

## ORAL PRESENTATION

### HOLOCENE ENVIRONMENTAL HISTORY OF THE ÅNGERMANÄLVEN ESTUARY, NORTHERN BALTIC SEA

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The Baltic Sea has experienced a complex geological history, with notable swings in salinity driven by changes to its connection with the Atlantic and glacioisostatic rebound. Sediments obtained during International Ocean Drilling Program Expedition 347 allow studying the effects of these changes on the ecology of the Baltic in high resolution through the Holocene in areas where continuous records had not always been available. Sites M0061 and M0062, drilled in the Ångermanälven Estuary (northern Baltic Sea), contain records of Holocene-aged sediments and microfossils. Here we present detailed records of palaeoecological and palaeoenvironmental changes to the Ångermanälven Estuary inferred from diatom, palynomorph and organic-geochemical data. Based on diatom assemblages, the record is divided into four zones that comprise the Ancylus Lake, Littorina Sea, Post-Littorina Sea and Recent Baltic Sea stages.

The Ancylus Lake phase is initially characterized as oligotrophic, with the majority of primary productivity in the upper water column. This transitions to a eutrophic state which continues into the Initial Littorina Sea stage. The Initial Littorina Sea stage contains the most marine phase recorded here, as well as low surface water temperatures. These conditions end before the Littorina Sea stage, which is marked by a return to oligotrophic conditions and warmer waters of the Holocene Thermal Maximum. Glacioisostatic rebound leads to a shallowing of the water column, allowing for increased benthic primary productivity and stratification of the water column. The Medieval Climate Anomaly is also identified within Post-Littorina Sea sediments. Modern Baltic sediments and evidence of human-induced eutrophication are seen. Human influence to the Baltic Sea begins *c.* 1700 cal. a BP and becomes more intense *c.* 215 cal. a BP.