

## **Ocean Acidification and Carbon Cycle Perturbations Across Eocene Hyperthermals**

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Eocene hyperthermals provide a unique opportunity to study Earth system feedbacks in response to carbon release. Eocene Thermal Maximum 2 (ETM2) is the second largest hyperthermal of the epoch, characterized by a significant carbon isotope excursion and global warming, but a smaller dissolution horizon than the earlier Paleocene Eocene Thermal Maximum (PETM), resulting in better preservation at the onset and recovery of the event. In order to determine the extent of the carbon cycle perturbation at ETM2, we generate detailed boron isotope and B/Ca records across the event, analyzing the planktic foraminifera *Acarinina soldadoensis* from ODP Sites 1210 in the equatorial Pacific and 1265 in the South Atlantic. Using novel calibrations based on laboratory cultures of modern foraminifera under simulated Eocene seawater conditions, we estimate seawater acidification and the magnitude of carbon addition to the surface ocean for both, ETM2 and the PETM, and evaluate the respective extent of the carbon cycle perturbation in each event.