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Interactive comment on "Meteorological buoy measurements in the Iceland Sea 2007–2009" *by* Guðrún Nína Petersen

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[GENERAL COMMENTS The manuscript describes meteorological buoy measurements conducted by the Icelandic Meteorological Office in the central Iceland Sea during 2007 – 2009. The paper provides detailed information about buoy deployment, conducted measurements, and a brief analysis of the observed characteristics. I would expect from this kind of paper a more detailed description of the instruments employed for observations and analysis of errors/biases in observed characteristics. Below are several concerns that may need further consideration by the author:]

[SPECIFIC COMMENTS 1) There is no information about type of the instruments that were used for measurements. For examples, what kind of anemometer was used for

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Discussion paper

wind speed measurements? Conducting and interpreting buoy wave measurements is not a simple task. More information about wave measurements would be helpful. What instruments were used to measure wave height and direction (accelerometer and inclinometer)? How were the wave characteristics derived? Etc. It would be helpful if each subsection in section 3 started with a brief description of the instruments, biases/errors/accuracy in the measurements.]

You are absolutely correct, a table of the instrumentation was missing. It has now been added to the paper with information on accuracy from the manufacturers. Also the instrument in question is mentioned at the start of each subsection of section 3.

[2) The buoy was constantly in motion (drifting inside a 2 km circle before it broke loose). This means that observed ocean currents were not relative to a fixed point but to a moving object (buoy). This could substantially bias the ocean currents if no corrections are done. Were any adjustments made for observed ocean currents?]

There are not adjustments made for observed ocean currents. The aim of the paper is to give a potential user of the data a reference. The figures and calculated mean values are meant to give a user an overview of the data and help him/her to decide if the data is of use for his/her application. A sentence clarifying that no adjustments were made has been added to the paper.

[3) Many publications discussed biases in surface wind measurements from buoys (e.g., Taylor et al., 2003: The accuracy of marine surface winds from ships and buoys). Has any analysis been performed for biases in wind observations from the IMO buoy? Was there any dependence found between the errors in wind observations and other factors (wind speed, direction, wave heights – as this is the major source of errors in the buoy wind observation)?]

There is no doubt that meteorological measurements at open sea are challenging, especially in high wind speed. It has been shown that sheltering effects and elevation changes during rough seas can negatively bias the wind field measured by buoys (e.g.

Large et al., 1995; Zeng and Brown, 1998). For the buoy data in question, no attempt is made to analyse the biases in wind data, that is left to the user of the data. However, to avoid a confusion or misinterpretation by potential users a text stating this has been added to the paper.

[4) Time series of observed characteristics provide information about seasonal signal. For a quick overview of statistical properties of observed variables, it would be informative to provide some sort of a histogram or a box-plot. This could be a small figure inset in the time series diagram.]

Good idea. Histograms have been inserted where appropriated, as insets where possible.

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