

F00700

NOAA Form 76-35A

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

DESCRIPTIVE REPORT

Type of Survey: Navigable Area

Registry Number: F00700

LOCALITY

State: Florida

General Locality: Tampa Bay

Sub-locality: Sunshine Skyway Bridge

2018

CHIEF OF PARTY
James Kirkpatrick

LIBRARY & ARCHIVES

Date:

HYDROGRAPHIC TITLE SHEET

F00700

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: **Florida**

General Locality: **Tampa Bay**

Sub-Locality: **Sunshine Skyway Bridge**

Scale: **1: 10,000**

Dates of Survey: **09/15/2017 to 01/19/2018**

Instructions Dated: **09/15/2017**

Project Number: **S-J909-NRT2-17**

Field Unit: **Navigation Response Team 2**

Chief of Party: **James Kirkpatrick**

Soundings by: **Multibeam Echo Sounder**

Imagery by: **Side Scan Sonar and Multibeam Echo Sounder**

Verification by: **Pacific Hydrographic Branch**

Soundings Acquired in: **meters at Mean Lower Low Water**

Remarks:

The purpose of this survey is to provide contemporary surveys to update National Ocean Service (NOS) nautical charts. All separates are filed with the hydrographic data. Any revisions to the Descriptive Report (DR) generated during office processing are shown in bold red italic text. The processing branch maintains the DR as a field unit product, therefore, all information and recommendations within the body of the DR are considered preliminary unless otherwise noted. The final disposition of surveyed features is represented in the OCS nautical chart update products. All pertinent records for this survey, including the DR, are archived at the National Centers for Environmental Information (NCEI) and can be retrieved via <http://www.ncei.noaa.gov/>.

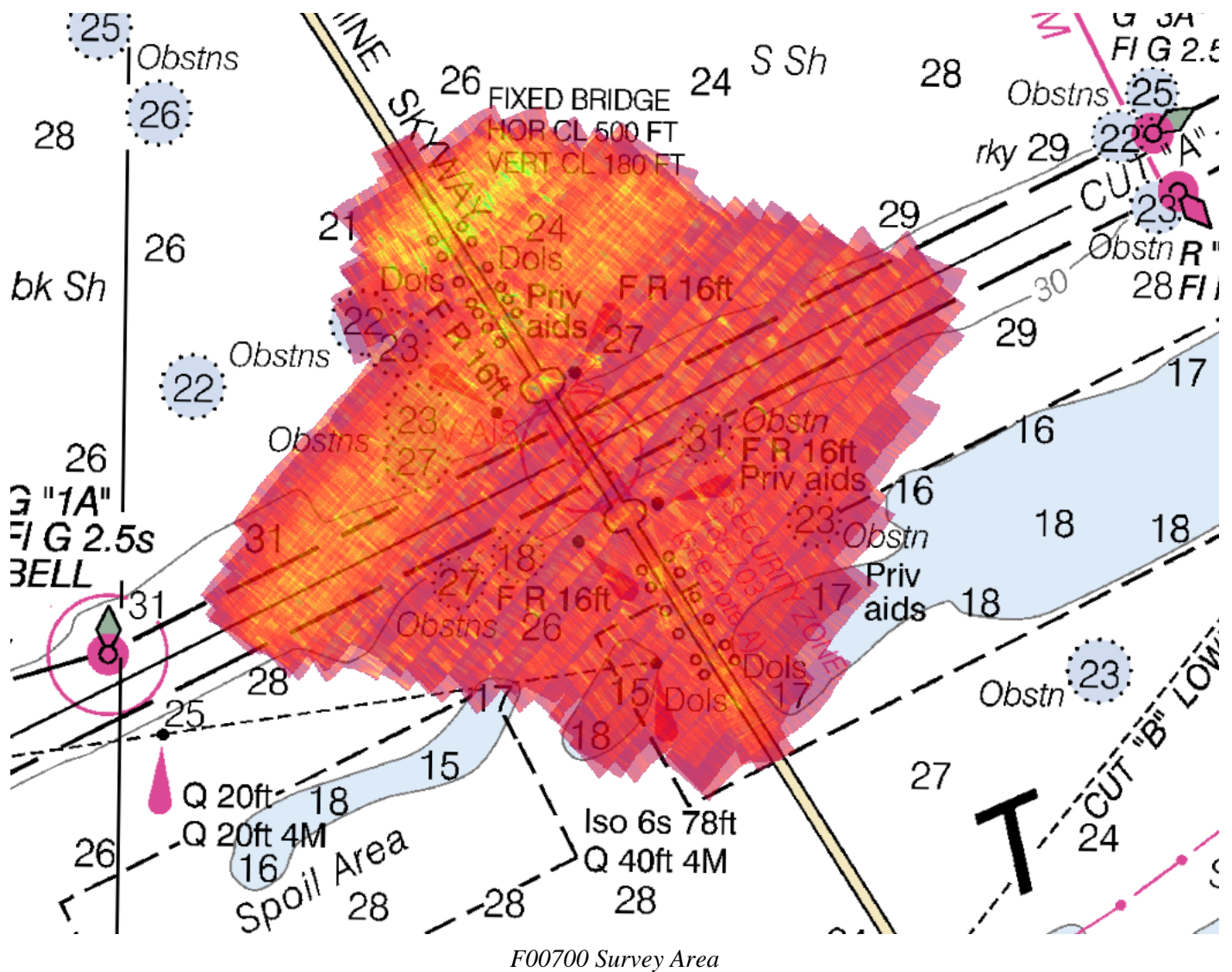
Descriptive Report Summary F00700	
Project	S-J909-NRT2-17
Survey	F00700
State	Florida
Locality	Tampa Bay
Sub Locality	Sunshine Skyway Bridge
Scale of Survey	1:10000
Sonars Used	Kongsberg Maritime EM 2040C (MBES) EdgeTech 4125 (SSS)
Horizontal Datum	North American Datum 1983
Vertical Datum	Mean Lower Low Water
Vertical Datum Correction	TCARI
Projection	Projected UTM 17
Field Unit	Navigation Response Team 2
Survey Dates	09/15/2017 - 01/19/2018
Chief of Party	James Kirkpatrick

A. Area Surveyed

This hydrographic survey was acquired in accordance with the requirements defined in the Project Instruction S-J909-NRT2-17.

Data were acquired within the following survey limits:

Northwest Limit	Southeast Limit
27° 37' 36.7" N 82° 39' 53.68" W	27° 36' 47.49" N 82° 38' 45.63" W



B. Survey Purpose

NOAA's Office of Coast Survey has been requested to do a hydrographic survey at the Sunshine Skyway Bridge in Tampa Bay, from pier 103 to 120. It has been reported that recreational boaters have been crowding the channel resulting in some potential navigation incidents. The Tampa Bay Harbor Safety and Security Committee would like an alternative channel established for smaller vessel outside the main channel around the Sunshine Skyway Bridge. NRT2 will also use Velodyne Lidar to get the position and height of the pilings at the bridge. Additional navigational information is needed to support safe navigation in this area and to update the nautical chart. Survey data from this project is intended to supersede all prior survey data in the common area.

C. Intended Use of Survey

The entire survey is adequate to supersede previous data.

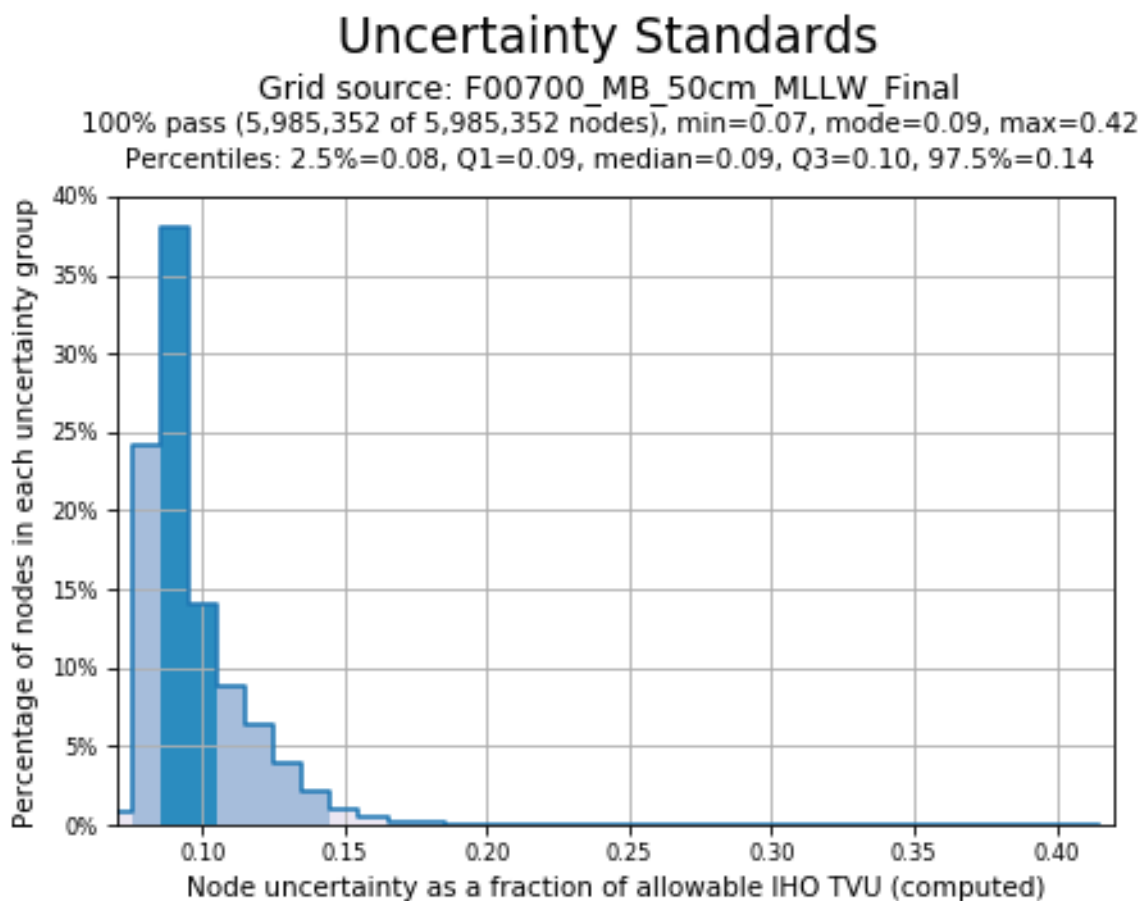
This survey is adequate to supersede previous data. All data is within NOAA specs and should be used to update the chart.

D. Data Acquisition and Processing

Please reference Data Acquisition and Processing Report "S-J909-NRT2-17_DAPR.xml" for a complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods.

E. Uncertainty

The final MBES surface for F00700 has passed the QCtools2 Quality assurance test for IHO uncertainty Standards. 100% of the nodes are within the allowable IHO Total Vertical Uncertainty value.



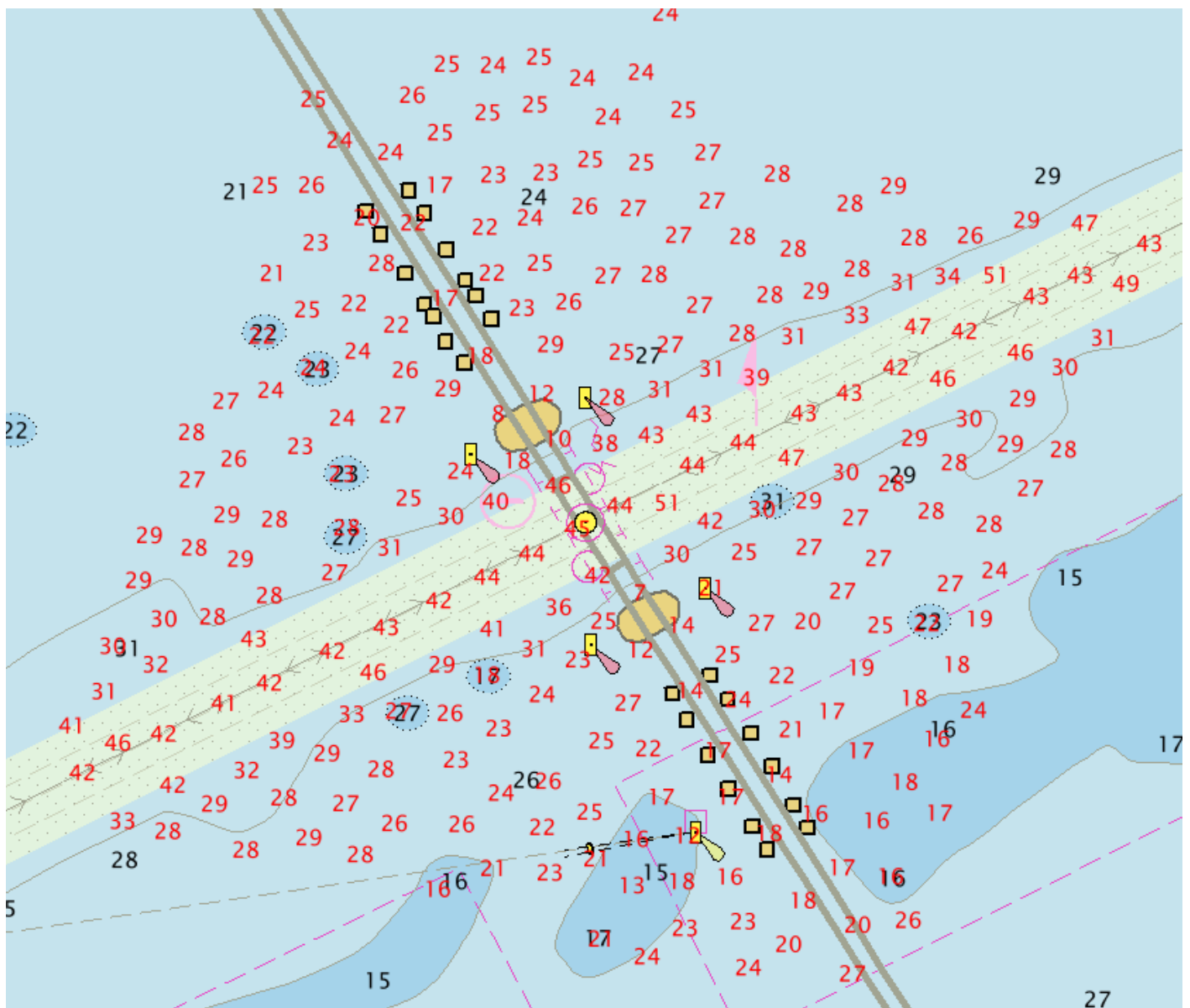
F00700 Final Surface Uncertainty.

F. Results and Recommendations

The following are the largest scale RNC and ENC, which cover the survey area:

ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US5FL11M	1:40000	446	03/21/2018	03/21/2018	NO

F00700 sounding data is in good agreement with ENC US5FL11M.



ENC Sounding Comparison

The following surfaces and/or BAGs were submitted to the Processing Branch:

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
F00700_MB_50cm_MLLW	MBES	50 cm	2.4 m - 20.2 m	Cube	Depth
F00700_MB_50cm_MLLW_Final	MBES	50 cm	2.4 m - 20.2 m	Cube	Depth
F00700_SSS_1m_100	SSS	1 m	0 m - 0 m	Mosaic	Imagery
F00700_SSS_1m_200	SSS	1 m	0 m - 0 m	Mosaic	Imagery

The chart edition for US5FL11M is a typo and likely refers to edition 11, which would have been the current edition at the time of survey reporting.

It should be additionally noted that seven of the eight OBSTRN features in the area are recommended for removal from the chart, one is recommended for an updated location, one new OBSTRN is recommended for addition to the chart, and two WRECKS are recommended for addition to the chart.

G. Vertical and Horizontal Control

The vertical datum for this project is Mean Lower Low Water.

The vertical control method used for this survey was TCARI.

The following National Water Level Observation Network (NWLON) stations served as datum control for this survey:

Station Name	Station ID
Port Manatee	8726384
St. Petersburg	8726520
Old Port Tampa	8726607
Mckay Bay Entrance	8726667
Clearwater Beach	8726724

CO-OPS provided NRT2 with a TCARI file named G916NRBTJFH2017.tc. Final tides were also verified by CO-OPS.

The horizontal datum for this project is North American Datum 1983. The projection used for this survey is Projected UTM 17.

The following DGPS Stations were used for horizontal control:

DGPS Stations

DGPS correctors provided from USCG Tampa.

H. Additional Results

NRT2 successfully surveyed the requested area and was able to deliver preliminary data to the concerned constituents. Sounding from F00700 were in good agreement with the charted depths from ENC US5FL11M. No additional Dangers to Navigation or new features were found during the course of the survey.


I. Approval

As Chief of Party, field operations for this hydrographic survey were conducted under my direct supervision, with frequent personal checks of progress and adequacy. I have reviewed the attached survey data and reports.

All field sheets, this Survey Summary Report, and all accompanying records and data are approved. All records are forwarded for final review and processing to the Processing Branch.

The survey data meets or exceeds requirements as set forth in the NOS Hydrographic Surveys and Specifications Deliverables, Field Procedures Manual, Standing and Letter Instructions, and all HSD Technical Directives. These data are adequate to supersede charted data in their common areas. This survey is complete and no additional work is required with the exception of deficiencies noted in the Survey Summary Report.

A Master's thesis paper has recently been released on the stability of sandwaves in the survey area. It may be useful to include the paper as reference to the dynamic nature of the area. Gray, J. W. (2018). The Stability of Sand Waves in a Tidally-Influenced Shipping Channel, Tampa Bay, Florida (Unpublished master's thesis). University of South Florida.

Approver Name	Title	Date	Signature
James Kirkpatrick	Team Lead	04/02/2018	KIRKPATRICK.JAMES.LEROY.IV.1400487398  Digitally signed by KIRKPATRICK.JAMES.LEROY.IV.14 00487398 Date: 2018.04.05 14:36:01 -04'00'



PROVISIONAL TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: February 01, 2018

HYDROGRAPHIC BRANCH: Pacific

HYDROGRAPHIC PROJECT: S-J909-NRT2-2017

HYDROGRAPHIC SHEET: F00700

LOCALITY: Skyway Bridge, Tampa Bay, FL

TIME PERIOD: September 15, 2017 - January 19, 2018

TIDE STATION USED: Port Manatee, FL 8726384

Lat. 27° 38.3' N Long. 82° 33.7' W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.581 meters

TIDE STATION USED: St. Petersburg, FL 8726520

Lat. 27° 45.6' N Long. 82° 37.6' W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.602 meters

TIDE STATION USED: Old Port Tampa, FL 8726607

Lat. 27° 51.5' Long. 82° 33.2'

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.652 meters

TIDE STATION USED: McKay Bay Entrance, FL 8726667

Lat. 27° 54.8' Long. 82° 25.5'

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.715 meters

TIDE STATION USED: Clearwater, FL 8726724

Lat. 27° 58.7' Long. 82° 49.9'

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.737 meters

REMARKS: **RECOMMENDED Grid** Please use the TCARI grid "G916NRBTJFH2017_TampaBay.tc" as the final grid for project S-J909-NRT2-2017, F00700, during the time period between September 15, 2017 and January 19, 2018.

Refer to attachments for grid information.

Note 1: Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time on the 1983-2001 National Tidal Datum Epoch (NTDE).

Note 2: FY17 leveling for St. Petersburg (8726520) and Clearwater (8726724) were not completed in time to meet the one-year requirement for this survey. A review of the verified leveling records from February 2008 to 2017 show the tide station benchmark networks to be stable within an allowable 0.009 m tolerance. This Tide Note may be used as final stability verification for survey S-J909-NRT2-2017, F00700. CO-OPS will immediately provide a revised Tide Note should subsequent leveling records indicate any benchmark network stability movement beyond the allowable 0.009 m tolerance.

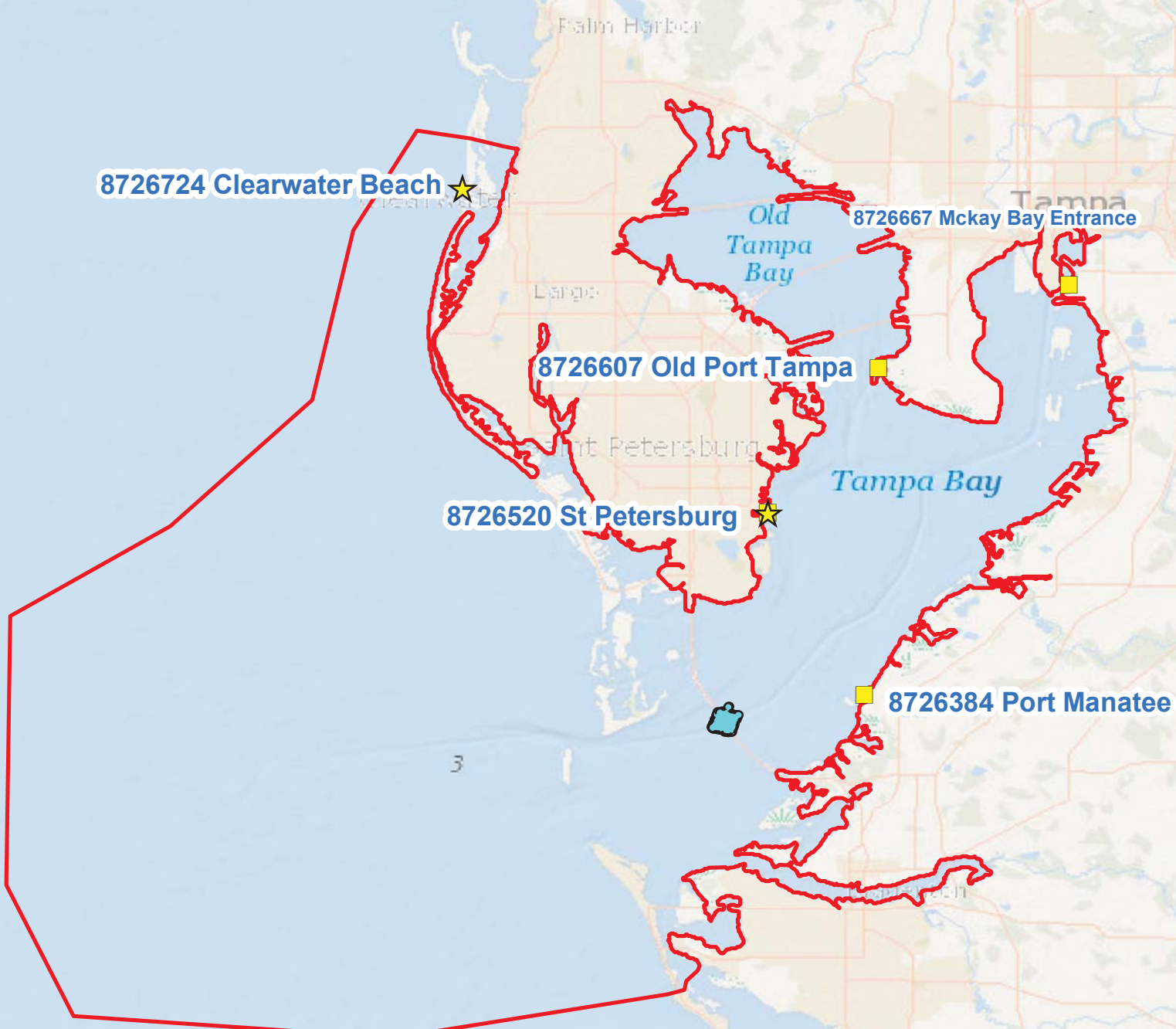
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CHIEF, PRODUCTS AND SERVICES BRANCH



**Preliminary as Final TCARI Grid for S-J909-NRT2-2017, F00700
Sunshine Skyway Bridge**



Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors, Sources: Esri, GEBCO, NOAA, National Geographic, DeLorme, HERE, Geonames.org, and other contributors

APPROVAL PAGE

F00700

Data meet or exceed current specifications as certified by the OCS survey acceptance review process. Descriptive Report and survey data except where noted are adequate to supersede prior surveys and nautical charts in the common area.

The following products will be sent to NCEI for archive

- Descriptive Report
- Collection of Bathymetric Attributed Grids (BAGs)
- Collection of backscatter mosaics
- Processed survey data and records
- GeoPDF of survey products

The survey evaluation and verification has been conducted according current OCS Specifications, and the survey has been approved for dissemination and usage of updating NOAA's suite of nautical charts.

Approved: _____

Commander Olivia Hauser, NOAA
Chief, Pacific Hydrographic Branch