Environmental changes during the last 400,000 years based on total carbon and total nitrogen contents of Lake Biwa sediments

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In order to reconstruct the environmental changes during the last 400,000 years, was carried out analysis of total carbon (TC) contents and total nitrogen (TN) contents at Takashima-oki core in Lake Biwa. Takashima-oki core was taken in 1986, and the total length is about 150 m. This core is intercalated with more than 76 volcanic ash layers. Therefore, this core is rich in time control and can be discussed with comparatively exact accumulation rate.

Because C/N ratio of sediments in Takashima-oki core are low (average is 6.15), it is thought that there is little organic matter contribution of the land origin. TC and TN contents have the same tendency as the oxygen isotope ratio of marine cores, but in the lower core, TC contents become relatively lower and correspondence with the oxygen isotope ratio become indistinct. Results of spectral analysis of TC and TN contents clarified that changes of TC and TN contents were controlled by Milankovich cycle during the last 400,000 years.