Algae declines in the water off Sydney
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For more than 10 years, Dr Ajani and colleagues have been collecting phytoplankton data from a monitoring station offshore from Sydney.

"We examined 11 years of samples. Our data confirmed the seasonal pattern of peak diversity in winter, and also that phytoplankton blooms occur most consistently in March, September and December.

"Unexpectedly, we also observed a significant decline in total phytoplankton numbers over this eleven-year period. This decline in abundance was associated with a decline in water temperature."

Fellow researcher Dr Andrew Allen said: "What these findings tell us is that, although there has been a long-term increase in water temperature in our coastal waters, shorter-term fluctuations can and do occur.

"Such fluctuations significantly affect the phytoplankton, and therefore may have important implications for the entire marine ecosystem."

The phytotplankton dataset collected and analysed for this study represents one of the longest time series in the Southern Hemisphere. It therefore represents an important baseline for assessing the effects of future climate change on marine ecosystems.

More information: The paper "A decadal decline in relative abundance and a shift in microphytoplankton composition at a long-term coastal station off southeast Australia," in Limnology and Oceanography is available here: aslo.org/lo/toc/vol_59/issue_2/0519.pdf

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