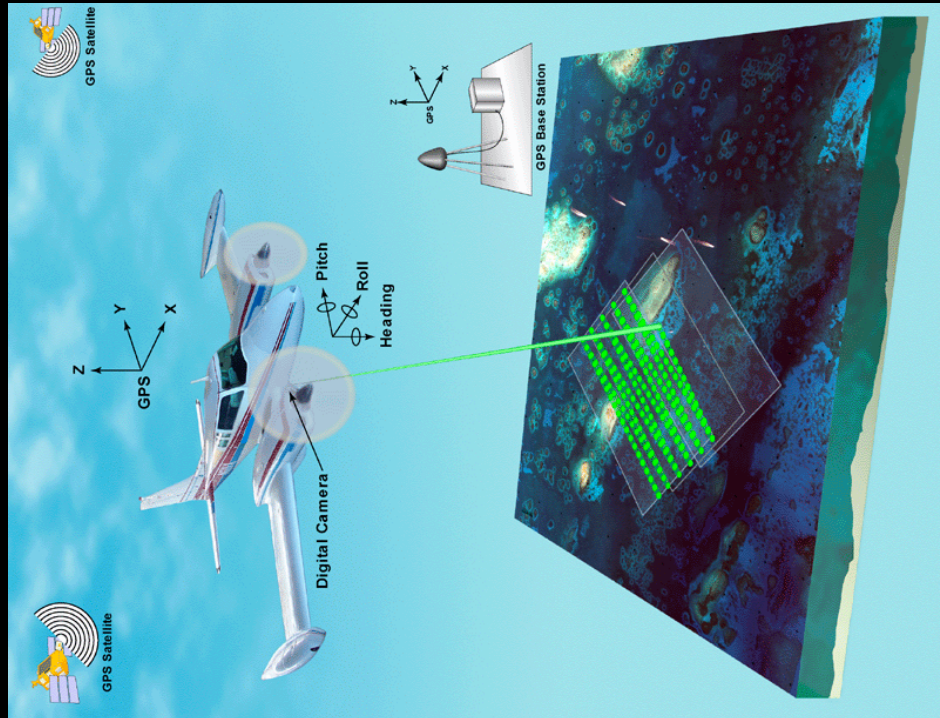


Lidar (light detection and ranging) technology is a remote-sensing tool that uses laser pulses to collect detailed elevation information. High-resolution maps of topography, bathymetry, and habitat are made from data acquired by lidar to describe important features impacted by coastal-management decisions. Certain lidar systems can capture both terrestrial and shallow submerged land, like this mosaic of St. John in the U.S. Virgin Islands detailing a seamless topographic-bathymetric map from about 400 meters above to 12 meters below sea level.

http://ngom.usgs.gov/dsp/mapping/lidar_topographic_mapping.html

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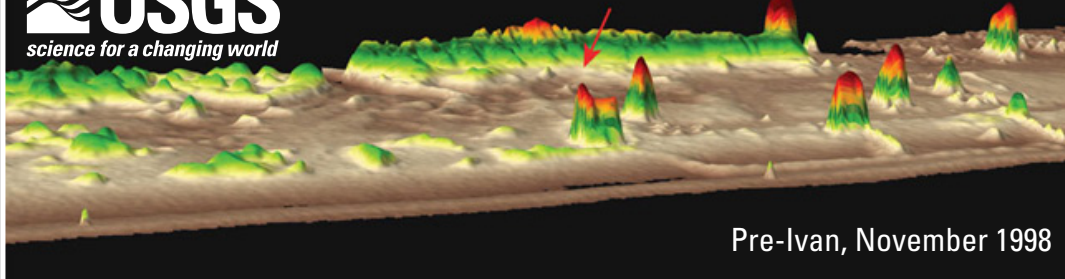


Lidar (light detection and ranging) technology is a remote-sensing tool that uses laser pulses to collect detailed elevation information. Measuring the amount of time it takes for the laser pulse to travel from and reflect back to the aircraft allows scientists to accurately map elevations of features both on land and in shallow water. Global Positioning Systems (GPS) on board the aircraft and on the ground near the survey area provide precise (submeter) positioning of the laser pulse. High-resolution maps of topography, bathymetry, and habitat are made from data acquired by lidar to describe important features impacted by coastal-management decisions.
<http://ngom.usgs.gov/dsp>

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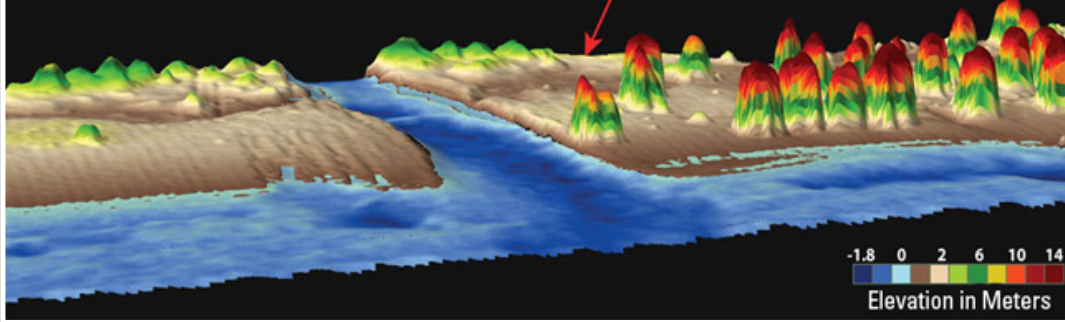


Pine Beach, AL



Pre-Ivan, November 1998

Post-Ivan, September 19th, 2004



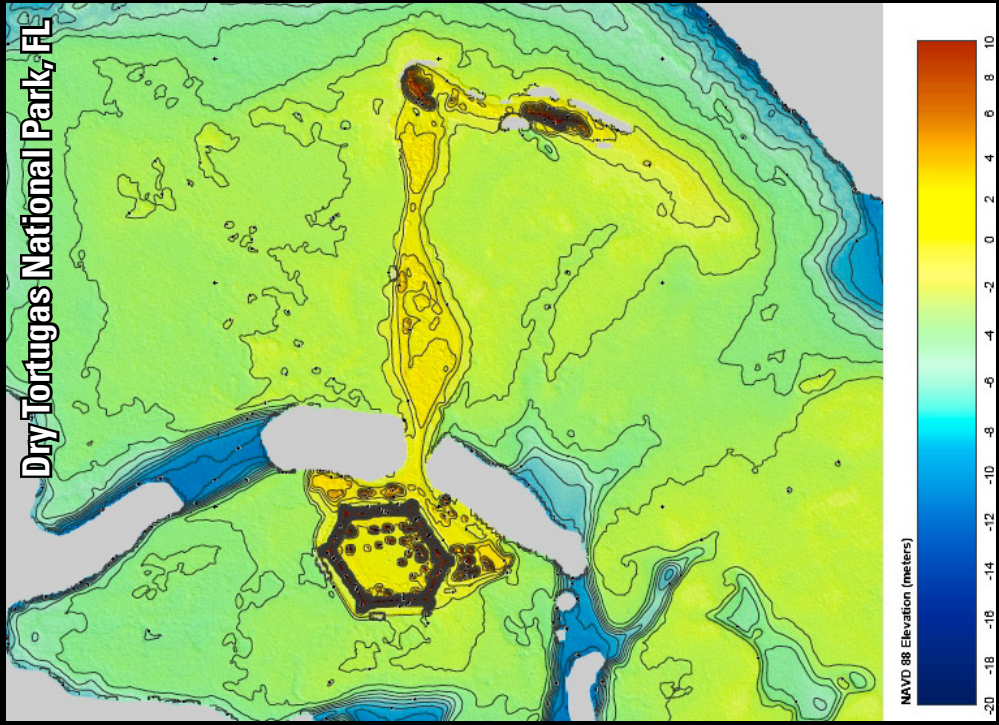
-1.8 0 2 6 10 14
Elevation in Meters

Lidar (light detection and ranging) technology is a remote-sensing tool that uses laser pulses to collect detailed elevation information. High-resolution maps of topography, bathymetry, and habitat are made from data obtained by lidar to describe important features impacted by coastal-management decisions. Acquiring high-resolution topography helps scientists track changes along coastal environments. Comparing two lidar surveys shows the three-dimensional extent of a breach through the barrier island, Pine Beach, AL, as a result of storm surge caused by Hurricane Ivan. <http://coastal.er.usgs.gov/hurricanes/ivan/lidar/breach.html>

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Dry Tortugas National Park, FL



Lidar (light detection and ranging) technology is a remote-sensing tool that uses laser pulses to collect detailed elevation information. High-resolution maps of topography, bathymetry, and habitat are made from data acquired by lidar to describe important features impacted by coastal-management decisions. The USGS uses such technology to provide natural-resource data and information products, such as this seamless topography-bathymetry map of Dry Tortugas National Park. The hexagonal structure depicted in this image is Fort Jefferson on Garden Key.

http://ngom.usgs.gov/dsp/mapping/lidar_topographic_mapping.html

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