CS05: Macroalgal ecology

**MarClim: climate-driven range shifts and changes in abundance of macroalgae across the boreal/lusitanian transition zone.**

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Britain straddles the transition zone between cooler boreal and warmer Lusitanian biogeographic provinces, and many species of macroalgae reach their biogeographic range limits on or near to the UK coastline. The MarClim project has the most spatio-temporally extensive time-series for rocky shores globally, with data stretching back to the 1950s. MarClim surveys 100 sites annually around the coastlines of the UK and northern France, and has found that impacts of climate change on species distributions and population abundances are species-specific within marine macroalge. Some species of warmer thermal evolutionary origins have shown increases in abundance during the 2000s, with a slow-down from 2010-2014, followed by a continuation in the increasing trend to date. In contract, species of colder thermal ranges have shown a reduction in abundance across 22 degrees latitude of their distributional range, and contractions in the trailing range edge since the onset of anthropogenic climate change in the 1980s. Differential responses have resulted in changes to community structure across this transition zone.