



## Drought Characteristics of the Upper Nile Water Management Zone, Uganda

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### INTRODUCTION

Drought occurrences are typical of all regions in Africa especially in arid and semi-arid areas of Sub-Sahara Africa. Drought characteristics such as type, duration, magnitude, intensity and severity bear different consequences on local ecosystems and livelihoods due to resulting effects on water bodies, crops and livestock (Kosonei z et el., 2017). This study assessed drought characterised in the Upper Nile water Management zone in Uganda.

### METHODOLOGY

The study assessed the characteristics of meteorological droughts between 1980 - 2017 period in Agago sub-catchment forming part of River Aswa catchment found within the Upper Nile Water Management zone. Rainfall data for four weather stations (Kacheri, Abaneka, Namodio and Kalangore) within Agago sub-catchment were obtained from Global weather for SWAT and Princeton climate data. Analysis of rainfall data and drought characteristics was done using the standardized precipitation index (SPI).

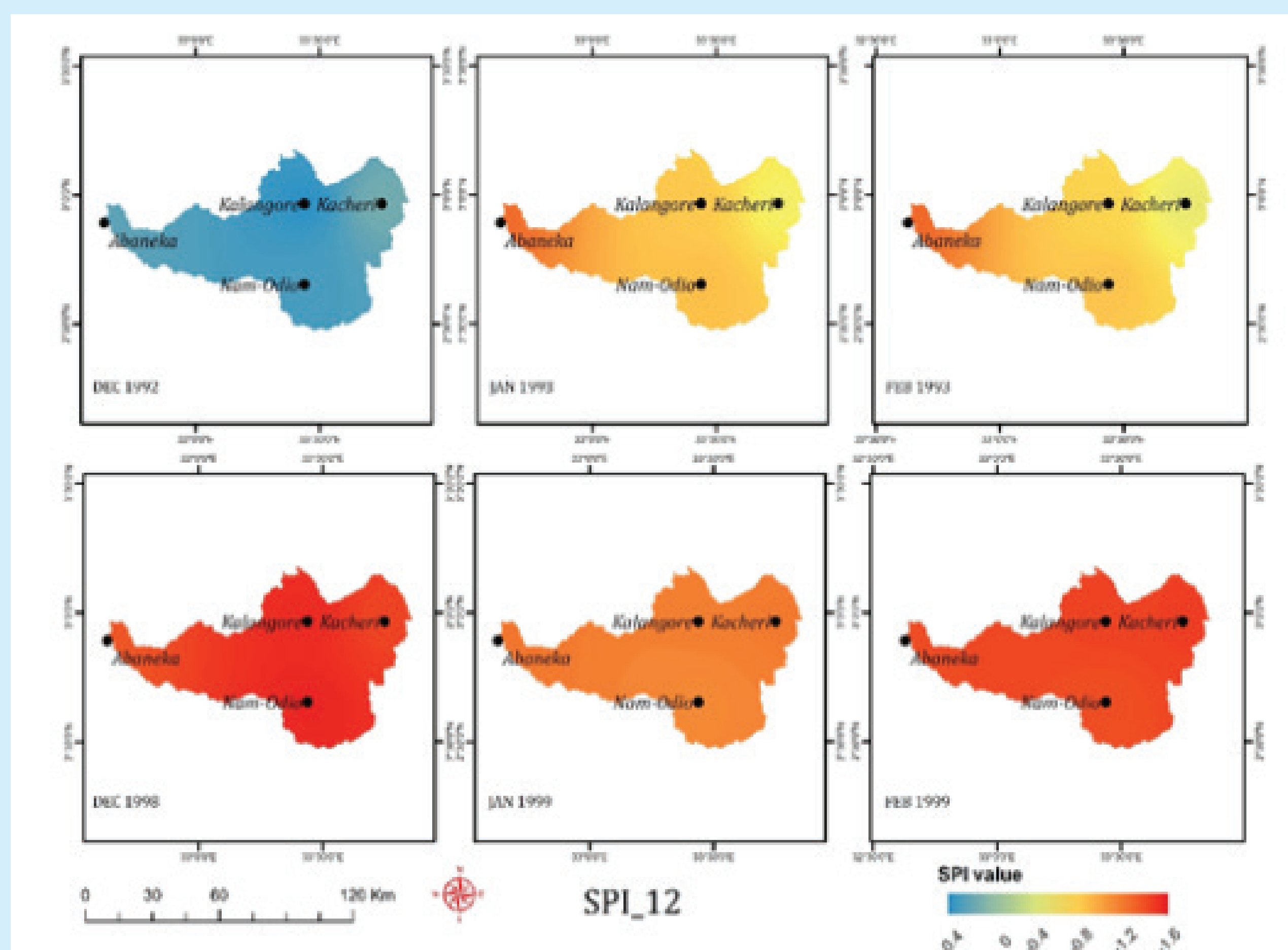


Figure 1: Showing a five year interval of spatial-temporal distribution of drought at SPI 12 month time scale from 1993 to 1998

### RESULTS

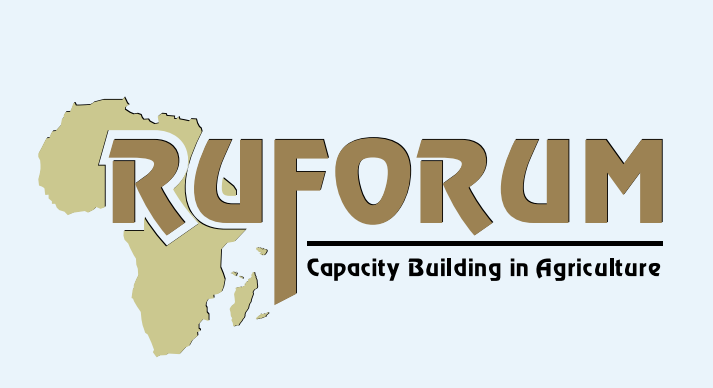
Results indicated that drought onset are usually in December apart from a few early onsets in November and late ones in January of preceding years the upper Nile zone in Uganda.

The drought duration was generally three months apart from a few extended droughts that took four months while drought termination was either in February or March for December and January drought sets respectively.

The intensity of droughts in Agago sub-catchment were low, although drought severity showed increasing rates in recent years compared to 1980s and 1990s (figure 1).

### CONCLUSIONS AND RECOMMENDATIONS

Observed increased drought occurrence pauses great impacts on the Upper Nile water management zone. Sustainable water and natural resources management should be promoted in order to minimize the occurrences and droughts impacts on Upper Nile water management zone.



#### Reference:

Kosonei, R.C., Abuom, P.O., Bosire, E. and Huho, J. M. (2017). Vegetation Cover in Marigat Sub-Vegetation Cover in Marigat Sub-County, Baringo County Kenya. International Journal of Scientific and Research Publications, 7(5), 89–98