

# Japan Geoscience Union Meeting 2011

(May 22-27 2011 at Makuhari, Chiba, Japan)

©2011. Japan Geoscience Union. All Rights Reserved.



HDS027-P18

Room:Convention Hall

Time:May 24 16:15-18:45

## Field observation of sediment supply processes in a large landslide using laser profilers

Fumitoshi Imaizumi<sup>1\*</sup>, Ryoko Nishii<sup>1</sup>, Wataru Murakami<sup>2</sup>, Yasuhiro Ogawa<sup>2</sup>, Hiromu Daimaru<sup>2</sup>

<sup>1</sup>University of Tsukuba, <sup>2</sup>For. For. Prod. Res. Inst.

Large-scale landslides continuously supply sediment into rivers after their initial formation by increasing in their size and the denudation of exposed bed rock. We quantitatively examined characteristics of sediment supply processes in the Aka-Kuzure, a large landslide in central Japan, based on the laser-scanning data in 2003, 2007 (Airborn LiDAR) and 2010 (Terrestrial Laser Scanning). By comparing topographic data in three periods, three types of sediment supply processes were found in Aka-Kuzure: deeper landslides ( $> 10$  m in depth), linear erosion (erosion rate of about  $1 \text{ m yr}^{-1}$ ), and sheet erosion (erosion rate of about  $0.2 \text{ m yr}^{-1}$ ). Deeper landslides were found above knick lines, whereas linear erosion occurred around steep slopes in the stepped terrains parallel to the bedding planes. These results indicate that the type of sediment supply process in the Aka-Kuzure is affected by local topography and geology.

Keywords: large landslide, Aka-Kuzure, laser profiler, sediment supply