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Long H Le* (longl@uca.edu), University of Central Arkansas, 201 Donaghey ave., Department of Mathematics, Conway, AR 72035. *Stability of geophysical two-phase flow in two dimensions*. Preliminary report.

On February 17, 2006, a series of mud-slides hit Leyte, a province of the Philippines after ten days of heavy rain. Such mud-slides can be considered as geophysical two-phase fluid-granular flows. The mud-slides caused a devastating damage and claimed many lives. Understanding and being able to predict the behavior of this type of flows therefore are important. We will present a model for two-phase fluid-granular flows and discuss some preliminary results about the stability of such flows. (Received September 19, 2006)