

Jon M Wells – Curriculum Vitae

Assistant Professor, Department of Biology, Texas Christian University

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* In-rank activity: initiated, completed, or scheduled since appointment as Assistant Professor at TCU (2026-present).

Education and Training

2020	Ph.D., Natural Resources and Environmental Management, University of Hawaii at Manoa.
2010	B.S., Bioengineering, University of Hawaii at Manoa.

Academic Appointments

2026 - present	Assistant Professor, Department of Biology, Texas Christian University.
2024 - 2026	Scientist I, Department of Soil Science, University of Wisconsin Madison
2021 - 2024	Postdoctoral Researcher, Northern Arizona University

External Research Support

Pending Proposals

- * 2026 PI, “Fire-Driven Deciduous Transitions in Northern Forests: Detecting and Predicting Persistent Ecosystem Change.” NASA ROSES A.15 Biosphere, Terrestrial Ecology. **Step-1 selected; full proposal requested and pending.**

Funded / Awarded

- 2024 Co-Author, “Coupling Model Intercomparison with Synthesized Experimental Data Across Time and Space to Constrain Carbon Dynamics and Biogeochemical Cycling in Permafrost Ecosystems.” Department of Energy, Earth and Environmental Systems Modeling, Regional and Global Modeling Assessment, Supplemental Funding Proposal. **Funded: \$99,960.**
- 2023 Co-Author, “Interacting effects of increasing wildfire severity and Abrupt permafrost Thaw on the Carbon balance of High-latitude ecosystems (WATCH).” National Science Foundation, Arctic Research Opportunities. **Funded: \$1,839,571.**
- 2021 PI, “An Integrated Approach to Enhance Data-Driven Land Management.” U.S. Department of Agriculture, National Institute of Food and Agriculture, Agriculture and Food Research Initiative, Education and Workforce Development, Postdoctoral Fellowship. **Awarded: \$165,000; award declined after delayed announcement and acceptance of another position.**

Peer-Reviewed Publications

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1. Poe, J., Huntzinger, D., Riley, W.J., **Wells, J.M.**, Schuur, E.A.G., Schwalm, C., Berner, L.T., Rodenhizer, H., Bouskill, N.J., Brovkin, V., Burke, E.J., Ciais, P., Georgievski, G., Gustafson, A., Lawrence, D.M., MacDougall, A.H., Mekonnen, Z.A., Melton, J.R., Meyer, G., Pongracz, A., Qiu, C., Sulman, B.N., Swenson, S.C., Tao, J., Wårlind, D., Xi, Y., Yuan, F., Zhu, Q., Schädel, C. (2026). Informing Robust Functional Relationship Benchmarks: An Evaluation of the Temperature Sensitivity of Ecosystem Respiration Across the Arctic-Boreal Region. *Journal of Geophysical Research: Biogeosciences*. doi: <https://doi.org/10.1029/2025JG009307>
 2. Mathes, H., Damseaux, A., Westermann, S., Beer, C., Boone, A., Burke, E., Decharme, B., Genet, H., Jafarov, E., Langer, M., Parmentier, F., Porada, P., Gange-Landmann, A., Huntzinger, D., Rogers, B., Schädel, C., Stacke, T., **Wells, J.M.**, Wieder, W. (2025). Advances in Permafrost Representation: Biophysical Processes in Earth System Models and the Role of Offline Models. *Permafrost and Periglacial Processes*. doi: <https://doi.org/10.1002/ppp.2269>.
 3. Poe, J., Huntzinger, D., Collier, N., Schwalm, C., **Wells, J.M.**, Schädel, C., Riley, W., Sitch, S. (2025). Impacts of benchmarking choices on inferred model skill of the Arctic–Boreal terrestrial carbon cycle. *Environmental Research: Ecology*. doi: <https://doi.org/10.1088/2752-664X/adacee>.
 4. **Wells, J.M.**, Aguilos, M.M., Huang, X., Gao, Y., Hou, E., Huang, W., Liao, C., Lin, L., Zhao, R., Qiu, H., Allen, K., King, J.S., Noormets, A., Jiang, L., Luo, Y. (2023). Attributing interannual variability of net ecosystem exchange to ecological processes across forests of contrasting age. *Landscape Ecology*. doi: <https://doi.org/10.1007/s10980-023-01768-x>

5. **Wells, J.M.**, Crow, S.E., Sierra, C.A., Deenik, J., Carlson, K., Meki, M.N., Hashimoto, A., Kiniry, J.R. (2022). Edaphic controls of soil carbon in tropical agricultural landscapes. *Scientific Reports*. doi: <https://doi.org/10.1038/s41598-022-24655-y>
6. Liao, C., Huang, W., **Wells, J.M.**, Zhao, R., Allen, K., Hou, E., Huang, X., Qiu, H., Tao, F., Jiang, L. Aguilos, M.M., Lin, L., Huang, X., Luo, Y. (2022). Microbe-iron interactions control lignin decomposition. *Soil Biology and Biochemistry*. doi: <https://doi.org/10.1016/j.soilbio.2022.108803>
7. **Wells, J.M.**, Crow, S.E., Khanal, S.K., Turn, S.Q. (2022). Lignin chemical controls on bioconversion of tropically grown C4 bioenergy grasses to biofuels and biobased products. *Bioresource Technology Reports*. doi: <https://doi.org/10.1016/j.biteb.2022.101015>
8. **Wells, J.M.**; Crow, S.E.; Khanal, S.K.; Turn, S.; Hashimoto, A.; Kiniry, J.; Meki, N. (2021). Anaerobic Digestion and Hot Water Pretreatment of Tropically Grown C4 Energy Grasses: Mass, Carbon, and Energy Conversions from Field Biomass to Fuels. *Agronomy*. doi: <https://doi.org/10.3390/agronomy11050838>
9. Crow, S.E., **Wells, J.M.**, Sierra, C.A., Youkhana, A.H., Ogoshi, R.M., Richardson, D., Glazer, C.T., Meki, M.N., Kiniry, J.R. (2020). Carbon flow through energycane agroecosystems established post-intensive agriculture. *GCB Bioenergy*. doi: <https://doi.org/10.1111/gcbb.12713>.
10. **Wells, J. M.**, Drielak, E., Surendra, K. C., & Khanal, S.K. (2020). Hot water pretreatment of lignocellulosic biomass: Modeling the effects of temperature, enzyme, and biomass loadings on sugar yield. *Bioresource Technology*. doi: <https://doi.org/10.1016/j.biortech.2019.122593>.
11. Crow, S. E., Deem, L. M., Sierra, C. A., & **Wells, J. M.** (2018). Belowground Carbon Dynamics in Tropical Perennial C4 Grass Agroecosystems. *Frontiers in Environmental Science*. doi: <https://doi.org/10.3389/fenvs.2018.00018>.
12. **Wells, J. M.**, Crow, S. E., Ogoshi, R., Turano, B., & Hashimoto, A. (2015). Optimizing feedstock selection for biofuel production in Hawaii: CuO oxidative lignin products in C4 grasses. *Biomass and Bioenergy*. doi: <http://dx.doi.org/10.1016/j.biombioe.2015.10.027>.

In Development

1. Poe, J. et al (2026). A meta-analysis of simulated and observed permafrost ecosystem responses to experimental warming.
2. **Wells, J.M.** et al (2026). Earth System Models Underestimate Short-term Arctic Emissions in Perturbed Ecosystems.
3. **Wells, J.M.** et al (2026). Post-wildfire Regeneration Trajectories have Limited Influence on Soil Biogeochemical Cycling 25-years Post-Wildfire.
4. Gange-Landmann, A. et al (2026). The State of the Art of Modeling Permafrost Carbon Dynamics.

Data Publications

1. **Wells, J.M.** et al (2026). Warming Permafrost Model Intercomparison Project (WrPMIP): 2000-2021 Pan-Arctic Perturbation Warming Simulations. Earth System Grid Federation, ORNL Metagrid, <https://doi.org/10.25981/ESGF.WrPMIP.CMIP6/3007981>.
2. **Wells, J.M.**, Rodenhizer, Heidi G; Mauritz, Marguerite; Taylor, Meghan; Ledman, Justin; Natali, Susan; Schuur, Edward (2023). Eight Mile Lake Research Watershed, Carbon in Permafrost Experimental Heating Research (CiPEHR): Compiled Half-Hourly Dataset, 2009-2022, Bonanza Creek LTER - University of Alaska Fairbanks. BNZ:794, <http://www.lter.uaf.edu/data/data-detail/id/794>. doi:10.6073/pasta/b418701259e674a8a89c8a2ba4ff6d6f.
3. **Wells, J.M.**; Crow, Susan E (2022): Tropical agricultural soil carbon dynamics and related physicochemical properties [dataset]. PANGAEA, <https://doi.org/10.1594/PANGAEA.943118>
4. **Wells, J.M.**; Crow, Susan E (2022): Tropical agricultural soil respiration [dataset]. PANGAEA, <https://doi.org/10.1594/PANGAEA.943160>

Articles and Book Chapters

1. Poe, J., **Wells, J.M.**, Schadel, S., Huntzinger, D., Riley, W.J. (2024). Simulating Arctic Carbon Emissions in a Warming World. *Eos*. <https://eos.org/science-updates/simulating-arctic-carbon-emissions-in-a-warming-world>

2. **Wells, J. M.**, Crow, S. E., Meki, M. N., Sierra, C. A., Carlson, K. M., Youkhana, A., Richardson, D., Deem, L. (2017). Maximizing Soil Carbon Sequestration: Assessing Procedural Barriers to Carbon Management in Cultivated Tropical Perennial Grass Systems. In YY Young. *Recent Advances in Carbon Capture and Storage*. Rijeka: InTech. url: <https://www.intechopen.com/chapters/53670>.

Conference Presentations

1. **Wells J.M.** et al (2025). "Effects of post-wildfire regeneration trajectories on carbon and nitrogen cycling mechanisms in boreal forests." *American Geophysical Union Fall Meeting*.
2. **Wells J.M.** et al (2025). "Effects of shifting temperate conifer forest vegetation regimes on above- and belowground carbon and nitrogen cycling." *Department of Energy, Environmental System Science PI Meeting*.
3. **Wells, J.M.** et al (2024). "Model Intercomparison Breakout Session and Q&A." *Permafrost Carbon Network Meeting*.
4. **Wells, J.M.** et al (2024). "Identifying and Correcting Regional Climate Bias in Reanalysis Forcing Products for Site-level WrPMIP Simulations." *Department of Energy, Earth & Environmental Systems Modeling PI Meeting*.
5. **Wells, J.M.** et al. (2023). "State-of-the-Arctic: Confronting state-of-the-art carbon cycle models with Pan-Arctic Warming Responses." *American Geophysical Union Fall Meeting*.
6. **Wells, J.M.** et al (2022). "Correcting Regional Climate Bias in Reanalysis Forcing Products for the Warming Permafrost Model Intercomparison Project." *American Geophysical Union Fall Meeting*.
7. **Wells, J.M.** et al. (2021). "Separating the Effects of Stand Age and Interannual Variability on Net Ecosystem Carbon Exchange: Data-Model Fusion in Loblolly Pine." *American Geophysical Union Fall Meeting*.
8. **Wells, J.M.** et al. (2017). "Effects of Anaerobic Digestion and Hot Water Pretreatment on Lignin." *25th European Biomass Conference and Exhibition*.
9. Crow, S.E., et al. (2017). "Understanding Soil Carbon Storage Across Heterogeneous Landscapes, Carbon Offsets, and Sustainability." *25th European Biomass Conference and Exhibition*.
10. **Wells, J.M.** et al. (2015). "Transforming Conventional Sugarcane into Sustainable Biofuel Feedstock Production." *ASABE 1st Climate Change Symposium*.

Teaching

* Fall 2026	Intro to R. Instructor of record, Department of Biology, Texas Christian University.
* Spring 2027	Biostatistics. Instructor of record, Department of Biology, Texas Christian University.
2025	Soil Microbiology and Biochemistry. Graduate guest lecture: Biogeochemical modeling.
2024	Ecology and Management of Forest Soils. Undergraduate guest lecture: Permafrost.
2021	New Advances in Land Carbon Cycle Modeling. Graduate online instructor.
2020	Advanced Topics in Natural Resources and Environmental Management. Graduate instructor for R, RStudio, Rmarkdown, and GitHub course work.
2019	Biomass Conversion to Biofuels and Bioenergy. Undergraduate guest lecture: Climate change.
2018	Transport Phenomena. Undergraduate guest lecture: Heat transfer.

Service

* 2026 – present	Statistical Advising, Texas Christian University. Statistical methods, study design, and advising for students and faculty.
2024	Code of Conduct Committee Member, representing Postdocs within the Center for Ecosystem Science and Society (ECOSS) while developing ECOSS' code of conduct.
2024	Reviewer: <i>Earth's Future</i>
2022	Reviewer: <i>Bioresource Technology</i> (two reviews)
2019	Reviewer: <i>Environmental Research Letters</i>

Professional Development

2025	Wilderness First Aid Training
2025	Bear Awareness Training
2023	Lawrence Berkeley National Laboratory Affiliate, collaborated with Dr. William Riley to run carbon cycle models (ELM, CLM) on NERSC supercomputers (Cori, Perlmutter).
2020	New Advances in Land Carbon Cycle Modeling, attended virtual training course organized by Yiqi Luo at Northern Arizona University

2017 **Visiting Scholar**, worked on matrix models of soil carbon dynamics with Carlos Sierra at the Max Planck Institute for Biogeochemistry, Jena, Germany

Professional Affiliations

Ecological Society of America, regular member
American Geophysical Union, regular member

Honors and Awards

2023	Andrew Slater Memorial Award, US Permafrost Association
2018	NREM Best PhD Student Oral Presentation, College of Tropical Agriculture and Human Resources(CTAHR), Student Research Symposium, UHM
2017	NREM Best PhD Student Oral Presentation, CTAHR Student Research Symposium, UHM
2016	PhD Student Oral Presentation Award of Merit, CTAHR Student Research Symposium, UHM
2009	MBBE Best Undergraduate Poster, CTAHR Student Research Symposium, UHM
2004	Dean's Scholarship Award, CTAHR, UHM