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Reference	SN-1901
Classification	Unclassified
Version	1.01
Survey Date	May 2019

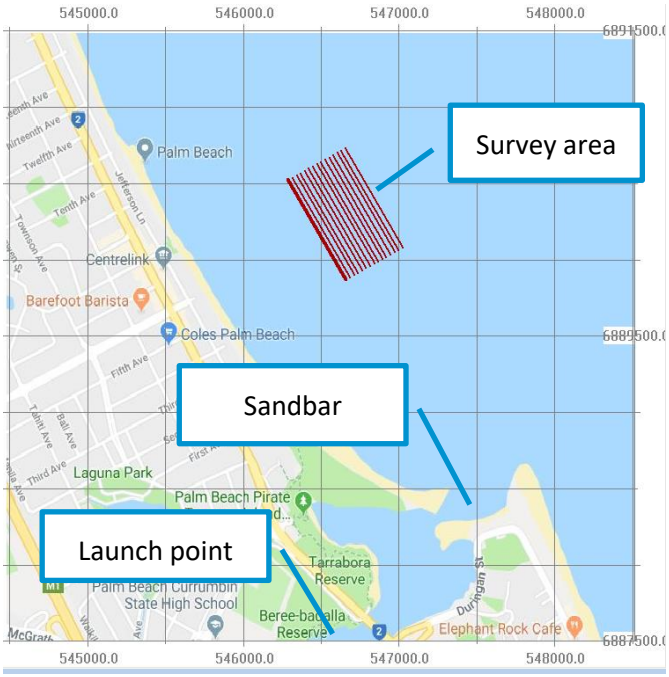
Survey note:
Palm Beach, Gold Coast, Queensland, Australia

1 SYSTEM USED

Sonar:	Bathyswath-2-STD (234kHz)
Motion sensing and positioning:	SBG Systems Ekinox-D

2 SURVEY DESCRIPTION

This was a sea trial with Bathyswath on a jetski, operating in the surf zone, between 200 and 1200 metres from the shore. An area approximately 450m by 850m was surveyed in less than 1.5 hours, including transit from the launch ramp. Data processing and imaging was performed with Bathyswath software suite.



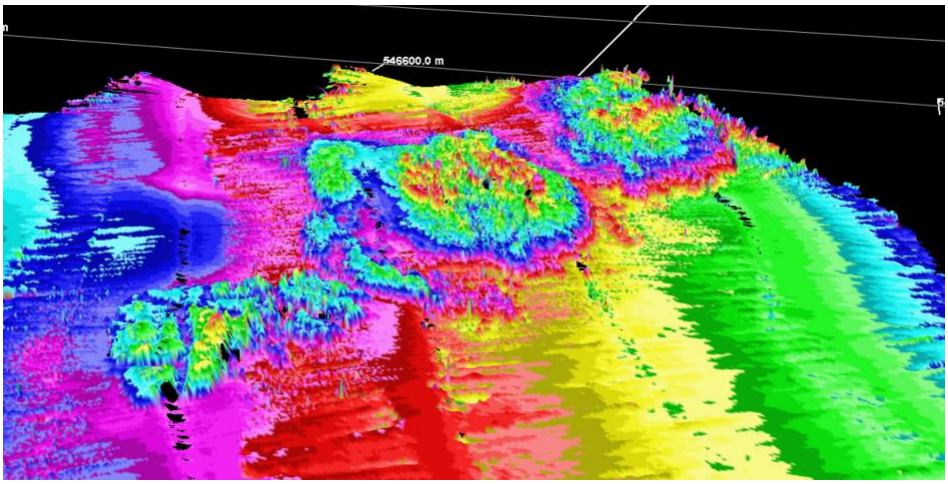
Survey area

Palm Beach

Survey conditions were good, with a sea-state of around 2, but with breaking surf at the sandbar at the mouth of the creek that the jetski was launched from, where the water depth was around 20cm, making for a challenging transit to site for anything other than a jetski.

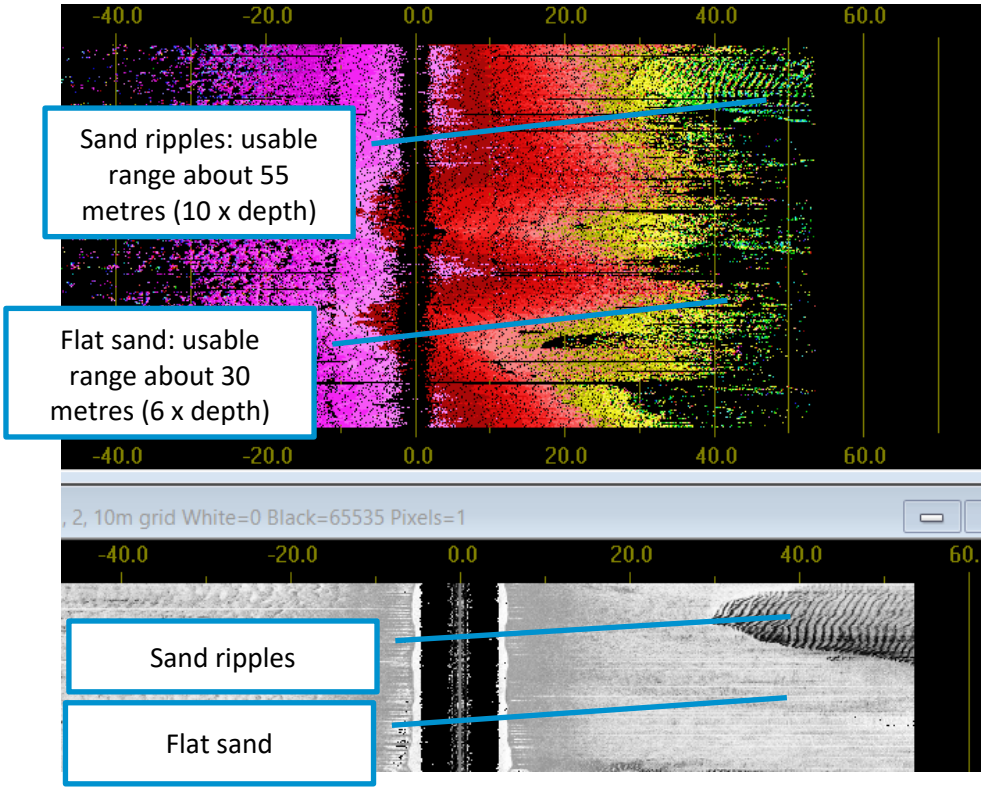
3 RESULTS

The survey area covered a rock reef in an otherwise sandy seabed.



3D view of the reef

The Bathyswath sidescan images from the survey showed three types of seabed material: flat sand, sand ripples, and the rock of the reef. On the flat sand, usable depth data was obtained at ranges of 6 times water depth (swath width 12 times depth), and on the sand ripples and rock, at ranges of 10 times water depth (swath width 20 times depth).



3.1 RESULTS IN BREAKING SURF

Other trial runs were made when the sea state was much rougher, with 1-metre waves and breaking surf. Usable depth data was obtained in the surf at 5 times water depth (swaths 10x depth), and the inertial navigation system compensated for the motion (±8° roll) well.