

## ***Interactive comment on “Long-range dependence in coastal framework geology: Asymmetries and implications for barrier island resiliency” by P. Wernette et al.***

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Using novel approaches appropriate to the task, and based on an impressive dataset, This paper presents important new insights into the link between geological framework and barrier island morphology and behaviour. Central to the paper is that Padre Island is one of the few places worldwide that adequate data exist to draw the conclusions presented here. In most parts of the world therefore, there is thus an important preliminary step of mapping the subsurface geologic framework before any such dependencies can be identified, let alone incorporated into any practical management scheme. One of the key outcomes of this work should be to highlight the need for such

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data in order to improve coastal management decisions.

At first I was concerned that this was the same paper I had reviewed for another journal. However, while it uses the same dataset and similar approaches, it does differ in its investigation of LRD AND SRD and has important new findings in this regard. However, the authors need to be explicit early in the paper about how this work departs from or adds to their previously published findings. In the current ms this only happens at line 255. This may also require appropriate changes to the title. Several messages are contained in the paper, some of which overlap to a greater or lesser extent with the authors' previously published work. Consequently, a deliberate focus on the key departure of this paper is essential.

There are several points that require further explanation and/or clarification. For example: what is implied by "asymmetry" as opposed to irregularity is not immediately clear; there is an apparent contradiction between line 170 and 310 regarding shoreline change data; the text refers to LRD and SRD being aims of the paper and yet up to that point LRD was the overwhelming focus (as implied in the title).

In several places improvements in syntax are needed. These are indicated in the attached pdf file with notes attached. Also, a review paper was published in *Global and Planetary Change*, probably after submission of this ms, that considers the role of geological factors on mesoscale barrier behaviour. It should be cited.

Please also note the supplement to this comment:

<https://www.earth-surf-dynam-discuss.net/esurf-2018-41/esurf-2018-41-RC1-supplement.pdf>

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