Shifts in Benthic Foraminiferal Preservation Correspond with Ocean Circulation Changes During the Last Deglacial Transition

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Foraminifera are used to reconstruct past climate conditions. However, the extent to which fossil preservation affects such records is relatively unknown. To identify processes affecting foraminiferal preservation, I quantified preservation changes in Cibicidoides and Uvigerina assemblages from IODP Site 1059 since the Last Glacial Maximum. Results indicate no change in Uvigerina preservation, but improved preservation in Cibicidoides preservation beginning at 14.8 ka. This preservation shift occurs in unison with a change in Atlantic deep ocean circulation during the last deglacial period with an increased influence of North Atlantic Deep Water (NADW) at ~15 ka throughout the deep Atlantic Ocean. Therefore, we conclude that North Atlantic Cibicidoides preservation quality is generally better during intervals when NADW formation is strongest.