H12738

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

DESCRIPTIVE REPORT

Type of Survey:	Basic Hydrographic Survey
Registry Number:	H12738

LOCALITY

State(s):	Louisiana
General Locality:	Gulf of Mexico
Sub-locality:	8 NM East of Pass a Loutre

2015

CHIEF OF PARTY
Jonathan L. Dasler, PE, PLS, CH

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Date:

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

REGISTRY NUMBER:

HYDROGRAPHIC TITLE SHEET

H12738

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):	**Louisiana**
General Locality:	**Gulf of Mexico**
Sub-Locality:	**8 NM East of Pass a Loutre**
Scale:	**40000**
Dates of Survey:	**06/17/2015 to 09/24/2015**
Instructions Dated:	**04/03/2015**
Project Number:	**OPR-J377-KR2-15**
Field Unit:	**David Evans and Associates, Inc.**
Chief of Party:	**Jonathan L. Dasler, PE, PLS, CH**
Soundings by:	**Reson 7125 SV2**
Imagery by:	
Verification by:	**Atlantic Hydrographic Branch**
Soundings Acquired in:	**meters at Mean Lower Low Water**

Remarks:

NAD83, UTM Zone 16 North, Meters, Times are UTC. The purpose of this contract is to provide NOAA with modern, accurate hydrographic survey data with which to update nautical charts of the assigned area.

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

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Descriptive Report to Accompany Survey H12738

Project: OPR-J377-KR2-15

Locality: Gulf of Mexico

Sublocality: 8 NM East of Pass a Loutre

Scale: 1:40000

June 2015 - September 2015

David Evans and Associates, Inc.

Chief of Party: Jonathan L. Dasler, PE, PLS, CH

A. Area Surveyed

David Evans and Associates, Inc. (DEA) conducted hydrographic survey operations in the Gulf of Mexico east of Pass a Loutre, Louisiana. Survey H12738 was conducted in accordance with the Statement of Work (April 3, 2015) and Hydrographic Survey Project Instructions (April 3, 2015).

The Hydrographic Survey Project Instructions reference the National Ocean Service (NOS) Hydrographic Surveys Specifications and Deliverables Manual (HSSD), April 2014 as the technical requirements for this project.

A.1 Survey Limits

Data were acquired within the following survey limits:

Northwest Limit	Southeast Limit
29° 18' 43.33" N 88° 57' 7.68" W	29° 8' 3.44" N 88° 50' 12.18" W

Table 1: Survey Limits

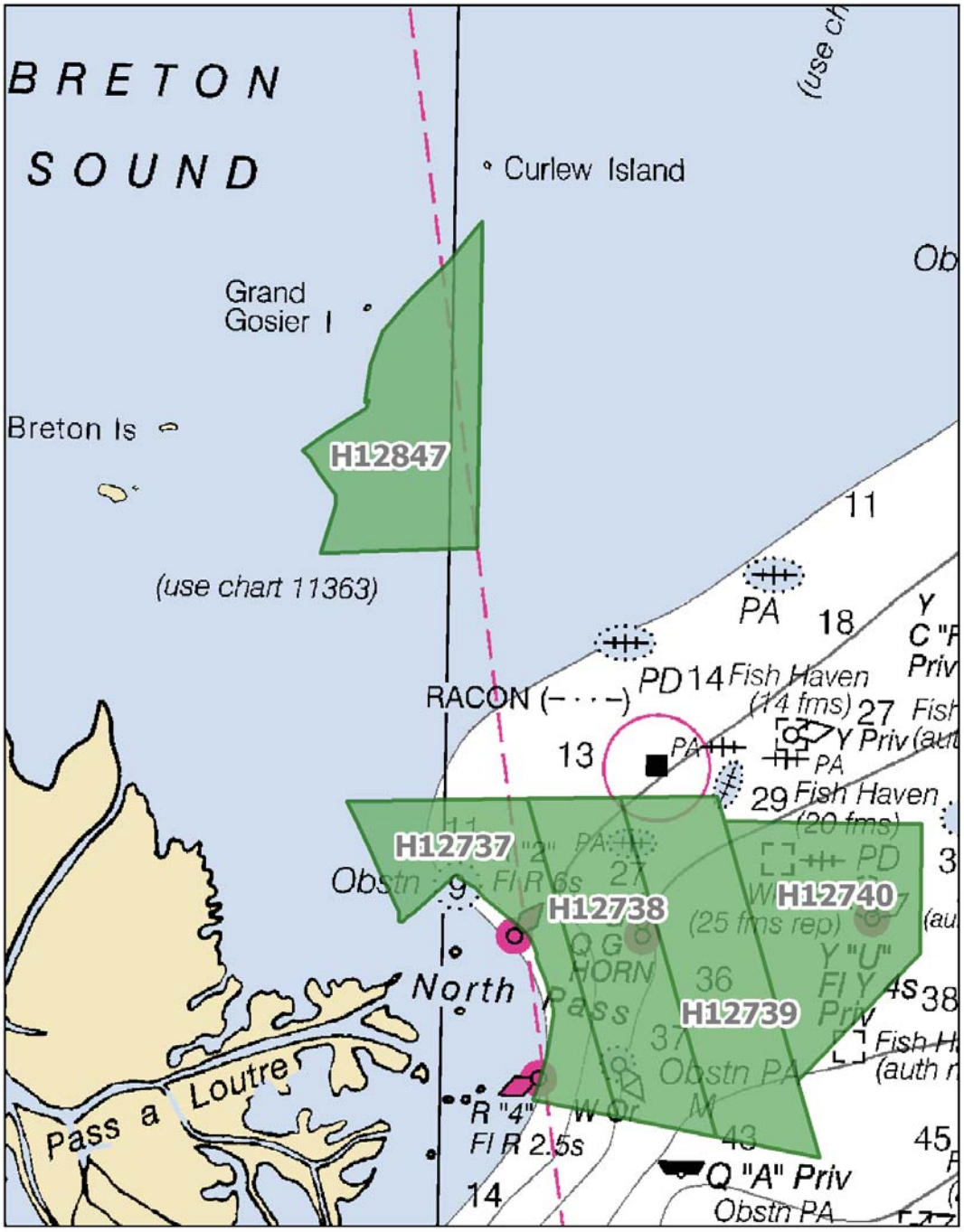


Figure 1: OPR-J377-KR2-15 Assigned Survey Areas

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

A.2 Survey Purpose

The purpose of this project is to provide contemporary surveys to update NOS nautical charting products. This project area is located in a highly trafficked area and covers approximately 81 SNM of emerging critical areas and 31 SNM of priority 3 areas as identified in the 2012 NOAA Hydrographic Survey Priorities. This project is located southeast of Breton Sound, LA and encompasses approximately 146 SNM of survey area.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

A.4 Survey Coverage

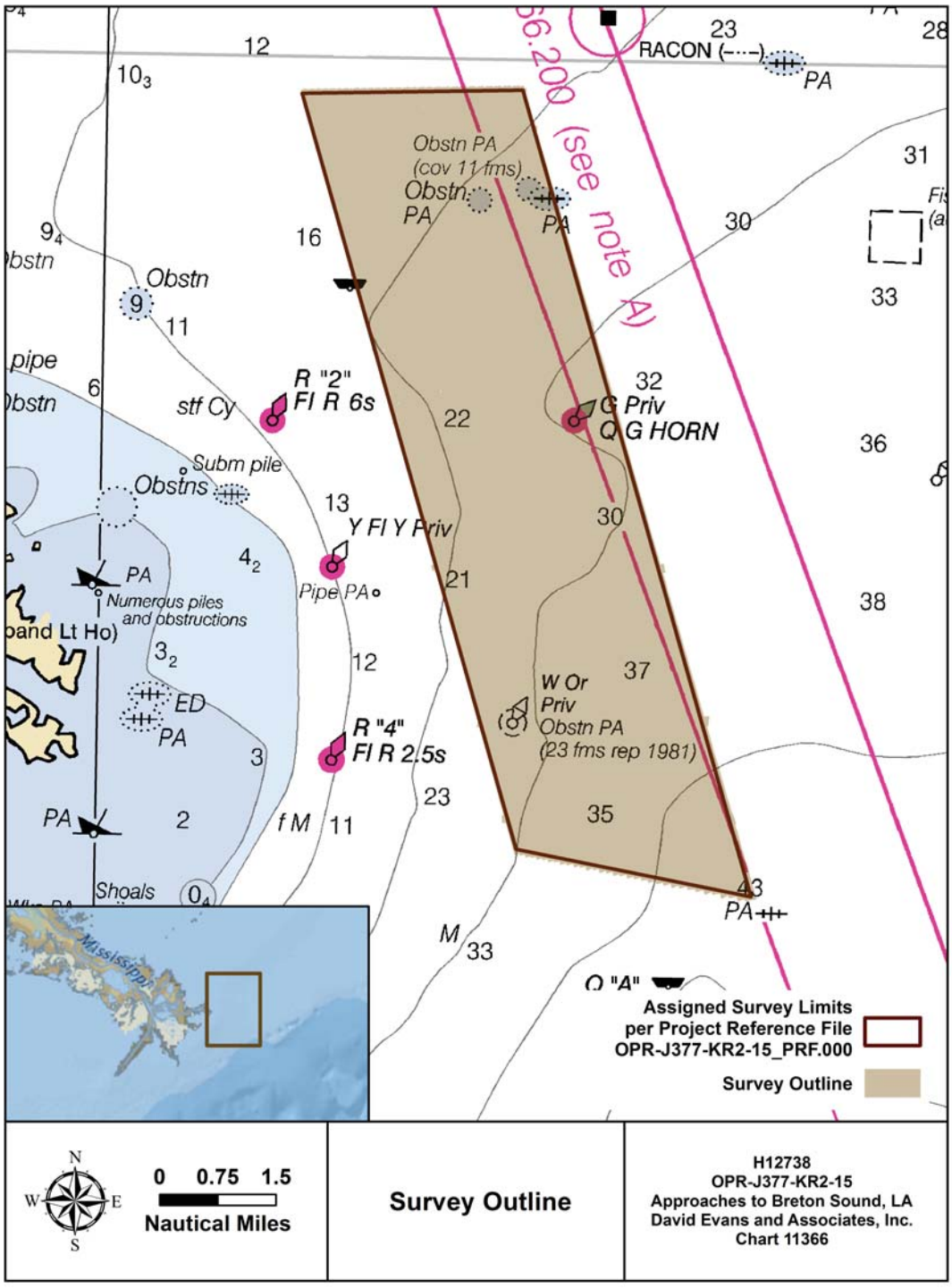


Figure 2: H12738 Survey Outline

The survey consisted of Complete Coverage MBES with backscatter within the survey area defined in the OPR-J377-KR2-15 Project Reference File (PRF).

In some cases coverage holidays exist under platforms where it was not possible to fully ensonify the seabed. Platforms included in the Final Feature File (FFF) may not fall directly on these gaps when the surveyed position was found within 80 meters (2 millimeters at survey scale) of their charted location. In these instances the platforms use the description of 'Retain' to denote that the position of the charted platform has been held.

A.5 Survey Statistics

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

	HULL ID	*S/V Blake*	*Total*
LNM	**SBES Mainscheme**	0	0
	MBES Mainscheme	459.51	459.51
	Lidar Mainscheme	0	0
	SSS Mainscheme	0	0
	SBES/SSS Mainscheme	0	0
	MBES/SSS Mainscheme	0	0
	SBES/MBES Crosslines	23.59	23.59
	Lidar Crosslines	0	0
Number of Bottom Samples			9
Number of AWOIS Items Investigated			0
Number Maritime Boundary Points Investigated			0
Number of DPs			0
Number of Items Investigated by Dive Ops			0
Total SNM			30.07

Table 2: Hydrographic Survey Statistics

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

Survey Dates	Day of the Year
06/17/2015	168
06/18/2015	169
06/19/2015	170
06/20/2015	171
06/21/2015	172
07/08/2015	189
07/11/2015	192
08/18/2015	230
09/23/2015	266
09/24/2015	267

Table 3: Dates of Hydrography

B. Data Acquisition and Processing

B.1 Equipment and Vessels

The OPR-J377-KR2-15 Data Acquisition and Processing Report (DAPR), previously submitted with survey H12739, details equipment and vessel information as well as data acquisition and processing procedures. There were no vessel or equipment configurations used during data acquisition that deviated from those described in the DAPR.

B.1.1 Vessels

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

Hull ID	*S/V Blake*
LOA	83 feet
Draft	4.5 feet

Table 4: Vessels Used

Figure 3: S/V Blake

B.1.2 Equipment

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

Manufacturer	Model	Type
Reson	7125 SV2	MBES
Applanix	POS/MV 320 v4	Positioning & Attitude
Rolls Royce	MVP30-350 with AML Micro SV&P	Primary Sound Speed Profiler
AML	Micro SV Xchange	Surface Sound Speed
Sea-Bird Electronics	SEACAT SBE 19-03 CTD	Secondary Sound Speed Profiler

Table 5: Major Systems Used

B.2 Quality Control

B.2.1 Crosslines

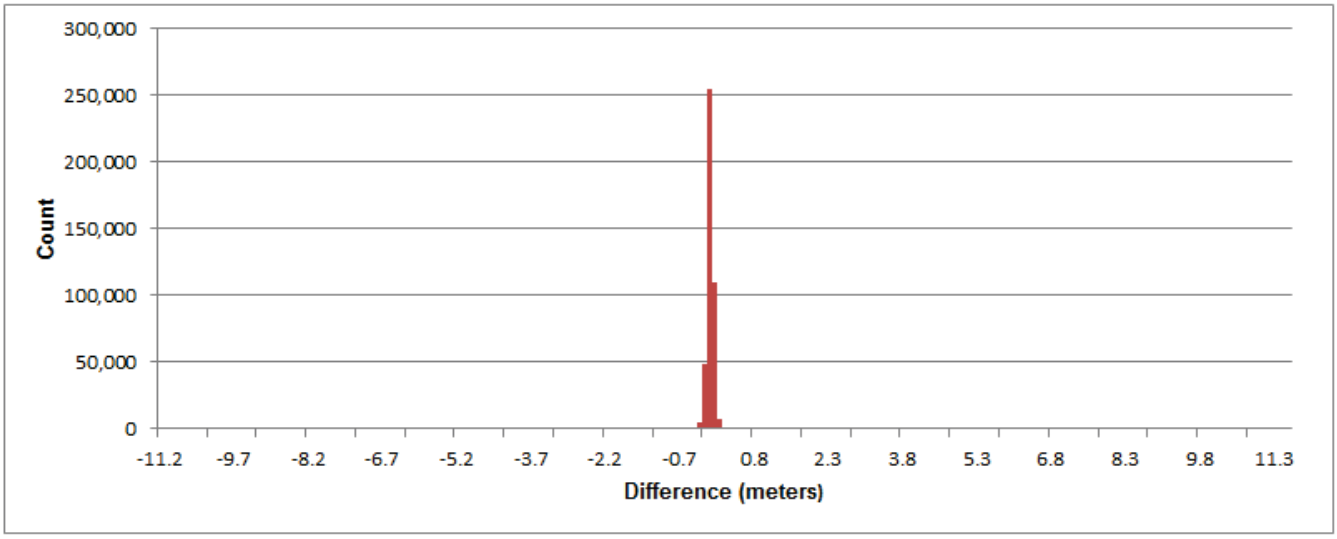
Crosslines acquired for this survey totaled 5% of mainscheme acquisition.

Crosslines were run in a direction perpendicular to main scheme lines across the entire surveyed area, providing a good representation for analysis of consistency. All crosslines were used for crossline comparisons.

Crossline analysis was performed using the CARIS Hydrographic Information Processing System (HIPS) Quality Control (QC) Report tool, which compares crossline data to a gridded surface and reports results by beam number. Crosslines were compared to a 4-meter CUBE surface encompassing mainscheme data for the entire survey area. The QC Report tabular output and plot are included in Separate II. The results of the analysis meet the requirements as stated in the 2014 HSSD.

Additional crossline analysis was performed by computing a 4-meter CUBE surface from the crossline data. The surface was then differenced from a 4-meter surface comprised of all mainscheme, fill, and investigation data. The resultant difference surface was exported using the Base Surface to ASCII function and statistics were compiled on the ASCII data.

Results from the crossline to mainscheme difference analysis are depicted in Figure 4. Outliers from the difference analysis were reviewed in HIPS subset editor. The greatest differences occur over vertical features, including several obstructions, which were not completely represented in the crossline surface.



Mean:	-0.04 m	Standard Deviation:	0.092 m
Minimum:	-11.085 m	Bin size:	0.1 m
Maximum:	11.679 m	Number of Nodes:	428,005

Figure 4: H12738 Crossline Differences

B.2.2 Uncertainty

The following survey specific parameters were used for this survey:

Measured	Zoning
0.00 meters	0.128 meters

Table 6: Survey Specific Tide TPU Values

Hull ID	Measured - CTD	Measured - MVP	Surface
S/V Blake	n/a meters/second	1.0 meters/second	0.5 meters/second

Table 7: Survey Specific Sound Speed TPU Values

Additional discussion of these parameters is included in the DAPR.

During surface finalization in HIPS, the "greater of the two" option was selected, where the calculated uncertainty from total propagated uncertainty (TPU) is compared to the standard deviation of the soundings influencing the node, and where the greater value is assigned as the final uncertainty of the node. The

uncertainty of the finalized surfaces increased for nodes where the standard deviation of the node was greater than the total propagated uncertainty.

The resulting calculated uncertainty values of all nodes in the finalized 2-meter Complete Coverage multibeam surface range from 0.266 meters to 0.837 meters with a standard deviation of 0.014.

The resulting calculated uncertainty values of all nodes in the finalized 4-meter Complete Coverage multibeam surface range from 0.269 meters to 0.769 meters with a standard deviation of 0.034.

The resulting calculated uncertainty values of all nodes in the finalized 8-meter Complete Coverage multibeam surface range from from 0.281 meters to 0.726 meters with a standard deviation of 0.046.

To determine if surface grid nodes met International Hydrographic Organization (IHO) Order 1 specification, a ratio of the final node uncertainty to the allowable uncertainty at that depth was determined. As a percentage, this value represents the amount of error budget utilized by the uncertainty value at each node. Values greater than 100% indicate nodes exceeding the allowable IHO uncertainty.

For the 2-meter Complete Coverage multibeam surface, the allowable uncertainty utilized ranges from 37% to 119%. The mean allowable uncertainty for the surface is 43% with a standard deviation of 0.027. In total 31 nodes out of 6,769,223 fail to meet specification. Nodes that were reported out of specification were coincident with areas of high depth standard deviation with steep slopes or high relief. All uncertainty values were within allowable specification prior to surface finalization when standard deviation was incorporated into the solution when it was greater than the node uncertainty.

For the 4-meter Complete Coverage multibeam surface, the allowable uncertainty utilized ranges from 25% to 93%. The mean allowable uncertainty for the surface is 36% with a standard deviation of 0.046.

For the 8-meter Complete Coverage multibeam surface, the allowable uncertainty utilized ranges from 24% to 65%. The mean allowable uncertainty for the surface is 30% with a standard deviation of 0.041.

B.2.3 Junctions

Survey H12738 junctions with surveys H12737, H12739 and D00142. Surveys H12737 and H12739 were also performed by DEA as part of OPR-J377-KR2-15. Prior survey D00142 was a hydrographic reconnaissance survey which used a vertical beam echosounder with 1,000-meter line spacing to evaluate chart adequacy. At the time of writing, data from H12737 were still being processed. The Descriptive Report for H12737 will include junction analysis with H12738.

The Bathymetric Attributed Grid (BAG) for survey D100142 was downloaded from NOAA's National Geophysical Data Center (NGDC) website for comparison with H12738. The finalized H12738 surfaces were compared to the junction survey by generating a difference surface with CARIS Base Editor.

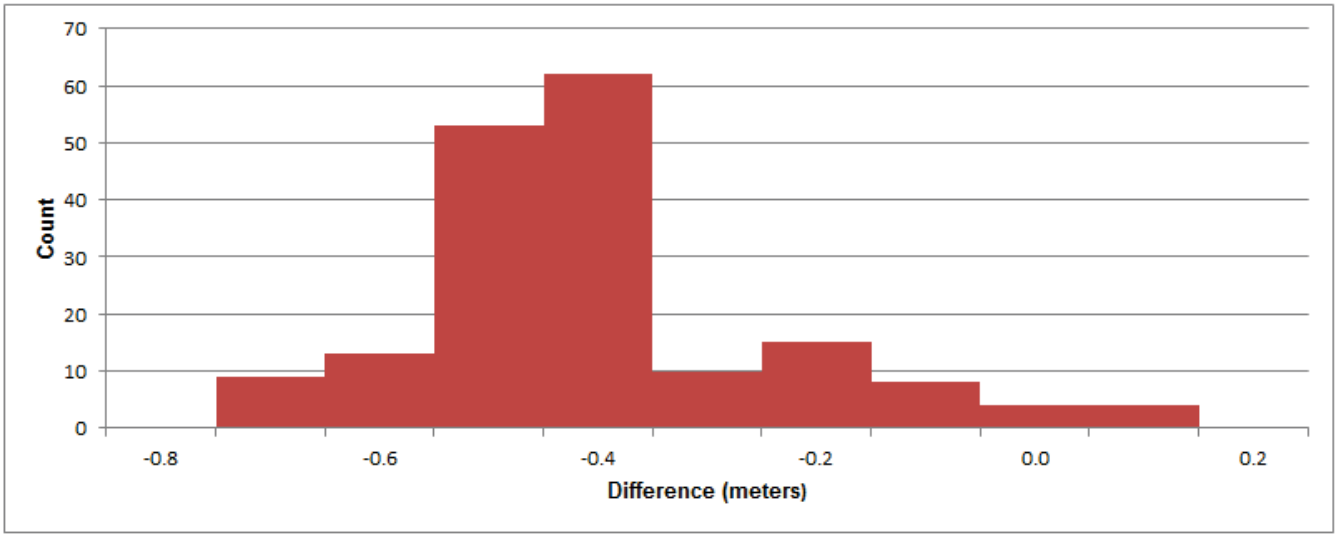
The following junctions were made with this survey:

Registry Number	Scale	Year	Field Unit	Relative Location
D00142	1:2000	2008	Terrasond, Ltd.	NW
H12737	1:40000	2015	David Evans and Associates, Inc.	W
H12739	1:40000	2015	David Evans and Associates, Inc.	E

Table 8: Junctioning Surveys

D00142

The H12738 survey area junctions with prior hydrographic reconnaissance survey D00142. The maximum and minimum reported differences appear to be related to sediment migration. On average the previous survey was deeper than survey H12738 data by approximately 0.39 meters. Results from this analysis are shown in Figure 5.



Mean:	-0.388 m	Standard Deviation:	0.167 m
Minimum:	-0.72 m	Bin size:	0.1 m
Maximum:	0.15 m	Number of Nodes:	178

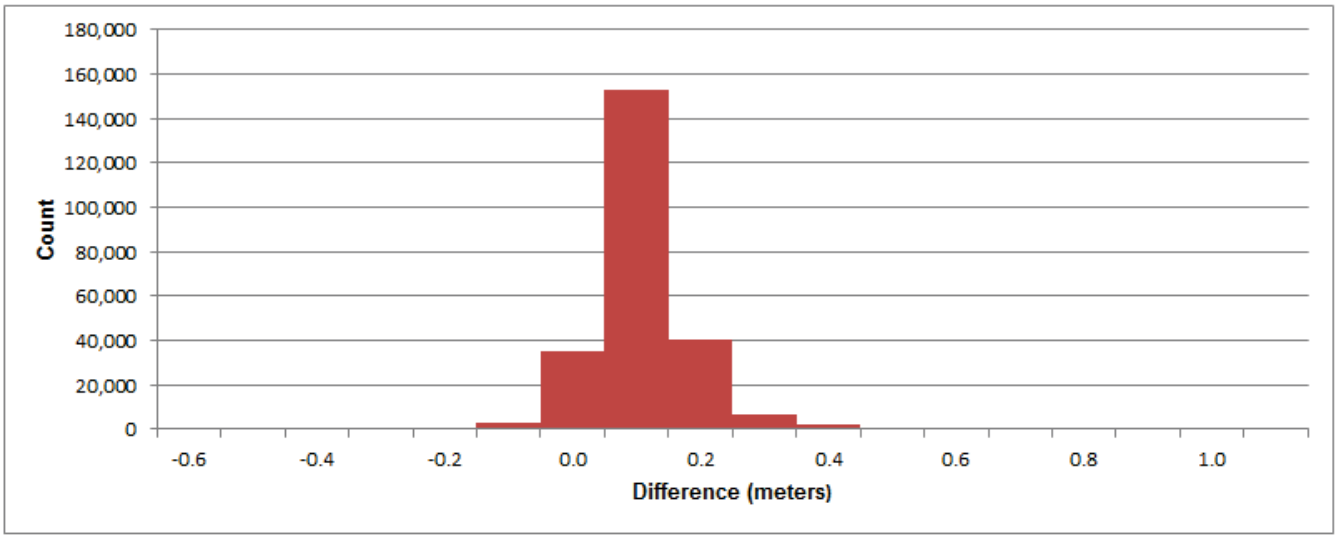
Figure 5: Junction results between H12738 4-meter and D00142 5-meter bathy grids

H12737

The junction analysis between H12737 and H12738 will be included in the H12737 DR.

H12739

Results from junction analysis are shown in Figure 6. The minimum and maximum differences are associated with sound speed and tide zoning artifacts.



Mean:	0.083 m	Standard Deviation:	0.075 m
Minimum:	-0.666 m	Bin size:	0.1 m
Maximum:	1.115 m	Number of Nodes:	242,011

Figure 6: Junction results between H12738 4-meter and H12739 4-meter bathy grids

B.2.4 Sonar QC Checks

Quality control is discussed in detail in Section B of the DAPR. Results from weekly position checks and weekly multibeam bar checks are included in Separate I Acquisition and Processing Logs of this report. Sound speed checks can be found in Separate II Sound Speed Data Summary of this report.

Multibeam data were reviewed at multiple levels of data processing including: CARIS HIPS conversion, subset editing, and analysis of anomalies revealed in CUBE surfaces.

B.2.5 Equipment Effectiveness

Navigation Data Gaps

Periodically, survey lines contained navigation timing gaps which were likely caused by a Hypack write delay during acquisition. Survey lines containing navigation data gaps greater than one second were updated with real-time navigation data extracted from the POS/MV .000 files.

The following survey lines use real-time navigation from .000 files: 2015BL1690422, 2015BL1690003, 2015BL1690856, 2015BL1692315, 2015BL1700011, 2015BL1700024, 2015BL1700118, 2015BL1700214, 2015BL1700735, 2015BL1700826, 2015BL1701151, 2015BL1701523, 2015BL1701617, 2015BL1701645, 2015BL1701703, 2015BL1702142, 2015BL1702343, 2015BL1710918, 2015BL1711016, 2015BL1720451, 2015BL1720511, 2015BL1720531, 2015BL1720613, 2015BL1720636, 2015BL1720745.

Additional discussion on this issue can be found in the Section B.4 of the DAPR.

B.2.6 Factors Affecting Soundings

Sound Speed Artifacts

Refraction artifacts caused by extreme variability in water column sound speed are present throughout the survey. Sound speeds could vary by as much as 10 meters per second over just a few meters in the upper water column with more extreme changes occurring throughout the profile. In some areas the sonar swath exhibited a tilt artifact with the upslope facing beams always mapping shoaler than beams from the opposite side of the swath regardless of vessel heading during acquisition. This tilt artifact typically occurred during a flood tide.

This artifact has been thoroughly investigated with further tests pending. There is a strong correlation with the large variation in surface sound speed during a flood tide and no apparent relationship with crab angle. Sound speed measured at the sonar head during flood tides at times was significantly lower than the trailing MVP sensor. This was attributed to a shallow fresh water lens at the surface during the flood tide. The SSP sensor at the head was still in undisturbed water as it is deployed through a moon pool in the center of the S/V Blake sponsons while the towed sensor at the same depth was in more mixed water in the prop wash of the vessel. Various applications of sound speed were tried (using SSP at the head when applying casts, etc.) but no specific application removed the resultant artifacts.

When present, the artifacts can be as large as 20 to 40 centimeters peak-to-peak in the outer ranges of the swath with the actual error being 10 to 20 centimeters. The impact to the final deliverable surfaces is less extreme and in some cases nonexistent. In all cases the magnitude of the artifact is less than the allowable total vertical uncertainty. In the example graphic (Figure 7) the allowable uncertainty at a depth of 25 meters is 0.6 meters.

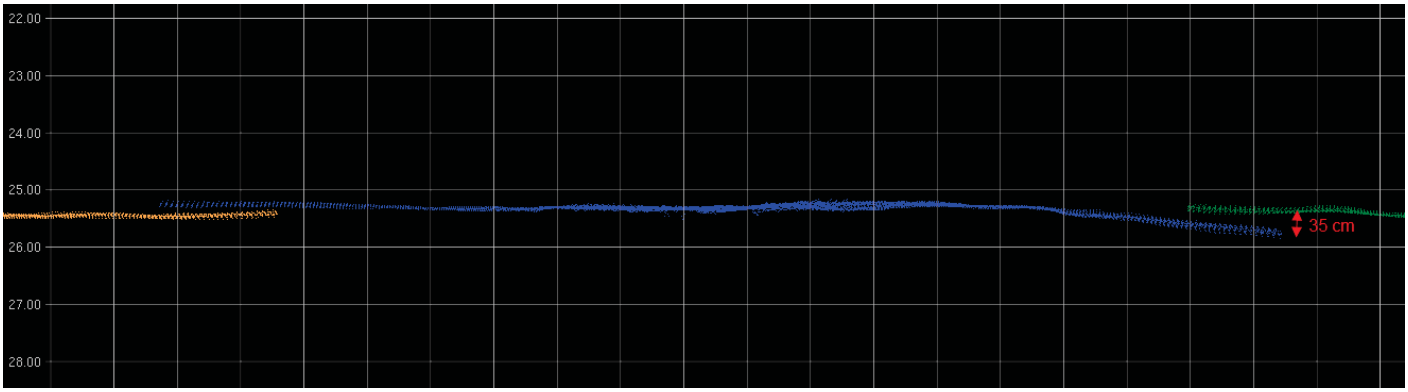


Figure 7: Example of Sound Speed Artifact

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: Approximately 15-minute intervals.

A Rolls Royce Moving Vessel Profiler (MVP) was the primary instrument used to acquire sound speed readings during multibeam operations. MVP sound speed readings were measured at approximately 15-minute intervals during survey operations. Additional discussion of sound speed methods can be found in the DAPR.

B.2.8 Coverage Equipment and Methods

Survey speeds were maintained to meet or exceed along-track density requirements. Investigation lines were acquired as needed in order to verify or acquire feature least depths. Fill lines were also run on an as needed basis in order to fill holidays or to increase node density.

B.2.9 Density

The sounding density requirement of 95% of all nodes, populated with at least five soundings per node, was verified by exporting the density child layer of each CUBE surface to an ASCII text file and compiling statistics on the density values. More than 99.8% of all final CUBE surface nodes contained five or more soundings.

B.3 Echo Sounding Corrections

B.3.1 Corrections to Echo Soundings

Data reduction procedures for survey H12738 are detailed in the DAPR. A summary multibeam processing log is included in Separate I of this report.

B.3.2 Calibrations

No additional calibration tests were conducted beyond those discussed in the DAPR.

B.4 Backscatter

Multibeam backscatter was logged in Hypack 7K format and included with the H12738 digital deliverables. Data were processed periodically in CARIS HIPS to evaluate backscatter quality but the processed data is not included with the deliverables.

B.5 Data Processing

B.5.1 Software Updates

There were no software configuration changes after the DAPR was submitted.

The following Feature Object Catalog was used: 5.3.2

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
H12738_MB_2m_MLLW	CUBE	2 meters	22.53 meters - 82.18 meters	NOAA_2m	Complete Coverage
H12738_MB_2m_MLLW_Final	CUBE	2 meters	22.53 meters - 40.00 meters	NOAA_2m	Finalized Complete Coverage
H12738_MB_4m_MLLW	CUBE	4 meters	22.61 meters - 81.88 meters	NOAA_4m	Complete Coverage
H12738_MB_4m_MLLW_Final	CUBE	4 meters	36.00 meters - 80.00 meters	NOAA_4m	Finalized Complete Coverage
H12738_MB_8m_MLLW	CUBE	8 meters	22.54 meters - 81.79 meters	NOAA_8m	Complete Coverage

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
H12738_MB_8m_MLLW_Final	CUBE	8 meters	72.00 meters - 81.79 meters	NOAA_8m	Finalized Complete Coverage

Table 9: Submitted Surfaces

Bathymetric grids were created relative to Mean Lower Low Water (MLLW) in CUBE format using Complete Coverage resolution requirements as described in the HSSD.

C. Vertical and Horizontal Control

A complete description of the horizontal and vertical control for survey H12738 can be found in the OPR-J377-KR2-15 Horizontal and Vertical Control Report (HVCR), submitted under a separate cover. 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:

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

Station Name	Station ID
Pilot Station East, SW Pass	876-0922

Table 10: NWLON Tide Stations

File Name	Status
8760922.tid	Verified Observed

Table 11: Water Level Files (.tid)

File Name	Status
J377KR22015CORP.zdf	Final

Table 12: Tide Correctors (.zdf or .tc)

Prior to applying water levels to the hydrographic survey data, DEA filtered the tide signal (5th order Butterworth filter with a cutoff frequency of 6 cycles per day) to remove the signature of vessel traffic passing the NOAA NWLON station at Pilot Station East, SW Pass. CO-OPS and HSD approved this methodology via email on December 18, 2014. A copy of this email is included in Appendix I of this report.

C.2 Horizontal Control

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

The projection used for this project is NAD83 UTM Zone 16 North.

During survey operations, some Differential Global Positioning System (DGPS) outages from the primary beacon (293 kHz) occurred. The system was manually switched to the secondary beacon (295 kHz) when the primary signal was lost. No data was acquired during DGPS beacon outages.

The following DGPS Stations were used for horizontal control:

DGPS Stations
English Turn, LA (293 kHz)
Eglin Air Force Base, FL (295 kHz)

Table 13: USCG DGPS Stations

D. Results and Recommendations

D.1 Chart Comparison

The majority of the chart comparison was performed by comparing H12738 depths to a digital surface generated from electronic navigational charts (ENCs) covering the survey area. A 50-meter product surface

was generated from a triangular irregular network (TIN) created from the soundings, depth contours, and depth features for each ENC scale. An additional 50-meter HIPS product surface of the entire survey area was generated from the finalized MBES CUBE surfaces. The chart comparison was conducted by creating and reviewing the resultant difference surface. The chart comparison also included a review of all assigned charted features within the survey area.

The raster navigational chart (RNC) comparison was performed by manually comparing the RNCs covering the survey area to the corresponding ENCs and identifying discrepancies between the two chart formats.

The electronic and raster versions of the relevant charts used during the comparison were reviewed to check that all US Coast Guard (USCG) Local Notice to Mariners (LNMs) issued during survey acquisition and impacting the survey area were applied and addressed by this survey.

D.1.1 Raster Charts

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

Chart	Scale	Edition	Edition Date	LNM Date	NM Date
11361	1:80000	78	06/2015	09/15/2015	09/26/2015

Table 14: Largest Scale Raster Charts

11361

Coastal chart 11361 was compared to US4LA30M and US4LA33M within the H12738 survey area. No differences were observed between the charts.

D.1.2 Electronic Navigational Charts

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

ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US4LA30M	1:80000	28	07/23/2014	09/08/2015	NO
US4LA33M	1:80000	27	08/21/2013	09/30/2015	NO

Table 15: Largest Scale ENCs

US4LA30M

In general, surveyed depths do not agree with the chart. Differences range from 20 feet shoaler than charted to 15 feet deeper than charted.

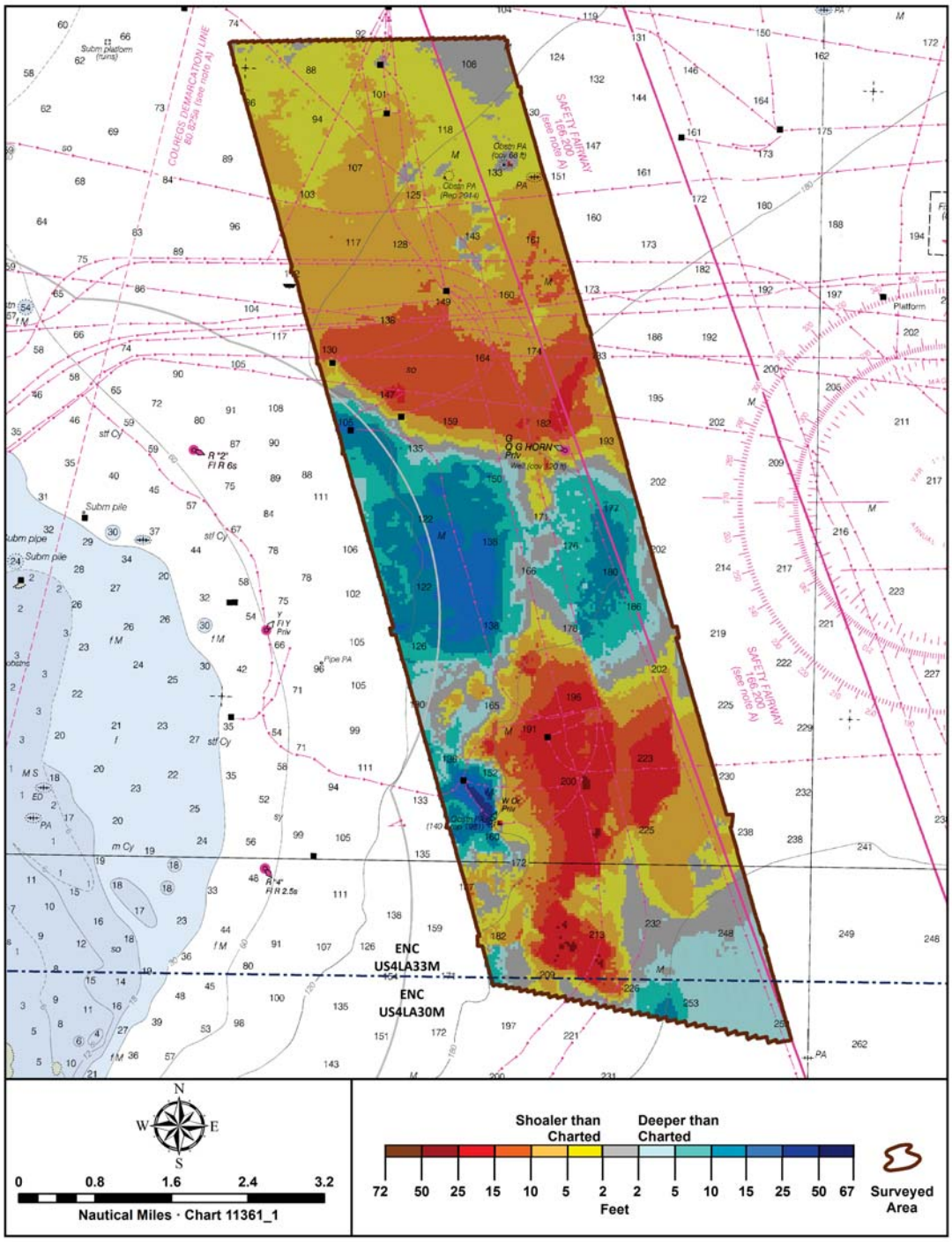


Figure 8: Depth Difference between H12738 and charts US4LA30M and US4LA33M

US4LA33M

As with the comparison with ENC US4LA30, there is very little agreement between surveyed soundings and ENC US4LA33. Survey depths range from 71 feet shoaler than charted to 67 feet deeper than charted. There has been significant change in the seafloor since the chart's source surveys were performed.

D.1.3 AWOIS Items

No AWOIS Items were assigned for this survey.

D.1.4 Maritime Boundary Points

No Maritime Boundary Points were assigned for this survey.

D.1.5 Charted Features

The survey area does not contain any charted features labeled as Position Doubtful (PD) or Existence Doubtful (ED).

A Wreck Position Approximate (PA) with least depth unknown on the northeastern edge of the survey area has been disproved by the survey. The feature has been included in the FFF with the description of 'Delete'.

The Obstruction PA (cov 66ft) in the northern end of the survey area has been disproved by the survey. This feature has been included in the FFF with the description of 'Delete'. The survey found an uncharted obstruction approximately 130 meters to the east of the disproved obstruction. The uncharted obstruction has been included in the FFF with a description of 'New'.

The Obstruction PA (Rep 2014) with least depth unknown in the northern end of the survey area has been disproved by the survey. This feature has been included in the FFF with the description of 'Delete'. The survey found an uncharted obstruction approximately 105 meters to the west of the disproved obstruction. The uncharted obstruction has been included in the FFF with a description of 'New'.

The Obstruction PA (140ft rep 1981) in the southwestern corner of the survey area has been disproved by the survey. This feature has been included in the FFF with the description of 'Delete'. The survey found an uncharted obstruction approximately 190 meters to the west of the disproved obstruction. The uncharted obstruction has been included in the FFF with a description of 'New'.

Charted features assigned in the CSF are portrayed in the H12738 FFF as surveyed and denoted with the Assignment Flag of 'Assigned'.

D.1.6 Uncharted Features

All uncharted features are portrayed in the FFF as surveyed and attributed with the description of 'New'.

D.1.7 Dangers to Navigation

Two Dangers to Navigation (DtoNs) were submitted for this survey.

H12738 DtoN 01 reported sections of pipeline which are visibly exposed from the seabed in the multibeam data. While not a direct hazard to surface navigation these exposed pipelines were submitted using the DtoN process in order to facilitate the review and reporting of the exposed pipelines. An email on this subject from the project's Contracting Officer's Technical Representative (COTR) is included in the OPR-J377-KR2-15 Project Correspondence.

H12738 DtoN 02 reported an uncharted platform. This DtoN had not been applied to the charts at survey submission.

D.1.8 Shoal and Hazardous Features

No shoal or hazardous features were located by the survey.

D.1.9 Channels

The H12738 survey area does not contain any anchorage areas, maintained navigation channels, or channel lines. Most of the eastern edge of the survey area lies within the charted safety fairway (33 CFR 166.200).

D.1.10 Bottom Samples

Nine bottom samples were acquired on July 8, 2015 (DN189). The sampling plan followed suggested sample locations included in the PRF provided by the Hydrographic Surveys Division.

D.2 Additional Results

D.2.1 Shoreline

No shoreline investigation was performed for this survey. The OPR-J377-KR2-15 Project Instructions required a limited shoreline verification, but there was no shoreline junction with the survey area.

D.2.2 Prior Surveys

Other than the previously mentioned junction analysis no other comparisons with prior surveys were conducted.

D.2.3 Aids to Navigation

The Energy XXI-102-10 Lighted Horn Buoy was found in its charted location and has been included in the FFF with a description of 'Retain'. As reported in the USCG Local Notice to Mariners (LNM), the buoy light was found to be extinguished (LNM 22-15) and the buoy horn was found to be inoperable (LNM 22-15).

The Harvey Ward Wreck Buoy has been disproved by the survey. This feature has been included in the FFF with the description of "Delete".

D.2.4 Overhead Features

With the exception of the overhead catwalks connecting the platforms submitted in DtoN 2, there were no other structures which would impact overhead clearance in the survey area.

D.2.5 Submarine Features

Multiple pipelines are charted within the survey area and are visible in the survey data and bathymetric surfaces. In some areas, pipelines are exposed on the seabed or there is evidence of pipeline burial beneath the seabed. Sections of pipeline (charted) which are visibly exposed from the seabed were reported as a DtoN and are included in the H12738 FFF as pipeline features. These features were submitted to the processing branch using the DtoN process so that the proper authorities could be notified about the condition of the pipelines.

In some areas there is indication of buried pipelines in the survey data and bathymetric surfaces which are not charted, but are depicted in the Bureau of Ocean Energy Management (BOEM) / Bureau of Safety and Environmental Enforcement (BSEE) Gulf of Mexico online web service for OCS (Outer Continental Shelf) oil and gas pipelines. The hydrographer recommends that the charts be updated with contemporary pipeline source documentation.

No submarine cables or tunnels were charted or located within the H12738 survey area.

D.2.6 Ferry Routes and Terminals

There were no ferry routes or terminals within the survey area.

D.2.7 Platforms

Eight platforms are charted within the survey area. Seven of the eight platforms were found within 80 meters (2 millimeters at survey scale) of their charted position and have been included in the FFF with a description of 'Retain'. One of the charted platforms was disproved by the survey and included in the FFF with description of 'Delete'.

One new platform was located during the survey and submitted as DtoN 2. This platform is included in the FFF with a description of 'New'.

D.2.8 Significant Features

A large submarine feature is located within the H12738 survey area. The feature, which appears to be a mud flow associated with the Mississippi River Delta, extends from the H12737 survey area to the west and ends in H12739 survey area to the east. Depths in this area are as much as 15 feet shoaler than charted.

A gas discharge from the seafloor was observed within the H12738 survey area during survey operations. This discharge, which appears to be from a natural source, was visible emanating from the seafloor in the MBES data. As shown in Figure 9, all MBES returns on the plume have been rejected in order to accurately depict the seafloor. The position of this discharge was 29-14-41.5 N 088-55-35.9 W.

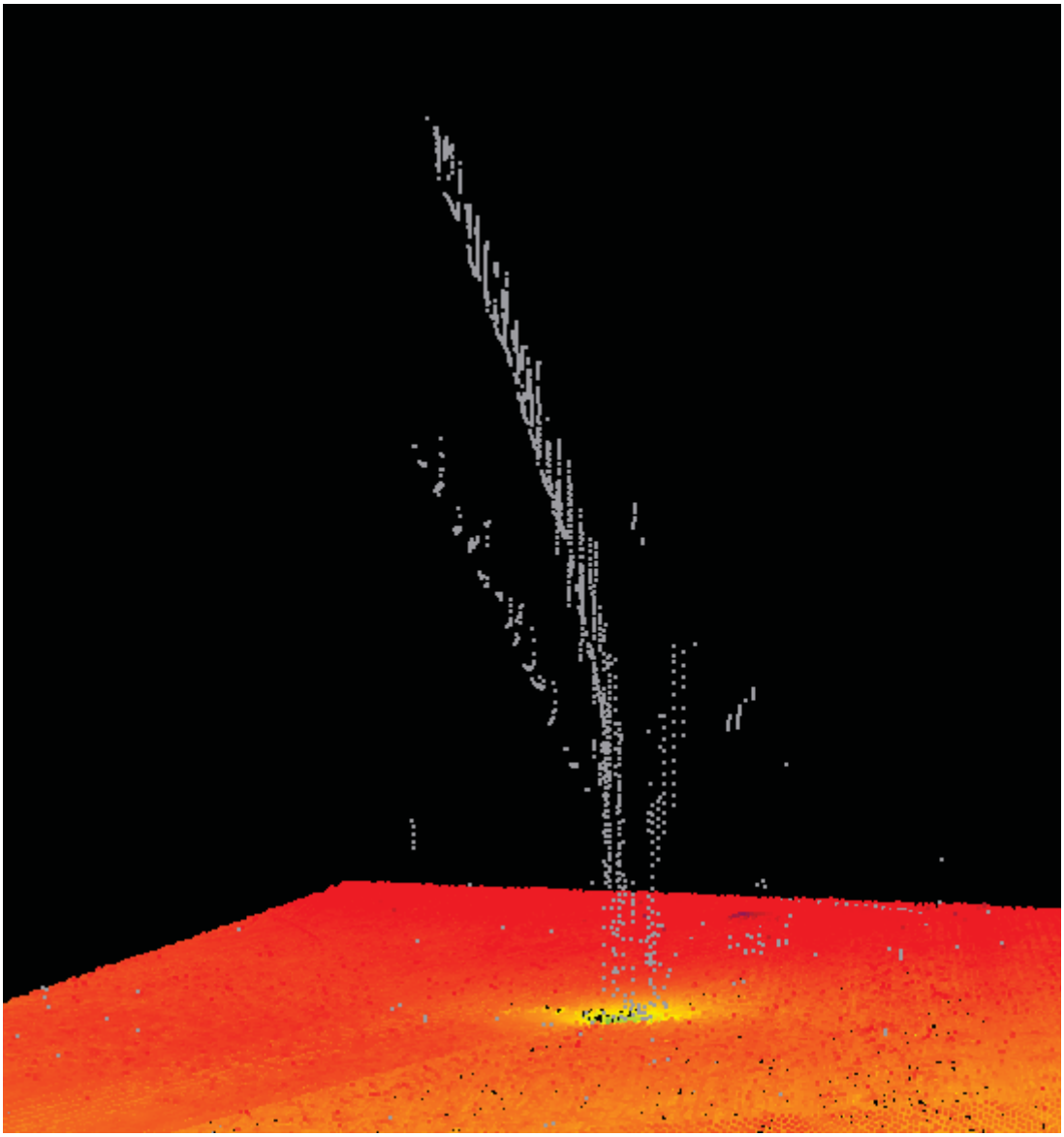


Figure 9: MBES Data on Gas Discharge from the Seafloor

D.2.9 Construction and Dredging

No construction or dredging activities were observed during survey operations.

D.2.10 New Survey Recommendation

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

D.2.11 Inset Recommendation

No new insets are recommended for this area.

E. Approval Sheet

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

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

The survey data meets or exceeds requirements as set forth in the NOS Hydrographic Surveys and Specifications Deliverables Manual, Statement of Work, and Hydrographic Survey Project Instructions. These data are adequate to supersede charted data in their common areas. This survey is complete and no additional work is required.

Report Name	Report Date Sent
OPR-J377-KR2-15 Data Acquisition and Processing Report	2015-10-06

Approver Name	Approver Title	Approval Date	Signature
Jonathan L. Dasler, PE, PLS, CH	NSPS/THSOA Certified Hydrographer, Chief of Party	10/26/2015	Digitally signed by Jon Dasler DN: cn=Jon Dasler, o=David Evans and Associates, Inc., ou=Marine Services Division, email=jld@deainc.com, c=US Date: 2015.10.26 14:17:44 -07'00'
Jason Creech, CH	NSPS/THSOA Certified Hydrographer, Charting Manager / Project Manager	10/26/2015	Digitally signed by Jason Creech DN: cn=Jason Creech, o=David Evans and Associates, Inc., ou=Marine Services Division, email=jasc@deainc.com, c=US Date: 2015.10.26 14:23:56 -07'00'
Mick Hawkins	Lead Hydrographer	10/26/2015	Digitally signed by Mick Hawkins DN: cn=Mick Hawkins, o=David Evans and Associates, Inc., ou, email=msha@deainc.com, c=US Date: 2015.10.26 14:25:17 -07'00'
Kathleen Schacht	MBES Data Processing Manager	10/26/2015	Digitally signed by Kathleen Schacht DN: cn=Kathleen Schacht, o=David Evans and Associates, Inc., ou, email=kmsc@deainc.com, c=US Date: 2015.10.26 14:25:44 -07'00'

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	Continually Operating Reference Staiton
CTD	Conductivity Temperature Depth
CEF	Chart Evaluation File
CSF	Composite Source File
CST	Chief Survey Technician
CUBE	Combined Uncertainty and Bathymetry Estimator
DAPR	Data Acquisition and Processing Report
DGPS	Differential Global Positioning System
DP	Detached Position
DR	Descriptive Report
DTON	Danger to Navigation
ENC	Electronic Navigational Chart
ERS	Ellipsoidal Referenced Survey
ERZT	Ellipsoidally Referenced Zoned Tides
FFF	Final Feature File
FOO	Field Operations Officer
FPM	Field Procedures Manual
GAMS	GPS Azimuth Measurement Subsystem
GC	Geographic Cell
GPS	Global Positioning System
HIPS	Hydrographic Information Processing System
HSD	Hydrographic Surveys Division
HSSD	Hydrographic Survey Specifications and Deliverables

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

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

APPENDIX I

TIDES AND WATER LEVELS

H12738
TIMES OF HYDROGRAPHY

Project: OPR-J377-KR2-15
Contractor Name: David Evans and Associates, Inc.
Date: September 24, 2015
Inclusive Dates: June 17, 2015 - September 24, 2015
Field work is complete
Time (UTC)

Day Number	Date	Start Time	End Time
168	06/17/2015	21:57:26	23:55:21
169	06/18/2015	0:03:38	23:58:19
170	06/19/2015	0:11:59	23:58:02
171	06/20/2015	0:19:35	23:16:14
172	06/21/2015	0:07:57	17:43:36
192	07/11/2015	19:55:36	21:59:47
230	08/18/2015	21:20:55	23:23:13
266	09/23/2015	23:26:19	23:48:47
267	09/24/2015	0:01:53	0:02:33

H12738
FINAL TIDE NOTE AND ZONING

DATE: September 24, 2015

HYDROGRAPHIC BRANCH: Atlantic Hydrographic Branch
HYDROGRAPHIC PROJECT: OPR-J377-KR2-15
HYDROGRAPHIC SURVEY: H12738

LOCALITY: Approaches to Breton Sound, LA
SUB-LOCALITY: 8 NM East of Pass a Loutre

TIME PERIOD [1] : June 17, 2015 - September 24, 2015

TIDE STATIONS USED:

Station Name	Station ID	Type	Latitude	Longitude
Pilots Station East, SW Pass LA	876-0922	Control	28° 55.9' N	89° 24.5' W

PLANE OF REFERENCE (MEAN LOWER LOW WATER) :

0.000m

HEIGHT OF MEAN HIGH WATER ABOVE PLANE OF REFERENCE:

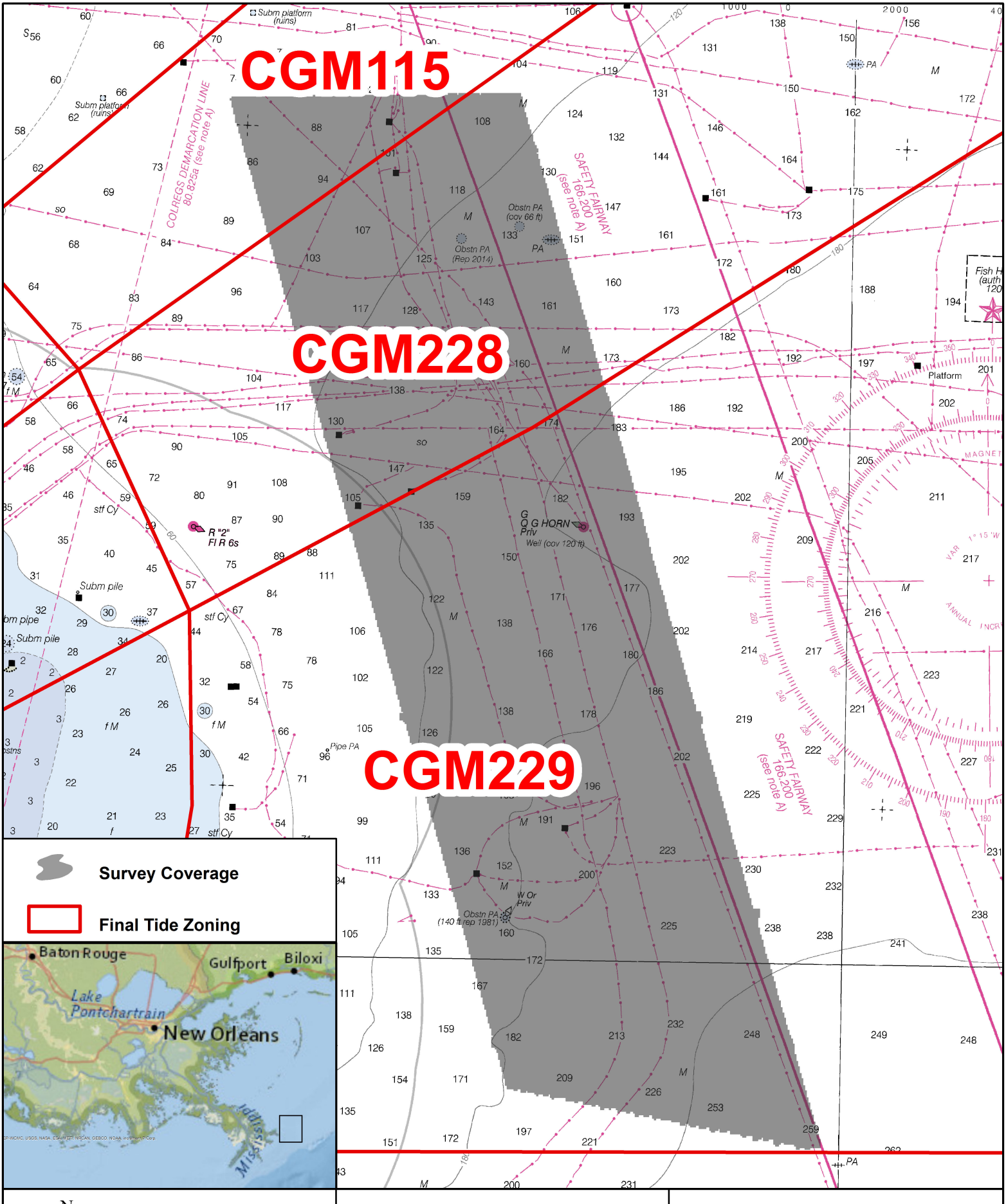
0.359m

FINAL ZONING AND TIDAL REDUCERS TO CHART DATUMN:

Zone	Time Corrector (Mins)	Range Ratio
CGM115	24	1.01
CGM228	12	1.01
CGM229	0	1.01

[1] Please refer to the comprehensive list in attached Times of Hydrography.

http://tidesandcurrents.noaa.gov/datums.html?units=1&epoch=0&id=8760922&name=Pilots+Station+East%2C+SW+Pass&state=LA



N
W E
S

0 0.5 1
Nautical Miles

H12738
Final Tide Zoning Chartlet

OPR-J377-KR2-15
Approaches to Breton Sound, LA
David Evans and Associates, Inc.
Chart 11361

Jason Creech

From: Christina Fandel - NOAA Federal <christina.fandel@noaa.gov>
Sent: Thursday, December 18, 2014 5:20 AM
To: Jon Dasler
Cc: Jason Creech; Lucy Hick - NOAA Federal; Tiffany Squyres - NOAA Federal
Subject: Re: OPR-J377-KR2-15 Draft Project Instructions

Jon,

I contacted CO-OPS regarding your request to smooth the tidal data from the SW Pass station to eliminate the high frequency noise generated when ships pass by the gauge. Colleen Fanelli, the Hydrographic Planning Lead at CO-OPS, has agreed to your request and has granted DEA permission to apply a low pass filter to the water level data for tide reduction at the SW Pass (8760922) station. Please let me know if you have any questions.

Christy

On Tue, Dec 16, 2014 at 6:15 PM, Jon Dasler <Jld@deainc.com> wrote:

Thanks Christy. One of the issues we will want to address with CO-OPS are the glitches in the recorded water level every time a ship passes the SW Pass gauge at 8760922. We did binomial smoothing last time (approved by Steve Gill) to remove this from the water level data as this clearly does not happen offshore. Below is a sample from the gauge. At times the impact is greater than what is being shown below.

Water Levels - NOAA Tides & Currents - Windows Internet Explorer

http://co-ops.nos.noaa.gov/waterlevels.html?id=8760922

File Edit View Favorites Tools Help Share Browser WebEx

Page Safety Tools

Marine Services Merlin Google Maps Google Webex Webmail Web Slice Gallery

TIDES & CURRENTS

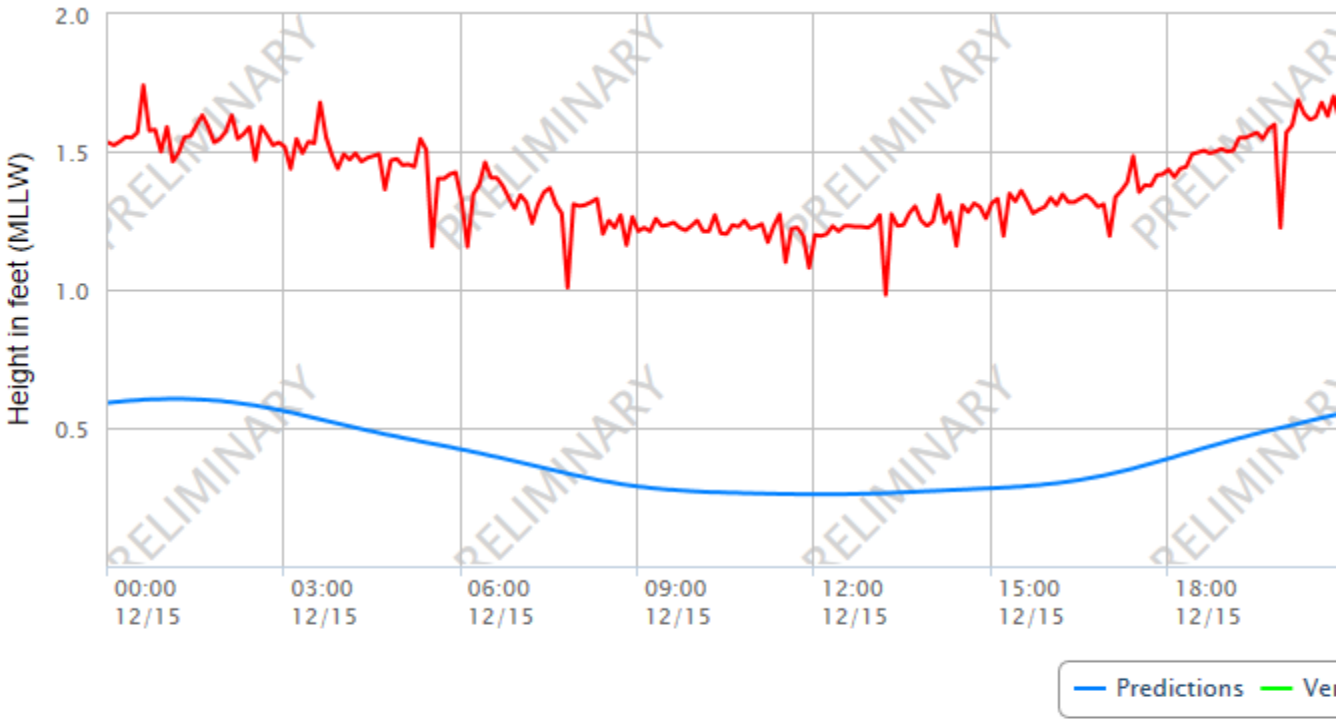
PRODUCTS
Data, Analyses, and Publications

PROGRAMS
Serving the Nation

Home / Products / Water Levels / 8760922 Pilots Station East, SW Pass, LA

Station Info | Tides/Water Levels | Meteorological Obs. | Phys. Oceanography | PORTS®

Observed Water Lev
From 2014/12



Options for

8760922 Pilots Station East,...

From:

Jon L. Dasler, PE, PLS, CH | Vice President, Director of Marine Services

David Evans and Associates, Inc. | Marine Services Division | www.deamarine.com

t: 360.314.3200 | c: 503.799.0168 | jld@deainc.com

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Please consider the environment before printing this email.

From: Christina Fandel - NOAA Federal [mailto:christina.fandel@noaa.gov]
Sent: Tuesday, December 16, 2014 1:42 PM
To: Jon Dasler; Jason Creech
Cc: Lucy Hick - NOAA Federal; Tiffany Squyres - NOAA Federal
Subject: OPR-J377-KR2-15 Draft Project Instructions

Jason and Jon,

Attached please find a zipped file containing the draft project instructions for OPR-J377-KR2-15 as well as the preliminary GIS files. Please provide a cost estimate for this survey area at your earliest convenience.

For reference, Lucy Hick will be the COR for this project and I will serve as the Technical Point of Contact. Please include both Lucy and myself on all correspondence regarding this project.

Thank you and please let me know if you have any questions or concerns.

Christy

--

Christy Fandel

Physical Scientist

Hydrographic Survey Division

Office of Coast Survey, NOAA

Christina.Fandel@noaa.gov

(301) 713-2702 x178

--
Christy Fandel
Physical Scientist
Hydrographic Survey Division
Office of Coast Survey, NOAA
Christina.Fandel@noaa.gov
(301) 713-2702 x178

APPENDIX II

SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE

From: Christina Fandel - NOAA Federal <christina.fandel@noaa.gov>
Sent: Tuesday, February 03, 2015 8:51 AM
To: Jason Creech
Subject: Re: XML Schema
Attachments: DR_Stylesheet.xslt; DR_Stylesheet.xslt

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Jason,

The schema and stylesheet changes from the 2014_01 to 2014_02 versions are minor, I've listed them below. I've also attached the 2014_02 version of the DR stylesheet as it has not yet been uploaded to the OCS website. Please let me know if you have any questions, thank you,

Christy

gml-ish.xsd

SpeedUnitsType

Changed enumerations to

- meters/second (from m/s)
- feet/second (from ft/s)
- miles/hour (from mi/hr)
- kilometers/hour (from km/hr)

Uncertainty.xsd

Changed units attribute to default of meters/second for

- measuredCTD/SVPUncertaintyType
- measuredMVP/SVPUncertaintyType
- surface/SVPUncertaintyType

DR.xslt

- Center aligned all figure captions and figures

    - Increased font size and width of columns within survey statistics table

    - Deleted duplicate equipment effectiveness results entry and Changed conditional statement under equipmentEffectiveness so default text would print

    - Fixed table of contents for Survey Recommendations, Other Results, and Inset Recommendations such that they will properly print in DR with the correct attribution

    - Removed default namespace to allow for Acronyms and Abbreviations to print properly

    - Updated supporting documents text to read Statement of Work (SOW), 2014 from Statement of Work (SOW), Hydrographic Surveys Service, 2014

On Tue, Feb 3, 2015 at 10:28 AM, Jason Creech <Jasc@deainc.com> wrote:

Hey Christy

I just noticed that a new version of the XML schema is on the NOAA XML DR website. Is this the version intended for the 2015 field season? If so do you happen to have a change list from the 01 version? We recently rewrote our framework to use 2014_01. I'll push 02 over to our developers to get this integrated.

Thanks,

Jason

--
Christy Fandel
Physical Scientist
Hydrographic Survey Division

Office of Coast Survey, NOAA
Christina.Fandel@noaa.gov
(301) 713-2702 x178

From: Christina Fandel - NOAA Federal <christina.fandel@noaa.gov>
Sent: Monday, May 11, 2015 9:36 AM
To: Jason Creech
Cc: Lucy Hick - NOAA Federal
Subject: Re: NODC Requirement
Attachments: 201007201540_FA.nc

Hi Jason,

NODC would be interested in the sound speed data as well. NODC has published the netCDF data format at template at https://www.nodc.noaa.gov/data/formats/netcdf/v1.1/index.html that can be used as a guidleline to produce NODC compliant data. Additionally, they have guidance on how to format the file with multiple profiles at the same or different depths.

I have attached an example of a sound speed netCDF file from the Fairweather, for reference. The metadata for the netCDF should include Project, Survey Number, Date, Time, Latitude, and Longitude.

Additionally, regarding last week's briefing, Jon mentioned that for safety purposes, you may not be able to achieve full bottom coverage around the offshore oil platforms. I just wanted to clarify that this was not a waiver to prevent you from acquiring data under the offshore oil platforms and data should be acquired in all areas within the survey limits unless the area is unsafe to navigate.

Please let me know if you have any questions or if further clarification regarding the netCDF file format would be helpful, thank you,

Christy

On Thu, May 7, 2015 at 2:46 PM, Jason Creech <Jasc@deainc.com> wrote:

Hey Christy

We have a few questions on the NODC requirement.

The PI's ask for CTD data to be submitted in NODC format. We use a sound speed profiler (sound velocimeter) not a CTD to compute sound speed. I'm assuming you are also looking for sound speed in NODC format?

Can you provide an example of a NODC sound speed data file? Should the file include all casts for a given sheet or be broken up on a per cast or per day basis.

Thanks,

Jason

--
Christy Fandel
Physical Scientist
Hydrographic Survey Division
Office of Coast Survey, NOAA
Christina.Fandel@noaa.gov
(301) 713-2702 x178

From: Christina Fandel - NOAA Federal <christina.fandel@noaa.gov>
Sent: Thursday, August 13, 2015 6:55 AM
To: Jason Creech; Jon Dasler
Cc: Lucy Hick - NOAA Federal
Subject: Hydrographic Technical Directive 2015-3
Attachments: HTD 2015-3 FileNameCharacterLimit.pdf

Jason, Jon,

Attached you will find Hydrographic Technical Directive 2015-3 that was signed yesterday regarding the file naming convention for survey deliverables. In short, file names should not exceed 200 characters. The file name definition includes parent folders as well (*e.g.* S:\2015\Hydro_Survey_Projects\Project_OPR-X###-XX-##_ Approaches_to_Baltimore \Survey_H#####_North_Point_State_Park)

Thank you and please let me know if you have any questions,

Christy
--
Christy Fandel
Physical Scientist
Hydrographic Surveys Division
Office of Coast Survey, NOAA
Christina.Fandel@noaa.gov
(301) 713-2702 x103

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

August 12, 2015 HTD 2015-3

MEMORANDUM FOR: Distribution

FROM: CAPT Eric W. Berkowitz, NOAA
Chief, Hydrographic Surveys Division

SUBJECT: Hydrographic Technical Directive 2015-3

TITLE: Maximum Character Limit on File Names

EFFECTIVE DATE: August 14, 2015

SECTION 1. PURPOSE

This directive serves to update the file naming convention for survey deliverables from field units to the Hydrographic Branches (AHB, PHB) and the Hydrographic Branches to the National Center for Environmental Information (NCEI).

SECTION 2. POLICY

NOAA field units and contractors will submit surveys to the processing branches with file names less than 200 characters. The processing branches will submit surveys to NCEI with file names less than 260 characters. The definition of "file name" includes the parent folders. For example, the following file name contains 116 characters:

S:\2015\Hydro_Survey_Projects\Project_OPR-X###-XX-##_ Approaches_to_Baltimore \Survey_H#####_North_Point_State_Park

The Project Name is no longer required in the survey file name deliverable as demonstrated in Appendix J of the HSSD. However, the project number is still required. Therefore, the parent and child folder of a survey deliverable shall read as follows:

- OPR-X###-XX-##
  - HXXXXX
    - Data
      - Etc.

SECTION 3. RESPONSIBILITIES

NOAA field units and contractors are responsible for keeping the survey file names to less than 200 characters. AHB and PHB are responsible for keeping the survey file names to less than 260 characters.

To ensure compliance field units and processing branches may choose the stand alone utility, Path Length Checker (http://pathlengthchecker.codeplex.com/)
which checks path lengths and reports on how many characters are included.

SECTION 4. GENERAL

The processing branches have experienced software crashes when running the Checksum software on survey deliverables with a file name longer than 260 characters, a Microsoft Windows enforcement. The Checksum output file, MD-5 file, is a requirement for NCEI data archival. The processing branches request 60-65 characters for their own purposes leaving the field units with 200 characters.

SECTION 5. EFFECT ON OTHER ISSUANCES

N/A

Please contact Megan Greenaway at Megan.Greenaway@noaa.gov of the Hydrographic Surveys Division with any questions or comments concerning this Directive.

Distribution:
(1) NOAA Ship *Rainier*
(2) NOAA Ship *Fairweather*
(3) NOAA Ship *Thomas Jefferson*
(4) NOAA Ship *Ferdinand R. Hassler*
(5) Chief, Marine Chart Division
(6) Chief, Geospatial Application Development Branch
(7) Chief, Navigation Services Division
(8) National Center for Environmental Information
(9) Hydrographic Survey Division Employees

From: Christina Fandel - NOAA Federal <christina.fandel@noaa.gov>
Sent: Monday, October 05, 2015 9:42 AM
To: Jason Creech
Cc: Lucy Hick - NOAA Federal; Michael Gonsalves - NOAA Federal; Corey Allen - NOAA Federal; Kathryn Pridgen - NOAA Federal
Subject: Re: Site Visit Follow-Up

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Jason,

Thank you for providing the requested images as well as summarizing the follow-up items so succinctly. I apologize for my delay in response, I have been offshore, but have included answers to your questions below:

1. Pipelines

I believe you are going to check to see if there is any additional guidance on how to handle or report pipelines that are visible in our data. For now we plan to delineate with pipeline features for inclusion in our FFF and discuss in our DRs.

After further review, please submit observed exposed pipelines as a DTON following section 8.1.3 of the HSSD. The processing branch will then forward the exposed pipeline information to the appropriate navigation manager to alert the necessary personnel for reburial. If possible, it would be helpful to note in the subject line of the email that the DTON is an exposed pipeline.

2. Sound Speed Spikes
We are currently rejecting SSP spikes and the associated ping based on guidance provided by AHB. We are doing this even if the CUBE surface is not impacted by the erroneous SSP. This can be an intensive process and we want to make sure we are handling as requested.

It is not necessary to reject an erroneous surface sound speed value and the corresponding ping unless the data is affecting the final surface.

3. Disproval radii for H12847

I think you were going to check on the disproval requirements for this survey. We have already run a second 100% SSS disproval coverage over several charted features. We used the disproval radii for sheets 1-4 (1:40k) which was 160m for PA Features and 80m for Non- PA Features. I believe that this should be sufficient since Sheet 5 is a 1:20k survey.

The disproval radius is defined based on the largest scale chart which depicts the feature. Therefore, H128476 will have a disproval radius of 100 m for PA features and 50 m for all other features. The northeastern-most portion of H12847 is encompassed by a 1:40k scale chart, so the disproval radius would be 160 m for PA features and 80 m for non-PA features, but no features exist in this area.

4. H12847 Disproval Coverage

We are planning to deliver a second 100% mosaic for our disproval coverage. This will just be spot coverage inside feature disproval radii. When combined with our sheet wide 100% coverage there will be 200% SSS coverage inside the disproval radii.

This is correct, the second 100% mosaic will only include the second pass over the feature within the disproval radius as well as any data offset from the first 100% coverage.

5. OSI Junctions

How should we handle the OSI junctions? The planned OSI area junctions with H12737, H12738, H12739, and H12847. We are currently preparing the deliverables for H12739 with all four of the

original surveys to be submitted by 11/9/2015. We hope to start submitting in the next week or two.

Unless the OSI survey data is provided to DEA prior to data submission, the requirement to conduct a junction analysis with OSI surveys will be waived. Prior to data submission, I can formulate an official waiver if the OSI survey data has not been provided that you may include with your DR.

As an additional follow-up question, during our site visit you mentioned that during the preliminary project planning phase at DEA, you reference a BOEM database to identify any uncharted features. What is the name of this BOEM database you reference? Is it an online service?

Thank you and please let me know if you have any additional questions,

Christy

On Tue, Sep 22, 2015 at 10:52 AM, Jason Creech <Jasc@deainc.com> wrote:

Hi Christy

Thanks for the follow up. It was great seeing you and Katy last week. We appreciate having the opportunity to meet with you and are glad that we could do it at our office. NOAA is our top client and we want to do everything we can to make sure we are meeting your expectations and keeping you up to date on our surveys. This includes notification about any issues we are having with data quality.

I've attached the tilt, refraction, and SSP spike images that we reviewed last week. The Blake is going out later today to fill the small holidays that we discovered after cleaning the data. While it's out we are going to run some additional tests to see if we can track down this tilt issue. It's a transitory problem that may be difficult to recreate but we are going to make every effort to do so. I'll keep you posted on what we find.

I've reviewed my notes from last week and did find a few outstating items.

Pipelines

I believe you are going to check to see if there is any additional guidance on how to handle or report pipelines that are visible in our data. For now we plan to delineate with pipeline features for inclusion in our FFF and discuss in our DRs.

Sound Speed Spikes

We are currently rejecting SSP spikes and the associated ping based on guidance provided by AHB. We are doing this even if the CUBE surface is not impacted by the erroneous SSP. This can be an intensive process and we want to make sure we are handling as requested.

Disproval radii for H12847

I think you were going to check on the disproval requirements for this survey. We have already run a second 100% SSS disproval coverage over several charted features. We used the disproval

radii for sheets 1-4 (1:40k) which was 160m for PA Features and 80m for Non- PA Features. I believe that this should be sufficient since Sheet 5 is a 1:20k survey.

H12847 Disproval Coverage

We are planning to deliver a second 100% mosaic for our disproval coverage. This will just be spot coverage inside feature disproval radii. When combined with our sheet wide 100% coverage there will be 200% SSS coverage inside the disproval radii.

OSI Junctions

How should we handle the OSI junctions? The planned OSI area junctions with H12737, H12738, H12739, and H12847. We are currently preparing the deliverables for H12739 with all four of the original surveys to be submitted by 11/9/2015. We hope to start submitting in the next week or two.

I think that's it for now. Please let me know if I've missed something.

Thanks,

Jason

From: Christina Fandel - NOAA Federal [mailto:christina.fandel@noaa.gov]
Sent: Monday, September 21, 2015 10:29 AM
To: Jason Creech
Cc: Kathryn Pridgen - NOAA Federal
Subject: Site Visit Follow-Up

Hi Jason,

I hope you had a safe trip home and didn't run into too much traffic with the cycling event in Richmond. Would you mind sharing the images you showed Katy and I last week during the site visit (tilt artifact, sound speed refraction, etc.)? I am summarizing my notes from the meeting and it would be helpful to have a visual reference.

Thank you,

Christy

--

Christy Fandel

Physical Scientist

Hydrographic Surveys Division

Office of Coast Survey, NOAA

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APPROVAL PAGE

H12738

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

- H12738_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- H12738_GeoImage.pdf

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

Digitally signed by Jasmine Cousins
DN: cn=Jasmine Cousins, o=NOAA, ou=Atlantic Hydrographic Branch, email=jasmine.cousins@noaa.gov, c=US
Date: 2016.09.15 09:41:30 -04'00'

Approved:_____

Lieutenant Commander Briana Welton, NOAA
Chief, Atlantic Hydrographic Branch