Response to Anonymous Reviewer #1

We thank the reviewer for his/her further suggestions, which we fully taken into account in the revised version of the paper. We modified the manuscript following the reviewer's suggestions and highlighted the modified parts in bold in the manuscript.

"The paper has been substantially revised. However, it still needs a further round of review. The main point is the following. Since the authors have shown that the only significant clustering behavior is observed for tau<50 days, I don't understand why the figures still show the value of alpha for tau>50 days." and **"Practically, the author have to better restructure the paper strengthening their results ONLY for tau<50 days, otherwise they risk to convey misleading information."**

We thank the reviewer for appreciating the further work done for the first revision. We concur with the reviewer that showing the value of alpha for tau> 50 days is misleading as no actual departure from a Poissonian point process occurs at those time scales.

Consequently, we eliminated any reference to alpha for tau>50 days from the text and the figures. The reviewer can find the modified sections in bold in the revised manuscript. The affected figures are Figs. 5-6 and Figs from 8 to 12.

We also reworked the structure of the paper following the reviewer's suggestion. Specific points raised are explained below.

At pag. 6 line 25, the text "For tau > 50 days the variability is lower and all the curves show slopes of similar value, with alpha 1.1−1.2 on average. Note that in figures 5-6 and in all the figures showing AF curves, the slopes alpha = 0.2 and alpha = 1.15 are indicated for reference" has to be rewritten or eliminated because it does not make sense any comment about clustering or alpha slope above 50 days.

Eliminated as suggested.

The sentence at page 6 line 30 "The second, steeper, slope is observed generally between 50 and 100 days" is misleading because it was shown that above 50 days there is an apparent slope due to the periodicity and not to real intrinsic clustering effects.

Eliminated as suggested.

Even the discussed transition between two slopes has not to be done, because the only timescale range for which we could discuss about slope is the range below 50 days, because above 50 days there is an apparent slope due to the periodicity.

Eliminated as suggested.

Probably a better structure of the paper is that first the authors show the results of the AF on the real data, but without any discussion about the slopes, then they perform the cyclic Poisson simulation, and on the base of the comparison derive that the only significant time scale range really related with clustering is that below 50 days.

As the reviewer can see we followed his/her suggestion. First we showed the AF data for buoys and model to validate the model AF curves. Then, on the basis of the comparison with a simulated

cyclic Poisson process we found the range of time scales at which a departure from a Poisson behaviour is shown and computed the related alpha.

Practically, any sentence that refers to the slope for tau>50 days has to be eliminated or re-written, because the real clustering is only below 50 days and not above. For instance, again, at page 16 the sentence "the other hand summer shows the minimum wind intensity and storms are less frequent. Interestingly, although the exponent for tau > 50 days is larger than unity" is misleading because it was shown that for tau>50 the slope is only an effect of the periodicity and does not suggest any intrinsic dynamics related with clustering.

As explained before, we eliminated the reference to tau>50 days everywhere. The sentence highlighted here refers to the Discussion and conclusions that have been reworked consequently.