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TEAMER - Field Demonstration of MarineSitu's Marine Energy Monitoring Tools - CRADA 664 (Abstract)

CRADA #664 (PNNL # 83783)

July 2024

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Participant(s): MarineSitu. Inc.

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Abstract

In order to effectively monitor for marine life around marine energy devices and thus minimize the risk of collision, multiple sensors working in coordination and augmented with around-the-clock automated monitoring algorithms need to be installed in challenging high-energy tidal and wave environments. Such systems are often too expensive for widespread adoption, or lack sufficient sensors or smarts to enable around-the-clock, real-time monitoring without human involvement. MarineSitu has been working to tackle this problem by developing a low-cost, combined sonar and stereo camera sensor array with connected real-time AI-based algorithms for automatically detecting marine life in these marine energy suitable environments. In this TEAMER project with Pacific Northwest National Lab (PNNL), MarineSitu will be testing this novel sensor system for the first time in the high-energy tidal channel environment at PNNL's Marine and Coastal Research Lab. Throughout this deployment, MarineSitu will be monitoring their system and running analytics on the sensor's data in real-time. Meanwhile, PNNL Data Scientists and Ocean Engineers, will be evaluating the system's effectiveness and ease of use both as a tool for plug-and-play environmental monitoring and novel environmental monitoring research. In doing so, the team will improve MarineSitu's system and software, produce insightful data products, and develop novel visualizations and AI algorithms for combining and analyzing the data produced by systems like MarineSitu's.

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