

Environmental Science and Policy Program Student Research Symposium

Saul Daniel Ddumba

Examining the impact of climate change and variability on sweet potatoes in East Africa

November 1, 2013, 8:00 am
Breakfast will be served

ESPP Conference Room, Giltner Hall
293 Farm Lane Road, Room 273



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Climate change is one of the biggest challenges to food security for the rapidly increasing population of East Africa. Rainfall is becoming more variable and temperatures are rising, consequently leading to increased occurrence of droughts and floods, and, changes in the timing and length of growing seasons. These changes have serious implications on crop production with the greatest impact likely to be on C4 crops such as cereals compared to C3 crops such as root tubers. Sweet potatoes is one the four most important food crops in East Africa owing to its high nutrition and calorie content, and, high tolerance to heat and drought, but little is known about how the crop will be affected by climate change. This study identifies the major climatic constraints to sweet potato production and examines the impact of projected future climates on sweet potato production in East Africa during the next 10 to 30 years. A process-based Sweet POTato COMputer Simulation (SPOT-COMS) model is used to assess four sweet potato cultivars; Naspot 1, Naspot 10, Naspot 11 and SPK 004-Ejumula. This is work in progress but preliminary results from the crop modeling experiments and the strength and weakness of the crop model will be presented.