

## Hydro-geomorphological information inferred from some lake-catchment systems in North-East Asia

# Kenji Kashiwaya[1]

[1] K-INET, Kanazawa Univ.

A lake-catchment system is one of excellent systems which combine past earth surface information with present one. The past information in the systems is mainly printed in lake sediments. The present information is given with various methods; instrumental observation, field survey, etc. It is also given with lake sediments.

In a lake-catchment system, which is a typical earth surface system, erosion, transportation and sedimentation processes are often observable. In the heavy rainfall periods, a large amount of sediment is often produced, transported, deposited and re-transported in the catchment area and finally deposited in the downstream lake. Then, the lake bottom sediments may receive some information on the conditions in the catchment areas including direct input to the lake. Lakes and ponds have been used as natural sediment traps to reconstruct modern environment as well as paleoenvironment. To correlate observable modern catchment processes with lake sedimentation will also provide a great insight for postdicting relationships between past processes and sedimentation and it will be of great use for future prediction.

Changes in earth surface systems are closely related to physical conditions of the earth's surface environment, such as topographical, vegetational and hydrological conditions. They are also corresponding to tectono- and climato-environment in the studied areas.

We have co-worked some studies on present earth surface processes and historical environments by using lake-catchment systems in Japan, Korea and China since June 2004. Here, we report some observational and analytical results on lake-catchment systems in China (Tumen-gan area), etc.