W00629

U.S. Department of Commerce
National Oceanic and Atmospheric Administration
National Ocean Service

DESCRIPTIVE REPORT

Type of Survey:	Reconnaissance
Registry Number:	W00629

LOCALITY

State(s):	Florida
General Locality:	Cape Canaveral
Sub-locality:	Approaches to Cape Canaveral

2016

CHIEF OF PARTY
Noreen A. Buster, Geologist, USGS

LIBRARY & ARCHIVES

Date:

U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

REGISTRY NUMBER:

HYDROGRAPHIC TITLE SHEET

W00629

INSTRUCTIONS: The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

State(s):	**Florida**
General Locality:	**Cape Canaveral**
Sub-Locality:	**Approaches to Cape Canaveral**
Scale:	**20000**
Dates of Survey:	**06/13/2016 to 06/17/2016**
Instructions Dated:	**06/01/2022**
Project Number:	**ESD-PHB-22**
Field Unit:	**US Geological Survey**
Chief of Party:	**Noreen A. Buster, Geologist, USGS**
Soundings by:	**Kongsberg Maritime EM 3002 (MBES)**
Imagery by:	**Kongsberg Maritime EM 3002 (MBES Backscatter)** **Klein Marine Systems System 3900 (SSS)**
Verification by:	**Pacific Hydrographic Branch**
Soundings Acquired in:	**meters at Mean Lower Low Water**

Remarks:

Any revisions to the Descriptive Report (DR) applied during office processing are shown in red italic text. The DR is maintained as a field unit product, therefore all information and recommendations within this report are considered preliminary unless otherwise noted. The final disposition of survey data is represented in the NOAA nautical chart products. All pertinent records for this survey are archived at the National Centers for Environmental Information (NCEI) and can be retrieved via https://www.ncei.noaa.gov/. Products created during office processing were generated in NAD83 UTM 17N, MLLW. All references to other horizontal or vertical datums in this report are applicable to the processed hydrographic data provided by the field unit.

DESCRIPTIVE REPORT MEMO

June 01, 2022

MEMORANDUM FOR: Pacific Hydrographic Branch

FROM: Report prepared by PHB on behalf of field unit
Noreen A. Buster
Geologist, U.S. Geological Survey - St. Petersburg Coastal and Marine Science Center

SUBJECT: Submission of Survey W00629

The purpose of the survey was to collect geophysical data in the shallow water (2-20 meters [m] water depth) off of Cape Canaveral, Florida, to better understand the linkages between geologic variability and the evolution and resiliency of the coastal system. Data were collected during USGS field activity number (FAN) 2016-342-FA. Multibeam and backscatter data for Cape Canaveral, Florida, were acquired using a Kongsberg EM3002D dual-head multibeam sonar system aboard the research vessel (R/V) Coastal Explorer by the Center for Marine and Wetland Studies (CMWS) at CCU, South Carolina

The CMWS at Coastal Carolina University created final products from the post-processed multibeam bathymetry data

All soundings were reduced to Mean Lower Low Water using VDatum. The horizontal datum for this project is North American Datum of 1983 (NAD 83). The projection used for this project is Universal Transverse Mercator (UTM) Zone 17.

The original vertical datum of bathymetry was NAVD88. The VDATUM SEP identified here was created to vertically shift data from the NAVD88 datum to MLLW.

A Kongsberg Seatex Seapath system was used to provide position and attitude data during data collection and accounted for vessel motion such as heave, pitch, and roll (x and y position accuracy ± 1 cm, z position accuracy 2 cm, heading accuracy 0.05%, roll and pitch accuracy ± 0.03°, heave accuracy ± 5% or 5 cm). Prior to data collection, planned survey lines were created using the survey navigation and planning software HYPACK. Altitude data were used to account for tide cycle fluctuations and sound velocity profiles were collected with an Applied Microsystems smart SV.

Processing and mosaicking of Kongsberg EM3002D data were completed using Geocoder engine within Fledermaus FMGTv7.5. Within FMGT, the backscatter intensities were radiometrically

corrected (including despeckling, Time Varying Gain (TVG) corrections, and Angle Varying Gain (AVG) adjustments) and the position of each acoustic sample was geometrically corrected for slant-range and georeferenced. The mosaic was exported from FMGT in GeoTIFF format. Final mosaics are relative to the North American Datum (NAD83) horizontal datum.

All data were reviewed for DTONs and none were identified in this survey.

U.S. Geological Survey Data Release acquired the data outlined in this report. Data are available at https://doi.org/10.5066/F7833Q8J. Additional documentation from the data provider may be attached to this report.

Some notable shifting of shallow depths has occurred in this data as compared to the chart, particularly in the region to the north of the Cape Canaveral Barge Canal. Depth difference between surveyed and nearby charted soundings can exceed 1m. Charted sounding density in that area is fairly sparse, this region is covered by a Band 4 ENC.

This survey does meet charting specifications and is adequate to supersede prior data. Where bathymetry exists, it is adequate to supersede charted soundings, despite the very large distances between survey lines.