



The new autonomous Autosub Long Range vehicle, the lead boat of which is popularly named Boaty McBoatFace | Photo source [National Oceanography Centre](#)

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NEW AUTONOMOUS UNDERWATER VEHICLES WILL EXPLORE THE MYSTERIES OF THE OCEAN



The National Oceanography Centre is completing development of two new classes of autonomous underwater vehicle

Spotted: The UK's National Oceanography Centre (NOC) is delivering two new autonomous underwater vehicle (AUV) classes as part of its Oceanids programme. According to the NOC, these "state-of-the-art robot submarines are paving the way for safer and more cost-efficient offshore operations."

The new underwater vehicles include three Autosub Long Range (ALR) vehicles, the first of which was given the rather cheeky name of Boaty McBoatface in a public naming contest. These can operate up to 1500 metres underwater and will have longer endurance and greater payload capacity than current vehicles. There will also be an Autosub that can reach 2000 metres of depth, while being capable of operating under ice.

The project will also deliver enhanced 'command-and-control' systems and a range of innovative new sensors, including nutrient sensors, CO2 sensors, and a biocam, among others. The hope is that these systems will enable marine researchers to better explore technologically challenging under-ice and deep-ocean environments.

"Since we first started developing AUVs in the late 80s and our inaugural AUV expedition 25 years ago, the combined science and engineering teams have made huge strides pushing the boundaries of how we explore the world's oceans," says Dr Maaten Furlong, Head of the NOC's MARS Group. "Autonomous vehicles are a key technology to enable scientific research to move to net-zero emissions. I am excited to see NOC's Autosub developments playing a vital role in this change,

and look forward to seeing the continued advancement of the technology and the associated scientific exploration,” he added.

While the bulk of the ocean innovations we have covered are focused on **removing** or **filtering** trash from the ocean, exploration is just as important in our quest to reverse the damage to the ocean caused by human activities. The new NOC Autosubs will allow more information to be gathered about the ocean. The hope is that by better understanding the oceans, researchers will be better placed to help them.

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30th November 2021

Website: noc.ac.uk/projects/oceanids

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Takeaway:

The NOC’s newest fleet of ALRs will be capable of being deployed for up to three months and will allow shore-based scientific missions and under-ice exploration. These will have a lower cost than ocean-based missions, which in turn could allow a greater range of exploratory missions. At the same time, the new navigation features will allow scientists to research areas that could not previously be reached by boat, including the melting Thwaites Glacier, which will be visited later this year by the NOC team. The ocean plays an important role in the carbon cycle, so understanding its secrets is important for our understanding of climate change.