

Interactive comment on “The climate of desiccation in the SW Cape” by Mark R. Jury

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Title: The title reads “ The climate of desiccation in the SW Cape”. Since desiccation means drying, what is author implying by “The climate of drying”.

In the Abstract, the author states that Cape Town’s reservoirs are drying up and there is evidence of increase in temperatures over these reservoirs. Is the author suggesting that the drying of the reservoirs is due to an increase in the surface temperature? The low water levels in the reservoirs are mainly due to climate variability which is never considered in the whole paper.

Under “2 Data and Methods”, the variables to be analysed are not clearly stated. What the author has done is to explain the data sources used. The author begins by stating that the study area has a dense network of rainfall, streamflow and potential evaporation stations. However, the author does not explain the reason for using satellite

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derived data when there is a dense network of stations.

The study area has major spatial variations of elevation (from sea level to over 1100 m), and land uses (urban residential, industrial, vineyards, orchards) and land cover types (grasslands, fynbos, forests, bare rocks). How accurate are satellite derived estimates of surface temperature, rainfall, evaporation in view of these spatial variations? Several studies have demonstrated that rainfall estimates based on satellite data are not accurate due to orographic effects and frontal rainfall systems prevalent in the study area.

The author is not explicit about which variables and their characteristics will be subjected to trend analysis. Linear regression method is known not to be the best method for trend analysis. Why were other methods not considered?

A major weakness of this paper is that the period of data investigated is never clearly presented with justification. Results are presented for 2010-2017, 1980-2017, 2000-2017, 1981-2014, 1956-2017, 1901-2017?. Why are these different periods being used?

The construction of the Berg River Dam was completed in 2009. How is it possible that the decline in water levels will have influenced land surface temperatures during the 2000-2017 period even before the construction of the dam?

In 3.2 Temporal Characteristics, which river flow measuring station was used to determine a downward trend of river flows for the Upper Berg River?

The author does not always explicitly state what is presented in some of the Figures. A reader struggles to understand most of the figures. Table 1 is not referred to in the text.

The effect on interannual and multidecadal climate variability on rainfall have not been considered. Several studies have demonstrated trends may be a reflection of multidecadal variability. The starting and ending period of a trend analysis can influence the

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results obtained. There is a very rich literature on climate variability of the study area, and this is not reflected in the Introduction, and Methods used

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