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# Fluctuations in ocean pH across the Ordovician-Silurian boundary

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The Ordovician and Silurian periods were times of major environmental and biological change. This includes the Great Ordovician Biodiversification Event (GOBE) and the oldest of the five greatest mass extinctions (the end-Ordovician) followed by recovery in the early Silurian. The circumstances surrounding these events remain debated. Our understanding of associated changes to the carbon cycle largely comes from stable carbon isotopes where the size of carbon isotope excursion measured is dependent on the carbon isotope composition of the source or sink driving it. Here we present the first ever ocean pH reconstruction spanning the Ordovician-Silurian boundary, generated using the boron isotope composition of well-preserved fossilised brachiopods. Our initial findings show striking concurrence between fluctuations in ocean pH and, by proxy, atmospheric $CO_2$, and the timing of some of largest changes in biodiversity of the Phanerozoic.