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Hydrology and Earth System Sciences
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Discussions

Interactive comment on "Determining slack tide with a GPS receiver on an anchored buoy" *by* M. Valk et al.

Anonymous Referee #2

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It is a very interesting manuscript. The main objective of this manuscript is to determine the time of occurence of tidal slackwater with a GPS receiver mounted on a anchored buoy (commonenly used for delineating shpipping lines). The core of the study includes statistical procedures to derive the estimation of time salck water from gps observations, field tests and finally the results are validated using ADCP observations.

As the authors have mentioned, the successful impelentation of this study can provide a number of benefits including calibration of tidal models and determining maximum salt intrusion.

hence, the paper can be accepted subjected to the satsfactory clarifications to the following points:

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Interactive Discussion
Discussion Paper

i. Explain uncertainity of tidal models in a zero flux phase

ii. In page no. 20, the authors say: In this study tidal elevation data from a nearby on-shore measurement station in Terneuzen is used to determine the moment of high and low water, under the assumption that the tidal elevation of buoy 18 is equal to that of Terneuzen a. what is distance from the buoy position to on-shore station? and please explain how your assumption is valid.

iii. Explain the technique used to smoothen the buoy velocity

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 10, 13743, 2013.