Shallow-Water USV Bathymetry Operator Training

Operational training for users of Uncrewed Surface Vessels equipped with singlebeam and multibeam echo sounders for hydrographic, environmental and engineering surveys in shallow-water environments.

Duration: 3 Days

Delivery: In Person

Cost: POA

Spaces: 6 (*max)

Survey Environment: Inland, harbour, coastal

Systems: USV with echo sounder

OVERVIEW

The Professional USV Bathymetry Operator Training course introduces participants to the practical use of Uncrewed Surface Vessels for shallow-water bathymetric surveys. The course focuses on the full survey workflow, from mission planning and USV operation to sonar data acquisition, quality control and preparation of bathymetric outputs.

Participants will learn how to safely conduct surveys in inland, harbour, river, lake, reservoir and nearshore environments using compact USV platforms equipped with single beam and/or multibeam echo sounders. The training combines theoretical instruction with practical field exercises and data-processing sessions. It is designed for users who want to understand not only how to operate a USV, but also how to collect reliable depth data suitable for mapping, GIS analysis and reporting.

WHAT WILL BE COVERED?

- Introduction to USV-based bathymetric surveying
- Survey planning and mission preparation
- USV operation in shallow water
- Singlebeam echo sounder surveys
- Multibeam echo sounder surveys
- Positioning, GNSS and corrections
- Sound velocity, water level and environmental corrections
- Data processing and quality control
- Reporting and survey documentation

WHO SHOULD STUDY

This course is designed for people involved in hydrographic, environmental, engineering or research surveys who want to use USV platforms for bathymetric data collection. It is suitable for:

- Hydrographic survey technicians
- GIS and geospatial specialists
- Environmental monitoring teams
- Coastal and inland water researchers
- Port, marina and harbour staff
- Dredging and sediment monitoring teams
- University students and researchers
- UAV/USV operators expanding into water-based surveying

Previous experience with GIS, GNSS, UAV mapping or field surveying is helpful but not essential for the introductory pathway.

ENTRY REQUIREMENTS

- Basic computer skills
- Basic understanding of maps or spatial data
- Ability to participate in outdoor field exercises near water
- Previous GIS, GNSS, UAV, USV experience is beneficial but not required.