

H12298

NOAA Form 76-35A

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

DESCRIPTIVE REPORT

Type of Survey: Navigable Area

Registry Number: H12298

LOCALITY

State: New York

General Locality: Block Island Sound

Sub-locality: 3 NM Southeast of Fisher Island

2011

CHIEF OF PARTY
CDR Lawrence T Krepp

LIBRARY & ARCHIVES

Date:

HYDROGRAPHIC TITLE SHEET**H12298**

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: **New York**

General Locality: **Block Island Sound**

Sub-Locality: **3 NM Southeast of Fisher Island**

Scale: **10000**

Dates of Survey: **08/31/2011 to 11/16/2011**

Instructions Dated: **06/29/2011**

Project Number: **OPR-B363-TJ-11**

Field Unit: **NOAA Ship *Thomas Jefferson***

Chief of Party: **CDR Lawrence T Krepp**

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 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 Geophysical Data Center (NGDC) and can be retrieved via <http://www.ngdc.noaa.gov/>.

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Descriptive Report to Accompany Survey H12298

Project: OPR-B363-TJ-11

Locality: Block Island Sound

Sublocality: 3 NM Southeast of Fisher Island

Scale: 1:10000

August 2011 - November 2011

NOAA Ship *Thomas Jefferson*

Chief of Party: CDR Lawrence T Krepp

A. Area Surveyed

Survey sheet area is southeast of Fishers Island, NY

A.1 Survey Limits

Data was acquired within the following survey limits:

Northeast Limit	Southwest Limit
41.3000247222 N 71.83906 W	41.1815455556 N 72.0184713889 W

Table 1: Survey Limits

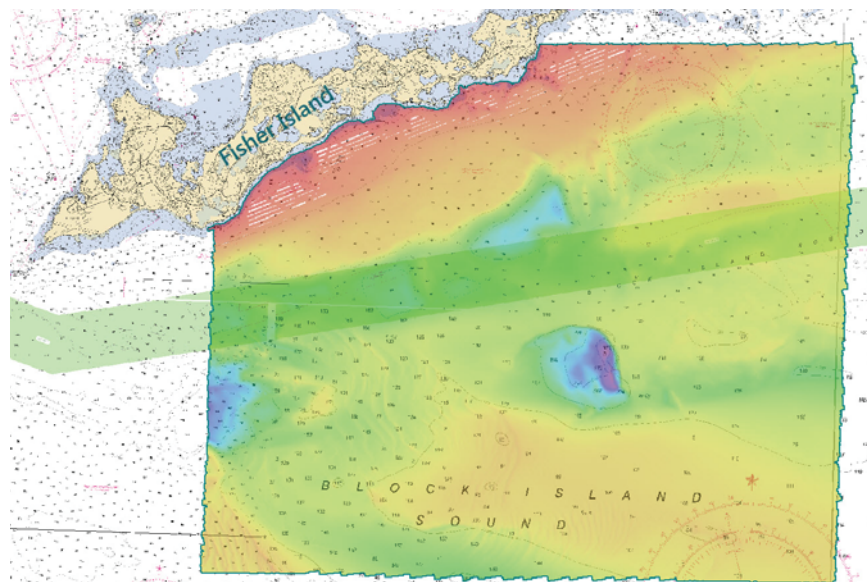


Figure 1: H12298 Survey Outline

The 4 meter curve was not reached in all nearshore areas.

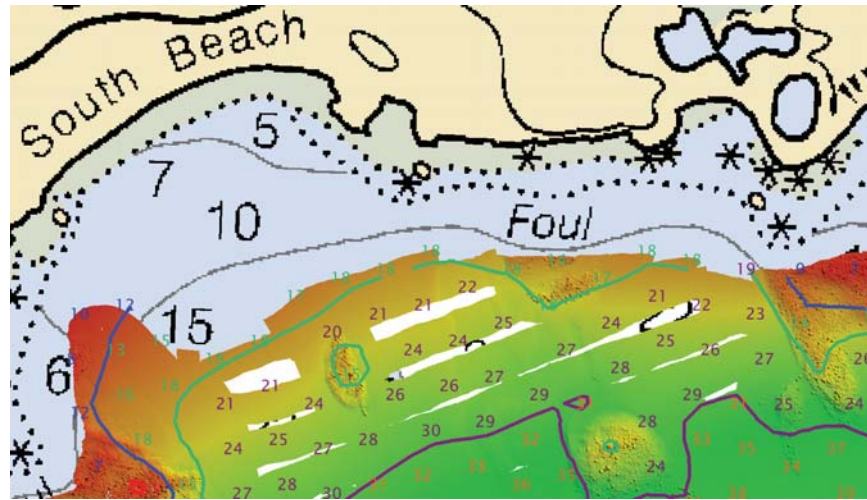


Figure 2: Example of an area off South Beach where the 4m curve was not completely identified

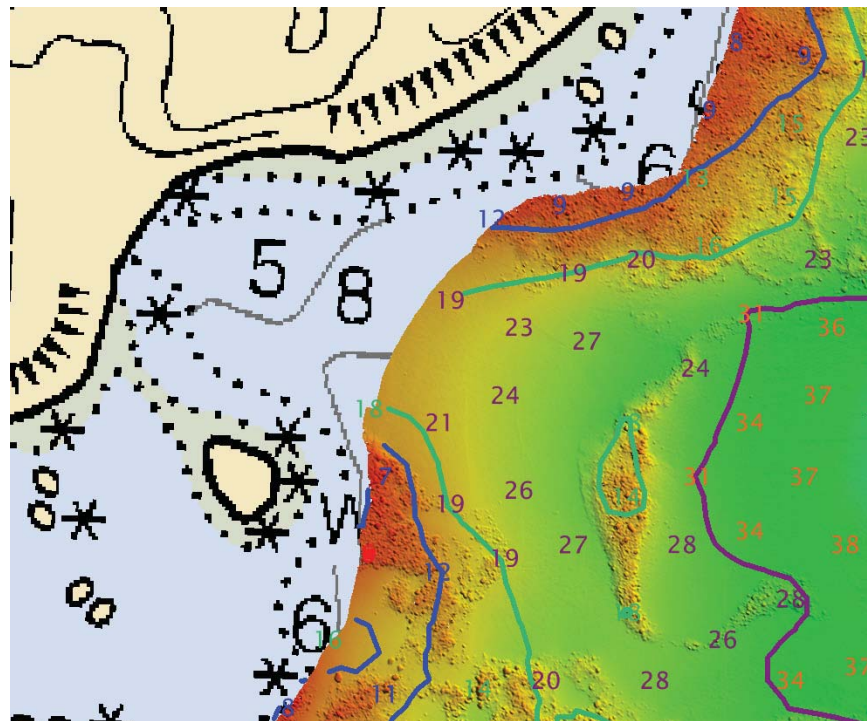


Figure 3: Example of an area off Wreck Island where the 4m curve was not completely identified

A.2 Survey Purpose

This project is being conducted in support of NOAA's Office of Coast Survey to provide contemporary hydrographic data in order to update the nautical charting products and reduce the survey backlog within the area. In addition, data from this project will support the Long Island Sound Seafloor Mapping Initiative for the States of Connecticut and New York. This project also responds, in part, to the concerns raised by the Northeast Marine Pilots for new hydrographic surveys to support deep draft (60') vessels transiting the areas traffic lanes.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

This hydrographic survey was completed as specified by Hydrographic Survey Letter Instructions OPR-B363-TJ-11, dated 29th July, 2011. No additional work is needed to complete this survey. No changes significant to navigation have been noted and it is recommended that this survey receive normal processing priority.

A.4 Survey Coverage

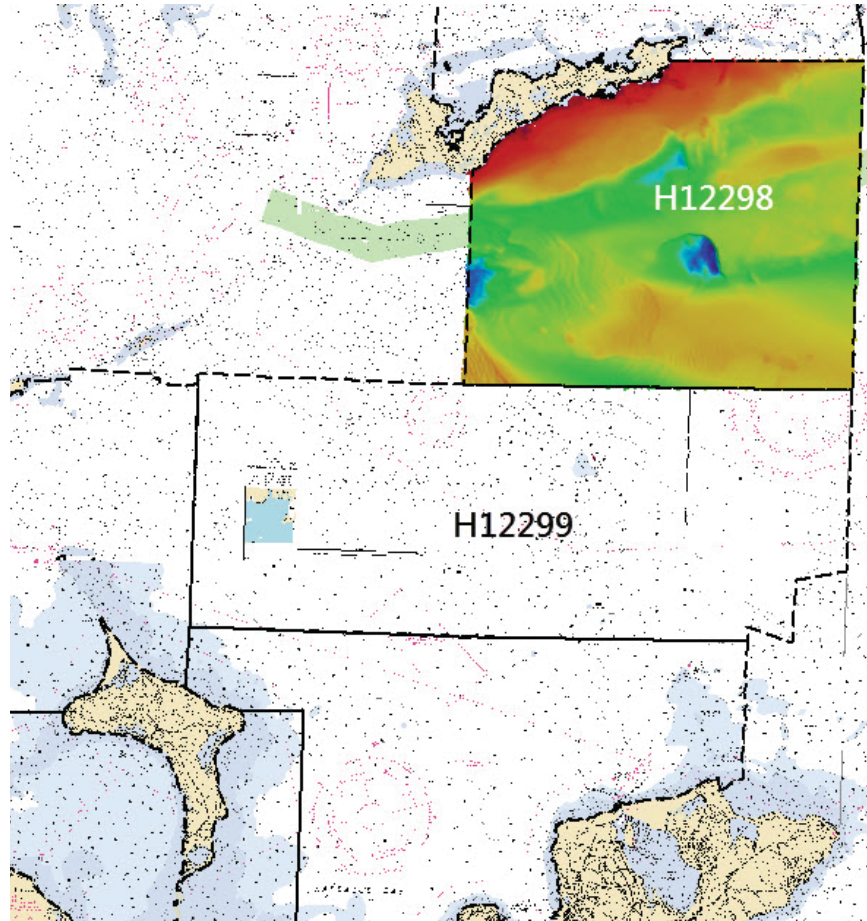


Figure 4: Overview of survey area H12298 location

Concurrent MB and SSS data was collected in areas less than 20m and, in addition, ODMB data was collected over the rocky seabed areas. The 1m ODMB surface was extended to a depth of 30m instead of 20m (see email in Appendix V) in order to support deep draft vessels in the area.

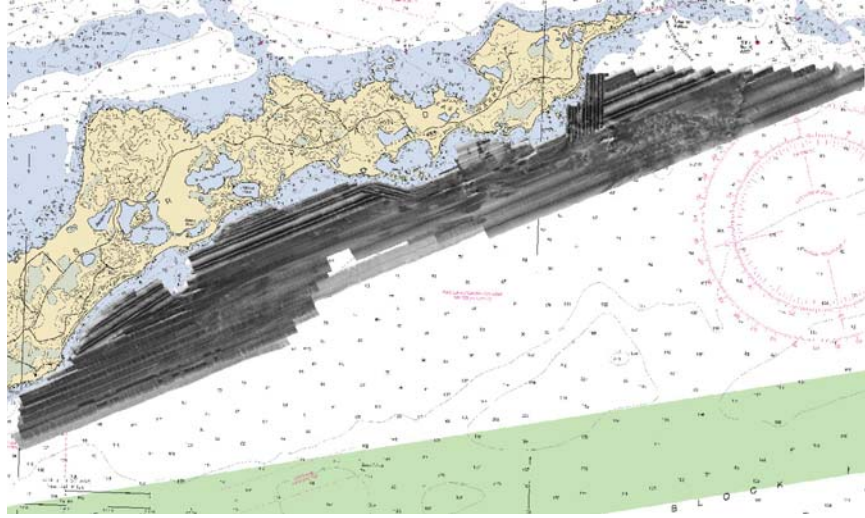


Figure 5: Survey H12298 100% and 200% Side Scan Sonar coverage

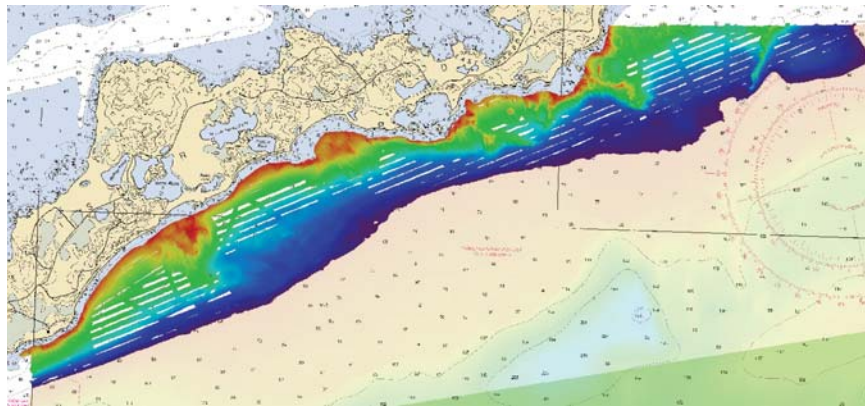


Figure 6: H12298 multibeam data run concurrently with SSS data and ODMB over rocky seabed areas

A.5 Survey Statistics

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

	HULL ID	S222	3101	3102	Total
LNM	SBES Mainscheme	0	0	0	0
	MBES Mainscheme	773.66	102.73	9.88	886.27
	Lidar Mainscheme	0	0	0	0
	SSS Mainscheme	0	0	0	0
	SBES/MBES Combo Mainscheme	0	0	0	0
	SBES/SSS Combo Mainscheme	0	0	0	0
	MBES/SSS Combo Mainscheme	0	53.3	34.36	87.66
	SBES/MBES Combo Crosslines	31.02	7.72	0	38.74
	Lidar Crosslines	0	0	0	0
	Number of Bottom Samples				
Number of DPs					0
Number of Items Items Investigated by Dive Ops					0
Total Number of SNM					33.27

Table 2: Hydrographic Survey Statistics

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

<i>Survey Dates</i>
08/31/2011
09/01/2011
09/07/2011
09/08/2011
09/10/2011
09/11/2011
09/12/2011
09/20/2011
09/21/2011
09/26/2011
09/29/2011
09/30/2011
10/02/2011
10/03/2011
10/18/2011
10/19/2011
10/24/2011
10/27/2011
11/06/2011
11/07/2011
11/09/2011
11/16/2011

Table 3: Dates of Hydrography

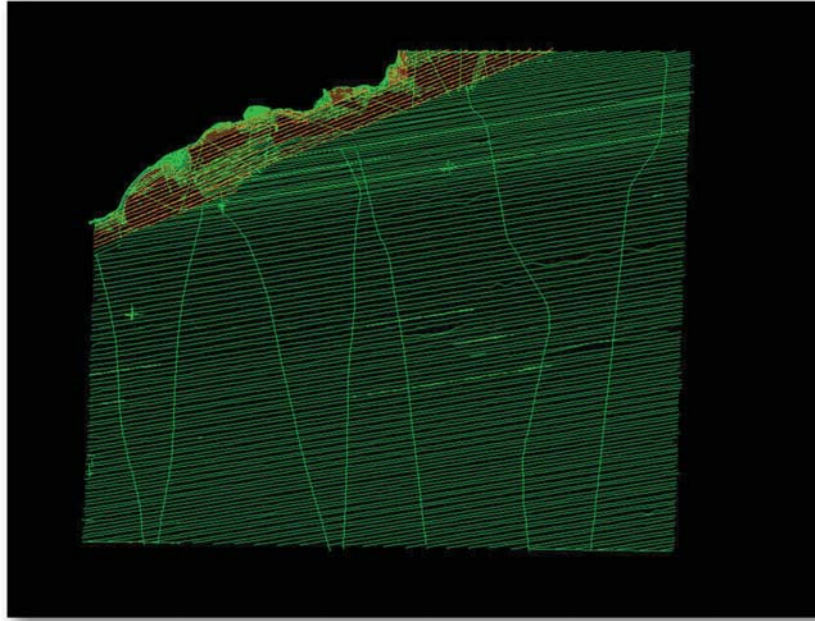


Figure 7: H12298 Mainscheme and Crosslines

A.6 Shoreline

The project instructions indicated a limited shoreline verification requirement. The tasked assigned feature file (AFF) was not filtered to the NALL line/.08mm MHW buffer line and, therefore, many of the assigned shoreline features in the AFF were not investigated due to safety concerns and vessel limitations. All shoreline features, addressed and not addressed, are included in the Final Feature File (FFF) with appropriate attribution.

A.7 Bottom Samples

16 bottom samples were acquired based on existing bottom sample locations and variability seen in the MB and SSS data.

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>S222</i>	<i>3101</i>	<i>3102</i>
LOA	208 feet	31 feet	31 feet
Draft	15 feet	4 feet	4 feet

Table 4: Vessels Used

B.1.2 Equipment

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

Manufacturer	Model	Type
Applanix	POS MV	Vessel Attitude System
Reson	7125 SV1	MBES
Reson	7125 ROV	MBES
Klein	5000	SSS
Applanix	POS MV	Positioning System
Sea-Bird	Seacat 19+	Sound Speed System
Brooke Ocean	MVP100	Sound Speed System

Table 5: Major Systems Used

Data were acquired by NOAA Ship Thomas Jefferson, launch 3101 and launch 3102. NOAA Ship Thomas Jefferson, launch 3101 and launch 3102 acquired Reson 7125 multibeam echo sounder (MBES) soundings and sound velocity profiles. Launch 3101 and 3102 collected side scan sonar (SSS) data. Seabed samples were collected by NOAA Ship Thomas Jefferson. Vessel configurations, equipment operation and data acquisition and processing were consistent with specifications described in the DAPR.

B.2 Quality Control

B.2.1 Crosslines

Crossline comparison was completed using a difference surface created in CARIS BASE Editor. Mainscheme data generally agreed well, with maximum disagreement occurring near the outer beams. The

computed statistics of the difference surface were: mean: 0.052m, stdev: 0.075m. Data was also compared visually using standard deviation surfaces and no large standard deviations were discovered.

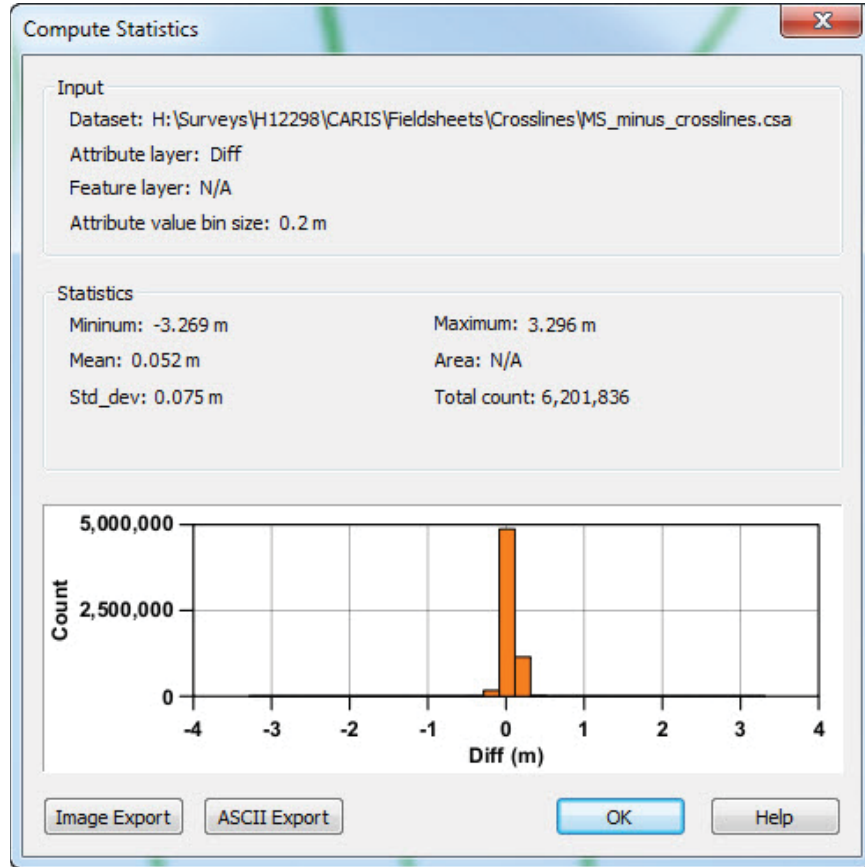


Figure 8: H12298 Crossline vs Mainscheme surface difference statistics

B.2.2 Uncertainty

The following survey specific parameters were used for this survey:

Measured	Zoning
0.102meters	0.000meters

Table 6: Survey Specific Tide TPU Values

Hull ID	Measured - CTD	Measured - MVP	Surface
S222, 3101, 3102	4meters/second	1meters/second	0.2meters/second

Table 7: Survey Specific Sound Speed TPU Values

CO-OPS provided tide uncertainty values for the TCARI surface and the VDATUM solution as part of the Total Propagated Uncertainty (TPU) calculation performed within CARIS HIPS and SIPS. TPU is calculated and written to each line's HDCS file (CARIS processed data format). When surfaces are created, an uncertainty child layer is created. This child layer represents the amount of uncertainty for individual nodes in the surface based on a combination of a priori values from equipment vendors, values determined from environmental observation in the field, and from automated empirical analysis of data in real-time.

For this survey, data were processed to the ellipsoid and reduced to MLLW using VDATUM. The tidal uncertainty component of VDATUM for this area was 0.102m and this value was used for the TPU computations.

Once all investigated features have been reviewed and least depths have been designated, surfaces are finalized. In finalization, the standard deviation for each node in the surface is multiplied by 1.96 to provide the 95% (2-sigma) confidence value for the node. This 2-sigma standard deviation is compared to the computed Total Vertical Uncertainty (TVU) for each node. The larger of the two values is retained as the finalized Uncertainty for each node. Uncertainty is reported in meters. IHO has established allowable TVU values for each order of survey. This survey meets IHO Order I TVU requirements in at least 99.69% of nodes in the each of the seven finalized MB surfaces. Areas that did not meet IHO Order1 were located in rocky areas with high standard deviation values.

B.2.3 Junctions

H12298 was compared to H12299 from the same project

The following junctions were made with this survey:

Registry Number	Scale	Year	Field Unit	Relative Location
H12299	1:10000	2011	NOAA Ship THOMAS JEFFERSON	S

Table 8: Junctioning Surveys

H12299

The junction with H12299 was compared using a difference surface in CARIS BASE Editor. The surveys had a mean difference of 0.1m and a standard deviation of 0.2m.

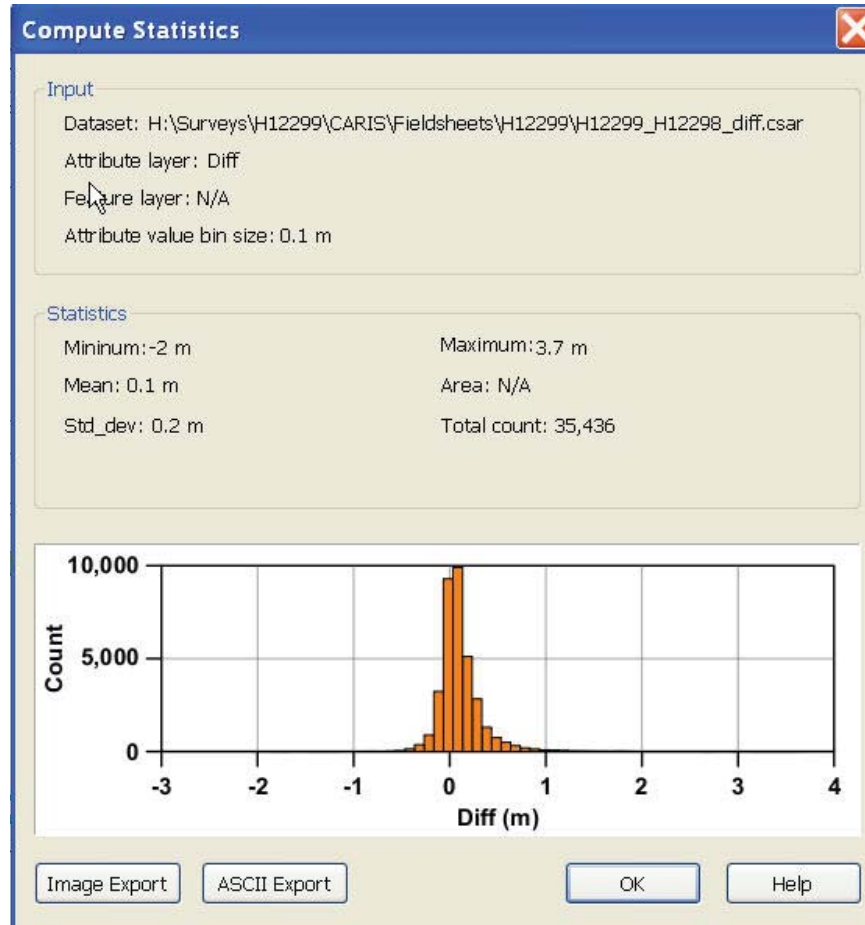


Figure 9: Summary of the H12298 and H12299 Difference Surface

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

B.2.5.1 None Exist

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

B.2.6 Factors Affecting Soundings

B.2.6.1 None Exist

There were no other factors that affected corrections to soundings.

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: On survey launch 3101 and 3102, sound speed data was collected with a CTD approximately every two hours. The ship used a Moving Vessel Profiler with casts occurring approximately every 20 minutes.

Sound speed profiles are analyzed for data quality, concatenated and then applied to the bathymetry using the "nearest in distance within time - 2 hours" mode in Caris HIPS and SIPS. No abnormal sound velocity issues were present in the data.

B.2.8 Coverage Equipment and Methods

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

B.3 Echo Sounding Corrections

B.3.1 Corrections to Echo Soundings

HDCS sounding data were reduced to mean lower low (MLLW) primarily with a VDATUM solution. Six lines of data were processed to TCARI when issues with ERS processing did not allow for an SBET solution. See the Vertical and Horizontal Control Section for more information.

The following lines had errors during TrueHeave application and only have heave applied:

S222 DN 254 Time 0007-1135,
DN 273 Line 008_1916, 009_1901 and
Launch 3101 DN 320 Line 559_1253

B.3.2 Calibrations

All sounding systems were calibrated as detailed in the DAPR.

B.4 Backscatter

Backscatter was logged as a s7k file and submitted to the IOCM processing center and directly to NGDC, and is not included with the data submitted to AHB.

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	7.1	2	2	08/24/2012	Processing
Caris	Bathy DataBASE	4.0			10/04/2012	Processing

Table 9: Software Updates

The following Feature Object Catalog was used: NOAAProfileField.xml

B.5.2 Surfaces

The following CARIS surfaces were submitted to the Processing Branch:

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
H12298_MB_50cm_MLLW_1_Final	CUBE	0.5 meters	0 meters - 20 meters	NOAA_0.5m	Object Detection
H12298_MB_50cm_MLLW_2_Final	CUBE	0.5 meters	0 meters - 20 meters	NOAA_0.5m	Object Detection
H12298_MB_50cm_MLLW_3_Final	CUBE	0.5 meters	0 meters - 20 meters	NOAA_0.5m	Object Detection
H12298_MB_1m_MLLW_4_Final	CUBE	1 meters	19 meters - 30 meters	NOAA_1m	Object Detection
H12298_MB_2m_MLLW_5_Final	CUBE	2 meters	28 meters - 40 meters	NOAA_2m	Complete MBES
H12298_MB_4m_MLLW_6_Final	CUBE	4 meters	36 meters - 80 meters	NOAA_4m	Complete MBES
H12298_MB_8m_MLLW_7_Final	CUBE	8 meters	72 meters - 160 meters	NOAA_8m	Complete MBES
H12298_MB_8m_MLLW_Combined	CUBE	8 meters	0 meters - 160 meters	N/A	Complete MBES
H12298_SSS_100	SSS Mosaic	1 meters	-	N/A	100% SSS
H12298_SSS_200	SSS Mosaic	1 meters	-	N/A	200% SSS

Table 10: CARIS Surfaces

See Appendix V for the email that discusses why the 1m resolution ODMB grid was extended to a depth of 30m instead of 20m.

B.5.3 MB Filter

A filter was applied to S222 data for outer beam noise and low quality data flags. The filter rejected beams 1-37 and 475-512 as well as quality flags 0,1, and 2. Where density was negatively affected or holidays created, which occurred mostly in the deep areas, data were re-accepted as needed. Also, designated soundings and features were re-examined after the filter was applied.

C. Vertical and Horizontal Control

As per FPM section 5.2.3.2.3, no HVCR was filed as horizontal or vertical control stations were not established by the field party for this survey. A summary of horizontal and vertical control for this survey follows.

C.1 Vertical Control

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

Standard Vertical Control Methods Used:

TCARI

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

Station Name	Station ID
Newport, RI	845-2660
New London, CT	846-1490
Montauk, NY	851-0560

Table 11: NWLON Tide Stations

The following subordinate water level stations were established for this survey:

Station Name	Station ID
Orient Harbor	851-1671

Table 12: Subordinate Tide Stations

File Name	Status
B363TJ2011_final.tc	Final Approved
8452660.tid	Verified Observed
8461490.tid	Verified Observed
8510560.tid	Verified Observed
8511671.tid	Verified Observed

Table 13: Water Level Files (.tid)

There was no Tide Corrector file associated with this survey.

A request for final approved tides was sent to N/OPS1 on 11/22/2011. The final tide note was received on 01/06/2012.

Non-Standard Vertical Control Methods Used:

VDatum

Ellipsoid to Chart Datum Separation File:

2011_B363_VDatum_Ellip_MLLW_SEP.txt

The majority of H12298 was processed to the ellipsoid and used the OPs provided VDATUM separation model to reduce data to the MLLW datum.

Six lines did not have GPS tides applied and instead were processed with TCARI tides: Launch 3101: DN 292 Line 011_1542, DN 320 Lines 559_1253, 900_1201, 900_1203, S222 DN 273 Liens 008_1916, 009_1901.

Of the majority of H12298 that was transformed to MLLW with VDATUM, the following had errors in the HIPS RMS error data application: S222 DN 253 Time 1249-1851, Launch 3101 DN 297 Line 514_1249, 909_1346

C.2 Horizontal Control

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

The following PPK methods were used for horizontal control:

Smart Base

The following CORS Stations were used for horizontal control:

HVCR Site ID	Base Station ID
MOR5	MOR5
CTGR	CTGR
CTGU	CTGU
CTMA	CTMA
CTPU	CTPU
NCDU	NCDU
URIL	URIL
ACU6	ACU6
COVX	COVX
NYRH	NYRH
VAMI	VAMI

Table 14: CORS Base Stations

The following DGPS Stations were used for horizontal control:

DGPS Stations
Sandy Hook, NJ (286kHz)
Moriches, NY (293kHz)

Table 15: USCG DGPS Stations

D. Results and Recommendations

D.1 Chart Comparison

D.1.1 Raster Charts

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

Chart	Scale	Edition	Edition Date	LNМ Date	NM Date
13214	1:20000	29	12/2010	09/25/2012	10/06/2012
13212	1:20000	39	06/2010	09/25/2012	10/06/2012
13209	1:40000	26	08/2011	09/25/2012	10/06/2012

Table 16: Largest Scale Raster Charts

13214

The survey generally agreed well with charted depths, with certain areas of discrepancy occurring with the addition of full bottom coverage where previously only singlebeam data existed:

The charted 180ft depth contour in figure 10 has grown up to 300m.

There is an uncharted 180ft depth contour seen in figure 11.

The charted 120ft depth contour was based on sparse data. With the complete coverage MB from H12298, the 120ft depth curve is now fully defined (figure 12).

See the H12298_FFF.000 for all new feature information.

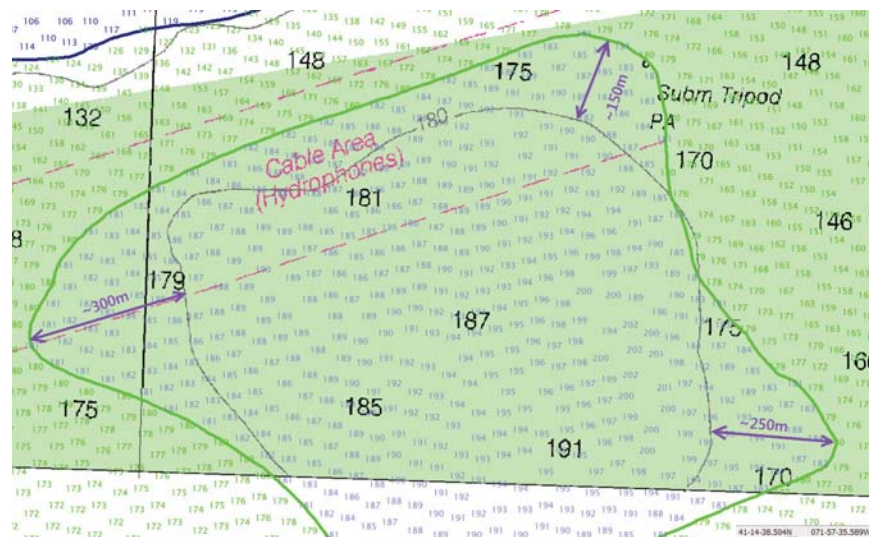


Figure 10: Raster Chart 13214 charted 180ft depth contour (black) and H12298 180ft depth contour (green)

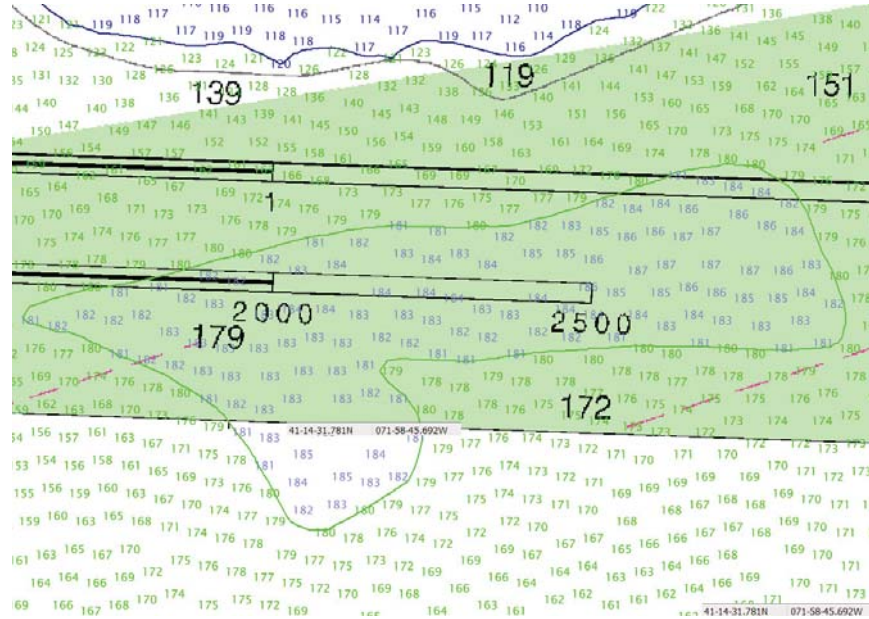


Figure 11: Raster Chart 13214 uncharted 180ft depth contour (in green)

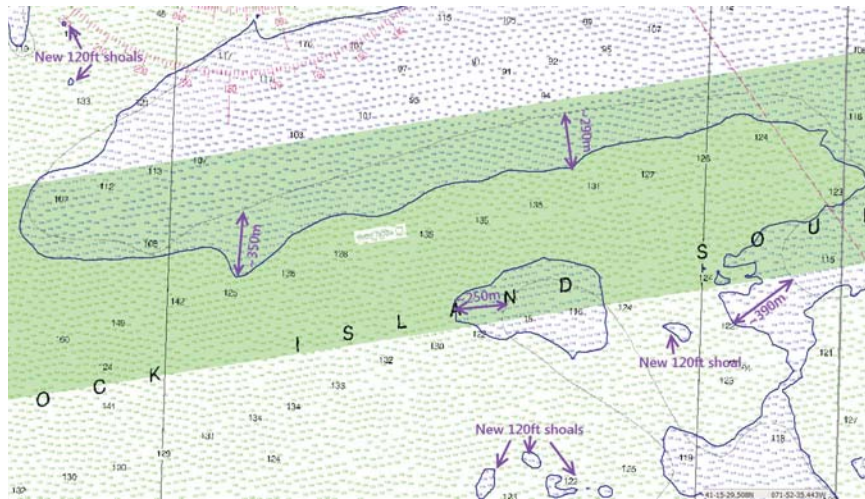


Figure 12: Raster Chart 13214 charted 120ft depth contour (black) and H12298 120ft depth contour (blue)

13212

The survey generally agreed well with charted depths. An isolated 172ft shoal has been expanded with H12298 data, figure 13. See the H12298_FFF.000 for all new feature information.

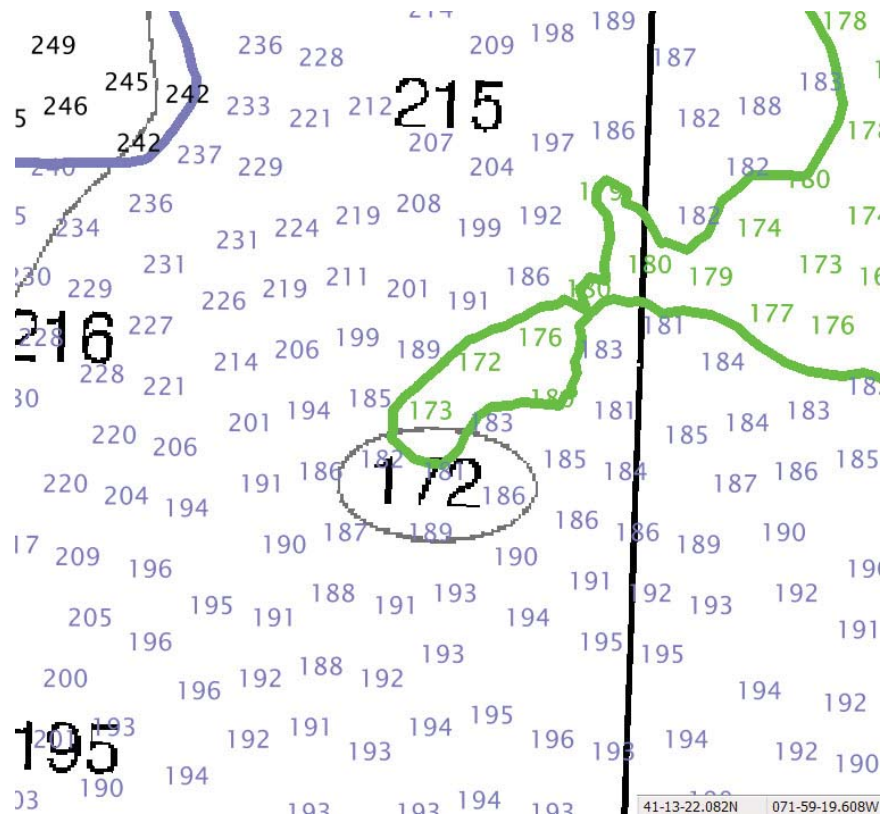


Figure 13: Raster Chart 13212 charted 180ft contour (black) and H12298 120ft depth contour (green)

13209

The survey generally agreed well with charted depths, with certain areas of discrepancy occurring where shoals have shifted over time:

The charted 120ft contour has shifted by as much as 700m and new isolated shoals have formed (Figure 14). A charted 90ft contour has separated into three isolated shoals (Figure 15).

Two 90ft isolated shoals have shifted as seen in Figure 16.

A charted 120ft contour has shifted to the north northeast and individual 120ft shoals have developed (Figure 17).

See the H12298_FFF.000 for all new feature information.

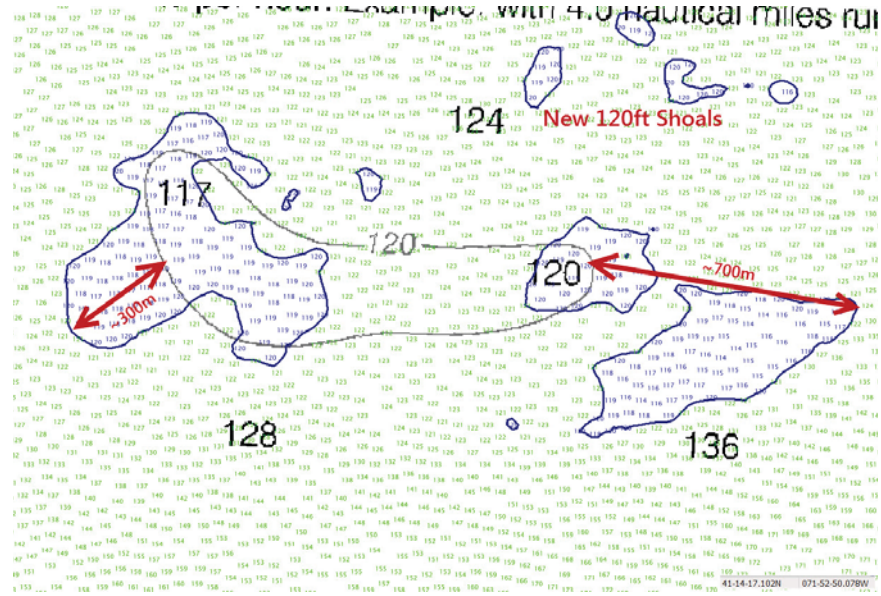


Figure 14: Raster Chart 13209 charted 120ft contour (black) and H12298 120ft depth contours (blue)

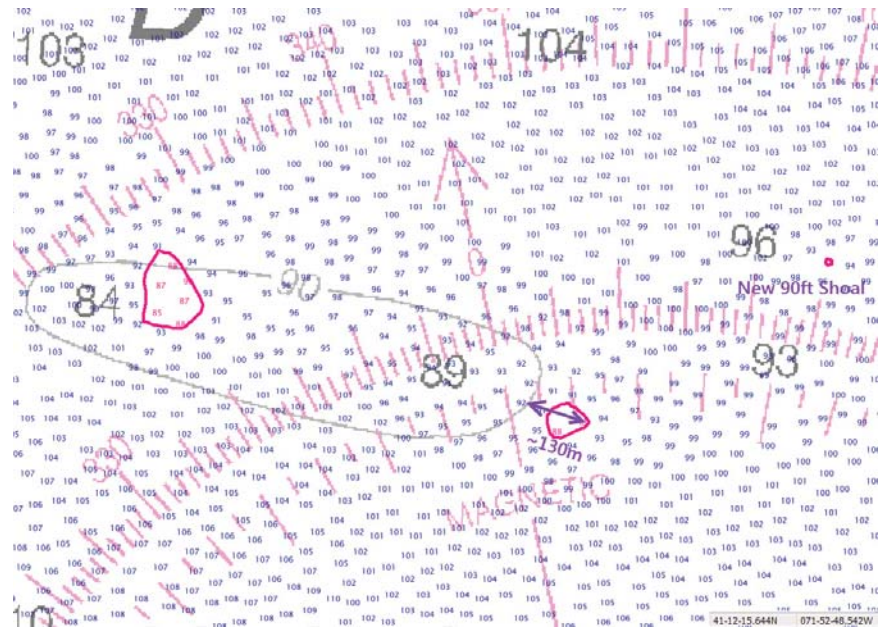


Figure 15: Raster Chart 13209 charted 120ft contour (black) and H12298 120ft depth contours (pink)

D.1.2 Electronic Navigational Charts

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

ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US5CN44M	1:20000	6	08/24/2012	09/05/2012	NO
US5CN42M	1:20000	8	09/20/2012	09/20/2012	NO
US5MA22M	1:40000	20	07/13/2012	09/25/2012	NO

Table 17: Largest Scale ENC's

US5CN44M

See discussion above for Raster Chart 13214, Ed 29.

US5CN42M

See discussion above for Raster Chart 13212, Ed 39.

US5MA22M

See discussion above for Raster Chart 13209, Ed 26.

D.1.3 AWOIS Items

Number of AWOIS Items Addressed: 5

Number of AWOIS Items Not Addressed:

All AWOIS information is located in H12298_FFF.000.

AWOIS #7276, charted submerged tripod. The entire AWOIS radius was investigated and no contacts were found that resemble a tripod. There is one feature within the radius but it is not navigationally or hydrographically significant and does not resemble a tripod. Recommend to delete charted submerged tripod PA and update AWOIS database (Feature 18).

AWOIS #2515, charted submerged tripod. The entire AWOIS radius was investigated with 200% SSS and concurrent MB and no contacts were found that resemble a tripod. Recommend to delete charted submerged tripod PA and update AWOIS database (Figure 19).

AWOIS #13676, history describes uncharted hydrophone. The described hydrophone was located within the AWOIS radius and is included in the feature file as an obstruction. Recommend to add an obstruction and update the AWOIS database (Figure 20).

AWOIS #7476, wreck Storm Petrel. The entire AWOIS radius was investigated and no contacts were found that resemble a wreck. The AWOIS history reports the 100ft schooner is now a "pile of sanded-in debris." As no evidence of a wreck was found, survey H12298 recommends to delete charted wreck PA and update the AWOIS database (Figure 21).

AWOIS #2635, wreck Olinda. The entire AWOIS radius was not investigated. Where data was collected, no contacts resembled the wreck described in the AWOIS history. Nothing is charted so there is no charting recommendation for this item (Figure 22).

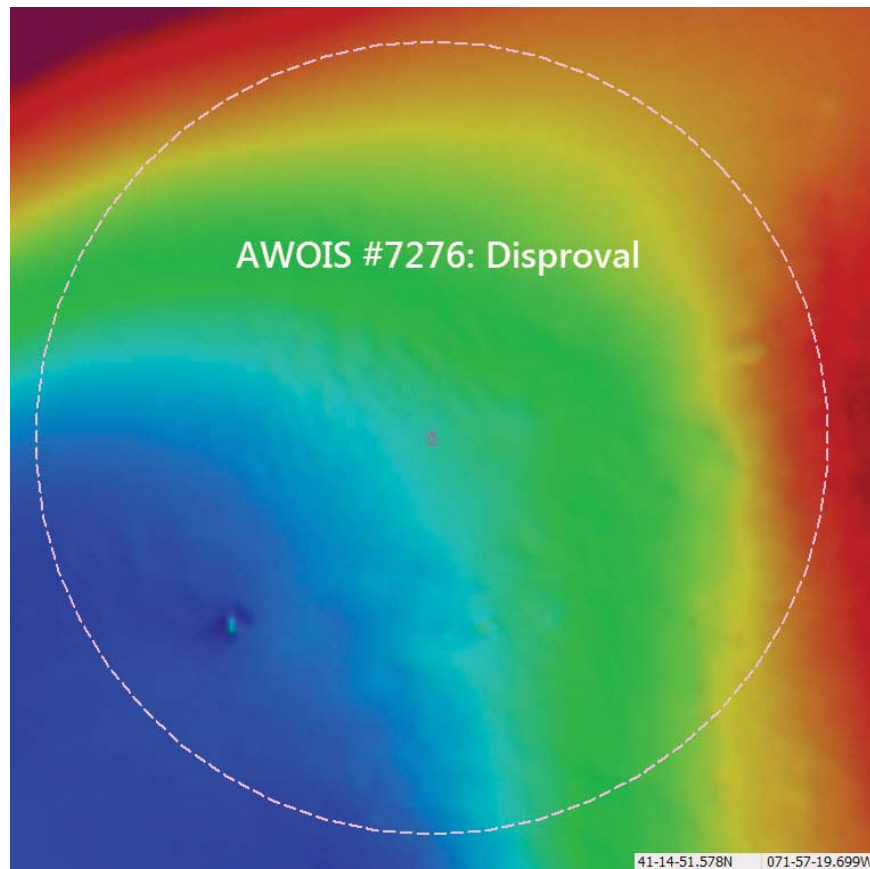


Figure 18: AWOIS #7276: Disproved

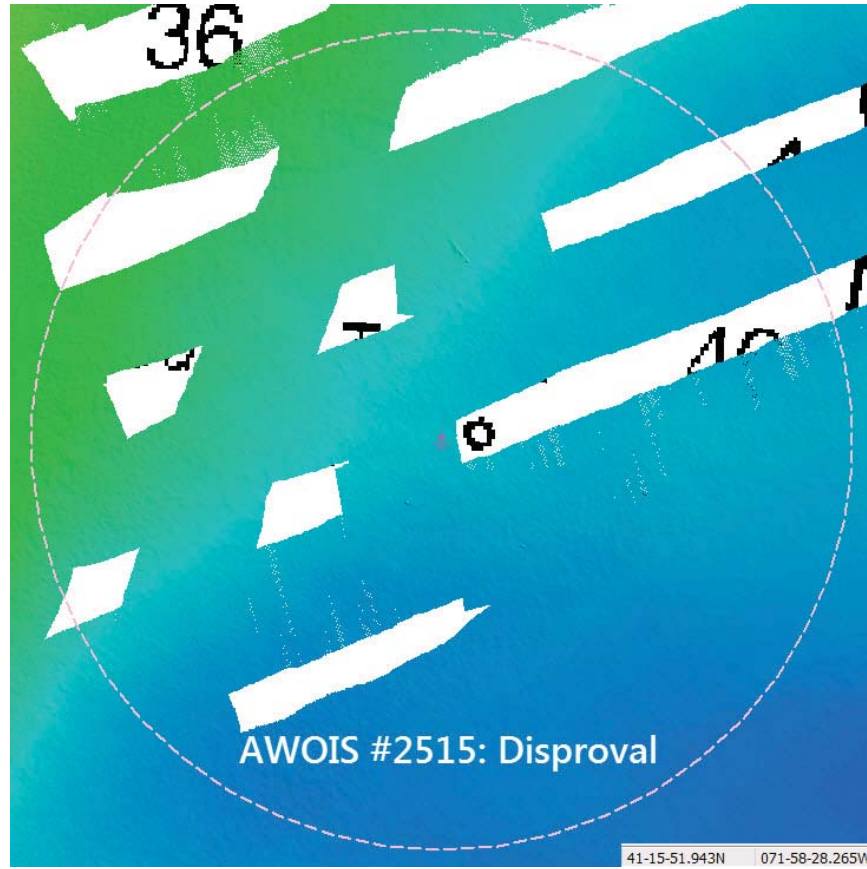


Figure 19: AWOIS #2515: Disproved

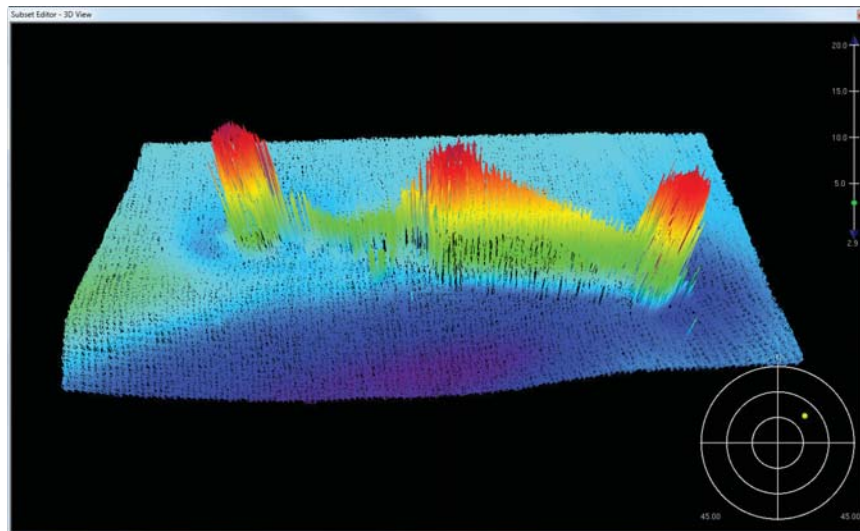


Figure 20: AWOIS 13676: Uncharted obstruction (Hydrophone)

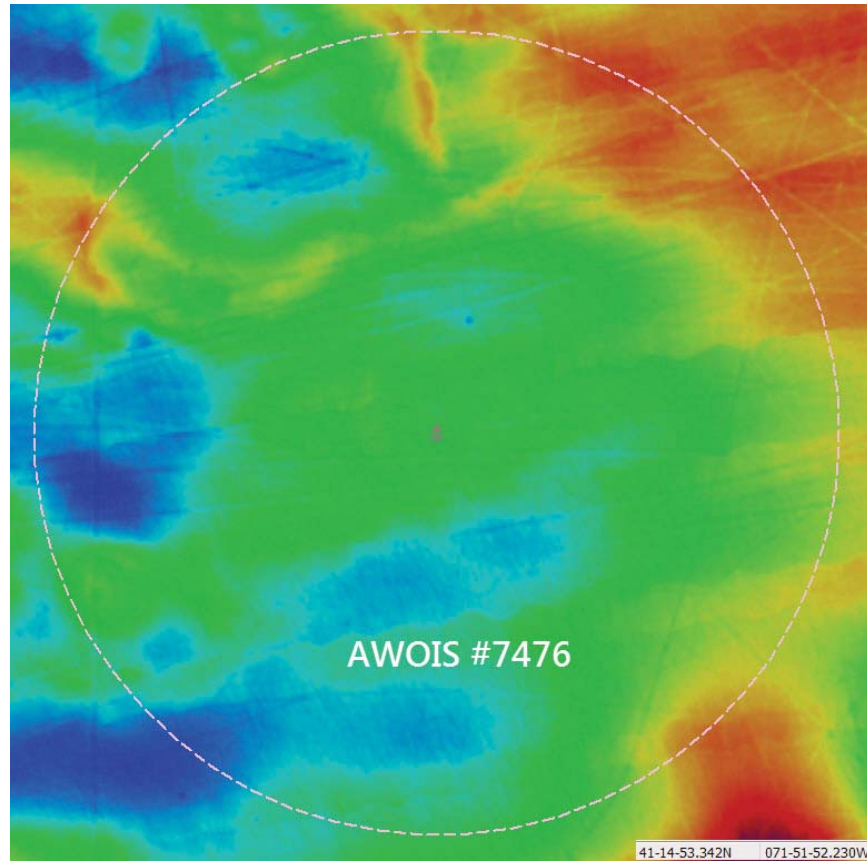


Figure 21: AWOIS #7476: Storm Petrel

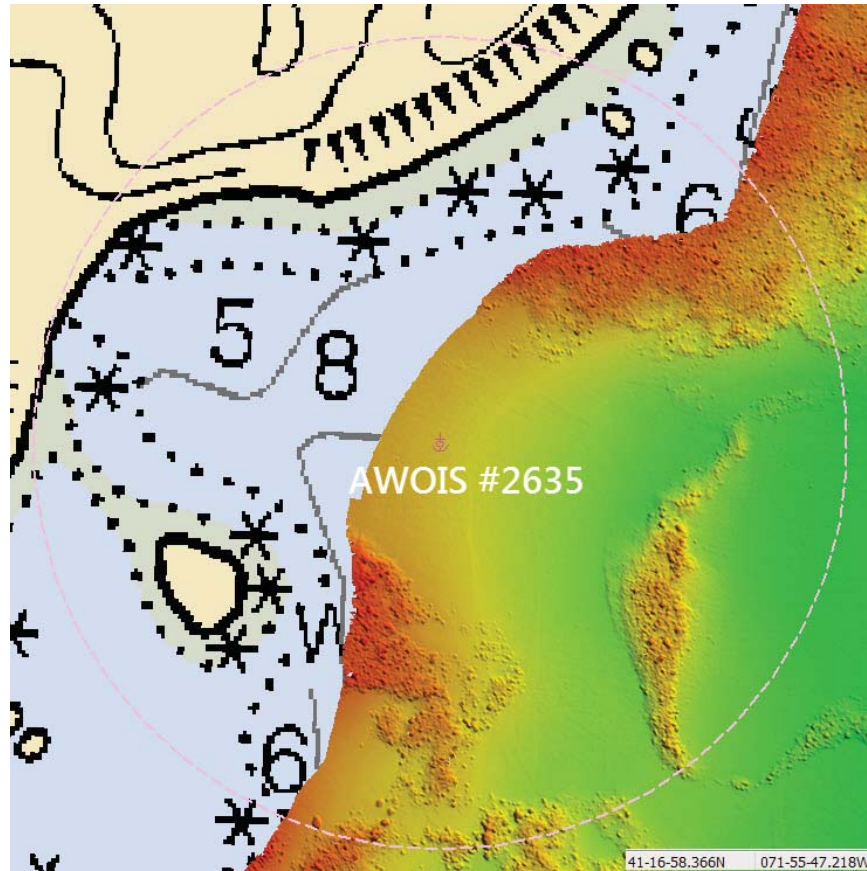


Figure 22: AWOIS #2635: Olinda

D.1.4 Charted Features

See H12298_FFF.000 for all feature discussion

D.1.5 Uncharted Features

See H12298_FFF.000 for all feature discussion

D.1.6 Dangers to Navigation

No Danger to Navigation Reports were submitted for this survey.

D.1.7 Shoal and Hazardous Features

See H12298_FFF.000 for all feature discussion. There are some new rocks nearshore that were not submitted as DtoNs due to vessel traffic considerations but they are all included in the final feature file. General shoaling is described in the chart comparison section of this DR, above.

D.1.8 Channels

No channels exist for this survey.

D.2 Additional Results

D.2.1 Shoreline

See H12298_FFF.000 for all feature discussion.

D.2.2 Prior Surveys

No prior survey comparisons exist for this survey.

D.2.3 Aids to Navigation

One aid to navigation (ATON) exists in this survey, located at 41-15-54.312N, 71-58-21.92W. While there is no field record of visually disproving this buoy, there is no evidence of the AtoN in the MB or SSS data.

D.2.4 Overhead Features

Overhead features do not exist for this survey.

D.2.5 Submarine Features

There is a charted Hydrophone cable area in survey H12298. No cables were observed in this survey so any which do exist are assumed to be properly buried. The hydrographer has no recommendations regarding these.

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 Construction and Dredging

There is no present construction or dredging within the survey limits.

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, Standing and Letter Instructions, and all HSD Technical Directives. These data are adequate to supersede charted data in their common areas. This survey is complete and no additional work is required with the exception of deficiencies noted in the Descriptive Report.

The Data Acquisition and Processing Report for OPR-D304-TJ-11 is submitted separately and contains additional information relevant to this survey.

Report Name	Report Date Sent
Data Acquisition and Processing Report	2011-06-19
Tides and Water Levels Package	2011-01-06

Approver Name	Approver Title	Approval Date	Signature
LT William Winner, NOAA	Field Operations Officer	10/10/2012	
CDR Lawrence T. Krepp, NOAA	Commanding Officer	10/10/2012	

F. Table of Acronyms

Acronym	Definition
AFF	Assigned Features File
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 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
ERZT	Ellipsoidally Referenced Zoned Tides
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
HSSDM	Hydrographic Survey Specifications and Deliverables Manual

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
TPU	Total Propagated Error
TPU	Topside Processing Unit
USACE	United States Army Corps of Engineers
USCG	United States Coast Guard
UTM	Universal Transverse Mercator
XO	Executive Officer
ZDA	Global Positioning System timing message
ZDF	Zone Definition File


APPENDIX I
TIDE NOTE AND GRAPHICS



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Office of Coast Survey
Silver Spring, Maryland 20910-3282

August 27, 2012

MEMORANDUM FOR: CDR Larry Krepp, NOAA
Commanding Officer NOAA Shin Thomas Jefferson

FROM: Jeffrey Ferguson 
Chief, Hydrographic Surveys Division

SUBJECT: Vertical Datum Transformation Technique,
OPR-B363-TJ-11, Block Island Sound, NY

Hydrographic survey H12298 is approved for vertical reduction to chart datum, Mean Lower Low Water (MLLW), using the NOAA Vertical Datum Transformation (VDatum) (<http://vdatum.noaa.gov>) derived separation (SEP) model provided on the project CD/DVD.

Approval of VDatum, in lieu of the NOAA Center for Operational Oceanographic Products and Services (CO-OPS) TCARI package as per the Project Instructions, is based on your recommendation and the review of comparison results you included in your memo from August 20, 2012, Subject "H12298 Interim Deliverables".

The results of the data analysis show that ellipsoidally referenced survey (ERS) techniques with VDatum used as the vertical datum reducer to MLLW in this area indicate a better internal consistency of the survey data and produces final sounding values that meet or exceed horizontal and vertical specifications for hydrographic surveys.

The comparison techniques are in line with the procedures that were developed and approved as part of the CSDL Ellipsoidally Referenced Survey (ERS) project. These procedures and deliverables were added to the April 2012 edition of the NOS Hydrographic Surveys Specifications and Deliverables Manual and Field Procedures Manual documents.

You shall include a description of your ERS processing procedures and the comparisons you conducted between ERS and traditional tides in the appropriate Descriptive Report (DR), Horizontal and Vertical Control Report and/or Data Acquisition and Processing Report.

This memo and your memo, shall be included in the supplemental correspondence Appendix of the DR.





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

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : January 4, 2012

HYDROGRAPHIC BRANCH: Atlantic

HYDROGRAPHIC PROJECT: OPR-B363-TJ-2011

HYDROGRAPHIC SHEET: H12298

LOCALITY: 3NM Southeast of Fisher Island, Block Island Sound

TIME PERIOD: August 31 - November 16, 2011

TIDE STATION USED: Newport, RI 845-2660

Lat. 41° 30.3' N Long. 71° 19.6' W

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

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.099 meters

TIDE STATION USED: New London, CT 846-1490

Lat. 41° 21.7' N Long. 72° 05.4' W

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

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.838 meters

Tide STATION USED: Montauk, NY 851-0560

Lat. 41° 2.9' Long. 71° 57.6' W

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

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.683 meters

Tide STATION USED: Orient, Orient Harbor, NY 851-1671

Lat. 41° 8.2' Long. 72° 18.4' W

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

HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 0.827 meters

REMARKS: RECOMMENDED GRID

Please use the TCARI grid "B363TJ2011_final.tc" as the final grid for project OPR-B363-TJ-2011, during the time period between August 31 and November 16, 2011.

Refer to attachments for grid information.

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

Note 2: For survey track lines from Nov. 15-16, in Pydro, go to TIDES>CO-OPS Office Tools>Tide Station Info and turn off residuals at Orient Harbor. TCARI will automatically download water level data at the 3 remaining NWLON stations and generate tide correctors.

Gerald Hovis

Digitally signed by Gerald Hovis
DN: cn=Gerald Hovis, o=Center for Operational
Oceanographic Products and Services, ou=NOAA/NOS/
CO-OPS/OD/PSB, email=gerald.hovis@noaa.gov, c=US
Date: 2012.01.05 14:30:41 -05'00'

CHIEF, PRODUCTS AND SERVICES BRANCH



CUT

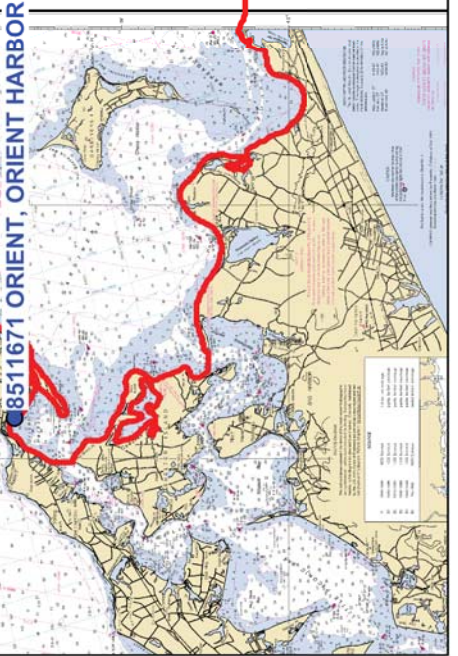
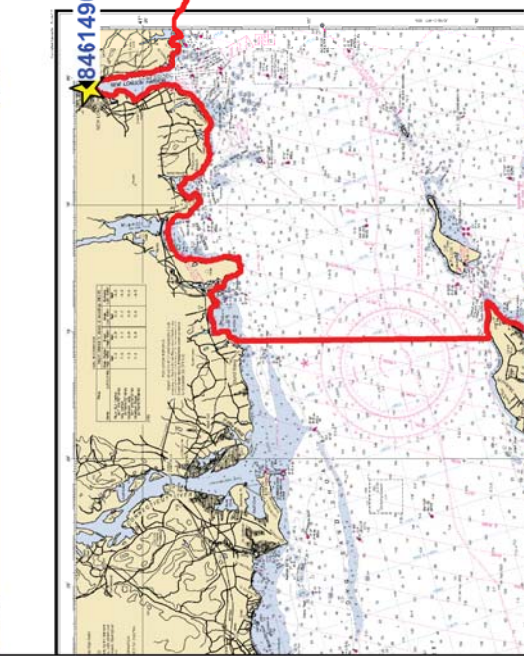
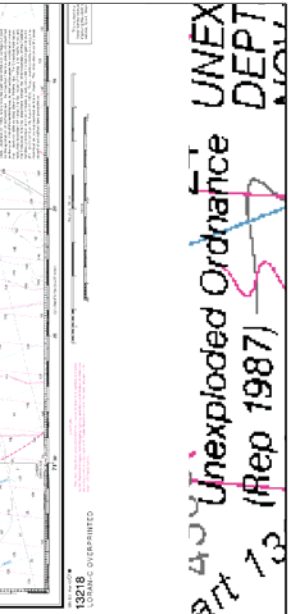
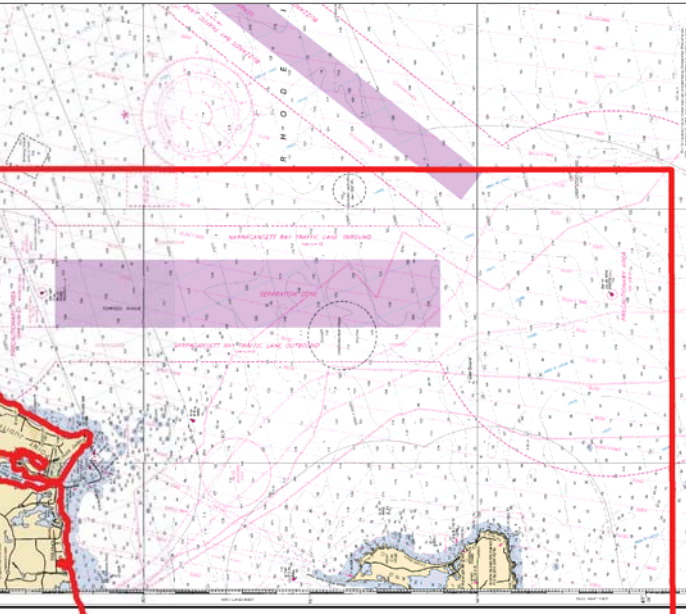
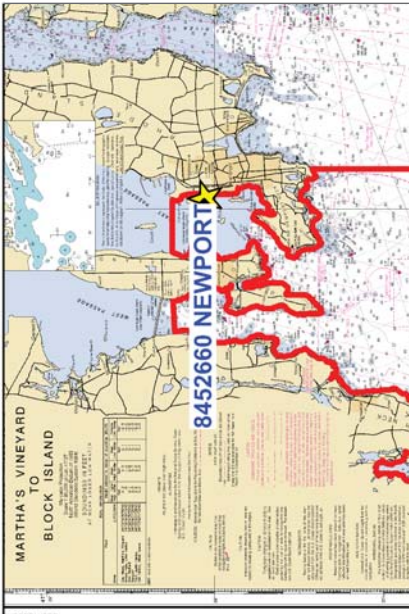
Final TCARI Grid for
OPR-B363-TJ-2011, H12298
3 NM Southeast of Fisher Island
Block Island Sound, CT & NY

AERO
Rot W & G HK

S O U N D
AERO
Rot W & G
(use chart 13205)

FIG 5s 261ft 20M HORN
5s 168ft 18M BELL
DRN RACON (---) 39
RW "MP" 8510560 MONTAUK (A) Montauk F
WHIS RACON (---) 21

13 PA 17 (use chart 13205)
Unexploded ordnance (rep-1988)
Unexploded Ordnance DEPT (Rep 1987)



APPENDIX II

SUPPLEMENTAL SURVEY RECORDS
AND CORRESPONDENCE

Subject: Re: Crossline comparison

From: Chris van Westendorp <Christiaan.VanWestendorp@noaa.gov>

Date: Thu, 10 Sep 2009 13:00:35 -0400

To: "mark.blankenship" <Mark.Blankenship@noaa.gov>

CC: LCDR Rick Brennan <Richard.T.Brennan@noaa.gov>, Castle Parker <Castle.E.Parker@noaa.gov>, Edward Owens <Edward.Owens@noaa.gov>, LT Jasper Schaer <jasper.schaer@noaa.gov>, CDR Shep Smith <Shep.Smith@noaa.gov>, Daniel Wright <Daniel.Wright@noaa.gov>

Mark,

Per 5.1.4.3 of the HSSD, AHB authorizes TJ to use the Standard Deviation layer to conduct surface difference comparison and analysis on future survey submissions of multibeam data. This meets the crossline comparison requirement laid out in HSSD.

Please let me know if you have any questions or need for further clarification.

R/

LCDR Chris van Westendorp, NOAA

mark.blankenship wrote:

Chris,

You mentioned in the meeting today that AHB was not going to require the multiple CUBE surface comparison, instead allowing us to use a single surface standard deviation layer to do our checks with. Is there any memo coming out for that?

Mark

LCDR Chris van Westendorp <christiaan.vanwestendorp@noaa.gov>

Atlantic Hydrographic Branch

NOAA OCS

Subject: Re: Bottom Sample submission
From: Gene Parker <Castle.E.Parker@noaa.gov>
Date: Mon, 31 Jan 2011 11:47:48 -0500
To: "ops.thomas.jefferson" <OPS.Thomas.Jefferson@noaa.gov>

Good day Mark,

Submit both. HSSD specifies both in two areas of the document. First one needs to comply with HSSD; if the TJ wants to make the Hob file, then they have gone beyond the minimum requirements. If the TJ doesn't do it, then AHB would have to as long as the BS is within the Pydro PSS. Reference HSSD Section 8.2 S57 Feature File, paragraph 6:

The S-57 feature file contains all the attributed information on specific objects that cannot be portrayed in a simple depth grid. Features to include in the S-57 feature file include; wrecks, obstructions, shoreline, rocks, islets, oil platforms, nature of seabed (bottom samples) and all other objects that may need to be compiled to a navigational product and require additional information that cannot be included in the BAG.

The Pydro PSS is in lieu of the S57 format file.

We could make the hob from the table, but since the TJ has done this, submit both the Hob file and the table contained in DR Appendix 5. Place the Hob file in the PSS directory which has contained all features in NOAA PSS format as in the past. If the TJ is going to submit the hob file, the source would be the table, so HSSD specifies delivery of both. If the TJ only submitted the table, AHB would have to generate the feature objects. If the TJ creates the hob file, then submit it.

gene

ops.thomas.jefferson wrote:

Gene,

We will be submitting .HOB files for the bottom samples in addition to the summary table found in the supplemental survey records and correspondence section of the DR. It is my understanding that the table is only used to create the .HOB anyways. A recommendation will need to be made that either the table either be omitted or be used in place of the .hob file. Only the summary table is mention in the HSSD april 2010 version. If there are any other issues with this idea please let us know.

Mark

Castle Eugene Parker <castle.e.parker@noaa.gov>

Physical Scientist - Hydrographic Team Lead

Atlantic Hydrographic Branch

NOAA Office of Coast Survey

Subject: Fwd: Re: Tasker: sounding density requirements for SSS surveys
From: Michael.Davidson@noaa.gov
Date: Thu, 13 Oct 2011 12:52:12 -0400
To: Frankie.A.Daniel@noaa.gov
CC: OPS.Thomas.Jefferson@noaa.gov, ChiefST.Thomas.Jefferson@noaa.gov

Frank,

I am forwarding the requested email thread regarding skunk stripe MBES resolution and density requirements. Please put a copy of this in Appendix V and reference it in the DR.

R,
Mike

— Re: Tasker: sounding density requirements for SSS surveys.eml —

Subject: Re: Tasker: sounding density requirements for SSS surveys
From: "james.m.crocker" <James.M.Crocker@noaa.gov>
Date: Mon, 18 Apr 2011 08:49:45 -0400
To: CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>
CC: Daniel Wright <Daniel.Wright@noaa.gov>, Mike Brown <Mike.Brown@noaa.gov>, Jeffrey Ferguson <Jeffrey.Ferguson@noaa.gov>, Richard T Brennan <Richard.T.Brennan@noaa.gov>, _NMAO MOA OPS Thomas Jefferson <OPS.Thomas.Jefferson@noaa.gov>

Shep,

Agree with the modification to the requirements defined as you suggest to a grid resolution of 2m for depths 1 - 20m and 4m for depths 21-40 m. Under previous specs MB speed was set so that no less 3.2 beam footprints, center to center, fall within 3 m in the along track direction. So by setting the grid resolution to a minimum of 2 m I'm more inclined to a density requirement of 2 soundings per node at a minimum but would prefer 3 sounding per node. I just think setting the sounding per node to 1 lowers the bar to low. How will you keep noisy outer beam data from corrupting the grid and over shoal biasing the depths that are used to update the chart. I suppose the when the branch grids the data a much lower resolution 5m or greater to make the charted sounding layer it will help some but it will depend on the distance between outer beams between adjacent lines. Those more technically knowledgeable than I should certainly correct me if I have misspoken.

Not sure why this was overlooked for the 2010 Specs revisions but it was never brought up when reviewing the 2010 Spec for the 2011 updates. To ensure this does not get overlook in the next update to specs I will have a HTD drafted up for what is agreed upon.

*18-40 Follow normal grid resolutions HSSD 5.2.2.2

Regards,
Jim

On 4/16/2011 8:01 PM, CO Thomas Jefferson wrote:

Jeff and Jim,

It appears that the June 2009 BOH recommendation to relax the resolution and density requirements for skunk stripe surveys was never fully implemented into policy in the HSSD.

On our current survey we are having trouble getting 5 soundings per 2m node in the outer beams in 30m of water in heavier weather. In order to meet the specification as

it now stands, TJ would have to do one of the following:

- 1) Turn off the multibeam and use a singlebeam instead.
- 2) Slow down, reducing our efficiency and increasing our cost by about 30%.
- 3) Reduce swath coverage from full coverage to a narrow strip of multibeam at a higher density.

If we follow the June 2009 agreement, we don't have to do any of these things. Since it appears from this correspondence to have been your intent to approve this proposal, TJ will continue with the current survey as if it were approved, unless otherwise directed. Specifically:

- 1) Reduce the resolution requirement to 2m less than 20m of water, and 4m from 20-40m. It is not envisioned that we would do skunk stripe surveys deeper than 40m.
- 2) Relax the density requirement to 1 sounding per node. We will undoubtedly exceed this handily, but the point is, we don't want ships slowing down or doing extra work to meet an unnecessary density requirement.
- 3) All features, as noted elsewhere in the S&D, need to be gridded at OD resolutions.

V/R,

Shep

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

On 8/6/2009 6:33 PM, CO Thomas Jefferson wrote:

Hi Jeremy,

The gist of the June decision on this topic was:

Background: When the "complete" coverage specs were upgraded to 1m resolution last winter, the linkage to skunk stripe MB requirements meant that these grids got affected as well. Since the object detection in SSS surveys is achieved using the SSS, we don't need high resolution grids to demonstrate coverage. In fact, singlebeam in the same circumstance would be sufficient. So, we can relax the gridding spec for grids on 200% SSS surveys to:

- 1) Reduce the resolution requirement to 2m less than 20m of water, and 4m from 20-40m. It is not envisioned that we would do skunk stripe surveys deeper than 40m.
- 2) Relax the density requirement to 1 sounding per node. We will undoubtedly exceed this handily, but the point is, we don't want ships slowing down or doing extra work to meet an unnecessary density requirement.
- 3) All features, as noted elsewhere in the S&D, need to be gridded at OD resolutions.

Shep

CDR Shepard Smith, NOAA
Commanding Officer
NOAA Ship Thomas Jefferson
439 West York St
Norfolk, VA 23510
757-647-0187

Jeremy McHugh wrote:

Hi Guys,

I have been assigned to "review the current specs & deliverables, FPM and HTD to

get background information on the current requirements to note where they will need to be updated and generate a draft HTD to better define or remove the density requirement when conduction 200% SSS surveys with concurrent MB or SB".

I just finished refreshing my memory about what the Specs have to say on this topic of skunk-stripe MB data being acquired concurrently with SSS imagery. It makes sense to me and I don't yet see a problem with the Specs. Any old HTD's would have been incorporated in the Specs by now, so I did not go rooting through the HTDs. The FPM is silent on this topic.

So that I can understand the issue better, what part of the following excerpt from the Specs is unclear or confusing:

5.1.2.3 Set Line Spacing The hydrographer shall conduct multibeam and single beam operations at the line spacing specified in the Hydrographic Survey Project Instructions or Statement of Work. For example, set line spacing may be employed in the following scenarios: (1) when acquiring multibeam data concurrently with side scan sonar operations (sometimes referred to as "skunk-stripe" coverage, where the side scan swath is wider than the multibeam swath) and (2) when acquiring single beam data in areas that are too shallow for efficient multibeam operations, or otherwise too risky of an area to use multibeam equipment.

- For multibeam operations the requirements are the same within the swath, as for Complete Coverage above. Note: that in a "skunk striping" scenario (see above) elements of object detection are also in operation, due to side scan sonar data coverage and any associated contact scanning requirements.

It sounds straightforward to me, but I may be missing something. I would appreciate any insight you have into the root of the confusion that led to this issue being put before the board of hydrographers.

Thanks,
Jeremy

james.m.crocker wrote, On 8/6/2009 2:49 PM:

Jeremy,

At a past BOH meeting the following topic was discussed and action item assigned.

c) Skunk stripe density requirements, Shep noted that TJ is running the ship at a reduced speed in order to meet feature detection multibeam specs, which is not really necessary when the project calls for 200% side-scan sonar coverage. There was general agreement that this was not needed and will be clarified in the Project Instructions in the short term and Ops will review the specs for the longer term fix.

ACTION: Ops will draft an HTD and review the specs to resolve the issue.

Would you please review the current specs & deliverables, FPM and HTD to get background information on the current requirements to note where they will need to be updated and generate a draft HTD to better define or remove the density requirement when conduction 200% SSS surveys with concurrent MB or SB.

Let me know if you have any questions.

Jim

CDR James Crocker, NOAA <James.m.crocker@noaa.gov>

Chief, Operations Branch

Hydrographic Surveys Division

NOAA

Re: Tasker: sounding density requirements for SSS surveys.eml

From David Wolcott <David.Wolcott@noaa.gov>

Sent Monday, November 21, 2011 3:01 pm

To Michael.Davidson@noaa.gov

Cc NOS.COOPS.HPT@noaa.gov , nos.coops.oetteam@noaa.gov , Corey.Allen@noaa.gov , Marc S Moser <Marc.S.Moser@noaa.gov> , OPS.Thomas.Jefferson@noaa.gov , CO.Thomas.Jefferson@noaa.gov , Paul.Turner@noaa.gov , Loren Evory <Loren.Evory@noaa.gov>

Subject Re: OPR-B363-TJ-11 Removals from HHL

Hi Mike,

thanks for the information. We made the changes to the Hot List.

Thanks,
David

On 11/21/2011 9:57 AM, Michael.Davidson@noaa.gov wrote:

> HPT and OET,

>

> NOAA Ship Thomas Jefferson has completed survey operations on project OPR-B363-TJ-11. Survey operations concluded on 15 NOV 2011. The stations listed below may be removed from the HHL at your convenience:

>

> Station Number - Station Name

> 845-2660 - Newport, RI

> 846-1490 - New London,CT

> 851-0560 - Montauk, NY

> 851-1671 - Orient Harbor, NY

>

> Closing levels and station removal of the Orient station occurred on 15 NOV 2011 and was performed by ENS Loren Evory (CO-OPS FOD, Chesapeake, VA, and personnel from NOAA Ship Thomas Jefferson.

>

> Thank you for your support during our survey operations on OPR-B363-TJ-11

>

> V/R,

> Mike

>

> --

> LT Michael C. Davidson

> Operations Officer

> NOAA Ship Thomas Jefferson

> 439 W York St

> Norfolk, VA 23510

> 757-647-0187 (ship's cell)

> 808-434-2706 (ship's Iridium)

> 301-713-7782 (VOIP)

> ops.thomas.jefferson@noaa.gov

--

David Wolcott

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NOS/ NOAA

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Michael Davidson <michael.davidson@noaa.gov>

Final Tide Notes for OPR-B363-TJ-2011, H12298 and H12299

1 message

Cristina Urizar <Cristina.Urizar@noaa.gov>

Fri, Jan 6, 2012 at 11:02 AM

To: _OMAO MOA CO Thomas Jefferson <CO.Thomas.Jefferson@noaa.gov>, _OMAO MOA OPS Thomas Jefferson <OPS.Thomas.Jefferson@noaa.gov>, _OMAO MOA Tides Thomas Jefferson <Thomas.Jefferson.Tides@noaa.gov>

Cc: "_NOS.CO-OPS.HPT" <NOS.COOPS.HPT@noaa.gov>, Corey Allen <Corey.Allen@noaa.gov>, Richard Brennan <Richard.T.Brennan@noaa.gov>

Dear CDR Krepp,

The zipped file "H12298_H12299.zip" containing the final tide notes for project OPR-B363-TJ-2011, Registry Nos. H12298 and H12299, is attached. The Final TCARI grid, "B363TJ2011_final.tc," has been posted to the FTP site located at ftp://tidepool.nos.noaa.gov/pub/outgoing/HPT/Smooth_Tides_TCARI/B363TJ2011/ and can also be found on the Sharepoint site.

The following files are included in the zipped file (H12298_H12299.zip) posted on Sharepoint:

B363TJ2011_final.tc

H12298.pdf

H12299.pdf

SOP#_3.2.3.11_K5_How_to_Run_

TCARI_for_Hydrographic_Survey_Vessels_and_Processing_Branches.pdf

Tide station data for Newport (845-2660), New London (846-1490), Montauk (851-0560) and Orient, Orient Harbor (851-1671) may be retrieved via the Internet from the CO-OPS SOAP web services at <http://opendap.co-ops.nos.noaa.gov/axis/text.html>. The *.pdf file has the tide note in Adobe Acrobat format.

Please note that for both H12298 and H12299, surveying was conducted after Orient, Orient Harbor (851-1671) was removed. With regards to H12298, for survey track lines from Nov. 15-16 and with regards to H12299 for survey track lines from Nov. 15, in Pydro, go to TIDES>CO-OPS Office Tools>Tide Station Info and turn off residuals at Orient Harbor. TCARI will automatically download water level data at the 3 remaining NWLON stations and generate tide correctors.

Please call me at [727-209-5954](tel:727-209-5954) if there are any problems retrieving the files.

Thank you,
Cristina



H12298_H12299.zip
3159K

B363 Grid size

[Back to messages](#) |

Peter Lewit

1:51 PM

To peter Lewit, Matt VanHoy, ...

Reply ▾

From: **Peter Lewit** (peter.lewit@hotmail.com)

Sent: Wed 2/29/12 1:51 PM

To: peter Lewit (Peter.Lewit@noaa.gov); Matt VanHoy (matt.vanhoy31@gmail.com); Kimberly Glomb (fishcntr2@aol.com); Frankie Daniel (Frankie.A.Daniel@noaa.gov)

Cc: OPS.Thomas.Jefferson@noaa.gov

As per conversation with FOO(from telephone conversation w/Jim Crocker)

the requirement for object detection was 0-20m. For the deep draft vessels (60 feet) it was deemed prudent

by Thomas Jefferson to increase the object detection to 30 meters.

Using the formulas the modified grid sizes for OBDT and coverage should be as follows.

0-20m .5 OBDT

19-30 1.0m OBDT

28-40 2m Cov

36-80m 4m Cov

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Michael Davidson <michael.davidson@noaa.gov>

RE: Survey Submission Structure for passback surveys

1 message

Castle Parker <castle.e.parker@noaa.gov>
To: Michael Davidson <michael.davidson@noaa.gov>

Thu, May 10, 2012 at 3:23 PM

Mike,

I concur. Speaking for AHB, I will accept this deviation from the deliverable specifications. I think that it's important for the directory structure to be consistent at the time of survey submission. Please include this accepted spec deviation in DR Appendix 5.

Thanks for your consideration with this subject and I completely agree with you.

Regards,

Gene

From: Michael Davidson [mailto:michael.davidson@noaa.gov]
Sent: Thursday, May 10, 2012 3:01 PM
To: Castle Parker
Subject: Survey Submission Structure for passback surveys

Gene,

TJ has a few surveys that were passed back for additional work. In the next several weeks, we will be submitting surveys from 2009, 2010, 2011, followed soon there after by current surveys from 2012. In an attempt to make things consistent, I would like to submit all the surveys according to the 2012 Specs and Deliverables. Before doing this, I wanted to check with you to see if this would be considered non-compliant with S&D for the prior year surveys.

If AHB agrees with our proposal to submit all surveys in the 2012 Directory Structure, please email back concurrence and I will include this email thread in Appendix V for documentation.

Thank you for your time.

V/R,

Mike

--

LT Michael C. Davidson

APPENDIX III

SURVEY FEATURES REPORT

DToNs - none

AWOIS - five

Wrecks - none

Maritime Boundaries - none

H12298 AWOIS Items

Registry Number: H12298

State: New York

Locality: Block Island Sound

Sub-locality: 3 NM Southeast of Fisher Island

Project Number: OPR-B363-TJ-11

Survey Date: 08/31/2011 to 11/16/2011

Charts Affected

Number	Edition	Date	Scale (RNC)	RNC Correction(s)*
13214	28th	04/01/2006	1:20,000 (13214_1)	[L]NTM: ?
12372	34th	11/01/2006	1:40,000 (12372_1)	[L]NTM: ?
13209	25th	04/01/2007	1:40,000 (13209_1)	[L]NTM: ?
13205	38th	02/01/2007	1:80,000 (13205_1)	[L]NTM: ?
12300	47th	05/01/2008	1:400,000 (12300_1)	[L]NTM: ?
13006	34th	05/01/2007	1:675,000 (13006_1)	[L]NTM: ?
5161	13th	10/01/2003	1:1,058,400 (5161_1)	[L]NTM: ?
13003	49th	04/01/2007	1:1,200,000 (13003_1)	[L]NTM: ?

* Correction(s) - source: last correction applied (last correction reviewed--"cleared date")

Features

No.	Name	Feature Type	Survey Depth	Survey Latitude	Survey Longitude	AWOIS Item
1.1	AWOIS #2635 Visible Wreck 'OLINDA'	AWOIS	[no data]	[no data]	[no data]	---
1.2	AWOIS #7476 - Non dangerous sunken wreck 'Storm Petrel' depth unknown	AWOIS	[no data]	[no data]	[no data]	---
1.3	AWOIS #2515 - Charted obstruction - Subm Tripod PA, depth unknown	AWOIS	[no data]	[no data]	[no data]	---
1.4	AWOIS #13676 - Uncharted Obstruction	AWOIS	18.61 m	41° 15' 24.4" N	071° 58' 09.6" W	13676
1.5	AWOIS #7276- Charted submerged Tripod PA	AWOIS	[no data]	[no data]	[no data]	---

1.1) AWOIS #2635 - AWOIS #2635 Visible Wreck 'OLINDA'

No Primary Survey Feature for this AWOIS Item

Search Position: 41° 16' 58.3" N, 071° 55' 47.3" W
Historical Depth: [None]
Search Radius: 200
Search Technique: BD,ES,VS,SD,##
Technique Notes: [None]

History Notes:

SURVEY REQUIREMENT COMMENTS
 ROCKS MAY PRECLUDE A COMPLETE DRAG.

DESCRIPTION

195 LORAN C RATES PROVIDED BY MR. RICHARD TARACKA, GREENWICH, CT. POLICE DEPARTMENT, TEL NO. 203-622-8007; 9960-X 26059.0, 9960-Y 43966.7. (ENTERED MSM 3/89)

Survey Summary

Charts Affected: 13214_1, 12372_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Entire AWOIS radius was not ensonified. MB and SSS data that was collected in the AWOIS radius did not identify described wreck

Feature Correlation

Source	Feature	Range	Azimuth	Status
AWOIS_EXPORT_DAB_21	AWOIS # 2635	0.00	000.0	Primary

Hydrographer Recommendations

No charting recommendation to make as feature is not charted

S-57 Data

[None]

Office Notes

SAR: Wreck is currently not charted. The entire AWOIS radius was not ensonified. No wreck charted or observed within search area using SSS and MB. The cartographic label referencing a wreck is to the south of this location and is portrayed as "Wreck I" (vertical text) and is associated with an island.

COMPILATION: Concur with conditions. No indication of visible or submerged wreck in present survey data. No wreck symbol is charted on largest scale charts or ENC representing this area. There is no indication of a wreck, but there is a 6.2238 foot depth in 9-15 feet of water in Lat 41-16-54.6168N, Lon 071-55-48.9346W. No change to charting is recommended. The AWOIS database should be updated and corrected based on the present survey findings as needed.

1.2) AWOIS #7476 - AWOIS #7476 - Non dangerous sunken wreck 'Storm Petrel' depth unknown

No Primary Survey Feature for this AWOIS Item

Search Position: 41° 14' 53.4" N, 071° 51' 52.2" W
Historical Depth: [None]
Search Radius: 300
Search Technique: S2,DI,ES,##
Technique Notes: [None]

History Notes:

SURVEY REQUIREMENT COMMENTS

CONDUCT INVESTIGATION AROUND LORAN RATES RATHER THAN GEOGRAPHIC POSITION. DO NOT EXPEND MORE THAN 2 HOURS SEARCHING FOR THIS ITEM.

HISTORY

FE345SS/90--OPR-B660-HE; WRECK NOT LOCATED BY SSS; A FEW SMALL ROCK FIELDS WERE FOUND. SEARCH AREA WAS DETERMINED BY LORAN RATES PROVIDED. EVALUATOR STATES THAT ITEM WAS NOT ADEQUATELY INVESTIGATED AS SUFFICIENT OVERLAP OF SONAR SWATH WAS NOT OBTAINED AND SIGNIFICANT PORTIONS OF THE ASSIGNED AREA WERE NOT COVERED. EVALUATOR RECOMMENDS TO RETAIN AS CHARTED. (UPDATED 7/92 MCR)

DESCRIPTION

Survey Summary

Charts Affected: 13214_1, 13209_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Complete AWOIS radius ensounded with MB. No remains of 100ft wooden schooner, Storm Petrel, were found. AWOIS history states wreck is mostly covered by sand.

Feature Correlation

Source	Feature	Range	Azimuth	Status
AWOIS_EXPORT_DAB_21	AWOIS # 7476	0.00	000.0	Primary

Hydrographer Recommendations

Delete wreck PA, update AWOIS database

S-57 Data

[None]

Office Notes

SAR: No wreck observed in MB.

COMPILATION: Concur. No indication of wreck in present survey data. Delete charted non-dangerous sunken wreck depth unknown.

1.3) AWOIS #2515 - AWOIS #2515 - Charted obstruction - Subm Tripod PA, depth unknown

No Primary Survey Feature for this AWOIS Item

Search Position: 41° 15' 51.4" N, 071° 58' 28.3" W
Historical Depth: [None]
Search Radius: 200
Search Technique: sb, sss, mb
Technique Notes: [None]

History Notes:

HISTORY

CL380/74--BP88354;NAVAL ELECTRONICS LABORATORY CENTER; BLUEPRINT ì
 AND TRANSMITTAL TO SHOW LOCATION OF NAVY DEEP AND SHALLOW ì
 TRANSDUCERS AND ASSOCIATED CABLE; APPLIED THRU NM BELOW.
 NM19/74--ADD SUBMERGED TRIPOD IN LAT 41-15-51N, LONG 71-58-30W. ì
 (ENTERED MSM 4/89)

Survey Summary

Charts Affected: 13214_1, 12372_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Tripod disproved with SSS and MB data

Feature Correlation

Source	Feature	Range	Azimuth	Status
AWOIS_EXPORT_DAB_21	AWOIS # 2515	0.00	000.0	Primary

Hydrographer Recommendations

Delete charted Subm Tripod PA and update AWOIS database

S-57 Data

[None]

Office Notes

SAR: Charted Subm Tripod not observed in 200% SSS. There are large MB data gap within the AWOIS radius.

COMPILATION: Concur. Delete charted obstruction, Subm Tripod PA, depth unknown.

1.4) AWOIS #13676 - Obstruction

Primary Survey Feature is US 0001425968 00001 / H12298_AWOIS Items.000

Search Position: 41° 15' 24.7" N, 071° 58' 08.5" W
Historical Depth: 18.59 m
Search Radius: 300
Search Technique: sb, sss, mb
Technique Notes: [None]

History Notes:

*****E-mail correspondence -- Mark Munro (private citizen) sent an e-mail on 17AUG06 indicating that he identified an object which he believes to be an old hydrophone in approximately 75' of water at 41/15.411 north lat, 71/58.141 west lon (NAD83) using a 500kHz side scan sonar. Mr. Munro indicates that the object is approximately 100' in length and rises approximately 14' off the seafloor. For the sidescan imagery and or video of the item contact Mr. Munro via e-mail at Mark_H_Munro@Dom.com. (Updated 8/06 by CG)

Survey Summary

Survey Position: 41° 15' 24.4" N, 071° 58' 09.6" W
Least Depth: 18.61 m (= 61.05 ft = 10.176 fm = 10 fm 1.05 ft)
TPU ($\pm 1.96\sigma$): THU (TPEh) [None] ; TVU (TPEv) [None]
Timestamp: 2011-320.00:00:00.000 (11/16/2011)
Dataset: H12298_AWOIS Items.000
FOID: US 0001425968 00001(02260015C2300001)
Charts Affected: 13214_1, 12372_1, 13209_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

OBSTRN/remrks: least depth of obstruction (hydrophone) found with Reson 7125 MB

Feature Correlation

Source	Feature	Range	Azimuth	Status
H12298_AWOIS Items.000	US 0001425968 00001	0.00	000.0	Primary
AWOIS_EXPORT_DAB_21	AWOIS # 13676	27.71	256.4	Secondary (grouped)

Hydrographer Recommendations

Add obstruction

Cartographically-Rounded Depth (Affected Charts):

61ft (13214_1, 12372_1, 13209_1, 13205_1)

10fm (12300_1, 13006_1, 13003_1)

18.6m (5161_1)

S-57 Data

Geo object 1: Obstruction (OBSTRN)
Attributes: NINFOM - Add Obstruction
QUASOU - 6:least depth known
SORDAT - 20111116
SORIND - US,US,graph,H12298
TECSOU - 3:found by multi-beam
VALSOU - 18.609 m
WATLEV - 3:always under water/submerged

Office Notes

SAR: AWOIS 13676 observed at survey position using MB.

COMPILATION: Concur. Add dangerous obstruction, least depth 61 feet in present survey position and update AWOIS database.

Feature Images

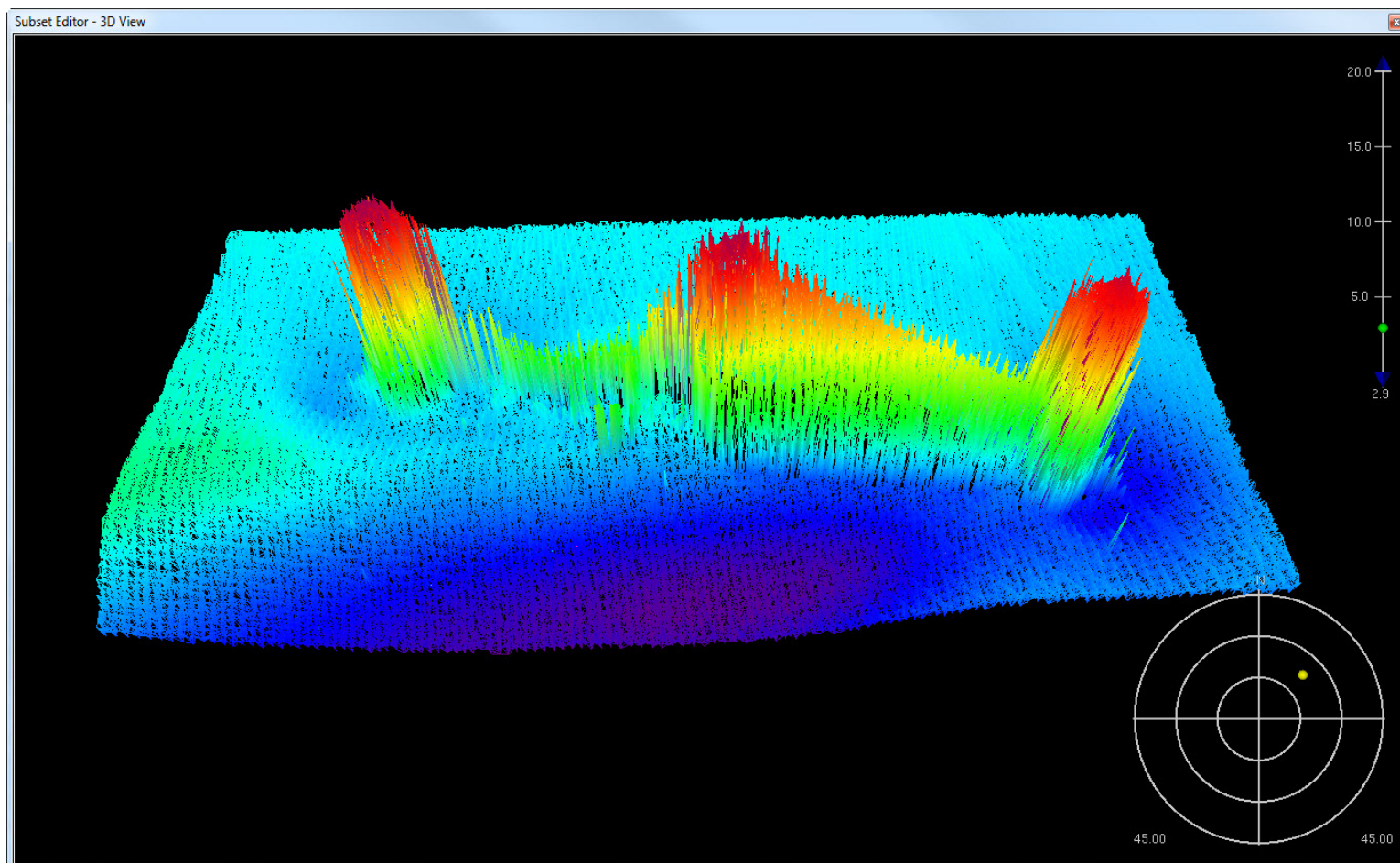


Figure 1.4.1

1.5) AWOIS #7276 - AWOIS #7276- Charted submerged Tripod PA

No Primary Survey Feature for this AWOIS Item

Search Position: 41° 14' 51.3" N, 071° 57' 20.2" W
Historical Depth: [None]
Search Radius: 200
Search Technique: sb, sss, mb
Technique Notes: [None]

History Notes:

HISTORY

LNM27/73--NAVAL UNDERWATER SYSTEMS CENTER ADVISES THEY HAVE ì
ESTABLISHED AN INSTRUMENTATION BUOY TO MARK AN UNDERWATER HYDROPHONE ì
INSTALLATION LOCATED 175 - 200 YARDS DUE SOUTH OF THE BUOY.

NM19/74--SUBMERGED TRIPOD IS RELOCATED TO A POINT 0.4 MILES 245 ì
DEGREES FROM CHARTED POSITION; LAT 41-14-51N, LONG 71-57-22W ì
(SCALED FROM THE CHART). (ENTERED MSM 4/89)

FE264SS/84--OPR-B660-RU/HE-84; MAY BE A TRIPOD BUT COULD NOT BE ì
POSITIVELY IDENTIFIED; SIX SUSPICIOUS SIDE SCAN SONAR CONTACTS; ì
DIVER INVESTIGATION NOT POSSIBLE DUE TO STRONG CURRENTS AND ì
DEPTHS IN AREA; EVALUATOR STATES THAT DUE TO SIZE OF TRIPOD AND ì
DEPTHS IN AREA, THAT ITEM DOES NOT POSE A THREAT TO NAVIGATION. ì
(UPDATED MSM 7/89)

Survey Summary

Charts Affected: 13214_1, 13209_1, 13205_1, 12300_1, 13006_1, 5161_1, 13003_1

Remarks:

Tripod disproved with MB data

Feature Correlation

Source	Feature	Range	Azimuth	Status
AWOIS_EXPORT_DAB_21	AWOIS # 7276	0.00	000.0	Primary

Hydrographer Recommendations

Delete charted Subm Tripod PA and update AWOIS database

S-57 Data

[None]

Office Notes

SAR: 1m high mound within AWOIS search radius about 150m from ENC charted Tripod PA.

COMPILATION: Concur. Submerged tripod not found. Delete charted subm tripod PA.

APPROVAL PAGE

H12298

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 NGDC for archive

- H12298_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12298_GeoImage.pdf

The survey evaluation and verification has 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: _____

LT Abigail Higgins
Chief, Atlantic Hydrographic Branch