Event sediments in Lake Inawashiro, Fukushima, Japan

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Varve-like sediments with a few millimeter thick are widely developed in the lake bottom of Inawashiro, central part of Fukushima prefecture. Several kinds of event sediments are intercalated in that sediment. The first one is tephra seams, Aira Tn tephra and Numazawa-Lake Numazawa tepha are famous examples. The second one is turbidite sediments caused by quakes of large earthquake, for example, 2011 earthquake off the Pacific coast of Tohoku and Great Kanto earthquake. The third one is dark brownish silty clay with some centimeters thickness underlain by light grey silty clay sediment. The fourth one is relatively coarse sediment with no characteristics in color. This study aims to clarify sedimentation mechanism of the third event layers which show reverse grading at lower part and normal grading at upper part. Sediments are sieved with metallic fine filter and composition of grains were examined. The result shows that light greyish part is mainly composed of quartz, feldspar and volcanic glass shards. And dark brownish part is composed mainly of siderites in adition to quartz, feldspar and volcanic glass shards. Dark parts in soft X-ray photo correspond to dark brownish part which contains siderite grains. Sedimentation model for this fourth event sediment is considered as follows. There was a small lake with sediment of several tens of meters to the northwest of Mt. Adatara. The sediment in the lake was composed chiefly of volcanic materials with siderite grains. Drainage area of Lake Inawashiro is famous for its heavy snowfall, and during cold ages heavier snowfalls are expected. At these ages large volume of melt water could destruct the wall of the lake which lead drastic flooding into Lake Inawashiro.

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