

Dear Editor:

We would like to express our sincere appreciation for your letter. We would like to thank two anonymous reviewers for suggesting the acceptance of our manuscript. Your constructive comments are important to improve the present manuscript. In the following, we address comments of the Editor point-by-point. **Please find in Black (*italicized*) the Editor's comments and in Blue our responses.**

Response to comment of Editor

The revised manuscript has received two review reports from the previous two reviewers. Both of them are satisfied on how you have accounted their comments and notes, suggesting the acceptance of the manuscript. In addition, I made my personal reading of the manuscript, and here you have my comments:

Response: We thank you for your constructive comments on our manuscript. **Please note that the line numbers used in our Response refer to the revised version (tracked changes).**

1) *Please check that, in the methodology, all terms/symbols must be clearly defined/explained. For example, in eq.(2), C_{11} , C_{22} , C_{12} , C_{21} , are not defined. Define $G_1(y_1)$, $G_2(y_2)$, $G_3(y_3)$, $G(y_2|y_1)$, $G(y_3|y_1)$ in line 204.*

Response: We apologize for our unclear description. To avoid confusion, we changed the C_{mn} in Equation (2) to the Cov_{mn} . According to your valuable suggestions, more information has been added to our revised manuscript **Lines 177-178 and 205-207** as follows:

where $Cov_{mn} = Cov(y_m^{-yr}, y_n^{-yr})$ denotes the covariance between y_m^{-yr} and y_n^{-yr} ($m = 1, 2, 3; n = 1, 2, 3$). **(See Lines 177-178).**

The $G_m(y_m)$ corresponds to cumulative density function (CDF) of the y_m ; $G(y_2|y_1)$ denotes the conditional probability distribution of y_2 under known conditions of y_1 , that is similar for $G(y_3|y_1)$. **(See Lines 205-207).**

2) *According to the introduction of the manuscript, and references therein, it seems that the application of copula and vine copulas in hydrology is quite recent (2016 if one sees the dates). In reality, the applications of copulas in hydrology go back to 2003, more than 20 yrs, and a bit later started the applications of vine copulas. So I think that the Authors should clarify it providing a framework closer to the reality where their work is placed.*

Response: We thank you for your constructive comments on our manuscript. More revised details can be found in **Lines 68-74 and 82-84** as follows:

The copula functions, first introduced by Sklar (1959), overcome the limitations of the abovementioned conventional statistical methods; and the applications of copulas in hydrology and geosciences go back to the 2000s (e.g., De Michele and Salvadori, 2003; Favre et al., 2004; Salvadori and De Michele, 2004). **(See Lines 68-71).**

...they have been widely employed in hydrology research community, such as frequency analysis and risk assessment (De Michele et al., 2013;...) (See Lines 72-74).

Fortunately, the vine copulas, which have been developed by Joe (1996) as well as Bedford and Cooke (2002), can be adopted to address these limitations. (See Lines 82-84).

I think that these issues are easy to fix. In view of this, I tentatively accept the manuscript pending the above mentioned issues, which will be checked by the Editor only.

Response: Many thanks for your insightful comments and suggestions again. We believe your comments have improved the quality of our manuscript. Again, in our revised manuscript Acknowledgements section, we would like to thank two anonymous reviewers and Editor Carlo De Michele for their constructive comments and suggestions which contributed to improving the quality of the paper.

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