Oral | Symbol H (Human Geosciences) | H-DS Disaster geosciences

[H-DS29_28AM1]Geohazards in humid, tectonically active countries and their precursors

Convener:*Masahiro Chigira(Disaster Prevention Research Institute, Kyoto University), Satoru Kojima(Department of Civil Engineering, Gifu University), Hiroshi YAGI(Faculty of Art, Science and Education, Yamagata University), Taro Uchida(National Institute for Land and Infrastructure Management), Chair:Ryoko Nishii(University of Tsukuba), Shintaro Yamasaki(Kitami Institute of Technology)

Mon. Apr 28, 2014 10:00 AM - 10:45 AM 415 (4F)

This session covers mass movements of landslide, slope failure, debris flow, and gravitational slope deformation in tectonically active, humid countries, and aims to discuss on their mechanisms, characteristics of occurrence sites, the significance in geological time scale, and the methodology to mitigate their affects by researchers with various related research fields.

10:00 AM - 10:15 AM

[HDS29-P07_PG]Geological implication of the lahar disaster by Typhoon Wipha on October 16, 2013 in Izu Oshima Volcano

3-min talk in an oral session

*Masato KOYAMA[1], Yusuke SUZUKI[2] (1.CIREN, Shizuoka University, 2.Izu Peninsula Geopark Promotion Council)

Keywords:Izu Oshima, volcano, eruptive history, lahar, Typhoon Wipha (2013), slope failure

Heavy rain (over 800mm per 24 hours) triggered by Typhoon Wipha on October 16, 2013, caused many slope failures and associated lahars in the western part of Izu Oshima Volcano, Japan. Tephrostratigraphic study revealed a mechanism of the slope failures and history of similar lahars for the past 700 years. Seven fallout ash or scoria layers, which were ejected during the 7 eruptions since the early 14th century, are distributed in the study area. These tephra layers are interbedded with eolian dust (loess) layers, each of which was deposited during a 10-200 years dormant period. Stratigraphic horizons of the slope failures concentrated at the boundaries between ashes and underlying loess layers. This means that more permeable ash layers were saturated with rainwater and slid down along the upper surface of less permeable loess layers. We newly found that three lahars (Lahar A, B, and C) occurred in historic time. Lahar A and B are correlated to the disaster documents of 1856 (or 1932) and of the late 16th century, respectively. Lahar C overlies directly on the Y5.2 scoria and associated Motomachi Lava and thus occurred in the early-middle 14th century.