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Underwater gliders offer new mobility to the world of ocean observations, and PLOCAN's glider school helps to increase use of this promising technology.



Glider School attendees operating a glider in open waters of the PLOCAN test site. Image Credit: PLOCAN

With a bright red or yellow body, these devices look like a cheerful cross between a model airplane and a submarine. In a sense, that's what the machines are: they are [underwater gliders](#), and they represent a new way for researchers to monitor conditions on or beneath the waves. A type of robot (or, to be more specific, an underwater autonomous vehicle or UAV), gliders have the ability to move vertically and horizontally through the water, allowing them greater mobility than previous unmanned underwater observation devices. Based on the sensors they are equipped with, the underwater gliders have the capacity to gather data on a variety of ocean conditions, ranging from underwater acoustics to salinity.

Although still no small investment, gliders are relatively inexpensive in comparison with previous ocean observation technologies, costing from 100k-250k euros. The glider school costs 2,000-2,200 euros for professionals and 1,600-1,800 euros for university students. This includes the registration fees, the flights and seven nights in the Canary Islands. Researchers familiar with these UAVs are interested in exploring new sensors that could be applied to the robots and new ways that gliders might be used to study the oceans. In the hopes of broadening current glider use and offering knowledge that might be used to develop future gliders, the Oceanic Platform of the Canary Islands ([PLOCAN](#)) has started a yearly glider school. Since 2011, a week-long course has been offered each year in the Canary Islands. The [PLOCAN Glider School](#) offers training in use of gliders for real-time monitoring. The program is primarily intended for a mix of university-level students and engineers, as well as practitioners in the professional sector. Attendees of the training hail from a variety of international locations, and training is provided by a mix of researchers, glider engineers, and glider manufacturers. Participants learn how to gather and manage the data and investigate opportunities for partnership with other ocean-observing platforms and research networks.

PLOCAN and its glider school are part of a marine science and technology initiative that partners with the broader

[NEXOS](#) framework of the European Union (EU) to build collaboration in collection and sharing of ocean research. With its glider school, PLOCAN hopes to further the vision of shared, socially-applicable research in a way that spreads beyond the Canary Islands.

During the trainings, the gliders can undergo in-place testing. After the program ends and the students return, ideally the inquiry will continue. As trainees find new opportunities for applying underwater gliders to local scientific or socioeconomic ventures, glider use and utility will hopefully continue to grow.

[Ayoze Castro Alonso](#), a project manager on the PLOCAN project explains, “The NeXOS project aims to develop a new generation of compact and multifunctional sensors. In our 5th Glider School Edition, PLOCAN will offer a specialized seminar where the scientific background and main challenges of this research field will be summarized.

“The idea is to increase awareness of the Glider Pilots community about how this new generation of ocean sensors can open a rich and wide world of opportunities to further exploit the potential of these cost-efficient platforms.”



Deploying a glider aboard the PLOCAN-1 fast-boat during the Glider School 2014 edition. Image Credit: PLOCAN