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Foraminiferal response to environmental change Kiel Fjord, SW Baltic Sea

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Abstract. The living benthic foraminiferal assemblages in Kiel Fjord (Baltic Sea) were investigated in the years 2005 and 2006. The faunal studies were accomplished by geochemical analyses of surface sediments. In general, sediment pollution by copper, zinc, tin and lead is assessed as moderate in comparison with levels reported from other areas of the Baltic Sea. However, the inner Kiel Fjord is still exposed to a high load of organic and inorganic matter due to enhanced accumulation of fine-grained sediments in conjunction with potential pollution sources as shipping harbours and intensive traffic. The results of our survey show that the dominant environmental forcing of benthic foraminifera is nutrient availability coupled with human impact. A comparison with faunal data from the 1960s reveals apparent changes in species composition and population densities. The stress-tolerant species *Ammonia beccarii* is still present in Kiel Fjord. *Ammonium cassis* had disappeared that reflects apparent changes in salinity over the last 10 years. These changes in foraminiferal community and a significant increase of test abnormalities indicate intensified environmental stress since the 1960s.

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