Review of manuscript: os-2021-92
A newly reconciled data set for identifying sea level rise and variability in Dublin Bay

General comments:

The authors have produced a new record for sea level (MWH, MLW and MSL) for the Dublin Port region. They have looked into the outstanding issue of why the Dublin tide gauge (or longer term) rate of sea level rise is different to other records. This was an important issue to investigate, given the wide range of possible rates that have been published.

They combined multiple published and unpublished datasets for the region and identified an issue the MHW and MSL. They corrected for this, using the MLW records to produce an updated MSL record applying Bayesian multivariate linear regression.
They compared the corrected MSL records for Dublin Port to two regional tide-gauges from Brest and Newlyn, to put the updated rates from Dublin into a more regional context.

I have a few questions regarding the figures, mostly are minor to clarify a few things. I have few more detailed questions, to clarify parts of the manuscript, but only minor points.

1: Section 4: Prior to calculating the MSL rates line 140 states " *yearly MSL from Brest and Newlyn .. removed atmospheric effects following*". If to use the MSL from Brest +Newlyn the atmospheric effects need to be removed; why was this not removed in Section 3 when estimating the Mean sea level for Dublin Port.

2: Section 5 and Section 6: Unless the journal requires both discussion and conclusion section: these could be combined as "Discussion +Conclusions"
In the introduction the authors refer to the difference between satellite observations (*line, 23 " sea level rising at a rate of 2-3 mm/yr*), Dublin City council rate (*line 30: reports a 6-7 mm/yr SLR between years 2000-2016)* and the rate from previous published studies. Could the authors refer to these differences in the discussion or conclusions. Why are the satellite records different, for example?

Minor questions:
1:Section 1: *Line 34-40 "find problems with the MHW measurements which indicate a drift over time"* From reading section 3, I assume this "drift correction" was calculated using the Bayesian multivariate linear regression. I think it would to mention this.

2: Data collection for Dublin Port:
Line 45 - 66. We complied MHW... and, where available, mean sea level for Dublin Port. Do all five datasets have data for MHW, MLW, MTL and MSL? If not, could you add to table 1 which do/do not. From Figure 1, I assume they all provide MHW, but which ones do not record MSL?

3: Section 4: Perhaps rename "*rates of sea level rise at Dublin Port and nearby tide-gauges*". Just to make it clearer the differences of this section to Section 3.

Specific comments about figures

1: Table 1: Can you add a column for the different datums used for each of the datasets, prior to processing? On line 76 "*Difficulties in merging the Dublin Port datasets arose from the differing datum definitions*"
It would be helpful to have Table 1 and Table 2 combined - This is useful to compare the different durations of each record. Also can you check the range of each data record through the paper as the text and table often do not match or are consistent.
    -Port Authority Annual: duration: 1938-1977. *Line 46: " refer to as 1938 to 1988*"
    -Port Authority Monthly: duration 1978-1988: *Lines 45- 50*. "*The Monthly Port Authority data for the period 1987-2001*". Is this combined with the first dataset refer to in as Port Authority Annual
    -Harbourmaster: duration: 2002-2009. Line 56: *"data supplied by the PMSL for the period 2001-2009".*
    -NTGN: duration: 2006-2019. Line 60: *"data for the period 2006-2017"*

2: Figure1: The length of the records shown do not correspond to the length of the records in Table.1. For example: Port Authority (blue) ~ 1968 to 2011? This may be a plotting problem or the resolution of the figure.

3: Line 89*: "we now use our newly merged dataset (..) MSL and MHW from 1938 and 2019.*
As you refer to the period 1938 - 2019, why is Figure1 showing the MHW from 1968 to 2019?

4: Table 2 and Figure 3: Can you clarify why the time axis is only to 2017 (but the records extend to 2019?)