

Hyperpycnal sediment in Lake Inawashiro, northeast Japan

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In Lake Inawashiro, northeastern Japan, there are characteristic layers which show relatively thick dark brown color underlain by white layer. These layers have, in general, few centimeters in thickness and differ in thickness from main sediment which have a few millimeter in thickness. In this presentation, we discuss the origin of these characteristic sediments, namely event sediments. Lake Inawashiro, in central Fukushima prefecture, is an acidtrophic lake and has an area of 103.24km², maximum depth 94.6m and mean depth 51.5m. Main part of the cored sediment is composed of bar code like sediments with thin dark and light colored layers. In addition to several tephra layers, about 30 characteristic layers were observed. Grain size measurement and sediment grain observation using microscope were carried out in each 5mm thick sample. The result shows that reverse grading at lower part and normal grading at upper part, and that the characteristic layers sometimes contain plant fragments and diatom fossils in addition to many mineral grains. Preliminary observation of diatom assemblages in characteristic layers show presence of attached diatom and acidophilic diatom, however, further observation is needed. In one of the characteristic layers, inner sedimentary structure of erosion between light colored layer and dark layer. Furthermore, diatom assemblages of general thin alternations of light and dark layers show only presence of planktonic diatoms. In conclusion, these facts show the characteristics of hyperpycnal flow deposits. Consequently, those event sediments in Lake Inawashiro are derived by hyperpycnal flow caused by abrupt drastic flooding

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