

Archive plan of a subsurface high-resolution seismic profiling in Lake Biwa

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This project will produce detailed and well dated paleoclimate and seismic record of the past 150 ka, by performing a seismic sub-bottom profiling and coring penetrating Lake Biwa sediment, Japan.

Lake Biwa sediment has continuous sediments of a million year age and as a good recorder for paleoclimate changes. Concerning seismic activity, turbidite layers in lacustrine sediments serve as a proxy for paleoearthquake, therefore, turbidite layers in Lake Biwa sediments are natural recorders of paleoearthquake in west-central Japan (the Kinki district).

Such information were published as some papers. However, the original information of seismic sub-bottom profiles were not saved as archives, therefore, it was difficult for the researcher to access the information and to reuse this.

The first step of this project was, therefore, to make archives of seismic sub-bottom profiles of Lake Biwa. A field survey was implemented in August 2007. It was used the 10 KHz sonar in frequency and was gotten high resolution seismic sub-bottom profiles of traverse lines every 1 minute in latitude on the northern lake. The total length of traverse lines reached about 300 km. It processed all acquired acoustic profiling sections as image files of a unification format. As a result, a researcher became able to observe all seismic profiling sections freely on a PC.

We are planning a seismic profiling using the 3.5 KHz sonar in frequency as soon as possible.