

The evolving carbon and climate relationship in the Palaeogene

E. Anagnostou¹, S. Khanolkar¹, A.-J. Drury², T. Westerhold³, T. Babila⁴, B. Ausin⁵

¹GEOMAR, Helmholtz Zentrum für Ozeanforschung Kiel, Germany

²School of Geography, Geology and the Environment, University of Leicester, United Kingdom

³MARUM – Center for Marine Environmental Sciences, University of Bremen, Bremen, Germany

⁴Case Western Reserve University, USA

⁵Universidad de Salamanca, Spain

The link between climate and CO₂ in Earth's history is not always straightforward, particularly during periods of multiple climatic and environmental changes, but atmospheric carbon dioxide (CO₂) plays an important part in determining climate on human and geological timescales. Using advancements in our understanding of the B proxies on foraminifera, age model adjustments, new and complementary reconstructions, we interrogate the evolving relationship between Earth's climate and CO₂, to identify tipping elements of the climate-CO₂ system and discuss potential mechanisms underlying such transitions.