

Interactive comment on “Western Iberian winter wind indices based on significant wind events” by E. Mason et al.

Anonymous Referee #3

Received and published: 6 June 2005

The paper describes the inter-annual variability in a wind index, based on significant wind events, for the Iberian Margin. The paper is basically well written and structured but I believe the use of the wind index, particularly in terms of the determination of the threshold speeds and duration for describing a significant event, requires more discussion.

In the paper, a significant wind event is described as one with a wind speed of greater than 4m/s for 4 days duration. This is based on a modelling study, but I wonder if there is any observational evidence to support this? There is little discussion on the effects of changing the criteria. In particular, figure 2 shows 2 upwelling favourable wind events occurred that year. The first wind event, however, would have lasted longer if not for the occurrence, for 1 day only, of wind less than 4m/s, but that was still directed as to be upwelling favourable. What is the relevant timescale for the persistent upwelling to

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cease?

More explanation about the statistical correlation might be desirable for those unfamiliar with the correlation technique. I wasn't completely convinced of how well the observed and NCEP data correlated. For example, the authors state the largest difference in mean wind velocities was the u component in 1999. The mean u velocities for that year, however, were of opposite direction, obviously relevant to the off-shelf/on-shelf indices.

Page 113 - I assume the hybrid index is a straight summation of the SUFWE and SOFWE index. Given the offshore winds might induce offshore transport in the upper few meters only (Tilburg reference) much less than the Ekman depths quoted, would a weighted summation be more appropriate? At what depth are the Sardine larvae most abundant?

Page 113 - In relation to the wind index - sardine relation, what is the rationale for a 5 year running mean for the wind index? This needs to be explained.

A little more discussion on the biological aspects that may be affecting the strength of the wind index - catch relation might be added. Is there any data on sardine stock sizes which might be related to the decrease in sardine catch.

FIGURES

Would a map of the regions showing NCEP and Lighthouse locations be useful?

Figure 3 and 4

- The two blues for Jan and Mar can be a bit confusing both for bar chart (and also the time-series lines in figure 4).

- The red line on a green background in Figure 3 may be confusing for a colour blind reader. Same reader may have same problem for Figure 5 with the red and green lines.

MINOR POINTS

Page 107, line 19 - Iberian (not Iperian).

Page 110, line 19 - I counted 13 SUFWE periods not 15 (but I could be wrong).

Page 115, line 22 - Roy et al. paper not listed in the references.

Interactive comment on Ocean Science Discussions, 2, 105, 2005.

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