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# *Interactive comment on* "Coastline evolution of Portuguese low-lying sandy coast in the last 50 years: an integrated approach" *by* Cristina Ponte Lira et al.

**Anonymous Referee #3**

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General comments The paper presents the coastal evolution along several sandy stretches of the Portuguese coast, based on analysis of digital aerial photographs / orthophotomaps and a freely available software application. According with the authors, the methodology used quantiïňĄes coastline evolution using a unique and robust geo-indicator (foredune base position), which is independent of short-term changes. The study is not new or novel; the number of references in the bibliography shows that this has been done before and on similar if not the same sections of coastline.

Specific comments The paper is clearly written and describes the work in a rather easy-to-follow manner. The main contribution of the study is to bring about an interesting dataset for the Portuguese sandy coast stretches, which is now available.



However, I have some comments that should be addressed before the publication: (1) more discussion is needed with regard to the coastline definition; (2) the differences in the geomorphological settings (foredune, incipient dunes, sand dykes, washovers terraces and frontal revetments) should be pointed out clearly; (3) overwashing areas or incipient dunes (with or without vegetation) observed in extensive areas may be discussed regarding the methodology procedures; and (4) some discussion that relates the results and its future use to coastal management might be useful. With the above in mind I recommend publication of the paper after minor revision addressing the comments and questions summarized below.

Technical corrections Abstract Page 1, lines 18 and 19: Some names that identify coastal stretches are not correct. Please change ". . .. Costa Nova - Praia da Mira. . .."to Praia de Mira, and ". . ..Cova Gala – Leirosa. . ." to Cova da Gala. Please, change also the names in Results and Discussion section.

3 Methods 3.1 Beach coastline indicator Page 5, line 6-12: Taking into account others studies in the near future, you need to specify how to proceed when the shoreline indicator (foredune toe) is not present. You must have this problem in a lot of situations, in particular, on the digital orthophotomaps of the year 2010, both in northwest coast (namely sub-cells 1b and 1c), where the geomorphological features are quite diverse, and in south coast (cell 8).

4 Results and Discussion Page 8, line 19: please check: "... globally, this sector presents a slight erosive trend with a +0.04m/yr". Page 8, line 32: after checking within the dataset, I cannot ïňĄnd rates of +3.11 in cell 6; please verify this. Page 9, line 10: according with the low value of the medium erosion rate, it is not clear that erosion processes have been to dominate the Portuguese coast; could you rewrite this and check the abstract?

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