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## Tectonic controlled sedimentary features at the NE margin of the Sorgenfrei-Tornquist Zone (STZ), southern Sweden

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The Hanö Bay basin was formed during Late Cretaceous transgression as a sedimentary trough on the NE margin of the Sorgenfrei-Tornquist Zone (STZ), a narrow NW-SE striking intraplate inversion zone within the Fennoscandian Border Zone. Sedimentation within the basin was primarily controlled by inversion tectonics, resulting in a coarse-grained syn-inversion clastic wedge forming adjacent to the basin-bounding fault in the Santonian-Maastrichtian. Previous studies have highlighted the deposition of contourite sediments associated with topographic relief of the chalk sea created by such local inversion-induced uplift. Imaged upper Cretaceous clinforms in the marginal trough show a NE-ward progradational character, that is, away from the uplifted and eroded inversion zone. These extend along the inversion axis all the way to NE of the Mid-Polish trough.

To gain detailed stratigraphic constraints and to better understand the interaction of these syn-sedimentary features that developed during inversion tectonics, we use a combination of high-resolution multichannel seismic data (MCS) from the 2019 AL526 cruise and a number of key profiles from reprocessed 70-80's legacy industry MCS. Preliminary results suggest a drift-moat system developed during a stepwise uplift of the SW shoulder of the STZ, with the uplift driven by transpressional reactivation of basement faults. The resultant aggradational wedge formed a shelf-margin extending fairly far into the basin. The overlying cliniform depositional successions clearly demonstrate several depositional stages; including highstand-progradation, highstand-aggradation and distinct transgression-retrogradation, during which an overall landward migration of the paleo-shoreline position is revealed. The results constrain relative sea-level changes in this area that were primarily related to tectonic events during the Santonian-Campanian.