COURTNEY M. CURRIER, Ph.D.
Curriculum Vitae

Postdoctoral Research Associate, University of Cambridge | cc2228@cam.ac.uk
Department of Plant Sciences, Downing Street, Cambridge CB1 3EA United Kingdom

RESEARCH INTERESTS

I am an ecosystem ecologist at the University of Cambridge focusing on carbon storage potential and turnover in drylands. I am interested in understanding how climate change and increasing disturbances, like fire, are affecting cycling of essential nutrients between plants and soils in dryland ecosystems. Tools I use are rainfall manipulation experiments in the field, synthesis of spatial datasets, and stable isotopes. Previous research topics include: ecological stoichiometry (or, the balance of energy and elements among organisms and their environments) and subsidy effects of Pacific salmon in stream ecosystems.

ACADEMIC TRAINING

2023 Ph.D. Environmental Life Sciences, Arizona State University, Tempe, AZ
Dissertation: "Long-term effects of precipitation extremes on ecosystem processes: From plant phenology to nutrient cycling."
4.0 cumulative GPA

2015 M.Sc. Biology, Arizona State University, Tempe, AZ
Thesis: "Rich in phosphorus, poor in quality: Assessing *Daphnia spp.* responses to a multi species P-enriched diet."
4.0 cumulative GPA

2013 B.S. Environmental Sciences (Hons.), University of Notre Dame, Notre Dame, IN
Thesis: "Looking beyond macronutrients: Pacific salmon (*Oncorhynchus spp.*) as potential vectors of elements not previously considered."
3.6 cumulative GPA

PROFESSIONAL EXPERIENCE

2017–2018 Project Manager, Global Drylands Center, School of Sustainability, Arizona State University
2015–2018 Research Specialist and Lab Manager, Sala Laboratory, Arizona State University

HONORS AND AWARDS

2022 Presidential Management Fellowship – semifinalist
2022 Achievement Rewards for College Scientists – semifinalist
2021 "Grad Slam" Elevator Pitch 3rd Place Winner, Arizona State University Graduate and Professional Student Association
2020 Outstanding Research Award, Arizona State University Graduate and Professional Student Association
2018–2022 The Graduate College Excellence Award, Arizona State University
2013 Honorable Mention Fall 2013 National Science Foundation – Graduate Research Fellowship Program (NSF-GRFP)
2013 Outstanding Environmental Scientist Award, University of Notre Dame
2012–2013 Honors Research Student in Biological Sciences, University of Notre Dame
2012 Dean's List, University of Notre Dame, College of Science, Fall and Spring
2011 Dean's List, University of Notre Dame, College of Science, Spring
2011 Clare Boothe Luce Undergraduate Research Award, University of Notre Dame College of Science Summer Research Fellow

FELLOWSHIPS AND GRANTS RECEIVED

($62,290 total funds earned)

2022	PhD Completion Fellowship, School of Life Sciences, Arizona State University
2022	Graduate College Travel Award, Arizona State University
2020	Student Registration Award, Ecological Society of America Biogeosciences Section
2019–2021	Jornada LTER Graduate Research Fellowship
2019	Student Travel Award, Ecological Society of America Southwest Section
2019	Research Training Initiative Grad Student Support Grant, Arizona State University
2018–2019	Arizona State University Graduate College Fellowship
2018	Excellence in Rangeland Ecology Research Travel Award, Ecological Society of America Rangeland Ecology Section
2017	Travel Grant Award, ASU, Graduate and Professional Student Association
2015	Travel Grant Award, ASU, School of Life Sciences
2015	Travel Grant Award, ASU, Graduate and Professional Student Association
2012	National Science Foundation – Research Experience for Undergraduates Fellowship, Niwot Ridge LTER
2012	Travel Grant Award, University of Notre Dame, College of Science
2012	Travel Grant Award, National Science Foundation – Biology REU

PEER-REVIEWED PUBLICATIONS

(H index = 6 | Google Scholar)

12. **Currier, C.M.**, Chatwin, A., Reichmann, L.G., and O.E. Sala. 2024. Unresponsive drylands to nitrogen availability: Access to alternative sources? In preparation for submission to *Journal of Geophysical Research: Biogeosciences*.

11. Plaza, C., …**Currier, C.M.**, …, et al. 2024. Unexpected vulnerability of mineral-protected soil organic carbon to climate in global drylands. In review. *Nature Geoscience*.

10. **Currier, C.M.**, Reichmann, L.G., and O.E. Sala. 2024. Acclimation of the nitrogen cycle to changes in precipitation. In review. *Ecosystems*. https://doi.org/10.6073/pasta/8929d93801db656ae1ad0f3a12a1345c

9. Maestre, F., …**Currier, C.M.**, …, et. al. 2022. Grazing and ecosystem service delivery in global drylands. *Science* 378: 915-920. https://doi.org/10.1126/science.abq4062

8. **Currier, C.M.** and O.E. Sala. 2022. Precipitation versus temperature as phenology controls in drylands. *Ecology*. https://doi.org/10.1002/ecy.3793

7. Osborne, B. B., Bestelmeyer, B. T., **Currier, C. M.**, Homyak, P. M., Throop, H. L., Young, K., and Reed, S. C. 2022. The consequences of climate change for dryland biogeochemistry. *New Phytologist*. https://doi.org/10.1111/nph.18312

6. **Currier, C.M.**, Makings, E., Anderson, J., Slagel, K., and J. Maranville. 2021. Solanaceae Part Seven: Browallia, Calibrachoa, Capsicum, Jaltomata, and Salpichroa. *Canotia* 17: 46-60.

5. **Currier, C.M.**, Chaloner, D.T., Ruegg, J., Tiegs, S.D., D'Amore, D., and G.A. Lamberti. 2020. Beyond macronutrient resource subsidies: Pacific salmon (Oncorhynchus spp.) as potential vectors of micronutrients. *Aquatic Sciences* 82:50. https://doi.org/10.1007/s00027-020-00725-z

4. Sala, O.E., Boone, C.G., Turner II, B.L., and **C.M. Currier**. 2019. The sustainability gap and its implications. *Current Opinion in Environmental Sustainability* 39: 39-43. https://doi.org/10.1016/j.cosust.2019.06.006

3. Delgado-Baquerizo, M., Bardgett, R.D., Vitousek, P.M., Maestre, F.T., Williams, M.A., Eldridge, D.J., Lambers, H., Neuhauser, S., Gallardo, A., Sala, O.E., Abades, S., Alfaro, F.D., Berhe, A.A., Bowker, M.A., **Currier, C.M.**, Cutler, N.A., García-Velázquez, L., Hart, S.C., Hayes, P.E., Hseu, Z., Kirchmair, M., Peña-Ramírez, V.M., Pérez, C.A., Reed, S.C., Santos, F., Siebe, C., Sullivan,

B.W., Weber-Grullon, L., and N. Fierer. 2019. Changes in belowground biodiversity during ecosystem development. *Proceedings of the National Academy of Science* 116(14): 6891-6896. https://doi.org/10.1073/pnas.1818400116

2. **Currier, C.M.**, and J.J. Elser. 2017. Beyond monoculture stoichiometry studies: assessing growth, respiration, and feeding responses of three Daphnia species to P-enriched, low C:P lake seston. *Inland Waters* 7(3): 348-357. https://doi.org/10.1080/20442041.2017.1319180

1. Rüegg, J., **C.M. Currier**, D.T. Chaloner, S.D. Tiegs, and G.A. Lamberti. 2014. Habitat influences Pacific salmon (Oncorhynchus spp.) tissue decomposition in riparian and stream ecosystems. *Aquatic Sciences* 76(4): 623-632. https://doi.org/10.1007/s00027-014-0359-2

OTHER PUBLICATIONS & ART

4. **C.M. Currier** and T. Feltus. 2023. Finding joy through art, ecology, and bikes. Feature in *The Radavist*. Online only.
3. **C.M. Currier.** 2019. Feature in *Phoenix Transect*. Online only
2. **C.M. Currier** and O.E. Sala. 2018. Art provides a new lens for moving through the scientific method. *SciArt Magazine* 33: (Special topics issue) How can art influence science? Online only
1. **C.M. Currier.** 2018. Feature in *Life Raft Zine.* Online only

GROUP ART EXHIBITIONS

THIRST 2022: Artists for Humanitarian Aid. Online only. July 2022 (original paintings)

Dimensions of Science. Onyx Gallery, Phoenix, AZ. February 2019 (original painting)

Portraits of Science. MonOrchid Gallery. Phoenix, AZ. May 2017 (original paintings)

SELECTED CONFERENCE PRESENTATIONS *(last five years)*

C.M. Currier and O.E. Sala. Nitrogen plant uptake in a semiarid ecosystem is modulated by water and plant type. Ecological Society of America Annual Meeting. Montreal, Quebec, Canada. August 2022. (talk)

C.M. Currier and O.E. Sala. A temporal perspective of nitrogen cycling in a semiarid grassland under extreme rainfall conditions. Ecological Society of America Annual Meeting. Virtual. August 2021. (talk)

C.M. Currier and O.E. Sala. Re-envisioning plant phenology: From data points to painting. Ecological Society of America Annual Meeting. Virtual. August 2020. (Inspire talk, co-organizer of session)

C.M. Currier and O.E. Sala. Extreme precipitation interacts with N cycling in a semi-arid grassland. Ecological Society of America Annual Meeting. Virtual. August 2020. (talk)

C.M. Currier and O.E. Sala. The grass is not always greener: Grasses, but not shrubs, alter greenness in response to extreme drought or deluges in a semiarid grassland. Ecological Society of America Annual Meeting. Louisville, KY. August 2019. (talk)

SYNERGISTIC ACTIVITIES

2022	Abstract Reviewer for the Ecological Society of America Southwestern Chapter
2020–2022	Grant Reviewer for the Graduate and Professional Student Association, Arizona State University
2019–2023	Vision Kids Art Program Instructor, Chandler, AZ
2019–2021	Jornada Basin LTER Graduate Student Representative

2019	IsoCamp, University of Utah, Stable Isotope Ratio Facility for Environmental Research
2018	Explore NEON Workshop, National Ecological Observatory Network, Boulder, CO.
2017–present	BIODESERT Global Research Group
2017–present	Alumni Mentor, Environmental Sciences undergraduate program, Notre Dame
2016–present	Asombro Institute, New Mexico State University, Jornada LTER, volunteer
2013–2014	Arizona State University, School of Life Sciences Graduate Executive Committee, secretary
2013–present	Arizona State University Ask a Biologist, volunteer
2012–2013	Notre Dame Biological Sciences Senior Leadership Committee

PEER-REVIEWING ACTIVITIES

2021–present Peer reviewer for:
Ecology
Journal of Geophysical Research: Biogeoscience
Global Change Biology
Hydrobiologia

TEACHING & MENTORING

Graduate Supervisory Committees

Lo Sitvak, Arizona State University, MSc Biology (expected 2024)

Graduate Teaching Assistant at Arizona State University

Biology 426: Limnology*
Biology 320: Fundamentals of Ecology
Biology 281: General Biology I for Majors
Biology 282: General Biology II for Majors*
Biology 181: General Biology I
Biology 182: General Biology II
Biology 100: The Living World

Undergraduate Teaching Assistant at Notre Dame

Biology 30312: General Ecology

(* denotes involvement with curriculum development)

REFERENCES

Adam Pellegrini, Ph.D.
Associate Professor, University of Cambridge, Department of Plant Sciences
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Sasha Reed, Ph.D.
Ecologist, United States Geologic Survey, Southwest Biological Center
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