

Ewolucja procesów sedymentacji morskiej w rejonie Isbjørnhamny i Hansbukty w wyniku recesji Lodowca Hansa na Spitsbergenie

The evolution of marine sedimentation processes in the region of Isbjørnhamna and Hansbukta as a result of the Hans Glacier retreat (Spitsbergen)

The marine sedimentation processes are variable and depend on oceanographic conditions. In the Arctic, they change under the influence of the glacier activity. Glaciers are the main source of the sediment within the fjords. The greater influence of the ocean is near the fjords mouths and it decreases with the closer to the fjord heads.

The work hypothesis is whether oceanographic conditions influenced the sedimentation changes, and also how strong the impact is. The glacial bays - Hansbukta and Isbjørnhamna are located near the Hornsund mouth, in the fjord branch. Thus, the main aim is to determine the influence of the dynamic marine processes and glacier activity on the evolution of marine sedimentation processes in the bays. The realisation of the goal is related to determine of the amount of suspended sediment matter in the water column and sedimentation rate. It is also connected to the recognition of the submarine relief and structure of the sediments on the forefield of Hansbreen.

Current results enabled to distinguish various types of geomorphological forms on the seabed due to genesis. These types are divided due to the activity of the glaciers and dynamic marine processes. Moreover, the sediments are supplied by the outflows from Hansbreen, which are both on the west and east side, as well as in the central part of the ice cliff. These outflows are active and stable. They supply the suspended sediment matter to the bays. And its content ranged from 3,0 to 82,8 mg/l.