

Modeling of water erosion processes

Davit Kereselidze, Vazha Trapaidze, Giorgi Bregvadze.

E-mail: davit.kereselidze@tsu.ge;

¹Department of Geography, Faculty of Exact and Natural Sciences,
Iv.Javakhishvili Tbilisi State University,
0179, Tbilisi, I.Chavchavadze #3

Basic goal of erosion process modeling is the establishment of linkage between intensity of their course and characteristics of process determining factors. Despite the fact that many things are done in search and forecast of water erosion processes, this issue can't be considered as a solved at the desirable level.

Energy model of erosion intensity is offered for complete and precise representation of erosion process, while hydraulic model of movement of variable-mass water stream emerged as a result of rain on the slopes is considered for implementation of this model. Efficiency of the model is largely depends on the accuracy of parameters entering into these models, in particular, quantity and displacement route of concentrated water streams caused by rain, microbasin borders, slope contours, water filtration, runoff coefficient, type of inclinations, soils, vegetative cover etc.

Such approach will make possible the determination and long-term forecast of erosion intensity caused by one rain for different slopes, and annual erosion intensity for all slopes in the mode most closely approximate to the actual state.