

H12978

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

DESCRIPTIVE REPORT

Type of Survey: Navigable Area

Registry Number: H12978

LOCALITY

State(s): Florida

General Locality: Jacksonville, FL

Sub-locality: 17 NM due East of Nassau Sound

2017

CHIEF OF PARTY
Matthew Jaskoski, LCDR/NOAA

LIBRARY & ARCHIVES

Date:

HYDROGRAPHIC TITLE SHEET

H12978

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: **Jacksonville, FL**

Sub-Locality: **17 NM due East of Nassau Sound**

Scale: **40000**

Dates of Survey: **10/25/2017 to 11/01/2017**

Instructions Dated: **01/09/2017**

Project Number: **OPR-G343-FH-17**

Field Unit: **NOAA Ship *Ferdinand R. Hassler***

Chief of Party: **Matthew Jaskoski, LCDR/NOAA**

Soundings by: **Multibeam Echo Sounder**

Imagery by: **Multibeam Echo Sounder Backscatter**

Verification by: **Atlantic 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.

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Descriptive Report to Accompany Survey H12978

Project: OPR-G343-FH-17

Locality: Jacksonville, FL

Sublocality: 17 NM due East of Nassau Sound

Scale: 1:40000

October 2017 - November 2017

NOAA Ship *Ferdinand R. Hassler*

Chief of Party: Matthew Jaskoski, LCDR/NOAA

A. Area Surveyed

Survey H12978 was conducted 17NM due East of Nassau Sound in Jacksonville, FL north of the recommended two-way routes for use by vessels traveling into or out of Jacksonville and Fernandina Beach.

A.1 Survey Limits

Data were acquired within the following survey limits:

Northwest Limit	Southeast Limit
30° 30' 26.98" N 81° 17' 45.08" W	30° 24' 27.07" N 81° 6' 0.49" W

Table 1: Survey Limits

The survey limits for H12978 were not accomplished due to the lack of time remaining in the field season. The 13x5 km area on the north side of H12978 is planned to be surveyed during the Fall of 2018.

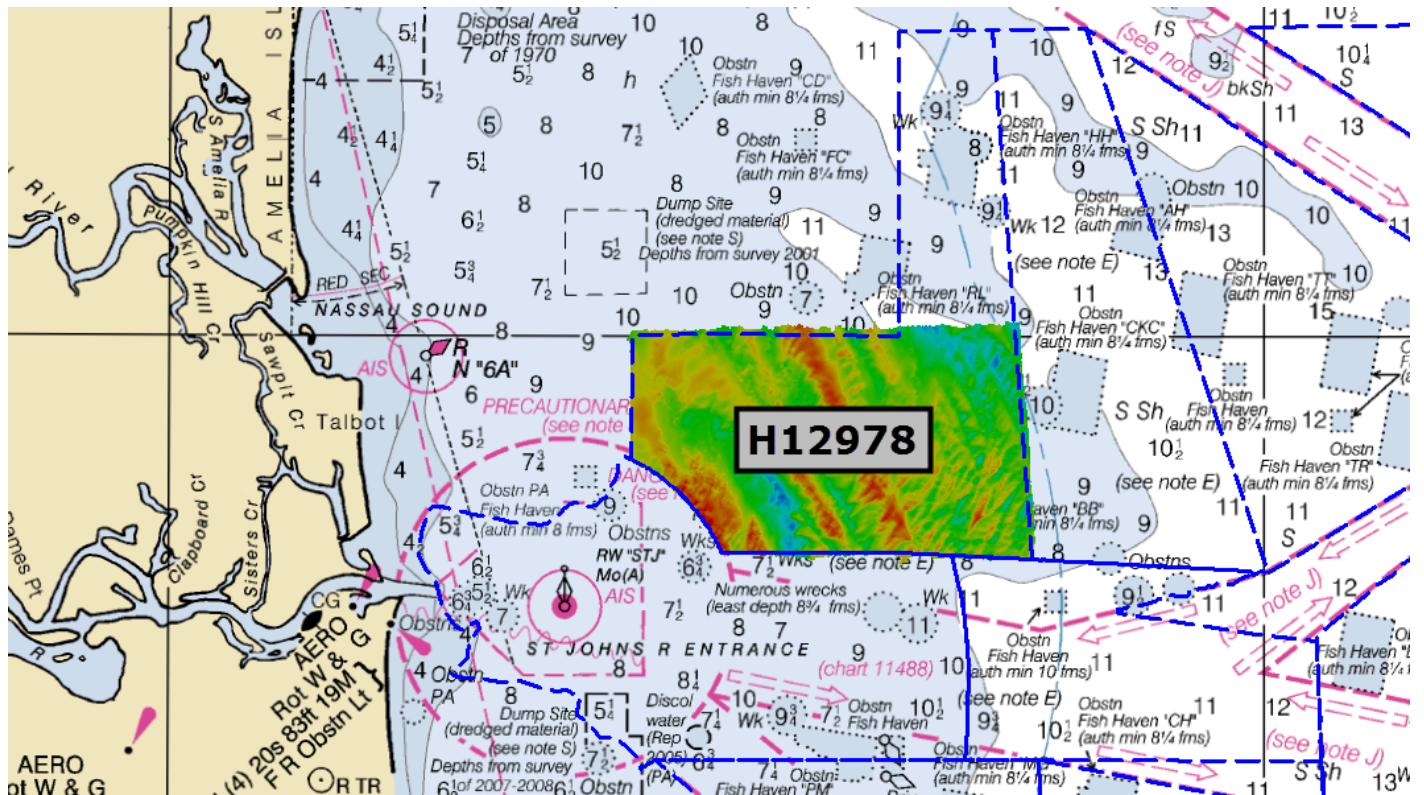


Figure 1: H12978 Survey Limits

A.2 Survey Purpose

The purpose of this project is to provide contemporary surveys to update National Ocean Service (NOS) nautical charting products. The Port of Jacksonville has seen a drastic increase in container volume and will be adding a JAXPORT Cruise Terminal for Carnival Cruises. The harbor and channel entrance is in need of updated mapping to meet the needs of larger ships transiting into the Port of Jacksonville. The charts would aid in continuing to support larger, fully loaded Neo-Panamax ships transiting to the Port of Jacksonville.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

A.4 Survey Coverage

The following table lists the coverage requirements for this survey as assigned in the project instructions:

Water Depth	Coverage Required
All waters in survey area	Complete Coverage (refer to HSSD Section 5.2.2.3)
All waters in survey area	All MBES acquisition requires backscatter acquisition (refer to HSSD Section 6.2)

Table 2: Survey Coverage

One hundred twenty eight (128) holidays occur within sheet H12978. All holidays were due to lack of overlap and were on average 10-30m long. No holidays exist over the tops of potentially significant features.

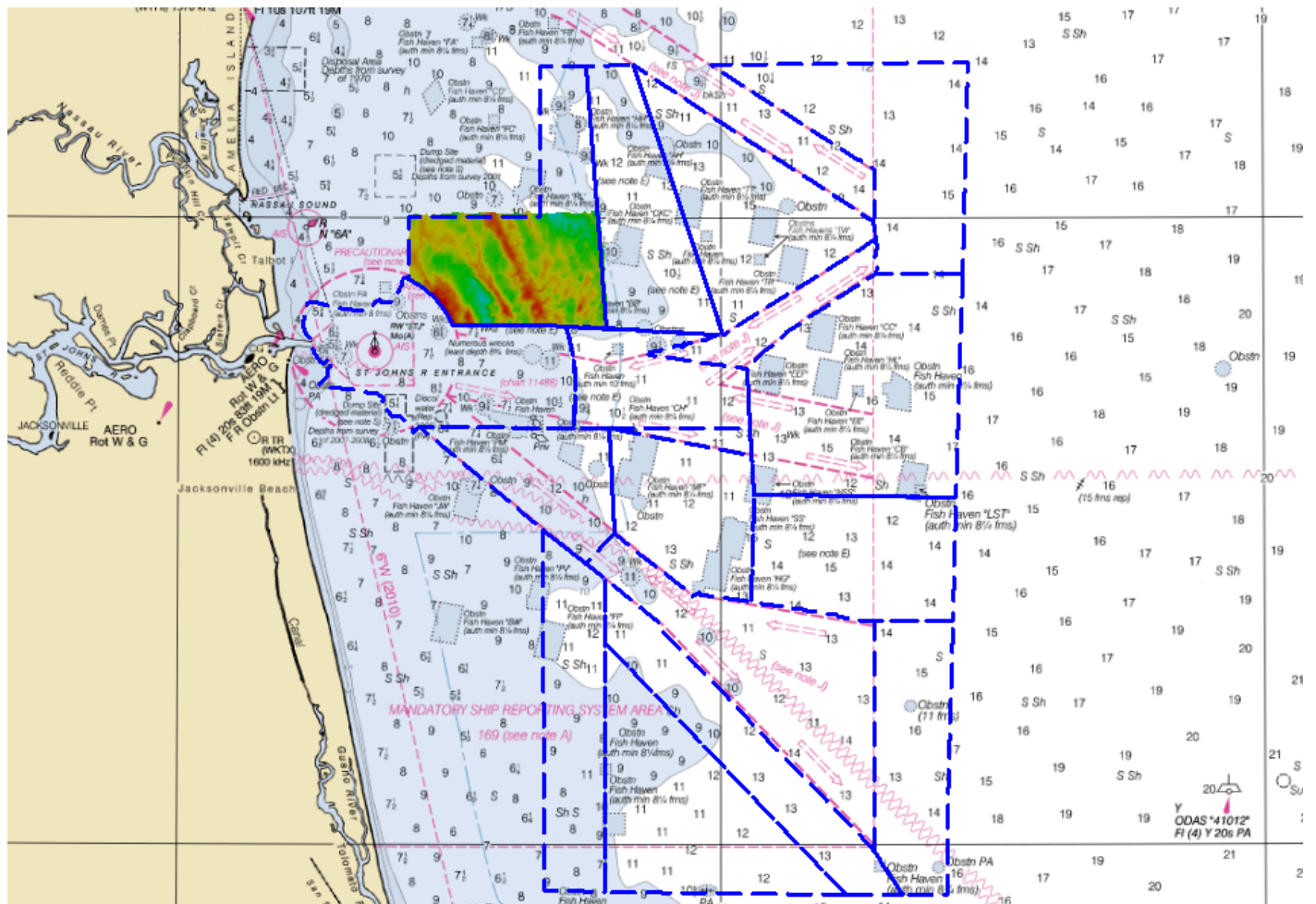


Figure 2: H12978 Coverage Graphic

A.6 Survey Statistics

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

	HULL ID	<i>S-250</i>	<i>Total</i>
LNM	SBES Mainscheme	0	0
	MBES Mainscheme	1061.1	1061.1
	Lidar Mainscheme	0	0
	SSS Mainscheme	0	0
	SBES/SSS Mainscheme	0	0
	MBES/SSS Mainscheme	0	0
	SBES/MBES Crosslines	76.6	76.6
	Lidar Crosslines	0	0
Number of Bottom Samples			+ 0
Number Maritime Boundary Points Investigated			0
Number of DPs			0
Number of Items Investigated by Dive Ops			0
Total SNM			48.35

Table 3: Hydrographic Survey Statistics

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

Survey Dates	Day of the Year
10/25/2017	298
10/26/2017	299

Survey Dates	Day of the Year
10/27/2017	300
10/28/2017	301
10/29/2017	302
10/30/2017	303
10/31/2017	304
11/01/2017	305

Table 4: Dates of Hydrography

Mainscheme survey lines were run with a dual-head multibeam echo sounder. Linear nautical miles were calculated by using the starboard head only.

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	<i>S250</i>
LOA	37.7 meters
Draft	3.77 meters

Table 5: Vessels Used

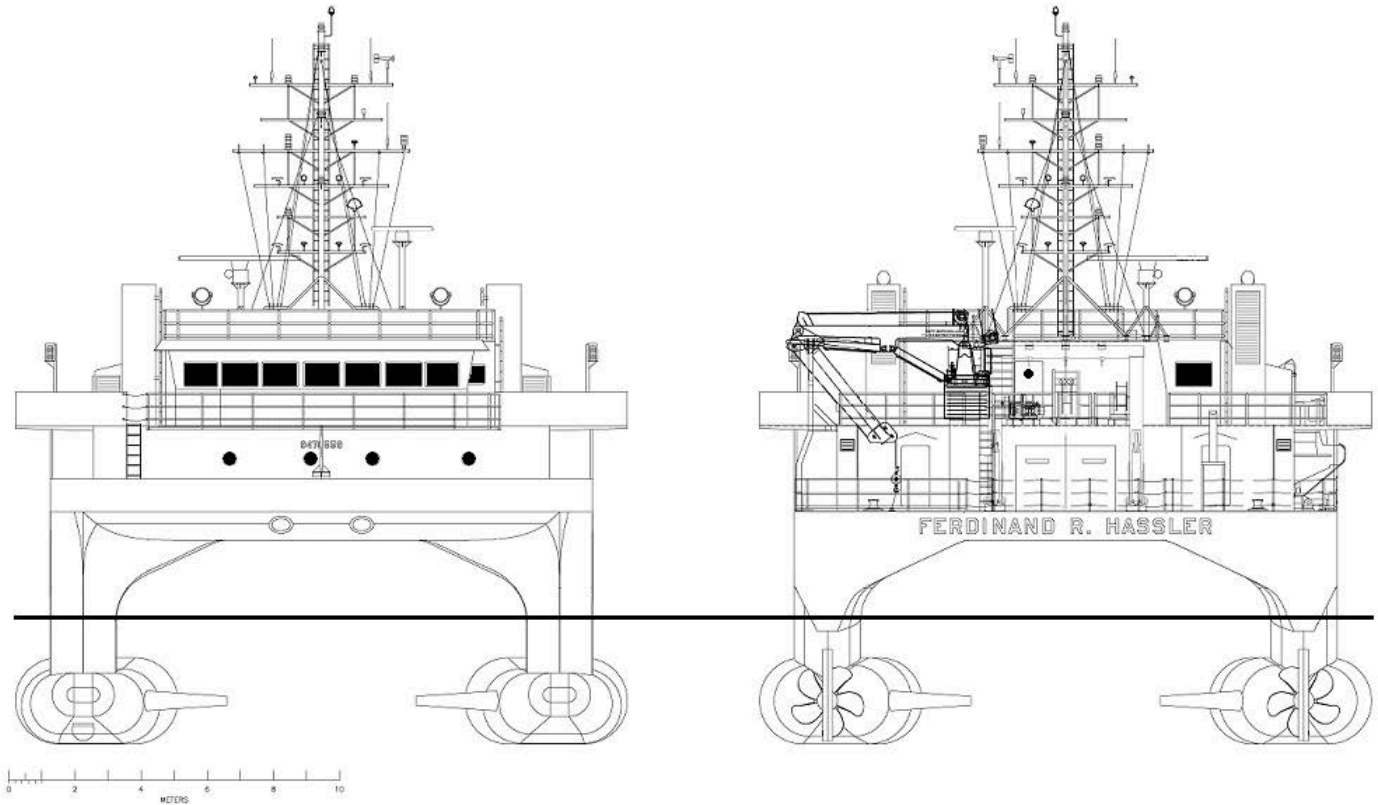


Figure 3: NOAA Ship Ferdinand R. Hassler

B.1.2 Equipment

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

Manufacturer	Model	Type
Teledyne RESON	SeaBat 7125 SV2	MBES
ODIM Brooke Ocean	MVP200	Sound Speed System
ODIM Brooke Ocean	Micro-CTD	Conductivity, Temperature, and Depth Sensor
Applanix	POS MV 320 v5	Positioning and Attitude System
Teledyne RESON	SVP 70	Sound Speed System

Table 6: Major Systems Used

B.2 Quality Control

B.2.1 Crosslines

To evaluate crossline agreement, two surfaces of 2-meter grid resolution were created; one from the crossline depths, the other from the mainscheme depths. These two surfaces were differenced using CARIS HIPS & SIPS. The statistical analysis of the differences between the mainscheme and crossline surfaces is shown below. The average difference between the surfaces is 0.01 meters with a standard deviation of 0.11 meters; 95% of nodes agree within ± 0.21 meters of the mean.

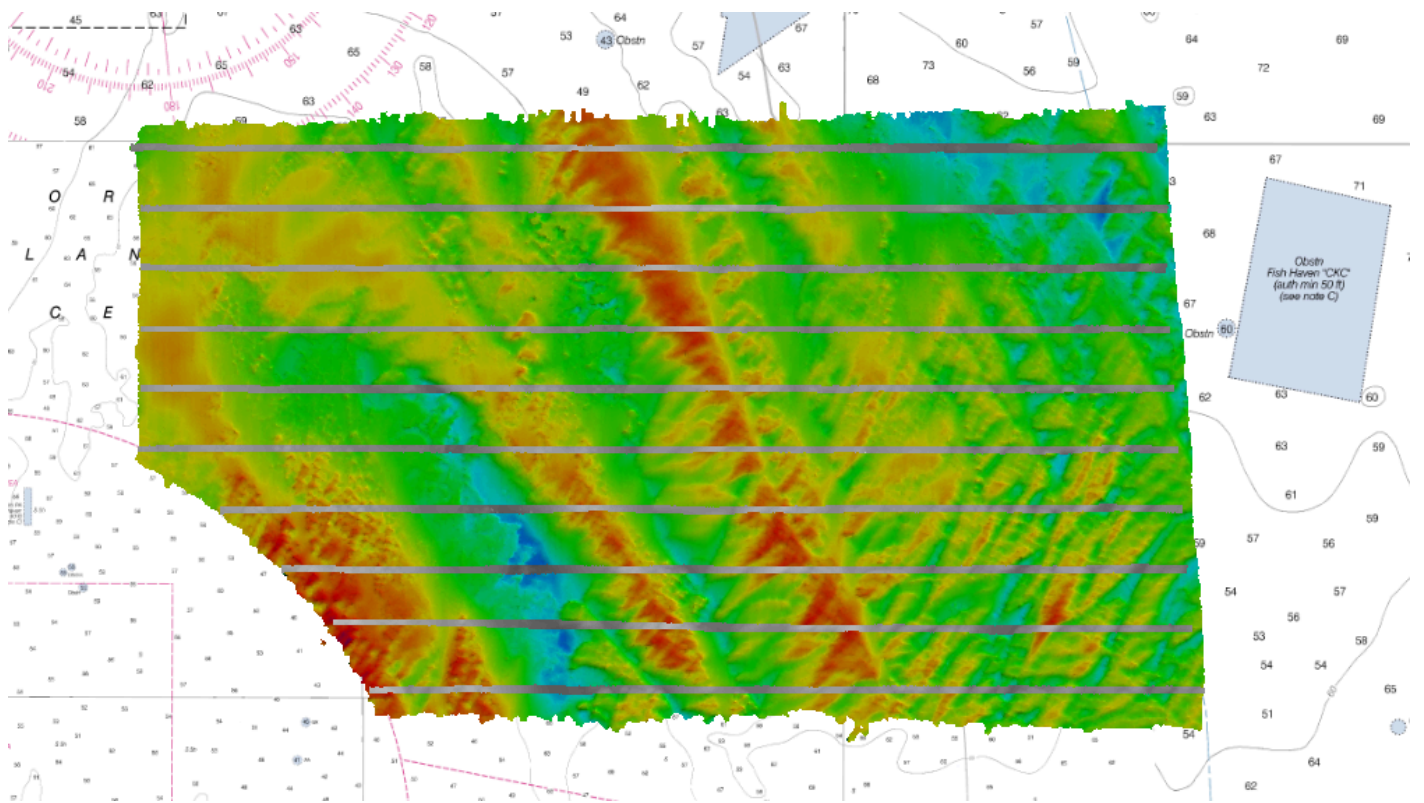


Figure 4: H12978 Crossline Coverage

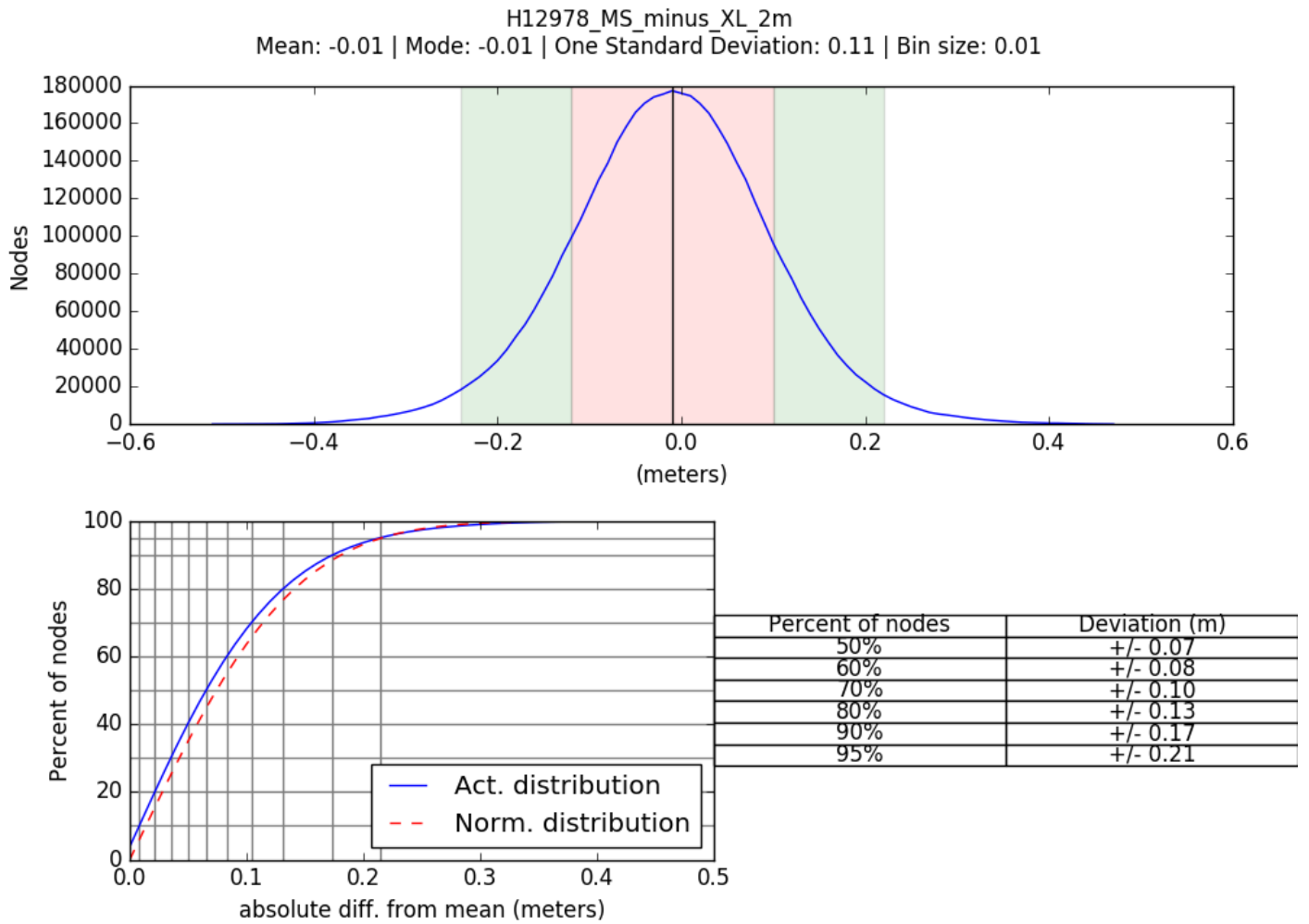


Figure 5: H12978 Crossline difference statistical analysis

B.2.2 Uncertainty

The following survey specific parameters were used for this survey:

Method	Measured	Zoning
ERS via VDATUM	0.00 meters	0.093 meters

Table 7: Survey Specific Tide TPU Values.

Hull ID	Measured - CTD	Measured - MVP	Surface
S250	1.0 meters/second	1.0 meters/second	0.5 meters/second

Table 8: Survey Specific Sound Speed TPU Values.

B.2.3 Junctions

H12978 junctions with H12976 and H12977, which were acquired by the Ferdinand R. Hassler earlier in 2017 and is part of the current project.

The following junctions were made with this survey:

Registry Number	Scale	Year	Field Unit	Relative Location
H12976	1:40000	2017	NOAA Ship FERDINAND R. HASSLER	SW
H12977	1:40000	2017	NOAA Ship FERDINAND R. HASSLER	SE

Table 9: Junctioning Surveys

H12976

The average difference between H12978 and H12977 is 0.00 meters with a standard deviation of 0.12 meters; 95% of the differenced nodes are within +/- 0.23 meters of the mean. Junction overlap ranges from ~150m to ~350m.

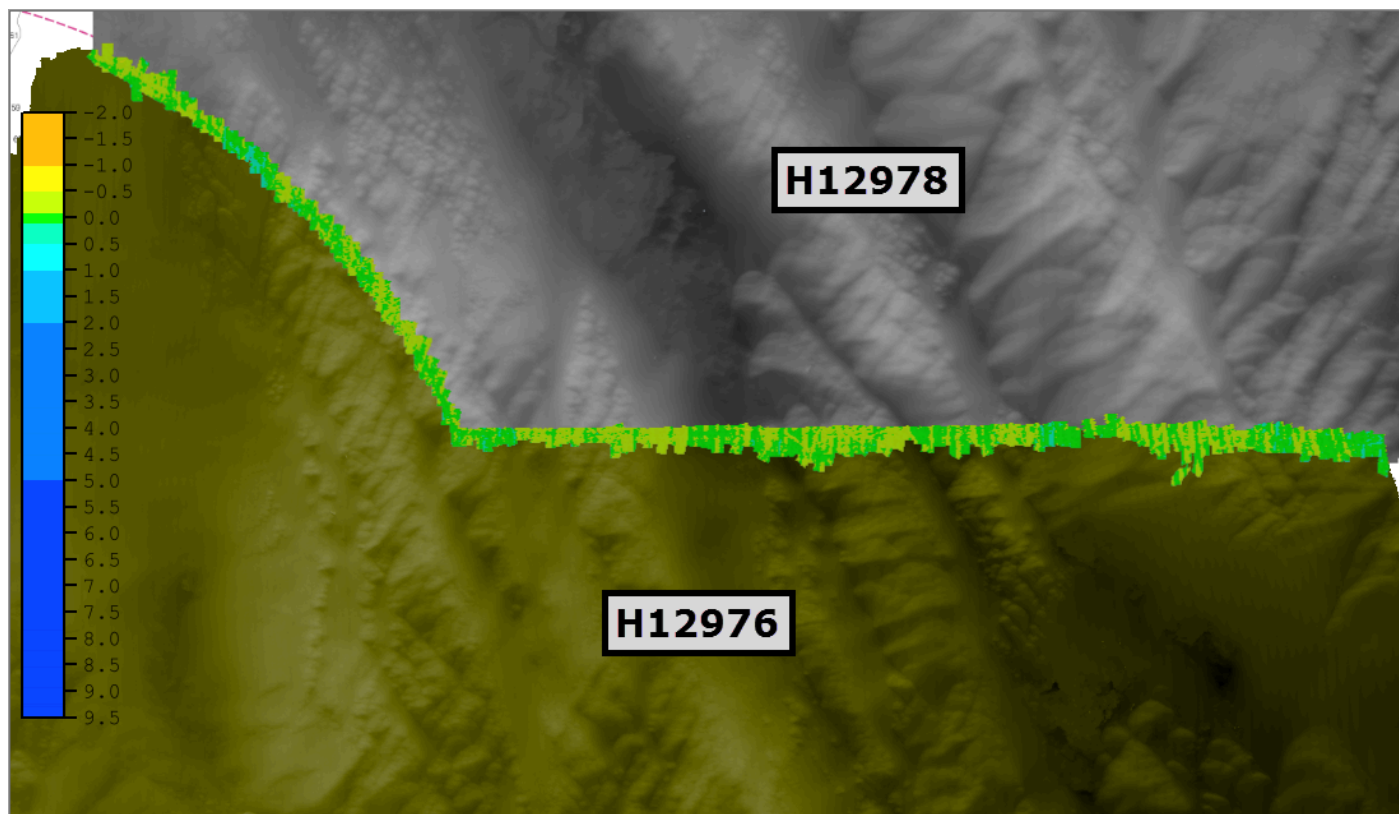


Figure 6: Junction analysis between H12978 and H12976

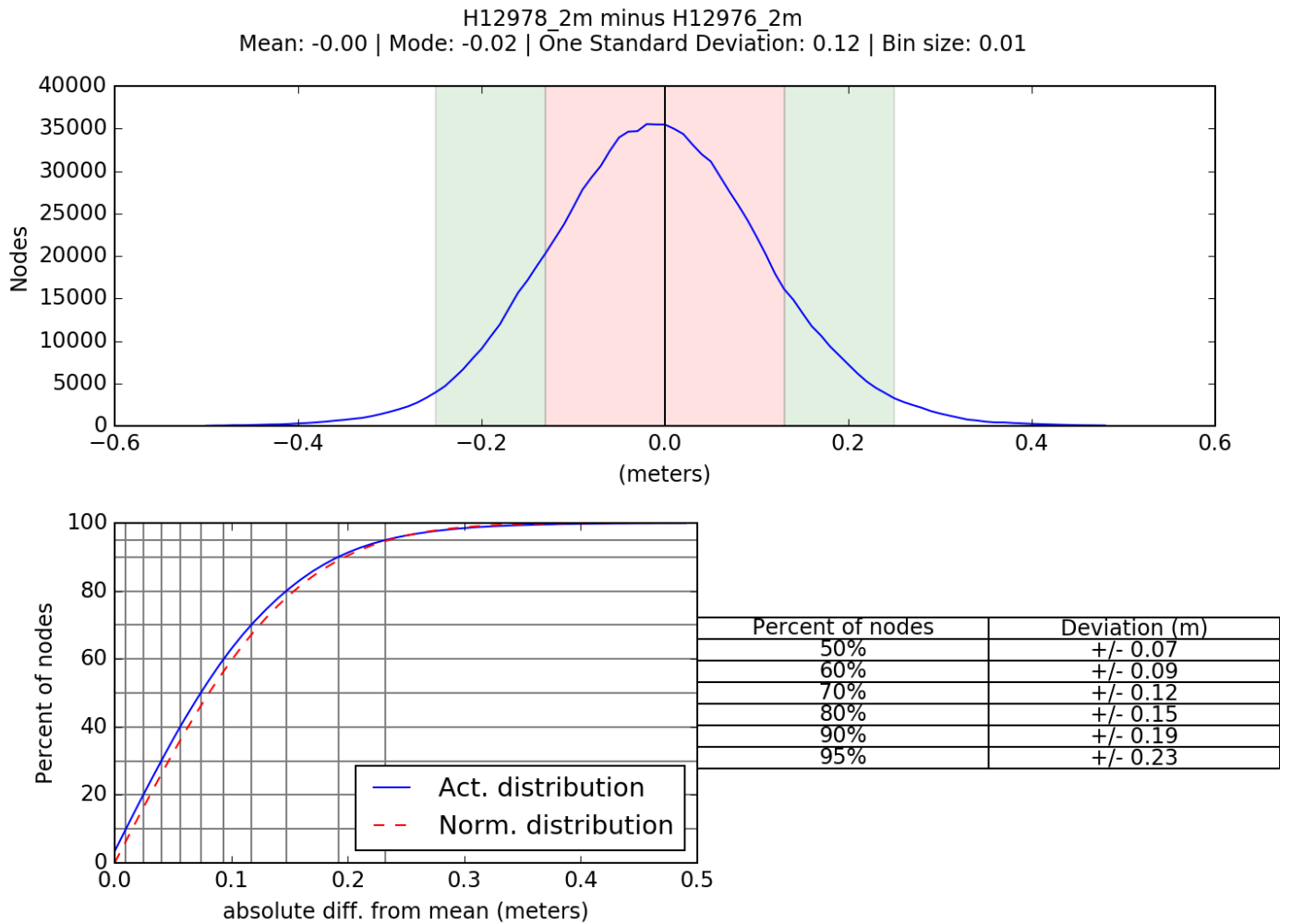


Figure 7: Difference surface statistics for H12978 and H1276

H12977

The average difference between H12978 and H12977 is 0.05 meters with a standard deviation of 0.10 meters; 95% of the differenced nodes are within +/- 0.19 meters of the mean. Junction overlap does not meet the 2017 HSSD specifications of one bathymetric swath width in some areas. Junction overlap ranges from ~180m to ~40m. One area, approximately 35m wide, does not have any overlap. The lack of sufficient overlap was due to a data collection error that was not noticed until the data were post-processed and the ship had departed the survey area.

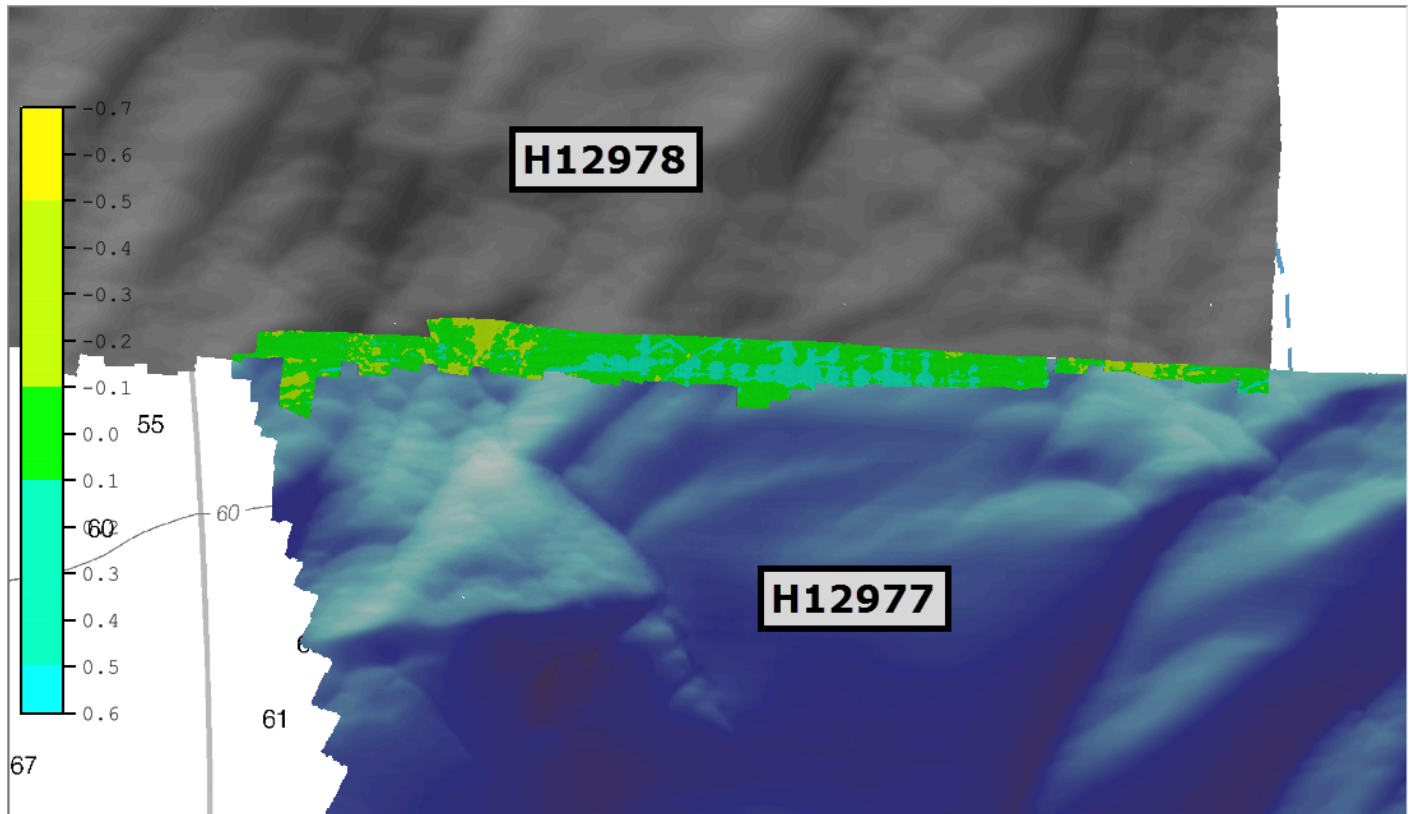


Figure 8: Junction analysis between H12978 and H1277

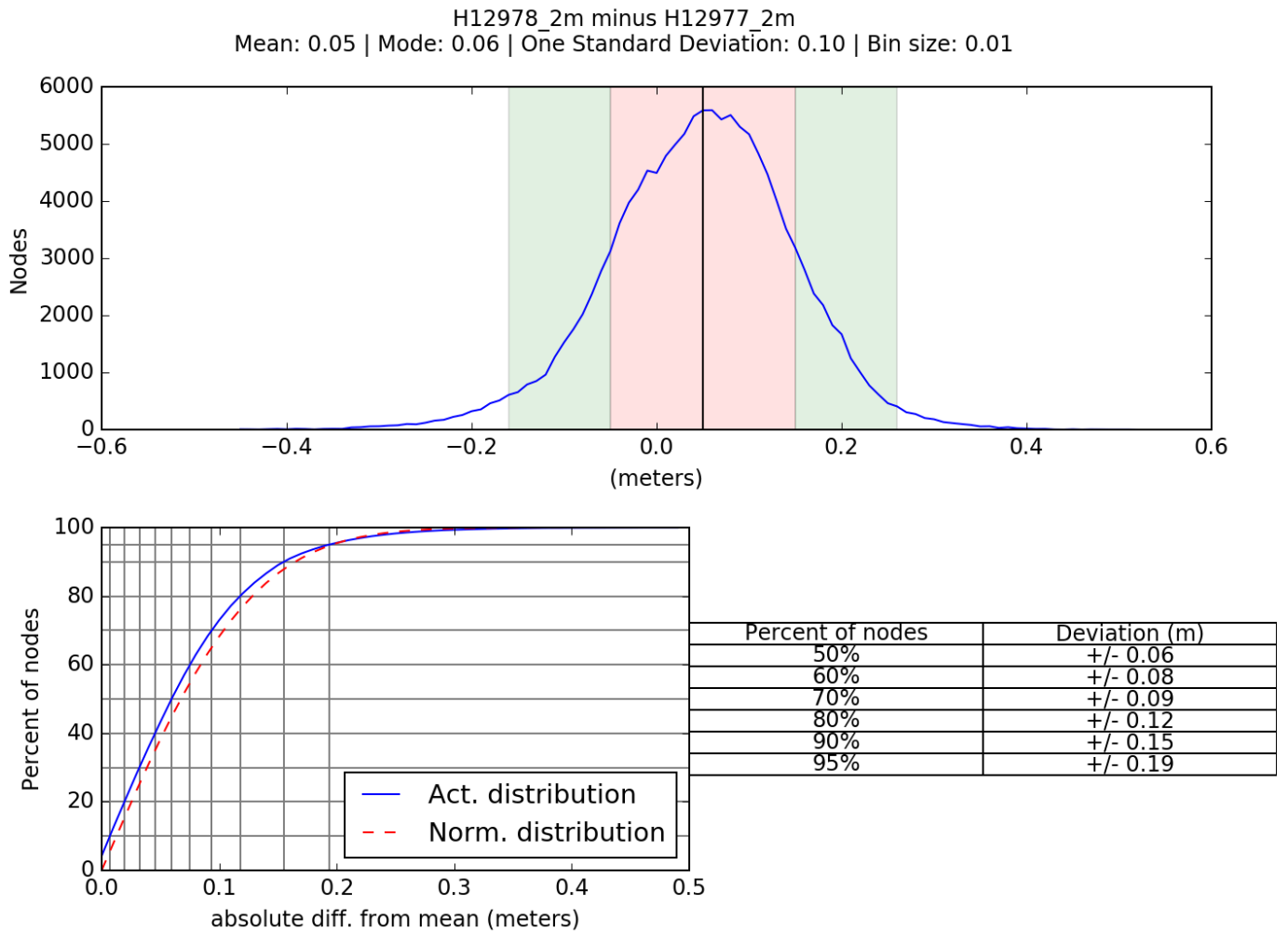


Figure 9: Difference surface statistics for H12978 and H1277

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: Casts were taken as needed not to exceed once every four hours.

A total of 287 MVP casts were taken over the course of the survey. Sound speed corrections were applied in CARIS HIPS/SIPS using the Nearest in Distance Within Time (NIDWT) selection with time frequency of four hours.

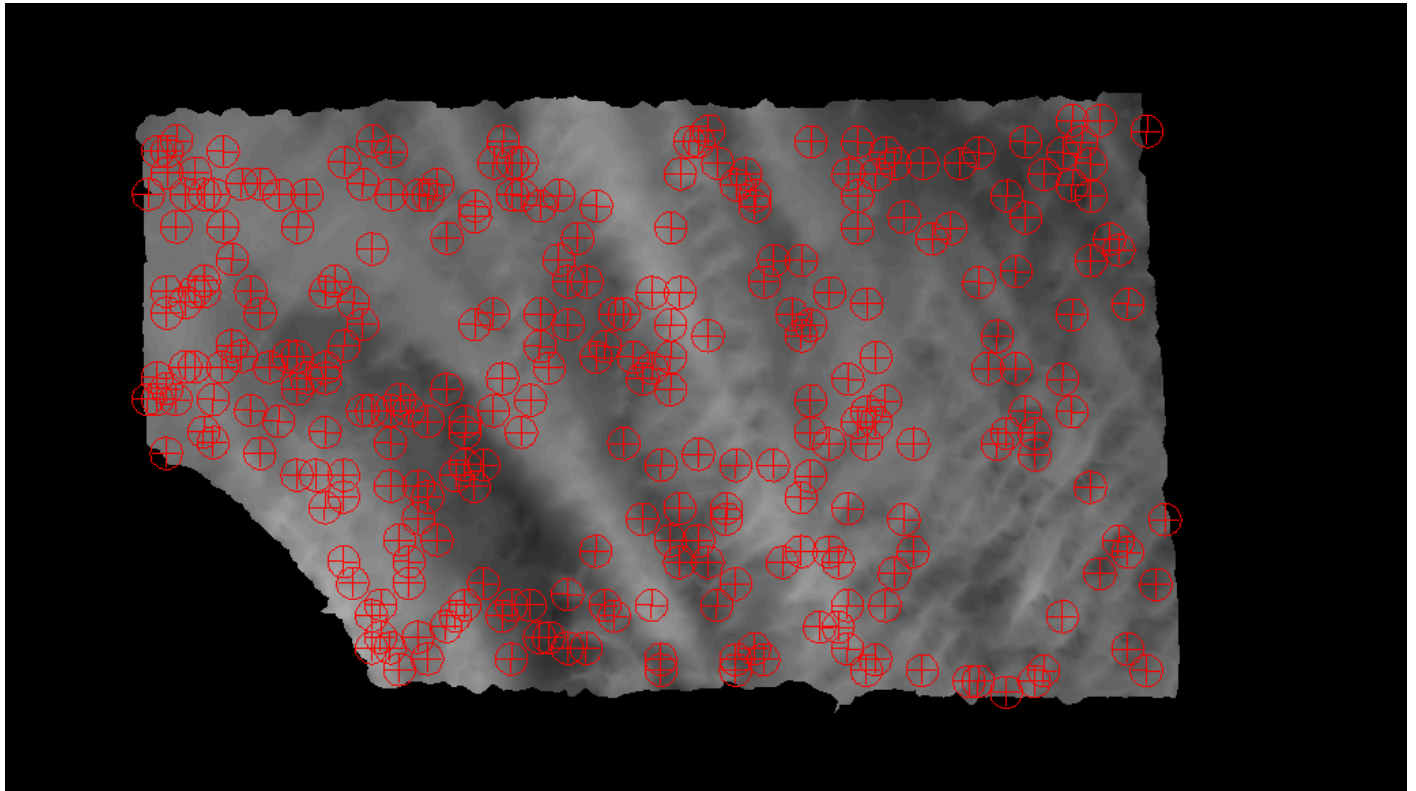


Figure 10: H12978 sound speed profile locations

B.2.8 Coverage Equipment and Methods

Complete coverage was achieved per PIs and HSSD 5.2.2.2 via dual head MBES coverage. No areas failed to meet coverage requirements with the exception of the holidays and junction overlap issues detailed above.

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

Raw Backscatter was logged as a 7k file. Backscatter was processed in accordance with Hydrographic Technical Directive (HTD) 2017-4.

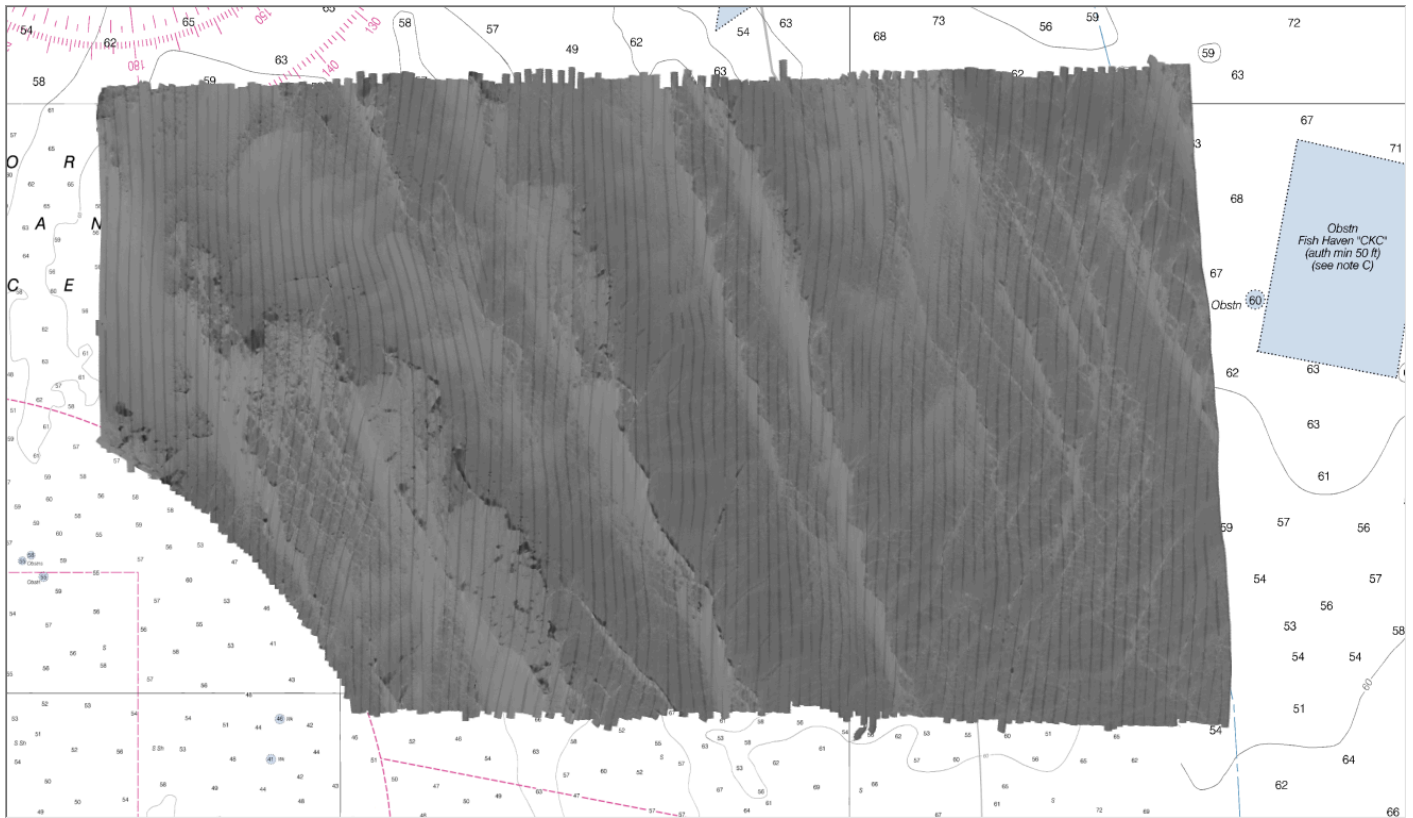


Figure 11: H12978 Backscatter Overview

B.5 Data Processing

B.5.1 Primary Data Processing Software

The following software program was the primary program used for bathymetric data processing:

Manufacturer	Name	Version
Caris	HIPS/SIPS	10.3.3

Table 10: Primary bathymetric data processing software

The following software program was the primary program used for imagery data processing:

Manufacturer	Name	Version
Fledermaus	FMGT	7.7.6

Table 11: Primary imagery data processing software

The following Feature Object Catalog was used: NOAA Profile Version 5.7.

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
H12978_MB_VR_MLLW	CARIS VR Surface (CUBE)	Variable Resolution	13.10 meters - 24.41 meters	NOAA_VR	Complete MBES
H12978_MB_VR_MLLW_Final	CARIS VR Surface (CUBE)	Variable Resolution	13.10 meters - 24.41 meters	NOAA_VR	Complete MBES

Table 12: Submitted Surfaces

A density analysis was run using the VR finalized surface to calculate the number of soundings per surface node. The results determined that greater than 99.5% of all nodes contained five or more soundings which meets the data density specifications. A TVU analysis was run using the VR finalized surface. The results determined that greater than 99.5% of nodes passed.

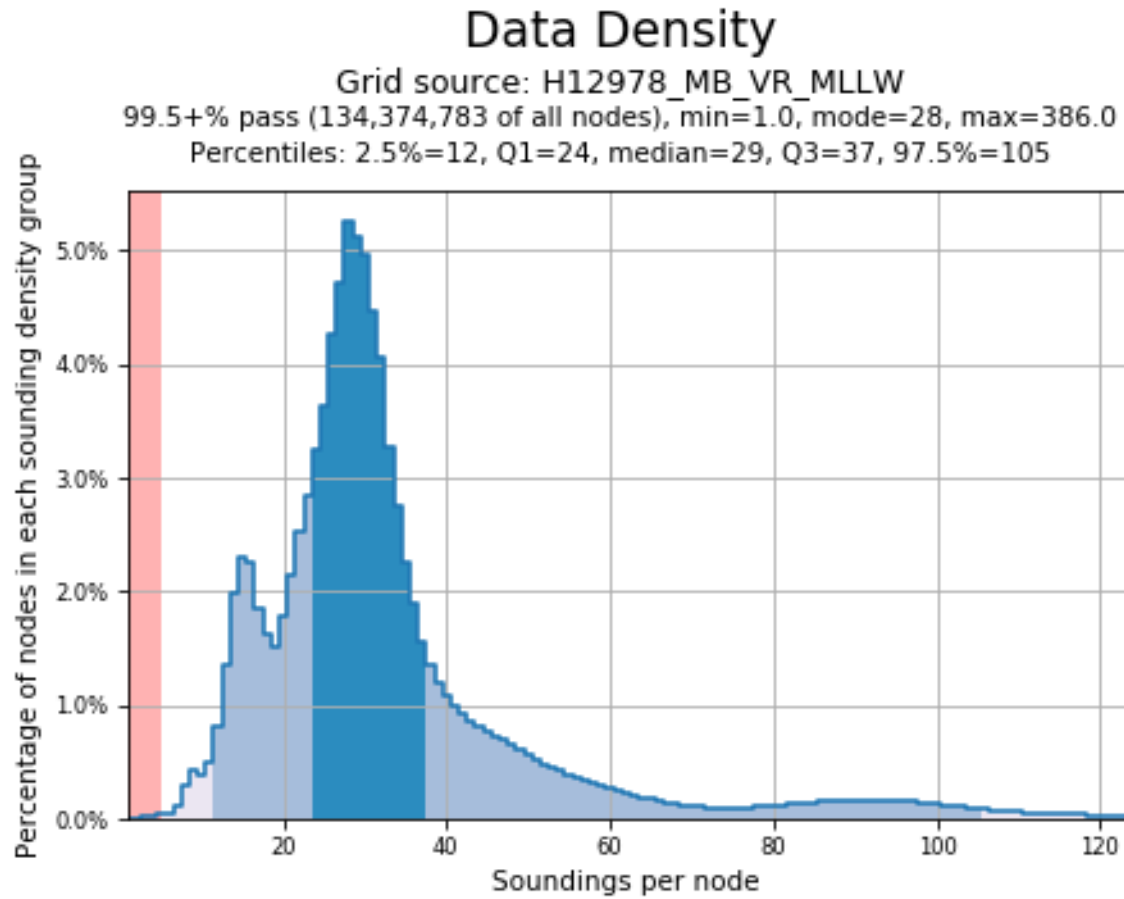


Figure 12: H12978 Data density of the VR finalized surface

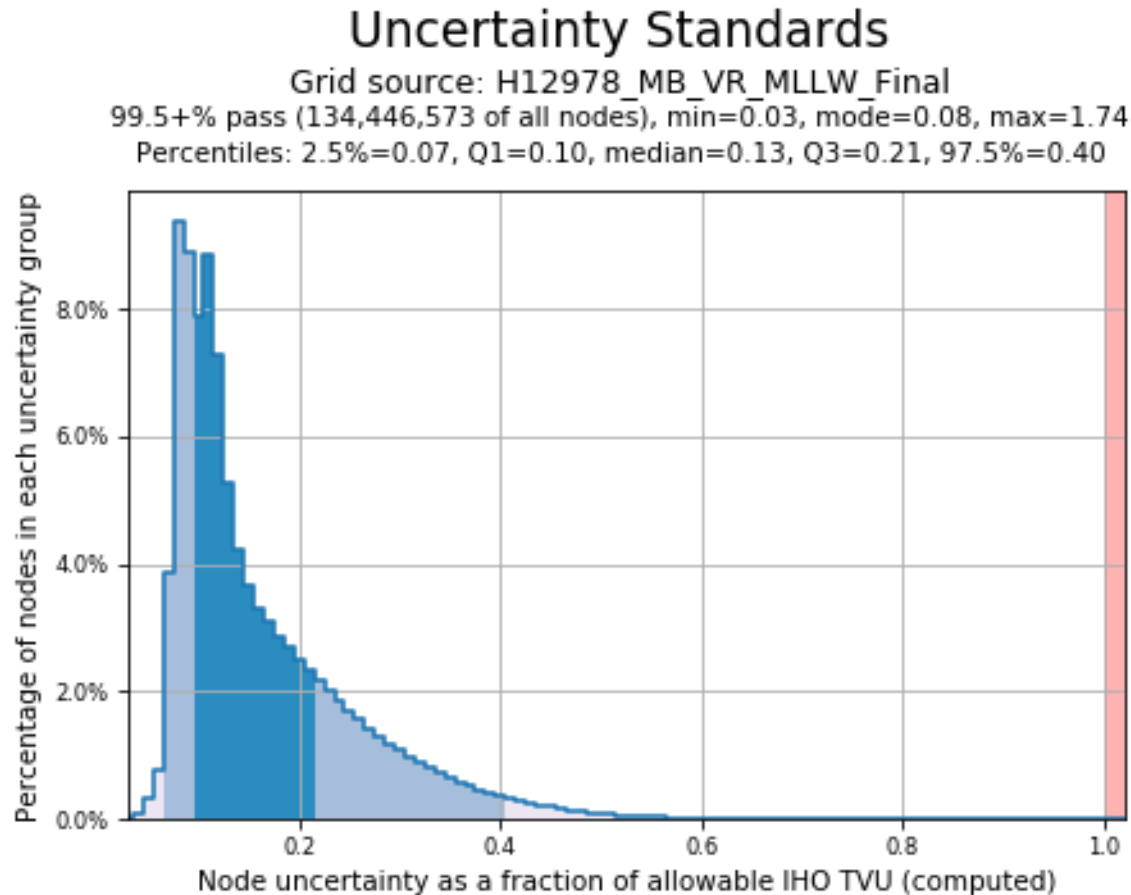


Figure 13: H12978 Total Vertical Uncertainty in the VR finalized surface

B.5.3 Designated Soundings

H12978 contains 9 (nine) designated soundings in accordance with HSSD Section 5.2.1.2.3. Zero (0) designated soundings represent DTONs, and nine (9) designated soundings were selected to accurately represent the seafloor. The designated sounding occurs over two (2) "New" features, seven (7) "Update" features, and are addressed in the Final Feature File.

C. Vertical and Horizontal Control

All data for survey H12978 have been reduced to Mean Lower Low Water (MLLW) using documented VDatum techniques. The *Ferdinand R. Hassler* is equipped with Applanix POS/MV position and orientation systems on the port and starboard hulls. Both POS/MV systems have been integrated with Fugro's Marinestar service, which provides real-time GPS correctors via satellite. The correctors are derived using a Precise

Point Positioning (PPP) approach. The POS/MV data was post-processed in Applanix POSPac MMS to produce Smoothed Best Estimates of Trajectory (SBETs) and RMS uncertainty files using the method of Post Processed Precise Point Positioning (5P). See section 3.3.1 for vertical offset details.

C.1 Vertical Control

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

ERS Datum Transformation

The following ellipsoid-to-chart vertical datum transformation was used:

Method	Ellipsoid to Chart Datum Separation File
ERS via VDATUM	VDatum_shapefile_xyNAD83-MLLW_geoid12b

Table 13: ERS method and SEP file

C.2 Horizontal Control

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.

C.3 Additional Horizontal or Vertical Control Issues

C.3.1 Marinestar Solution - Vertical Offsets

After processing and applying Marinestar SBETS to port and starboard lines on H12978, vertical offsets were discovered in the data which on average were ~0.20m. The cause of the vertical offset is due to interruptions to the MarinestarGNSS correctors likely due to unavoidable dropouts of the L-band signal in the Primary GNSS antenna. When data were referenced to MLLW via traditional tides, the offsets do not appear. Though most of the data were within 2017 HSSD Specs for vertical uncertainty, six (6) crosslines experience large vertical offsets that exceed 2017 HSSD Specs and were therefore rejected and not delivered with the final products. For more information, please see the Project Correspondence.

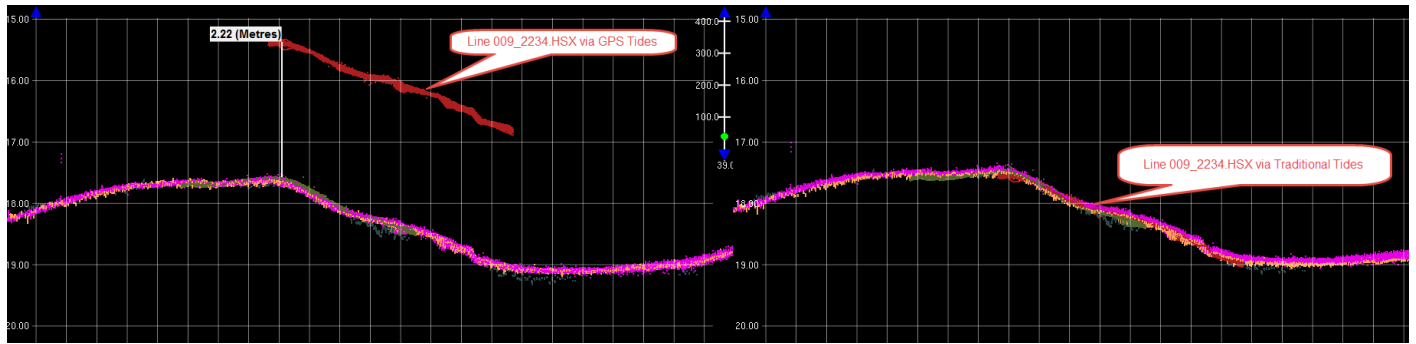


Figure 14: Example of rejected data that exceeded 2017 HSSD specifications

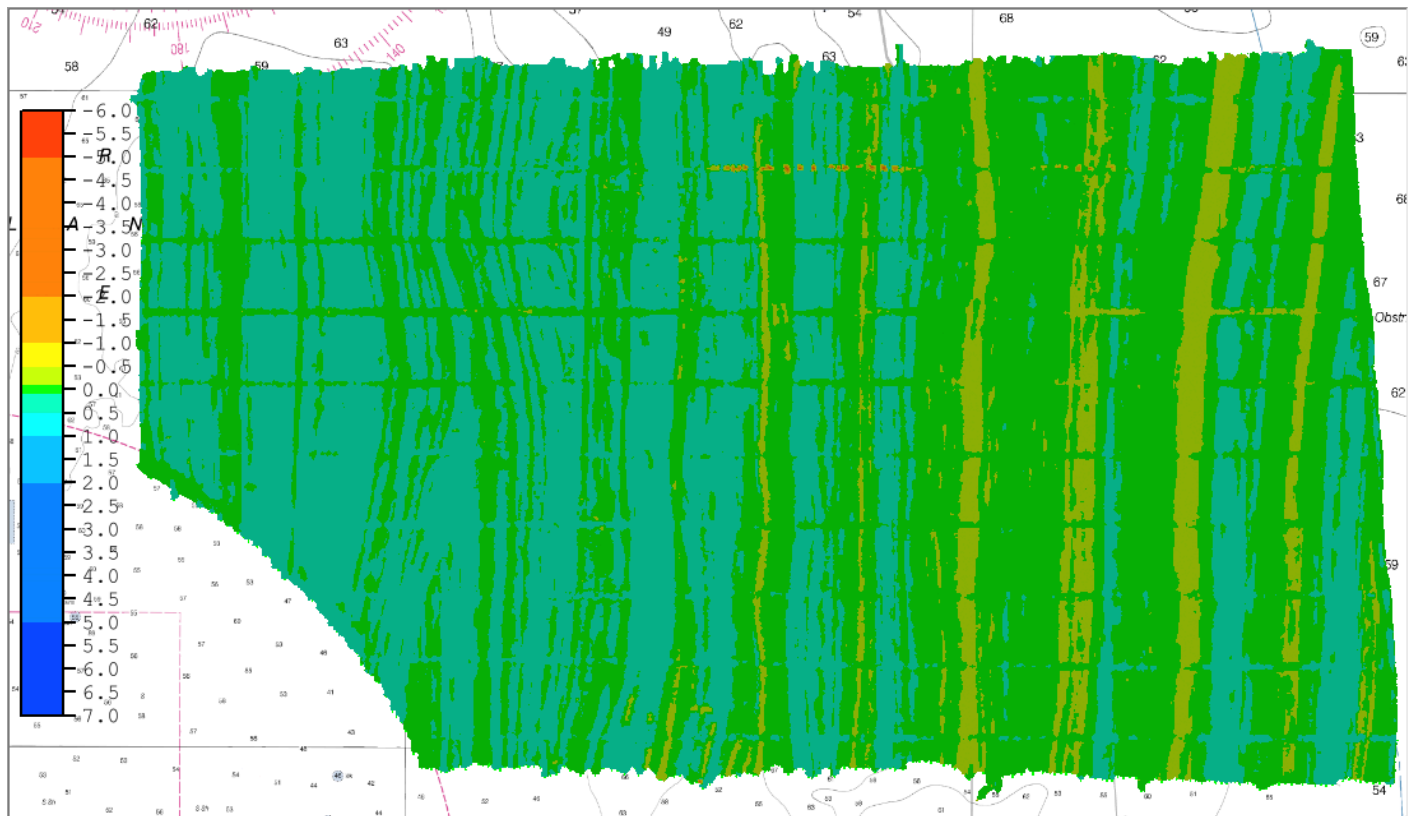


Figure 15: Variable Resolution difference surface; data referenced to traditional tides minus data referenced to the ellipse

D. Results and Recommendations

D.1 Chart Comparison

Survey soundings from H12978 were generated from a variable resolution CUBE surface in CARIS HIPS and SIPS and compared with the soundings from the largest scale Electronic Navigational Charts using the QC Tools 2 triangle rule tool. Contours from H12978 were also generated and visually compared with the charted contours from the largest scale Electronic Navigational Charts. Of the one hundred forty one (141) soundings that were flagged by using the triangle rule, all differences were less than four feet.

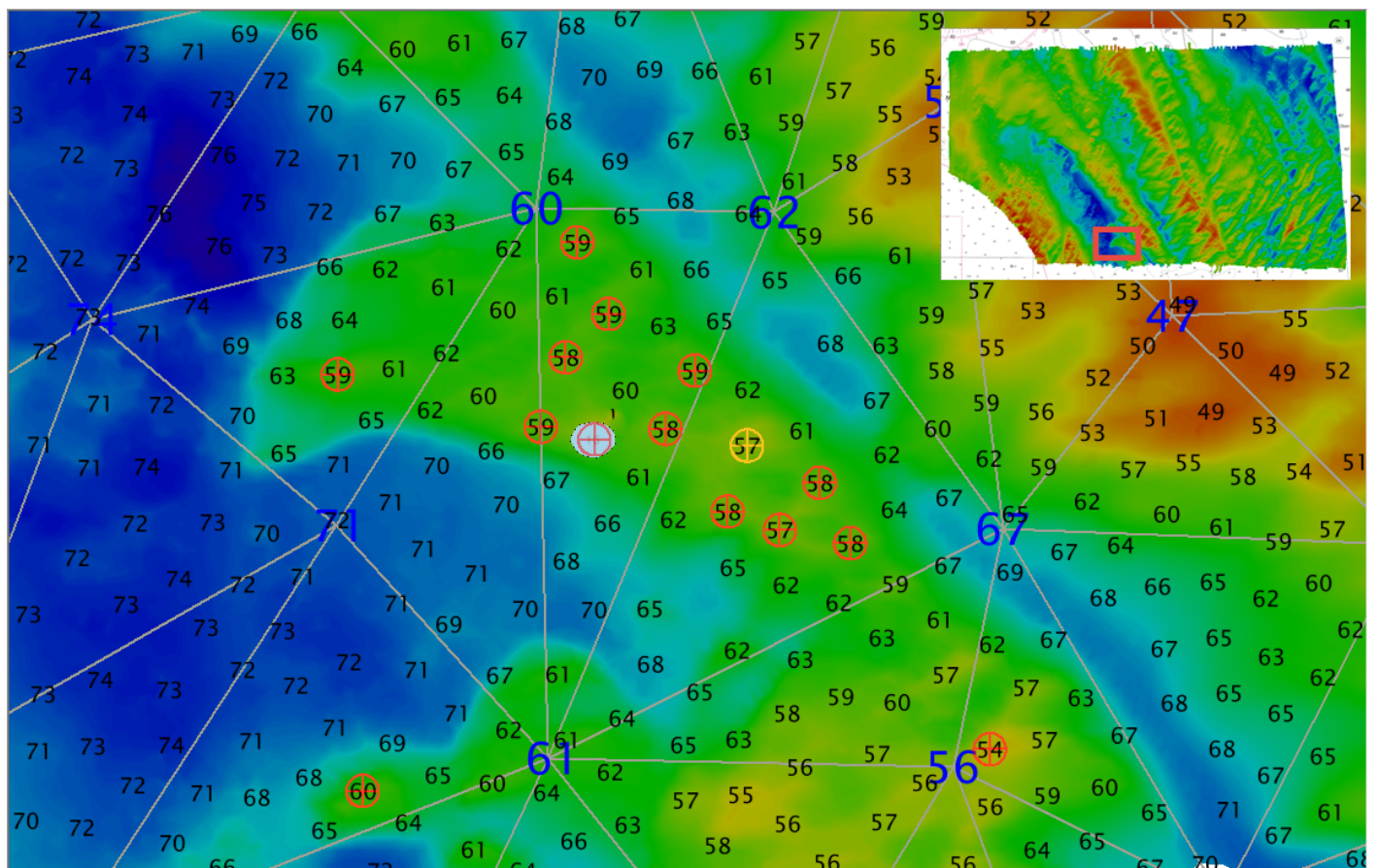


Figure 16: H12978 Chart Comparison - Triangle Rule: Area shown with the largest differences of four (4) feet or less. Large blue soundings are sourced from the ENC. Smaller black soundings are a survey scale sounding selection from final variable resolution surface. Cross hairs above survey scale soundings are flagged to have failed the triangle rule.

D.1.1 Electronic Navigational Charts

The following are the largest scale ENC's, which cover the survey area:

ENC	Scale	Edition	Update Application Date	Issue Date
US3GA10M	1:449659	28	09/21/2016	09/21/2016
US4FL50M	1:80000	14	07/18/2016	07/18/2016
US5FL51M	1:40000	34	05/03/2016	05/03/2016

Table 14: Largest Scale ENC's

D.1.2 Shoal and Hazardous Features

No shoals or potentially hazardous features exist for this survey.

D.1.3 Charted Features

All charted features were investigated as part of H12978 and are addressed in the Final Feature File.

D.1.4 Uncharted Features

Two (2) new wrecks were addressed in the Final Feature File.

D.1.5 Channels

No channels exist for this survey. There are no designated anchorages, precautionary areas, safety fairways, traffic separation schemes, pilot boarding areas, or channel and range lines within the survey limits.

D.2 Additional Results

D.2.1 Aids to Navigation

No Aids to navigation (ATONs) exist for this survey.

D.2.2 Maritime Boundary Points

No Maritime Boundary Points were assigned for this survey.

D.2.3 Bottom Samples

One (1) bottom sample was acquired as part of H1298478 and are addressed in the final feature file.*

**Two bottom samples as assigned in the OPR-G343-FH-17 Project Reference File (PRF) were not acquired.*

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 Platforms

No platforms exist for this survey.

D.2.7 Ferry Routes and Terminals

No ferry routes or terminals exist for this survey.

D.2.8 Abnormal Seafloor or Environmental Conditions

Abnormal seafloor and/or environmental conditions were not observed 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 Recommendations

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

D.2.11 ENC Scale Recommendations

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, 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.

Report Name	Report Date Sent
Data Acquisition and Processing Report	2017-09-27

Approver Name	Approver Title	Approval Date	Signature
LCDR Matthew Jaskoski	Chief of Party	02/13/2018	 Digitally signed by JASKOSKI, MATTHEW.J.1275636262 Date: 2018.02.13 13:58:40 -05'00'
LT John Kidd	Field Operations Officer	02/13/2018	 2018.02.13 13:45:19 -05'00'

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	Continuously Operating Reference Station
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
ERTDM	Ellipsoidally Referenced Tidal Datum Model
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

Acronym	Definition
HSSD	Hydrographic Survey Specifications and Deliverables
HSTB	Hydrographic Systems Technology Branch
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	Linear Nautical Miles
MBAB	Multibeam Echosounder Acoustic Backscatter
MCD	Marine Chart Division
MHW	Mean High Water
MLLW	Mean Lower Low Water
NAD 83	North American Datum of 1983
NALL	Navigable Area Limit Line
NTM	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
RNC	Raster Navigational Chart
RTK	Real Time Kinematic
RTX	Real Time Extended
SBES	Singlebeam Echosounder
SBET	Smooth Best Estimate and Trajectory
SNM	Square Nautical Miles
SSS	Side Scan Sonar
SSSAB	Side Scan Sonar Acoustic Backscatter
ST	Survey Technician
SVP	Sound Velocity Profiler
TCARI	Tidal Constituent And Residual Interpolation
TPU	Total Propagated Uncertainty
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
UTM	Universal Transverse Mercator
XO	Executive Officer
ZDF	Zone Definition File



OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov>

Final Tide Request: H12978

1 message

OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov>

Fri, Nov 3, 2017 at 12:24 PM

To: Final Tides <Final.Tides@noaa.gov>

Cc: Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov>

All,

Please find attached a final tide request for survey H12978, part of OPR-G343-FH-17. Thank you!

V/r,


LT Forrest


LT Matthew Forrest, NOAA
Field Operations Officer, NOAA Ship *Ferdinand R. Hassler*
29 Wentworth Road
New Castle, NH, 03854

4 attachments

 **H12978 Tide Request.mid**
796K

 **H12978 Tide Request.mif**
504K

 **H12978 Tide Request.pdf**
34K

 **H12978 Tide Request.zip**
314K



OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov>

Final Tide Notes for OPR-G343-FH-17, Registry No. H12978

1 message

Hua Yang - NOAA Affiliate <hua.yang@noaa.gov>

Wed, Nov 15, 2017 at 1:24 PM

To: "CO.Ferdinand Hassler - NOAA Service Account" <co.ferdinand.hassler@noaa.gov>, "OPS.Ferdinand Hassler - NOAA Service Account" <ops.ferdinand.hassler@noaa.gov>

Cc: Corey Allen - NOAA Federal <Corey.allen@noaa.gov>, Castle Parker - NOAA Federal <Castle.E.Parker@noaa.gov>, AHB Chief - NOAA Service Account <ahb.chief@noaa.gov>, Patrick Burke <pat.burke@noaa.gov>, Gerald Hovis <gerald.hovis@noaa.gov>, "_NOS.CO-OPS.HPT" <nos.coops.hpt@noaa.gov>



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

DATE: 11/15/2017

MEMORANDUM FOR: LCDR Matthew Jaskoski
Commanding Officer, NOAA Ship FERDINAND R. HASSLER (MOA-FH)

FROM: Gerald Hovis
Chief, Products and Services Branch, N/OPS3

SUBJECT: Delivery of Tide Requirements for Hydrographic Surveys

This is notification that the preliminary zoning is accepted as the final zoning for survey project OPR-G343-FH-17, Registry Number H12978 during the time period between October 25, 2017 - November 01, 2017. The accepted reference station for Registry Number H12978 is Mayport, FL (8720218).

Included with this memo are the Tide Notes in .PDF format, stating the preliminary zoning has been accepted as the final zoning.

Best regards,

Hua Yang

Hydrographic Planning Team
NOAA/National Ocean Service
Center for Operational Oceanographic Products and Services
Station 7128
1305 East West Highway, SSMC4
Silver Spring, MD 20910
Office: 240-533-0612
Email: Hua.Yang@noaa.gov
Web: <http://tidesandcurrents.noaa.gov/>

Hydro Hot List: <http://tidesandcurrents.noaa.gov/hydro.shtml>

H12978.pdf
1184K



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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : November 15, 2017

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-G343-FH-17
HYDROGRAPHIC SHEET: H12978

LOCALITY: 17NM Due East of Nassau Sound, Approaches to Jacksonville, FL
TIME PERIOD: October 25, 2017 - November 01, 2017

TIDE STATION USED: 8720218 Mayport, FL
Lat. 30° 23.9' N Long. 81° 25.7' W

PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.426 m

ESTIMATED ZONING ERROR: 0.25 meters

REMARKS: RECOMMENDED ZONING

Preliminary zoning is accepted as the final zoning for project OPR-G343-FH-17, H12978 for the time period between October 25, 2017 to November 01, 2017.

Please use the zoning file G343FH2017CORP submitted with the project instructions for OPR-G343-FH-17. Zones SA197, SA198, SA199 and SA200 are the applicable zones for H12978.

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).

BURKE.PATRIC Digitally signed by
K.B.1365830335 BURKE.PATRICK.B.1365830335
Date: 2017.11.15 13:08:18 -05'00'

CHIEF, Oceanographic Division



**Preliminary as Final Tidal Zoning for
OPR-G343-FH-2017, H12978
17NM Due East of Nassau Sound,
Approaches to Jacksonville, FL**

8720218 MAYPORT, FL

- SA196
- SA197
- SA195
- SA198
- SA199
- SA200
- SA201
- SA202
- SA203
- SA204
- SA205
- SA206
- SA207
- SA208
- SA209



nautical miles





OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov>

NCEI files for OPR-G343-FH-17

1 message

OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov> Thu, Feb 15, 2018 at 2:08 PM
To: "NODC.Submissions" <NODC.Submissions@noaa.gov>, Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov>

Greetings,

Please see attached .zip files containing the NCEI sound speed files for OPR-G343-FH-17 sheets H12978 and H12984.

LT John Kidd

Field Operations Officer, NOAA Ship FERDINAND R. HASSLER

*ship's cell: 603-812-8748 * VOIP: 541-867-8935 * irridium: 808-851-3826*

Physical Address (UPS/FedEx):


UNH Judd Gregg Marine Research Complex


29 Wentworth Rd

New Castle, NH 03854

Mailing Address: PO Box 638, New Castle, NH 03854

2 attachments

 **OPR-G343-FH-17_H12978.zip**
1229K

 **OPR-G343-FH-17_H12984.zip**
753K



OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov>

H12978 Outline

2 messages

OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov> Thu, Nov 2, 2017 at 3:58 PM

To: _NOS OCS Survey Outlines <survey.outlines@noaa.gov>


Cc: Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov>

Please find attached the survey outline for H12978. Thank you!

V/r,

LT Forrest

LT Matthew Forrest, NOAA
Field Operations Officer, NOAA Ship *Ferdinand R. Hassler*
29 Wentworth Road
New Castle, NH, 03854

 **H12978_Outline.000**
10K

Brian Mohr - NOAA Federal <brian.mohr@noaa.gov> Mon, Nov 6, 2017 at 8:13 AM

To: "OPS.Ferdinand Hassler - NOAA Service Account" <ops.ferdinand.hassler@noaa.gov>

Got them, Thanks.

Brian Mohr
Physical Scientist - Data Manager
Hydrographic Surveys Division
brian.mohr@noaa.gov
301 713 2700

[Quoted text hidden]



OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov>

H12978 preliminary

14 messages

Kyle Ward - NOAA Federal <kyle.ward@noaa.gov>

Tue, Oct 31, 2017 at 3:41 PM

To: "OPS.Ferdinand Hassler - NOAA Service Account" <ops.ferdinand.hassler@noaa.gov>, "CO.Ferdinand Hassler - NOAA Service Account" <co.ferdinand.hassler@noaa.gov>, Hardee Kavanaugh <kavanaugh@jaxpilots.com>, Stephen Kuzirian <Stephen.Kuzirian@noaa.gov>

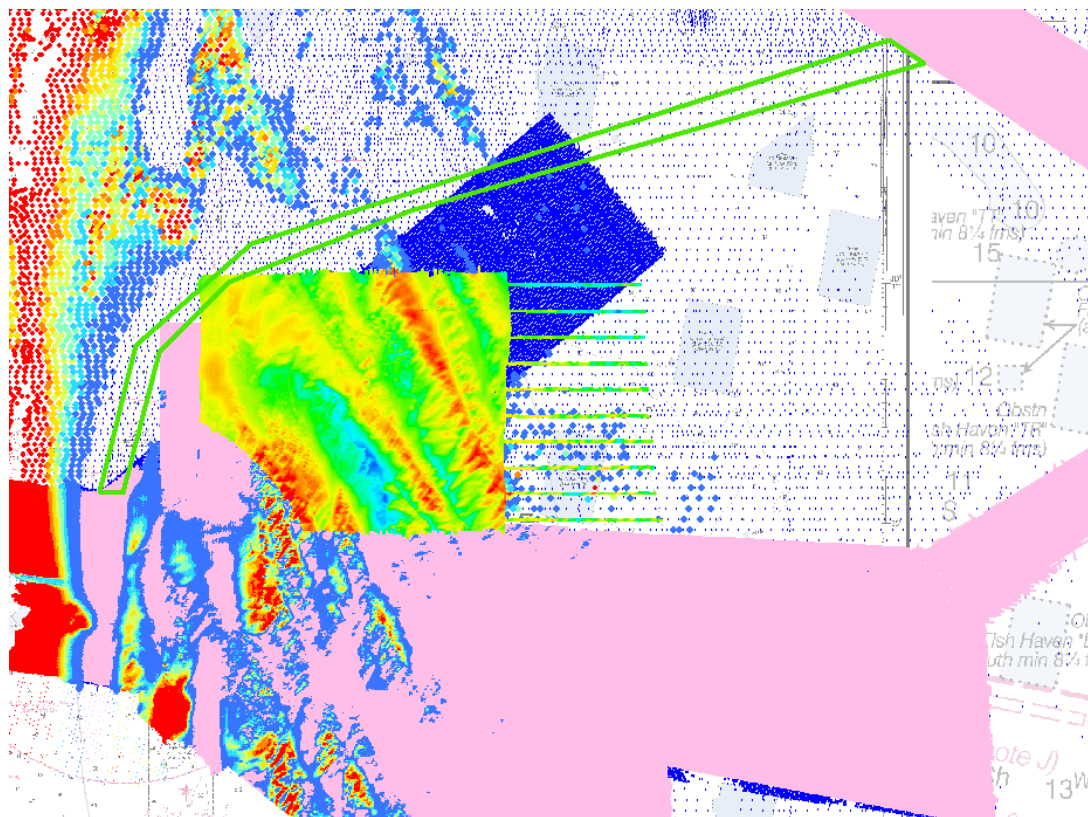
Forrest,

I just spoke with Stephen about having you guys run recon line to help identify a possible deep water route. The other preliminary data you have provided (including the Spring survey) have showed that other routes do not provide deep enough water for a safe UKC. The harbor is going to 48' so out in the open ocean we are looking for 56' or greater. The green route in the image below shows the most direct route 56' route. Most if the route is covered by 1970s era surveys so it would great to get a line or two (whatever you have time for) as you are prepping to leave the project. If you can only run one line just try and meander to hit all the shoals and wreck.

If you an the CO agree this is something you can accommodate. It would be great to get a preliminary bag of the recon lines and H12978 by Thursday evening. I am meeting with the pilots on Friday. This information has the possibility of driving a lot of work for the port and USCG over the next few months.

Thanks for any help you can provide.

Kyle



Kyle R. Ward
Southeast Navigation Manager
NOAA Office of Coast Survey
843.740.1153
301.651.4852 cell

 **HasslerREcon_Nov_31.zip**
2K

OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov>

Tue, Oct 31, 2017 at 7:41 PM

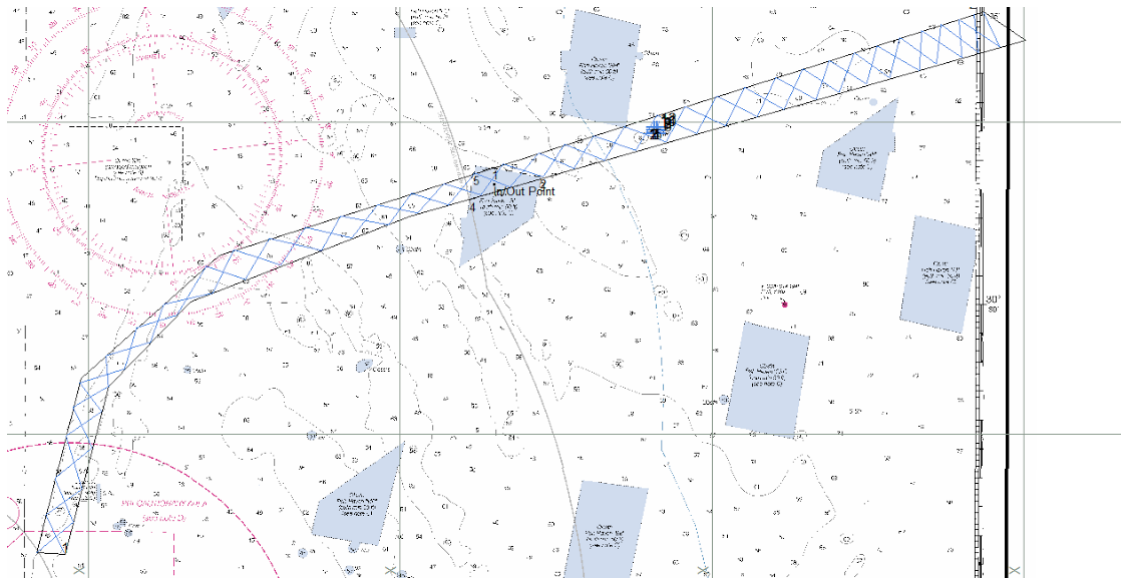
To: Kyle Ward - NOAA Federal <kyle.ward@noaa.gov>

Cc: "CO.Ferdinand Hassler - NOAA Service Account" <co.ferdinand.hassler@noaa.gov>, Stephen Kuzirian <Stephen.Kuzirian@noaa.gov>

Kyle,

Sorry for taking so long to respond- we've been getting everything planned out for this since getting your email. Here's our plan for right now:

We have some holidays to pick up on our current sheet, which will take until about midnight. After they're complete, we'll be moving on to the investigation area. Our plan for surveying it is below.



A sawtooth pattern run up the AO will give us maximum efficiency, while also providing a good transect of the area. Our plan is to run one sawtooth line up, then double back, logging data the whole way, to the wreck area. We will develop the wreck, then continue down the "channel" (still logging) to the fish haven, which we will develop where it intersects the AO. Following that, we will come back down the "channel" to complete work on our current survey (we may have a few holidays that will require acquisition. Should we finish holidays in time, or should there be none, we will run the full second sawtooth line for a full argyle pattern.

Please let me know how this works for you. I will get a preliminary BAG together of this and H12978 tomorrow during the transit.

V/r,

Forrest

LT Matthew Forrest, NOAA
Field Operations Officer, NOAA Ship *Ferdinand R. Hassler*
29 Wentworth Road
New Castle, NH, 03854

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Kyle Ward - NOAA Federal <kyle.ward@noaa.gov>

Tue, Oct 31, 2017 at 10:19 PM

To: "OPS.Ferdinand Hassler - NOAA Service Account" <ops.ferdinand.hassler@noaa.gov>

Cc: Stephen Kuzirian <Stephen.Kuzirian@noaa.gov>, "CO.Ferdinand Hassler - NOAA Service Account" <co.ferdinand.hassler@noaa.gov>

Sounds good. Thanks for accodating this request on such short notice.

[Quoted text hidden]

--

[Quoted text hidden]

OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov> Wed, Nov 1, 2017 at 1:14 PM
To: Kyle Ward - NOAA Federal <kyle.ward@noaa.gov>
Cc: Stephen Kuzirian <Stephen.Kuzirian@noaa.gov>, "CO.Ferdinand Hassler - NOAA Service Account" <co.ferdinand.hassler@noaa.gov>

Kyle,

A quick update. We accomplished the full "argyle" pattern over the requested area, acquired a single line of bathy over the center of the area, and developed the wreck and the fish haven inside of it. We'll be processing and should have preliminary products ready to go tonight.

V/r,

Forrest

LT Matthew Forrest, NOAA
Field Operations Officer, NOAA Ship *Ferdinand R. Hassler*
29 Wentworth Road
New Castle, NH, 03854

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Kyle Ward - NOAA Federal <kyle.ward@noaa.gov> Wed, Nov 1, 2017 at 1:53 PM
To: "OPS.Ferdinand Hassler - NOAA Service Account" <ops.ferdinand.hassler@noaa.gov>
Cc: Stephen Kuzirian <Stephen.Kuzirian@noaa.gov>, "CO.Ferdinand Hassler - NOAA Service Account" <co.ferdinand.hassler@noaa.gov>

Forrest,

Thanks for the update. This really great. I was tracking your movements on ship tracker and noticed you were able to make a few passes. Thanks again for the effort. Getting the preliminary grids sometime tonight or tomorrow morning will work great.

Kyle

Kyle R. Ward
Southeast Navigation Manager
NOAA Office of Coast Survey
843.740.1153
301.651.4852 cell

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OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov> Thu, Nov 2, 2017 at 12:37 AM
To: Kyle Ward - NOAA Federal <kyle.ward@noaa.gov>
Cc: Stephen Kuzirian <Stephen.Kuzirian@noaa.gov>, "CO.Ferdinand Hassler - NOAA Service Account" <co.ferdinand.hassler@noaa.gov>

Kyle,

We are processing data now and I will get a grid to you as soon as it's ready. I'm shooting for mid-morning tomorrow after docking.

V/r,

Forrest

LT Matthew Forrest, NOAA
Field Operations Officer, NOAA Ship *Ferdinand R. Hassler*
29 Wentworth Road

New Castle, NH, 03854

[Quoted text hidden]

Kyle Ward - NOAA Federal <kyle.ward@noaa.gov>
To: "OPS.Ferdinand Hassler - NOAA Service Account" <ops.ferdinand.hassler@noaa.gov>

Thu, Nov 2, 2017 at 11:52 AM

Should I come get them or will you email? Either way is fine for me.

Kyle R. Ward
Southeast Navigation Manager
NOAA Office of Coast Survey
843.740.1153
301.651.4852 cell

[Quoted text hidden]

OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov>
To: Kyle Ward - NOAA Federal <kyle.ward@noaa.gov>

Thu, Nov 2, 2017 at 1:47 PM

Kyle,

Working on them now. Not sure how big the files will be, and since we're on VSAT, it might be better if you came by. Stand by.

V/r,

Forrest

LT Matthew Forrest, NOAA
Field Operations Officer, NOAA Ship *Ferdinand R. Hassler*
29 Wentworth Road
New Castle, NH, 03854

[Quoted text hidden]

OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov>
To: Kyle Ward - NOAA Federal <kyle.ward@noaa.gov>

Thu, Nov 2, 2017 at 1:57 PM

Kyle,

The BAG for the channel recon is at 157MB and rising as it continues exporting. Might be best if you swung by with a drive...I think VSAT would cry and run away if I tried pushing this over.

V/r,

Forrest

LT Matthew Forrest, NOAA
Field Operations Officer, NOAA Ship *Ferdinand R. Hassler*
29 Wentworth Road
New Castle, NH, 03854

[Quoted text hidden]

Kyle Ward - NOAA Federal <kyle.ward@noaa.gov>
To: "OPS.Ferdinand Hassler - NOAA Service Account" <ops.ferdinand.hassler@noaa.gov>

Thu, Nov 2, 2017 at 2:04 PM

Are they ready now? I can come get them. I am driving down to Jax this evening and would like to make a print out prior to leaving the office today.

Kyle R. Ward
Southeast Navigation Manager
NOAA Office of Coast Survey
843.740.1153
301.651.4852 cell

[Quoted text hidden]

OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov>
To: Kyle Ward - NOAA Federal <kyle.ward@noaa.gov>

Thu, Nov 2, 2017 at 2:11 PM

Kyle,

Recon is ready to go now, and I'm about to export H12978. It would be ready by the time you got here, I wager.

V/r,

Forrest

LT Matthew Forrest, NOAA
Field Operations Officer, NOAA Ship *Ferdinand R. Hassler*
29 Wentworth Road
New Castle, NH, 03854

[Quoted text hidden]

OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov>
To: Kyle Ward - NOAA Federal <kyle.ward@noaa.gov>

Tue, Dec 12, 2017 at 2:06 PM

Kyle,

Just wanted to check in with you to see if this project was complete, that you didn't need anything else from the Hassler. Was the data delivered to where it needed to go? I am performing some network house-cleaning and would like to delete the data to make room for the start of our next field season in early January.

LT John Kidd
Field Operations Officer, NOAA Ship FERDINAND R. HASSLER
*ship's cell: 603-812-8748 * VOIP: 541-867-8935 * iridium: 808-851-3826*
Physical Address (UPS/FedEx):
UNH Judd Gregg Marine Research Complex
29 Wentworth Rd
New Castle, NH 03854
Mailing Address: *PO Box 638, New Castle, NH 03854*

[Quoted text hidden]

Kyle Ward - NOAA Federal <kyle.ward@noaa.gov>
To: "OPS.Ferdinand Hassler - NOAA Service Account" <ops.ferdinand.hassler@noaa.gov>

Tue, Dec 12, 2017 at 2:36 PM

LT Kidd,

Are you referring to the recon data or the preliminary grids from the other full surveys you completed?

I believe we have everything we need from the preliminary data. Eventually I will need to get final surfaces for the full surveys. There are some UKC issues in the area and I need make products for the plots based on the final cleaned surfaces.

I don't need a final surface of the recon data.



OPS.Ferdinand Hassler - NOAA Service Account <ops.ferdinand.hassler@noaa.gov>

Re: OPR-G343-FH-17 Approaches to Jacksonville, FL

1 message

Nicholas Morgan - NOAA Federal <nicholas.morgan@noaa.gov>

Mon, Feb 27, 2017 at 2:31 PM

To: Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov>

Cc: "CO.Ferdinand Hassler - NOAA Service Account" <co.ferdinand.hassler@noaa.gov>, Jonathan French <jonathan.r.french@noaa.gov>, "OPS.Ferdinand Hassler - NOAA Service Account" <ops.ferdinand.hassler@noaa.gov>

Good deal. Thanks for the heads up.

On Mon, Feb 27, 2017 at 2:29 PM, Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov> wrote:

Yes it does. Unless you have problems, then please let me know. Include the ERS solution description in the DR as well.

Katy

Kathryn "Katy" Pridgen
Physical Scientist
NOAA-HSD OPS
301-713-2702 ext 178
kathryn.pridgen@noaa.gov

On Mon, Feb 27, 2017 at 2:26 PM, Nicholas Morgan - NOAA Federal <nicholas.morgan@noaa.gov> wrote:

Wohoo! Happy to hear that. I assume this includes no need for pre-survey ERS Checklines as well?

-Nick

On Mon, Feb 27, 2017 at 1:49 PM, Kathryn Pridgen - NOAA Federal <kathryn.pridgen@noaa.gov> wrote:

LT Morgan,

This email is to inform you that you are no longer required to submit an ERS Capability memo to HSD for approval of the intended ERS solution. Since the final project instructions were issued, we have decided that they field units have all proven themselves capable of reducing the data to the ellipse via various solutions. Therefore we are no longer requiring the interim ERS Capability memos for 2017 projects. Please use this email in your records as a waiver for this requirement. You are now only responsible for informing HSD OPS should and problems or issues arise in using your intended ERS solution.

Thanks,
Katy

Kathryn "Katy" Pridgen
Physical Scientist
NOAA-HSD OPS
301-713-2702 ext 178
kathryn.pridgen@noaa.gov

--
*LT Nick Morgan, NOAA
Operations Officer
NOAA Ship Ferndiand R. Hassler*

Physical Address (UPS/FedEx):
UNH Judd Gregg Marine Research Complex

APPROVAL PAGE

H12978

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
- Data Acquisition and Processing Report
- Collection of Bathymetric Attributed Grids (BAGs)
- Processed survey data and records
- Geospatial PDF of survey products
- Collection of backscatter mosaics

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

Approved: _____

Commander Meghan McGovern, NOAA
Chief, Atlantic Hydrographic Branch