i3XO EcoMapper AUV

Generate **high-resolution maps** of **water quality**, **currents** and **bathymetry**.

a xylem brand

i3XO EcoMapper AUV

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
- Built in Wi-Fi

* EXO1 with CTD: three additional sensors can be installed simultaneously.

Applications of the i3XO EcoMapper AUV

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

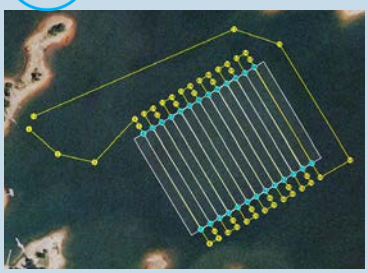
- Depth sensor and acoustic sounder standard
- Side-scan sonar optional
- Requires < 1 m water depth

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

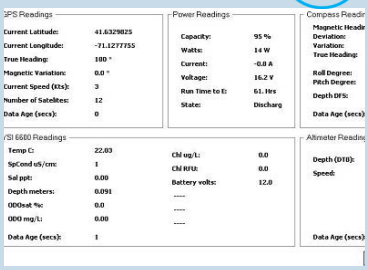
5 Steps to an EcoMapper Mission

1



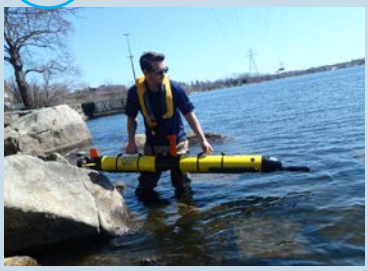
Using VectorMap software, create a point-and-click mission on a geo-referenced map.

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.

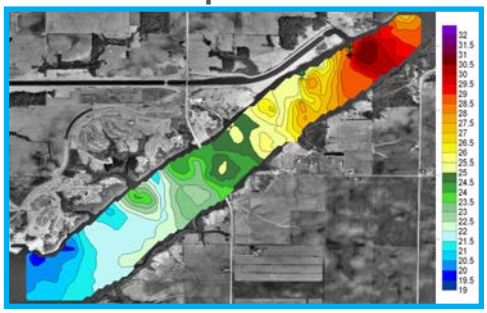
4

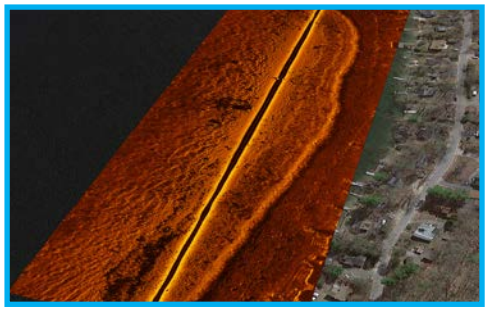
When EcoMapper is on the surface and within Wi-Fi range, view data and monitor progress, or take manual control over vehicle.

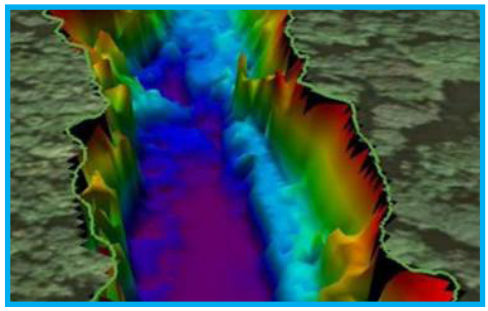
5

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

Data Graphs







i3XO EcoMapper AUV Specifications

Dimensions	
Length	60 - 85 in., Standard
Tube Diameter	5.8 in.
Weight	70 lb., Standard
Depth Rating	100 m (328 ft.)
Endurance	8 - 14 hours at 2.5 knot speed; configuration dependent
Speed Range	1 - 4 knots (0.5 - 2.0 m/s)
Communication	Wireless 802.11 g Ethernet standard (Iridium and Acomms optional)
Antenna Mast	Navigation Lights, with IR and Visible LEDs (programmable strobe)
Tracking Internal Data Log; Software	Programmable resolution
Navigation	**Surface**: GPS (WAAS corrected). **Subsurface**: RDI Doppler Velocity Log (DVL), 81 m range, depth sensor and corrected compass
Software	
Vector Map	Mission planning and data viewing
SonarMosaic	Creates GeoTiff images of side scan records and KMZ files for Google Earth
BathyMosaic	Creates GeoTiff images for bathymetry data
Underwater Vehicle Console (UVC)	Operation, run mission, remote control
Energy	800 WHrs of rechargable Lithium-Ion batteries (Swappable selection)
Onboard Electronics	Intel Dual Core 1.6 GHz N2600 processor with MS Windows embedded; Up to 512 GB Solid State Drive for data storage
Propulsion System	48 V Servo Controlled DC Motor with 3-blade cast bronze propeller
Control	Four independent control planes (Pitch / Yaw Fins)
Charging	24 V External Connector with USB 2.0 Support

YSI Integrated Systems & Services Inc.
9843 18th St. North, Suite 1200
St Petersburg, FL 33716
O: +1 (727) 565-2201
ysi.systems@xyleminc.com
www.ysi.com/EcoMapper

i3XO ECOMAPPER® Autonomous Underwater Vehicle

YSI a xylem brand

E87-0816 (EcoMapper)