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Impact of historical droughts on crop yields in Sub-Saharan Africa

Bahareh Kamali (1), Hong Yang (2), and karim abbaspour (1)

(1) Eawag, Swiss Federal Institute of Aquatic Science and Technology, Switzerland , (2) Department of environmental Sciences, University of Basel,Basel, Switzerland

Sub-Saharan Africa (SSA) has been faced with frequent drought events in the past. Future climate change scenarios have suggested increasing drought frequency and severity. The devastating impacts of drought on rainfed farming and food production pose many challenges in SSA countries both today and in the future. Therefore, a comprehensive investigation of droughts and assessment of their impacts on crop yield and production are critically important to support SSA to formulate effective adaptive measures to improve food security. The current study assesses the historical meteorological and agricultural droughts and quantifies their impacts on two major crop yields namely maize and cassava in SSA. The GIS-based crop model (GEPIC) is used for the simulation of the historical yields. Drought severities are categorized into levels of mild, moderate and severe. The impacts of each category on maize and cassava yields are examined and drought hotspots are highlighted. The knowledge learnt from the historical data helps enhance the projection of the impacts of future weather conditions on crop yield in the region and facilitate the societal preparedness to drought impact.