

C-isotope stratigraphy of the early Aptian OAE1a: contribution to global correlation from a new high-resolution record (the Cau core - Prebetic Zone, Southern Spain)

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The occurrence of time intervals of enhanced deposition of organic matter (OM) during the Cretaceous, defined as Oceanic Anoxic Events (OAE), reflect abrupt changes in global carbon cycling. The Aptian OAE1a (120 Ma), provides an excellent example, recorded in all the main ocean basins, associated with massive burial of organic matter in marine sediments, which represents a key correlation tool for the early Aptian at a global scale.

The Cau section is located in the easternmost part of the Prebetic Zone (Betic Cordillera), which represents the distal platform deposits of the Southern Iberian Palaeomargin. Previous studies reveal that the Cau section is an excellent site to investigate the OAE 1a, based on its unusually high thickness and stratigraphic continuity, the quality and preservation of fossils and the geochemical signatures.

Here we present a high-resolution C-isotope profile based on the Cau core. This new record represents an important advance in the knowledge of the C-isotope record of the OAE 1a, as it is supported by a more continuous record at a higher resolution than previous studies. This leads to the refining of the correlation with sections worldwide, both from platform and basinal settings.

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