

## ***Interactive comment on “Comparison of machine learning classification algorithms for land cover change in a coastal area affected by the 2010 Earthquake and Tsunami in Chile” by Matias I. Volke and Rodrigo Abarca-Del-Rio***

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The thematic maps shown in I-A, II-A, I-B and II-B are now represented in thematic maps III, IV, I and II in Figure 4, respectively. Since the intention of this research is not to characterize the vegetation present in the total image, we decided to limit the area of classification, in relation to the maps presented in the manuscript, to a zone closer to the area of interest (see thematic maps in figure 4). Considering the differences present in the corresponding images at different dates, it should be considered that the region corresponding to the images is approximately 36°S and has a Mediterranean climate

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where the summer seasons can be very dry or show sporadic rains that cause notable changes in the vegetation present. The Landsat and Aster images used training data that did not necessarily include the same pixels. Each of these pixels do not represent equally the homogeneity of the area they characterize, since the spatial resolution of the pixel is different between both satellites (30mx30m for landsat and 15mx15m for ASTER ), therefore the thematic maps resulting from the classification processes for both images should not necessarily be the same. Also, to certify the reliability of the results, new training zone samples were made based on high resolution google earth images. The selection of representative pixels for each of the classes was restricted to a maximum of 2000 samples with the highest possible land cover hogeneity. This process brought greater visual similarity between the Aster and Landsat image theme maps.

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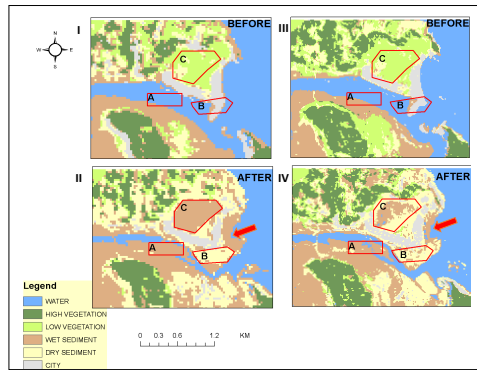


Figure 4. The thematic maps generated by the SVM classification algorithm focused on Tubul for the pre- and post-tsunami period (27-F). (I) & (II): Thematic maps for Landsat image. (III) & (IV): Thematic maps for Aster image.

**Fig. 1.** The thematic maps generated by the SVM classification algorithm focused on Tubul for the pre- and post-tsunami period (27-F).