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Geoeducation and disaster prevention through exploring the Jogashima geosites

KAPUSCIK, Dorota[1*]

[1]Department of Earth Science, Graduate School of Creative Science and Engineering, Waseda University

The beauty of sea attracts people to visit coastal areas, particularly during summer time when the number of tourists is very high. In Japan, where natural disasters including typhoons and tsunamis occur relatively often, it is important to save the citizens and people during their vacations. However, in nowadays the coastal zones are protected, it is the awareness and proper education on the dangerous disasters most effective measure in saving lives. This work presents results of field study from the Jogashima Island in central Japan, to show an example of using geosites in the purpose of people education that would significantly reduce the tragic impact of natural dangers in popular tourist regions, as well as geological and topographical education.

Jogashima Island is located off the southern tip of the Miura Peninsula, in Kanagawa Prefecture, and is facing the Sagami Bay to the south. Its rugged coastline characterizes well-exposed sediments produced through the accretion of the Neogene Miura Group. Low coastal terrace is formed by uplift during big earthquake in Kato region. This island is one of the best places to observe strata near Tokyo, and many high school and college students use this island for geological field trip. The strata constists of Misaki Formation and overlying Hatsute Formation being in uncomfortable contact. Interestingly, the Hatsuse Formation consists of island-arc bedded volcaniclastics deposited in the deep sea on the Izu Arc side, whereas the overlying Hatsuse Formation of shallow marine scoriaceous sediments from the Honshu Arc. Various deformations features, such as imbricate thrusts, slumps and flow folds, are frequently presented in the sedimentary sequences and illustrate well the dynamism of the Japanese land formation. Considering the significance of these formations, the island has been selected for the list of 100 remarkable geosites in Japan in 2007 and serves as an open-air geological museum in the region.

Presented area and neighboring Misaki Port are famous for local tuna products and well-known for travelers since Kamakura Period, though some lost of tourists interest is observed. Attractive geosites would provide new amusement for travelers, as well as create opportunities for education through geotourism and thus bring important socio-economical benefits for local community. Therefore, this study indicates needs of interest of local communities and geoscientists in constructing interesting geo-stories based on the most significant features for better understanding of the island formation. It also characterizes the actual level of safety performance in the Jogashima area, including evacuation routes, in the context of geotourism development, and then, it provides constructive suggestions how to improve the safety attitudes in this area.

Keywords: geosite, Jogashima, disaster, education, Miura Group