



# EcoMapper AUV

GENERATE HIGH-RESOLUTION MAPS OF WATER QUALITY, WATER CURRENTS, BATHYMETRY, AND SONAR IMAGERY

YSI introduces a unique system for collecting water quality data. The i3XO EcoMapper™ AUV (Autonomous Underwater Vehicle) with EXO sensors provides researchers and scientists with a data collection platform unmatched in its flexibility and capability. This vehicle can measure water quality, currents, and bathymetry at a continuous interval for missions ranging from 8-12 hours long.

### Features Include:

- Vehicle is easily deployed by one person
- Wide-area survey without a workboat or associated staff
- Intuitive mission-planning software for quick and easy survey design and execution
- Undulation through the water column provides data in both the horizontal and vertical planes
- Geo-referenced data
- Options to measure up to 8 water quality parameters, bottom mapping, and water profiling
- Reliable autonomous platform with DVL
- Robust and simple to use - minimal operator training
- Bow with integrated sensor package includes YSI's water quality sensor bulkhead, and depth sounder
- Rugged, lightweight carbon fiber and marine-grade aluminum construction
- Launch from the shore or small boat
- Li-Ion batteries = long run-time and quick recharge
- Near-coastal operating depth - bays, rivers, lakes (to 328 ft depth)
- Built-in moisture detectors



"Once deployed, the EcoMapper communicates while on the surface and acquires a GPS fix at waypoints identified in the mission plan."



"Screenshot from VectorMap mission planning software showing a 'lawnmower'-style mission path drawn onto image of saltwater lagoon."



# EcoMapper AUV Specifications

|                                      |   |   |
|--------------------------------------|---|---|
| Dimensions                           | Length<br>Tube Diameter<br>Weight   | 60-85 in, Standard<br>5.8 Inches<br>70 lbs, Standard  |
| Depth Rating                         |   | 100m (328 ft)   |
| Endurance                            |   | 8-14 hours at 2.5knot speed; configuration dependent  |
| Speed Range                          |   | 1-4 knots (0.5-2.0 m/s)   |
| Communication                        |   | Wireless 802.11g Ethernet standard (Iridium 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), 81M range, depth sensor and corrected compass   |
| Software                             | Vector Map<br>Sonar Mosaic<br>Bathymosaic<br>Underwater Vehicle Console (uvc) | Mission Planning and Data Viewing<br>Processes sonar records for overlay to Vector Map<br>Creates GeoTiff images of a side scan records and KMZ files for Google Earth<br>Operation, run, mission, remote control |
| Energy                               |   | 800 WHrs of rechargeable Lithium-Ion batteries, (swappable section)   |
| Onboard Electronics                  |   | Intel Dual Core 1.6 GHz N2600 processor with MS Windows embedded;<br>Up to 512 GB solid state drive for data storage  |
| Propulsion System                    |   | 48V Servo Controlled DC Motor with 3-blade cast bronze propeller  |
| Control                              |   | Four independent control planes (Pitch/ Yaw Fins)   |
| Charging                             |   | 24V External Connector with USB 2.0 supports  |
| Sonar Side Scan                      | Tritech Starfish  | Single frequency 450kHz   |
| Communications                       |   | Surface: 2.4 GHz telemetry radio for Handheld Remote; and/or Iridium with cloud based tracking software   |
| Handheld Remote Controller           |   | Touch screen based remote with joystick for surface control (300 meter + range)   |
| Acoustic Pinger                      |   | Underwater locator beacon   |
| Rugged Transit Case                  |   | With custom foam inserts for Iver3, includes collapsible AUV field stand  |
| Field Rugged Operator Console        |   | Getac for mission planning, operating and data viewing  |
| GPS Compass Stand                    |   | High accuracy, land based AUV calibration tool  |
| Object Advance Sounder               |   | Imagenex 852 forward looking echo sounder in AUV bow  |
| Other Options                        |   | Iver3 Spares Kit, Swappable Battery Section w/ tail   |



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