

We are very grateful for the comments by reviewer 2. The paper has been revised in accordance with the referee's comments and suggestions, which are addressed below. Our answers appear in bold.

1) Despite the inclusion of the SST analysis, I believe that the authors should comment what other physical mechanisms can trigger the extreme rainfall. A paragraph in the conclusions discussing this with the supporting references would improve the conclusion section.

A paragraph has been added at the end of the conclusions section (L720-726). A new reference has been included in the article: (Lolis and Türkeş, 2016).

2) Figure 9 needs to be improved. The readability of the X axis is very poor.

The X axes of figure 9 (middle and below) have been redesigned. We have done the same thing with the figures 7b and 7c.

3) Can the author comment why the use of SST and subsurface temperature at several depths (20, 50, and 80 m.b.s.l.) ??

Because this is a reference series due its length and to the fact that it provides data at several depth levels. According to a recent NASA-funded study, this series constitutes a notable exception worldwide, as well as a reliable source for satellite data validation. We considered this to represent a good opportunity to study the role played by sea temperature at subsurface level in the occurrence of extreme precipitation in Catalonia. We highlighted the relevance of this series on L360-362 and the reference of the NASA-funded study: Salat *et al.* (2019). See the following NASA post: <https://climate.nasa.gov/blog/2997/sea-change-why-long-records-of-coastal-climate-matter/>

4) Can the author comment why this occur? "The changes in the frequency of episodes are statistically correlated with sea temperatures at subsurface layers, i.e. 50 and 80 m.b.s.l. (Figure 11). The deepest level (80 m.b.s.l.) shows the strongest warming in late autumn (from October 21st to November 30th)".

From the text and analysis of the new reference -Salat *et al.* (2019)-, we inferred that this is related to recent changes in the thermocline. Subsurface sea temperature may be playing an important role in the warming patterns of the Mediterranean Sea. This is explained in the new text on L606-610.

5) There is the lack of physical interpretation regarding the SST statistical results. Can the authors improve this particular part of the text?

We added some information to further explain this on L554-557 and L710-712.