



# SWALE OCEANOGRAPHIC

## Unmanned Surface Vehicles - USV



### M40 – Multi-Functional Coastal Boat

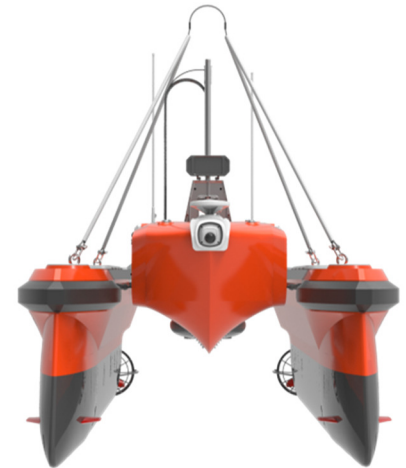
The M40 is the latest addition to the range of autonomous boats from OceanAlpha, allowing operations in Sea State II (<1m significant wave height). It enables efficient and safe monitoring, inspection and surveying in coastal seas with a choice of optional features and functions. An ADCP, Multi-Beam, or Side Scan Sonar may be fitted to a retractable arm. Multi-parameter water quality sensors may also be attached to a profiling winch to take measurements down the water column and water samples can be taken for later laboratory analysis. The quiet electric motors can be turned off, making it ideal for safely deploying acoustic noise recorders and hydrophones.

Length:	3.5m
Beam:	1.7m
Draught:	0.4m
Displacement:	450Kg
Operating conditions:	<1.25 m sig wave ht
Maximum speed:	8 knots
Endurance:	6hrs @ 6 knots
Payload:	65Kg



### Features

- Autonomous navigation by GPS waypoints or remote control
- Modular design – flexible configuration.
- On-board profiling winch
- Retractable deployment arm
- 1<sup>st</sup> Person view video (live telemetry)
- Obstacle avoidance radar
- Real time data
- Robust aluminium hull



### Applications

- Bathymetric survey
- Hazard location
- Hydrographic mapping
- Radiation monitoring

- Security patrol
- Under-water searches
- Water flow measurement
- Water quality / pollution monitoring

## Intelligent Navigation System

- Simple way-point programming
- Autonomous navigation algorithm
- High accuracy GNSS (RTK-GPS)
- High accuracy gyro for inertial navigation system
- Automatic obstacle detection and avoidance

## Real-time communication

- Operation, attitude and mission status of USV
- Measurement data of hydrology, water quality and others
- Real-time video with WiFi or 4G

## Professional Hull Design

- Durable Aluminium
- Catamaran design ensures stability
- Anti-corrosion, sealed & waterproof
- Compact, light, reliable and convenient

## Clean Energy

- Quiet electric motors
- High capacity lithium polymer battery
- Modular design
- Long endurance (6 hours @ 6 knots)

## Handheld Remote-Control

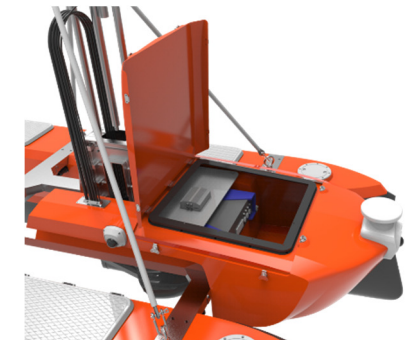
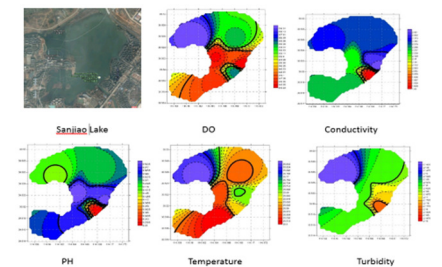
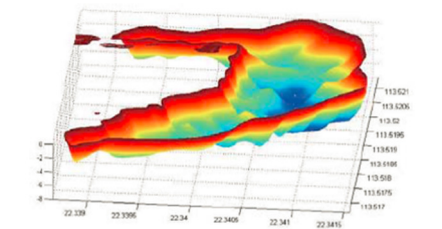
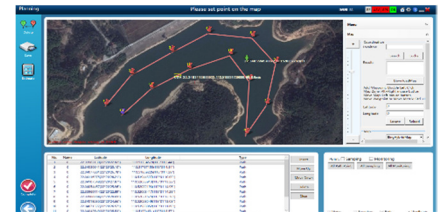
- Intelligent Android OS, expandable function
- Real-time communication
- Manual operation
- Mission assignment
- Status monitoring

## Base Station

- Data storage and management
- Data analysis, Automatic report generation
- Distribution mapping
- Measurement data acquisition, display and storage
- Mission planning & reporting
- Optional relay station to extend communication range
- Real-time multi-angle video
- Satellite map download and management

## Flexible Integration of Equipment

- ADCP,
- Multi-Beam or Side Scan Sonar
- Sub-Bottom Profiler
- Laser Scanning System
- Multi-Parameter Sonde
- Water Sampling Bottles



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