

Correlation between physical properties of bottom surface sediments and meteorological observation data of Lake Biwa

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Lake sediments are regarded as to preserve environmental information of their areas and their surroundings in long term. Lake Biwa, in particular, has a long depositional history of more than 400,000 years. Various kinds of researches have been conducted based on scientific drilling to restore the history of environmental changes of the lake. However, study of correlation between analytical data and those of meteorological observation is very few. This study aims to clarify the correlation of meteorological observation data with physical property value of cored sediment from Lake Biwa.

The density of sediment shows negative correlation with the average yearly temperature and positive correlation with the average wind velocity from autumn till spring. The density of sediment shows strong negative correlation with the number of diatom frustules. Number of diatom frustules increases at periods of warm climate. Therefore, temperature is one of the controlling factors of density of sediment. In addition, average wind velocity from autumn till spring has some correlation with observed flux of eolian quartz in Japan. Therefore, wind velocity is also one of the controlling factors of density of sediment.