

## Early Cretaceous delta systems in the Barents Sea – paleogeography and links to the High Arctic Large Igneous Province (HALIP)

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The Lower Cretaceous sedimentary succession in the Barents Sea comprises large delta systems that prograded into a wide epicontinental basin. Seismic data show large-scale sedimentary lobes from NW with internal clinoform geometry interfingering with another large-scale system that prograded an even greater distance towards SW from the NE. The seismic data tied to boreholes are combined with field observations from Svalbard to provide information on timing and basin physiography, and its control on source-to-sink transport and depositional patterns. Intra-plate tectonics formed local areas of positive and negative accommodation that controlled sediment routing, orientation and position of the Early Cretaceous shoreline and corresponding facies distribution. The first delta system to reach the SW Barents Sea, in the Barremian, was sourced from an area north of Svalbard associated with the High Arctic Large Igneous Province (HALIP). The uplift of the source area, and the corresponding change in the regional paleogeography, appears to have started some time before the main magmatic event dated to 122-125 Ma. The regional uplift in the north imposed a north-south tilt of the entire Barents Shelf, including Svalbard. To reconstruct the Early Cretaceous paleogeography covering the entire source-to-sink system requires challenging plate reconstructions restoring the complex Eureka fold and thrust belt and the opening history of the Arctic Ocean. Furthermore, to understand the vertical motion history we have to link surface and deep processes associated with the HALIP formation.