

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

Anonymous Referee #1

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The discussion paper is concerned with conditions off western Iberia. It describes indices of sustained wind (4 quadrants), for winter months, and variability/trends in 1948–2002. There is comparison with annual sardine catches.

The statistics of the comparison are not much described, are rather uncertain and so the significance of apparent relations is not clear. For example, the effect of different wind-speed thresholds and duration are not explored; in my opinion, even the significance of the 1950–1980 relation is not clear. A hybrid index gives a somewhat better comparison, but how significant is the improvement?

The reason for changes in the relation between the index and the sardine catch is not clear, or how tenable is the “original, obvious” belief about the adverse effect of offshore transport on larvae survival. Hence overall the scope is rather limited and the discussion is inconclusive.

The paper is well organised and written. Some detailed comments follow.

Page 2. Define IP at first use. At bottom, explain that the calculation assumes 4m/s for 4 days.

Page 3, line 4. The winter months and sardine spawning are not the only interests. Section 2. The latitudes 41.0N and 39.4N are separated by ~ 180 km.

Page 4, bottom " ...other combinations of parameters". There ought to be better discussion of (e.g.) 10m/s for 3 days, why is this below the threshold?

Pages 5, 6; section 3. There should be some sort of significance test, especially to improve on the cases of vagueness in section 4 (5th line - "We believe"; page 7 line 2 - "may be").

Page 7, section 4.1, lines 4-5 and 8-9. If the mechanism is offshore transport of eggs and larvae, in a few days, why look at annual catches and a 5-year running average of the index? Section 4.1, line 10: are SUFWE and SOWFE given equal weight in the hybrid index? Why? The balance between SUFWE and SOWFE should in theory depend on the friction and short time scale (both favouring SOWFE).

Page 8 near bottom. The breakdown in the negative relationship needs more explanation.

Page 9 line 3. Table 2 suggests that the individual years are assumed to be independent but this is probably not correct for the five-year running average or for the years 1950-1980 (approximately) dominated by longer-period variations. There is doubt about the first sentence of the next paragraph. Line 4; please explain what scatter in the data is referred to and what R2 measures. End of first paragraph. Omission of years 2000, 1999, ... is arbitrary unless there is a clear reason. Page 9, second paragraph, line 4. "Anomalous" wind behaviour is necessary for degrees of freedom as a basis for statistics and confident explanation. End of page 9. This is all rather general. Progress really wants some explanation of dependencies here.

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