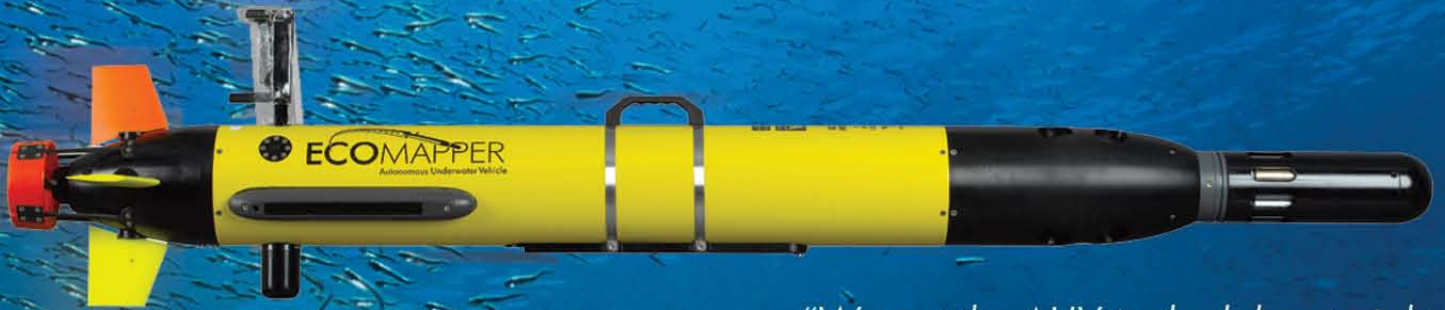




ECOMAPPER™

Autonomous Underwater Vehicle



"We put the AUV in the lake at night, went to bed, woke up and picked it up. That's how easy field work should be."

*Dr. Cary Troy
Purdue University*

Generate **high-resolution maps**
of **water quality, water currents** and **bathymetry**
without getting your feet wet.

Data Collection Suite



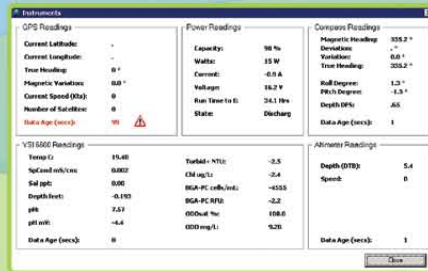
EcoMapper is a unique AUV designed specifically for mapping water quality, water currents, and bathymetry.

Navigate challenging natural environments with a monitoring platform that will generate the highest-resolution data at a low cost and low risk to your personnel.

Key features

- Reliable autonomous underwater vehicle with DVL navigation
- Flexible options for water quality, bottom mapping, water current profiling, and side-scan sonar
- Data logged continuously as vehicle moves through water column
- Deployable by one person
- Easy and fast mission planning
- 8-14 hour run times at speeds of 2-4 knots

5 Steps to an **EcoMapper Mission**



1 Using VectorMap software, create a point-and-click mission on a geo-referenced map.

2 Start EcoMapper with key fob. Using Windows™ Remote Desktop, load mission onto EcoMapper's UVC Software.

3 Place vehicle in water and start mission.



Baseline Monitoring

- Detailed data on horizontal and vertical planes
- Reduce number of personnel on the water
- Reduce costs to run monitoring program
- Simultaneous bathymetric, water quality and current mapping, sonar imaging

Source Water Mapping

- Improve knowledge of raw water quality
- Early warning of algal blooms and low DO events
- Map sediment level and reservoir volume
- Reduce water treatment operating costs

Coastal & Ocean Research

- Surf-zone turbulence
- Benthic boundary layer studies
- Coral reef ecology
- Tidal inlet studies
- Fisheries research
- Physical-biological interaction

Bottom Mapping

- Depth sensor and acoustic sounder standard
- Side-scan sonar optional
- Requires <1 m water depth

Point Source and Non-point Source Mapping

- Generate high-resolution map of plume
- Track movement of point source
- Map non-point source impacts to environment
- Monitor impacts by industry or development

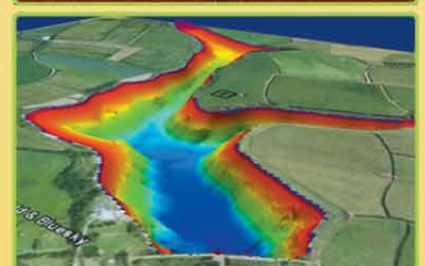
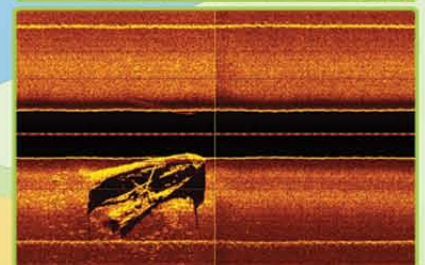
Data graphs:
Water quality, side-scan sonar, and 3-D bathymetry

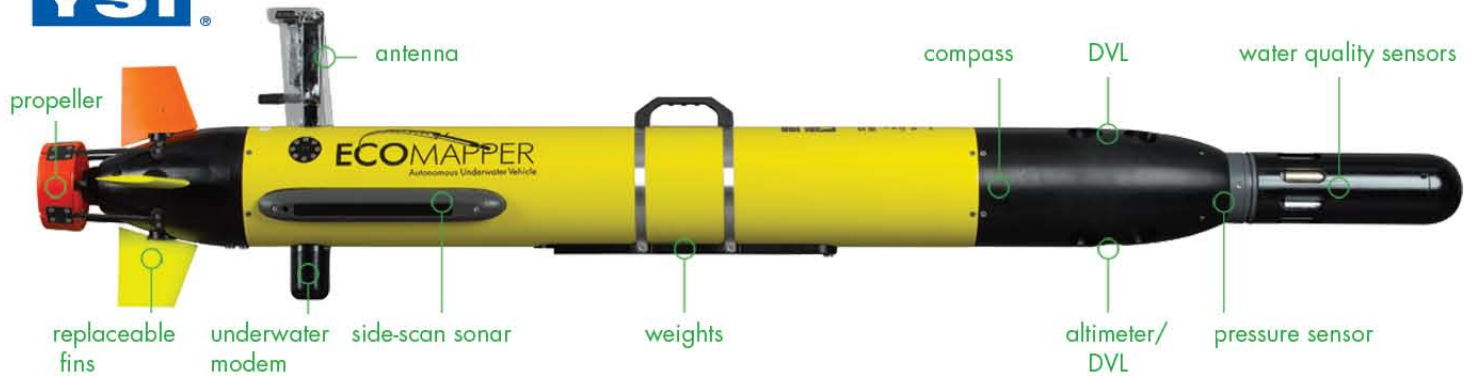


- 4 When EcoMapper is on the surface and within Wi-Fi range, view data and monitor progress. Or take manual control over vehicle.



- 5 Retrieve EcoMapper at planned PARK location. Download data via Wi-Fi link; transfer data to preferred graphing software (software not included).





www.y.si.com/ecomapper

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Who's Minding the Planet?®

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E87-03 0610

Specifications

Dimensions	Length: 60.1 in (152.6 cm) standard; 63.6 in (160.8 cm) with DVL Diameter: 5.8 in (14.73 cm)
Weight (air)	45 lbs (20.41 kg) standard; 60 lbs (27.2 kg) with DVL
Energy	600-800 WHrs of rechargeable Lithium-Ion batteries (>300 cycles)
Depth	200 ft (60 m)
Endurance	8 hours at speeds of 2.5 knots; battery configuration dependent
Speed Range	1-4 knots
Communication	Data: wireless 802.11g Ethernet 2.4 GHz radio link when on the surface
Navigation	Surface: GPS (WAAS corrected) Subsurface: A) Bottom tracking to 40 m with DVL; B) Dead reckoning with compass, depth sensors, and vehicle speed
Sensors	CTD (conductivity, temperature, depth), height from bottom, three-axis digital compass
Onboard Electronics	Intel® ATOM processor with Windows® XP embedded; 80 GB drive for data collection
Software	VectorMap: Mission planning and data viewing Sonar Mosaic: Processing sonar records for overlay in VectorMap UVC: Underwater Vehicle Control, operation, run mission, remote control
Options	
Sensors	Optical dissolved oxygen, turbidity, chlorophyll fluorescence, blue-green algae fluorescence, pH, ORP
Side-Scan Sonar	Dual-frequency 330/800 kHz
Doppler Velocity Log	6-beam DVL for navigation, bathymetry, current profiling (down) 10-beam DVL for navigation, bathymetry, current profiling (up and down)
Security System	Safety tow float: Emergency airbag recovery system Acoustic pinger: Underwater location and tracking

Mapping Service

YSI offers a complete mapping service with the EcoMapper AUV. Please contact us.