

EGU2020-10499

<https://doi.org/10.5194/egusphere-egu2020-10499>

EGU General Assembly 2020

© Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.



## Release of a Seaglider from an AutoNaut surface vehicle: demonstration mission in the Eurec4a project

**Karen J. Heywood**<sup>1</sup>, Elizabeth Siddle<sup>1</sup>, Callum Rollo<sup>1</sup>, Ben Webber<sup>1</sup>, Rob Hall<sup>1</sup>, Gillian Damerell<sup>1</sup>, Philip Leadbitter<sup>1</sup>, Gareth Lee<sup>1</sup>, Peter Bromley<sup>2</sup>, Paul Stafford<sup>2</sup>, Alastair Nichol<sup>2</sup>, and Hugh Maclean<sup>2</sup>

<sup>1</sup>University of East Anglia, School of Environmental Sciences, Centre for Ocean and Atmospheric Sciences, Norwich, United Kingdom (k.heywood@uea.ac.uk)

<sup>2</sup>AutoNaut Ltd, Chichester, UK

This PICO presentation describes a recent demonstration mission of our wave-propelled autonomous vehicle, an AutoNaut named Caravela. Caravela has been designed and built to carry and deploy a profiling ocean glider at a specified location and time. This has applications for example in transporting an ocean glider to a remote location without use of a research vessel, or initiating a glider campaign at a particular time such as prior to a hurricane or the spring bloom.

In January-February 2020 we participated in the international Eurec4a field campaign in the tropical Atlantic to the east of Barbados. Caravela was deployed from Barbados and carried a Seaglider to release at the study site. The observational campaign was designed to occupy a time series site with three Seagliders (making intensive measurements of upper ocean properties) and the AutoNaut (making continuous measurements of surface meteorology, radiation and surface ocean currents). Here we describe the technological challenges, the field campaign and the preliminary results of the scientific observations from Caravela and the Seagliders. The aim is to use the observations to calculate the air-sea fluxes and ultimately to close a mixed layer heat budget for the observation site.