Andrew T. **Tredennick**

Postdoctoral Research Associate · Quantitative Ecologist

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Education

Colorado State University — *Fort Collins, CO*

Ph.D. in Ecology — *2014*

Texas Tech University — *Lubbock, TX*

B.S. in Biology — *2006*

Professional Appointments

Dept. of Wildland Resources, Utah State University — *Logan, UT*

Postdoctoral Research Associate — *Aug. 2017 - PRESENT*

Dept. of Wildland Resources, Utah State University — *Logan, UT*

NSF Postdoctoral Fellow — *Aug. 2014 - July 2017*

Natural Resource Ecology Lab, Colorado State University — *Fort Collins, CO*

NASA Graduate Research Fellow — *Aug. 2011 - May 2014*

Natural Resource Ecology Lab, Colorado State University — *Fort Collins, CO*

Graduate Research Assistant — *Aug. 2009 - July 2011*

U.S. Forest Service Rocky Mountain Research Station — *Fort Collins, CO*

Research Assistant — *Jan. 2009 - Aug. 2009*

Dept. of Forest, Rangeland, and Watershed Stewardship, Colorado State University — *Fort Collins, CO*

Graduate Teaching Assistant — *Aug. 2008 - Dec. 2008*

Publications

The relationship between species richness and ecosystem variability is shaped by the mechanism of coexistence — *Ecology Letters*

Tredennick, A.T., P.B. Adler, & F.R. Adler — *20(8):958-968 | 2017*

Do we need demographic data to forecast plant population dynamics? — *Methods in Ecology & Evolution*

Tredennick, A.T., M.B. Hooten, & P.B. Adler — *8(5):541-551 | 2017*

Environmental responses, not species interactions, determine synchrony of dominant species in semiarid grasslands — *Ecology*

Tredennick, A.T., C. de Mazancourt, M. Loreau, & P.B. Adler — *98(4):971-981 | 2017*

Water and nitrogen uptake are better associated with resource availability than root biomass — *Ecosphere*

Kulmatiski, A., P.B. Adler, J.M. Stark, & A.T. Tredennick — *8(3):e01738 | 2017*

Forecasting climate change impacts on plant populations over large spatial extents — *Ecosphere*

Tredennick, A.T., M.B. Hooten, C.L. Aldridge, C. Homer, A.R. Kleinhesselink, & P.B. Adler — *7(10):e01525 | 2016*

Comment on "Worldwide evidence of a unimodal relationship between productivity and plant species richness" — *Science*

Tredennick, A.T., P.B. Adler, J.B. Grace, W.S. Harpole, E.T. Borer, E.W. Seabloom, & 36 co-authors — *35(6272):457a-457c | 2016*

No effects of fire, large herbivores, and their interaction on regrowth of harvested trees in two West African savannas
Tredennick, A.T., M. Karembé, F. Dembélé, J. Dohn, & N.P Hanan
African Journal of Ecology
53(4):487-495 | 2015

Analysis of stable states in global savannas – a response to Staver and Hansen
Hanan, N.P., A.T. Tredennick, L. Prihodko, G. Bucini, & J. Dohn
Global Ecology and Biogeography
24(8):988-989 | 2015

Effects of tree harvest on the stable-state dynamics of savanna and forest
Tredennick, A.T. & N.P. Hanan
The American Naturalist
5(185):E153-E165 | 2015

Analysis of stable states in global savannas: Is the CART pulling the horse?
Hanan, N.P., A.T. Tredennick, L. Prihodko, G. Bucini, & J. Dohn
Global Ecology and Biogeography
23(3):259-263 | 2014

Allometric convergence in savanna trees and implications for the use of plant scaling models in variable ecosystems
Tredennick, A.T., L.P. Bentley, & N.P. Hanan
PLoS One
8(3):e58241 | 2013

The climate of the Shoshone National Forest: A synthesis of past changes, future projections, and ecosystem implications
Rice, J., A.T. Tredennick, & L. Joyce
USFS General Technical Report
264 | 2011

Letter: Does warming increase the risk of civil war in Africa?
Sutton, A.E., J. Dohn, K. Loyd, A.T. Tredennick, G. Bucini, A. Solrzano, L. Prihodko, & N.P. Hanan
PNAS
107(25):E102 | 2010

Manuscripts in Review

Asynchrony among local communities stabilizes ecosystem function of metacommunities
Wilcox*, K.R., A.T. Tredennick*, S.E. Koerner, E. Grman, L.M. Hallett, M.L. Avolio, K.J. La Pierre, G.R. Houseman, F. Isbell, D.S. Johnson, et al.
Ecology Letters
**Shared first authorship | In review*

Iterative near-term ecological forecasting: Needs, opportunities, and challenges
Dietze, M.C., A. Fox, L. Beck-Johnson, J.L. Betancourt, M.B. Hooten, C.S Jarnevich, T. Keitt, M.A. Kenney, C.M. Laney, L.G. Larsen, H.W. Loescher, C.K. Lunch, B. Pijanowski, J.T. Randerson, E.K. Read, A.T. Tredennick, R. Vargas, K.C. Weathers, & E.P. White
PNAS
| In review

Funding

Total External: $297,000 · Total Internal: $17,500

PRFB: Diversity-Stability Relationships and Coexistence: New Theory and Empirical Tests
PI: A.T. Tredennick
NSF, Fellowship
$207,000 | 2014-2017

Effective Science Communication and Public Relations at NREL through EcoPress
PI: S. Asao; CO-I: A.T. Tredennick, Julie Kray
Nat. Res. Ecol. Lab
$6,000 | 2013

NESSF: Fuelwood, Savannas, and Climate Change: Integrating Modeling, Field Experimentation, and Optical and Radar Remote Sensing
PI: A.T. Tredennick
NASA, Fellowship
$90,000 | 2011-2014

Expanding Ecology to Meet Society: Traditional Experiments Coupled with Anthropological Methods in a Savanna Socio-Ecological System
PI: A.T. Tredennick
Nat. Res. Ecol. Lab, J. Ellis Scholarship
$1,500 | 2010

Building a WCNR 'Partnership for International Research and Education' in African Savannas: Undergraduate and Graduate Field-Based Education in Mali, West Africa *Warner College of Nat. Res.*

PI: N.P. Hanan; collaborative proposal of the Hanan lab group *$10,000 | 2010*

Honors & Awards

2015 **Travel Award**, NEON and Powell Center Workshop on 'Ecological Forecasting'
2014 **Postdoctoral Research Fellowship in Biology and Mathematics**, National Science Foundation
2013 **First Place Oral Presentation**, Front Range Student Ecology Symposium
2012 **Travel Award**, NSF FORECAST Research Coordination Network Meeting
2012 **Sustainability Leadership Fellow**, Schoold of Global Environmental Sustainability, Colorado State University
2011 **Earth and Space Science Graduate Research Fellowship**, NASA
2010 **James E. Ellis Memorial Scholarship**, Natural Resource Ecology Lab, Colorado State University
2009 **NSF Graduate K-12 Fellowship**, Natural Resource Ecology Lab, Colorado State University

Teaching

Weekly R help sessions for graduate students *Utah State University*

Co-organizer with Tom Edwards *2015-2017*

- Introduced graduate students to data management and analysis in R.

Community Ecology (graduate) *Utah State University*

Guest Lecture *2016*

- Led unit (lecture and lab) on the diversity-stability relationship.

Data Visualization in R *ESA Meeting Workshop*

Co-organizer and Co-instructor *2013-2017*

- Introduce diverse group of ecologists to ggplot2 for data viz in R.

Plant Ecology (undergraduate) *Colorado State University*

Guest Lecture *2013*

- Guest lecture on tree-grass coexistence in savannas.

Ecosystem Processes in a Changing World (undergraduate) *Colorado State University*

Co-instructor *2011*

- Taught course for half of semester and co-developed lectures, labs, and exams.

Wildland Ecosystems (undergraduate) *Colorado State University*

Guest Lecture *2009, 2010, 2012*

- Guest lecture and computer lab on ecosystem modeling.

4-5 Grade Science & Advanced Science Program *Irish Elementary*

NSF GK-12 Fellow *2010-2011*

- Help teach elementary science and developed teaching materials.

Wildland Ecosystems (undergraduate) *Colorado State University*

Graduate Teaching Assistant *2008*

- Gave several lectures, assisted with grading, and helped draft exams.