

# The One-Flight Solution

## SHOALS-1000T

Featuring:

- Integrated hydrographic and topographic mapping capabilities
- Highest data collection rate available
- Hyperspectral camera

SHOALS-1000T lets you capture it all:

- 3D Bottom Reflectance
- SHOALS Derived K Map
- Classified Topography
- Digital Color Imagery
- Depth measurements accurate to IHO Order 1

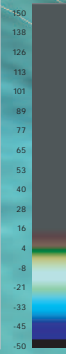
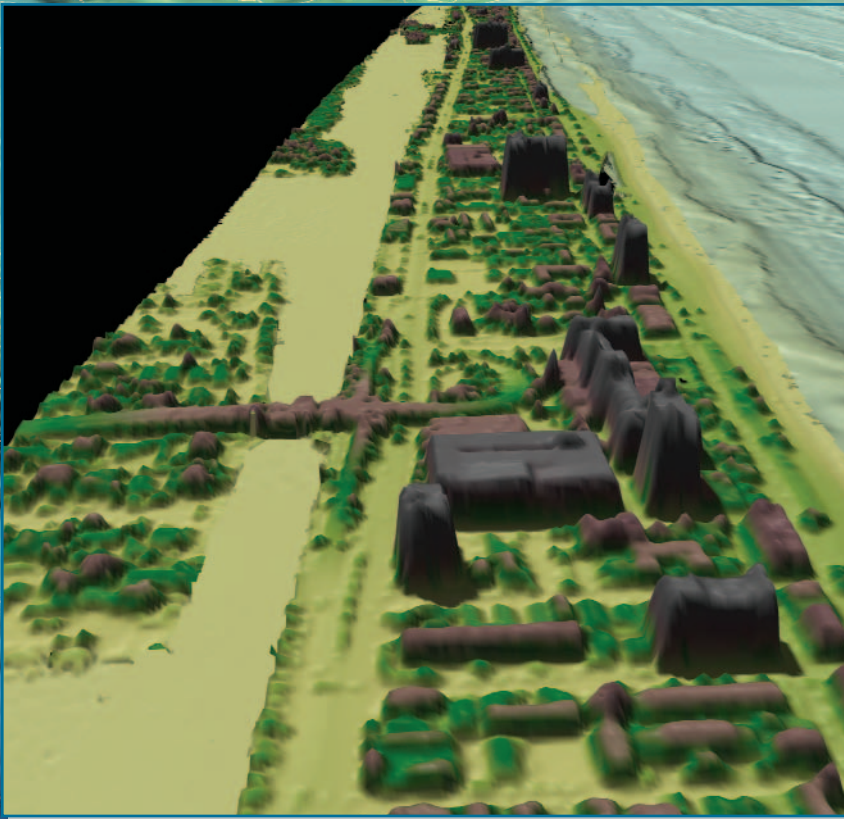
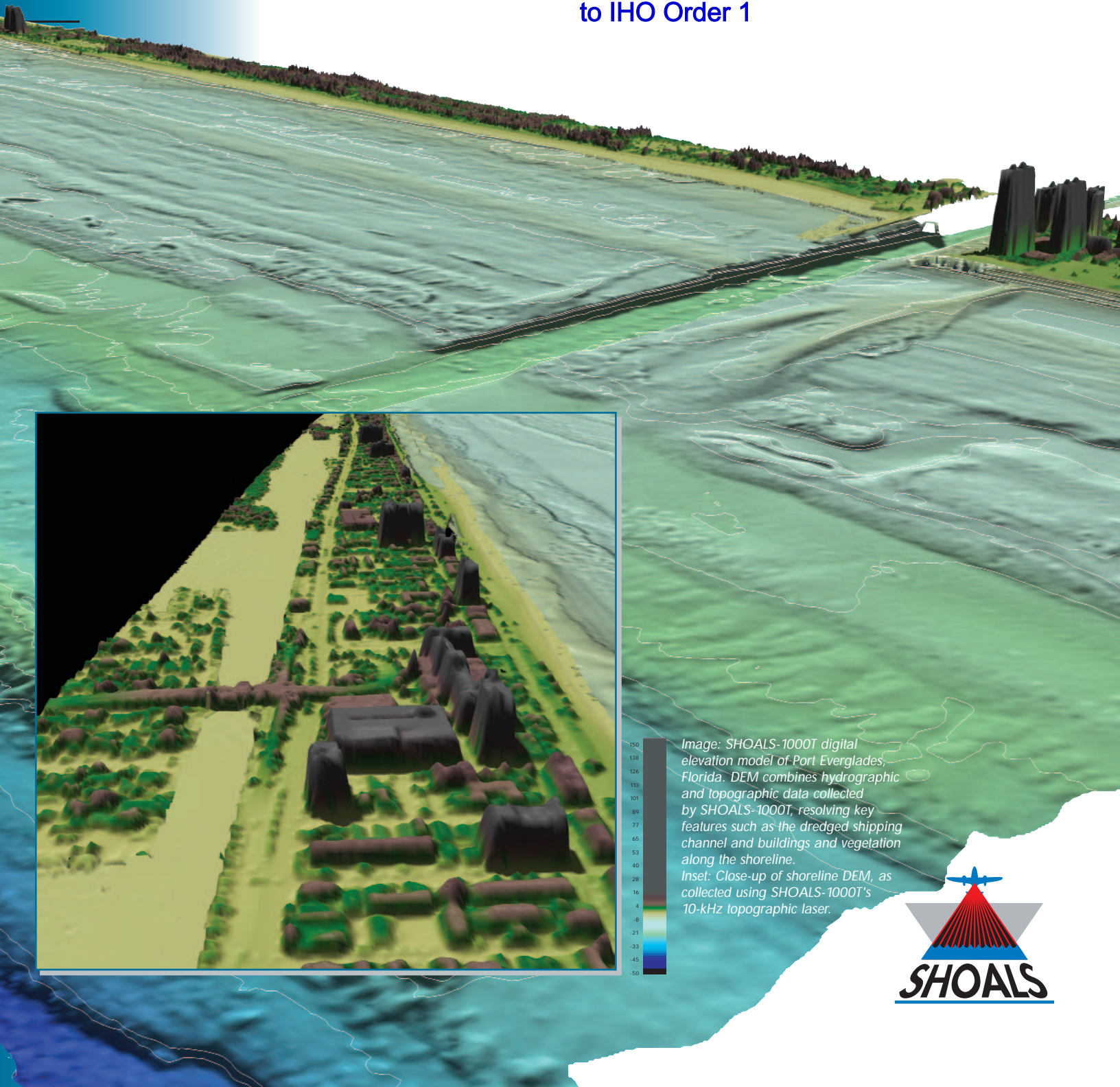


Image: SHOALS-1000T digital elevation model of Port Everglades, Florida. DEM combines hydrographic and topographic data collected by SHOALS-1000T, resolving key features such as the dredged shipping channel and buildings and vegetation along the shoreline.  
Inset: Close-up of shoreline DEM, as collected using SHOALS-1000T's 10-kHz topographic laser.





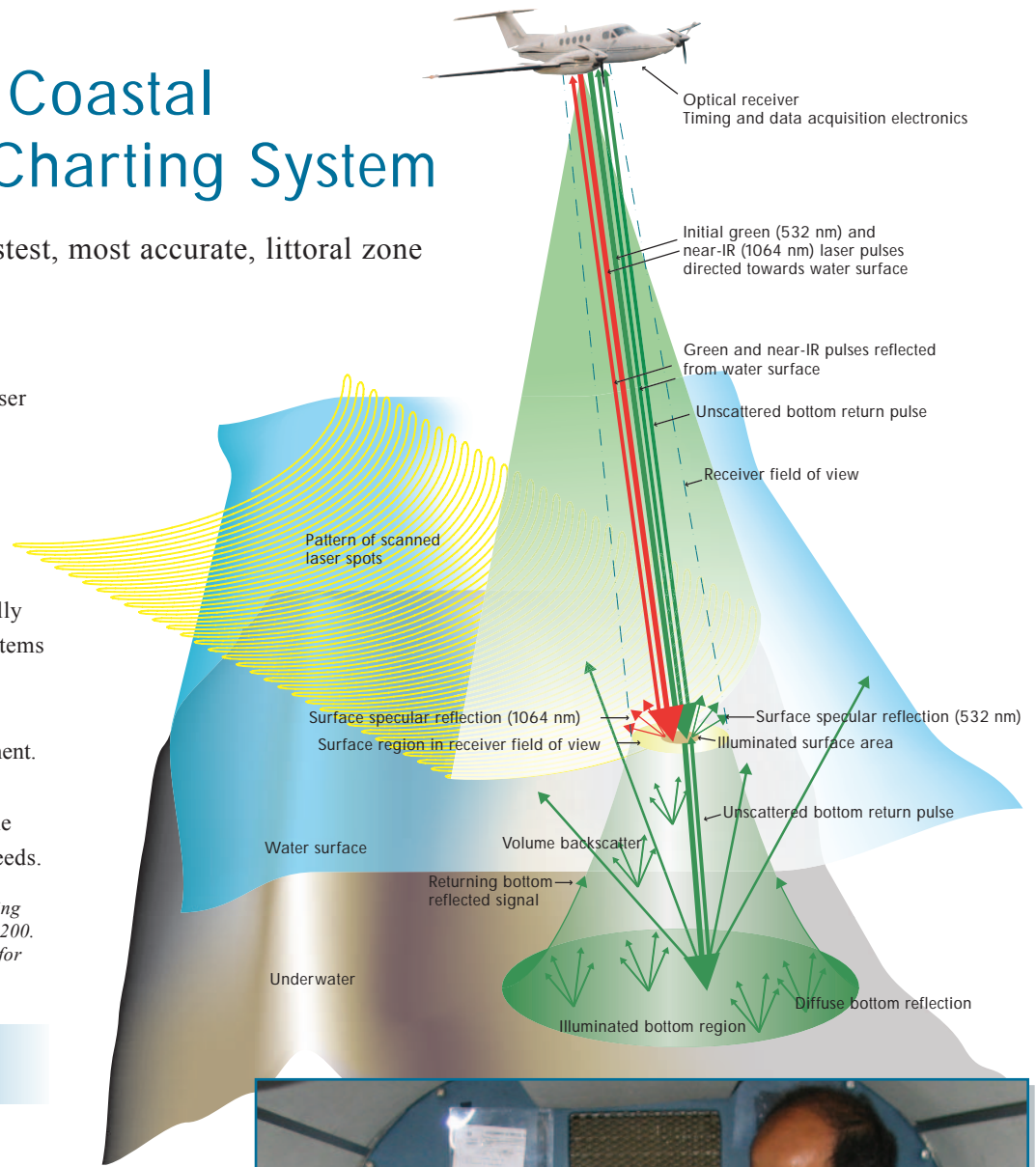
# DEM Airborne Coastal Mapping and Charting System

SHOALS-1000T, the world's fastest, most accurate, littoral zone mapping system

SHOALS-1000T is a complete airborne laser bathymetry survey instrument for shallow water and coastal regions. Coupled with a fully integrated flight planning and data processing software subsystem, SHOALS-1000T is the cost-effective total coastal survey management solution, ideally suited for surveys where conventional systems are most limited — shallow water, the land/water interface, hazardous areas and areas requiring rapid environmental assessment.

From start to finish, SHOALS-1000T is the perfect solution for your coastal survey needs.

*Right: Airborne laser bathymetry and mapping using SHOALS-1000T in a Dynamic Aviation King Air A200. Illustration shows physical principle of operation for an airborne laser bathymeter.*



## Introduction to Airborne Laser Bathymetry

Airborne laser bathymetry relies on the differential timing of laser pulses reflected from the water surface and the underwater surface to determine the water depth at the point where the laser pulses strike the water surface. The integrated SHOALS-1000T sensor and processing systems implement this simple strategy accurately and robustly, maximizing utility for marine surveying.

The figure above shows the primary optical processes — specular reflection at the water surface, diffuse reflection from the underwater surface, and absorption and scattering within the water column — that act to produce the green and near-IR surface, green bottom and green volumetric signals measured by the sensor system. The signals are processed and interpreted to yield accurate estimates of the water depth for each laser pulse at 1 kHz.

*Right: SHOALS-1000T operator rack, and sensor with racks installed in airplane.*

