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eEarth Discuss., 2, 191-217, 2007

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## Environmental response of living benthic foraminifera in Kiel Fjord, SW Baltic Sea

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**Abstract.** The living benthic foraminiferal assemblages in the Kiel Fjord (SW 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 was 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 metals and organic matter due to enhanced accumulation of fine-grained sediments in conjunction with a concentration of pollution sources as shipyards, harbours and intensive traffic. The results of our survey showed that the dominant environmental forcing of benthic foraminifera is nutrients availability coupled with human impact. A comparison with data from the 1960s revealed apparent changes in species composition and population densities over the past decades. The stress-tolerant species *Ammonia beccarii* invaded Kiel Fjord whereas *Ammotium cassis* disappeared, possibly due to low salinity that prevailed 10 years ago. These changes in foraminiferal community and a significant increase of test abnormalities indicate enforced environmental stress since the 1960s.

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