

Detection of linearments in the southern part of Iwaki City using a LiDAR data

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We detected the linearments in the 826 km² area of the southern part of Iwaki City, in the region where Yunodake Fault and Idosawa Fault are located, using digital images created from a 2-m LiDAR DEM. The linearments were traced on a computer screen by fully-zoomable images, which are frequently 1:10,000 scaled images. We digitized all linearments except for artificial features, and saved the data as a shape file. The linearments are arranged in four groups: 1) earthquake surface faults caused by the earthquake in April 11th 2011 (M 7.2) and traces which is assumed to be the extension of the fault 2) other fault traces 3) linearments caused by landslides 4) structural geomorphology. We also created a summit level contour map from the LiDAR DEM, and compared with the known faults which include the earthquake surface faults.

Keywords: Iwaki, Yunodake Fault, Idosawa Fault, LiDAR, linearment, summit level map