

Interactive comment on “Detection and attribution of flood trends in mediterranean bassins” by Y. Tramblay et al.

Patrick Arnaud (Referee)

patrick.arnaud@irstea.fr

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General comments:

The objective of this study is to analyze the trends on hydroclimatic data of Mediterranean catchments and research the indicators explaining these trends. The work is complete because it presents both the results of the trend tests, but it also makes the link between the different factors that can explain the significant trends. Minor revisions are proposed to improve the readability of the document and to provide some additional information that has been processed a bit quickly.

Specific comments:

L2 : replace “bassins” with “basins”

L69 : replace "Claussius-Clapeyron" with "Clausius-Clapeyron"

L153 ...Is the minimum duration of 20 years of data a bit limited for doing trend tests?

L174 : Can you explain the difference between "actual" et "reference evaporation".

L177 : replace "20008" with "2008"

L273 : In Figure 2, is it possible to present symbols of size proportional to the significance of the test (different threshold of p-value), Moreover specify the difference between "Precipitation" and "Rainfall" (and there is only one in the legend of the figure).

L273 : "From figure 2, it can..."

L285 : Decrease in soil moisture for the surface and the root zone layers are due to a modelisation. It is not an observed trend. This should be clarified in the text,

L 290 : Decrease in soil moisture for the surface and the root zone layers are due to a modelisation. It is not an observed trend. This should be clarified in the text. Question: Are trends based on spatial averages on the basins have the same significance ? Is there a relationship between the calculated p-values on the trends of data averaged over each basin and the basin area? Same question for flows. One might think that the larger the basin the more the trend is "regional" and therefore less subject to sampling and therefore more significant.

L313 : a more detailed explanation would be helpful,

L319 : FDR results are analysed but not presented. In general on paragraph 4.2 : a synthetic table of values is needed or a boxplot to have an idea of Sen slope values, p-values, magnitude and number of event average.

L343 : Are the relative changes presented only for significative cases ?

L352 : these results can be related with the signifcativity of test on larger basin ? In

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this part, no flood trends means no trend for significant test ?

L373-L387 : 34-36 basins present an increase of precipitation associated with floods. 40 basin present a decrease in antecedent soil moisture conditions. But is it the same basins. In general, in this part or in conclusion, it would be interesting to synthesize the number of basins affected by different configurations between increase, equality or decrease (significant) of rainfall, soil moisture, flood ...

L389 : replace “4.3“ with “4.4“

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