

Zelalem A. Mekonnen

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Biography

My primary area of interest is terrestrial ecosystem modeling. My particular focus is on modeling soil-plant-atmosphere interactions to understand how the changing climate is impacting land-atmosphere carbon exchange. As part of the Next Generation Ecosystem Experiment-Arctic, my current project includes examining the underlying ecosystem processes that control changes in Arctic plant functional types and associated feedbacks under recent and future climates.

Research Interests

- ✓ Process based ecosystem modeling, soil-plant-atmosphere interactions, understanding the impacts of warming and water stress on land-atmosphere carbon exchange and nutrient cycling, examining changes in ecosystem productivity using eddy covariance and remote sensing

Education

- ✓ **Ph.D.** Department of Renewable Resources, University of Alberta (2011 - 2015)
- ✓ **M.Sc.** Department of Earth Sciences, Addis Ababa University (2005 - 2007)
- ✓ **B.Sc.** Department of Forestry and Natural Resources, Hawassa University (2000 - 2004)

Experience

- ✓ **Postdoctoral Fellow**, Lawrence Berkeley National Laboratory (2016 – Present)
- ✓ **Postdoctoral Fellow**, University of Alberta (2015 - 2016)
- ✓ **Teaching and Research Assistant**, University of Alberta (2011 – 2015)

- ✓ **Geospatial Analyst, GIZ (2009 - 2010)**

Awards and scholarships

- ✓ North American Carbon program (NACP) travel award (2015)
- ✓ Queen Elizabeth II Graduate Doctoral Scholarship (2014)
- ✓ ESRI Canada young scholar award (2012)
- ✓ ESRI Canada GIS Scholarship (2011)

Professional membership

- ✓ The American Geophysical Union (AGU)
- ✓ The European Geosciences Union (EGU)

Publications

- ✓ Mekonnen ZA, Grant RF, Schwalm C (2016) Contrasting changes in gross primary productivity of different regions of North America as affected by warming in recent decades. *Agricultural and Forest Meteorology*, 218–219, 50-64.
- ✓ Mekonnen ZA, Grant RF, Schwalm C (2016) Sensitivity of modeled NEP to climate forcing and soil at site and regional scales: Implications for upscaling ecosystem models. *Ecological Modelling*, 320, 241-257.
- ✓ Mekonnen ZA, Grant RF, Carbon sources and sinks of North America as affected by major drought events during the past 30 years. Submitted, *Agricultural and Forest Meteorology*.
- ✓ Mekonnen ZA, Grant RF, Schwalm C, Modeling the impacts of recent warming on active layer depth and ecosystem productivity in higher latitudes of North America. Submitted, to *Arctic Science*.

Conference presentations

- ✓ Mekonnen, Z.A., Grant, R.F., Schwalm C., 2015. Carbon sources and sinks of North America as affected by major drought events during the past 30 years. American Geophysical Union (AGU) Fall Meeting (December, 14 – 18, 2015), San Francisco, California.
- ✓ Mekonnen, Z.A. and Grant, R.F., 2015. Sensitivity of modeled NEP to climate forcing and soil at site and regional scales: implications for upscaling ecosystem models. 5th North

America Carbon Program (NACP) All-Investigators Meeting (January, 26 – 29, 2015), Washington D.C.

- ✓ Mekonnen, Z.A., Grant, R.F., Schwalm C., 2014. Modeling the impacts of long-term warming trends on gross primary productivity across North America. American Geophysical Union (AGU) Fall Meeting (December, 15 – 19, 2014), San Francisco, California.
- ✓ Mekonnen, Z.A. and Grant, R.F., 2014. Modeling the impacts warming in recent decades on ecosystem productivity and active layer depth in Canadian Arctic. The tenth ArcticNet's Annual Scientific (ASM2014) Meeting (December, 8 – 12, 2014), Ottawa, Ontario.
- ✓ Mekonnen, Z.A. and Grant, R.F., 2014. Impacts of long-term warming on ecosystem carbon exchange in higher latitudes of North America. European Geosciences Union General Assembly 2014 (April, 27 – May, 02, 2014), Vienna , Austria
- ✓ Mekonnen, Z.A. and Grant, R.F., 2013. Modelling the impacts of long-term warming trends on ecosystem productivity across North America. 4th North America Carbon Program (NACP) All-Investigators Meeting (February, 4 – 6, 2013), Albuquerque, New Mexico.
- ✓ Mekonnen, Z.A. and Grant, R.F., 2012. Impacts of amplified Arctic warming on ecosystem productivity. The eighth ArcticNet's Annual Scientific (ASM2012) Meeting (December, 10 – 14, 2012), Vancouver, British Columbia.
- ✓ Mekonnen, Z.A. and Grant, R.F., 2012. Spatial and temporal patterns of carbon dynamics across North America. ESRI International User Conference (July 23 -27, 2012), San Diego, California