

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 occurrence of tidal slackwater with a GPS receiver mounted on an anchored buoy (commonly used for delineating shipping lines). The core of the study includes statistical procedures to derive the estimation of time slack water from GPS observations, field tests and finally the results are validated using ADCP observations.

As the authors have mentioned, the successful implementation 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 satisfactory clarifications to the following points:

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- i. Explain uncertainty 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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