



EGUsphere, referee comment RC2
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Comment on egusphere-2022-458

Anonymous Referee #2

Referee comment on "Linking reported drought impacts with drought indices, water scarcity and aridity: the case of Kenya" by Marleen R. Lam et al., EGU sphere,
<https://doi.org/10.5194/egusphere-2022-458-RC2>, 2022

Manuscript Number: egusphere-2022-458

Title: Linking reported drought impacts with drought indices, water scarcity, and aridity: the case of Kenya

Authors: Marleen R. Lam, Alessia Matanó, Anne F. Van Loon, Rhoda Odongo, Aklilu D. Teklesadik, Charles N. Wamucii, Marc J. C. van den Homberg, Shamton Waruru, and Adriaan J. Teuling

The work analyzes the applicability of drought indices in explaining drought impacts using Kenya as a case study. A Random Forest (RF) model was used to identify which drought indices best explains drought

impacts on pasture, livestock deaths, milk production, crop losses, food insecurity, trekking distance for water, and malnutrition.

Major Comments:

- The results presented in lines 230-235 state that the drought impacts better overlaps with the accumulation time of 12 months in comparison with the others tested (1, 3, 6 and 24). However, isn't expected that the effects of meteorological droughts on pasture, milk production and etc. be lagged either than happening simultaneously? How is this lag effect considered? Also, the SPEI indices of all accumulation times displayed in Figure 2 show good overlap with the impacts listed.
- The study does not account for drought resilience actions that could have been applied in the region (e.g., reservoirs, irrigation, etc.) and can affect the correlation of meteorological droughts and its impacts.
- How do the current results compare with the one cited in line 301-305, using other correlation metrics?

Minor Comments:

- It should be mentioned in the abstract which drought indices were utilized in the analysis and which ones better performed in predicting the drought impacts.
- In Figure 2, what do the circles in the upper panel represent? Is it only if the impact occurred or does it reflect the number of occurrences?