We thank Reviewer 2 for the helpful comments provided on this manuscript. Below we have put Reviewer comments in bold text and our responses in italicized text.

The paper reports data on 'blue' carbon stocks and 'blue' carbon accumulation rates from seven salt marshes at the west coast of Vancouver Island, BC, Canada. These seven salt marshes cover a total area of 47 ha. The authors differentiated between high and low marsh through identification of indicator plant species. They took in total 34 cores of the organic (peat) layer down to the underlying sand or gravel bed. In 10 cases the cores did not penetrate into the sand, clay or gravel layer. Eight cores (four from high and four from low marsh) were dated using 210Pb. The authors found an average total C stock to the base of the peat layer of 67 ± 9 Mg C ha-1 (mean ± SE) for all cores, which was less than one third of the globally averaged estimate of 250 Mg C ha-1 for salt marsh C stocks. In contrast, the average base of peat carbon accumulation rate (CAR) was 184 ± 50 g C m-2 yr-1, and in the high marsh even on average 303 ± 45 g C m-2 yr-1, which was about five times higher than in the low marsh areas. It has to be noted, though, that these CARs were based on four dated columns only per low and high marsh. In the discussion part, the authors put their findings into perspective of data from other salt marsh ecosystems along the Pacific and Atlantic coast of North America, and claim that they have addressed the knowledge gap regarding the carbon accumulation potential of these ecosystems. Finally, the compare the carbon accumulation of their salt marsh system with that of Canadian boreal forest and conclude that the carbon accrual rates are much higher in the salt marsh, but acknowledge that the salt marshes cover approximately only 0.016-0.1% of the area covered by boreal forests in Canada and that their absolute magnitude of carbon accumulation is only minor.

While the work appears to have been conducted in a scientifically sound way, and also the data have been well evaluated and compared with the literature, the representativeness of the studied system remains vague. The authors have taken 34 peat deposit cores in a range of about 25 km in an area that is subject to negative relative sea level rise due to uplift of this part of the coast. They attribute the below average carbon stocks of their salt marshes, amongst other reasons, to this relative sea level drop. But they do not detail to which extent this is representative or not for the vast Pacific coastline of North America, not to speak of the Atlantic coast. Also the effect of tidal range (the be more precise, its local differences) on the partitioning of marshes in 'high' and 'low' marshes, which obviously has a large effect on carbon accumulation rates and total C stocks, has not been addressed. That means, the authors did not put their 'mesotidal' system into perspective of other parts of the NE Pacific coast.

They only wrote "We expect that these mesotidal estuarine marshes, often constrained in size by surrounding topography, are typical of the marshes found on the Pacific coast of British Columbia" (L510-511). How is the situation in systems with higher or lower tidal range

than the one encountered here? In a nutshell, the authors should address the open question regarding the representativeness of their system in more detail.

Regarding the first point, the reviewer is correct that, within the financial constraints of the project, we have sampled 34 peat deposits from a marsh area of 47 ha within the Clayoquot Sound UNESCO Biosphere Reserve and Pacific Rim National Park Reserve and have been able to provide ^{210}Pb dating for 8 (4 high marsh, 4 low marsh) cores. While this sampling may sound limited, it provides a substantial expansion over what has been sampled previously and adds the first ^{210}Pb dated materials for the area. While some studies have provided a larger number of sampled and dated cores (e.g. Callaway et al. 2012; Suir et al. 2019; Brown, 2021), the assessment of carbon accumulation rates in many other marsh blue carbon studies are often completely lacking in 210Pb-dated quantification, particularly of high and low marsh environments separately (see e.g. supplemental information from Ouyang and Lee 2014 compilation). Therefore, this work represents a step forward in quantifying salt marsh processes, particularly on a previously under-sampled coastline.

That said, we appreciate the Reviewer's concern that we clarify our assumptions regarding our study's representativeness for the Pacific Coast of Canada and will do so in the revision. In particular, we can provide further discussion of sea level change along the Pacific Coast of Canada, which averages -0.76 ±1.32 mm/y (negative sea level change at our site is approximately -1.58 mm/y) (James et al. 2014). We will discuss how these differences in sea level rise could impact deposition.

Regarding the second point, we will include in the methods of our revised text that we were not able to measure the precise tidal range at each location and note that the average tidal range in nearby Tofino is ~2.7 m. Within this system, the partitioning between high and low marsh zones (defined previously by tidal range) appears very closely linked with associated vegetation (which is seen in our canonical correspondence analysis). This tight coupling between vegetation type and marsh zone has also been observed in other studies on the west coast of Vancouver Island (Deur et al. 2000) and studies in nearby Boundary Bay (Gailis et al. 2021). Vegetation associations related to salinity and inundation are well documented and commonly used in salt marsh delineation (MacKenzie and Moran. 2004).

Importantly, we do not make any claim that these sites are at all representative of the Atlantic coast, and in fact, intended to make the point that the Pacific Coast environment is substantially different from the geomorphological and depositional environments along the passive margin of the Atlantic coast. We will clarify the text to make sure that this inference cannot be drawn from the text. Finally, we note as well that recent global syntheses (Wang et al. 2020) have suggested that tidal range variables were not a significant driver of CAR in tidal wetlands. We will include this in our discussion as well.

L136-137: How long were the cores stored under refrigeration?

Cores were collected in June and September, 2016. While in the field, cores were stored in portable coolers with ice packs. Long-term storage of cores was at Parks Canada laboratory in Vancouver, BC at 4C.

L207: How representative were these eight dated cores for your whole system (four for the high marsh, and four for the low marsh)?

As described above, we used the species composition of marsh vegetation communities to determine low and high marsh designations, by examining vegetation found within 50x50cm quadrats. We used these vegetation communities to establish representativeness of the high and low marsh sites that we sampled for ^{210}*Pb analysis. We can add a sentence to our methods clarifying this point.*

L 485-488: Here you write "Our Clayoquot Sound data represent only a small area of a single region of the west coast, but if we assume our CAR estimate of 184 ± 50 g C m-2 yr-1 from Clayoquot Sound approximates the average for all tidal salt marshes in Canada,…". But the question is whether this generalization of your findings is justified. And if so, on what basis / with what assumptions?

We agree completely with the reviewer that our calculation is a vast oversimplification (although not unlike oversimplifications that have recently been published in other blue carbon literature). Our purpose in this text was not to provide a definitive estimate of blue carbon accumulation rates in Canadian salt marshes, but to provide a "back-of-the-envelope" comparison of the scale of accumulation relative to other ecosystems. We can make this point clearer in our text, to avoid having these numbers taken and repeated out of context.

We note that the CAR used in our calculation does fall within the range of expected values for worldwide and NW Atlantic CAR estimates of Ouyang and Lee (2014). However, in our revision we expand this analysis to encompass a wider range of possible CARs

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