

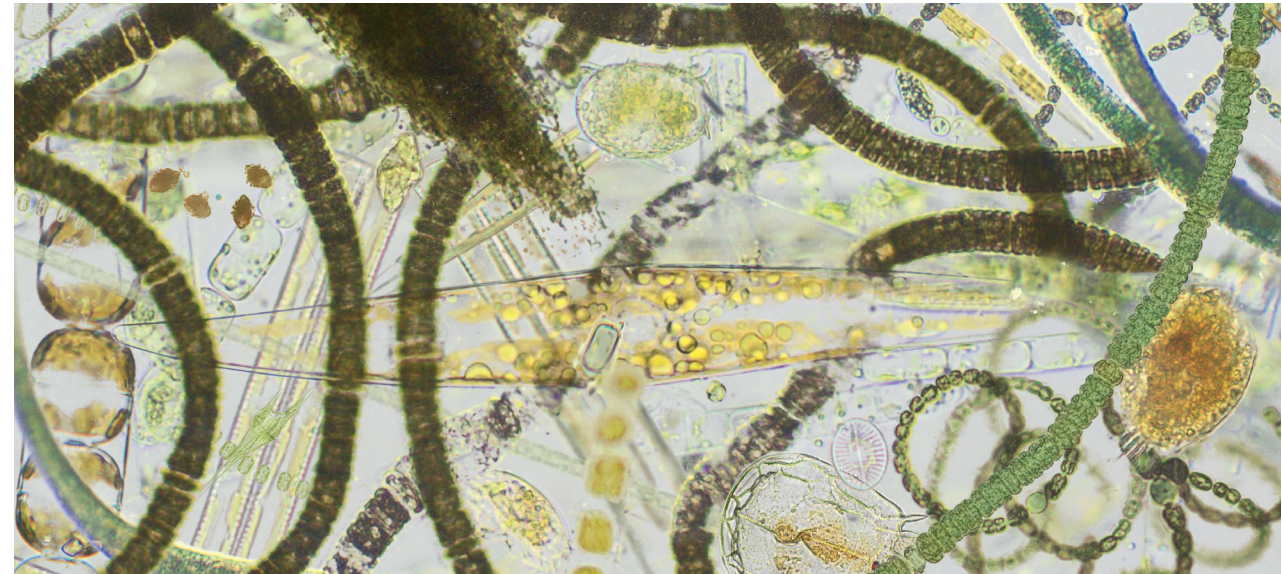
The Future for Microplankton in the Baltic Sea

Effects of SWS and Climate Change

The Baltic Sea is a very sensitive area with low alkalinity, variable salinity and limited water exchange. Therefore it may be less resilient to future stressors such as climate change or increased shipping activities. Presented in this thesis are the effects of climate change on a natural summer-bloom microplankton community, as well as on isolated cyanobacteria species from the Baltic Sea. Effects of climate change were simulated by increasing temperature from 12°C to 16°C, decreasing salinity from 6-7 to 3-4 and increasing atmospheric pCO₂-levels from 380 ppm to 960 ppm. Additionally, the effects of seawater scrubbing (SWS) were tested on a similar community. Three different concentrations of scrubber water were added; 1%, 3% and 10%. To elucidate effects of decreased pH alone, water acidified with H₂SO₄ was added in equal concentrations. The six treatments were compared to a control without acidifying substances. Finally, the application of the three cyanobacteria species dominating the summer-bloom as a source for biofuel and/or fatty acids was tested.



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Maria Karlberg

**DEPARTMENT OF BIOLOGICAL AND
ENVIROMENTAL SCIENCES**

