

# Japan Geoscience Union Meeting 2011

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

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HGM021-P02

Room:Convention Hall

Time:May 24 16:15-18:45

## Interpretation of landscapes in tectonically active areas using 5 m DEMs from airborne laser scanner data

Junko Iwahashi<sup>1\*</sup>, Tsutomu Otsuka<sup>1</sup>, Minoru Hoshino<sup>1</sup>, Tadashi Sato<sup>1</sup>

<sup>1</sup>GSI of Japan

GSI is developing the generation of 5 m DEMs from airborne laser scanner (LiDAR) data and the publication of the data as a part of the Spatial Information Infrastructure. Ground conditions under trees or buildings can be observed by the LiDAR 5 m DEMs. Thus the DEMs enable users to grasp little differences in height in residential areas or terrains under forests.

In the work of 1:25,000-scale Active Fault Map in Urban Areas around Nagai Basin in Yamagata Prefecture, we created the color elevation slope images and the anaglyphs, and studied the application possibility of the 5 m DEMs to the classification of terrains such as landslides, terraces, and fans. Moreover, we compared the digital images derived from the LiDAR DEMs and a terrain classification map (the 1:25,000 Active Fault Map of the 2008 Iwate-Miyagi Nairiku Earthquake "Kurikomayama") created by airphoto interpretation.

The anaglyphs with emphasized heights were useful for interpretations of relatively flat areas, i. e., interpretations of tilting terraces by active faults, former channels, and natural levees. The anaglyphs without emphasized heights were excellent to interpret landslides in mountains. The LiDAR 5 m DEMs are most appropriate to interpret middle-scaled terrains, and may be enhanced by the combination with more large-scaled aerial photographs.

Keywords: active fault, landslide, tectonic geomorphology, DEM, LiDAR