

Interactive comment on “The selection of directional sectors for the analysis of extreme wind speed” by Pedro Folgueras et al.

Anonymous Referee #1

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This paper describes a method for finding the optimum set of directional sectors for a directional extreme value analysis. The goal is interesting and the proposed method seems plausible, but it failed to convince me that the results are optimal. In the example, the sections for analysis are separated from each other. Why are the proposed sectors superior to sectors that match the sections? The sections are far enough separated that independence should not be an issue. The intuitive choice would be to pick sectors centered on the sections and as wide as the data appears to be homogeneous. Why is that not better?

According to Table 2 and Figure 7, all of the extreme value fits are good and do not affect the sector choices. But some of the fits in Figure 6 do not appear to be all that good. (Incidentally, I applaud the selection of Figures that give details of the process).

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The fit for Sector 1 in C45 is considerably higher than the empirical data. Is that related to why the extreme wind speed for Section 1 and T45 is so high? By comparison with results in Figure 4, 26 m/sec does not seem reasonable.

There are a few places where the text is not clear and I had to read farther on through the examples to understand the process.

In heading 3.1, what does “agent” at the site mean?

On line 7, page 8, what are “two moments”? Are they six hours apart or do they include the whole storm?

On lines 12-14, page 8, are the peak events just the peak Hs in each storm or the peak Hs in each sector in each storm?

The caption for Table 1 would be much clearer if it read “Directional sectors resulting from applying the different selection criteria.”

In equation (8), I don’t see where the width of the sector appears.

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