This Lidar-derived topographic map was produced as a collaborative effort between the U.S. Geological Survey (USGS) Coastal and Marine Geology Program, the Northeast Coastal and Barrier Network of the National Park Service (NPS) Inventory and Monitoring Program, the South Florida/Caribbean Network of the NPS Inventory and Monitoring Program, and the National Aeronautics and Space Administration (NASA) Wallops Flight Facility. The aim of the partnership that created this product is to develop advanced survey techniques for mapping barrier island geomorphology and habitats, and to enable the monitoring of ecological and geological change within National Seashores. This product is based on data from an innovative airborne Light Detection and Ranging (LiDAR) instrument under development at the NASA Wallops Flight Facility, the NASA Experimental Advanced Airborne Research Lidar (EAARL).

Data Description
The laser soundings used to create this map were collected during May 4, 2005 by the NASA EAARL system mounted on a Cessna 310 aircraft. The EAARL uses a "waveform-resolving" green laser capable of mapping submarine and subaerial (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 by the USGS FISC (Florida Integrated Science Center) office, St. Petersburg, FL to produce 1-meter resolution raster images that can be easily ingested into a Geographic Information System (GIS). The data were organized as 2 km by 2 km data tiles in 32-bit floating-point integer GeoTiff format. Contour line and hillshade layers were generated from the Lidar data tile and incorporated into this map product.

Further Reading

By John C. Brock; C. Wayne Wright; Matt Patterson; Amar Nayegandhi; and Laurinda J. Travers

U.S. Department of the Interior
U.S. Geological Survey

Cape Cod National Seashore
USGS-NPS-NASA EAARL Bare Earth (BE) Lidar Topography
Map Tile 418000e_4614000n_19z

Prepared in cooperation with the
NATIONAL PARK SERVICE (NPS) AND
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)

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TILE 82 of 90 (BE)

This map is not intended for use in navigation.

Universal Transverse Mercator. 1983 North American Datum—Zone 19 North
Topography mapped using NASA Experimental Advanced Airborne Research Lidar (EAARL) May 2005

Project Description
The lidar data presented in this map were produced as a collaborative effort between the U.S. Geological Survey (USGS) Coastal and Marine Geology Program, the National Park Service (NPS) Inventory and Monitoring Program, the South Florida/Caribbean Network of the NPS Inventory and Monitoring Program, and the National Aeronautics and Space Administration (NASA) Wallops Flight Facility. The goal of the project was to develop advanced survey techniques for mapping barrier islands, subaerial (land) topography, and subaqueous (marine) environments, and to enable the monitoring of ecological and geological change within National Seashores. This product is based on data from an innovative airborne LiDAR instrument under development at the NASA Wallops Flight Facility, the NASA Experimental Advanced Airborne Research Lidar (EAARL).

Data Description
The lidar data presented in this map were produced as a collaborative effort between the U.S. Geological Survey (USGS) Coastal and Marine Geology Program, the National Park Service (NPS) Inventory and Monitoring Program, the South Florida/Caribbean Network of the NPS Inventory and Monitoring Program, and the National Aeronautics and Space Administration (NASA) Wallops Flight Facility. The goal of the project was to develop advanced survey techniques for mapping barrier islands, subaerial (land) topography, and subaqueous (marine) environments, and to enable the monitoring of ecological and geological change within National Seashores. This product is based on data from an innovative airborne LiDAR instrument under development at the NASA Wallops Flight Facility, the NASA Experimental Advanced Airborne Research Lidar (EAARL).

Further Reading

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U.S. Geological Survey, FISC, St. Petersburg, FL
NASA Wallops Flight Facility, Wallops Island, VA
NPS South Florida/Caribbean Network Inventory and Monitoring Program, Miami, FL
ETI Professionals, Contracted to USGS, St. Petersburg, FL
Eckerd College, Contracted to USGS, St. Petersburg, FL

2007

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Universal Transverse Mercator. 1983 North American Datum—Zone 19 North
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