

The Wave Glider



Overview

Wave Glider revolutionizes how we explore and understand the world's oceans by gathering data in ways or locations previously too costly or challenging to operate. Powered by wave and solar energy, the Wave Glider is an autonomous, unmanned surface vehicle (USV) that operates individually or in fleets delivering real-time data for up to a year with no fuel.

- Modular payload design for rapid sensor integration
- Real-time onboard processing of large data sets
- Flexible energy storage for power hungry sensors
- Adaptable operating system featuring intelligent autonomy for coordinated fleet operations

Autonomous Platform

- Modular and adaptable design for onboard and towed payloads
- Simple integration of sensors
- Optimized for fleet operations
- Interoperability with existing assets

All-Weather Endurance

- Long-duration missions (up to a year)*
- 24/7 on-station availability
- Proven in high sea states and challenging conditions (hurricanes, arctic, doldrums)

Low Cost — High Return

- Significantly lower lifecycle cost than traditional solutions (boats, buoys, satellites)
- Enables a new class of previously cost-prohibitive missions

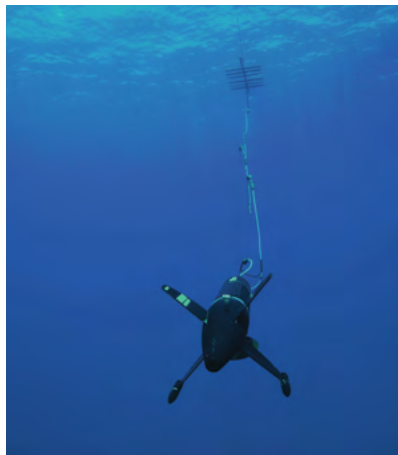
* Mission duration varies based on operating conditions and location; maintenance recommended every 4-6 months.

The Wave Glider (continued)

Platform Specifications

- MAX MISSION DURATION** Up to 1 year¹
- MIN. WATER DEPTH** >15m²
- STATION KEEPING** 30m radius³
- SPEED** Typical: 1.3kts
- TOWING CAPABILITY** 500kg (drag dependent)
- AVERAGE CONTINUOUS POWER** 5W – 20W
- MAX SOLAR COLLECTION** 192W (nominal)
- BATTERY CAPACITY** 0.9kWh – 6.8kWh rechargeable
- COMMUNICATIONS** Cell, Satellite, Wi-Fi

¹ Mission duration varies based on operating conditions and location; maintenance recommended every 4-6 months.
² With standard 8m umbilical.
³ Based on previous missions, observed station-keeping 90% of time (subject to sea state and navigation modes).



Payload Architecture

The Wave Glider has a modular mechanical and electrical payload design that includes five areas for housing payloads and sensors: (i) in float across seven bays; (ii) on float; (iii) under float; (iv) on sub; (v) towed. In addition, there are software APIs specifically designed for rapid sensor integration into the operating system and the Wave Glider Management System (WGMS).

With excellent acoustic isolation and the ability to tow both large and small masses smoothly, the Wave Glider is well suited for a wide range of towed sensors, particularly acoustics (passive, active, communications).

Software and Computing

The Wave Glider onboard operating system provides intelligent autonomy for coordinated fleet operations, along with data preprocessing and compression for optimized real-time downloads and at sea mission reconfiguration.

Extremely low-power onboard computing, real-time communications and a cloud computing environment, allow for the simple retrieval of data in a variety of formats and methods.

Standard software APIs facilitate efficient application development for the platform.

