

Ethan E. Butler

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Education

Ph.D. Earth and Planetary Sciences, Harvard University, 2015
M.A. Physics, Wesleyan University, 2005
B.A. Physics and College of Letters with Honors, Wesleyan University, 2004
Moscow State University of Humanities, Spring 2002

Employment

University of Minnesota, St. Paul., MN: Post-doctoral Associate, 2015-
Harvard University, Cambridge, MA: Research Fellow, 2008-2015
Harvard University, Cambridge, MA: Teaching Fellow, 2010-2013
North Star Academy, Minneapolis, MN: Science Teacher 2006-2008
University of Liberal Arts Bangladesh, Dhaka: Lecturer 2006
Wesleyan University, Middletown, CT: Teaching Assistant, 2005
Wesleyan University, Middletown, CT: Research Assistant, 2001-2005

Courses Taught

High School

North Star Academy, Sciences (Primary Instructor): Biology, Chemistry, Physics, Computer Science
North Star Academy, Mathematics (Primary Instructor): Algebra, Geometry, Algebra-Trigonometry

Undergraduate

Wesleyan University (Teaching Assistant): Introductory Physics I - Mechanics
University of Liberal Arts Bangladesh (Primary Instructor): World Civilization
Harvard University (Teaching Fellow): Global Warming Debates, Our Fluid Earth: Introduction to atmosphere and oceans

Graduate

Harvard University (Teaching Fellow): Great Papers in Earth Science

Teaching Awards

Bok Center Teaching Award (2): Global Warming Debates and Great Papers in Earth Science

Research

Peer-Reviewed Journal Articles

- Butler, E. E. and P. Huybers. Adaptation of US maize to temperature variations. *Nature Climate Change*, **3**, (2013).
- Butler, E. E. and P. Huybers. Response to Comment on: Adaptation of US maize to temperature variations. *Nature Climate Change*, **3**, (2013).
- d’Alpoim Guedes, J. and E. E. Butler. Modeling constraints on the spread of agriculture to Southwest China with thermal niche models. *Quaternary International* (2014).
- Butler, E. E. and P. Huybers. Variations in the sensitivity of US maize to extreme temperatures by region and growth phase. *Environmental Research Letters*, **10**, (2015).
- d’Alpoim Guedes, J., R. K. Bocinsky, and E. E. Butler. Comment on “Agriculture facilitated permanent occupation of the Tibetan Plateau after 3600 B.P.” *Science*, **348**, 6237, (2015)
- Mueller, N. D., E. E. Butler, K. A. McKinnon, A. Rhines, M. Tingley, N. M. Holbrook, P. Huybers. Cooling of US Midwest summer temperature extremes from cropland intensification. *Nature Climate Change* (2015)
- Jeong, J. H., Resop, J. P., Mueller, N. D., Fleisher, D. H., Yun, K., Butler, E. E., Timlin, D. J., Shim, K-M., Gerber, J. S., Reddy, V. R., Kim, S-H. Random Forests for Global and Regional Crop Yield Predictions. *Plos One* (2016)
- Mueller, N. D., Rhines, A., Butler, E. E., Ray, D. K., Siebert, S., Holbrook, N. M., Huybers, P. Global relationships between cropland intensification and cooler summer temperature extremes over the last 50 years. *Journal of Climate*. Accepted

Work in Progress

- Butler, E. E., and A. Datta, et al. Mapping global leaf trait distributions. *PNAS*. In Revision
- Butler, E. E., N. D. Mueller, and P. Huybers. Climate adaptation of US Maize.

Conference Presentations

American Geophysical Union Annual Conference

- Food Crops’ Response to Climate Change (2009)
- Historical Weather Conditions and Maize Yields (2010)
- Spatial and Temporal Sensitivity of US Maize Yields to Climate Variability (2011)
- Has climate change shifted US maize planting times? (2012)
- Variable sensitivity of US maize yield to high temperatures across developmental stages (2013)
- Whole season compared to growth-stage resolved temperature trends: implications for US maize yield (2014)
- Global Land Carbon Uptake from Trait Distributions (2016)

Ecological Society of America Annual Conference

- Climate Variation and Prediction of US Maize Planting Dates (2012)
- Spatial Variation of US Maize Developmental Sensitivity (2013)
- Variation in maize developmental sensitivity to temperature (2014)
- Trends in thermal time during US maize development phases (2015)

Department of Energy Conferences

- Trait Methods for Representing Ecosystem Change: Global Trait Maps, plant height (2015)
- ACME All-hands Meeting: Global Trait Maps: SLA, Leaf N, Leaf P (2016)

Graduate Climate Conference

- US Maize Yield: From Spatial to Temporal Temperature Adaptation (2011)
- Session Chair: Society and Climate (2012)
- co-Session Chair: Terrestrial Ecology (2013)

Yale Food Systems Symposium

- Global Warming and US Maize Production (2013)

Climate: Science and Humanities

- Food Crops Response to Climate Change (2010)

Atmosphere and Ocean Science Days

- Antarctic Sea Ice: Some paleoclimate and orbital motivation and a thermodynamic model (2009)

Invited Presentations

- Boston Museum of Science: Climate Modeling Basics and Applications to Crops (2009)
- Roxbury Community College: An Empirical Toy Model of Crop Yields: The Importance of Spatial Adaptation (2009)
- Harvard School of Public Health: US Maize Yield from Spatial to Temporal Adaptation (2012)
- Boston University School of Public Health: Adapting Agriculture to a Warmer World (2013)
- University of Pennsylvania School of Design: Modeling Urbanization: Land Use Transformation, Climate Change, and Resilience (2014)
- Harvard University: Plants and Humans, Climate Change and Agriculture (2014 and 2016)
- Århus University: Biodiversity dynamics in time and space - Estimating Global Maps of Trait Distributions (2017)

Professional Development

- Hebrew University in Jerusalem Winter School: Reducing Uncertainty in Global Warming (2009)
- Istituto Veneto di Scienze Lettere ed Arti Summer School: Biogeodynamics and Earth System Science (2010)
- National Centre of Competence in Research - Climate Summer School: Climate Change, Extremes and Ecosystem Services (2011)
- ARCFUNC workshop: Functional biogeography of Arctic plant diversity: trajectories in space and time (2017)

Professional Activities

Reviewer for:

- Nature Climate Change

Proceedings of the National Academy of Sciences of the United States of America
Geophysical Research Letters
New Phytologist
Global Change Biology
Environmental Research Letters
Climatic Change
Agricultural and Forest Meteorology
Global Change Biology - Bioenergy
Agriculture, Ecosystems, and Environment
Environmental Modeling and Software
Journal of Earth Science and Climatic Change
Journal of Forest Research: Open Access

Member, American Geophysical Union, 2009–Present.

Member, Ecological Society of America, 2012–Present.

Curriculum Development: World Civilization and The History and Methodology of Scientific Thought.
Both developed for the University of Liberal Arts Bangladesh

Science in the News, Public Presentation and webcast: Extreme Weather

Plants and Climate Journal Club, founder and organizer, 2009–2013

ClimaTea Journal Club, graduate student coordinator, 2010

Volunteer Activities

Backyard Phenology: Frogtown Community Garden and Minnesota State Fair, including community interviews

National Phenology Network: Regular observer at the UMN Native American Medicine Garden community site

Northeast Incubator: Community environmental awareness sponsored by Water Bar

Honors, Grants, & Fellowships

Think Swiss Travel Grant (2011)

Outstanding Reviewer Award: Environmental Research Letters (2016)

Last updated: August 29, 2017