Earth Syst. Sci. Data Discuss.,
https://doi.org/10.5194/essd-2018-12-RC2, 2018

Earth System Science Data Discussions

Interactive comment on "FerryBox Data in the North Sea from 2002 to 2005" *by* Wilhelm Petersen et al.

Anonymous Referee #2

Received and published: 14 April 2018

This paper presents a simple data set, though perhaps with too few additional comments. I expect the data set would be useful for anyone considering installing a FerryBox system. I suggest returning the paper to the authors for minor revisions to improve the paper. There are two broad ways the paper can be improved:

First, if the goal is to present the system to other researchers who would be interested in using a similar setup or to present the dataset to people who might be interested in using the data, then a more complete and careful analysis of the uncertainties in the measurements would be useful. For example, the authors present their salinity calibration data as a figure, but don't seem to attempt to extract uncertainty estimates from that calibration data. Similarly, the absence of underway O2 assessment data leaves the seemingly lab-calibration based estimates in doubt. The chlorophyll mea-

surements were uncalibrated. The turbidity measurements are also a puzzle, as the other reviewer pointed out.

Second, a small amount of descriptive oceanography would be useful. Why does the salinity get so low near Cuxhaven (presumably near a river mouth?). It might also be worthwhile to describe the high chlorophyll event that led to oxygen supersaturation around June of 2005. Even if the authors are mostly interested in just demonstrating a FerryBox application rather than doing oceanographic research, river plumes and transient blooms are both features that the high temporal and spatial resolution of the FerryBox system would be well-suited to capture, so some notes on these features (and perhaps why they are important to capture) would help generate interest in the approach. However, the brevity of the current draft is nice, so I don't recommend adding too much new text.

Specific comments L28: "events"

L33: provide a range of typical example depths

L49: "heavy seas"

L50: suggested rephrase: "Water passes from a debubbler to the different sensors through an internal water loop."

L52: recommend: "Sensors for temperature and salinity are included (Table 1)."

L63: Housekeeping –> "Diagnostic"

L70: "Automatic"

L74: suggested "Temperature measurements were spaced by approximately 100 m" (when the ferry was underway?)

L78: What do you estimate the uncertainty of the salinity measurements is based on this calibration data? Quantify "very good." By eyeballing figure 2, it appears the salinity measurement had a standard error of $\sim$0.15?

L86: What is meant by “in the field” if the sensor was only being checked at port? How is the field accuracy assessed?

L89: Too many spaces after “database”

L90: COSYNA is an acronym. What does it stand for?

L99: The Y label and the colorbar are hard to read. Longitude is missing a sign.

L108: DFDS is another acronym that should be spelled out.

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