



Interactive comment on “Seasonal mean pressure reconstruction for the North Atlantic (1750–1850) based on early marine data” by D. Gallego et al.

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General comments

This paper describes the calculation of an historical sea level pressure reconstruction for portions of the North Atlantic using an objective spatial regression analysis, based purely on marine data. The paper clearly falls within the scope of CP, is innovative, and leads to substantial conclusions. The paper is generally very clearly written, and of appropriate length and structure. It provides a good demonstration of the utility of early ship logbook data, such as the European observations abstracted by the CLIWOC project, and suggests priorities for further abstraction of such data.

Specific comments

1) p. 58, lines 25-26: "complete datasets" are referred to, but then the "most complete"

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is HADSLP2.

2) p. 60, lines 7-8 and following: Since most CLIWOC wind force observations were derived from textual remarks, "measures" could be misleading to readers unfamiliar with the early logbook data, without some further explanation. Also, usages of the word in a slightly different sense such as "direct SLP measures," could perhaps be replaced with "measurements" for additional clarity.

3) p. 60, line 11: ICOADS Release 2.1 contains individual observations back to 1784, but the monthly summaries (of SLP, wind, and other variables) currently extend only back to 1800.

4) p. 62, lines 13-15: Regarding the sentence beginning "The original ICOADS data have been averaged...": This wording does not make it clear whether all the data were averaged by the authors, or existing ICOADS summary products (which, as noted above, only extend from 1800) were used. Assuming the latter, it would be helpful to also indicate whether the standard/enhanced summaries were used, and that the ICOADS monthly means of scalar wind (whose ratio with the magnitude of the vector wind could provide an indication of wind steadiness) were not used in this study.

5) p. 71, line 26: "The average CLIWOC SLP is in all cases well above...": according to Table 3, should that read "below" (also p. 74 line 9)?

Technical corrections

1) Concurring with a minor point made by the first referee: the figures need coordinates to go with the text (or at least for the first appearance of the figures of the same spatial configuration).

2) p. 60, lines 26-27: I suggest this text be more clearly worded: "...the uniformity of the ocean surface prevents the presence of any biases caused by changes in the scale of the boundary layer."

3) p. 62, line 8: extra word "it."

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- 4) p. 64, line 9: notation inconsistency: u/v in italics as opposed to elsewhere.
- 5) p. 66, line 21: Wouldn't deleting "no missing" (or replacing it with "extant") have the same meaning?
- 6) p. 68, title and following: How about "Adjustment" instead of "Adjust?"
- 7) p. 68, line 23: "...reconstruction area is covered by a relatively small number of squares...": what squares are being referred to?
- 8) p. 72, lines 2-3 and Table 3: concurring with a minor point by the first referee, I think the paper would benefit from another figure or so here based on Table 3.

Interactive comment on Climate of the Past Discussions, 1, 57, 2005.

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