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Interactive comment on "Dynamic allometry in coastal overwash morphology" *by* Eli D. Lazarus et al.

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Lazarus et al describes how dynamic allometry manifests in washover deposits from a set of laboratory experiments simulating barrier island inundation and shows how these scaling relationships compare to five decades of washover deposit imagery from the Ria Formosa barrier system. The content of the manuscript is interesting and well-written. I found the similarities in scaling relationships between the experimental and natural washover deposits remarkable, especially given the simplicity of the experimental setup relative to the natural setting (e.g., lack of dunes, vegetation, back-barrier marsh, etc). Although these findings are discussed, I did feel like the somewhat lengthy and more general discussion of scaling laws in the Implications section, albeit interesting, diluted what could be a more impactful presentation of the study's experimental

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and comparative results. Perhaps some of this information is better suited in the Introduction, or including a conclusions section that more explicitly addresses the work presented here, would better highlight the manuscript's scientific contribution. Specific comments are listed below.

ll. 17-19: Last sentence of abstract – the importance of initial conditions does not appear to be a focus of the manuscript

l. 79: Does this mean that the barrier width varied alongshore or between trials?

Section 2.2: Some more general information about the Ria Formosa barrier system (e.g., average dimensions, how densely vegetated, average overwash/inundation frequency) would be useful for comparison with the experimental washover setup.

ll. 142-144: These two sentences are generally true, but there are also marked gaps between washover deposits that persist over the course of the experiments, particularly in trial 2 (Fig. 4c). Can you address why this irregular spacing can also be seemingly stable over time? And could this partly be the cause of differences between the trials' dynamic allometry, seen in Fig. 4a?

ll. 156-158: Couldn't allogenic factors also affect washover deposit morphology over the time scales of multiple decades, e.g., relative sea-level rise, erosion of the back-barrier marsh, changing sediment supply, etc.?

ll. 226-227: Sentence needs rewording

ll. 234-236: This excerpt from Perron and Fagherazzi (2012) is referencing different landscape features tending towards equilibrium states, i.e., comparing a drainage divide vs. valley arrangement. Here, only one landscape feature (washover) is being considered, and although these features are in different stages towards equilibrium, the comparison is not entirely clear since it is one type of feature.

l. 281: suggest replacing "to" with "we"

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Fig 4: reference to Fig. 2b in caption seems incorrect

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