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Subglacial geomorphology of the Antarctic.

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New data on subglacial-submarine surface (SSS) structure of the Antarctic and relief-forming processes were obtained during geomorphological investigations on the basis of morphodynamic concept and system-morphologic principle. We built a general model of relief formation in the Antarctic. It is assumed that lifetime of ice cover – 25-35 million years is commensurable with the neotectonic period of earth crust evolution. In a general way neotectonic movements defined the height and depth amplitude of modern relief, morphology and contrast of its forms. The latter were preserved from lithodynamic processes and they are the most objective indicators of concurrent tectonic movements. Lithodynamic processes within Antarctica developed in conditions of glaciers growth and relief planation. These conditions differ in principle from environment in the Arctic, where the relief developed in the situation of general deglaciality. As a result of morphotectonic investigations morphotectonic regions were defined. Lithodynamic relief-forming processes are divided into: a) modern denudational processes on the exposed from ice areas and accumulation of terrigenous material of glacial and fluvioglacial origin on continental margin and in the South ocean; b) processes which took place during preglacial and «precover» time on the continent and on continental margin; c) processes, developing for tens millions years till nowadays on the whole Antarctica under ice cover. Submarine erosion performed within continental slope not by pre-cover suspension flows, but by cold meltwaters from day surface and from under glacial cover. Suggested exaration, performed through plucking, glacial crushing as well as «glacial scouring» is retarded either by meltwaters or adgesional contact in areas of freezing between ice and bed. The absence of denudational exposure of ice cover to SSS is confirmed by preservation of cuesta relief on the Princess Elizabeth Land and by other data.