

## Last 120ka to 250ka climate changes as deduced from the biogenic silica content of Lake Biwa, central Japan

MURAKOSHI, Takayuki<sup>1\*</sup>, NEGAMI, Hiroshige<sup>1</sup>, INOUCHI, Yoshio<sup>1</sup>

<sup>1</sup>Faculty of Human Sciences, Waseda University

The aim of this study is to clarify historical variation of primary production rate through measurement of biogenic silica content (BSC) in lake sediment using molybdenum-yellow method. Samples analyzed were taken at Off-Takashima Drilling Site in 1986. As a part of our research aiming at clarifying variation of primary production history during the last 250ka, BSC analysis was carried out regarding the last 120ka to 250ka, which corresponds to MIS 6 to 8, with a time resolution ca. 400 years.

The result shows good peak correlation to those of delta O18 at Sanbao/Hulu stalagmite record, which mean Chinese Interstadial Number (CIS) B1 to B24. Result of frequency spectrum analysis using SPECTRUM shows good correlation of BSC variation to that of Milankovitch precession cycle of 23kyr and 19kyr which are also recognized during the last 140ka. Short term frequency spectrum analysis using REDFIT 3.8e was applied to BSC variation of kilo year cycles, which recognized 5 cycles, namely, 3.4, 2.3, 1.5, 1.2 and 1.0kyr cycles with more than 95 % confidence level. These periodicities have also been confirmed in the Off-Takashima drilling sample during the last 120ka which mean that those periodicities have affected climatic changes of central Japan during the last two glacial cycles.

Keywords: Lake Biwa, Biogenic silica content, climate change, sediments, periodicity