

Response to referees' comments on the revised manuscript "*SHELDA: Sub-hourly European Quality Controlled Sea Level Dataset*" by Balić and Šepić, submitted to Earth System Science Data (essd-2025-767)

Report #2, Anonymous Referee #1:

Authors have taken into account all my suggestions and made all data series accessible through the provided link. The manuscript is clear and well structured, with all relevant points addressed. The dataset is extensive and well quality-controlled. I recommend acceptance of this work after some minor corrections, detailed below.

- **We sincerely thank the reviewer for their positive evaluation of our manuscript. Below, we provide a response to each of the minor corrections suggested.**

Comments on the paper

Figure 4, second column: 'sampling frequency' > 'sampling interval'

- **Changed.**

Comments on NetCDF files

1. There appear to be interpolated intervals (stations: ande, IM01, NA23, OT15) and periods of constant sea level (stations: CF06, IM01, NA23, OT15, PT17, TR22). You may want to consider removing these from the dataset (see figures in the attached pdf).

- **Constant sea level value intervals have been removed from the time series. Updated and corrected versions of the .nc files have been uploaded to the dataset repository.**
- **We would like to clarify that no data interpolation was performed during our processing. The data series consist of the original 10-minute resolution measurements. These specific values were not removed or altered.**

2. The tidal signal seems to have leaked into the residuals at some stations during certain periods, probably due to time shifts in the original sub-hourly time series (possibly related to UTC+1/UTC+2 shifts). Please check the stations and periods highlighted in the figures (last 69 figures in the attached pdf).

- **Periods where the tidal signal leak into the residuals was found to be significant have been entirely removed from the time series. The updated time series are now included in the revised .nc files.**

Report #1, Referee #2: Ivan Haigh

I am happy with the responses from the authors. They have done a good job with the issues I raised. Thanks for taking the time to respond in detail.

- **We sincerely thank the reviewer for their time, constructive feedback, and positive evaluation of our revisions.**

Remarks from the preceding review file validation

With the next revision, please add the following attribution text to the Figure 1 caption: © GEBCO. All rights reserved.

- **Added.**