



## SUBMERGED JETTY PANAMA CITY FLORIDA

## MAPPING COASTAL HAZARDS

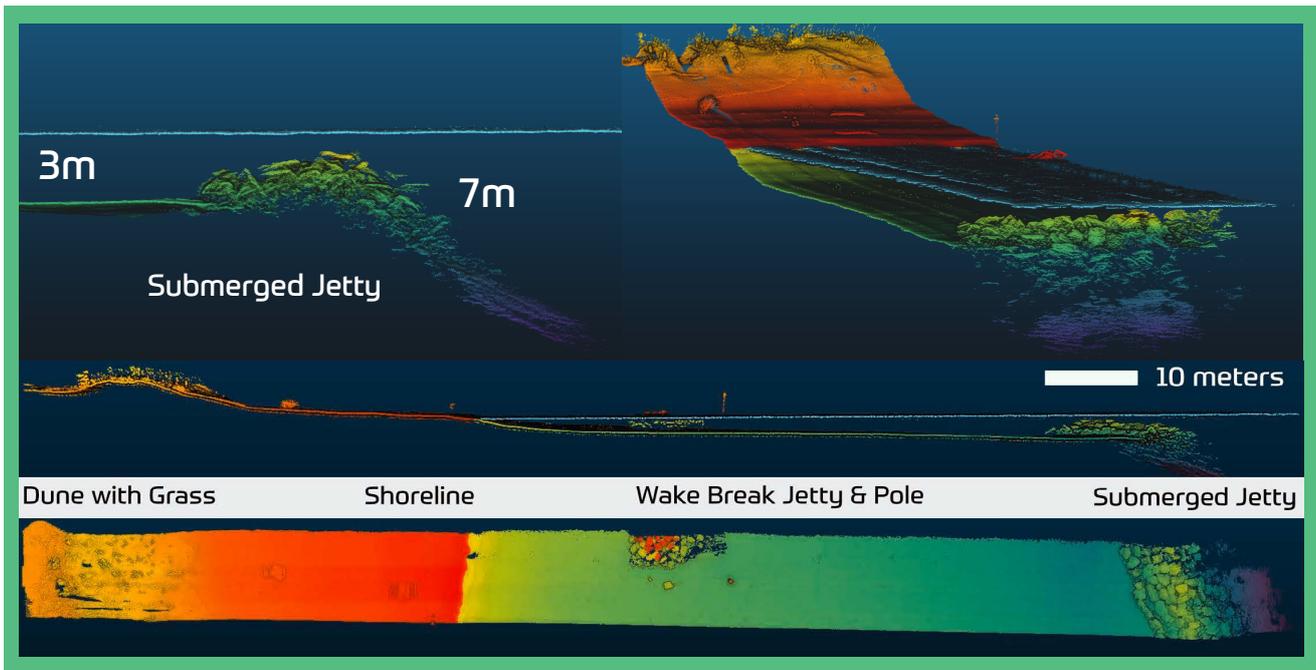
**Monitoring of near-shore change detection is critical for safety of life, commerce, and maintenance of infrastructure, especially after major storms such as Hurricane Michael (Cat 5, Oct 2018).** As seen in these pictures of the Panama City, FL Inlet, displacement and submergence of jetty riprap and severe dune erosion resulted in severe boating hazards and dangerous conditions. The resulting bathymetric change diverts and focuses wave energy in complex ways that can further impact beach and dune erosion as well as boating channel navigation.

The shallowness of the near-shore environment exacerbates these issues and creates difficult conditions for measuring and detecting change, especially when traditional measurement techniques require submergence in water. Risk to equipment and personnel are also a factor due to changing bottom topography, unknown obstructions, and dangerous shore conditions.



# ASTRALiTe EDGE™ - Mapping Coastal Hazards

ASTRALiTe has demonstrated the ability to perform surveys of coastal areas with a high degree of accuracy, discerning navigation channels, identifying submerged objects of interest (rocks, sand bars, infrastructure, etc.), and providing accurate measurements of depth. ASTRALiTe personnel were able to scout the location, develop flight plans, perform UAV flights that simultaneously collected topographic and bathymetric data, and evaluate the resulting data in near real-time. Obtaining results while still deployed enables full data acquisition of the area of interest, and represents a huge improvement over traditional bathymetric lidar with improved data acquisition for these challenging shallow waters.



ASTRALiTe's topographic / bathymetric LiDAR has been used successfully in coastal areas to accurately measure shallow water depths, identify the extent, shape, and depth of coral formations, sand bars, and jetties. The ability to identify submerged rocks near the water surface of the Panama City Beach, FL jetty damaged in Hurricane Michael is a prime example of the hazards to shipping channel navigation and danger to people and boats.

**Using the EDGE LiDAR to "paint the scene" underwater, high density point clouds of up to 300pts/m<sup>2</sup> were acquired of the damaged jetties that the US Army Corp of Engineers can now repair.**

This level of detail also enables object identification by shape for suspended subsurface hazards (e.g., mines or debris), and assessment of infrastructure for structural integrity and potential damage.



**Contact ASTRALiTe for High Definition Underwater Mapping**

(303) 993-8039 • [contact@astralite.net](mailto:contact@astralite.net) • [astralite.net](http://astralite.net)