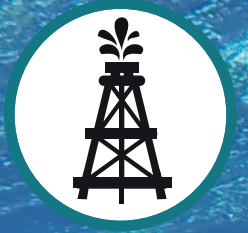
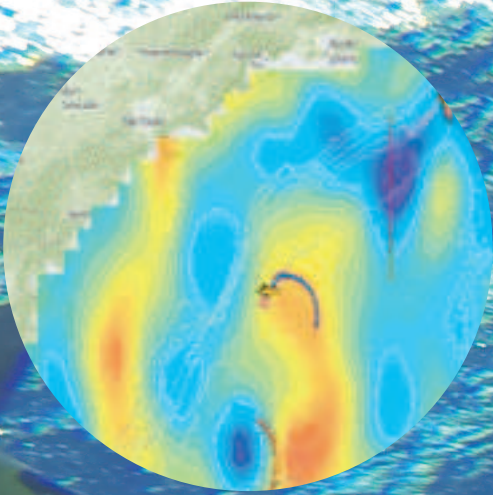


OFFSHORE

CLS SERVICES



IN SITU OBSERVATION CAMPAIGNS

Oil and gas operators are increasingly required to have accurate knowledge of operational ocean conditions, for site studies, operations and environmental permitting. It is expensive to gain real-time in-situ observations using research vessels, but undersea AUV provide a cost-effective alternative.

OUR SOLUTIONS

IN-SITU GLIDER OBSERVATION CAMPAIGNS

There is a growing use of Glider campaigns by oceanographers for transect sampling and virtual mooring. CLS provides a complete in-situ observation package. Our team includes seven licensed fully trained glider pilots, and we provide planning, deployment, technical support and management of glider campaigns with our own equipment anywhere in the world. The gliders are remotely controlled and programmed from our offices, and the pilots guarantee round-the-clock surveillance of operations.

Advantages of glider campaigns include:

- Easy and inexpensive to deploy
- Robust and continuous sampling
- Gliders operate in all weather
- Samples down to 1000 m
- Real-time data transmission
- Low environmental impact
- Up to 6 months autonomy
- User-defined route
- Virtual mooring
- Operates with a large range of sensors

DELIVERABLES

- Complete in situ observation package including campaign planning, oceanographic expertise, hardware, technical support and glider pilots
- Data: All glider data (Temperature, Salinity, Chlorophyll, dissolved oxygen, positions, other sensor data . . .) are available via a dedicated website or in any data format chosen by the customer.
- Analysis and reports: In addition, CLS oceanographers can provide data analysis and oceanic interpretation

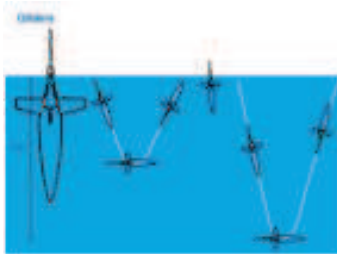
FORECAST ▪ MONITORING ▪ HINDCAST ▪ VALIDATE ▪ QUALIFY ▪ SATELLITE & IN-SITU OBSERVATIONS ▪ NUMERICAL MODELS ▪ 24/7 OPERATIONS ▪ 60 IN-HOUSE OCEANOGRAPHERS ▪ REGIONAL APPROACH ▪ WORLDWIDE COVERAGE

CLS Headquarters

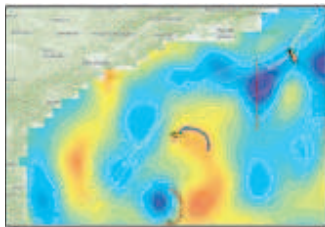
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Proceano

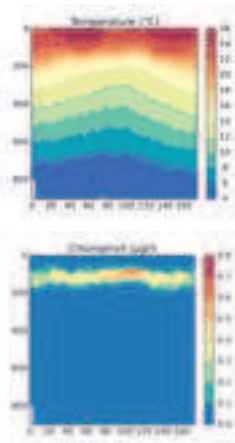
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 Web: <http://proceano.com.br>



Gliders can be programmed to dive up to 1000 m beneath the surface, collecting observations along their dive path. They transfer data in real-time by satellite connection when they reach the surface.



Gliders provide real-time observations along regular transects or can act as virtual mooring.



Examples of temperature, salinity and other profiles collected by gliders, based on specific sensors.

