RapidCAST Used for Major Hydrographic Project

Teledyne Oceanscience has supplied TerraSond with rapidCAST, an automated underway profiling system. According to TerraSond, the product was used in a major hydrographic project completed for NOAA's Office of Coast Survey in the Bering Sea in northwestern Alaska for the purpose of nautical chart updating.

According to Andrew Orthmann, TerraSond's charting programme manager, the rapidCAST system contributed to the high production rate experienced on this project, helping it to finish well ahead of schedule. The project area was located in an exposed area of the Arctic with a limited ice-free season. It was therefore crucial to finish the project before the autumn storms intensified and the Arctic ice pack moved back in, and the rapidCAST contributed to achieving that requirement.

3,900NM Multibeam Data

Approximately 3,900 nautical miles of multibeam data was collected to survey 300 square nautical miles of seafloor centred on Cape Prince of Wales Shoal, a navigationally significant shoal of intense interest to mariners navigating the area.

The rapidCAST system performed reliably, with no major issues encountered, and the following advantages were noted:

- The vessel did not need to stop or slow to perform casts
- Automation made the system less labour intensive, and it reached the targeted depth within 5% on most casts
- No mechanical issues were encountered with the rapidCAST itself, the system was reported to be reliable with little maintenance necessary

TerraSond used the rapidCAST system with a Valeport rapidSV sensor to collect sound speed profiles for correcting the bathymetric data. The system was mobilized by TerraSond aboard the R/V *Qualifier 105* (*Q105*), a 105' research vessel which collected multibeam data 24/7.

Approximately 320 sound speed casts were conducted with the system over the course of the project, in depths from 5 to 40 metres. The interval between casts varied from 30 minutes to 3 hours.

Image: Research Vessel Q105 *in the Bering Sea; the rapidCAST system is installed on the port-aft corner.*