Online Resource 1

Article title: Spatio-temporal characterisation of meteorological drought in selected districts in Tanzania: a multi-timescale analysis of trends, 1995-2024

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Authors: Elia Magwaja, Peter Tuju, Habiba Mtongori, Jim Todd, Anthony Kapesa, George PrayGod, Brenda Kitilya, Eliud Kamala, Eliakimu Kapyolo, Daniel Faurholt-Jepsen, Zvifadzo Matsena Zingoni, Ladislaus Chang'a

Corresponding author: Elia Magwaja, College of Social Sciences, University of Dar es Salaam, Dar es Salaam, Tanzania; Mwanza Research Centre, National Institute for Medical Research, Mwanza, Tanzania; School of Public Health, Catholic University of Health and Allied Sciences, Mwanza, Tanzania. E-mail: emagwaja@gmail.com

Table S1 Run-theory drought events at three SPI accumulation periods, 1995-2024

District	SPI-3 events	SPI-3 mean *D*	SPI-3 months 95-09/10-24	SPI-6 events	SPI-6 mean *D*	SPI-6 months 95-09/10-24	SPI-12 events	SPI-12 mean *D*	SPI-12 months 95-09/10-24
Bahi	17	4.6	60/19	14	7.4	83/20	8	18.8	82/68
Chamwino	20	4.4	72/16	16	6.7	89/18	7	21.1	92/56
Kibondo	28	4.7	84/48	10	14.9	122/27	6	28.5	98/73
Nkasi	26	4.8	60/66	17	8.1	76/62	5	25.2	59/67
Uvinza	24	5.2	71/55	12	10.9	91/40	6	24.3	96/50
Biharamulo	19	6.2	84/34	10	11.9	98/21	4	27.2	95/14
Meatu	22	5.7	97/29	13	7.8	82/19	5	25.6	101/27
Same	19	7.0	95/38	11	11.2	95/28	7	20.1	107/34
All districts	175	5.3	623/305	103	9.4	736/235	48	23.3	730/389

Events: runs of months with SPI < 0 reaching ≤ -1.0. Mean *D*: mean duration (months). Months 95-09/10-24: total drought months in 1995-2009 and 2010-2024. The final row pools all districts (mean duration weighted by number of events).

Table S2 Number of calendar months (of 12) in which SPI passes the Shapiro-Wilk normality test ($p > 0.05$); months in which SPI could not be computed (fewer than four non-zero totals) are counted as not passing

District	SPI-1	SPI-3	SPI-6	SPI-12
Unimodal districts (November-April season)				
Bahi	6/12	6/12	8/12	12/12
Chamwino	7/12	7/12	8/12	12/12
Kibondo	9/12	12/12	11/12	8/12
Nkasi	7/12	9/12	10/12	10/12
Uvinza	8/12	12/12	11/12	10/12
Bimodal districts (MAM and OND seasons)				
Biharamulo	12/12	12/12	12/12	12/12
Meatu	10/12	12/12	12/12	12/12
Same	9/12	10/12	9/12	4/12

Table S3 Between-district heterogeneity in the number of severe or extreme seasons (SPI ≤ -1.5) at the season-end months (April, May and December)

Index (season-end month)	Severe/extreme seasons (all districts)	Districts within the 95% range expected by chance	χ^2 statistic	Monte-Carlo *p*
SPI-1	22	8/8	3.75	0.809
SPI-3	13	8/8	3.92	0.837
SPI-6	15	8/8	6.89	0.433
SPI-12	15	8/8	5.09	0.645

95% range expected by chance: Binomial interval with $p = \Phi(-1.5) = 0.067$. Monte-Carlo *p* from 20,000 permutations of events across districts.

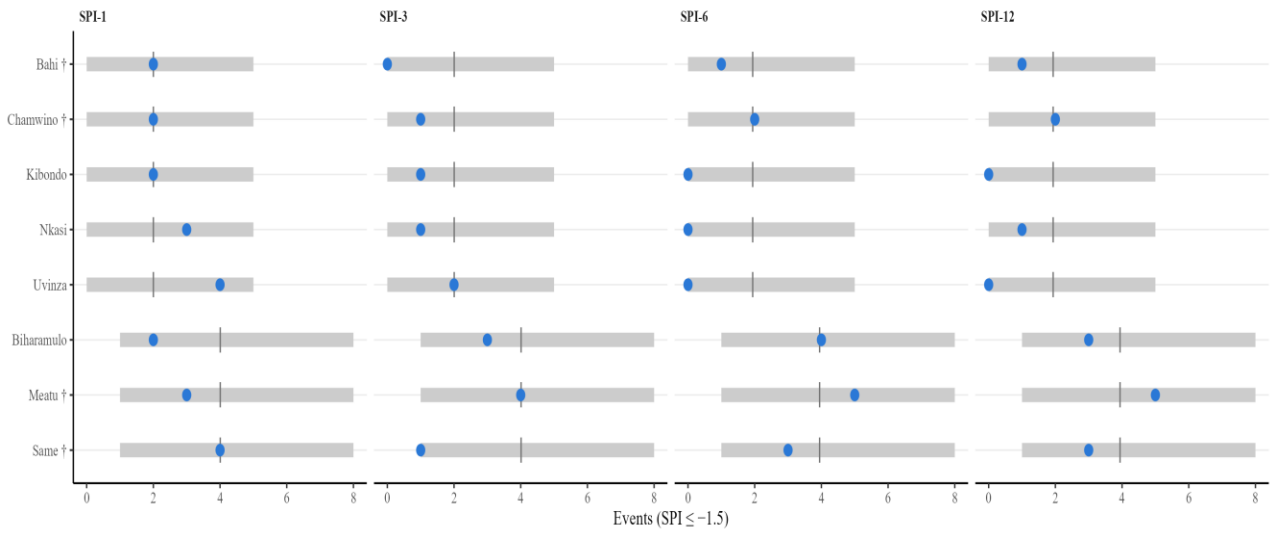

Fig. S1 Observed severe or extreme seasons (dots) against the 95% range expected by chance for a standardised index (grey bars; ticks show the expectation), by SPI timescale. Ranges are wider for the bimodal districts, which contribute two seasons per year. † marks CLIMATCH drought-prone districts