

## **MODEL OF TSUNAMI-GENERATING SUBMARINE SLUMPS FORMATION IN THE CANYONS OF THE KAMCHATKA-ALEUTIAN REGION**

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The dynamics of submarine erosion processes in connection with generation of tsunami waves has been discussed on the example of canyons of the Eastern Kamchatka shelf. During marine geological and geophysical investigations in the Kamchatsky Gulf a large volume of slumped sedimentary masses were detected on the bottom and on the walls of submarine canyons. The main factors that have led to intensive slump-forming processes in this area are as follows: features of geological structure of the sedimentary cover in this area, including a large volume of unconsolidated sediments, differences in physic-mechanical properties of various sedimentary layers, and occurrence of gas-saturated sediments which are slide surface for slumping masses; location of studied area in active seismic zone, where strong earthquakes (with magnitude over 5.6) including tsunamigenous are common. We suggested, that slumping processes in submarine canyons of the Kamchatsky Gulf could result in generation of tsunami waves, which are the source of the potential hazards for population of coastal settlements. Computing simulation using method of approximations allowed us to estimate a stability of submarine canyons during earthquakes of different power as well as a probable volume of slumped masses and height of tsunami waves, generated by slumping. The results obtained combined the data of previous studies allowed us to develop the scenarios of generation and distribution of the slumping-derived tsunami waves in the Kamchatsky Gulf for earthquakes with magnitudes of 6, 7 and 8, respectively. Also tsunami hazards for population of northern coast of gulf are assessed.