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High resolution carbon-isotope curve for the Boreal late Campanian - Maastrichtian, Stevns, Denmark

N.H. Schovsbo and L. Stemmerik

Geological Survey of Denmark and Greenland, Denmark, (nsc@geus.dk)

A high resolution carbon-isotope curve has been constructed for the 456 m thick Upper Campanian to lower Danian chalk succession in the Stevns-1 core, Stevns Klint, Denmark (Stemmerik et al. 2006). The Stevns-1 core was drilled to provide a continuous section through the expanded Maastrichtian chalk in eastern Denmark. The curve is based on analysis of bulk samples with a sample interval of 25 cm, and represents the first high resolution curve through the entire Boreal Maastrichtian.

Stratigraphically the Stevns-1 curve overlaps with and extends the Boreal Campanian carbon-isotope reference curve of Jarvis et al. (2006). Both curves record a prominent lowermost Maastrichtian 1L' negative shift in carbon-isotope values, which has been used for correlation. Carbon-isotope values increased gradually during the early Maastrichtian to reach a maximum in the mid-Maastrichtian. The late Maastrichtian is characterised by an overall drop in carbon-isotope values with some marked negative excursions. The Stevns-1 carbon-isotope curve is very distinctive and characterises several excursions which can be used for better correlation between the Boreal, Thetyan and oceanic successions.

Reference

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