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ABSTRACT

Glaciers in Admiralty Bay (King George Island, Antarctica): a review and future challenges

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Glaciers in Admiralty Bay are one of the most important elements of the environment in the whole King George Island (KGI). From the very beginning, studies on the KGI have been mostly focused on the geology and biology, as well. However, glaciological aspects in research were often omitted. One of the first studies devoted to the glaciations in the South Shetland Islands was done in early 80' by Orheim and Govorukha. However, next decade did not give any breakthrough results on the glaciological investigation, as during that time researchers mostly concentrated on the influence of the climate changes on the glaciers mass balance. The next century brought changes, and new paths have been discovered. For example, from the beginning of 2000, scientist have been involved in the studies associated with ground penetrating radar and with use of the satellite remote sensing for the analysis of the spatial distribution and geometry changes of land based and tidewater glaciers. Due to the lack of knowledge in the field of the hydrological research, in particularly in outflows of the glaciers, which plays the very important role in the glacier mass balance, these kinds of studies should be done. On the other hand, nothing is known about sediment transport on the KGI, and this kind of research is strongly required. In this state of the art presentation, all aspects of the research which have been already done on the Admiralty Bay glaciers will be broadly discuss. Additionally, during the talk, some future challenges, for example, regarding sediment transport issues, will be presented.