Ocean Science
Discussions

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Interactive comment on "On the resolutions of ocean altimetry maps" *by* Maxime Ballarotta et al.

Lee Lueng (Referee)

lee-lueng.fu@jpl.nasa.gov

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This paper presents a comprehensive study of the resolution of a popular product of ocean altimetry maps issued by the DUACS (AVISO) system. The study used a spectral coherence method to determine the spatial and temporal resolution of the maps, using independent altimetry data (for spatial resolution) and tide gauge data (for temporal resolution). A host of issues have been addressed: the dependence on the number of altimeters, the evolution of the system over the altimetry era, the comparison with previous studies, the sensitivity to the signal/noise ratio. This paper is highly recommended for users of the DUACS maps for any quantitative studies.

Some minor technical comments:

P.1 lines 10-13: The sentence "These maps are ..." is awkward. Needs re-phrasing. P. 2, Line 30: What is the source for the independent 1 Hz along-track data? Although

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[Discussion paper]

the answer is provided later, it should be made clear here. P.3, lines 25-30: Why does MSLA contain no noise? Is noise the same as random error? What is t in equations 1-2? what is v(t)? P.4, equation (6): where is Gvv from equation (4)? P.5, lines 17-18: Provide reference on the larger correlation scales. P.7, line 5: add "than" after "smaller". P.7, lines 26-27: Elaborate why up to four altimeters are required for near-real time products. P.7, lines 29-30: This is an important point worth noting when the use of independent track for the study is first mentioned in the paper. P.12, equation (9): either show a figure of SR(lambda) or describe its variation with lambda in words.

Interactive comment on Ocean Sci. Discuss., https://doi.org/10.5194/os-2018-156, 2019.