

Interactive comment on “Estimation of streamflow by slope Regional Dependency Function” by A. Altunkaynak

Anonymous Referee #2

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The paper deals with a topic, which is discussed very often in the hydrological community; how to make spatial estimations. The subject is very important particularly for missing data completion, streamflow gauge network design and operational water management purposes. The approach used in the solution of this problem is not very complex and easy to apply for any region. The author presents examples as an implementation of the methodology. Presentation of such results is particularly useful for practitioners involved in projects required unimpaired data sets.

The title of the paper is suitable and clearly reflects its content. a concise and complete summary is provided in the abstract section. The amount and quality of the supplementary material on model development and performance is appropriate. The overall presentation is well structured and clear.

Kriging methodology is one of the most used methods for spatial interpolation. However, its main principle based on the closer the points, the more correlation they have is not valid all the time. On the other hand, the measurement stations should be regularly distributed over the area. Therefore there is a need for an approach to overcome these restrictions especially for practical applications. This study can bring a new point of view for regional estimation.

In conclusion, the paper is rather short, specific and descriptive. It is understandable by the readers and provides a good summary of the main points as well. The use of SRDF approach can be seen as an alternative of TPCSV and PCSV methods and outperforms these methods. The subject is appropriate for HESS and I recommend its publication.

Minor revisions

Page 4 Line 8. Please rearrange the sentence Page 4 Line 8.the term of "next station" is uncertain. Page 4, Line 15 the word "manipulation" is inappropriate

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Interactive Discussion

Discussion Paper