

What drives the development of Harmful Algal Blooms in the English Channel?

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Website Summary

Some species of marine phytoplankton produce chemical toxins that can cause mortality, both animals and humans, when they accumulate in fish and shellfish which are then ingested. These toxins are safely regulated by food agencies to prevent health issues from the consumption of seafood products by humans. These naturally occurring marine phytoplankton can lead to what are known as Harmful Algal Blooms if conditions for their growth allow massive proliferation of their cell numbers. If the development of these Harmful Algal Blooms could be anticipated then the health risks often associated with them and the financial losses (to, for example, the shellfish industry) could be prevented. Each phytoplankton species has a preferred set of conditions for growth and so, by understanding the local environmental conditions that give rise to specific harmful species, it may be possible to predict the timing and location of these harmful blooms. Scientists from the University of Southampton (UK) are combining past knowledge from the scientific literature with analysis of multiple datasets collected throughout the English Channel to discover the factors that drive bloom development in this region. Meteorological variables such as rainfall, light, and wind speed and direction have been identified as key drivers along both the English and French coasts, and salinity and nutrient concentration are also important. This knowledge can be combined with satellite observations and modelling tools predicting the dispersion of blooms to improve the forecast of Harmful Algal Blooms occurring in different regions of the Channel.