Florida Keys National Marine Sanctuary
USGS-NASA-NOAA-NPS EAARL Submarine Topography
Map Tile 560000e_2772000n_17z
By John C. Brock, Amar Nayegandhi, Matt Patterson, Iris Wilson, and Laurinda J. Travers

Topography mapped using NASA Experimental Advanced Airborne Research Lidar (EAARL) April 2006

Data Description
Data was collected in April 2006 by the NASA EAARL system mounted on a NOAA Twin Otter aircraft. The EAARL uses a “waveform-resolving” green laser capable of mapping submerged and sub-aerial (land) topography in a single overflight. The EAARL system is typically flown at 300 m altitude AGL, resulting in a 240 m swath for each flightline. Data collection occurred with approximately 50% overlap between flightlines, resulting in about one laser sounding per square meter. The data were processed overflight. The EAARL system is typically flown at 300 m altitude AGL, resulting in a 240 m swath for each flightline. Data collection occurred with approximately 50% overlap between flightlines, resulting in about one laser sounding per square meter. The data were processed

Project Description
The lidar-derived submarine topography map was produced as a collaborative effort between the U.S. Geological Survey (USGS), National Aeronautics and Space Administration (NASA), National Oceanic and Atmospheric Administration (NOAA), and National Park Service (NPS). LiDAR data were collected as part of the Continuing Education of the Florida Keys National Marine Sanctuary (FKNMS) and the U.S. Geological Survey. Photogrammetric Engineering and Remote Sensing, Vol. 72, No. 12, pp. 1407-1417.


Contour line and hillshade layers were generated from the lidar data tile and incorporated into this map product.

The laser soundings used to create this map were collected in April 2006 by the NASA EAARL system mounted on a NOAA Twin Otter aircraft. The sensor has the potential to make significant cont-

purposes of habitat mapping, ecological monitoring, change detection and event assessment (for example: coral bleaching, hurricanes, tsunamis). The EAARL sensor has the potential for measuring submerged topography and conducting cross-environment surveys.


