

## Geological features of slope failures due to 1982 heavy rainfall in Nagasaki, Japan

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Many slope failures occurred in Nagasaki, Japan, due to heavy rainfall on July 23th, 1982. Andesite lava and tuff breccia of Miocene to Pliocene age are widely distributed in Nagasaki district. Many slope failures occurred at mountain slopes consists of tuff breccia and auto-brecciated lava. In contrast this, a few slope failures occurred at mountain slopes consists of massive andesite lava. In general, rock strength of tuff breccia and auto-brecciated lava are low than massive lava. In addition, grade of weathering of tuff breccia and auto-brecciated lava are high than massive andesite lava. These facts show that slope failures of volcanic rocks in Nagasaki district are closely related to rock strength and grade of weathering.