle. Temporal plasticity in tree growth. (“Ideas and Perspectives” essay In prep for *Ecology Letters*).
14. Larissa L. Yocom, Kiona Ogle, **D.M.P. Peltier**, Paul Szejner, Yao Liu, Russell K. Monson. Tree growth response to climate varies across a monsoon precipitation gradient. (In prep)

## CONFERENCE ACTIVITIES

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ORAL PRESENTATIONS (asterisk, \*, denotes presenting author)

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*Invited:* “Dendrophysiology: from pattern to process in southwest trees.” **Drew Peltier\***, Mariah Carbone, Kiona Ogle, and others. *Physiological Ecology 50<sup>th</sup> anniversary President’s Organized Oral Session: Harnessing the ecological data revolution in physiological ecology*. (Upcoming) Ecological Society of America 2020 annual meeting in Salt Lake City, UT.

*Contributed:* “Linking drought legacies and non-structural carbohydrates in the southwestern US.” **Drew Peltier\***, Jessica Guo, Phiyen Nguyen, Larissa Yocom-Kent, Kimberly Samuels-Crow, Yao Liu, George Koch, Michael Fell, William Anderegg, Christopher Schwalm, Marcy Litvak, David Auty, John Shaw, and Kiona Ogle. Ecological Society of America 2019 annual meeting in Louisville, KY.

*Invited:* “Linking tree growth responses to antecedent drought and physiological mechanisms in the Southwest.” **Drew Peltier\***, and K. Ogle. 2019 North American Forest Ecology Workshop in Flagstaff, AZ.

*Contributed:* “Radiocarbon and <sup>13</sup>C of aspen ring non-structural carbohydrates suggest a role for drought” **Drew Peltier\***, P. Nguyen, C. Ebert, G.W. Koch, E.A.G. Schuur, and K. Ogle. Ecological Society of America 2018 annual meeting in New Orleans, LA.

*Contributed:* “Differential growth responses of piñon during El Niño and La Niña years.” **Drew Peltier\***, Jessica Guo, Kimberly Samuels-Crow, Yao Liu, George Koch, Michael Fell, William Anderegg, and Kiona Ogle. 14<sup>th</sup> Biennial Conference of Science and Management on the Colorado Plateau and Southwest Region, 2017, Flagstaff, AZ.

*Contributed:* “Differential growth responses of piñon and juniper during El Niño and La Niña years” **Drew Peltier\***, and Kiona Ogle. Ecological Society of America 2017 annual meeting in Portland, OR.

*Contributed:* “Tree growth response to climate varies across a monsoon precipitation gradient.” Larissa Yocom, **Drew Peltier\***, Kiona Ogle, Yao Liu, Paul Szejner, and Russ Monson. Ecological Society of America 2017 annual meeting in Portland, OR.

*Contributed:* “Variability in foundation tree species water sources across an elevation gradient in the semiarid Southwest.” Kimberly E. Samuels-Crow\*, Yao Liu, **Drew Peltier**, Jeffrey M. Welker, William R. L. Anderegg, George W. Koch, and Kiona Ogle. Ecological Society of America 2017 annual meeting in Portland, OR.

*Invited:* “Evaluating the temporal lags and influence of past climate on tree growth in the Southwest: Implications for responses to climate change.” **Drew Peltier\***, Jarrett Barber, and Kiona Ogle. Ecological Society of America 2016 annual meeting in Fort Lauderdale, FL.

*Contributed:* “Altered climatic sensitivity of growth after drought: Synthesis of tree-ring data from multiple species in the Southwest.” **Drew Peltier\***, Michael Fell, and Kiona Ogle. Ecological Society of America 2015 annual meeting in Baltimore, MD.

POSTERS (asterisk, \*, denotes presenting author)

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*Contributed:* “Gross primary production of a semiarid grassland is enhanced by six years exposure to atmospheric CO<sub>2</sub>, warming, and irrigation.” Edmund Ryan\*, Kiona Ogle, **Drew Peltier**, David G. Williams, and Elise Pendall. American Geophysical Union meeting 2014, San Francisco, CA.

*Contributed:* “Patterns and variability in seedling carbon assimilation: implications for tree recruitment under climate change.” **Drew Peltier\*** and Inés Ibáñez. Ecological Society of America 2014 annual meeting in Sacramento, CA.

ORGANIZED CONFERENCE SESSIONS

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“Biotic and abiotic interactions driving patterns of tree mortality” with Cameron McIntire, Amy Trowbridge, and Henry Adams. (Upcoming) Ecological Society of America 2020 annual meeting in Salt Lake City, UT.

“Ecophysiology of Drought Resilience and Recovery (#14083)” with Jessica Guo at Ecological Society of America 2018 annual meeting in New Orleans, LA.

“Evaluating lags and legacies of drought recovery (#12787)” with Jessica Guo at Ecological Society of America 2017 annual meeting in Portland, OR.

WORKSHOPS CO-ORGANIZED

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“Introduction to Bayesian and Hierarchical Bayesian Modeling Applications in Ecology,” Organizer: **Drew Peltier**. Co-organizers: Robert Shriver and Jessica Guo. (Upcoming) Ecological Society of America 2020 annual meeting in Salt Lake City, UT.

“Introduction to Bayesian and Hierarchical Modelling,” co-organized with Kiona Ogle, and Kimberly Samuels-Crow. 15th Biennial Conference of Science & Management on the Colorado Plateau & Southwest Region. Flagstaff, AZ. September 2019.

CONFERENCE SESSION PRESIDER

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Contributed Oral Session 93: Physiology I. 8/15/2019. Ecological Society of America 2019 annual meeting in Louisville, KY.

**WORKSHOPS AND SEMINARS**

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"Applications and extensions of the SAM framework for understanding tree growth responses to climate: Moving beyond stress-recovery frameworks." **Drew Peltier**. Invited workshop: Emerging frameworks for understanding memory in ecological systems, Oak Ridge National Laboratory, Oak Ridge, TN. Sep. 2019.

"Linking drought legacies in tree growth to physiological mechanisms." **Drew Peltier**. Ecoinformatics seminar, School of Informatics, Computing, and Cyber Systems, NAU, Flagstaff, AZ. January 2019.

"Radiocarbon and  $^{13}\text{C}$  of aspen ring non-structural carbohydrates suggest a role for drought." **Drew Peltier**. ECOSS seminar. Center for Ecosystem Science and Society (ECOSS), NAU, Flagstaff, AZ. September 2018.

## TEACHING

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2015-2018     **Instructor of Record**, BIO 326L: *Ecology lab in technical writing*  
(4 semesters) Department of Biological Sciences  
Northern Arizona University, Flagstaff, AZ

2013-2015     **Teaching Assistant**, BIO 181, 282 (honors section): *General Biology I, II*  
(4 semesters) School of Life Sciences  
Arizona State University, Tempe, AZ

2012           **Graduate Student Instructor**, NRE 509: *Introduction to Environmental Science*  
(Fall) School of Natural Resources and Environment  
University of Michigan, Ann Arbor, MI

## OUTREACH

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Highlands Center for Natural History in Prescott, AZ: Community Nature Study Series.  
Invited half-day course: "Tree mortality and climate change" (Upcoming) February 13<sup>th</sup> 2020.

Youth conservation trip with the Grand Canyon Trust on the North Rim of the Grand Canyon. Discussed tree rings, Flux Puppy, and climate change in forests on the Colorado Plateau with Flagstaff High School students including Navajo students. September 2019.

Tree ring talk at the Diné College Southwest Youth Summer Camp at NAU Native American Cultural Center (ages 11-17, ~40 students). June 2019.

Tree ring talk at the Nizhoni Academy (NAU STEM-based pre-college summer school for Native American high school students, ~30 students). June 2019.

Tree rings and drought legacies lecture. Upper-level undergraduate course ("Plants and Climate" ~40 students) at NAU; April 2019.

Highlands Center for Natural History in Prescott, AZ: Community Nature Study Series.  
Invited half-day course: "Climate-tree growth interactions" (With Kimberly Samuels-Crow and Kiona Ogle). February 2019.

Youth conservation trip with the Grand Canyon Trust on North Rim of Grand Canyon.  
Discussed recent results from the Ogle lab related to climate change and drought in

forests on the Colorado Plateau with Flagstaff High School students including Navajo students. September 2017.

Tree ring table at Flagstaff Festival of Science: Science in the Park. Flagstaff, AZ. September 2016.

Tree coring and tree ring demonstration at Museum of Northern Arizona Discovery camp on climate change with Anne Hamlin. Flagstaff, AZ. June 2016.

Occasional math tutor for Navajo Nation and Hopi high school students at Kinlani Bordertown Dormitory, 2016.

Significant contributor to ASU Ask-A-Biologist website. <http://askbiologist.asu.edu/our-volunteers>. 2013-2017.

Answer plant-related questions for ASU's "Dr. Biology" <http://askbiologist.asu.edu/contact/askaquestion>. 2013-2017.

## MENTORING

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### Graduate students:

Taylor Sheriff (Fall 2018-present). Provide informal mentorship related to dendroecology for MSc student advised by George Koch.

### Undergraduate students:

Phiyen Ngoc Nguyen (spring 2017-present, NAU). Dendrochronology, NSC, writing. Michelle Wilson (spring 2017- spring 2018, NAU). Dendrochronology.

Michael Bangs (spring 2017- summer 2018, NAU). Dendrochronology.

Linnea Gear (spring 2016-summer 2017, NAU). NSC measurement.

Ryan Bishop (spring 2016-spring 2017, NAU). Dendroecology literature review.

Stacy Jeffreys (fall 2016-spring 2017, NAU). NSC measurement.

## SERVICE

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### Publons Profile

Peer-reviewer for: *Oecologia*, *Ecology Letters*, *Global Change Biology*, *Frontiers in Forests and Global Change*, *Trees*, *New Phytologist*, *Trends in Ecology and Evolution*, *Ecological Applications*, *Forest Ecology and Management*, *Journal of Forestry*, *Water Resources Research*. Review Editor at *Frontiers in Forests and Global Change*

Judge (4-times) for NAU's College of Engineering, Forestry, and Natural Sciences Undergraduate Research and Design Symposium (UGRADS) 4/29/2016, 4/27/2017, 4/27/2018, and 4/26/2019.

Grant proposal reviewer for NAU Hooper and Urdea Undergraduate Research Awards 2019.

Grant proposal reviewer for ASU Graduate Student Professional Association grants, 2014-2015.

## **PROFESSIONAL AFFILIATIONS**

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2013- Ecological Society of America, primary section Physiological Ecology.

## **ADDITIONAL TRAINING**

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2019 “SafeZone 101” and “SafeZone 102”. NAU professional trainings to provide safe space for LBGTQ+ students and community. October 2019.

2019 “Teaching the Big Classes.” NAU faculty development program. September 2019.

2019 “Managing Bias.” NAU optional online training. April 2019.

2019 “Diversity: Inclusion in the Modern Workplace” NAU optional online training. April 2019.

2014 *Dendroecology*. Coordinators: Ellis Margolis, Don Falk. University of Arizona Laboratory of Tree-Ring Research. May 19-30, 2014.

2013 “Scientific Teaching.” Instructor: Binaben Vanmali. Arizona State University.