Specialists of the Ural Federal University, together with Chinese colleagues, have developed a mathematical model for predicting mudflows. New software is able to predict these dangerous natural phenomena with high accuracy both in mountainous and plain regions.

Traditional warning systems take into account only the amount of precipitation. Russian scientists have found that for the exact forecast it is necessary to analyze another key indicator – the energy of loose material in the ground. Danger arises when this indicator exceeds 3 billion J/m^2 with daily precipitation of more than 27 mm.

According to the developers, their model demonstrates record accuracy – the average error is only 0.006%, which is 4000 times less than that of existing analogues. This allows you to warn much earlier about possible disasters.

Experts note that in recent years, the frequency of mudflows in the middle lane has increased markedly due to changes in climate and growth in the number of precipitation.

save pdf date >>> 07.12.2025