

## ***Interactive comment on “Specific Climate Classification for Mediterranean Hydrology and Future Evolution Under Med-CORDEX RCM Scenarios” by Antoine Allam et al.***

### **Anonymous Referee #2**

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I am not very familiar with the climate subject. However, I find the paper very interesting. The methodology applied is very detailed, described and useful for other applications. Although the paper is well written, the take-home message is not clear. The paper claims to link climatic to hydrology. However, the link is not described. Some examples should be given to illustrate the link and the importance of hydrological modelling. I think a flowchart with the step would improve the paper readability and facilitate the application of the proposed methods. The authors need to elaborate more on the discussion in how their results affect the classification of climate and further on the predominant hydrological processes. Indeed, climate continuity seems vague. I have some questions for clarifying:

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- What are the effects of the data resolution on the classification?
- How did you decide on the number of trees?
- Why you need to reduce de number of indices, “random forest” does not do that already?
- A more philosophical one: why not “R” or “Python”? The classification and machine learning methods are excellent, and it is easy to implement.

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