Relationship between housing damage distribution in Matsushiro Town by the 1847 Zenkoji Earthquake and landform and surface geology

Sori Fukushi[1], *Mamoru Koarai[3], Keiichi Takami[3], Shigeki Senna[2]

1. Earth Science course, College of Science, Ibaraki University, 2. National Research Institute for Earth Science and Disaster Resilience, 3. Earth Science course, graduated student, Ibaraki University

Geospacial distribution of building damage by the 1847 Zenko-ji Earthquake in Matsushiro-Town was restored using an ancient document and an old map. This result, landform classification by aerial photo interpretation and microtremor observation results were overlay using GIS.

Building damage was the result enormous in the north in the town, and damage of north east part of the town around the Chokokuji Temple is conspicuous in particular. Even observation result of microtremor was the result which has low numerical value of AVS30 and is the soft ground extremely around the Chokokuji Temple. When slope measurement using a “GSI Map” was performed, the slope was indicated the alluvial fan-like topography at the south more than Chokokuji Temple, but the slope is changed suddenly gently at the north part of the Chokokuji Temple circumference. These results shows that the sediments around the Chokokiji Temple is very soft like back march deposits. The reason of heavy building damage area at northeast part of Matsushiro-Town by the 1847 Zenkoji Earthquake is the difference in the surface geological features depend on the landform.

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