

Eventual Layers of ancient disasters during these 4500 years at Lake Ikeda (Lake Daijya), western coast of Kyushu Island presumed by diatom assemblages in lake deposits

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Lake Ikeda (Lake Daijya) is a small coastal freshwater lake of about 200m NE and WE, located at Amakusa Island, Western part of Kyushu Area. It was a coastal lagoon, but after the eruption of Akahoya Ash (about 7.3ka), the lake was closed by a sand dune, and changed to be a freshwater environment.

Woodruff et.al. (2014) found the two Typhoon layers at 1.9-2.1m depth of the lake deposit, and presumed those were the trace of Kamikaze Typhoons, the huge typhoons on AD1274, AD1281. But their age control data were limited, and the processes to discussions to decide the Kamikaze Typhoon deposits were necessary to add multidiscipline methods.

Therefore, Haraguchi took undisturbed cores at Lake Ikeda (Lake Daijya) in 2016. It was 26m long, and covered about 8000 years presumed by C14 ages and Akahoya Ash (about 7.3ka) layer. In this presentation, we took the analysis of diatom assemblages in the lake deposits of top 9m long core dated about these 4500 years. We found the five "Event Layers" in the 9 m core. Huge typhoons like the Kamikaze Typhoon had continuously attacked the Western part of Kyushu.

The results of diatom assemblages in the core were compiled as follows:

(1) Surface deposits of the lake were composed by a lot of small faecal pellets by small animals. The pellet contained a lot of diatoms. The diatom assemblages were very simple and were dominated by freshwater plankton species (*Aulacoseira* and others), and freshwater semi-plankton species (*Staurosira* and others).

(2) Lake Ikeda (Lake Daijya) has continued as shallow freshwater for 4500 years, and freshwater plankton species (*Aulacoseira* and others), and freshwater semi-plankton species (*Staurosira* and others) were dominated in the lake deposit.

(3) But diatom assemblages were changed suddenly at the following five layers. They were caused by the invasion of marine water and slope falls surrounding the lake, presumably by the ancient huge typhoons.

(4) The depth and ages of event layers were compiled as follows. Event1 (7.26-8.26m): 4200-3800 yBP, Event2 (4.32-4.40m): 2000 yBP, Event3 (3.20-3.28m): 1400 yBP, Event4 (2.64-2.72m): 1000 yBP, Event5 (1.22-1.90 m): 500-700 yBP.

(5) To presume the detail process of each "Event Layer", we have to analyze using multidiscipline methods and to compare the results surrounding Kyushu Area.

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