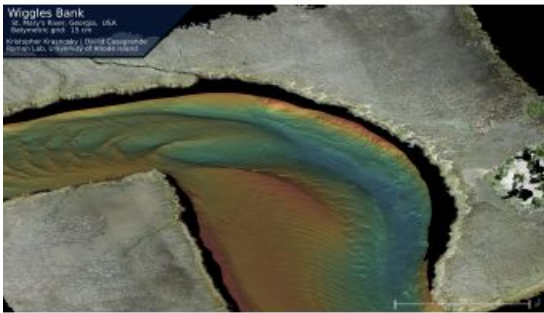


WASSP Technology Utilised by US University Students



Oceanography students at the University of Rhode Island have been busy utilising the latest in WASSP Multibeam technology as part of their research studies. The students, who are specialising in marine robotics, remote sensing and mapping have recently started using a WASSP S3 Multibeam system as part of a project to survey inland ponds and coastal estuaries. They have deployed the WASSP Multibeam system aboard a specially developed autonomous kayak. WASSP, an acronym for Wide Angle Sonar Seafloor Profiler, is a multibeam sonar system manufactured by ENL Group in New Zealand under ISO9001/2000 certification. Research and development of WASSP commenced in 2000 with the first system being sold in 2004.

Autonomous Kayak

"We hope to accomplish a few things with the WASSP Multibeam in a number of projects," says University of Rhode Island PhD student and researcher, Kristopher Krasnosky. "Our unmanned vehicle is an autonomous kayak that can be deployed out of the bed of a pickup truck. We use it to collect environmental data and conduct bathymetric surveys. We also use it as a test platform for new autonomy algorithms. Currently, we have a project to survey inland ponds and coastal estuaries. Our kayak is going to be the main workhorse for that project."

During initial trials, the WASSP multibeam was able to profile ripples on the estuary floor up to 15cm in distance apart. Krasnosky is also using the WASSP system as part of his PhD dissertation. "I am using gaussian process regression (GPR), a computationally heavy bathymetry processing technique, to aid in autonomous survey path planning in real-time. GPR also enhances the effective resolution of the finished multibeam map. This allows us to pull even more resolution out of the WASSP maps."

Seafloor Bathymetry

Becoming the go-to system for the world's hydrographic survey industry, the WASSP S3 is purpose-built for survey and mapping and has been designed with the entry-level market in mind: budget, operational needs, and future technology roll-out. Scanning a 120 degree swath port to starboard and using 224 beams, WASSP S3 can deliver data in even the most demanding marine environments. By using advanced signal processing, it delivers a complete picture of seafloor bathymetry with ease. "We decided to go with the WASSP system because it was the right balance of price to performance for our project. The other big selling point was the Linux API that the WASSP developers provided," says Chris Roman, PhD. Professor of Oceanography, University of Rhode Island Graduate School of Oceanography.

Caption: Using WASSP Multibeam, Oceanography students from the University of Rhode Island have been able to profile ripples on an estuary floor up to 15cm in distance apart.