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[JJ] Evening Poster | H (Human Geosciences) | H-TT Technology & Techniques

## [H-TT17]Geographic Information Systems and Cartography

convener:Mamoru Koarai(Earth Science course, College of Science, Ibaraki University), Kazunari Tanka(Department of Civil Engineering and Urban Design, Faculty of Engineering, Osaka Institute of Technology), Kazuhiko Nakamura(東京大学空間情報科学研究センター)

Thu. May 24, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

This session discusses various methods which acquire, store, analyze and visualize geospatial data, and presents the outcomes of empirical studies using GIS or mapping methods. The session also deals with applications of digital data, GIS, and mapping to various fields of earth and planetary science and human society. All presentations and discussion of this session are made in Japanese.

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## [HTT17-P03]Digital compilation of old maps of Mashiki Town stricken by the 2016 Kumamoto Earthquakes

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Keywords:Kumamoto Earthquakes, Mashiki Town, Old map, GIS

Old maps of Mashiki Town, severely damaged by the 2016 Kumamoto Earthquakes, were digitally compiled using commercial 2D mapping software (Surfer 15). Present GSI's Fundamental Geospatial Data were used for the georeferencing. The maps were produced in Meiji Era (Ca. 1880s), and recently unveiled by Kumamoto Prefectural Government Office (2016). A total of 17 segments corresponding to old villages, now forming Mashiki Town, were scanned and imported as digital images. Because the maps were drafted by plane-table surveying, it was essential to adjust positions of control points. The georeferenced compiled map clearly showed land use, distribution of residence area, and road network in Mashiki Town 140 years ago. Compared with the present geospatial information or a map on building damage by the Earthquakes, we could be able to interpret on ground conditions which would affected to building damage.

The GSI's Fundamental Geospatial Data were also useful to understand tectonic setting around Mashiki Town. For example, surface of Takuma upland, on which Mashiki Town is situated, gently tilts toward southwest direction, a remnant valley is recognizable at the southeastern margin of the upland. This indicate the margin is tectonically active.