

Bioenergy, Sustainability, and Land-Use Change Report Oak Ridge National Laboratory (ORNL) December 2017

Publications

- Baskaran L, Dale VH (in review) Framework to assess how wood pellet production affects species of concern: An example using gopher tortoise (*Gopherus polyphemus*). *Biological Conservation*.
- The final proofs of the book are now complete: Crisafulli CM and Dale VH (editors). 2018. *Ecological Responses at Mount St. Helens: Revisited 35 years after the 1980 Eruption*. New York: Springer.



- Davis, Alves, Karlen, Kline, Galdos, Abulebdeh (2018) Review of Soil Organic Carbon Measurement Protocols: A U.S. and Brazil Comparison and Recommendation. *Sustainability* **10**(1)53; doi:10.3390/su10010053 [<http://www.mdpi.com/2071-1050/10/1/53>]
- Dale VH, Kline KL, Parish ES (in review) Assessing progress toward sustainability. *BioScience*.
- Jager, Villnas, Novello, Dale, & Rose. (in review) 'Unnatural hypoxic regimes'. *Ecosphere*.
- Jianguo Liu, Yue Dou, Mateus Batistella, Edward Challies, Thomas Connor, Cecilie Friis, Falk Huettmann, James D.A. Millington, Esther Parish, Chelsie Romulo, Ramon Felipe Bicudo Silva, Michael Treglia, Heather Triezenberg, Hongbo Yang, Zhiqiang Zhao, Karl Zimmerer, Zeenatul Basher, Min Gon Chung, Anna Herzberger Andrea Lenschow, Altaaf Mechiche-Alami, Jens Newig, James Roche, Jing Sun (in review) Spillover systems in a telecoupled Anthropocene: Typology, methods, and governance for global sustainability. *Current Opinion in Environmental Sustainability*.

Presentations

Dec. 6: Keith Kline gave a presentation in Houston, Texas, about the new project to develop a *Protocol for Reference Scenarios involving Bio-based Product Systems* in conjunction with the annual meeting of ASTM International Committee E48 on Bioenergy and Industrial Chemicals from Biomass.

Dec. 6-8: Virginia Dale, Keith Kline, and Esther Parish participated in the first workshop of the US-China Food-Energy-Water Systems Transdisciplinary Environmental Research Network (FEWSTERN) in Nashville, TN. Virginia gave a plenary lecture on "Environmental Challenges and Opportunities in the Food-Energy-Water Nexus." In concurrent sessions, Esther presented "Development of an indicator approach to assessing bioenergy sustainability" and Keith presented "Food and Fuel: when does land matter?"



Dec. 11-15: At the invitation of Tom Richard, Virginia Dale gave a poster presentation in the session on "Carbon-negative Bioenergy" at the 2017 AGU Fall Meeting Session.

Other ORNL Activities

Dec. 4: Keith Kline and Maggie Davis led a webinar to kick-off a new BETO-sponsored project to develop a standard *Protocol* for characterizing reference scenarios when assessing the effects of bio-based product

systems. Representatives from DOE headquarters, other National Laboratories, USDA, EPA, private industry, and researchers from Canada and Europe participated.

Dec. 4-6: Virginia Dale participated in the workshop of the National Institute for Mathematical and Biological Synthesis (NIMBios) at the University of Tennessee, Knoxville, on “How well are the research needs of the conservation policy and resource management practitioner communities being met in Tennessee and Southern Appalachia?”

Dec. 13: A Retirement Reception was given for Virginia Dale in Bldg. 1505, DJ Nelson Auditorium from 3-4 p.m. After December she can be reached at vdale@utk.edu.



Dec. 14: Esther Parish received her PhD in Energy Science and Engineering from the University of Tennessee Bredesen Center for Interdisciplinary Research and Education. Her dissertation “Investigating the Sustainability of Southeastern United States’ Wood Pellet Production for Use in European Biopower Facilities” will soon be available online through UT’s website at <http://www.trace.tennessee.edu/>



Upcoming CBES Forum

Feb. 27: CBES Forum entitled “Developing a science-based protocol for characterizing reference scenario conditions when assessing the effects of bio-based product systems,” by Keith Kline and Maggie Davis of ORNL.

(TBD): CBES Forum entitled “Plans for Modeling Landscape Design for Biomass, Ring-Necked Pheasant and Biodiversity in Iowa Fuelsheds” by Jasmine Kreig.

Upcoming ORNL Visits/Events

Jan. 18: Esther Parish and Keith Kline will meet with USFS Southern Research Station staff in Knoxville to discuss sustainability indicators for SE US wood pellet exports.

Happy New Year!

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