

Bioenergy, Sustainability, and Land-Use Change Report Oak Ridge National Laboratory (ORNL) April 2014

Publications and Reports:

Memo Report submitted April 20 to FAO in response to questions and a draft FAO Report on biofuel policies and contingency plans for food price crises. The Memo Report was supplemental to a separate set of comments and notations in margins of the draft FAO Report that were submitted April 4 by ORNL, complementing comments from EPA and USDA.

ORNL Presentations:

April 1-4 – Keith Kline attended the Global Sustainable Bioenergy (GSB) and Latin America, Caribbean and Africa (LACAf) project (<http://bioenfapesp.org/gsb/>) meetings, South Africa. Kline attended and chaired Session on “Geospatial Analysis in Africa: can land use be optimized?” Plans were made for next steps on geospatial data and modeling to better represent bioenergy effects on land use change and the Visiting Scholar invitation to Kline from the University of Campinas, SP, Brazil.

April 3 – Joe Hughes spoke about a chapter he is working on with Dan Hayes and Virginia Dale on “Potential effects of climate change on natural disturbances in the southeastern upland hardwood forest region” at the Symposium on Natural Disturbances and Historic Range of Variation in Central Hardwood Forests at the annual meeting of the Association of Southeastern Biologists in Spartanburg, South Carolina.

April 7 – Virginia Dale and Esther Parish were invited to participate in a Knoxville Climate Resilience Roundtable Discussion chaired by Knoxville Mayor Rogero who is serving as a member of the President’s State, Local and Tribal Leaders’ Task Force on Climate Preparedness and Resilience. The discussion focused on implications of climate change for East Tennessee and how the Federal government can assist local communities in preparing for those impacts and took place at the University of Tennessee’s Baker Center for Public Policy. The event was co-hosted by Director of Intergovernmental Affairs, David Agnew, and Acting Chair of the White House Council on Environmental Quality, Michael Boots.

April 21 - Climate Change Science Institute, ORNL. Kline gave presentation titled, “Multi-Disciplinary Research: Bioenergy, Land Use Change and Food Security. Plus: Global Calculator” discussing opportunities for collaboration on the international initiative: <http://globalcalculator.org/>.

Forum of the Center for Bioenergy Sustainability (CBES)

April 10 – Sean McGinnis, Director at VT Green Engineering presented “Green Engineering and Life Cycle Assessment at Virginia Tech.” This presentation can be accessed at the CBES website under forums: <http://www.ornl.gov/sci/ees/cbes/forums.shtml>

April 17th – Yetta Jager Senior Researcher presented “In Search of Spatial Opportunities for Sustainable Bioenergy Production”. This presentation can be accessed at the CBES website under forums: <http://www.ornl.gov/sci/ees/cbes/forums.shtml>

Other ORNL Activities:

April 17 – Alicia Lindauer from the DOE Bioenergy Technologies Office (BETO) visited ORNL and met with several teams of researchers.

April 29 – Rebecca Efrogmson received the Holroyd Award, a science alumni award from La Salle University for leadership in the field of science, positive impact on the community, and commitment to Lasallian values. She discussed her career in energy sustainability and risk assessment; led an “Explorer Café” discussion on appropriate skepticism or acceptance related to causal claims; and mentored students engaged in undergraduate research. She gave an evening lecture on how her college education contributed to her career.

Upcoming ORNL Visits/Events:

May 5- Dick Flavell of CERES will visit ORNL.

May 6: The National Climate Assessment (NCA) will be released ([see nca2014.globalchange.gov](http://nca2014.globalchange.gov)). “The Global Change Research Act of 1990 requires a NCA assessment report at least every four years. Its production is led by the 13 Federal agencies that make up the U.S. Global Change Research Program, and is written by experts drawn from academia; local, state, and Federal government; and the private and nonprofit sectors. Contributions to the report were made from ORNL by Tom Wilbanks, Ben Preston, Steve Fernandez, Laurence Eaton, and Virginia Dale. The NCA found that, not only is global climate changing, but that the major source of change over the past 50 years has been burning of fossil fuels. The report points out recent trends in climate change and increased extreme disturbances and calls for reduced use of fossil fuels that continue to atmospheric concentrations of greenhouse gases. The Forest chapter points out the bioenergy could emerge as a new market for wood that could aid in the restoration of forests killed by drought insects and fire.

May 12-15 – Rebecca Efrogmson and Natalie Griffiths will present at the Symposium on Forestry Best Management Practice (BMP) Effectiveness in the Eastern U.S. in Blacksburg, VA. Rebecca’s presentation, coauthored with Virginia Dale, is entitled “Evaluating best management practices for environmentally sustainable bioenergy production.” Natalie Griffiths will present a talk titled ‘Assessing BMP effectiveness for woody biomass production for bioenergy in groundwater-dominated Coastal Plain watersheds.’

June 3 – UT collaborator Zachariah Seiden will present, “A Water Quality Model Comparison of Potential Impacts from Bioenergy Crop Land Conversions: Switchgrass versus Hardwood” at the EWRI World Environmental & Water Resources Congress in Portland, Oregon. Implications of this modeling work suggest hardwood pine as a bioenergy crop may reduce pollutant load and may be an effective management practice for implication of a total maximum daily loads (TMDLs) in 303d listed water bodies in East Tennessee.

June 4-7 – Virginia Dale is an invited guest speaker at the 4th Pan-American Congress on Plants and Bioenergy in Canada.

June 23: Virginia Dale is invited to participate in the Conference of the National Socio-Environmental Synthesis Center (SESYNC) in Maryland on “Environmental Decisions and Scientific Knowledge: Strategy & Opportunities for the Knowledge-to-Action Community of Practice.”

June 24-26: Virginia Dale, Keith Kline, Yetta Jager and Matt Langholtz are invited to participate in second workshop on “Incorporating Bioenergy in Sustainable Landscape Designs: Agricultural Landscapes” to be held in Argonne, Illinois. Virginia serves on the steering committee for the workshop with Cristina Negri of Argonne National Laboratory and Kristen Johnson and Mark Elless of DOE.

July 20-22 – Keith Kline and Maggie Davis are invited to attend the Michigan Tech University meeting in Belem, Brazil, for the PIRE: Sustainability, Ecosystem Services, and Bioenergy Development across the Americas project.

July 22-25 – Virginia Dale, Keith Kline and Maggie Davis will give presentations at the upcoming Conference on Pan American Biofuels and Bioenergy Sustainability on July 22-25, 2014 in Recife, Brazil, that is being organized by the PanAm Research Coordination Network (RCN).

July 27-August 22 – Keith Kline will collaborate on Global Sustainable Bioenergy project research of mutual interest to US DOE and Brazil related to geospatial data analysis, modeling and interactions between bioenergy policies and food security, supported as a visiting scholar by FAPESP and the University of Campinas.

Oct 5-11 – Virginia Dale will speak at the International Union of Forest Research Organization meeting in Salt Lake City, Utah.

Oct 8-10 – The 3rd annual meeting of the Southeastern Partnership for Integrated Biomass Supply Systems (IBSS) will take place at the University of Tennessee Institute of Agriculture (UTIA) campus