

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

Anonymous Referee #1

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MS-NR: hessd-2008-0019 Version: 1 Title: Estimation of streamflow by slope regional dependency function Author: A. Altunkaynak

In this paper, the author proposed a new method, so-called "Slope Regional Dependency Function (SRDF)" for defining the regional dependency functions. He/she have compared this method with the Trigonometric Point Cumulative Semi-Variogram and Point Cumulative Semi-Variogram methods and showed that the SRDF method predicted runoff better than the other two methods. This study presents the proposed new method clearly and necessary comparisons with the other methods. It is comprised of scientific contributions to the relevant hydrologic field. I present my comments in two groups below:

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GENERAL COMMENTS:

In the introduction section, the objective of the study has not been given in a specific manner. The common place to give this part is at the end of the section.

In the application section, the data description should have been included more details, such as the length of the runoff series, homogeneity of the runoff series.

The language of the manuscript needs to be improved for the final version. In its present form, it is understandable but requires more attention.

SPECIFIC COMMENTS:

1)Page 1004, line 10: In the following phrase "in value differences ..." the term in the bracket should be removed.

2)Page 1004, line 13-14: The following statement "Prediction performance of all three methods stays below 10% relative error which is acceptable for the engineering applications" could be rewritten as

"Prediction performance of all the three methods revealed a relative error less than 10% which is acceptable for most engineering applications"

3)Page 1004, line 12: The term "Also" is better to be placed after "are".

4)Page 1006, line 2: The sentence starting with "Also" needs to be rephrased.

5)Page 1006, line 8: The sentence "if the difference of semivariogram value ..." is unclear. The author used the word of "semivariogram" in the sentences but it is not related to the proposed method. And the term of "next station" should be termed again for a clear meaning.

6)Page 1006, line 15: The word "manipulation" should be replaced by "operation".

7)Page 1004: All involved notations should be described one by one after presenting equation 1.

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8)Page 1007, line 22: The word "give" should be corrected as "gives".

9)Page 1008, line 13: The word "increase" should be corrected as "increases".

10)Page 1008, line 18-19: The sentence starting with "If the variations among the ..." should be rewritten.

11)Page 1011, line 10: The word "Basin" needs to be corrected as "basin".

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 5, 1003, 2008.

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