

## ***Interactive comment on “Drought lacunarity around the world and its classification” by Robert Monjo et al.***

**Serguei G. Dobrovolski (Referee)**

sgdo@bk.ru

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Review of the paper “Drought lacunarity around the world and its classification” by Robert Monjo et al.

The authors introduce new methods for assessing different aspects of meteorological droughts through calculation of specifically constructed indexes. The basis of the work is the set of daily values of precipitation (MSWEP) calculated for 0.5x0.5 deg. grid (1979-2016).

The data used and the methods are, to a large extent, new. In principle, there is a potential of the set of indexes, calculated by the others as for using it in the future. Methods and materials are described sufficiently in the paper.

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The data set is accessible via the address given by the authors: <https://zenodo.org/record/3247041#.XjBpYxvWj84>. However, it seems to me that possible errors within the initial precipitation data set MSWEP are not sufficiently discussed. It is well known that in many regions of the world meteorological stations are sparsely settled, and estimations using satellite data and reanalysis are characterized by considerable errors. At the same time, the authors build their sophisticated mathematical constructions on the basis of these vague data. The dependence of the results of the work on possible errors in the initial MSWEP data set might be recommended (perhaps, for the future papers of the authors).

One more point. It is important to stress, already in the title of the article that the authors deal only with METEOROLOGICAL droughts. This kind of drought do not necessarily create hydrological drought, and the late is not always related to the agricultural drought, which gives most financial and humanitarian damages. So, in the future it would be interesting to construct indexes, which could be related to the hydrological and agricultural droughts, involving data sets on river discharges and drought damages.

Evidently, the paper in its present state is the subject of discussions as well as all papers describing new ideas. Nevertheless, this work deserves publication. Perhaps, other researchers will find it appropriate to use the paper and data sets in their work, because the data set is usable in its current format and size.

The length of the article is appropriate, it is well structured and clear. The language is consistent and precise. Formulas are correctly defined and used. The figures are of sufficient quality.

Ratings.

Significance: 4 Data quality: 4 Presentation quality: 3.5

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