

**DREW M. P. PELTIER**  
**Postdoctoral Researcher**  
**Center for Ecosystem Science and Society, and**  
**Northern Arizona University, Flagstaff, AZ**

[Drew.Peltier@nau.edu](mailto:Drew.Peltier@nau.edu)  
[dmp334@nau.edu](mailto:dmp334@nau.edu)

## **EDUCATION**

---

- 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**

---

- 2019-present    **Postdoctoral Researcher**  
Center for Ecosystem Science and Society  
Northern Arizona University, Flagstaff, AZ
- 2018-2020      **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

---

- 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 [*wrote proposal*]. Awarded July 2019. \$197,752 (1-year with two 1-year no-cost extensions).
- 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)

---

Google scholar Citations 400, h-index 9, i10-index 9

1. Yocom, L, K Ogle, **DMP Peltier**, P Szejner, Y Liu, RK Monson. Tree growth response to climate varies across a monsoon precipitation gradient. *Oecologia*: Accepted 2/22/22.
2. Marqués L., K. Ogle, **DMP Peltier**, J.J. Camarero. 2022. Altered climate memory characterizes tree growth during forest dieback.. *Agricultural and Forest Meteorology*: 314, 108787.
3. **Peltier, DMP**, 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. 2021. Temperature memory and non-structural carbohydrates mediate legacies of a hot drought in trees across the southwestern US. *Tree Physiology*: 42 (1), 71-85.
4. Marqués L., **DMP Peltier**, J.J. Camarero, M.A. Zavala, J. Madrigal-González, G. Sangüesa-Barreda, and K. Ogle. 2021. Disentangling the legacies of climate and management on tree growth. *Ecosystems* 25: 215–235.
5. **Peltier, DMP**, 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. 2021. Temporal controls on crown nonstructural carbohydrates in southwestern US tree species. *Tree Physiology* 41: 388-402.
6. **Peltier, DMP**, and K. Ogle. 2020. Tree growth sensitivity to climate is temporally variable. *Ecology Letters* 23: 1561–1572.
  7. **Peltier, DMP**, and K. Ogle. 2019. Legacies of more frequent drought in ponderosa pine across the western United States. *Global Change Biology* 25: 3803-3816.
  8. Ogle, K., **DMP 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.
  9. **Peltier, DMP**, and K. Ogle. 2019. Legacies of La Niña: North American monsoon can rescue trees from winter drought. *Global Change Biology* 25: 121-133.
  10. **Peltier, DMP**, J.J. Barber, and K. Ogle. 2018. Quantifying antecedent climatic drivers of tree growth in the Southwestern US. *Journal of Ecology* 106: 613-624.
  11. Ryan, E. M., K. Ogle, **DMP 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.
  12. **Peltier, DMP**, M. Fell, and K. Ogle 2016. Legacy effects of drought in the southwestern United States: A multi-species synthesis. *Ecological Monographs* 86: 312-326.
  13. **Peltier, DMP**, I. Ibáñez. 2015. Patterns and variability in seedling carbon assimilation: implications for tree recruitment under climate change. *Tree Physiology* 35: 71–85.
  14. Ibáñez, I., D.S. Katz, **DMP 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.
  15. 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.

## SEMINARS

---

2022

Invited seminar: “Legacies and lags: the physiology of memory in forests under global change.” Department of Biology, Tennessee Tech University, Cookeville, TN. Feb 15, 2022.

2021

“Climate memory in tree rings and the physiological mechanisms.” Guest lecture: FOR517 (Dendroecology). NAU, Flagstaff, AZ, October 25, 2021.

Invited seminar: “Legacies and lags: the physiology of memory in forests under global change.” Department of Environmental Science, Policy, and Management, University of California-Berkeley, Berkeley, CA. May 6, 2021.

2020

"How do trees die under drought?" ECOSS seminar: Center for Ecosystem Science and Society, NAU, Flagstaff, AZ. September 17, 2020.

2019

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

"Drought and climate change applications in tree rings." Guest lecture: BIO426 (Plants and Climate). NAU, Flagstaff, AZ, April 2, 2019.

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

2018

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

**CONFERENCE ACTIVITIES**

(asterisk, \*, denotes presenting author)

2021

*Talk*: "Age and availability of bole nonstructural carbon across depths in *Populus tremuloides*." **DMP Peltier\***, J LeMoine, M Carbone, C Ebert, X Xu, AD Richardson. Ecological Society of America [ESA] 2021 annual meeting (virtual).

*Talk*: "Quantifying whole tree non-structural carbon dynamics under long-term experimental drought using radiocarbon." **DMP Peltier\***, M Carbone, C Ebert, X Xu, HD Adams, NG McDowell, W Pockman, AD Richardson, and AM Trowbridge. European Geophysical Union [EGU] 2021 annual meeting (virtual).

*Poster*: "Species-specific differences in climate memory may determine whether trees survive drought." R Boone\*, L Yocom, **DMP Peltier**, K Ogle. ESA 2021 annual meeting (virtual).

*Short course*: "Introduction to Bayesian and Hierarchical Bayesian Modeling Applications in Ecology," Organizer: **DMP Peltier**. Co-organizers: R Shriver and JS Guo. ESA 2021 annual meeting (virtual).

*Presider*: Contributed Oral Session 81: Physiological Ecology I. 8/4/2021. ESA 2021 annual meeting (virtual).

2020

*Talk*: "Quantifying whole tree non-structural carbon dynamics under long-term experimental drought using radiocarbon." **DMP Peltier\***, M Carbone, C Ebert, X Xu, AD Richardson, C McIntire, RA Thompon, W Pockman, NG McDowell, HD Adams, AM Trowbridge. American Geophysical Union [AGU] 2020 annual meeting (virtual).

*Invited talk*: "Dendrophysiology: from pattern to process in southwest trees." **DMP Peltier\***, M Carbone, K Ogle, and others. *Physiological Ecology 50<sup>th</sup> anniversary President's Organized Oral Session: Harnessing the ecological data revolution in physiological ecology*. ESA 2020 annual meeting (virtual).

*Poster*: "Growth-climate relationships of *Cupressus arizonica* (Arizona cypress): A neotropical tree species in semi-arid northern Arizona." R Boone\*, **DMP Peltier**, P Nguyen, K Ogle. ESA 2020 annual meeting (virtual).

- Co-organized session:* “Biotic and abiotic interactions driving patterns of tree mortality” with C McIntire, AM Trowbridge, and HD Adams. ESA 2020 annual meeting (virtual).
- 2019
- Talk:* “Linking drought legacies and non-structural carbohydrates in the southwestern US.” **DMP Peltier\***, JS Guo, P Nguyen, L Yocom, K Samuels, Y Liu, GW Koch, MK Fell, WRL Anderegg, C Schwalm, M Litvak, D Auty, J Shaw, and K Ogle. ESA 2019 annual meeting in Louisville, KY.
- Invited talk:* “Linking tree growth responses to antecedent drought and physiological mechanisms in the Southwest.” **DMP Peltier\***, and K. Ogle. 2019 North American Forest Ecology Workshop in Flagstaff, AZ.
- Short course:* “Introduction to Bayesian and Hierarchical Modelling,” Organizer: K Ogle. Co-organizers: **DMP Peltier** and K Samuels. 15th Biennial Conference of Science & Management on the Colorado Plateau & Southwest Region. Flagstaff, AZ. September 2019.
- Presider:* Contributed Oral Session 93: Physiology I. 8/15/2019. ESA 2019 annual meeting in Louisville, KY.
- 2018
- Talk:* “Radiocarbon and  $^{13}\text{C}$  of aspen ring non-structural carbohydrates suggest a role for drought” **DMP Peltier\***, P Nguyen, C Ebert, GW Koch, EAG Schuur, and K Ogle. ESA 2018 annual meeting in New Orleans, LA.
- Organized session:* “Ecophysiology of Drought Resilience and Recovery” with JS Guo at ESA 2018 annual meeting in New Orleans, LA.
- 2017
- Talk:* “Differential growth responses of piñon during El Niño and La Niña years.” **DMP Peltier\***, JS Guo, K Samuels, Y Liu, GW Koch, MK Fell, WRL Anderegg, and K Ogle. 14<sup>th</sup> Biennial Conference of Science and Management on the Colorado Plateau and Southwest Region, 2017, Flagstaff, AZ.
- Talk:* “Differential growth responses of piñon and juniper during El Niño and La Niña years” **DMP Peltier\***, and K Ogle. ESA 2017 annual meeting in Portland, OR.
- Talk:* “Tree growth response to climate varies across a monsoon precipitation gradient.” Larissa Yocom, **DMP Peltier\***, K Ogle, Y Liu, P Szejner, and RK Monson. ESA 2017 annual meeting in Portland, OR.
- Talk:* “Variability in foundation tree species water sources across an elevation gradient in the semiarid Southwest.” K Samuels \*, Y Liu, **DMP Peltier**, JM Welker, WRL Anderegg, GW Koch, and K Ogle. ESA 2017 annual meeting in Portland, OR.
- Co-organized session:* “Evaluating lags and legacies of drought recovery” with JS Guo at ESA 2017 annual meeting in Portland, OR.
- 2016
- Invited talk:* “Evaluating the temporal lags and influence of past climate on tree growth in the Southwest: Implications for responses to climate change.” **DMP Peltier\***, JJ Barber, and K Ogle. ESA 2016 annual meeting in Fort Lauderdale, FL.
- 2015

- Talk*: “Altered climatic sensitivity of growth after drought: Synthesis of tree-ring data from multiple species in the Southwest.” **DMP Peltier\***, MK Fell, and K Ogle. ESA 2015 annual meeting in Baltimore, MD.
- 2014
- Poster*: “Patterns and variability in seedling carbon assimilation: implications for tree recruitment under climate change.” **DMP Peltier\*** and I Ibáñez. ESA 2014 annual meeting in Sacramento, CA.
- Poster*: “Gross primary production of a semiarid grassland is enhanced by six years exposure to atmospheric CO<sub>2</sub>, warming, and irrigation.” E Ryan\*, K Ogle, **DMP Peltier**, DG Williams, and E Pendall. AGU meeting 2014, San Francisco, CA.

## TEACHING

---

- 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

---

- 2021  
PhenoCam workshop for teachers, (virtual), September 11-12 2021.
- 2020  
“Tracking forest recovery at Big Basin Redwoods State Park” with Save The Redwoods League. Video about our project on tree recovery and <sup>14</sup>C following the CZU lightning complex fires in 2020. [Video](#). [Latest image](#). [Press](#).
- Highlands Center for Natural History in Prescott, AZ: Community Nature Study Series. Invited half-day course: "Tree mortality and climate change" February 13<sup>th</sup> 2020. [Media](#).
- 2019  
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. [Media](#).
- 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.

2017

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.

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

Answer plant-related questions for ASU’s “Dr. Biology” <http://askabiologist.asu.edu/contact/askaquestion>. 2013-2017.

2016

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.

## **MENTORING**

---

### Graduate students:

Taylor Sheriff (Fall 2018-Spring 2021). Provide informal mentorship related to dendroecology for MSc student advised by George Koch.

### Undergraduate students:

Brandee Sean Dean Keyonnie (Fall 2021-present). Dendrochronology [Interns 2 scholars and LSAMP student].

Phiyen Ngoc Nguyen (spring 2017- Fall 2020, 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**[Publons Profile](#)

Peer-review: *Nature*, *JGR – Biogeosciences*, *Ecology Letters*, *Global Change Biology*, *New Phytologist*, *Trends in Ecology and Evolution*, *Agricultural and Forest Meteorology*, *Oecologia*, *Ecological Applications*, *Functional Ecology*, *Frontiers in Forests and Global Change*, *Trees*, *Forest Ecology and Management*, *Science of the Total Environment*, *Journal of Forestry*, *Water Resources Research*.

2020- Center for Ecosystem Science and Society Volunteer Postdoc representative.

2018- Reviewer for Billings and New Phytologist poster and talk awards; Physiological Ecology Section: Ecological Society of America (ESA) annual meetings.

2016- Judge for NAU's College of Engineering, Forestry, and Natural Sciences annual Undergraduate Research and Design Symposium (UGRADS)

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

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

**PROFESSIONAL AFFILIATIONS**

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

2020- American Geophysical Union

2021- European Geophysical Union

**ADDITIONAL TRAINING**

2021 "Radiocarbon short course – Ecosystems." Instructors: Claudia Czimczik, Ted Schuur, Sue Trumbore. (virtual).

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

2019 "Teaching the Big Classes." Elective NAU faculty development program. September 2019.

2019 "Managing Bias." NAU elective online training. April 2019.

2019 "Diversity: Inclusion in the Modern Workplace" NAU elective 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.



**REFERENCES**

---

Dr. Mariah Carbone, Assistant Research Professor, Center for Ecosystem Science and Society, Northern Arizona University, 928-523-0731, [Mariah.Carbone@nau.edu](mailto:Mariah.Carbone@nau.edu)

Dr. Amy Trowbridge, Assistant Professor, Department of Entomology, University of Wisconsin-Madison, 608-263-4520, [amtrowbridge@wisc.edu](mailto:amtrowbridge@wisc.edu)

Dr. Kiona Ogle, Professor, School of Informatics, Computing, and Cyber Systems, Northern Arizona University, 928-523-6200, [Kiona.Ogle@nau.edu](mailto:Kiona.Ogle@nau.edu)

Dr. George Koch, Professor, Department of Biological Sciences and Center for Ecosystem Science and Society, Northern Arizona University, 928-523-7150, [George.Koch@nau.edu](mailto:George.Koch@nau.edu)