



Conditions and process of deglaciation in the Antarctic coastal areas

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The existing paleogeographic data from Antarctic ice-free land areas were analyzed with the purpose to reveal influence of global changes and local factors on deglaciation processes. The initial phase of deglaciation (end of Late Pleistocene—ca. 7000 yrs BP) was characterized by rapid retreat of glaciers in all areas due to both global climate warming (11000–8500 yrs BP) and relative sea-level rise. During ca. 8000–5500 yrs BP, the climate was colder, and the relative sea-level rise (maximum 7500–6000 yrs BP) was replaced by fall. Such climatic conditions were still suitable for slow deglaciation process in the coasts (on the whole), but led to positive balance of glaciers in “mountain” areas. Additionally, in some coasts, limited re-advance of the floating glacier edges happened in the places where they turned on the uplifting land. During ca. 4500–2000 yrs BP, an essential warming had different influence: in the areas inside continent deglaciation was continued; in the “maritime” lowland areas this warming led to increase in precipitation/snow accumulation and to the limited expansion of local glaciers. Within last 1000 years, the limited re-advance of glaciers occurred in most of areas, likely corresponding to the Little Ice Age.