

Interactive comment on “Joint analysis of coastal altimetry and HF radar data: observability of seasonal and mesoscale ocean dynamics in the Bay of Biscay” by Ivan Manso-Narvarte et al.

Anonymous Referee #1

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HF radar and coastal altimetry-derived surface currents are quantitatively compared first at certain locations and then along the altimetry ground tracks in the southeastern Bay of Biscay during multiple years from 2009 to 2015. The two data sets are further used to describe the mesoscale dynamics of the Iberian Poleward Current and eddies in the region. It is demonstrated that a combination of different coastal ocean observing systems may provide a better understanding of the coastal ocean processes. Despite the limitations of the ocean observation techniques, the results are encouraging. Also, the topic is interesting and the paper is informative. I would recommend it be accepted for publication after minor revision.

C1

Specific comments:

Correlation coefficient is used to quantify the comparison between two time series without any statistical significance test. It is important to mention whether a correlation is statistically significant or not, because a high correlation coefficient may not be meaningful at all without a significance test. Also, “correlation coefficients” are simply written as “correlations” in many cases, which should be clearly specified.

Throughout the manuscript, two decimal places are used for ocean current velocities. In my opinion, one decimal digit would be enough. This is because the accuracy of HF radar current measurement is about several cm/s, and the errors in altimetry-derived currents are even larger.

Technical errors:

Page 1, Line 9, “resolution” should be “resolutions”.

Page 1, Line 20, “higher” should be changed to “larger”.

Page 1, Line 25, “in” should be changed to “by”.

Page 2, Lines 1-2, it would be good to refer to a recent book in this topic (Liu et al., 2015).

Page 2, Line 17, “resolution” should be “resolutions”.

Page 2, Line 17, “of” should be removed.

Page 5, Line 6, the single sentence paragraph should be combined with the previous paragraph.

Page 5, Line 14, the single sentence paragraph should be combined with the previous paragraph.

Page 5, Line 23, “except” should be changed to “except for”.

Page 7, Line 27, what value is used for Cd?

C2

Page 9, Line 28, “the higher is the correlation, the smaller is the difference . . .” should be changed to “the higher the correlation, the smaller the difference . . .”. Both “is” should be removed from the sentence.

Page 14, Line 27, “Altimetry has also its own limitations” should be changed to “Altimetry also has its own limitations”.

Reference: Liu, Y., Kerkerling, H., and Weisberg, R.H. (Eds): Coastal Ocean Observing Systems, 461 PP., ISBN 978-0-12-802022-7, Elsevier (Academic Press), London, UK, 2015.

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