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Late Campanian to Maastrichtian palaeoceanographic changes in the tropical Pacific

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The Late Cretaceous was a period of long-term climate cooling succeeding the extreme warmth of the mid-Cretaceous greenhouse world. The cooling is mainly considered as a result of changes in ocean circulation due to plate-tectonic movements resulting in a progressive deep-water exchange between the deep oceanic basins and a parallel drop in pCO_2 concentrations. The aim of this project is the reconstruction of changes in surface hydrography, ocean circulation and deep-water sources in the tropical Pacific (Shatsky Rise) using stable (C, O) and radiogenic isotopes (Nd) relative to the Campanian-Maastrichtian Boundary Event (CMBE). We generated a high-resolution benthic (bottom-water signal) foraminiferal stable isotope record from *Nuttallides truempyi* and a planktic (surface-water signal) foraminiferal stable isotope record from *Rugoglobigerina rugosa* for ODP Hole 1210B (Shatsky Rise). Oxygen isotopes are measured to reconstruct changes in surface- and deep-water temperatures, although the preservation of foraminiferal tests is not sufficient to calculate absolute temperatures. Results show a positive excursion of benthic δ^{18}O values that indicates beginning bottom-water cooling during the CMBE and a temperature minimum after the event. The planktic δ^{18}O record shows constant temperatures during and after the CMBE. This decoupling of bottom– and surface-water δ^{18}O changes during the CMBE provides a strong argument that possible buildups of ephemeral ice sheets in Antarctica are too small to modify the oxygen isotopic composition of seawater. To decipher related changes in ocean circulation and source regions of deep- to intermediate-water masses, a high-resolution εNd record from the tropical Pacific was generated from ferromanganese sediment coatings. Nd isotope data show a negative shift during the earliest Maastrichtian, lasting $\sim$3 Ma. This negative shift suggests a significant change in intermediate-water masses at Shatsky Rise, changing from a dominant North Pacific source gradually towards a water mass more affected by a Southern Ocean source region.