Teledyne Webb Research

Slocum G2 Glider

Autonomous Underwater Vehicle

Slocum G2 Glider with Thruster

Long Endurance, Proven Performance

Slocum G2 gliders offer flexibility, efficiency and the ability to succeed in a harsh ocean environment. Buoyancy driven, the long range and duration of Slocum gliders makes them ideally suited for persistent remote water column observation. No matter the sea state, gliders are capable of continuous sampling without risking personnel or costly assets. Over 40 sensors and other options are available for a wide variety of ocean conditions and sampling requirements. Slocum gliders can run pre-programmed routes, surfacing to transmit real time data to shore while downloading new instructions at regular intervals at a substantial cost savings compared to traditional surface ships. Additionally, fleets of gliders can be operated with minimal personnel and infrastructure. The robust Slocum glider provides the data you need, at an affordable cost, with the flexibility required for changing mission requirements.

HYBRID CAPABLE

Recovery of first trans-Atlantic Slocum glider off the coast of Spain.

PRODUCT FEATURES

- High endurance – 25 to over 365 days
- Modular payload capacity
- Optional thruster drive increases operational envelope
- Real-time remote piloting enables response to changing situations
- Persistent data collection at a fraction of the cost of surface ships or traditional AUVs
- Low logistics – one man deployable from any vessel
- Largest variety of sensors available in the market
- Proven performance with over 600 gliders built and deployed
- Supplier of glider fleets for the US Navy, Ocean Observatories Initiative and National Oceanography Centre
- World class support and service
- Turnkey solutions available with TWR piloting and support
- 1000 meter depth rating: swappable deep water or littoral buoyancy engine to optimize efficiency

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APPLICATIONS

- Scientific Research
- Environmental Monitoring
- Oil and Gas
- Military

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Autonomous Underwater Vehicle

Sensor Options:

- Acoustic Doppler Current Profiler (ADCP)
- Acoustic Modem
- Acoustic Mammal Detection
- Beam Attenuation Meter
- CTD Pumped
- Echosounder
- Fish Tag Detection
- Hydrophones
- Nitrate
- Optical Backscatter Options
- Optical Attenuation Options
- Optical Fluorometry Options
- Oxygen Options
- PAR
- Radiometer
- Spectrophotometer for Harmful Algal Blooms (e.g., Red Tide)
- Turbulence
- Custom Solutions Available

ADVANTAGES

- Unmatched reliability, proven performance and high uptime
- Modular-user configurable
- Persistent surveillance at a fraction of the cost of surface vessels
- Real time piloting and data enables rapid response
- World class support and service
- Proven design with over 600 gliders in the field
- Hybrid Capability - Thruster Option

General Specifications

Deployment	Versatile, deployment with 1-2 people. LARS options available.
Power	Alkaline (A) or Lithium (L) batteries
Range	600 - 1500 km (A) / 4000 - 8000 km (L)
Deployment Length	15-50 days (A) / 4 - 12 months (L)
Depth Options	(4 to 200m) or (40 to 1000m) operating depth range*
Navigation	GPS, Pressure Sensor, Altimeter, Dead Reckoning
Communication	RF Modem, Iridium (RUDICS), ARGOS, Acoustic Modem
Speed	.35 m/s (0.68 knot) Average Horizontal (buoyancy engine), up to 1m/s (2 knots) with thruster
Mass	54 kgs (dependent upon configuration)
Dimensions	Vehicle Length: 1.5 meters; Hull Diameter 22 cm

* Modular buoyancy engine dependent

Note: Endurance and range dependent on sensors and sampling frequency, energy source and communications.

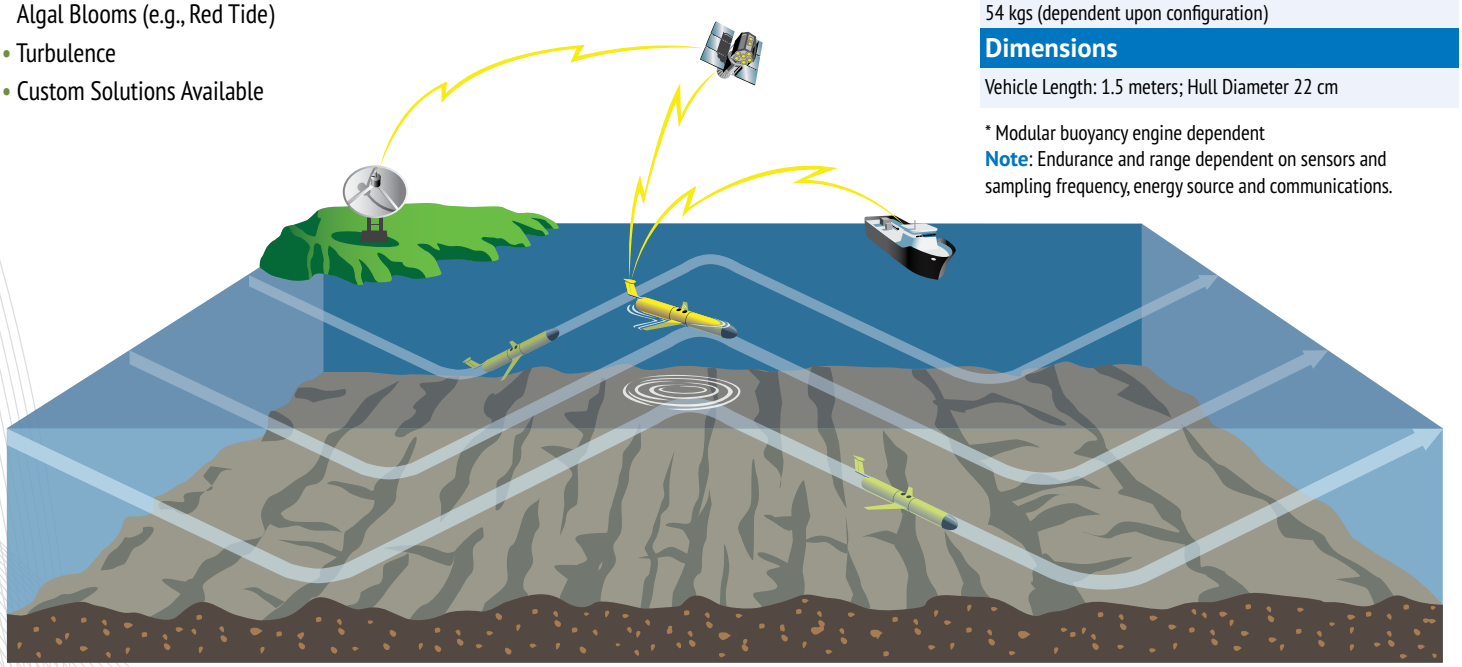

Figure 1. The Slocum glider uses hydraulic buoyancy change to alter the vehicle density in relation to the surrounding water thereby causing the vehicle to either float or sink. Given an appropriate dive or climb angle, the wings and body lift convert some of this vertical motion into a forward sawtooth horizontal motion. Altitude or pressure inflects the glider in relation to the bottom or a specified depth as it undulates throughout the water column collecting sensor data. Per pre-programmed mission, the glider periodically surfaces, inflating an air bladder to raise the tail fin antennae out of the water. The glider then calls via Iridium Satellite Phone (anywhere in world) or Free Wave RF Modem (line of sight) in to Dockserver (auto attendant computer) to relay navigational fix, data and receive further instructions for command and control. Gliders can be flown in a coordinated fleet to meet a spacial and temporal objective, along transects, or as virtual moorings.

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