

Earth Syst. Sci. Data Discuss., community comment CC1
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Comment on **essd-2021-134**

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Community comment on "Minute Sea-Level Analysis (MISELA): a high-frequency sea-level analysis global dataset" by Petra Zemunik et al., Earth Syst. Sci. Data Discuss.,
<https://doi.org/10.5194/essd-2021-134-CC1>, 2021

7 June 2021

I have a few extra comments on this paper to add to those of the reviewers. First, I have to say that this data set of high-frequency variability is to be welcomed, and it fills a gap in a type of data provision by the other sea level data sets. It is also good to see use being made of the data in the IOC SLSMF, even though that is not what the SLSMF was primarily designed for.

On this topic, reviewer 2 end of first para, refers to an article by Aarup et al. (2019) which commented on an earlier paper which had made use of SLSMF data somewhat inappropriately. That paper, if we are talking about the same one, and the paper it was commenting on were in a journal called Measurement and not in Journal of Coastal Research. The Aarup et al. reference is:

Aarup, T., Wöppelmann, G., Woodworth, P.L., Hernandez, F., Vanhoorne, B., Schöne, T. and Thompson, P.R. 2019. Comments on the article "Uncertainty and bias in electronic tide-gauge records: evidence from collocated sensors" by Stella Pytharouli, Spyros Chaikalis, Stathis C. Stiros in Measurement (Volume 125, September 2018). Measurement, 135, 616-619, doi:10.1016/j.measurement.2018.12.007.

Other remarks:

somewhere - as reviewer 2 mentions it would be good to see a statement that you plan to update this data set every few years

page 2, top - one could add the Caribbean to this list e.g.

Woodworth, P.L. 2017. Seiches in the eastern Caribbean. Pure and Applied Geophysics, 174(12), 4283-4312, doi:10.1007/s00024-017-1715-7.

This paper also used SLSMF data as you did.

line 37 - others

line 48 - GESLA (by which you mean GESLA-2) is not an hourly data set. I realise you say 'at the majority' but that gives a wrong impression. I would change that to 'containing global sea-level data with hourly or higher (e.g. 10 or 15-min) resolution at 1355 ...

GESLA-3 will be appearing later this year by the way.

76 - dataset is the

82 - Besides giving access to the data - see above. I suggest you say something like:

Besides giving access to the data (although that is not the main priority of the SLSMF, see strong comments on this aspect in Aarup et al. (2019)), the main

84 - station

96 - others

Fig.1 caption. Please expand the caption to say what you are trying to show in each of the four example plots. You don't even explain that in the text

103 - IOF needs an http or https

121 - least-squares

124 - what does gap-denser mean? jargon. please reword

128 - drop the comma after approach

136. .. timescales. However,

138 - does the allowing of large gaps introduce Gibbs-type oscillations in the use of the filter?

140 - define QC

Fig 5 - the caption needs expanding to say that a,b,e,f are sea level before and after, whereas c,d are Non-Tidal Residuals (NTR presumably). Does Wake really have a small tide as in (z)? In b and f presumably despiking and filtering is after detiding?

150 - attributes including the station

152 - 'abas'

154 - drop 'the'

sentence 'The FMI' would be better coming before sentence 'The variable time'

Fig 4 - there are too many lat/lon annotations

193 - some of the longest individual records .. shorter time-series on average

I can see in Fig 6(b) that ASWA has shorter records than global on average but CSP looks about the same as global

Fig 6(b) - what is the meaning of the size of the box and the outer error bars? Box-Whiskers is just jargon, I suggest you drop that.

255 - IOC (1997), which is the GLOSS Implementation Plan is ok to mention. But I would also refer to for example:

Woodworth, P.L., Aman, A. and Aarup, T. 2007. Sea level monitoring in Africa. *African Journal of Marine Science*, 29(3), 321-330.
doi:10.2989/AJMS.2007.29.3.2.332.

257 - contains a

371 - you could refer to Woodworth and Player (2003) as well for the PSMSL if you want but a later reference is:

Holgate, S.J., Matthews, A., Woodworth, P.L., Rickards, L.J., Tamisiea, M.E., Bradshaw, E., Foden, P.R., Gordon, K.M., Jevrejeva, S. and Pugh, J. 2013. New data systems and products at the Permanent Service for Mean Sea Level. *Journal of Coastal Research*, 29, 493-504, doi:10.2112/JCOASTRES-D-12-00175.1.

which is what the PSMSL web site now asks you to refer to.

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