Rendering by Kongsberg Maritime

Reading the waves

An innovative project using unmanned craft could teach us all about our oceans

Our oceans hold a lot of potential for industry, whether in fishing, farming or energy, but they have potential vulnerabilities too. When pondering whether to invest resources in the maritime sector, one of the most important questions is: how safe and sustainable is this activity?

Now an innovative project is pioneering a new kind of unmanned ocean exploration to answer just that question. Glider is a drone-led project that uses three unmanned vehicles – a diving Seaglider, Sailbuoy and Wave Glider – to gather important data about the oceans. The project is initiated by a three-year demonstration period financed by the Norwegian Research Council and ConocoPhillips.

Over five weeks during 2017 and six months in 2018, these vehicles are sent out from Bodo in Norway on pioneering analytical missions. Using energy from waves, wind and solar power, and steered remotely using GPS, they tour the seas outside the Lofoten and Vesterålen Islands to collect chemical, physical and biological information from the ocean and atmosphere.

"The Glider project collects a vast amount of met-ocean and environmental data," says Salve Dahle, director of Akvaplan-niva AS, the research and consultancy company leading the project. "The data will be used for environmental control and to get optimal yield for investments."

Akvaplan-niva provides impact assessments to evaluate the influences of human activity on aquatic environments. The Glider sensors can assist them by providing continuous measurements of weather, waves, currents, temperature, salinity, O_2, CO_2, marine algae, animal plankton, fish fry, fish and marine mammals, as a new cost-efficient and environment-friendly tool for accurate and state-of-the-art environmental management.

"Our specialists draw upon decades of field-based experience to deliver high-quality assessments," says Dahle. "By using these platforms, data collection can become more flexible. This gives the opportunity for continuous monitoring. It's also far more economical compared to traditional data collection methods."

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