

Importance of marine tephra to connect the events among the different environments: Examples from northern Japan Trench

IKEHARA, Ken^{1*} ; USAMI, Kazuko¹ ; KANAMATSU, Toshiya²

¹Geological Survey of Japan, AIST, ²CEAT, JAMSTEC

Tephra has deposited among the different environments, and is thought to be geologically synchronous. Correlation of tephras among the different environments gives us key horizon directly connecting the events found in the different environments. Numerous visible and invisible tephras are reported from terrestrial, lacustrine and marine environments on and around the Japanese islands. Thus, correlation of tephras might connect the event beds formed by the past large earthquake and/or tsunami recorded in terrestrial and marine sediment sequences. Many event beds were recognized in the marine sediment cores collected from the trench floor and mid slope terrace along the northern Japan Trench. Using the marine tephra intercalated in the cores and geomagnetic secular variation curves, we can estimate the depositional ages of each event bed. Correlation between the marine event beds and onshore tsunami deposits will give us new information on the past large earthquakes occurred along the Japan Trench. Marine tephra study plays an important role for connecting not only the earthquake and tsunami events but also the other events such as paleoclimatic events recorded among the different environments.

Keywords: tephra, event deposit, Japan Trench, earthquake, tsunami