

## **Geomorphic Image Map from the high resolution DEM of 2 periods - A case study to express ground deformation caused by earthquake -**

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In the Iwate-Miyagi Nairiku Earthquake in 2008, landslides and surface ruptures appeared around the Aratozawa dam reservoir. In this research, we created various kinds of Geomorphic Information Maps which visualize geographical deformation from the high resolution DEMs acquired before and after the earthquake. The geomorphic model used was DEM with 2m grid interval created by airborne LiDAR survey. From 2 periods DEMs, difference of elevation was computed easily. Besides the contour map and a hypsometrical tinting map, shaded relief image was also effective for expression of Difference Map to indicate elevation change. Additionally, the Ground Movement Map was created by the image correlation analysis using the geomorphic image which emphasized the geomorphic feature to estimate the amount of horizontal and vertical displacement.