

Interactive comment on “Regional flow duration curves for ungauged sites in Sicily” by F. Viola et al.

Anonymous Referee #2

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The importance of Flow Duration Curves is highlighted along the paper and new strategies to estimate them is worthy, especially if they are dealing with some complex phenomena as the ephemeral rivers. So, I found the paper quite interesting and publishable. But I would like to get some clarifications and I am kindly asking to the authors to perform some few changes in the manuscript in order to produce a better product. Firstly, Figures are not clear, the legend is missing or confuse in Figure 1. Figure 2 is not interesting and Figure 4 should be shown separately. Authors mentioned that the maximum record length used was 43 years with a mean value of 20 and the minimum of 10 years, I would like to see these values on table 1, but mostly I would like to get a justification of the 10 years of data, I mean, statistically speaking it is not enough to use just 10 years... Why do the authors think it will be useful? (Some references

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would be appreciated). In page 7064, line 11, Thornthwaite (1948) is cited but it is not referenced. In page 7064, line 12, "Table 1 shows relevant morpho-climatic catchment characteristics...", I consider that slope, drainage density, stream length, etc... are relevant characteristics which were not involved in this study. I think the selection of the characteristics deserve a better explanation, specially using statistical regression analysis, when do you have to try to explain the process looking for the most relevant variables. Is the Curve Number representative? Because the range of CN usually is low, Is Aridity Index related to rainfall? It must be... , so I would like to get some explanations about the selection of the variables. I could be interesting to see if there is a relationship among performance index and area as it is expressed in page 7066, lines 18 and 19. In order to explain the high performance index in small basins and the reduction of the performance index at large basins. Are these effects related to the different sub-zones? Finally, using just 3 basins during the validation process is not enough, it is required to perform validation at different basin sizes, and please justify the selection of the 3 basin to be calibrated, it was a random selection?

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