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Poster presentation:

Onset and Termination of the Late-glacial Climate Reversal in the Diatom Records from the Annually Laminated SG06 Core from Lake Suigetsu, Japan

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High-resolution diatom analysis of two sections from the annually laminated SG06 core from Lake Suigetsu was used to study the onset and termination of the Late-glacial climate reversal (Younger Dryas counterpart) in central Japan. Accumulation of the analysed sediments occurred in a deep and relatively cold water lake with a strong mixing regime, relatively high silica and moderate nutrient content, and meso-eutrophic conditions. Using these results, together with available pollen-based environmental reconstructions, we suggest that climate cooling, together with an intensified winter monsoon and thicker snow cover, could influence changes in regional vegetation, sedimentation processes, and trophic status of the lake during transition from the last interstadial to stadial around Lake Suigetsu. A decrease in total pollen concentration and increase in *Fagus* pollen percentage indicate local vegetation stress/disturbances and suggest that cooling started at least two to three decades prior to the major shift in diatom assemblages (change from *Aulacoseira ambigua* to *Aulacoseira subarctica* dominance), which took about ten years. The transition from the last

stadial to the Holocene again shows that vegetation in the lake catchment area reacted first to the regional climate change, namely to the weakening of the winter monsoon and decrease in winter snow accumulation. Reduced volume of surface runoff associated with the decrease in melt water supply is likely responsible for the reduced soil erosion activity, which caused the consequent decrease in the amount of nutrients brought to the lake and lowering of the water trophy. The latter process finally influenced changes in the diatom assemblages, including the return to dominance of *A. subarctica*. Our results demonstrate the rapid response of the Lake Suigetsu system to the global cooling and warming, and allow clear definition of the onset and termination of the Late-glacial climate reversal.