This map is not intended for use in navigation.

Topography mapped using NASA Experimental Advanced Airborne Research Lidar (EAARL) May 2005

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

May 20­22, 2002: Ann Arbor, MI, Veridian International Conferences, 1 computer optical disc.


As a result of a research partnership between the National Aeronautics and Space Administration (NASA) Wallops Flight Facility and the U.S. Geological Survey (USGS) the National Geodetic Survey, the U.S. Geological Survey has now completed the mapping of the Cape Cod National Seashore. This project was designed to produce the first high resolution, high elevation Lidar data for a coastal area of this magnitude.

The lidar data were collected using the NASA Experimental Advanced Airborne Research Lidar (EAARL) system mounted on a Cessna 310 aircraft. The EAARL uses a “waveform-resolving” green laser capable of mapping submerged and land topography in a single overflight. The EAARL system is typically flown at 300 m altitude AGL, resulting in a 240 m swath width along the ground.

This Lidar-derived topographic map was produced as a collaborative effort between the U.S. Geological Survey (USGS) and the National Park Service (NPS) under the auspices of the Cape Cod National Seashore Protection and Management Program. The project was funded by a grant from the National Aeronautics and Space Administration’s (NASA) Wallops Flight Facility. The data were generated from the Lidar data tile and incorporated into this map product. 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 stored, processed, and ingested into the GIS database by the U.S. Geological Survey.

Purpose

The purpose of this map is to provide stakeholders with a topographic map of the Cape Cod National Seashore (CCNS). This map was produced to support the present day management and resource protection needs of the Cape Cod National Seashore. The map provides an easy to use digital elevation model (DEM) that can be used by policy makers, land managers, and the general public.

Project Description

This project was designed to produce a high resolution DEM of the Cape Cod National Seashore. The project was funded by a grant from the National Aeronautics and Space Administration’s (NASA) Wallops Flight Facility. The project was conducted as a collaborative effort between the U.S. Geological Survey (USGS) and the National Park Service (NPS) under the auspices of the Cape Cod National Seashore Protection and Management Program. The project was funded by a grant from the National Aeronautics and Space Administration’s (NASA) Wallops Flight Facility.

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The data 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 width along the ground.

The agency in charge of the project was the U.S. Geological Survey. The project was funded by a grant from the National Aeronautics and Space Administration’s (NASA) Wallops Flight Facility.