## From project to ocean: First ITINERIS glider-based insights in the Ligurian sea

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The ocean regulates Earth’s climate, sustains biodiversity, and supports key human activities such as fisheries, transport, and coastal economies. Monitoring these complex systems requires continuous and reliable observations of “Essential Ocean Variables” (EOVs). Marine gliders—autonomous vehicles that move by changing buoyancy—are increasingly used to collect EOV data due to several advantages. They provide long-term, persistent monitoring at lower cost than ship-based surveys, can operate in difficult or remote areas, and deliver high‐resolution water column measurements. Unlike fixed buoys or satellites, gliders follow planned routes and transmit data in real time, improving early warning systems for environmental events. As such, they are key components of the global ocean observing system, contributing to climate models, weather forecasts, and sustainable resource management.

Two glider campaigns—AMBO25 and EYES ON GLIDERS—were carried out in the Ligurian Sea in April and July/August 2025 using SEAEXPLORER platforms acquired under ITINERIS project to support the JERICO research infrastructure. The AMBO25 mission (almost 17 days) deployed the SEA113 glider “Morgana” along a 10 km transect near Deiva Marina. Equipped with CTD, dissolved oxygen, and bio-optical sensors, the glider recorded the ocean response to strong winds and harsh weather conditions. An episode of intense fishing activity was also reported in the area toward the end of the campaign.

The EYES ON GLIDERS campaign was run in parallel with the Gaia Blue R/V Campaign and deployed SEA112 (“Pandora”) and Morgana. Morgana followed a 70 km × 60 km L-shaped transect starting from the Arenzano area, while Pandora performed a similar transect near Chiavari, including current and turbulence sensors. Morgana operated for ~20 days, whereas Pandora completed only 4 days due to technical issues. These early campaigns demonstrate the suitability of the new JERICO gliders for multi-scale EOV observations and enhanced assessment of coupled physical–biogeochemical processes.

**Keywords: Ocean gliders, EOV observations, Research Infrastructures.**