W00646

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

DESCRIPTIVE REPORT

Type of Survey:	Basic Hydrographic Survey
Registry Number:	W00646

LOCALITY

State(s):	Florida
General Locality:	Marquesas, Tortugas South, Riley's Hump
Sub-locality:	Dry Tortugas

2018

CHIEF OF PARTY
Captain Donn Pratt, NOAA

LIBRARY & ARCHIVES

Date:

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

REGISTRY NUMBER:

HYDROGRAPHIC TITLE SHEET

W00646

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:	**Marquesas, Tortugas South, Riley's Hump**
Sub-Locality:	**Dry Tortugas**
Scale:	**40000**
Dates of Survey:	**10/29/2018 to 11/14/2018**
Instructions Dated:	**N/A**
Project Number:	**ESD-PHB-22**
Field Unit:	**NOAA Ship *Nancy Foster***
Chief of Party:	**Captain Donn Pratt, NOAA**
Soundings by:	**Kongsberg Maritime EM 2040 (MBES)**
Imagery by:	**N/A**
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

November 22, 2022

MEMORANDUM FOR: Pacific Hydrographic Branch

FROM: Report prepared by PHB on behalf of field unit
Captain Donn Pratt, NOAA
Chief of Party, NOAA Ship *Nancy Foster*

SUBJECT: Submission of Survey W00646

This project builds on past research and monitoring in Florida Keys National Marine Sanctuary (FKNMS) with the Florida Fish and Wildlife Conservation Commission (FWC) and the National Centers for Coastal Ocean Science (NCCOS) and focuses on connectivity between the network of marine reserves in the Dry Tortugas region, including the connections between populations of fish in the waters of the Florida Keys, Marquesas, Dry Tortugas National Park (DRTO), the Tortugas Ecological Reserve North (TER-N) and spawning habitat at Riley's Hump (RH), located within the Tortugas Ecological Reserve South (TER-S), and surrounding reef habitats including areas such as Warsaw Hole. The purposes of the cruise are to (1) collect video images using an Remotely Operated Vehicle (ROV) along transects of bottom features of interest identified from past multibeam seafloor surveys; (2) collect multibeam bathymetry in gap areas, partly to aid in location features of interest for subsequent ROV work; and, 3) conduct observations and maintenance of an acoustic array in and near the study areas.

This survey created image products for benthic habitat classification, using an ROV, a drop camera, dive operation, a stereo camera, and VR2 receivers. Bathymetric products were created using multibeam sonars. It is unknown where these products were delivered, but the following institutions participated in the project: Office of National Marine Sanctuaries Florida Keys National Marine Sanctuary, National Center for Coastal Ocean Sciences, Florida Fish and Wildlife Conservation Commission, and University of North Carolina Wilmington.

All soundings were reduced to Mean Lower Low Water using Discrete Zoning. 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 HDCS processing logs indicate no SBETs were applied to any data, and all navigation data was contained within the original survey line files. This means the navigation data was most likely derived from GPS antennae. There is no indication whether differential GPS was used for positioning. Vertical positioning was acquired using a single tide gauge correctors. No Delayed Heave was applied to the data.

Survey systems and methods utilized during this survey were not described in any document other than what was available via CARIS Log Viewer.All surfaces had uncertainty layers re-computed in review. The 1of3 surface has its uncertainty layer calculated at 1m + 2% Depth, to fully capture the maximum possible tidal error associated with the temporal tidal offset from the nearest tide gauge (113km distant) and the observed tidal range for the time period. Surfaces 2of3 and 3of3 have had their uncertainty layers calculated at 0.5m + 1% Depth to capture evident vertical offsets and their more moderate estimated tidal offsets due to closer proximity to the tide gauge.

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

NOAA Ship NANCY FOSTER acquired the data outlined in this report. Data are available at https://www.ngdc.noaa.gov/ships/nancy_foster/NF1810_mb.html. Additional documentation from the data provider may be attached to this report.

This survey does meet charting specifications and is adequate to supersede prior data.