Purpose/Question (1-2 sentences)

Methods/Approaches (1-2 sentences)

Results/Findings (3-4 sentences)

Interpretation (3-4 sentences)

Conclusion (1 sentence)

Estimates of rates of GIA (Glacial Isostatic Adjustment) for the Great Lakes Basin are available using GPS and water level gauge data for the past century, but have not been estimated for time periods farther back in time due to a lack of data. One possible approach for estimating past rates of GIA for the last 5000 years would be to use past shoreline landforms as indicators of water level in the past. Water levels preserved in past shorelines and their elevations relative to the lake outlet and each other will allow rates of vertical movement between the sites to be estimated, which should represent GIA at that location. In order to interpret these data to gain accurate estimates, some adjustments are required. The inconsistent preservation of shorelines makes the comparison of water levels at different locations for any one given point in time difficult. Initially a linear model was used by Mainville & Kraymer, 2005 to fit the data, but this model is overly simplistic. As a result of this data being unequally spaced, models used in paleoclimatic reconstru tions must be used to infer likely elevations of the water surface between points in time where actual indirect measurements of the true water level are available from preserved shorelines. Estimation of past GIA rates can be essential for predicting future GIA and its impact on coastal properties around the Great Lakes Basin.