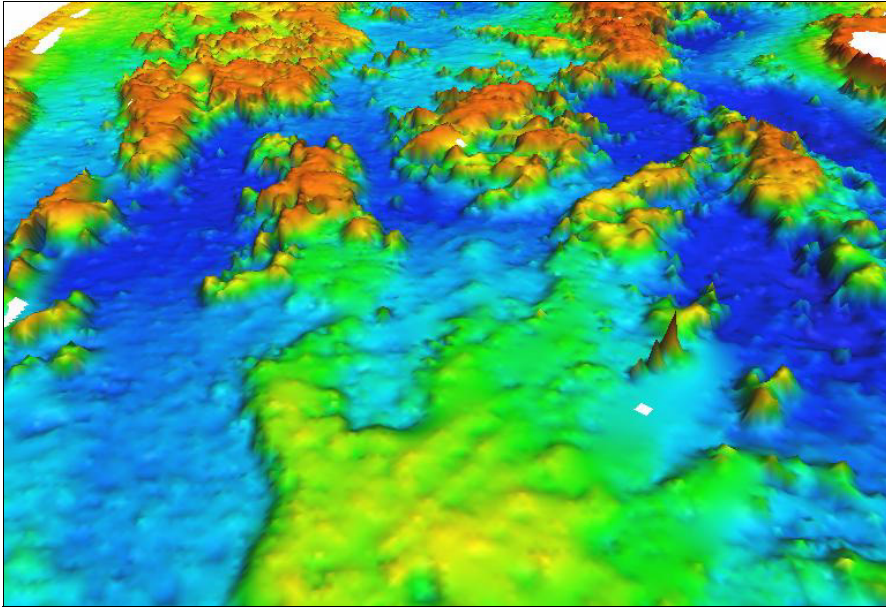


Sync Humminbird Logging System

Shallow Water Multibeam Echo Sounder



3-Dimensional view of a surveyed reef

System overview

The Sync Humminbird Logging System (SHLS) is a compact, easy to use, shallow water mapping system. The SHLS is a portable, PC based, logging system that collects and records time-stamped, georeferenced, multibeam data. The system uses a customized Humminbird Wide 3D Paramount fishfinder.

The Humminbird sonar has an operating frequency of 455 kHz. The maximum ping rate is approximately 4 Hz, allowing for survey speeds of up to 8 knots.

The Humminbird sonar uses 6 separate beams for mapping the bottom. The 6 beams provide 53 degrees of continuous coverage up to 70 metres deep. The across-track coverage is approximately 1 times water depth. For example, in 10 metres of water, the swath width is 10 metres with a resolution of 1.6 metres.

System application

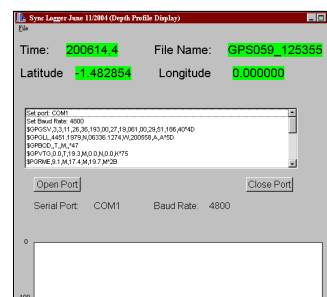
The Sync Humminbird Logging System provides a portable, cost effective method of doing shallow water surveys. The system requires only 2 to 3 hours setup before moving into survey mode. The SHLS operates in water depths ranging from 2 to 70 metres and works with most shallow water vessels.

Possible applications for the SHLS include:

- Aquaculture site evaluations.
- River and lake surveys.
- Engineering projects such as shipping channel surveys and dredge site evaluations.
- Coastal research projects.

SHLS software

Sync Software developed the Sync Logger to simultaneously log data from the GPS receiver and the Humminbird sounder. The data are synced and time stamped for post processing.



Sync Logger window

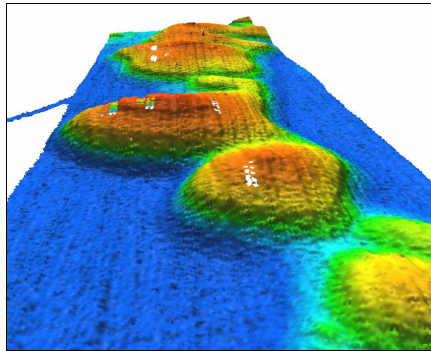
PRODUCT SPECIFICATION

Post processing

For the post processing, Tekmap Consulting uses an open source Geographic Information System (GIS) and multibeam processing software. Open source formats and software provide greater flexibility for data deliverables.

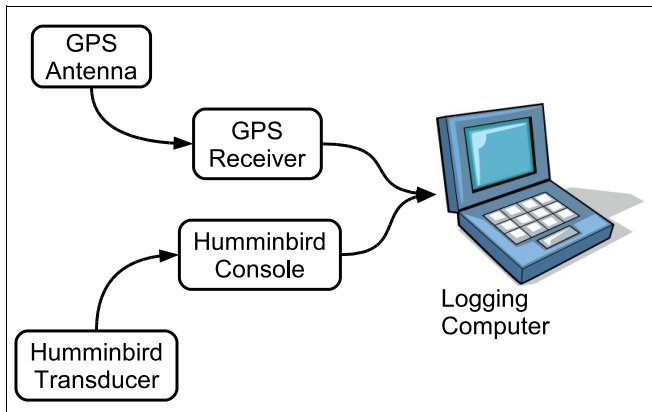
Post processing includes:

- Merging logged ASCII files into a generic multibeam format.
- Inspecting and cleaning bathymetry and navigation data.
- Applying tidal corrections using tide gauge or predicted tide data.
- Gridding cleaned multibeam data for map production.

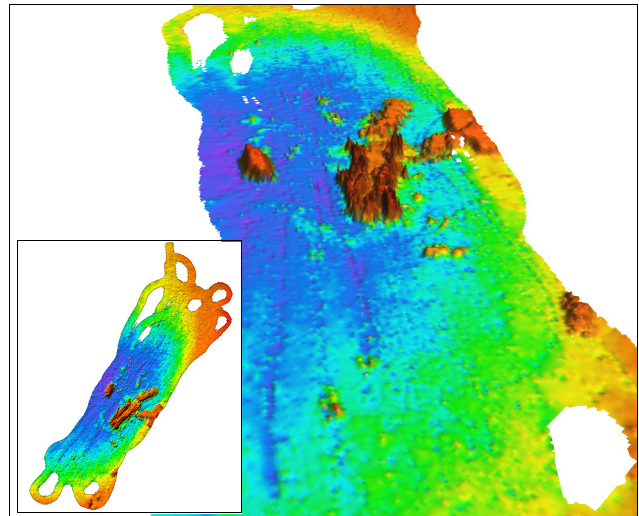


3D view of geological features

After gridding the multibeam data, Tekmap produces a number of GIS products including: animated 3-D fly-throughs, sun-illuminated maps, contour maps, and compilation maps with other data such as aerial photography.



Sync Humminbird Logging System setup



Survey of sunken dry-dock with 3D view

Technical specifications

Humminbird Wide 3D Paramount

Frequency	455 kHz
Maximum ping rate	~4 Hz
Number of beams per ping	6
Transducer (standard)SHS-7W with 6 m cable	
Transducer area of coverage ...53° Continuous	
.....Side-to-Side Coverage @ -10db	
Power requirement	12 VDC
Power output..... (455 kHz) 600 Watts (RMS)	
..... 4800 Watts (Peak to Peak)	
Maximum water depth.....	70 m
Swath width.....	1 x water depth

Contact information

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