

***Interactive comment on* “Do sun spots influence the onset of ENSO and PDO events in the Pacific Ocean?” by Franklin Isaac Ormaza-González and María Esther Espinoza-Celi**

Anonymous Referee #1

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This paper is trying to answer the question of “Do sun spots influence the onset of ENSO and PDO events in the Pacific Ocean?”. However, I could not find a robust answer based on their analysis and results. It is really hard for me to read through the whole paper and get the key points. I am trying to be more encouraging, however, I have to suggest to the editor to reject this submission due to reasons as follows:

1. No robust results. The full paper is telling correlation numbers from the beginning to the end, without any efforts to understand or explain the related physical processes and underlying mechanism. 2. Not valid method. For the solar impacts on climate, it's true that correlation has been used widely in previous studies. There is always a problem

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while using correlation since a relative high correlation number might just be caused by occasional in phase of two variables. So, a long data record is necessary while considering the relationship between the sun spots numbers and other climate indices. This study did the correlations between the sun spots numbers with other variables for each individual cycle (~11 years) and even for the ascending or descending phases (only 4-5 years), which is not meaningful to my understanding. During such a short period, a high correlation number just means that the sun spots number is in phase with other climate indices occasionally.

3. Overstated conclusion. There might be some connection between the sun spots number and other climate indices such as PDO and decadal ENSO. However, I do not believe we can do a prediction for El Niño or La Niña events only based on sun spots numbers as stated by the authors in the abstract and conclusion.

4. Not well organized and written. As I mentioned above, it is really hard for me to read through the paper and get the idea of what the authors want to improve our understanding to the scientific issue. For example, the whole abstract is just a lot of correlation numbers. It is really hard for the audience to follow and to figure out what do the numbers mean and what are the differences between them. In addition, I would also suggest the authors to ask help from a native speaker to improve their English written for the whole manuscript.

Interactive comment on Ocean Sci. Discuss., <https://doi.org/10.5194/os-2018-125>, 2018.

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