Interactive comment on "Global isoscapes for δ^{18}O and δ^2H in precipitation: improved prediction using regionalized climatic regression models" *by* S. Terzer et al.

Anonymous Referee #1

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The paper presents a novel method for obtaining gridded stable isotope data using regionalized climatic regression models.These models are based on fuzzy c-means clustering of a global climate dataset.

The paper is well organised, there are no obscured points in the description of the methodology and the results are discussed in detail.

However there are two minor points that the authors should address:

1. The symbol R^2 is termed either as correlation coefficient (pages 7354 and 7366), which is wrong or as coefficient of determination (e.g. page 7361) which is correct.

The term coefficient of determination should be used for R^2 trhoughout the text.

2. Kriging variance is a measure of the spatial configuration of the sampling sites. The only information about the data values passes through the calculation of the variogram. Thus the kriging variance is not a robust measure for the comparison of different models. A combined calculation may be used containing variances from the interpolation method, from the gridded data and from the model development (e.g. Lykoudis et al. 2007).

Also, cross validation may be used for the comparison of different spatial models.

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