

Interactive comment on “Soil–landform–plant communities relationships of a periglacial landscape at Potter Peninsula, Maritime Antarctica” by E. L. Poelking et al.

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Authors present a discussion paper about the relationships between soils-landforms-plant communities in a Potter Peninsula in King George Island, Antarctica. It seems to be obvious that this relationship exist, but few people expend time on evaluate and quantify it, neither in Antarctica, where the free-ice areas are few compared with the extension of the continent. Moreover, in Maritime Antarctica, due to its location of the antarctic conditions area, it susceptible of important changes due to small climate variations. So, their study area is important to better know Antarctica, but also like a control point for future evolution evaluation.

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In this scope, they made a detailed and accurate work, useful for the scientific community.

I only have few comments:

Section 2: I think the authors should add more meteorological information like precipitation, snow cover thinkness, snow cover duration, radiation,etc if available, because those data are important to understand the environmental conditions in the area, what is funddamental for surficial geodinamics and geomorphology, as well as for plants development.

Section 3.2: Authors should provide the spectral characteristics of each band of the Quickbird image to allow reader to have on mind the characteristics of the data.

Section 4. Moreover of the resulting Vegetation Map, i would like to see all the other maps of the area: elevation, slope, aspect, geomorpfology, etc. the authors used to characterize each plant community apperance area. Moreover, in the description of each unit, i would like to see some statistics about the max, min, mean values of slope, aspect, or any other of the characteristics the authors try to correlate. In fact, in table 1 where authors summarize the characteristics of each unit, column "landforms and soils", in really does not describe landforms, but plants, and brief soils characteristics. Authors say in the manuscript that some communities are located in wind shadod areas, or in sites protected from solar radiation,... but any information about this is provided.

In summary, the paper is good, but i think the authors really do not show enough data/information about the landform factors (slope, materials, elevation, aspect, granulometry, or other of the features they correlate in this paper. I think they made a great work mapping the vegetation of the study area, and at the soils characterization and correlation with plants communities. However, the landforms factors are poorly described and showed in the paper (at least from my point of view of a geologist). I expect to see landforms maps and data. If they use GIS this is quite simple an fast to do, and

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will support their paper. Other option is to change the title of the paper to "Soils-plant communities relationships..." In this way, the nice cross-sections they provide is a great (and nice) input to complete the understanding of the soils-plants distributions.

On the other hand, the figure 2 is a good job, but i would like to see it bigger at the final version to be really interesting for the scientific community. So, i request to the editor to publish this map at full scale.

In any case, i see the authors made a good and detailed job, especially taking into account the hars weather and logistical working conditions in the study area.

Interactive comment on Solid Earth Discuss., 6, 2261, 2014.