

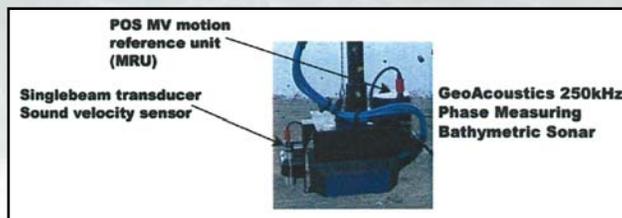


US Army Corps
of Engineers®
Engineer Research and
Development Center

COASTAL AND HYDRAULICS LABORATORY

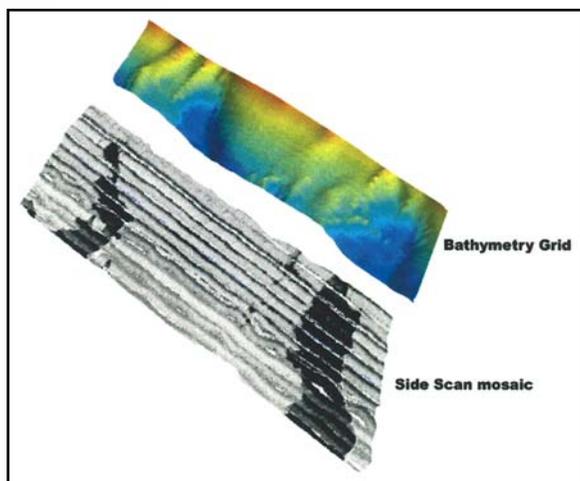
Phase Measuring Bathymetric Survey System (Interferometric)

Description: The Coastal & Hydraulics Laboratory (CHL) is using a GeoAcoustics® GeoSwath bathymetric survey system. The GeoSwath is relatively compact and can be transported and mounted on a wide variety of vessels.



Advantage: The system is capable of bathymetric mapping using a swath width 8 to 12 times the water depth with survey speeds up to 8 knots -- making it ideal for coastal and riverine environments. Also, the data processing yields high resolution bathymetric grids (3-D images) and side scan mosaics.

Specifications: The CHL survey system integrates the GeoAcoustics® GeoSwath with Applanix's® positioning and motion compensation. The Geoacoustic components include a Geoswath Plus workstation, GeoAcoustics 250kHz Bathymetric Sonar, a singlebeam transducer, and a sound velocity probe. Along with the Real Time Kinematic (RTK) GPS, the position and orientation system for Marine vessels (POSMV) provides real time corrections for tidal offsets and vessel motions. The integrated system exceeds accuracy standards for the International Hydrographic Organization (IHO) S-44 Special Order and U.S. Corps of Engineers (EM 1110-2-1003).



Case Study: The GeoSwath is used along the Outer Banks of North Carolina in shallow water areas to map sandbars, shoals, channels, etc., where the geology or bottom type are irregular and changing. The data example to the left shows the resolution of complex morphology in water depths less than 8 meters.

GeoSwath System boat-mounted (left) and bow-mounted on amphibious LARC (right)



Point of Contact: Michael Forte, Michael.F.Forte@erdc.usace.army.mil, 252-261-6840 x228
Terry Waller, Terry.N.Waller@erdc.usace.army.mil, 601-634-3731