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The spring diatom bloom in Scottish waters; regional differences and interannual variation

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The spring diatom bloom is a critical period in the marine seasonal cycle as it provides the fuel for copepod egg production during the early part of the year. Data from Scotland's coastal observatory reveals regional and interannual differences in the timing and intensity of this event since monitoring began in 1997. For example spring time temperatures at the Loch Ewe monitoring site on the west coast are approximately 2°C higher and the median spring time secchi depth is almost one meter greater than at the Stonehaven site on the east coast. These factors may account for the earlier spring bloom observed at Loch Ewe. A change in the species composition of the spring bloom has been observed with the genus *Skeletonema* increasing in abundance since 2005. Low spring bloom diatom cell densities were recorded between 2000 and 2005. Lack of diatom growth during this period meant that silicate remained in the system during the summer, fuelling a stronger autumn diatom bloom. This suggests that the diatom spring bloom can influence the composition of the phytoplankton community during the latter part of the growing period.

Keywords: Phytoplankton, spring bloom, diatoms, *Skeletonema*

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