[JJ] Evening Poster | G (General (Education and Outreach)) | General (Education and Outreach)

[G-03]Disaster prevention education

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Each time a serious disaster occurs, there are calls for better disaster prevention education in and around the stricken area, and such education is actually implemented. However, it is not extended to other parts of the nation. Although disaster prevention education really is needed across Japan, it tends to be implemented only in the directly affected locality of a catastrophic disaster. Moreover, even in affected areas, when 10 to 20 years have elapsed from a major event, with a decline in the number of survivors, there is less motivation to pass experiences and learning on to the next generation, despite the potential for such disasters to recur, tens or hundreds of years into the future. It is not easy to maintain conversations about disaster experiences through several generations. Consequently, effective disaster prevention education is provided only in the region stricken by a particular event, and it is practiced only for up to 20 years following the last disaster. As a result, provision of disaster prevention education has become less effective in many areas of Japan. This session focuses on the following two questions: (1) What kind of disaster prevention education can be practiced continuously nationwide? (2) How can such disaster prevention education be implemented in schools and educational sessions? We encourage anyone who wishes to help develop new disaster prevention education based on awareness of these issues to make a presentation in this session. Participation is not restricted to geoscientists; any person or group engaged in any domain of disaster prevention is welcome to submit a paper.

[G03-P01]3D digital models of stone monuments to hand down historical earthquakes in Tokushima Prefecture, Japan

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Stone monuments, which record major disasters of earthquakes and tsunamis by the great Nankai earthquakes, have been constructed along coastal areas in southwest Japan. In Tokushima Prefecture, Japan, earthquake and tsunami stone monuments were investigated by the Tokushima Prefectural Board of Education, and 39 monuments were confirmed (Tokushima Prefectural Board of Education, 2017). In 2017, 19 monuments of these were authorized as a first national registered stone monument of earthquake and tsunami in Japan. Earthquake and tsunami monuments have a strong potential for use of education of disaster prevention because they record the damages and teach the lessons about historical earthquakes (Iwaka et al., 2011). However, several stone monuments in Tokushima Prefecture are located deep inside shrines or away from a main street, and most of the message on the monuments are described by archaic words. Therefore, these problems have decreased the opportunity to teach the historical earthquakes from stone monuments (Iwaka et al., 2011). The problems will be solved by installing guide signboards or providing brochures. In contrast, growth of the Internet infrastructure gives us new insight into the use of digital archive, a website of 3D computer graphics to improve teaching function. In addition, the concept of digital archive is spreading to preserve the historical

documents and monuments in a digital format (Noguchi, 2017).
This study constructed 3D digital models of the stone monuments for historical earthquakes in Tokushima Prefecture. Then we evaluated the application of the monument to earthquake and tsunami hazard and evacuation.To construct 3D model, we used the same method with that of the monument in Kochi Prefecture, reported by Tanikawa et al. (2017).
We constructed 3D models of nine stone monuments and two stone guideposts that record the maximum tsunami run-up height. Even though we did not discover any hidden/illegible messages on monument from the 3D models, we could make out the characters on monuments clearly. At present, we are constructing the database site that introduces the information and location of the monument in Kochi Prefecture through a map using “e-community platform (http://ecom-plat.jp/)” web system which was developed by National Research Institute for Earth Science and Disaster Prevention in Japan. In this database site, we plan to overlay the tsunami hazard map published by public institutes to confirm the relationship between the location of stone monument and tsunami inundation distribution. We also plan to combine the data of the monument in Tokushima Prefecture into the same database.