

The effects of experience-based science and environmental education on Byobugaura geosite in Choshi Geopark

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Choshi geopark is certified by Japan Geopark Committee (JGC) at September 24, 2012. In this study, we will introduce the contents and the effects of geoscience education program for junior high school students using Byobugaura geosite in Choshi Geopark.

Choshi, located at the east end of the Boso peninsula, 100km east of Tokyo, Chiba prefecture, Japan, has many geological heritages that should be preserved and passed on to future generations. Representative geological features in Choshi are as follows. First, the Biobugaura geosite, comprising Pliocene and Pleistocene sedimentary rocks, is approximately 9 km in length and 30~50 m in height and faces the Pacific Ocean. This topography, which is also called "Dover in the East", consists of sharp cliffs formed by land erosion resulting from sea waves. According to a previous report, the speed of erosion is 5~6 m per year. To prevent erosion, seawall was constructed in 1966. The seawall was a necessity for the residents' safety even though it negatively affected the geo-heritage. Second, Inubouzaki geosite, the Cretaceous shallow sea sediments, designated as a government national monument, are exposed in the Inubouzaki coastal area at the east end of the Choshi peninsula. Third, the "Inuiwa" geosite, carried on the tradition of the "Yoshitune legend" which is a legend concerning a samurai warrior in the medieval period of Japan, are composed of Jurassic greywacke, mud stones, and conglomerates that includes calcareous coarse fragments with fusulina fossils.

Our education program using Byobugaura geosite designed it to be usable by a curricular science class of the junior high school, and it conclude for one day. The contents of this program compose two parts, the morning part contain geotour and tephra sampling in the Byobugaura geosite, and the afternoon part consisted of geological lecture and stereomicroscope observation of tephra constituents, e.g. volcanic glass and minerals etc.

The results of questionnaire analysis for participants show (1) this program is understandable for major part of attended students, (2) this program have good effects for induction of affection for local environment, and (3) this program increase desiring to learn for earth science.

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