



Chert formation during the Early Eocene Climatic Optimum

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The Early Eocene Climatic Optimum (EECO) was the warmest period of Earth's history since 65 m.y. Apparently coeval with EECO is the formation of extensive deposits of chert and/or porcellanite at the bottom of Earth's oceans, known since the early days of oceanic exploration but whose origin has posed as yet largely unanswered questions. We investigated, by using the updated literature, the extent to which these cherts are volumetrically anomalous relative to adjacent time intervals, their distribution geographically extensive, and their onset of occurrence synchronous and facies-transgressive. We propose a primary origin of their formation, alternative to classic interpretations involving the diagenetic transformation of biogenic opal-A precursors, by investigating their temporal and causal relationships with Cenozoic climate.