1137-92-303 **John B Kim*** (jbkim@fs.fed.us), 3200 SW Jefferson Way, Corvallis, OR 97331. *Simulating Climate Change Impacts on Vegetation Dynamics, Carbon Storage and Wildfire Activity in the Conterminous USA Using Localized Constructed Analogs Downscaled Climate Data.* Preliminary report.

We present simulations of impacts of climate change on forests and other vegtation types in the conterminous USA using the MC2 dynamic global vegetation model. MC2 simulates changes in future terrestrial ecosystem vegetative cover, including shifts in vegetation types over time, and burned area across the contiguous U.S. in the 21st century. We ran MC2 with 1/16 degree LOCA downscaled climate projections for RCP4.5 and RCP8.5 scenarios. MC2 results project generally increasing carbon uptake by forests under warming temperatures, partly offset by increased fire activities. In some places, MC2 simulates vegetation type conversion leading to reduced fire frequencies. Carbon flux projections in the contiguous U.S. fluctuate and are highly variable by GCM, with the magnitude and even directionality of impacts varying over time. Through the end of the century, national terrestrial ecosystem carbon storage is projected to increase by 3.0 billion metric tons under RCP8.5 and 0.36 billion metric tons under RCP4.5. Under RCP8.5, wildfire acres burned in the contiguous U.S. are projected to remain consistent with rates observed over the past several decades, but moderately decrease under RCP4.5, with changes under both scenarios driven by shifts in vegetation over time. (Received February 06, 2018)