Johnston, J.W., Thompson, T.A., Baedke, S.J., Argyilan, E.P., Forman, S.L., and Wilcox, D.A., 2003, **Late Holocene Lake-Level Trends in Lake Superior**, *International Association of Great Lakes Research*, 46th Annual Conference and the *International Lake Environment Committee*, 10th World Lake Conference, p.226.
(co-chair of session entitled "Water Levels, Past, Present, and Future Trends")

Four strandplains of beach ridges are being studied to determine the elevation and timing of lake-level fluctuations and history of vertical ground movement in the Lake Superior basin over the past 5,000 years. More than 250 vibracores, used to establish lake-level elevations, and 140 samples for dating have been collected. Sampling at one site remains to be completed before the effects of vertical movement can be removed and all data combined to create one hydrograph for the entire lake. Within each of the three relative hydrographs there is a trend that represents the separation of Lake Superior from Lake Michigan/Huron less than 2,000 years ago.

The Lake Superior hydrographs also show trends similar to those observed in the Lake Michigan basin. For instance, the approximately 4-meter fall in lake level after the Nipissing II high water-level phase is similar in duration and timing in both basins. Quasi-periodic fluctuations of about 30 and 160 years are similar in duration in both basins. These quasi-periodic fluctuations are also persisted after Lake Superior separated from Lake Michigan/Huron. Further analyses of relative hydrographs from Lake Superior sites indicate that the range in lake-level elevation and foreshore thickness, an indicator of wave climate, changed after the separation from Lake Michigan/Huron.