

Interactive comment on ““Everything is scorched by the burning sun”: Missionary perspectives and experiences of 19th and early 20th century droughts in semi-arid central Namibia” by S. Grab and T. Zumthurm

Anonymous Referee #2

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This article provides rich detail of the drought history and associated societal consequences of central Namibia from the mid-19th to early-20th century. The detail and challenges covered in this paper will undoubtedly be useful for historical climatologists engaged in drought reconstruction methods from colonial sources. It was also nice to see such a study crossing the somewhat artificial but very real dividing line from 19th to 20th century, which I think is an important step for African climate history.

One of my main overall comments, however, is that the paper is overly descriptive and leaves one wondering what are the meanings and implications beyond the context of

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Namibia. This started to come out in the conclusion, but even then the conclusion that human experience and reporting of drought depends on social and environmental context is now fairly well-acknowledged in social scientific and humanities literature on climate. My main suggestion would therefore be to set up the paper with firmer and sharper research questions rather than the aim of simply establishing changes in influence and impact of drought over time, which could, in turn, provide for some sharper conclusions. As detailed in one of my comments below, one way this could be achieved is by grounding the paper in, and comparing it to, other missionary-derived climate histories in the region which cover changes in drought and its impacts over time - the prime example being the study by Kelso and Vogel (2015) in *Global Environmental Change*, but also studies by Nash and Endfield on the Kalahari, and Hannaford (2018) in *Global and Planetary Change* which takes an even longer view. In my view, this would be a more convincing way into the issues discussed in the paper rather than just the issue of drought definition and human engineering. It would also add something more to the growing regional body of work on historical drought-society interactions, for example by asking whether the Namibian case is unique, or whether we see similar patterns in impacts and perceptions as elsewhere (which section 4 in particular lends itself towards).

A number of specific comments are detailed below:

Line 46-47 - relating to the paragraph above in this review, what exactly are these lessons? The point about changing definitions and the conditions that can bring about 'drought' is noted, but what are the lessons that can be learnt from the past and what is the particular relevance of the before the era of human engineering?

Lines 128-130 - what do these characteristics mean? Presumably they are categorising the social-environmental characteristics of a drought, but the scale and characteristics of these categories are unclear.

Lines 142-181 - are these paragraphs 'results' as such? This is historical environmental

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and social context.

Line 165 - 'Consequently, political and economic dominance was tangible' - this could do with some more explanation, i.e. how did the political intersect with the economic?

Lines 183-201 - this is a point that crops up in colonial accounts in many contexts and is an interesting one. It would be valuable to know how the authors dealt with this issue for 'newcomers' to Namibia; was the word 'drought' simply discounted for these observers?

Lines 259-260 - I would suggest considering reformulating this sentence (it sounds a bit more like an email than a scientific journal paper!). It would also be useful to provide some more material from Grab and Zumthurn (2018) (e.g. the drought classifications and chronology), which seems to be of fundamental importance to this article.

Lines 262-266 - Table 1 is a really nice visualisation of drought impacts. However, there are some issues with 'drought mentions' as a proxy for drought occurrence, if this is the intention of the figure. The authors do acknowledge that this can be dictated by the availability of documentary material, but there may also be other issues here, e.g. the length of time a missionary had been resident in Namibia. There is also the issue of the extent of alignment between Table 1 and Figure 4, e.g. the drought of 1877-1879 had most of the 'reported consequences' categories ticked whilst also being the drought that was most mentioned, which one might expect, but this was closely followed in breadth of reported consequences by the drought of 1900-1903, yet the discrepancy in drought mentions is very large indeed. Why is this?

Section 4 - this section provides a nice social-environmental chronology and is rich in detail. It relates this chronology to the larger southern African picture, though only in terms of drought periodisation rather than that of societal responses. It would be very valuable to see some comparative elements to this section, the most obvious example being the work by Kelso and Vogel (2015) on Namaqualand, which has a very similar temporal scope and would provide a fascinating comparison.

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