

Temporal change in sedimentological and geochemical characteristics of the 2011 Tohoku-oki tsunami deposits in the northeastern region of Fukushima Prefecture

*Kentaro Izumi¹, Ikuro Narayama¹, Tomoya Abe²

1. Faculty & Graduate School of Education, Chiba University, 2. Geological Survey of Japan, National Institute of Advanced Industrial Science and Technology

To evaluate how sedimentological and geochemical characteristics of tsunami deposits temporally change, we collected samples of the 2011 Tohoku-oki tsunami deposits and the underlying and overlying deposits at several sites in northeastern region of Fukushima Prefecture. In this study, thickness, grain size, sedimentary structures and organic-matter content of the tsunami deposits were observed and analyzed. As a result, thicknesses of the tsunami deposits do not show significant temporal change from at least 2014 to 2019. In addition, soft-X observations show that laminae are observed in tsunami deposits at several sites, suggesting that original sedimentary structures have been preserved in the past nearly 8 years. On the other hand, grain-size and organic-matter analyses of the tsunami and underlying deposits revealed that at least some portions of the tsunami deposits have been transported into the underlying deposits, resulting in sediment homogenization. It is assumed that this sediment homogenization has been caused by bioturbation mainly of meiobenthos whose body size is similar to sediment grain size.

Keywords: tsunami deposits, temporal change, Fukushima Prefecture