GEOMORPHOLOGICAL SEABED MAPPING BASED ON GIS-TECHNOLOGY

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The Arctic coastal evolution is the result of both exogenic and endogenic processes. In the Arctic region this evolution differs from that in other areas of the world's oceans as a result of interactions between modern wave and ice factors, and the influences of glaciations and large-scale sea level changes in the past. Natural relief-forming processes are important links in the system of "land-ocean interactions" and must be taken into consideration in research of any scale. Among exogenic and endogenic processes it is possible to identify active processes, directly participating in the formation of coastal relief, and passive processes, which predetermine the display of active ones and direct the course for their development. The approach of the present paper is to simultaneously consider all natural factors that took part in relief formation and its evolution. Using GIS technology we suggest to create four layers: bathymetry; structural basement; paleorelief and relief caused by the action of modern processes. As a result of their overlapping a geomorphologic map will be received. In a GIS system various forms of display can be used. For example, the structural basis could be shown in color, the relic forms could be indicated by various lines and the modern relief could be displayed by shading. Using this and other combinations, it becomes possible to create other maps and schemes in GIS format. The poster will include a geomorphologic map of the Pechora Sea in GIS format as an example.

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