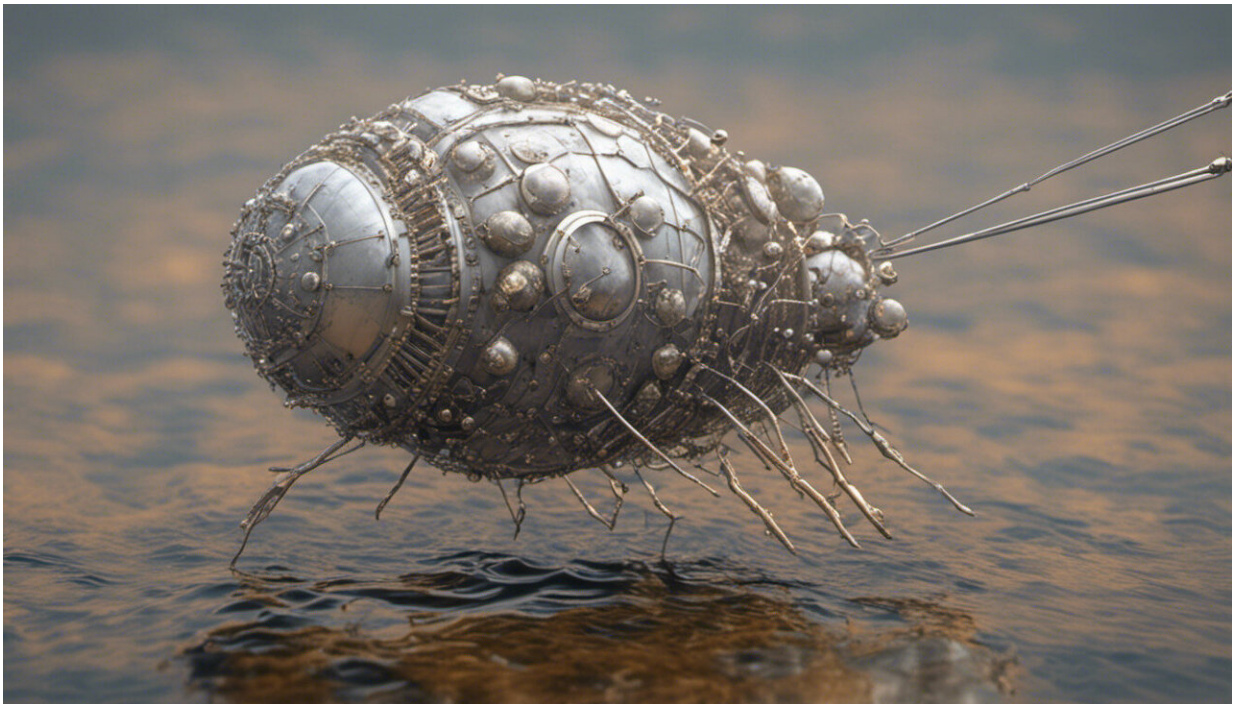


Satellite technology puts 'mussel' into shellfish monitoring

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Credit: AI-generated image ([disclaimer](#))

University of Exeter researchers are working with a team of UK scientists to explore the use of satellites and meteorological data to monitor and forecast water quality events that could threaten shellfish farms. The results will benefit the shellfish industry and, ultimately, consumers.

The ShellEye team, is led by Plymouth Marine Laboratory and includes scientists and technicians from the University of Exeter, headed by Dr Jamie Shutler, Senior Lecturer in Ocean Science from the Centre for Geography, Environment and Society at the University's Penryn Campus. Also involved in the project is the Centre for Environment, Fisheries and Aquaculture Science (Cefas), and the Scottish Association for Marine Science (SAMS).

The team will work closely with [aquaculture](#) industry partners to deliver a new, user-friendly, bulletin service for farmers.

The farming or cultivation of seafood, termed aquaculture, is an important worldwide source of protein. As global populations continue to rise at approximately 1.13% a year, the expansion of aquaculture is considered key to help provide food security for future generations. In the UK [shellfish](#) farming generates £20-25 million turnover each year, with worldwide demand for shellfish is anticipated to grow by 5% a year.

This expected growth provides a clear business opportunity for UK shellfish farming. Tools that can provide environmental information directly to farmers will help to continue safe, productive and sustainable aquaculture farming, whilst also helping the industry to expand and meet the nutrition needs of future populations.

Now, the 2-year ShellEye project, funded jointly by the UK Biotechnology and Biological Science Research Council (BBSRC) and Natural Environment Research Council (NERC), will help to advance shellfish farming management practices. The project will initially focus on the development of novel satellite monitoring and short-term forecasting techniques, which will then be integrated into the first water quality monitoring service for harmful algal blooms and targeted pollution events, specifically for the shellfish aquaculture industry.

Changes in water quality, such as the formation of harmful algal blooms, can have a negative impact upon shellfish farms and, in rare cases, can also pose a public health issue through the consumption of contaminated stock. Water quality in and around aquaculture farms in the UK and Europe is currently monitored by government agencies, using a series of tests based on collecting water samples and analysing the flesh of the seafood being farmed.

Enhancing current monitoring practises, through the use satellites and weather forecasts, will provide farmers with a cost-effective, near real-time source of information in the form of electronic bulletins, to help manage shellfish harvesting. In turn, this should help minimise potential health risks and financial losses, which can reach over £160K per closure, and support farmers in making more informed decisions about when and how much to harvest.

Dr Peter Miller, ShellEye project leader and senior scientist at Plymouth Marine Laboratory, comments: "Our team will be working with colleagues in aquaculture companies, two in Cornwall and one in Scotland, to extend and adapt approaches that have been successfully developed for salmon farmers so that they can also benefit shellfish farmers. Importantly, this new approach to monitoring water quality around aquaculture sites will help build a multidisciplinary approach to support the UK's shellfish aquaculture industry."

David Jarrad, Director of the Shellfish Association of Great Britain, comments: "We fully support the aims and scope of this project to provide useful environmental information directly to farmers. Progress in this area would hugely benefit our industry and enable it to expand in a sustainable way."

If you would like to be kept up-to-date with the progress of ShellEye and the novel [water quality](#) bulletin service that will be developed, please

register your interest on the ShellEye website at www.shelleye.org.

Provided by University of Exeter

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