Middle and Late Jurassic climatic, oceanographic and environmental trends along the Viking Corridor

Iben W. Hougård¹, Madeleine L. Vickers¹, Peter Alsen², Mads E. Jelby¹, Clemens V. Ullmann³,⁴, and Christoph Korte¹

¹University of Copenhagen, Faculty of Science, Section for Geology, Øster Voldgade 10, DK-1350 Copenhagen K, Denmark
²Geological Survey of Denmark and Greenland, Department of Stratigraphy, Øster Voldgade 10, DK-1350 Copenhagen K, Denmark
³University of Oxford, Department of Earth Sciences, South Parks Road, OX1 3AN, UK
⁴Camborne School of Mines, University of Exeter, Penryn Campus, Penryn, Cornwall TR10 9FE, U.K.

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The “polar amplification” effect, whereby the poles experience greater changes in temperature compared to the low latitudes for a given global average temperature change, makes high-latitude isotope records ideally suited to investigate fluctuations in palaeoclimate. The present study investigates palaeoclimatic and oceanographic changes along the Viking Corridor – the narrow seaway that connected the Tethys to the Arctic Boreal Realm during the Middle and Late Jurassic.

Stable-isotope data obtained from belemnites from East Greenland, originating from along the western margin of the Viking Corridor, show a M. Bathonian warming trend, which may indicate the reopening of the corridor after North Sea doming. We also discuss various controls on the carbon-isotope record that may dampen or amplify global signals. Changes in local depositional settings caused partial overprinting of the δ¹³C record during the Late Jurassic VOICE event.