H12766

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

DESCRIPTIVE REPORT

Type of Survey:	Navigable Area
Registry Number:	H12766

LOCALITY

State(s):	South Carolina
General Locality:	Southeast Atlantic Ocean
Sub-locality:	Approaches to Charleston Harbor Entrance Channel

2015

CHIEF OF PARTY
Captain Shepard M. Smith, NOAA

LIBRARY & ARCHIVES

Date:

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

REGISTRY NUMBER:

HYDROGRAPHIC TITLE SHEET

H12766

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):	**South Carolina**
General Locality:	**Southeast Atlantic Ocean**
Sub-Locality:	**Approaches to Charleston Harbor Entrance Channel**
Scale:	**20000**
Dates of Survey:	**05/03/2015 to 05/15/2015**
Instructions Dated:	**03/16/2015**
Project Number:	**OPR-G380-TJ-15**
Field Unit:	**NOAA Ship *Thomas Jefferson***
Chief of Party:	**Captain Shepard M. Smith, NOAA**
Soundings by:	**Multibeam Echo Sounder**
Imagery by:	**Side Scan Sonar**
Verification by:	**Atlantic 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 https://www.ncei.noaa.gov/.

Table of Contents

List of Tables

List of Figures

Descriptive Report to Accompany Survey H12766

Project: OPR-G380-TJ-15

Locality: Southeast Atlantic Ocean

Sublocality: Approaches to Charleston Harbor Entrance Channel

Scale: 1:20000

May 2015 - May 2015

NOAA Ship *Thomas Jefferson*

Chief of Party: Captain Shepard M. Smith, NOAA

A. Area Surveyed

H12766 was conducted in the locality of the approaches to Charleston Harbor entrance channel. The original survey area consisted of a single trapezoidal area. Figure 1 shows the general locality of the survey data submitted in correlation with survey H12766 per the most recent project instructions.

A.1 Survey Limits

Data were acquired within the following survey limits:

Northwest Limit	Southeast Limit
32° 43' 17.09" N 79° 21' 50.3" W	32° 33' 36.55" N 79° 53' 32.54" W

Table 1: Survey Limits

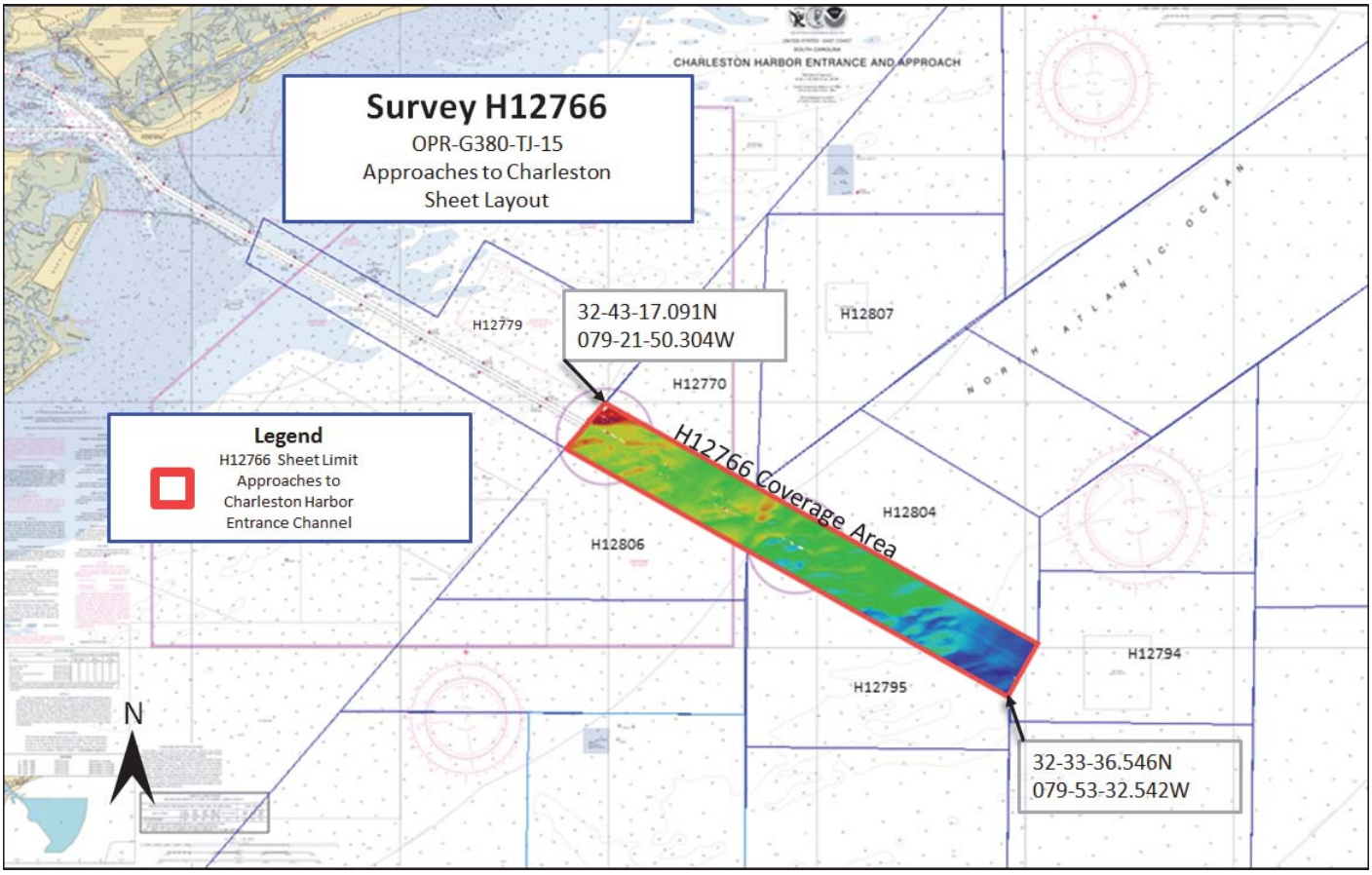


Figure 1: H12766 Survey Layout and Coverage Area for TJ-OPR-G380-15, plotted over RNC 11528

Survey limits were acquired in accordance with the requirements in the Project Instructions and the HSSD.

A.2 Survey Purpose

This project is being conducted in support of NOAA's Office of Coast Survey to provide contemporary hydrographic data in support of a new nautical chart in this area and in response to a harbor deepening project in the Port of Charleston which will better serve deeper draft ships transiting the area. This project was identified as priority 1 in the Project Instructions.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

Six channel buoys caused MBES coverage holidays (Fig. 2). Each buoy was on station. The combination of 100% and 200% SSS imagery filled the gaps in MBES data with the exception of the area around the RW "C" sea buoy (Fig. 4). Holiday lines 135_402_1601 and 135_400_1615 were attempted; however, a gap

remains approximately 11 m at its widest. It was deemed navigationally unsafe to acquire more MBES or SSS coverage around the channel buoys.

A.4 Survey Coverage

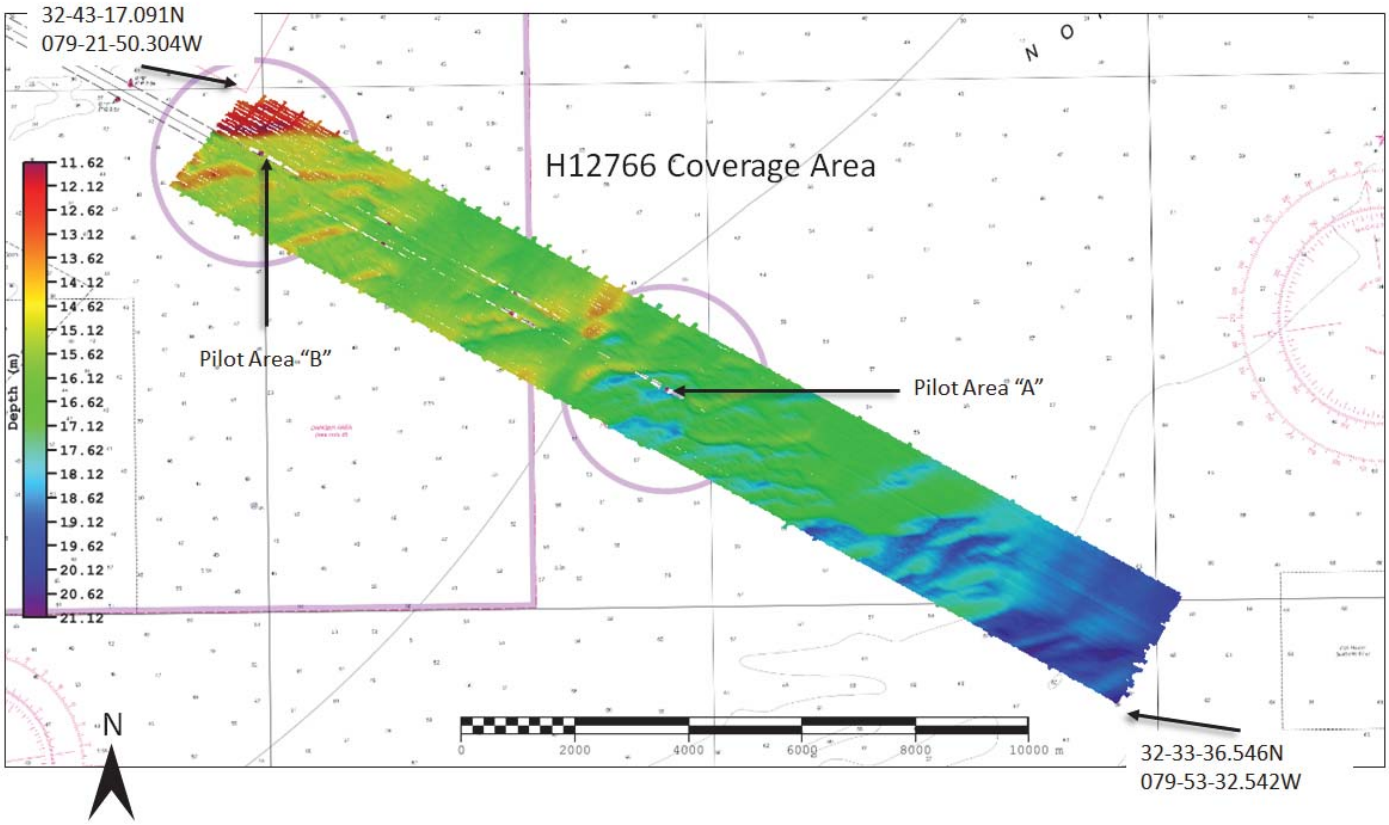


Figure 2: H12766 MBES Coverage

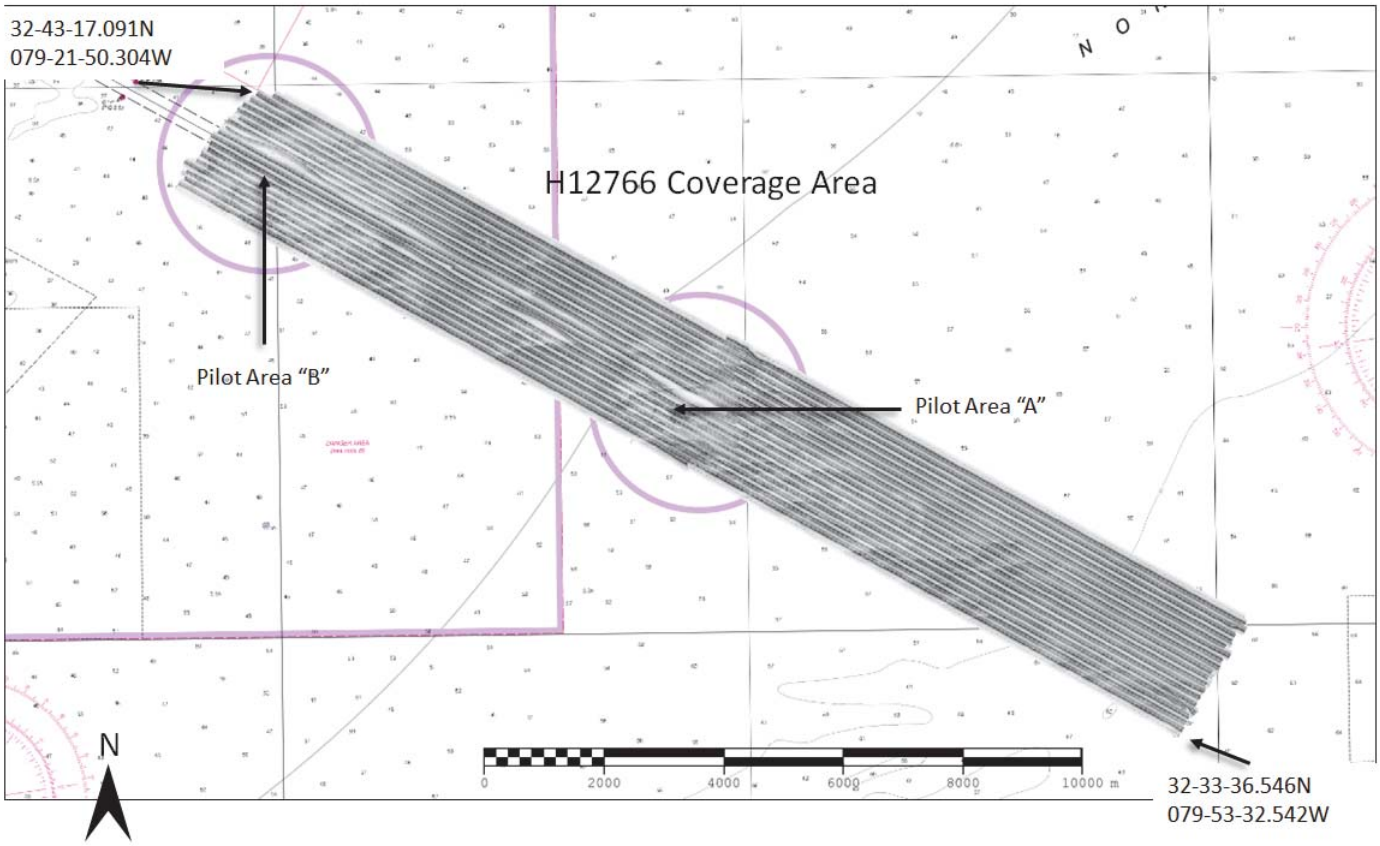


Figure 3: H12766 SSS Coverage

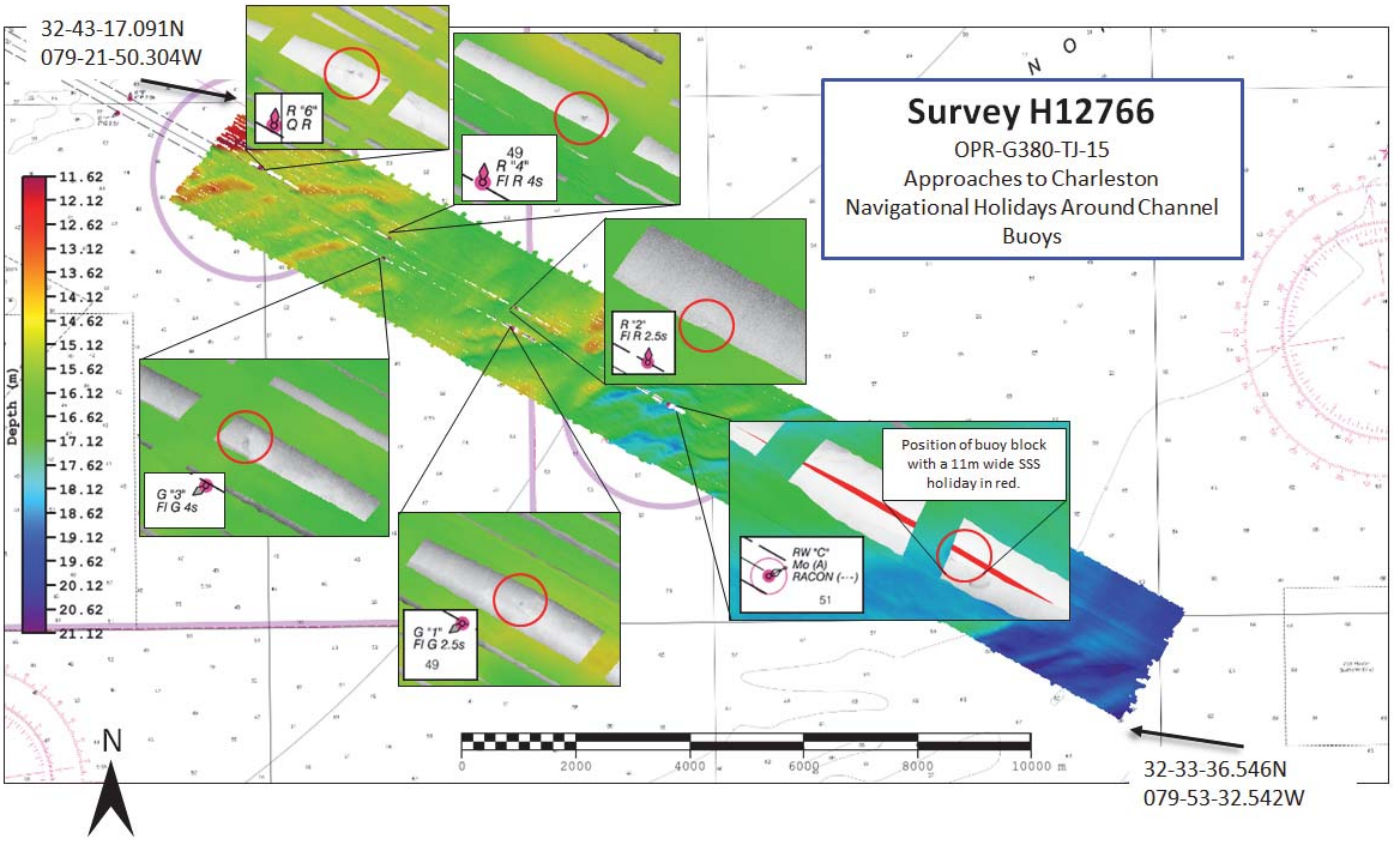


Figure 4: H12766 MBES and SSS Holidays

Survey coverage was in accordance with the requirements in the Project Instructions and the HSSD.

A.5 Survey Statistics

The following table lists the mainscheme and crossline acquisition mileage for this survey:

	HULL ID	*S222*	*Total*
LNM	**SBES Mainscheme**	0	0
	MBES Mainscheme	401.70	401.7
	Lidar Mainscheme	0	0
	SSS Mainscheme	401.70	401.7
	SBES/SSS Mainscheme	0	0
	MBES/SSS Mainscheme	401.70	401.7
	SBES/MBES Crosslines	53.18	53.18
	Lidar Crosslines	0	0
Number of Bottom Samples			0
Number of AWOIS Items Investigated			0
Number Maritime Boundary Points Investigated			0
Number of DPs			0
Number of Items Investigated by Dive Ops			0
Total SNM			12.22

Table 2: Hydrographic Survey Statistics

The following table lists the specific dates of data acquisition for this survey:

Survey Dates	Day of the Year
05/03/2015	123
05/04/2015	124
05/05/2015	125
05/06/2015	126
05/15/2015	135

Table 3: Dates of Hydrography

B. Data Acquisition and Processing

B.1 Equipment and Vessels

Refer to the Data Acquisition and Processing Report (DAPR) for a complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods. Additional information to supplement sounding and survey data, and any deviations from the DAPR are discussed in the following sections.

B.1.1 Vessels

The following vessels were used for data acquisition during this survey:

Hull ID	***S222***
LOA	208 feet
Draft	15 feet

Table 4: Vessels Used

Data were acquired by NOAA Ship Thomas Jefferson. NOAA Ship Thomas Jefferson acquired Reson 7125 SV2 multibeam echosounder soundings, Reson 7125 ROV multibeam echosounder soundings, multibeam backscatter data, Klein 5000 V2 side scan sonar data, Rolls Royce MVP100 sound velocity profiles, and Applanix POS/MV version 5 position and attitude data.

B.1.2 Equipment

The following major systems were used for data acquisition during this survey:

Manufacturer	Model	Type
Reson	7125-ROV	MBES
Reson	7125-SV2	MBES
Klein	5000 V2	SSS
Applanix	POSM/V v5	Positioning and Attitude System
Rolls Royce	MVP 100	Sound Speed System
AML Oceanographic	SV&P	Sound Speed System
Reson	SV-70	Sound Speed System

Table 5: Major Systems Used

B.2 Quality Control

B.2.1 Crosslines

Crosslines acquired for this survey totaled 13.2% of mainscheme acquisition.

The Thomas Jefferson acquired 53.18 linear nautical miles of MBES crosslines, equating to 13.2% of mainscheme MBES data. Crosslines were compared to mainscheme by creating a difference surface in Caris BathyData Base. A 1m CUBE surface was created using strictly mainscheme lines, while a second 1m CUBE surface was created using only crosslines. The depth layers of the two surfaces were then differenced. The minimum difference value was -0.694m and and maximum difference value was 0.89m. The mean was 0.043m and the standard deviation was 0.096m. Survey H12766 complies with section 5.2.4.3 of the HSSD (2015 ed). The Chief Hydrographer chose to exceed the specifications of 4% crossline coverage for validation at closer intervals when given the option of interpolating ERS holidays versus re-acquiring bathymetry.

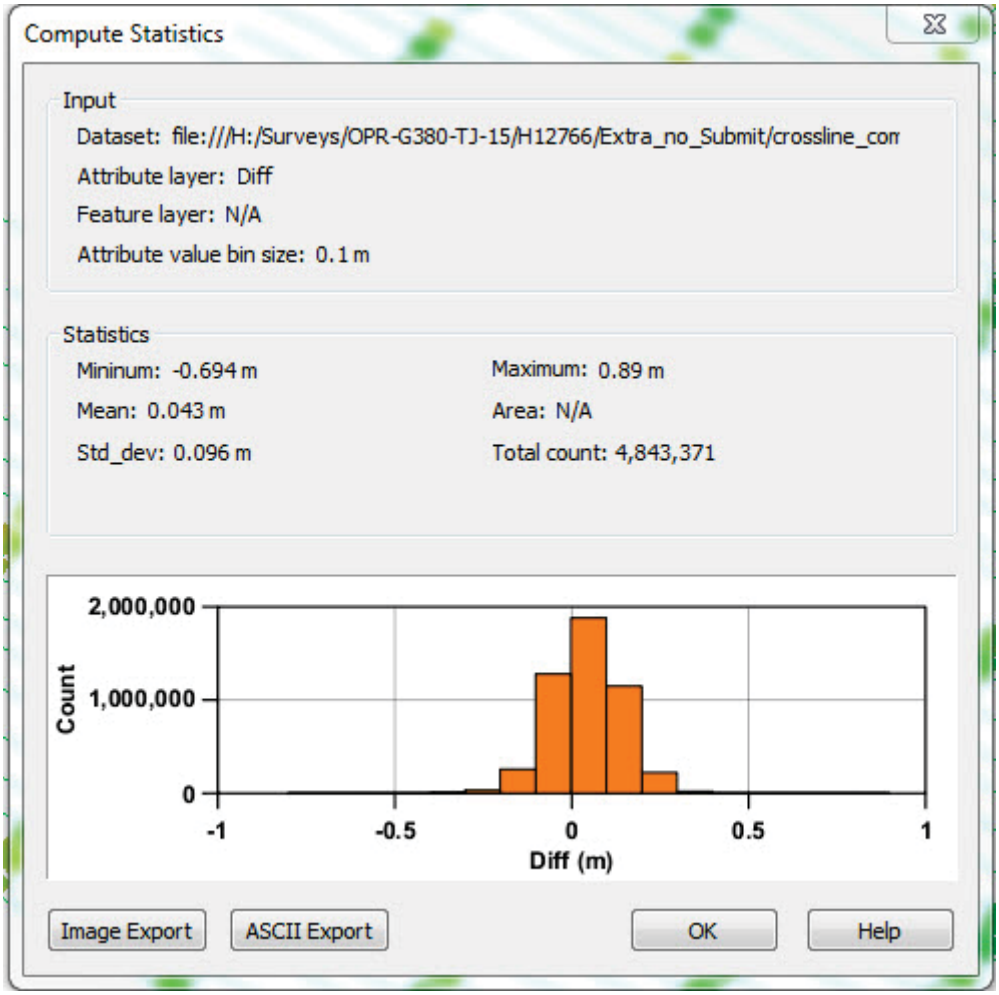


Figure 5: H12766 XL to MS depth difference surface statistics

B.2.2 Uncertainty

The following survey specific parameters were used for this survey:

Measured	Zoning
0.0 meters	0.125 meters

Table 6: Survey Specific Tide TPU Values

Hull ID	Measured - CTD	Measured - MVP	Surface
S222	0 meters/second	1 meters/second	0.200 meters/second

Table 7: Survey Specific Sound Speed TPU Values

Total Propagated Uncertainty values for survey H12766 were derived using a combination of: real time uncertainties for vessel motion; a priori values for equipment and vessel characteristics; assigned values for water level uncertainties; and field assigned values for sound speed uncertainties. The real time uncertainties for vessel motion include roll, pitch, gyro, navigation, and elevation. The uncertainties in these measurements were recorded as part of the POSPac post-processed Precise Point Position (5P) positional solution and were applied to the soundings via an SBET RMS file generated by Applanix POSPac. Uncertainties for sonar mounting and vessel speed were assigned using the a priori values found in Appendix 4, table 4.9 of the NOAA Field Procedures Manual (FPM) (ed 2014), and applied to the data via the CARIS HIPS Hydrographic Vessel File. Uncertainties associated with water level measurements and interpolation were automatically calculated as part of the TCARI water levels, and applied to the data during the Merge process. Finally, the uncertainty associated with sound speed measurements were based on the frequency and location of CTD casts, in accordance with the guidance set by Appendix 4 of the FPM (ed 2014).

Total Propagated Uncertainties for the entire survey were evaluated to ensure compliance with section 5.1.3 of NOAA's HSSD (ed 2015). First, the maximum allowable uncertainty for each node was calculated using the equation: -Uncertainty/((0.5^2+((Depth*0.013)^2))^0.5). Second, the ratio between the actual uncertainty and maximum allowed uncertainty was found for each node. Out of 37,710,253 nodes, 207 did not meet IHO order 1 standards (or 99.99% meet IHO order 1 uncertainty requirements). The nodes that do not meet IHO order 1 standards are located within the channel on dredge scour.

A custom layer was created for the finalized surface submitted in correlation with survey H12766. The layer was derived from the difference between the calculated uncertainties of individual nodes and the allowable uncertainty at the coupled node. This layer was examined using the CARIS QC report tool. The resulting statistical analysis identified 100% of nodes within H12766 met the vertical uncertainty standards of Section 5.1.3 of the 2015 Hydrographic Survey Specifications and Deliverables.

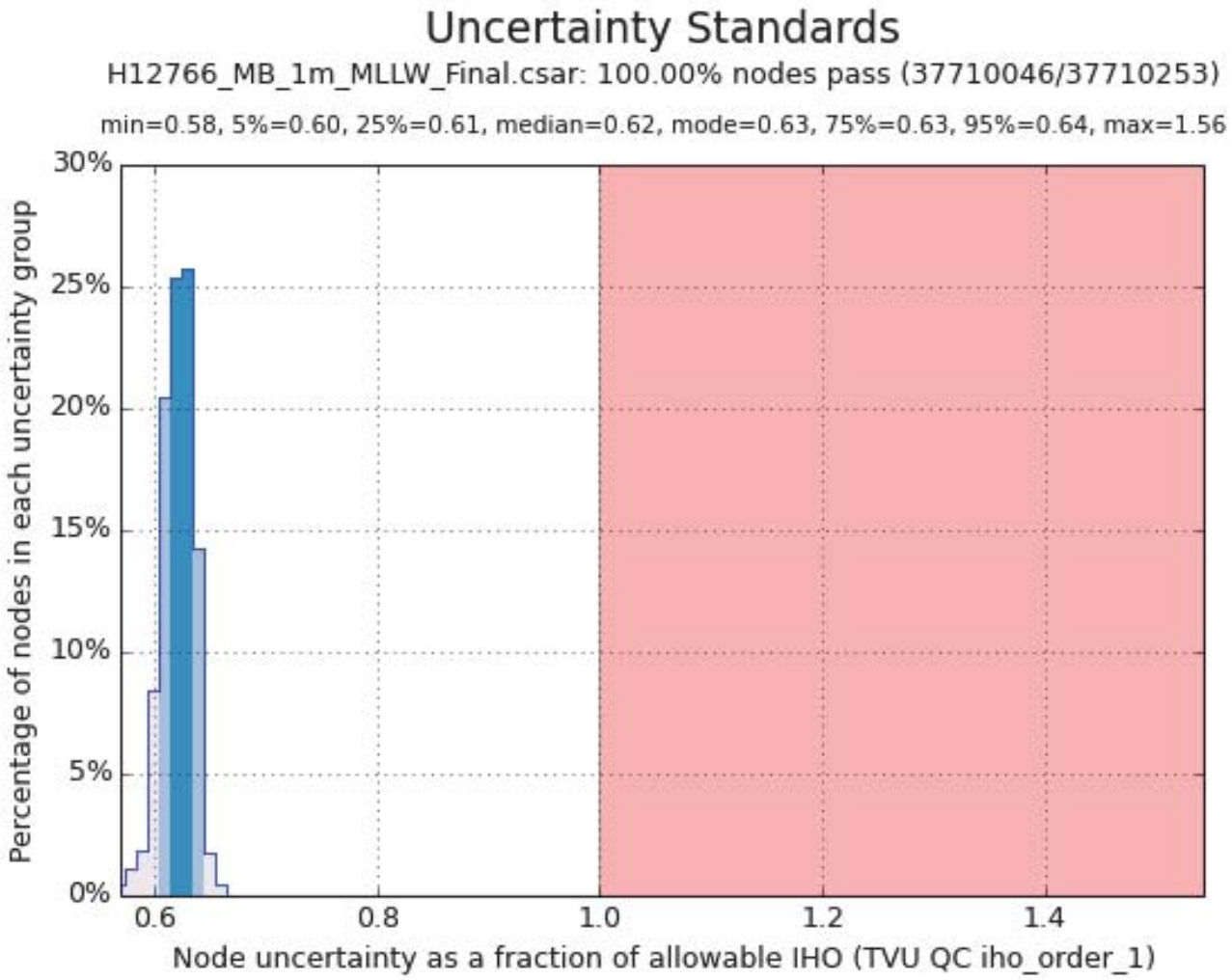


Figure 6: H12766 Uncertainty standards

B.2.3 Junctions

Four concurrent surveys were acquired during the same relative time frame of acquisition of H12766: H12779, H12804, H12795, and H12794. Depth comparisons were made using a CARIS HIPS generated difference surface as a check that the sonar systems and application of correctors were in agreement within 0.3m.

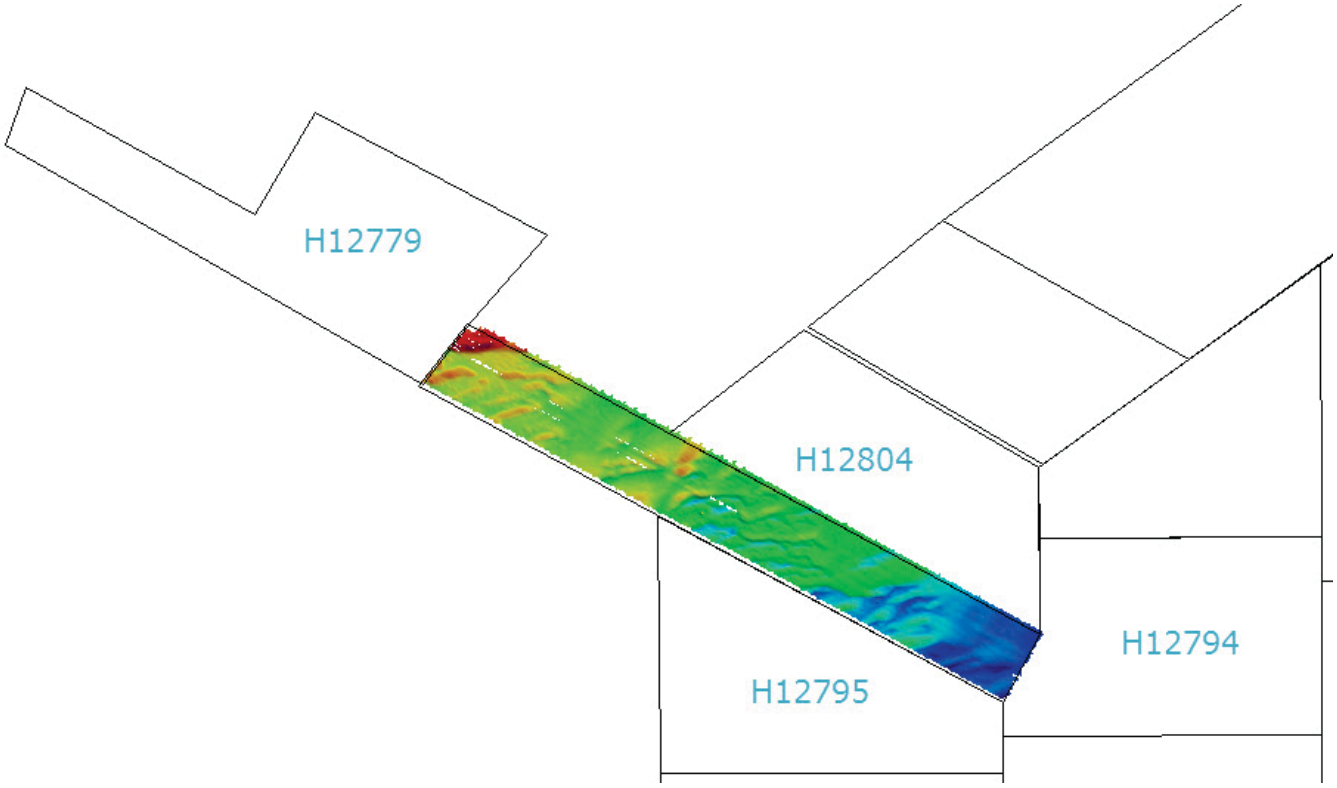


Figure 7: H12766 Junctions

The following junctions were made with this survey:

Registry Number	Scale	Year	Field Unit	Relative Location
H12779	1:20000	2015	NOAA Ship THOMAS JEFFERSON	NW
H12804	1:20000	2015	NOAA Ship THOMAS JEFFERSON	N
H12795	1:20000	2015	NOAA Ship THOMAS JEFFERSON	S
H12794	1:20000	2015	NOAA Ship THOMAS JEFFERSON	SE

Table 8: Junctioning Surveys

H12779

The difference between survey H12766 and the junction survey H12779 ranged from -4.950m to 1.175m. The mean was 0.081m and the standard deviation was 0.102m. When differenced, 98.58% of sounding nodes agree within 0.3m. This is a survey that is still being worked on and edited.

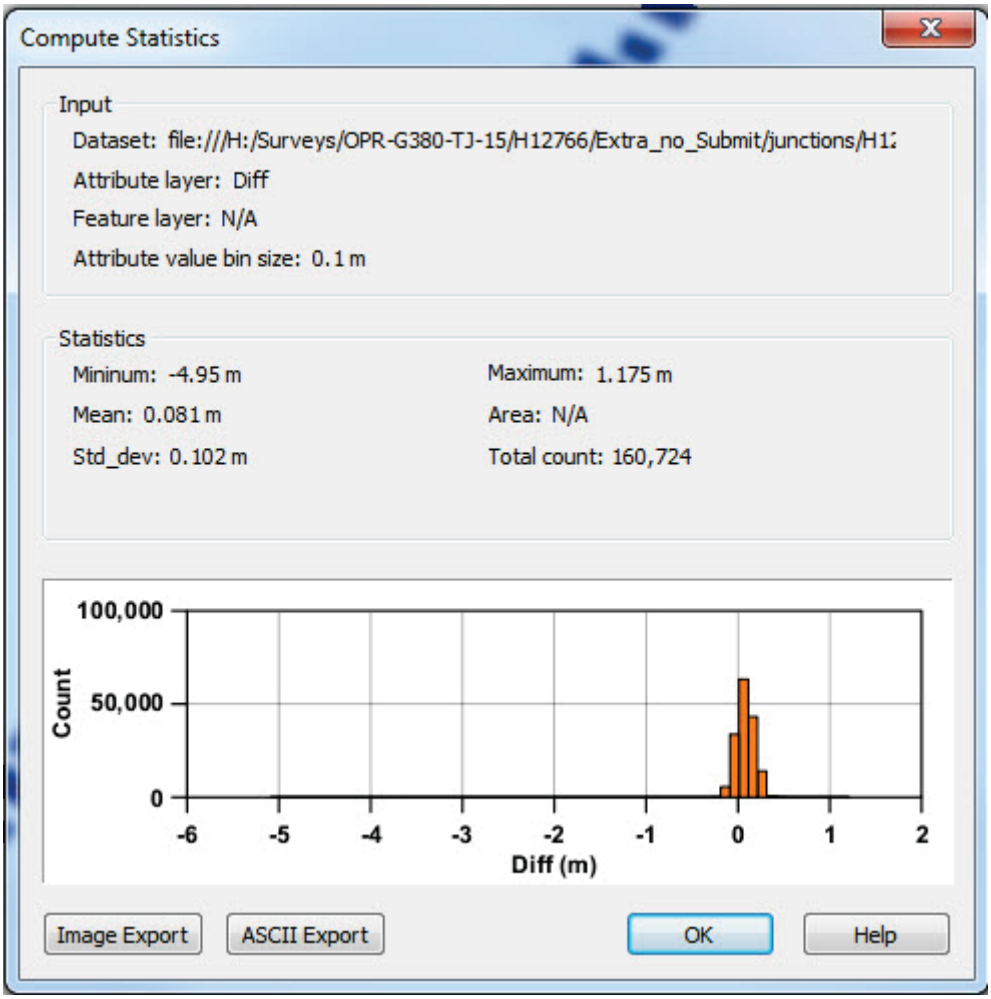


Figure 8: H12766 and Junction H12779 Statistics

H12804

The difference between survey H12766 and the junction survey H12804 ranged from -0.425m to 0.807m. The mean was 0.017m and the standard deviation was 0.086m. When differenced, 99.94% of sounding nodes agree within 0.3m.

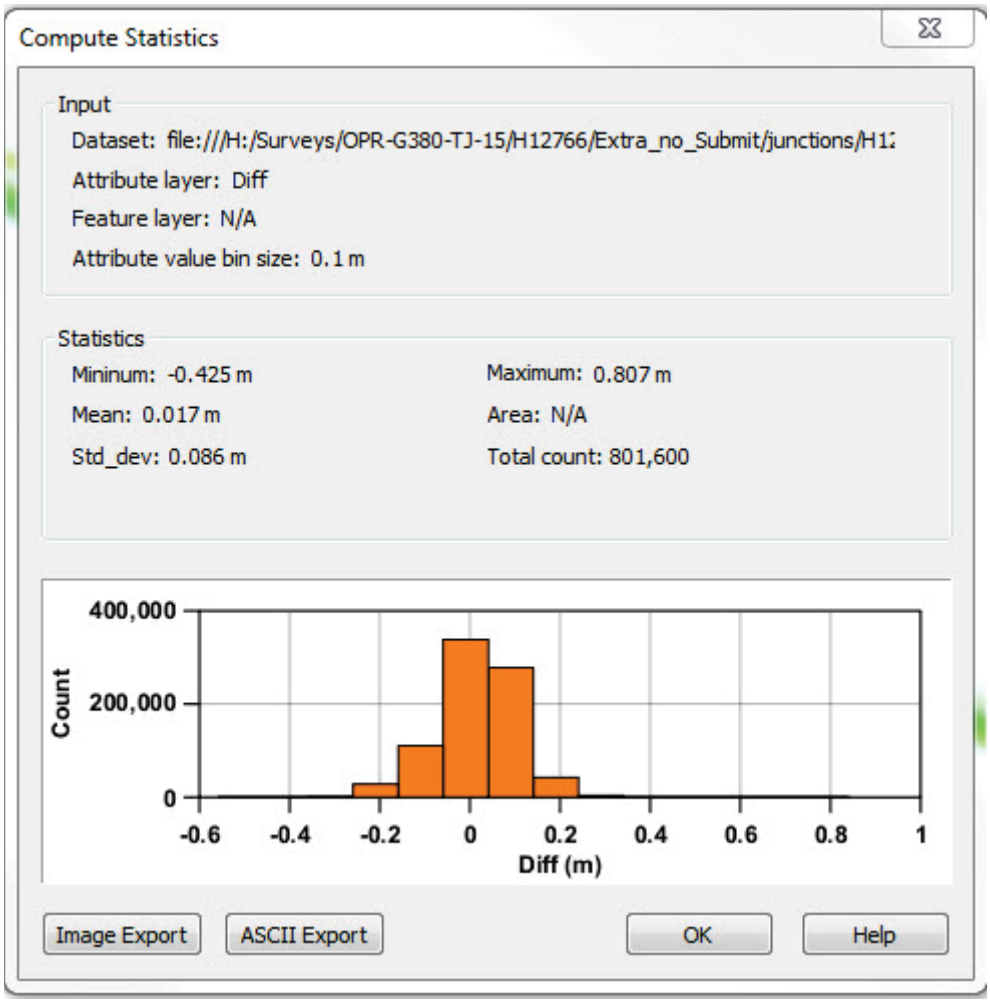


Figure 9: H12766 and Junction H12804 Statistics

H12795

The difference between survey H12766 and the junction survey H12795 ranged from -0.357m to 0.584m. The mean was -0.055m and the standard deviation was 0.068m. When differenced, 99.85% of sounding nodes agree within 0.3 m.

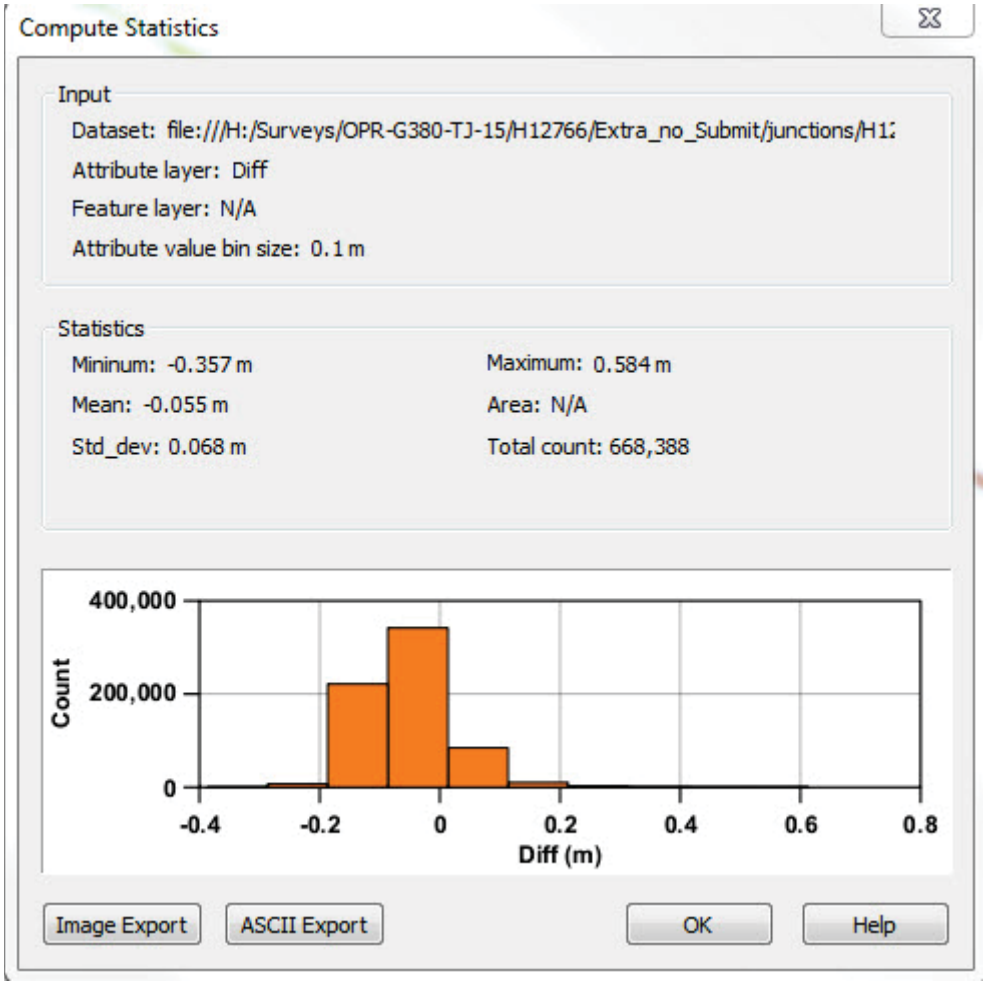


Figure 10: H12766 and Junction H12795 Statistics

H12794

The difference between survey H12766 and the junction survey H12794 ranged from -0.122m to 0.396m. The mean was 0.154m and the standard deviation was 0.106m. When differenced, 90.93% of sounding nodes agree within 0.3m. This is a survey that is still being worked on and edited.

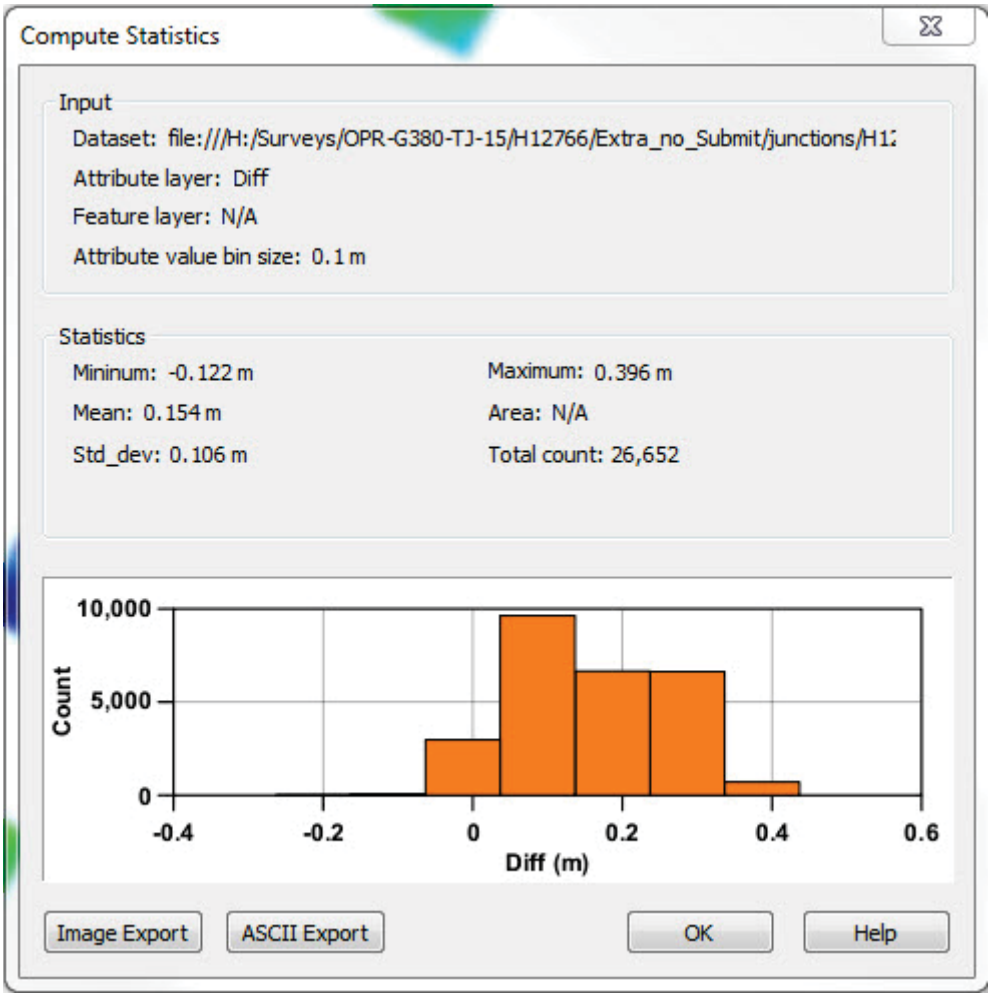


Figure 11: H12766 and Junction H12794 Statistics

B.2.4 Sonar QC Checks

Sonar system quality control checks were conducted as detailed in the quality control section of the DAPR.

B.2.5 Equipment Effectiveness

There were no conditions or deficiencies that affected equipment operational effectiveness.

B.2.6 Factors Affecting Soundings

There were no other factors that affected corrections to soundings.

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: Sound speed profiles were acquired from S222 in accordance with HSSD 2015 standards using a Rolls Royce Brooke Ocean MVP 100 approximately every hour with efforts made to evenly distribute the casts spatially and temporally across the survey area. All MVP casts were concatenated into a vessel master file and applied to multibeam data in CARIS using the parameter of nearest in distance within time 1 hour.

The sheet limits were changed after acquisition was started on sheet H12766. Some casts are are up to 5.5 kilometers from the new survey limits. The area is well mixed. No noticeable SVP problems are present.

The following lines had nearest in distance within time 2 hours applied. 126_208_1536, 126_203_0017, 126_208_1516, 126_203_1640, 126_203_1600, 126_203_1620, and 123_912_1347.

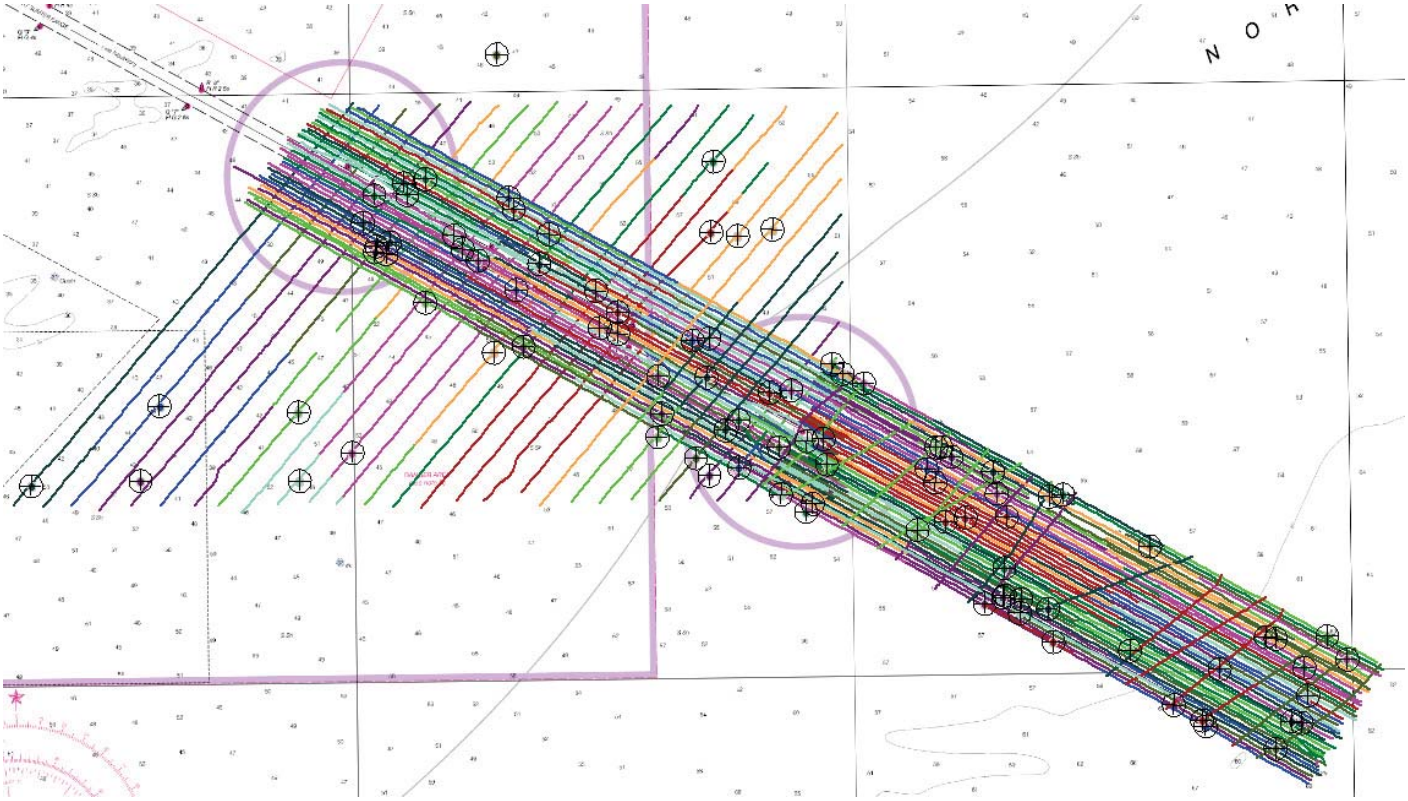


Figure 12: H12766 acquisition lines colored by the corresponding sound speed casts applied

B.2.8 Coverage Equipment and Methods

All equipment and survey methods were used as detailed in the DAPR.

B.2.9 H12766 Density Compliance

Density requirements for H12766 were analyzed using the finalized CSAR QA tool in the Pydro Contributions program. The Chief Hydrographer chose to exceed the specifications for object detection with set line spacing because density requirements were met and bathymetry was better represented using a 1m resolution. The 1 meter surface meets density 99.57% of the time.

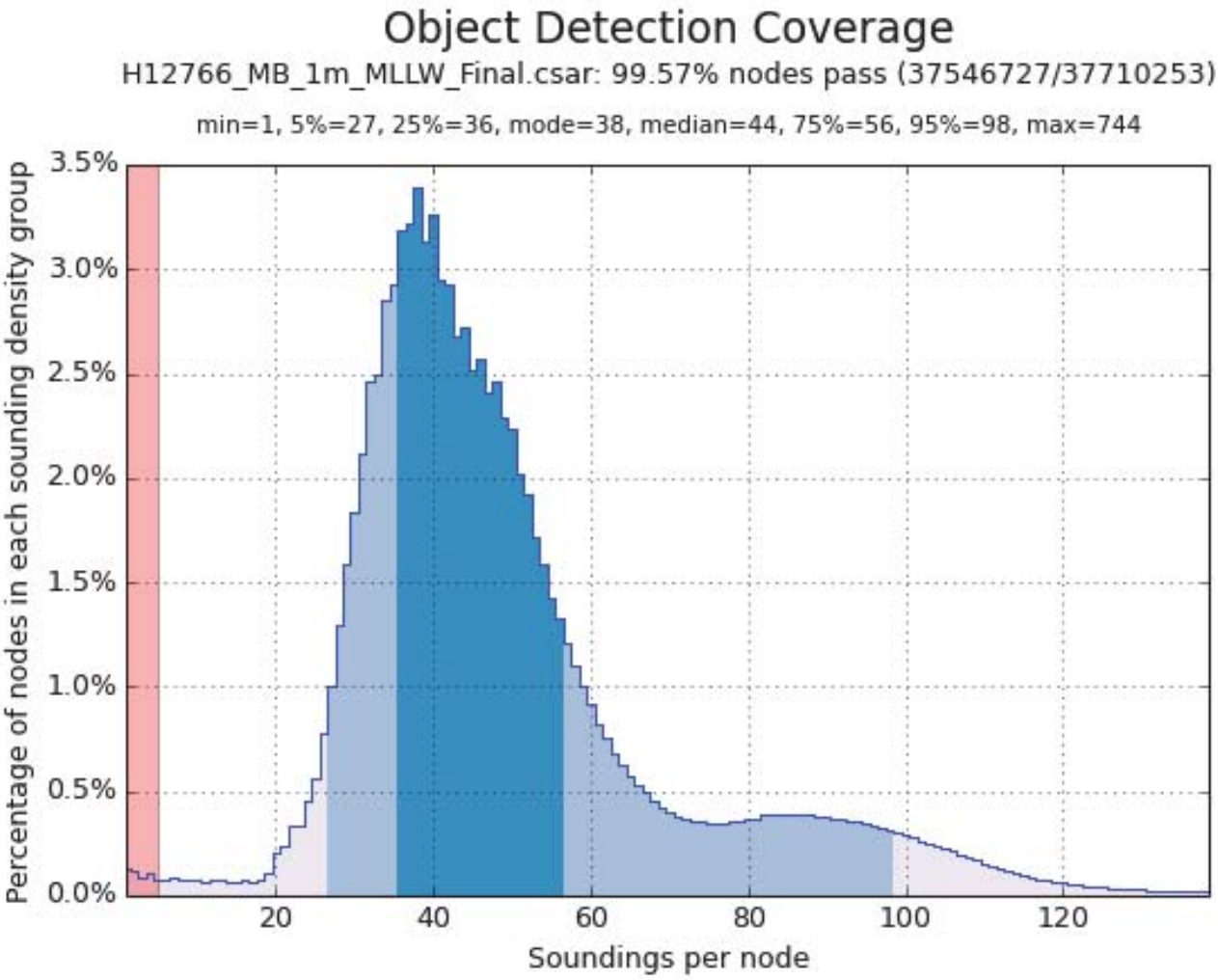


Figure 13: H12766 1 meter finalized surface density results

B.3 Echo Sounding Corrections

B.3.1 Corrections to Echo Soundings

All data reduction procedures conform to those detailed in the DAPR.

B.3.2 Calibrations

All sounding systems were calibrated as detailed in the DAPR.

B.4 Backscatter

Backscatter was logged as a 7k file and submitted to the Atlantic Hydrographic Branch for processing. One line per vessel, per day was processed aboard the Thomas Jefferson in order to assess and ensure quality. No deficiencies were noted.

B.5 Data Processing

B.5.1 Software Updates

The following software updates occurred after the submission of the DAPR:

Manufacturer	Name	Version	Service Pack	Hotfix	Installation Date	Use
Caris	HIPS/SIPS	9.0.13	N/A	N/A	04/14/2015	Processing
Caris	HIPS/SIPS	9.0.14	N/A	N/A	06/07/2015	Processing
Caris	HIPS/SIPS	9.0.16	N/A	N/A	07/24/2015	Processing

Table 9: Software Updates

The following Feature Object Catalog was used: V_5_3.3

B.5.2 Surfaces

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

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
H12766_MB_1m_MLLW_Final	CUBE	1 meters	11.59 meters - 21.09 meters	NOAA_1m	MBES TracklineSBES Set Line Spacing
H12766_SSS_100	SSS Mosaic	0.2 meters	0 meters - 0 meters	N/A	100% SSS
H12766_SSS_200	SSS Mosaic	0.2 meters	0 meters -	N/A	200% SSS

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
			0 meters		

Table 10: Submitted Surfaces

B.5.3 Multibeam Data Filters

A swath filter was applied to the data to remove sonar side lobe anomalies in the RESON SV2 system. The filter used logic that rejected bathymetric data points beyond 60 degrees on either side of nadir. The filter was only applied to cross lines. All other erroneous data was manually rejected by the hydrographer during normal data processing and editing.

B.5.4 SBET Interpolation

The following SBETs needed to be interpolated to fix vertical problems that were seen in the multibeam data.
2015_123_S222B
2015_124_S222C
2015_125_S222B
2015_126_S222
An example of how interpolating an SBET fixed noticeable problems is shown below.

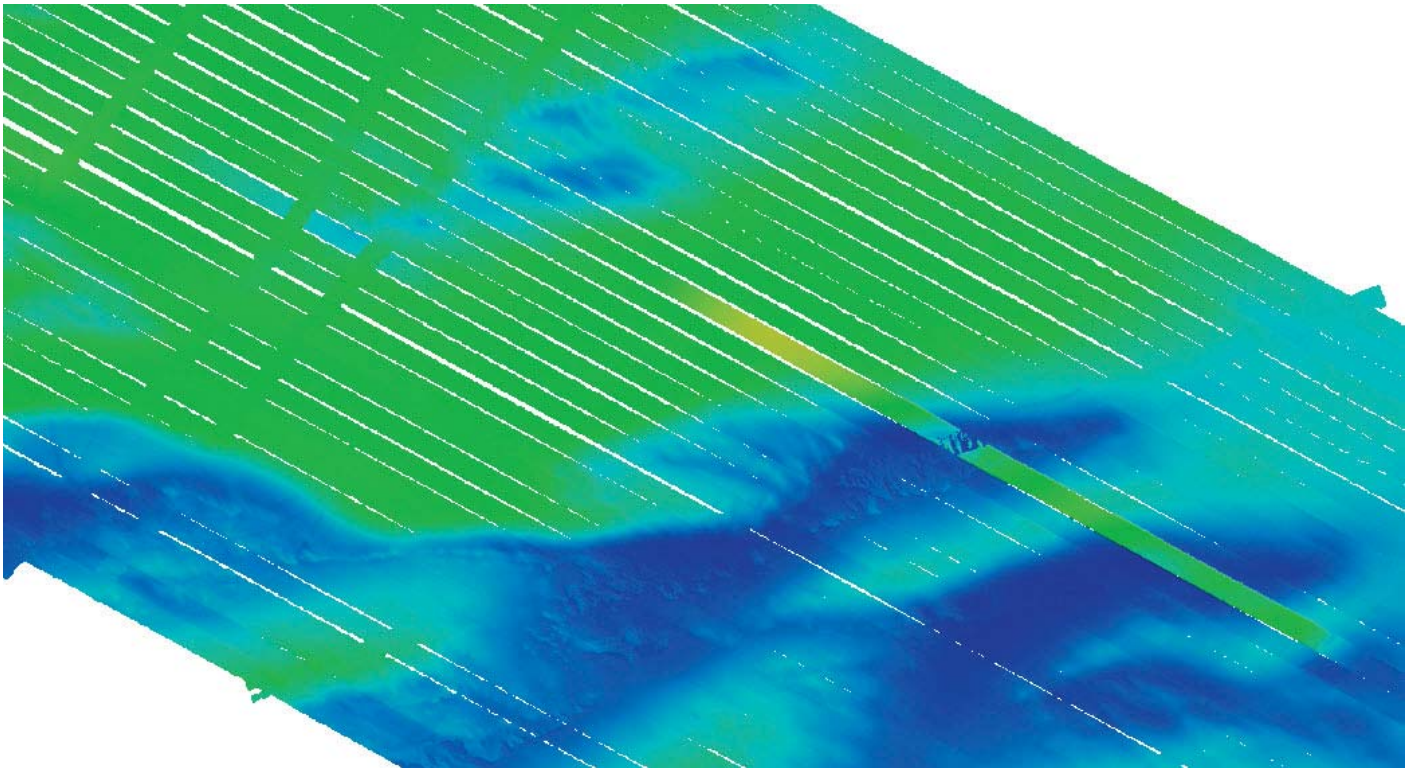


Figure 14: H12766 Surface before interpolating SBET 2015_125_S222B. The bigger offset here was by 2 meters while the smaller was by about 0.7 meters.

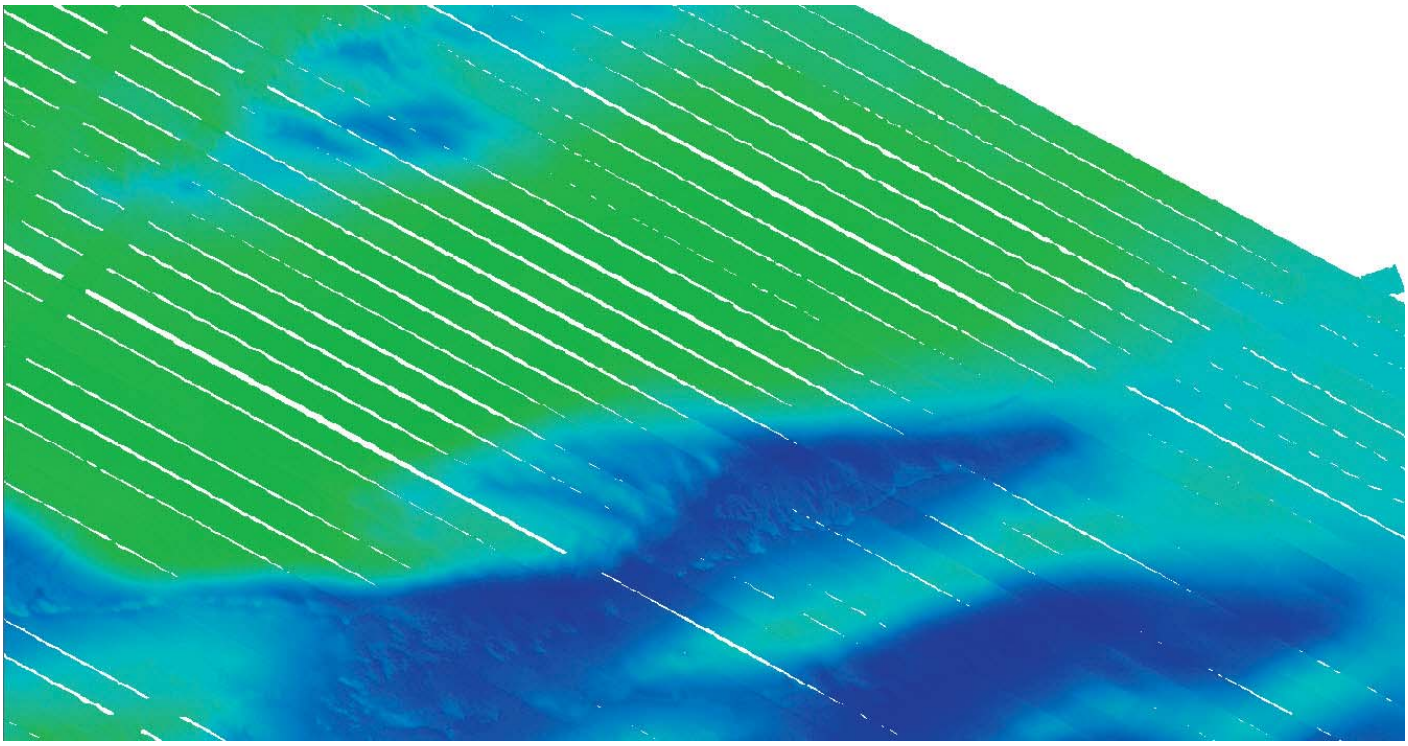


Figure 15: H12766 Surface after interpolating SBET 2015_125_S222B

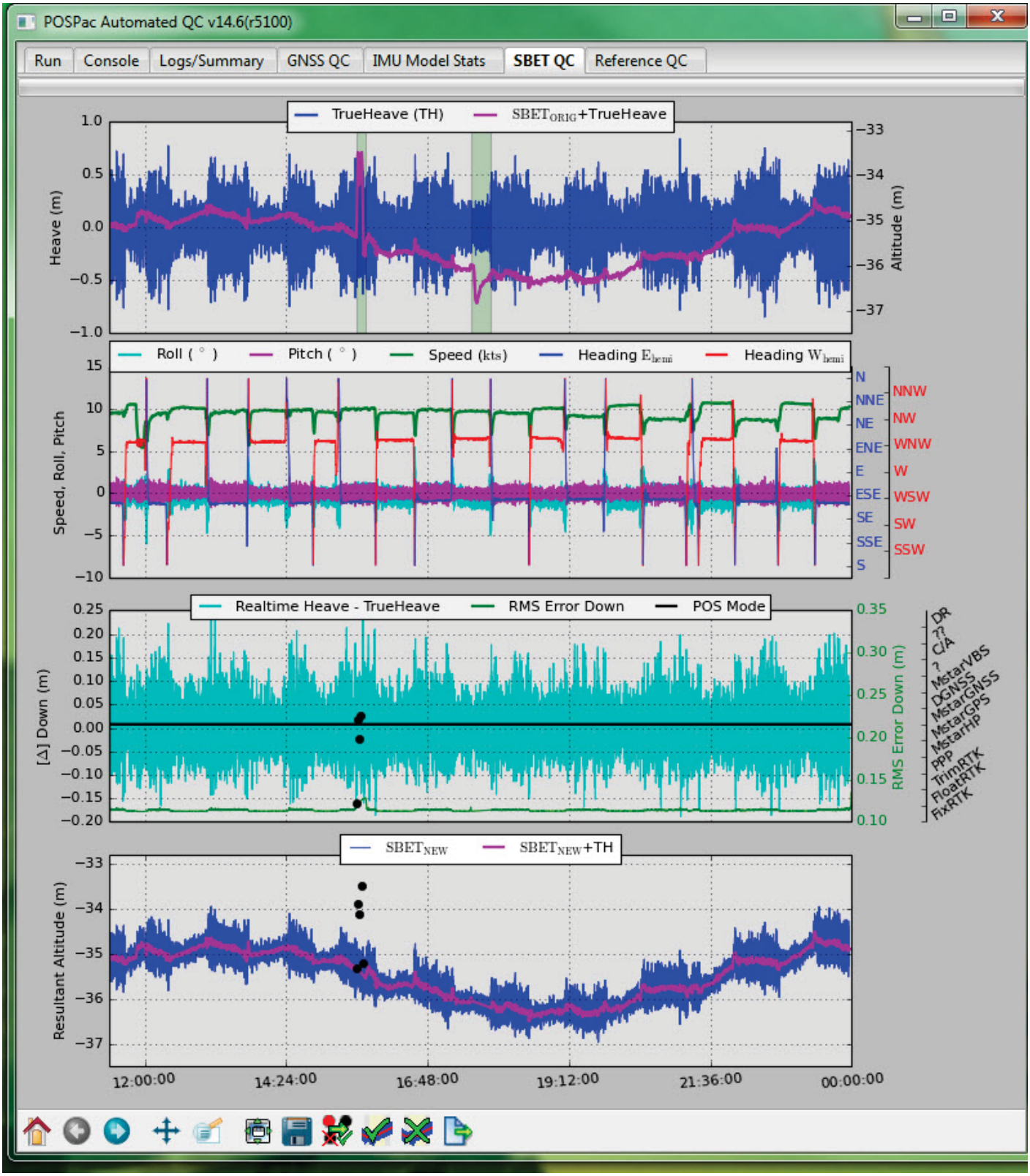


Figure 16: H12766 interpolated areas of SBET 2015_125_S222B. The high bust had about 8 minutes of interpolation while the smaller had about 3 minutes.

B.5.5 Multibeam Blowouts

Multibeam data acquired on DN126 had blowouts caused by rough sea conditions. Object detection for this survey is being met with 200% side scan sonar with object detection multibeam over developments.

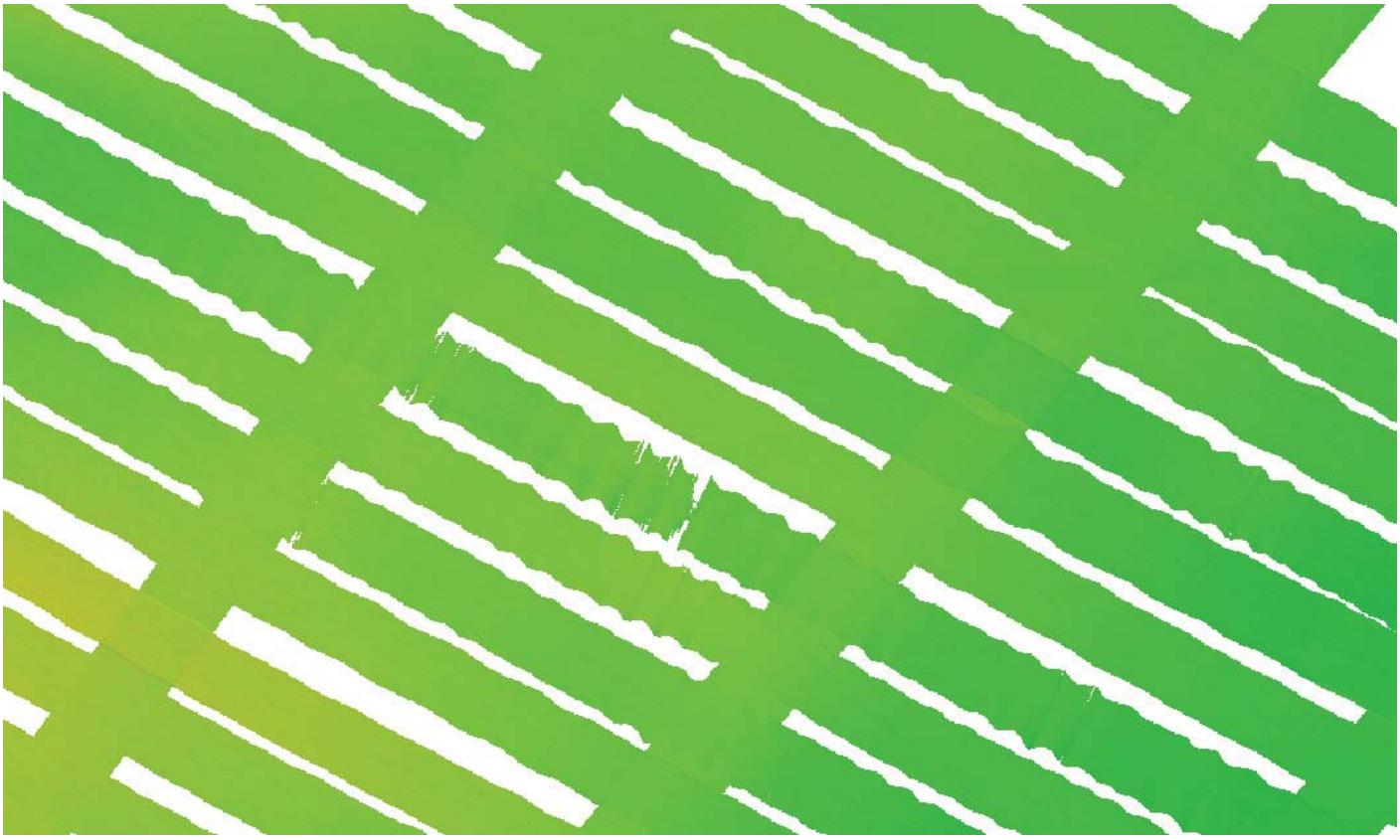


Figure 17: Example of multibeam blowouts

B.5.6 Area of high node standard deviation and hypothesis count

The area of high standard deviation in the middle of the sheet appears to be due to a combination of factors, with each line's GPS tide deviating in opposite directions. A few areas like this are expected given our probabilistic error model. The highest node standard deviation observed was 0.258m with a hypothesis count of 2.

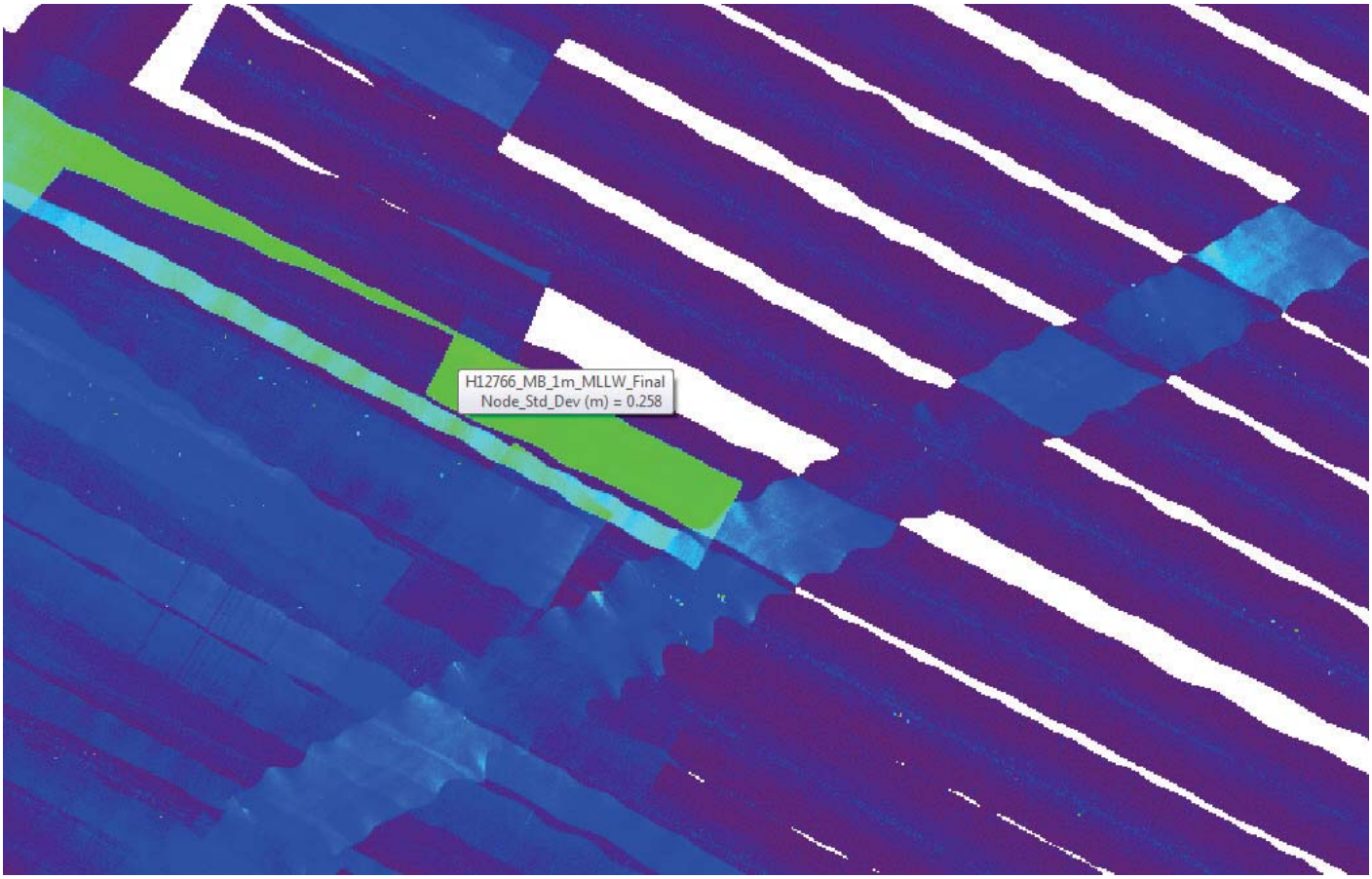


Figure 18: H12766 Node standard deviation

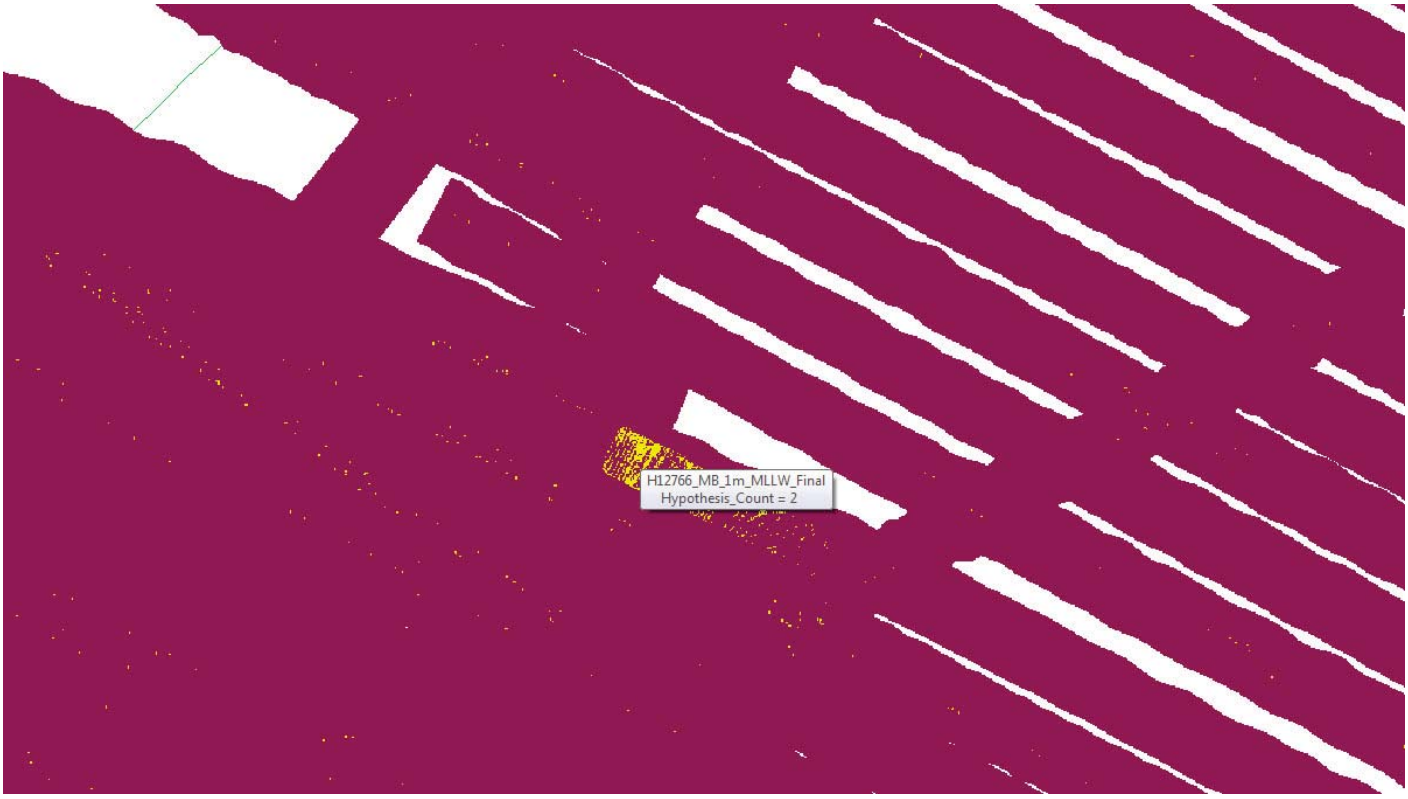


Figure 19: H12766 Hypothesis count

C. Vertical and Horizontal Control

All vertical and horizontal control activities conducted during the course of this survey are fully addressed in the following sections. Per section 5.1.2.3 of the FPM (2014 ed), no Horizontal and Vertical Control Report has been generated for survey H12766.

C.1 Vertical Control

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

Non-Standard Vertical Control Methods Used:

VDatum

Ellipsoid to Chart Datum Separation File:

2015_G380_VDatum_NAD83_MLLW_rev2.csar

All soundings submitted as H12766 are reduced to MLLW using documented VDatum techniques. If it is deemed necessary to change the water level reduction method to discrete zoning the following additional information will be useful:

1) The National Water Level Observation Network (NWLON) stations serving as datum control for this survey is Charleston, SC (8665530).
2) The submitted water level files (8665530_Verified.tid) are the final approved water levels for the period of hydrography. These files have been loaded to all CARIS lines submitted as H12766.
3) The submitted tide corrector (G380TJ2015CORP.zdf) is the preliminary zoning file that was accepted as final per final tide note, submitted in Appendix I. This file has been loaded to all CARIS lines submitted as H12766.
4) A request for final approved tides was sent to COOPS on 21 May 2015. The final tide note was received on 2 June 2015, stating that preliminary zoning is accepted as the final zoning for project OPR-G380-TJ-15, H12766.

C.2 Horizontal Control

The horizontal datum for this project is North American Datum of 1983 (NAD83).

The projection used for this project is 17 North.

D. Results and Recommendations

D.1 Chart Comparison

Chart comparison procedures were followed as outlined in section 4.5 of the FPM (2014 ed) and section 8.1.4 sub section D.1 of the HSSD (2015 ed). The ENC and RNC versions of the relevant charts were reviewed to ensure that the latest USCG Local Notice to Mariners (LNM) has been applied.

Chart comparisons for survey H12766 were conducted using a selected sounding set over plot removed to a map scale of 1:30000. In CARIS BDB, the soundings were then converted into a point cloud, from which a 1m interpolated surface was generated. Contouring was run on the interpolated surface and the results are listed below.

D.1.1 Raster Charts

The following are the largest scale raster charts, which cover the survey area:

Chart	Scale	Edition	Edition Date	LNM Date	NM Date
11528	1:40000	1	07/2014	02/17/2015	02/21/2015

Table 11: Largest Scale Raster Charts

11528

Most of the soundings agree within two feet. There are small areas that are up to 7 feet shallower than charted. Other small areas are up to 6 feet deeper than charted. There is some shifting of the contours. New contours were created and are compared with the chart. A few charted soundings were not surveyed due to the set line spacing of the survey. The Hydrographer recommends updating all contours and soundings with the digital data from survey H12766.

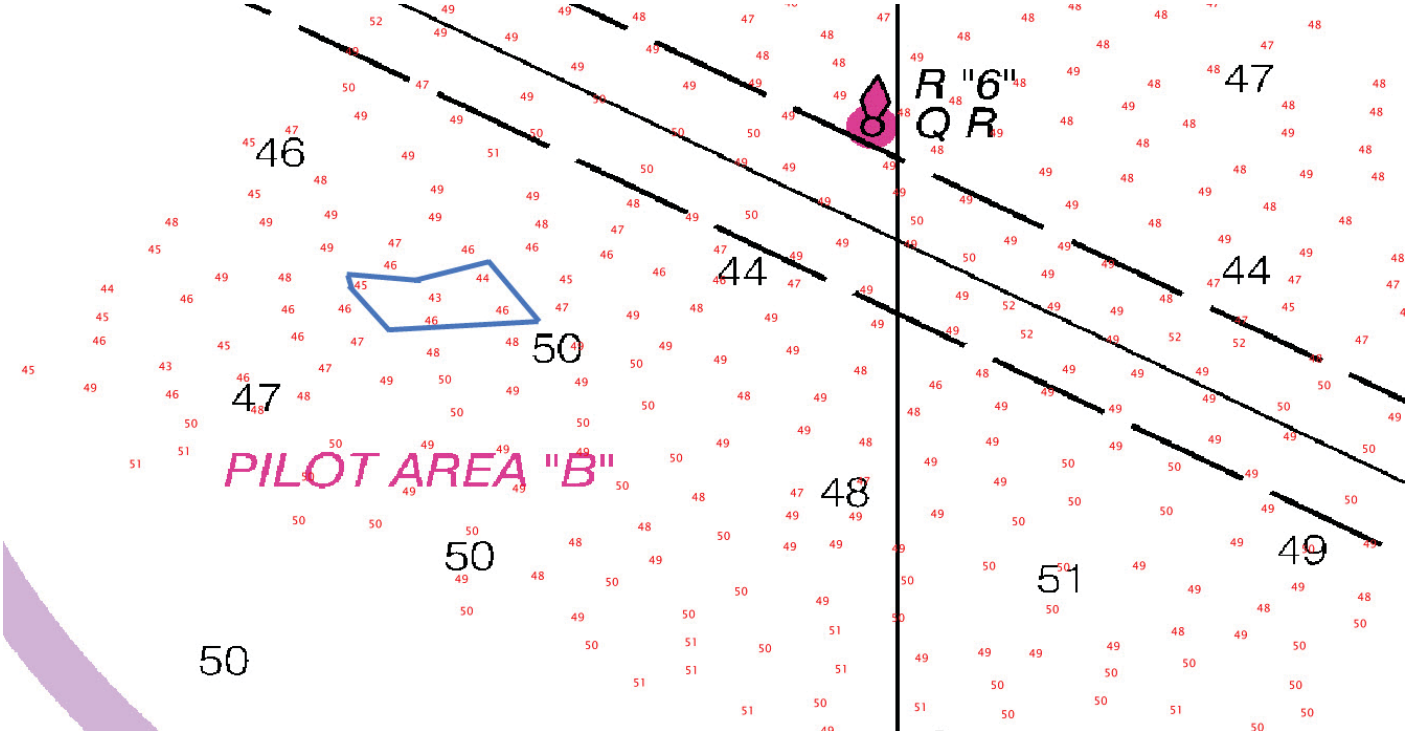


Figure 20: H12766 shallow area 1

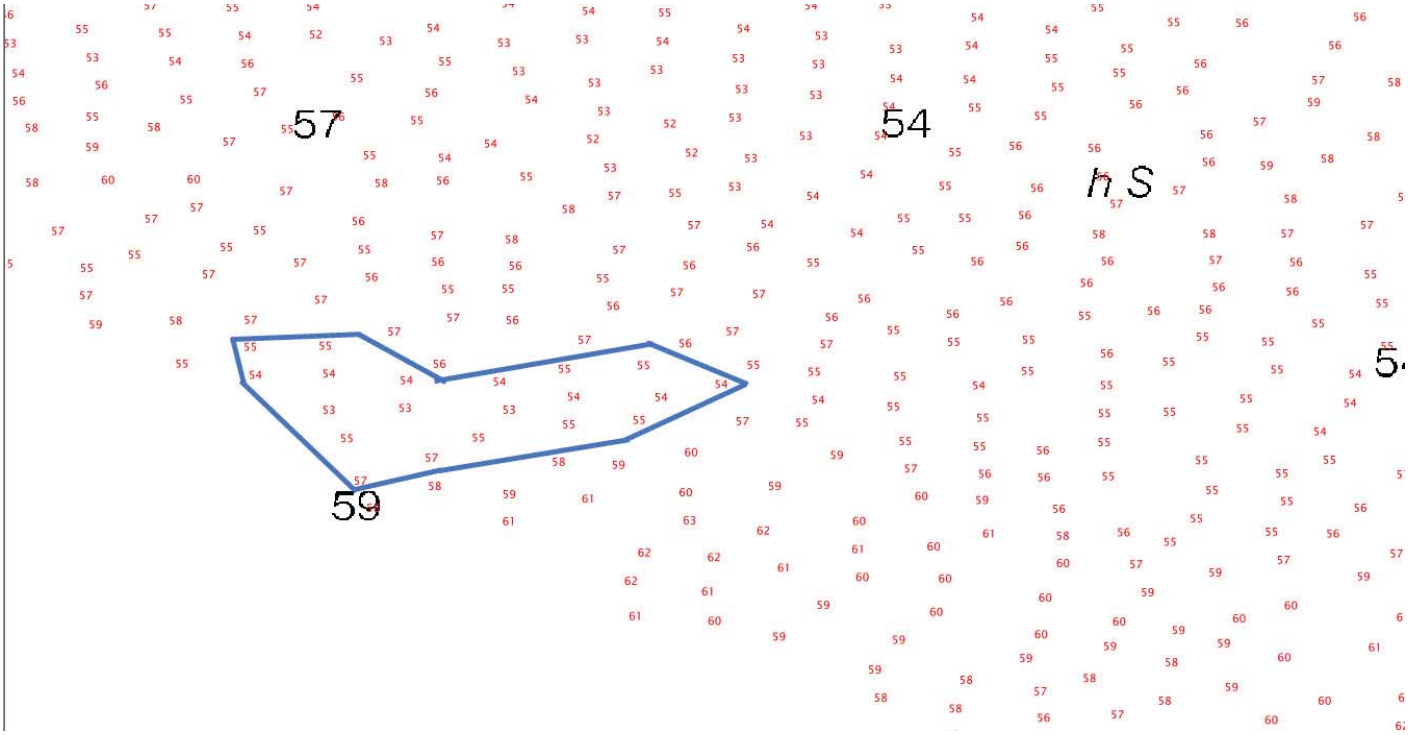


Figure 21: H12766 shallow area 2

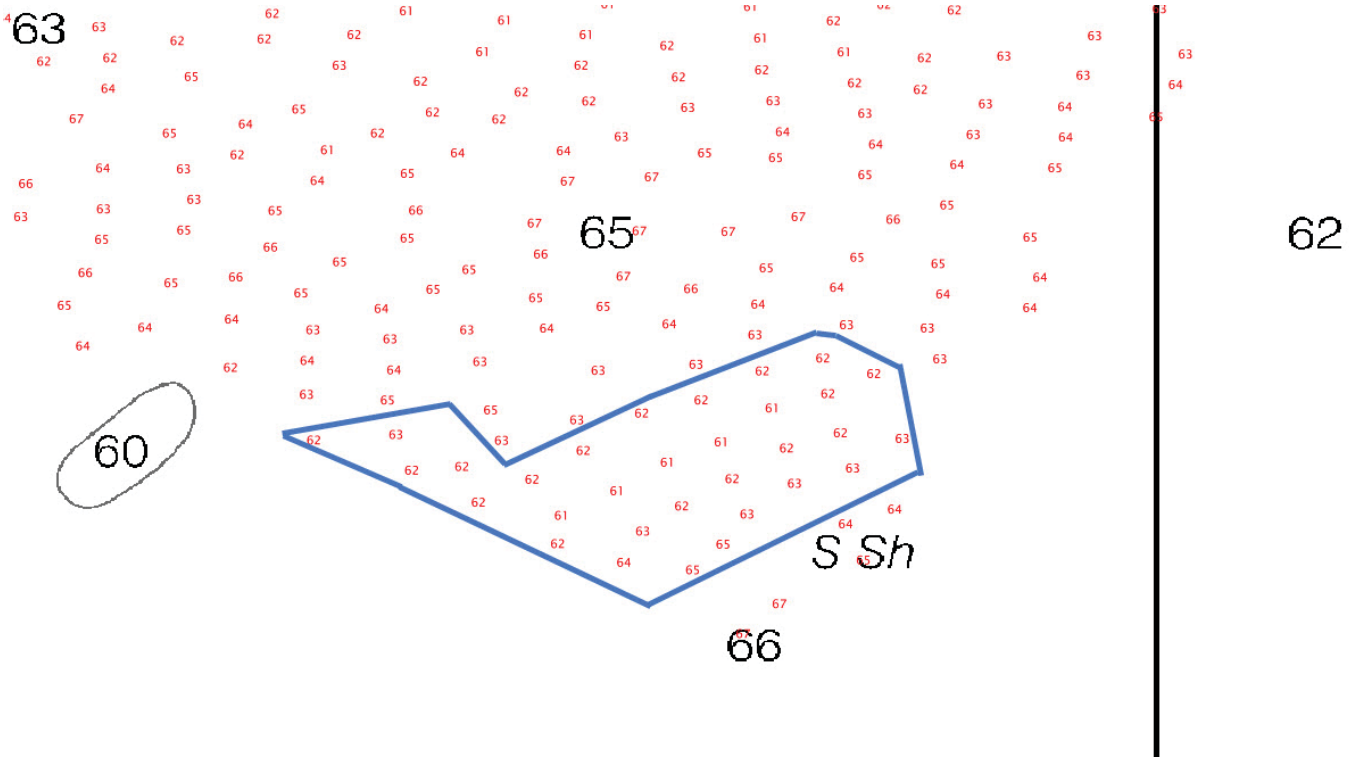


Figure 22: H12766 shallow area 3

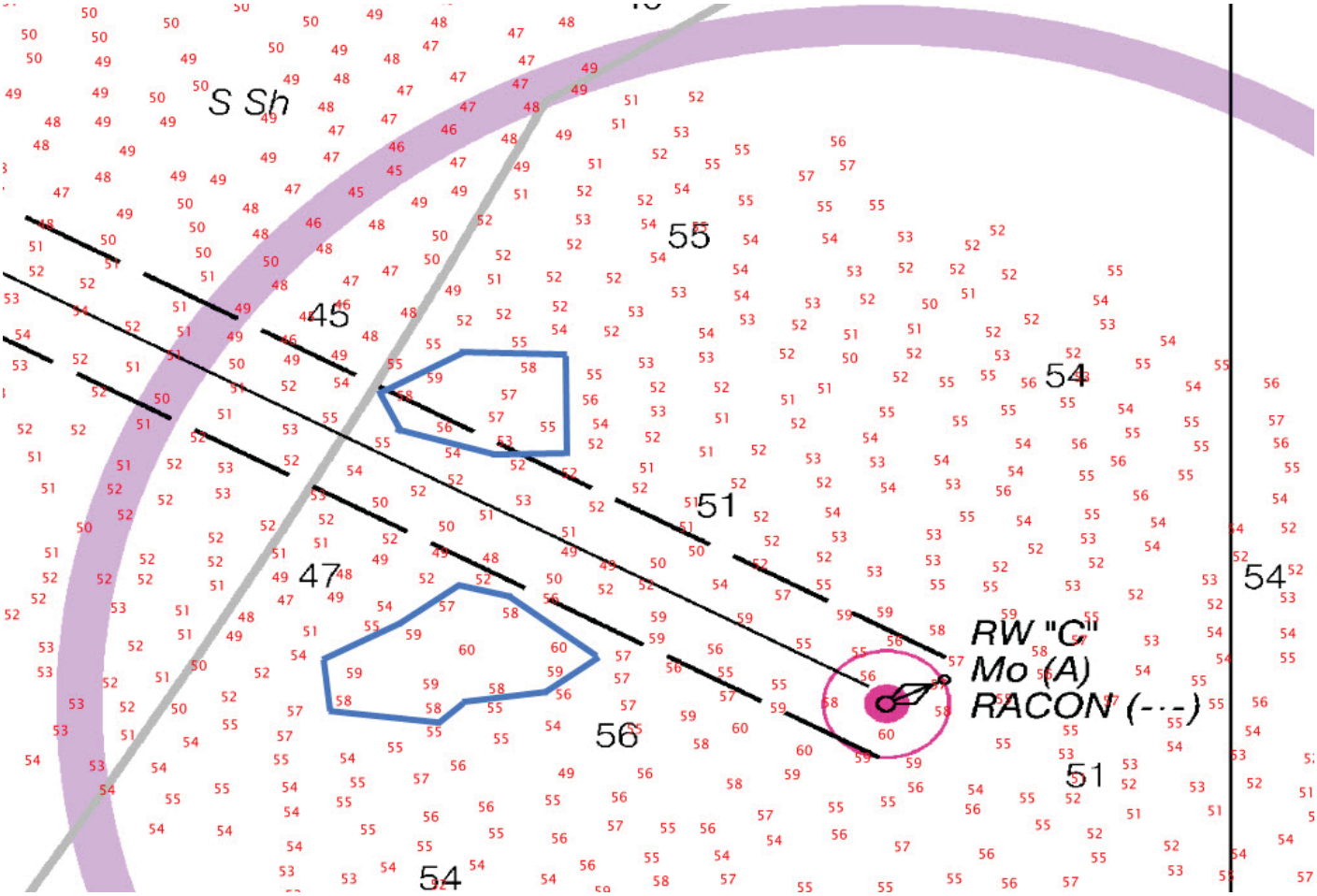


Figure 23: H12766 deep areas

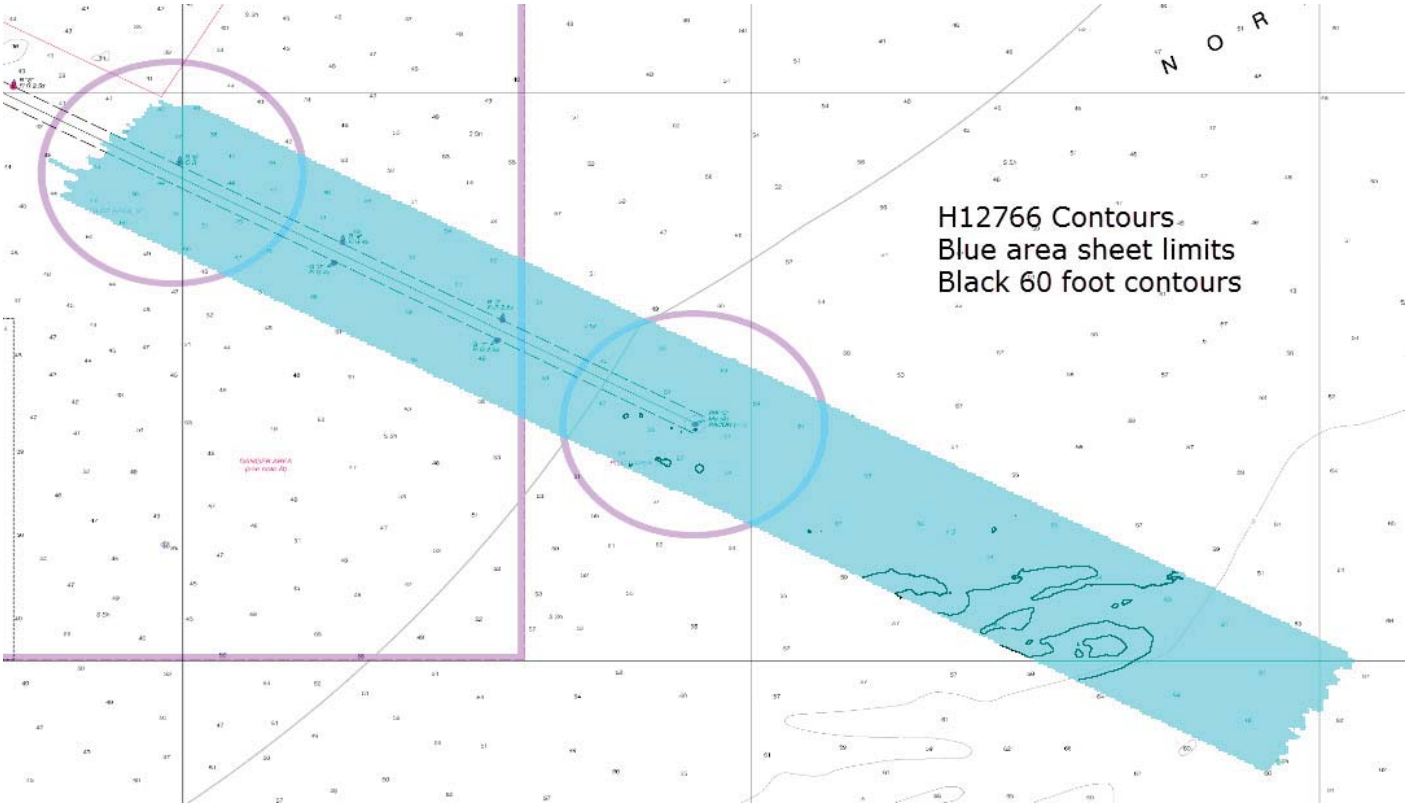


Figure 24: H12766 contours

D.1.2 Electronic Navigational Charts

The following are the largest scale ENCs, which cover the survey area:

ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US5SC25M	1:40000	1	06/17/2015	06/17/2015	NO

Table 12: Largest Scale ENCs

US5SC25M

A comparison was performed between ENC US5SC25M and survey H12766 via a difference surface between a TIN surface of ENC soundings, against a 1-meter finalized BASE surface. Analysis indicates the current survey to be generally deeper than the charted ENC soundings. Figure 26 denotes areas in which the current survey is deeper than charted soundings.

Figure 25 denotes areas in which the current survey is shoaler than charted soundings. It is recommended that survey H12766 data supersede all charted depths in the survey area. Description of specific feature investigations and shoreline data are included in the Final Feature File.

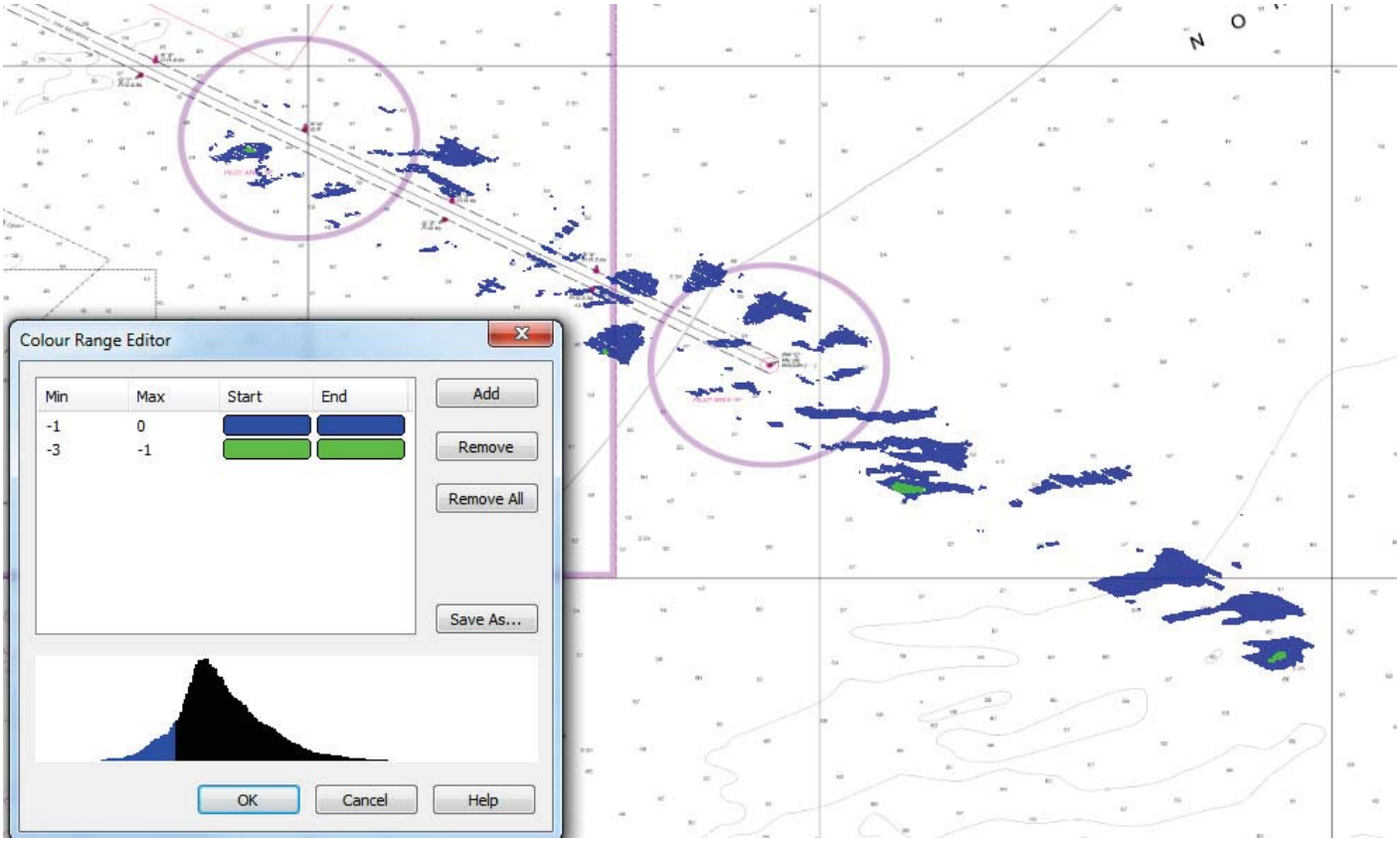


Figure 25: Shoal sounding differences observed between the ENC and H12766 are shown in blue. Depth ranges are in meters.

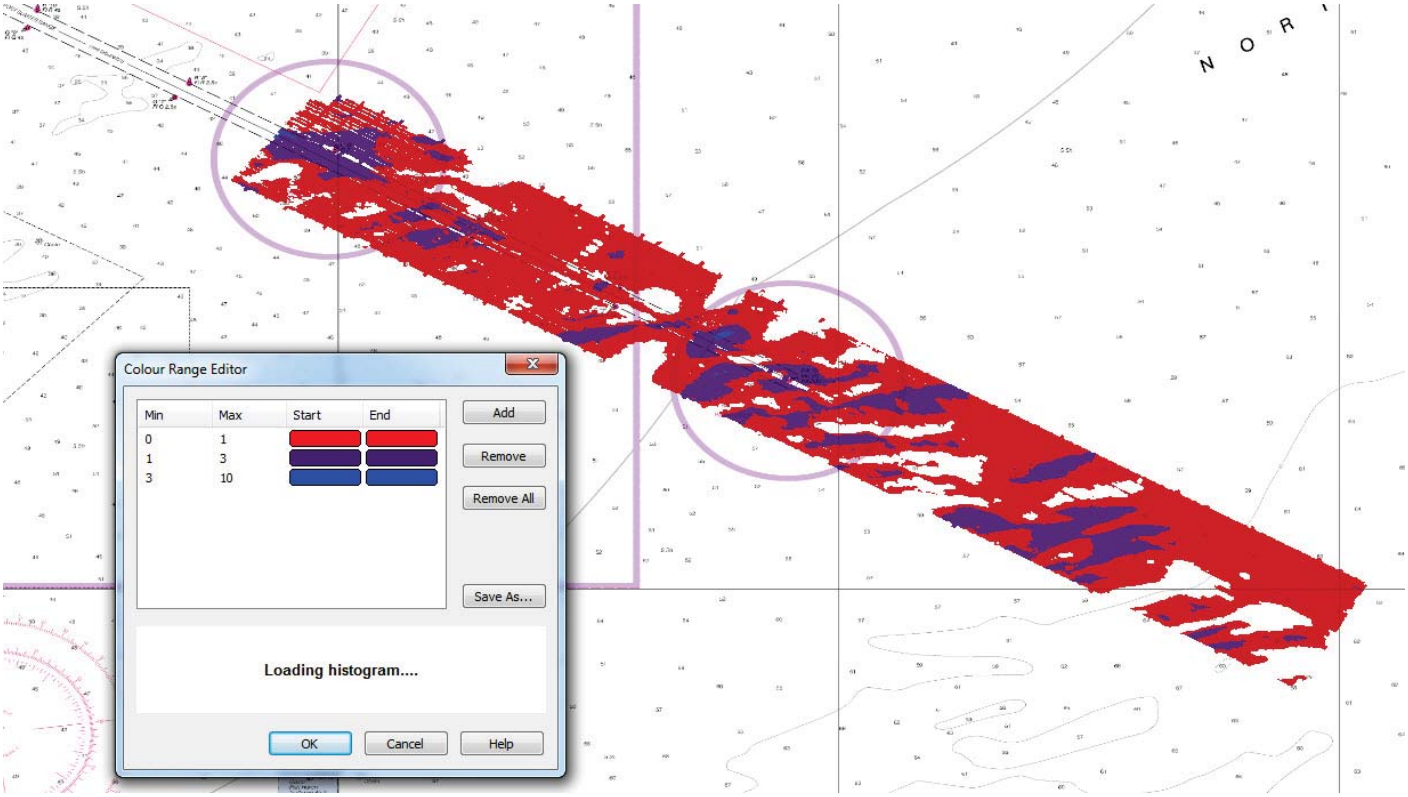


Figure 26: Deep sounding differences observed between the ENC and H12792 are shown in blue. Depth ranges are in meters

D.1.3 AWOIS Items

No AWOIS items were assigned and there were no existing AWOIS items within the survey limits.

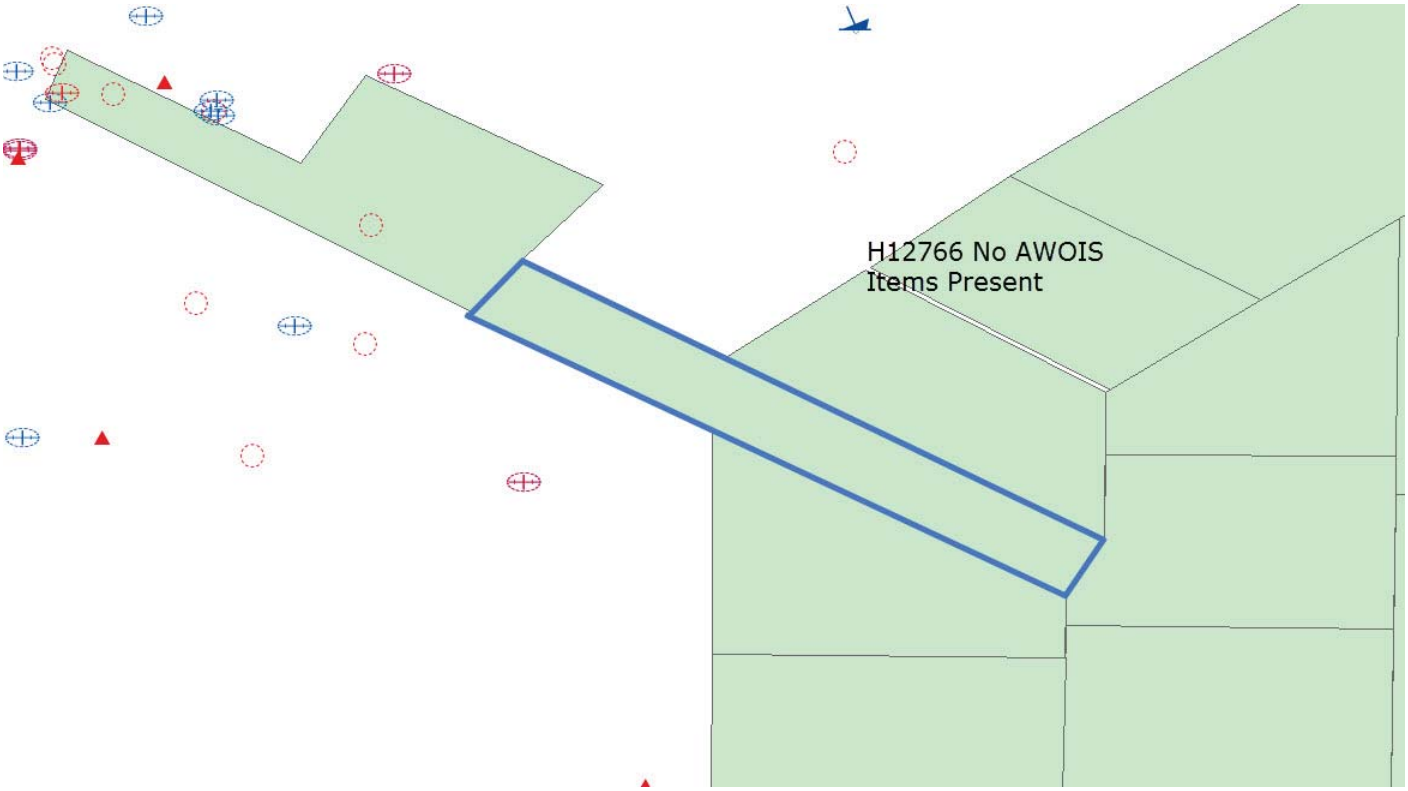


Figure 27: H12766 AWOIS

D.1.4 Maritime Boundary Points

No Maritime Boundary Points were assigned for this survey.

D.1.5 Charted Features

No charted features exist for this survey.

D.1.6 Uncharted Features

One uncharted obstruction was found. Consult the H12766_FFF.hob file for more information about the uncharted feature in the survey area.

D.1.7 Dangers to Navigation

The following DTON reports were submitted to the processing branch:

DTON Report Name	Date Submitted
H12766 DTON	2015-08-20

Table 13: DTON Reports

Danger to Navigation Reports are included in Appendix II of this report.

D.1.8 Shoal and Hazardous Features

No shoals or potentially hazardous features exist for this survey.

D.1.9 Channels

Fort Sumter Range Channel runs through the center of this survey. All of the surveyed soundings are deeper than the controlling depths of the channel. Most of the soundings in the pilot areas agree within two feet.

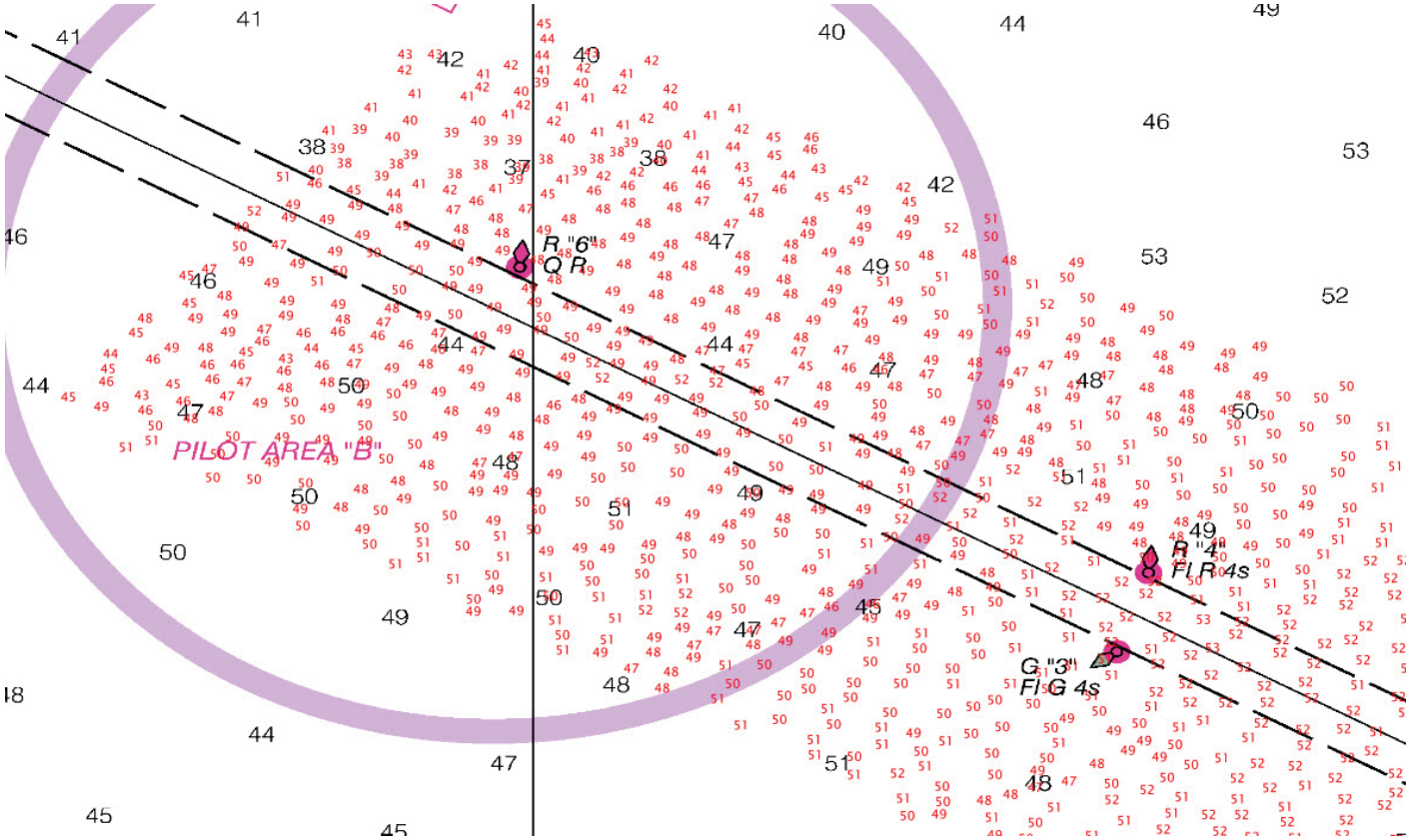


Figure 28: H12766 pilot area and channel depths example

D.1.10 Bottom Samples

No bottom samples were required for this survey.

D.2 Additional Results

D.2.1 Shoreline

Shoreline was not assigned in the Hydrographic Survey Project Instructions or Statement of Work.

D.2.2 Prior Surveys

Comparisons were made only to the chart.

D.2.3 Aids to Navigation

Six ATONs are present in the survey area. These were all found to be on station and serving their intended purpose.

D.2.4 Overhead Features

No overhead features exist for this survey.

D.2.5 Submarine Features

No submarine features exist for this survey.

D.2.6 Ferry Routes and Terminals

No ferry routes or terminals exist for this survey.

D.2.7 Platforms

No platforms exist for this survey.

D.2.8 Significant Features

No significant features exist for this survey.

D.2.9 Construction and Dredging

No present or planned construction or dredging exist within the survey limits.

D.2.10 New Survey Recommendation

No new surveys or further investigations are recommended for this area.

D.2.11 Inset Recommendation

No new insets are recommended for this area.

E. Approval Sheet

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 Descriptive 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 Manual, Field Procedures Manual, 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 Descriptive Report.

Approver Name	Approver Title	Approval Date	Signature
CAPT Shepard M. Smith, NOAA	Commanding Officer	08/27/2015	Digitally signed by SMITH.SHEPARD.M.1006778930 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=NOAA, cn=SMITH.SHEPARD.M.1006778930 Date: 2015.08.26 18:25:04 -04'00'
LT Joseph K. Carrier III, NOAA	Field Operations Officer	08/27/2015	Digitally signed by CARRIER.JOSEPH.KELSO.III.1155373152 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=NOAA, cn=CARRIER.JOSEPH.KELSO.III.1155373152 Date: 2015.08.28 20:07:21 Z
ENS Diane Perry, NOAA	Sheet Manager	08/27/2015	Digitally signed by Diane Perry, ENS Date: 2015.08.28 16:39:40 Z
ST Kimberly Glomb	Assistant Sheet Manager	08/27/2015	

F. Table of Acronyms

Acronym	Definition
AHB	Atlantic Hydrographic Branch
AST	Assistant Survey Technician
ATON	Aid to Navigation
AWOIS	Automated Wreck and Obstruction Information System
BAG	Bathymetric Attributed Grid
BASE	Bathymetry Associated with Statistical Error
CO	Commanding Officer
CO-OPS	Center for Operational Products and Services
CORS	Continually Operating Reference Staiton
CTD	Conductivity Temperature Depth
CEF	Chart Evaluation File
CSF	Composite Source File
CST	Chief Survey Technician
CUBE	Combined Uncertainty and Bathymetry Estimator
DAPR	Data Acquisition and Processing Report
DGPS	Differential Global Positioning System
DP	Detached Position
DR	Descriptive Report
DTON	Danger to Navigation
ENC	Electronic Navigational Chart
ERS	Ellipsoidal Referenced Survey
ERZT	Ellipsoidally Referenced Zoned Tides
FFF	Final Feature File
FOO	Field Operations Officer
FPM	Field Procedures Manual
GAMS	GPS Azimuth Measurement Subsystem
GC	Geographic Cell
GPS	Global Positioning System
HIPS	Hydrographic Information Processing System
HSD	Hydrographic Surveys Division
HSSD	Hydrographic Survey Specifications and Deliverables

Acronym	Definition
HSTP	Hydrographic Systems Technology Programs
HSX	Hypack Hysweep File Format
HTD	Hydrographic Surveys Technical Directive
HVCR	Horizontal and Vertical Control Report
HVF	HIPS Vessel File
IHO	International Hydrographic Organization
IMU	Inertial Motion Unit
ITRF	International Terrestrial Reference Frame
LNM	Local Notice to Mariners
LNM	Linear Nautical Miles
MCD	Marine Chart Division
MHW	Mean High Water
MLLW	Mean Lower Low Water
NAD 83	North American Datum of 1983
NAIP	National Agriculture and Imagery Program
NALL	Navigable Area Limit Line
NM	Notice to Mariners
NMEA	National Marine Electronics Association
NOAA	National Oceanic and Atmospheric Administration
NOS	National Ocean Service
NRT	Navigation Response Team
NSD	Navigation Services Division
OCS	Office of Coast Survey
OMAO	Office of Marine and Aviation Operations (NOAA)
OPS	Operations Branch
MBES	Multibeam Echosounder
NWLON	National Water Level Observation Network
PDBS	Phase Differencing Bathymetric Sonar
PHB	Pacific Hydrographic Branch
POS/MV	Position and Orientation System for Marine Vessels
PPK	Post Processed Kinematic
PPP	Precise Point Positioning
PPS	Pulse per second

Acronym	Definition
PRF	Project Reference File
PS	Physical Scientist
PST	Physical Science Technician
RNC	Raster Navigational Chart
RTK	Real Time Kinematic
SBES	Singlebeam Echosounder
SBET	Smooth Best Estimate and Trajectory
SNM	Square Nautical Miles
SSS	Side Scan Sonar
ST	Survey Technician
SVP	Sound Velocity Profiler
TCARI	Tidal Constituent And Residual Interpolation
TPE	Total Porpagated Error
TPU	Topside Processing Unit
USACE	United States Army Corps of Engineers
USCG	United Stated Coast Guard
UTM	Universal Transverse Mercator
XO	Executive Officer
ZDA	Global Positiong System timing message
ZDF	Zone Definition File

APPENDIX I

TIDES AND WATER LEVELS

UNITED STATES DEPARMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Ocean Service
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : June 2, 2015

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-G380-TJ-2015
HYDROGRAPHIC SHEET: H12766

LOCALITY: Approaches to Charleston Harbor Entrance Channel, SC
TIME PERIOD: May 03 - May 15, 2015

TIDE STATION USED: 8665530 Charleston, GA
Lat. 32° 46.9'N Long. 79° 55.4' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.648 meters

REMARKS: RECOMMENDED ZONING

Preliminary zoning is accepted as the final zoning for project OPR-G380-TJ-2015, H12766, during the time period between May 03 - May 15, 2015.

Please use the zoning file G380TJ2015CORP submitted with the project instructions for OPR-G380-TJ-2015. Zone SA138 is the applicable zone for H12766.

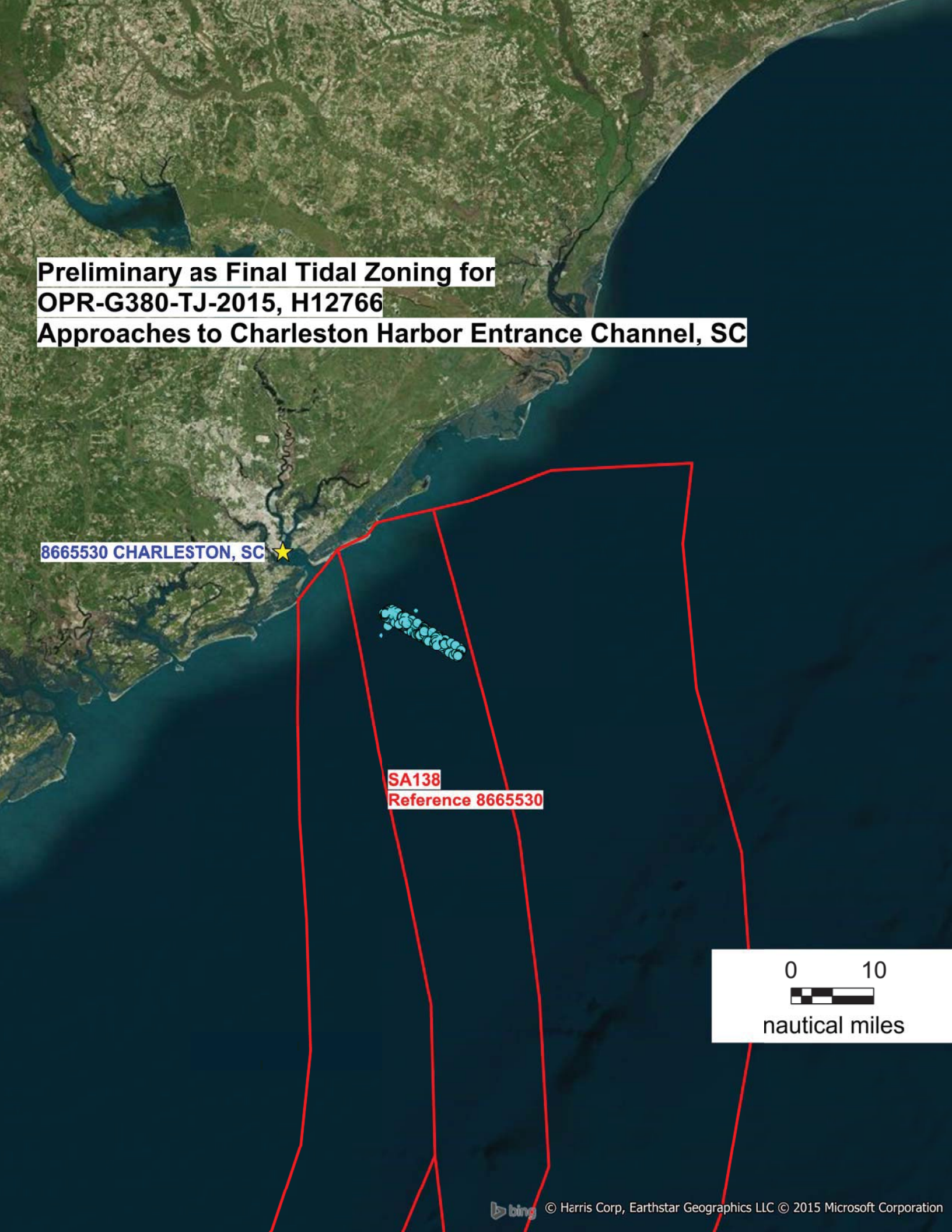
Refer to attachments for zoning information.

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).

HOVIS.GERALD.THOMAS.JR.1365860250

Digitally signed by HOVIS.GERALD.THOMAS.JR.1365860250
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=OTHER, cn=HOVIS.GERALD.THOMAS.JR.1365860250
Date: 2015.06.04 08:53:02 -04'00'

CHIEF, PRODUCTS AND SERVICES BRANCH


Preliminary as Final Tidal Zoning for
OPR-G380-TJ-2015, H12766
Approaches to Charleston Harbor Entrance Channel, SC
8665530 CHARLESTON, SC
SA138
Reference 8665530
0
10
nautical miles
© Harris Corp, Earthstar Geographics LLC © 2015 Microsoft Corporation

APPENDIX II

SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>

OPR-G380-TJ-15Combined sheets

6 messages

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov> Sun, Jun 7, 2015 at 10:34 PM
To: Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov>
Cc: "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>, "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>

Katy,

TJ would like to modify the sheet layout to match available resources and keep the momentum we have with the early sheets. Essentially, we need to combine H12771 and H12803 because we don't have an available sheet manager. It's been great to give everyone the experience with at least one sheet but TJ feels these two sheets can be combined and managed with much less overhead; one package from TJ, one DR, one SAR, one H-cell, etc... If the weather holds and equipment stays operational, we should be able to close it out by the time we leave Charleston.

Please let us know if you have any concerns. Attached is a screen grab of the proposed sheet limits.

Very respectfully,
Joe Carrier, LT/NOAA

Field Operation's Officer, NOAA Ship *Thomas Jefferson*
439 West York Street
Norfolk, VA 23510
cell: (757) 647-0187
voip: (301) 713-7782
fax: (757) 512-8295
http://www.moc.noaa.gov/tj/

Combined sheets.jpg
373K

Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov> Mon, Jun 8, 2015 at 1:47 PM
To: Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>
Cc: "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>, "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>

Joe,
I dont think that will be a problem, especially if you are confident that the combined sheet will be completely surveyed by the end of the survey. I dont want to leave a sheet partially surveyed. I will work on combining those two sheets into one sheet H12771, I will cancel the other sheet H12803. Will that work?

Katy

[Quoted text hidden]
--
Kathryn Pridgen
Physical Scientist
NOAA-HSD OPS
301-713-2722 ext 145
kathryn.pridgen@noaa.gov

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov> Mon, Jun 8, 2015 at 1:50 PM
To: Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov>
Cc: "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>, "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>

Katy,

Thank you for working with us on this one and for the quick reply. Please cancel H12803 and add the coverage area to H12771.

Joe

Very respectfully,
Joe Carrier, LT/NOAA

Field Operation's Officer, NOAA Ship *Thomas Jefferson*
439 West York Street
Norfolk, VA 23510
cell: (757) 647-0187
voip: (301) 713-7782
fax: (757) 512-8295
http://www.moc.noaa.gov/tj/

[Quoted text hidden]

Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov> Mon, Jun 8, 2015 at 1:57 PM
To: Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>
Cc: "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>, "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>

Alright, its all fixed, my sheet are now identical to your graphic.
Katy
[Quoted text hidden]

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov> Mon, Jun 8, 2015 at 3:16 PM
To: Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov>
Cc: "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>, "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>

Thanks Katy

Very respectfully,
Joe Carrier, LT/NOAA

Field Operation's Officer, NOAA Ship *Thomas Jefferson*
439 West York Street
Norfolk, VA 23510
cell: (757) 647-0187
voip: (301) 713-7782
fax: (757) 512-8295

http://www.moc.noaa.gov/tj/

[Quoted text hidden]

Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov> Mon, Jun 8, 2015 at 3:42 PM
To: Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>, Jacklyn James - NOAA Federal <jacklyn.c.james@noaa.gov>
Cc: "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>, "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>

Joe and the rest of the TJ,
I am getting ready to go to sea on the Rainier (I leave on Wednesday) for the remainder of the Charleston project. While I am at sea, Jacklyn James, will be the HSD contact for the rest of the Charleston Survey. For any further questions, comments, or issues please contact Jackie at HSD, jacklyn.c.james@noaa.gov.

Thanks!

Katy
[Quoted text hidden]

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>

Re: TJ DAPR Questions

2 messages

Russell Quintero - NOAA Federal <russell.quintero@noaa.gov> Tue, Jun 2, 2015 at 2:37 AM
To: matthew.jaskoski@noaa.gov
Cc: _OMAO MOA OPS Thomas Jefferson <OPS.Thomas.Jefferson@noaa.gov>, "LTJG Matthew Forrest, NOAA" <Matthew.R.Forrest@noaa.gov>

Pulling Joe and Matt into the conversation.

On 5/30/15, Russell Quintero - NOAA Federal <russell.quintero@noaa.gov> wrote:
> Jasko,
>
> I'm helping TJ with their DAPR for this year while I'm out here
> augmenting. We wanted to get AHB's feedback on a few things we are
> doing a little differently.
>
> The xmlDAPR is certainly helpful, but there are parts of the
> implementation that create far more work than is necessary, and even
> deviate from the HSSD.
>
> The TJ DAPR is undergoing final review, but is essentially done
> already. To facilitate the speed of composition, we have deviated from
> the xmlDAPR while continuing to adhere to the HSSD. The specific
> changes are:
>
> 1) We are not tracking interchangeable hardware. We obviously track
> the serial numbers of all components of the sensor (Tpu and fish for a
> SSS for instance), but anything that can be swapped out at will is not
> tracked. Processing computers that are freely interchangeable with no
> effect on the data are not tracked in the DAPR. Already hardware like
> monitors and external hard drives that are deemed to have no effect
> are not tracked, we are just shifting that line slightly further.
>
> 2) The xmlDAPR requires that you transcribe out of the HVF all of the
> values used in the survey, for every sensor and vessel. It also
> requires transcribing the output of things like the dynamic draft and
> patch test. In contrast, the HSSD actually specify that these should
> be in a separate appendix.
>
> Doing these as a separate appendix is actually far, far faster on the
> ship, far easier, and less prone to error. The Vessel Editor in Caris
> can generate a report that contains all of the relevant info with only
> a few button clicks instead of manually transferring every single
> value.
>
> As such, we complied with the HSSD instead of the xmlDAPR schema. To
> make that work, we occasionally had to mark "Not Applied" to some
> correctors, and then add an "Additional Discussion" block immediately
> following that explained how we did those correctors and referenced
> the appropriate appendix.
>
>
> While we are confident that we are in compliance with the HSSD, we
> wanted to make sure the Branch wouldn't have any opposition to this

> approach.
>
> V/r,
> Russ
>
> --
> Lieutenant Russell Quintero, NOAA
> DoD Liaison, Office of Coast Survey
> 1315 East-West Highway
> SSMC3 - 6110
> Silver Spring, MD 20910
>
> 301-713-2780x152 Office
> 970-481-2030 Mobile
>

--
Lieutenant Russell Quintero, NOAA
DoD Liaison, Office of Coast Survey
1315 East-West Highway
SSMC3 - 6110
Silver Spring, MD 20910

301-713-2780x152 Office
970-481-2030 Mobile

Matthew Jaskoski - NOAA Federal <matthew.jaskoski@noaa.gov> Tue, Jun 2, 2015 at 11:53 AM
To: Russell Quintero - NOAA Federal <russell.quintero@noaa.gov>
Cc: _OMAO MOA OPS Thomas Jefferson <OPS.Thomas.Jefferson@noaa.gov>, "LTJG Matthew Forrest, NOAA" <Matthew.R.Forrest@noaa.gov>

Hey Russ,
I don't have a problem if you all want to generate a *.pdf DAPR in the traditional manner as opposed to using the xml (as long as it meets the requirements of HSSD, of course).

I believe the xmlDAPR is in a phase of substantial re-write and I would highly recommend you email the current deficiencies to the xmlDR/DAPR folks for inclusion in the re-scheming discussion. My understanding is that in the new version the vessel offsets and inventory items will be automatically populate from the HVF and Hybase respectively, so that may be part of the different schema/stylesheet architecture.

thanks for the heads-up,
Jasko

Lieutenant Commander Matthew Jaskoski, NOAA
Chief, Atlantic Hydrographic Branch
439 W. York St.
Norfolk, VA 23510
Office: 757-441-6746 x200
Cell: 757-647-3356
[Quoted text hidden]

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>

OPR-G380-TJ-15: Horcon Report

5 messages

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov> Sun, Jun 7, 2015 at 8:55 PM
To: Matthew Jaskoski - NOAA Federal <matthew.jaskoski@noaa.gov>
Cc: Castle Parker - NOAA Federal <castle.e.parker@noaa.gov>, "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>, "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>

LCDR Jaskoski,

Historically, TJ hasn't managed tide or base stations during survey operations and therefore didn't submit a Horcon report with surveys. Using Fugro's MarineStar we have been able to stay out of the tide guage and base station installation business. Do you foresee a need for TJ to submit a Horcon report with these Charleston surveys using MarineStar?

Very respectfully,
Joe Carrier, LT/NOAA

Field Operation's Officer, NOAA Ship *Thomas Jefferson*
439 West York Street
Norfolk, VA 23510
cell: (757) 647-0187
voip: (301) 713-7782
fax: (757) 512-8295
http://www.moc.noaa.gov/tj/

Matthew Jaskoski - NOAA Federal <matthew.jaskoski@noaa.gov> Mon, Jun 8, 2015 at 1:09 PM
To: Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>
Cc: Castle Parker - NOAA Federal <castle.e.parker@noaa.gov>, "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>, "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>

Hey Joe,
Assuming the ship isn't generating another report about the MarineStar integration and ERS on the project (that will accompany the data to NGDC) - I think it would be a good idea to submit an HVCR since it is a project-wide element that represents a significant departure from our past-practices. I think you could use Tyanne's report on MarineStar as the bulk of your text for your HVCR. All you really need is some background information on how the MarineStar Systems works, and a brief description of the methods, adequacy of positioning, and any confidence checks that were done - to meet the intent of the HVCR. The intent is to document the positioning activities that took place as part of the project.

hope this helps,
regards,
Jasko

Lieutenant Commander Matthew Jaskoski, NOAA
Chief, Atlantic Hydrographic Branch
439 W. York St.
Norfolk, VA 23510
Office: 757-441-6746 x200
Cell: 757-647-3356
[Quoted text hidden]

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov> Mon, Jun 8, 2015 at 1:48 PM
To: Matthew Jaskoski - NOAA Federal <matthew.jaskoski@noaa.gov>
Cc: Castle Parker - NOAA Federal <castle.e.parker@noaa.gov>, "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>, "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>

Jasko,

Thanks for the quick reply. Since TJ has never installed tide gauges or base stations for projects in the past and I don't have any examples on our network to work from. If you have one you can share like the ERS survey from the Hassler I'd really like to take a look and see how they did their report.

Since I'm going to be using Tyanne's report as a reference, do you mind if I ask for her help on revising the HVCR to make sure it's accurate?

Regards,
Joe

Very respectfully,
Joe Carrier, LT/NOAA

Field Operation's Officer, NOAA Ship *Thomas Jefferson*
439 West York Street
Norfolk, VA 23510
cell: (757) 647-0187
voip: (301) 713-7782
fax: (757) 512-8295
http://www.moc.noaa.gov/tj/

[Quoted text hidden]

Matthew Jaskoski - NOAA Federal <matthew.jaskoski@noaa.gov> Mon, Jun 8, 2015 at 3:40 PM
To: Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>
Cc: Castle Parker - NOAA Federal <castle.e.parker@noaa.gov>, "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>, "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>

hey Joe,
I think this got kicked back to me because of the attached DAPR pdf file sizes. did you get the earlier email? note there is a change in my recommendation regarding the HVCR

Jasko

Lieutenant Commander Matthew Jaskoski, NOAA
Chief, Atlantic Hydrographic Branch
439 W. York St.
Norfolk, VA 23510
Office: 757-441-6746 x200
Cell: 757-647-3356

On Mon, Jun 8, 2015 at 11:35 AM, Matthew Jaskoski - NOAA Federal <matthew.jaskoski@noaa.gov> wrote:

> Hey Joe,
> I'm going to reverse course on my earlier recommendation that you include an HVCR. It looks like FH did not do an HVCR for the survey that they completed to the elipse, I believe they detailed everything in the DR/DAPR. This seems like a legitimate way to proceed, and considering you all did not establish any actual HorVerCon equipment the generation of a HVCR might be an unnecessary encumbrance on the ship. You could/should detail the MarineStar info in the DAPR - particularly sections A.4, B.1.4, and probably C.4-5.

from AHB's view we are content if you want to skip the HVCR and add the information about MarineStar in the DAPR (with any project specific deviations from the DAPR outlined in the appropriate DR).

Jasko

Lieutenant Commander Matthew Jaskoski, NOAA
Chief, Atlantic Hydrographic Branch
439 W. York St.
Norfolk, VA 23510
Office: 757-441-6746 x200
Cell: 757-647-3356

[Quoted text hidden]

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov> Mon, Jun 8, 2015 at 4:49 PM
To: Matthew Jaskoski - NOAA Federal <matthew.jaskoski@noaa.gov>
Cc: Castle Parker - NOAA Federal <castle.e.parker@noaa.gov>, "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>, "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>

Jasko,

Thanks for the update and thanks for reconsidering the HVCR!

Very respectfully,
Joe Carrier, LT/NOAA

Field Operation's Officer, NOAA Ship *Thomas Jefferson*
439 West York Street
Norfolk, VA 23510
cell: (757) 647-0187
voip: (301) 713-7782
fax: (757) 512-8295
http://www.moc.noaa.gov/tj/

[Quoted text hidden]

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>

OPR-G380: Soundings and Set line spacing

5 messages

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov> Sat, May 30, 2015 at 11:43 PM
To: Matthew Jaskoski - NOAA Federal <matthew.jaskoski@noaa.gov>
Cc: "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>

Jasko,

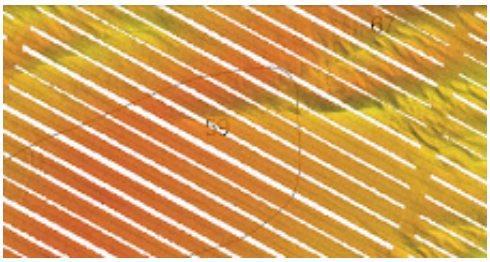
When sorting through some of the Charleston surveys where TJ is using set line spacing with concurrent 200% MB to achieve object detection. We noticed that there were a few soundings per sheet that land between the MB lines.

Section 5.2.2.3 of the 2014 HSSD says "All charted depths falling between sounding lines and shallower than adjacent surveyed soundings shall be verified or disproved."

In TJ's case, most of these soundings fall within very flat bottom areas and are 1-2 ft different on either side of the soundings (see attached). At such slight differences, it would be hard to say if it were within our estimated uncertainty or just a shoal sounding. Interested to hear what AHB's thoughts are and please don't hesitate to ask if you would like to discuss further.

Very respectfully,
Joe Carrier, LT/NOAA

Field Operation's Officer, NOAA Ship *Thomas Jefferson*
439 West York Street
Norfolk, VA 23510
cell: (757) 647-0187
voip: (301) 713-7782
fax: (757) 512-8295
http://www.moc.noaa.gov/tj/



59foot_32_33_48n_79_32_00W_sounding.jpg
470K

Matthew Jaskoski - NOAA Federal <matthew.jaskoski@noaa.gov> Mon, Jun 1, 2015 at 6:30 PM
To: Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>, Edward Owens - NOAA Federal <edward.owens@noaa.gov>
Cc: "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>

Hey Joe (I'm looping in Ed here for carto-perspective),
I think by the letter of the law the centroid should be ensonified to remove the charted shoal sounding with a deeper one. However, as you point out 1-2 ft is right about the TVU as well as right around the charted depth vertical uncertainty for a CATZOC A1 area as depicted on the final product.

Considering their has been little change to the seafloor, and the new depths are w/in 1-2ft of the charted depths it does seem like a waste of resources to slit these lines simply to "paint the number" I don't think we will have a

problem superseding soundings in the type of situation you described - Ed what do you think?

Jasko

Lieutenant Commander Matthew Jaskoski, NOAA
Chief, Atlantic Hydrographic Branch
439 W. York St.
Norfolk, VA 23510
Office: 757-441-6746 x200
Cell: 757-647-3356
[Quoted text hidden]

CAPT Shepard Smith <shep.smith@noaa.gov> Mon, Jun 1, 2015 at 7:04 PM
To: Matthew Jaskoski - NOAA Federal <matthew.jaskoski@noaa.gov>
Cc: Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>, Edward Owens - NOAA Federal <edward.owens@noaa.gov>, "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>

Also, there is no indication of anything unusual in the sidescan, and no indication of unresolved shoaling (gradient of seafloor is level on both sides of the gap).

CAPT Shepard M. Smith, NOAA

[Quoted text hidden]

Edward Owens - NOAA Federal <edward.owens@noaa.gov> Tue, Jun 2, 2015 at 3:46 PM
To: CAPT Shepard Smith <shep.smith@noaa.gov>
Cc: Matthew Jaskoski - NOAA Federal <matthew.jaskoski@noaa.gov>, Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>, "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>

CAPT, et al,

Didn't seem to get any of the graphics described in the thread...? No matter, think I get the gist. Based on Shep's last statement, that recount is the best practice we apply for shoal disprovals in set line spacing datasets. If there is an indication of shoaling or indication thereof in the SS we would question the ability to disprove that shoal sounding and apply logic of the magnitude of depth variance and nav. signif. between the surveyed and charted depths to decide the charting action. If no shoaling is indicated by those same means the shoaler charted sounding is superseded by the survey data. If this occurs on the edge of the survey (outermost line) we would typically resort to retaining the shoaler charted value. Does that hit all the notes?

Regards, Edward

[Quoted text hidden]

Shep Smith - NOAA Federal <shep.smith@noaa.gov> Tue, Jun 2, 2015 at 4:29 PM
To: Edward Owens - NOAA Federal <edward.owens@noaa.gov>
Cc: Matthew Jaskoski - NOAA Federal <matthew.jaskoski@noaa.gov>, Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>, "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>

Ed,

Thanks, I think that answers the question, and I think is a reasonable approach. We will use this guidance in choosing when to split.

Best Regards,

Shep

CAPT Shepard M. Smith, NOAA
Commanding Officer, NOAA Ship Thomas Jefferson
National Oceanic and Atmospheric Administration

[Quoted text hidden]

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>

Final Tides Request?

3 messages

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov> Mon, Jun 8, 2015 at 6:43 PM
To: Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov>

Katy,

We found two lines on a sheet we closed last week that we should rerun however the tides request has already been submitted. Since these surveys are to the Ellipse and we have only been using tides as a reference check against ERS, do you need us to resubmit a final tides note on the sheet in question?

Thanks in advance for your help.

Very respectfully,
Joe Carrier, LT/NOAA

Field Operation's Officer, NOAA Ship *Thomas Jefferson*
439 West York Street
Norfolk, VA 23510
cell: (757) 647-0187
voip: (301) 713-7782
fax: (757) 512-8295
http://www.moc.noaa.gov/tj/

Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov> Mon, Jun 8, 2015 at 7:07 PM
To: Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>, Michael Gonsalves - NOAA Federal <michael.gonsalves@noaa.gov>, Corey Allen - NOAA Federal <corey.allen@noaa.gov>

You do not need to resubmit a final tides note on that sheet, just re-run the lines.

Katy
[Quoted text hidden]
--
Kathryn Pridgen
Physical Scientist
NOAA-HSD OPS
301-713-2722 ext 145
kathryn.pridgen@noaa.gov

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov> Tue, Jun 9, 2015 at 3:58 AM
To: Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov>
Cc: Michael Gonsalves - NOAA Federal <michael.gonsalves@noaa.gov>, Corey Allen - NOAA Federal <corey.allen@noaa.gov>

Thanks Katy

Very respectfully,
Joe Carrier, LT/NOAA

Field Operation's Officer, NOAA Ship *Thomas Jefferson*
439 West York Street
Norfolk, VA 23510
cell: (757) 647-0187

voip: (301) 713-7782
fax: (757) 512-8295
http://www.moc.noaa.gov/tj/

[Quoted text hidden]

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>

OPR-G380-TJ-15

2 messages

Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov> Sun, Jun 7, 2015 at 11:06 PM
To: Michael Gonsalves - NOAA Federal <michael.gonsalves@noaa.gov>
Cc: Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov>, "CO.Thomas Jefferson - NOAA Service Account" <co.thomas.jefferson@noaa.gov>, "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>

LCDR Gonsalves,

The project instructions require TJ to use HSSD 2014. TJ is requesting to use the 2015 HSSD for OPR-G380-TJ-15.

Please advise if HSD has any concerns.

Very respectfully,
Joe Carrier, LT/NOAA

Field Operation's Officer, NOAA Ship *Thomas Jefferson*
439 West York Street
Norfolk, VA 23510
cell: (757) 647-0187
voip: (301) 713-7782
fax: (757) 512-8295
http://www.moc.noaa.gov/tj/

Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov> Mon, Jun 8, 2015 at 2:00 PM
To: Joseph Carrier - NOAA Federal <joseph.carrier@noaa.gov>

Joe,
HSD has no issues with using HSSD 2015 instead of HSSD 2014.

Katy Pridgen
[Quoted text hidden]
--
Kathryn Pridgen
Physical Scientist
NOAA-HSD OPS
301-713-2722 ext 145
kathryn.pridgen@noaa.gov

APPROVAL PAGE

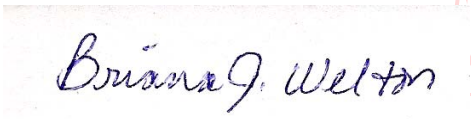
H12766

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

- H12766_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12766_H12771_H12779_H12794_GeoImage.pdf

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.



Digitally signed by
WELTON.BRIANA.JANE.1267667531
DN: c=US, o=U.S. Government, ou=DoD, ou=PKI,
ou=NOAA, cn=WELTON.BRIANA.JANE.1267667531
Date: 2016.08.31 16:33:30 -04'00'

Approved:_____

Lieutenant Commander Brianna Welton, NOAA
Chief, Atlantic Hydrographic Branch