

H13118

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

DESCRIPTIVE REPORT

Type of Survey: Navigable Area

Registry Number: H13118

LOCALITY

State(s): Oregon

General Locality: Offshore Oregon

Sub-locality: Offshore Coos Bay

2018

CHIEF OF PARTY
Benjamin K. Evans, CDR/NOAA

LIBRARY & ARCHIVES

Date:

HYDROGRAPHIC TITLE SHEET

H13118

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): **Oregon**

General Locality: **Offshore Oregon**

Sub-Locality: **Offshore Coos Bay**

Scale: **80000**

Dates of Survey: **08/17/2018 to 08/20/2018**

Instructions Dated: **06/27/2018**

Project Number: **OPR-M367-RA-18**

Field Unit: **NOAA Ship Rainier**

Chief of Party: **Benjamin K. Evans, CDR/NOAA**

Soundings by: **Multibeam Echo Sounder**

Imagery by: **Multibeam Echo Sounder Backscatter**

Verification by: **Pacific Hydrographic Branch**

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

Remarks:

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

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Descriptive Report to Accompany Survey H13118

Project: OPR-M367-RA-18

Locality: Offshore Oregon

Sublocality: Offshore Coos Bay

Scale: 1:80000

August 2018 - August 2018

NOAA Ship Rainier

Chief of Party: Benjamin K. Evans, CDR/NOAA

A. Area Surveyed

The survey area is referred to as H13118, "Offshore Coos Bay" (Sheet 3) within the Project Instructions. The initial assigned area encompasses 968 square nautical miles. However, the assigned area was reduced to 437.2 square nautical miles due to shifting priorities and time constraints. Of that area, a total of 370.0 square nautical miles was completed in the time available.

A.1 Survey Limits

Data were acquired within the following survey limits:

Northwest Limit	Southeast Limit
43° 52' 31" N	43° 22' 44" N
125° 9' 36" W	124° 49' 42" W

Table 1: Survey Limits

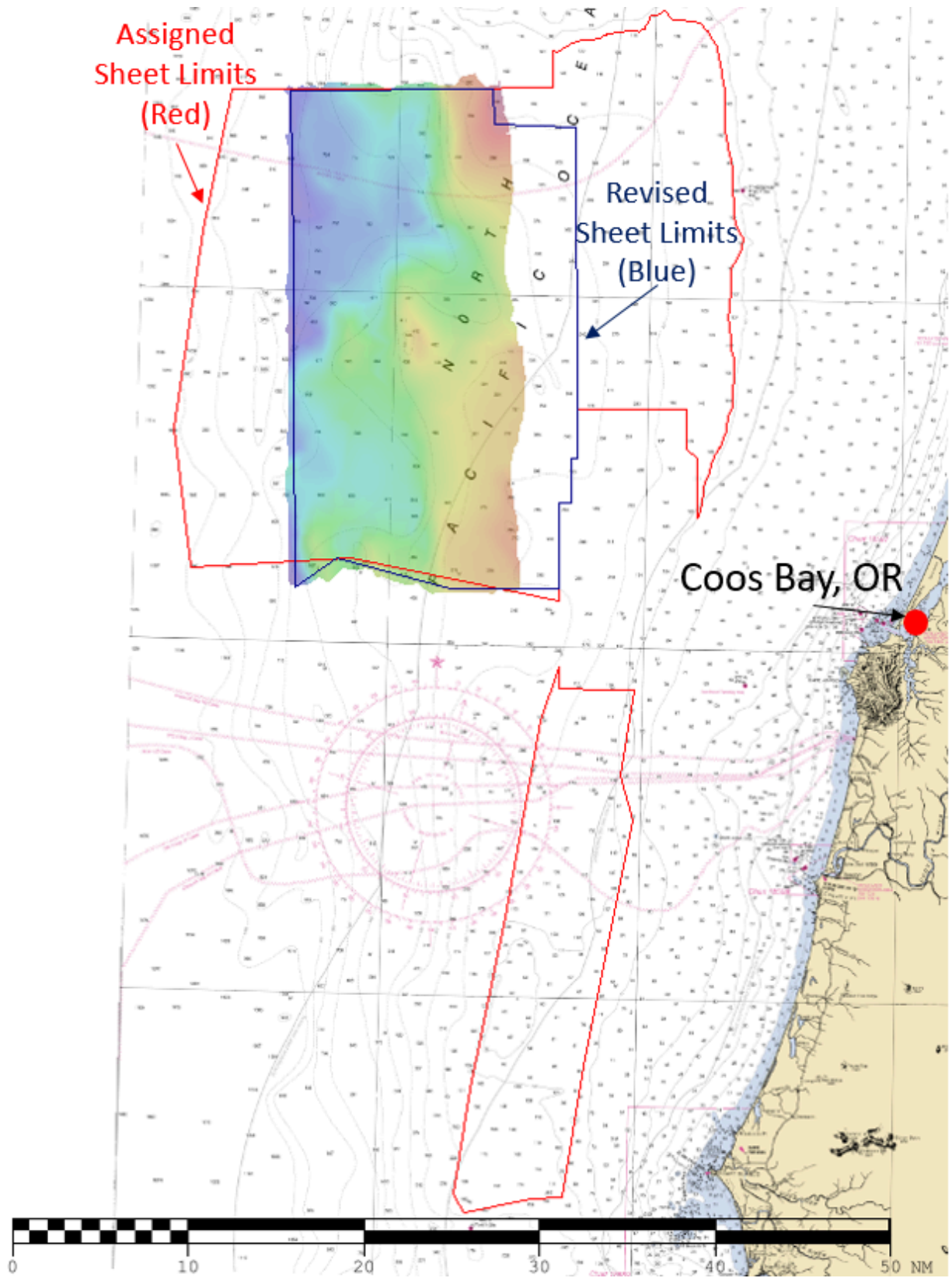


Figure 1: H13118 Survey Area with MBES Coverage, and Initially Assigned and Revised Sheet Limits (Chart 18580)

Data were acquired within survey limits as required in the Project Instructions and HSSD unless otherwise noted in this report.

A.2 Survey Purpose

H13118 is part of the larger "Cascadia Margin" campaign, which is a collaboration of NOAA's Office of Coast Survey (OCS) and the USGS Coastal and Marine Geology Program (CMGP) covering large portions of the continental margin offshore of Washington, Oregon, and California. The primary objective of this seafloor mapping project is to provide multibeam bathymetry, acoustic backscatter data and water column data to address USGS Hazard Mission Area objectives by providing key offshore constraints that feed directly into earthquake, tsunami, and landslide hazard assessments and situational awareness products. Additionally, the survey supports NOAA's Integrated Ocean and Coastal Mapping program and updates NOAA's nautical charting products.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

Pydro QC Tools 2 Grid QA was used to analyze H13118 multibeam echosounder (MBES) data density. The submitted H13118 variable-resolution (VR) surface met HSSD density requirements.

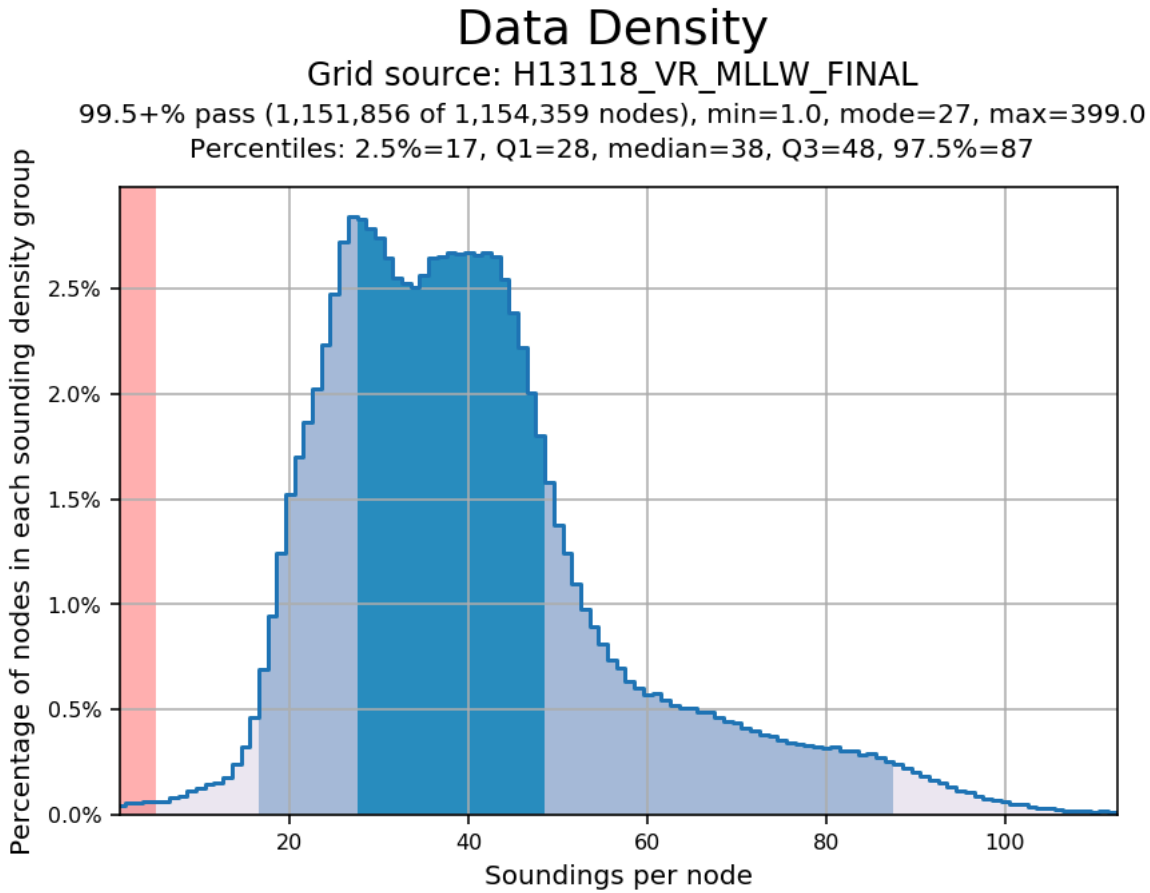


Figure 2: QC Tools derived histogram plot showing HSSD density compliance of H13118 finalized variable-resolution MBES data

A.4 Survey Coverage

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

Water Depth	Coverage Required
All waters in survey area	Complete coverage MBES data, backscatter data and water column data. Refer to HSSD Section 5.2.2.3.

Table 2: Survey Coverage

Survey coverage was in accordance with the requirements listed above and in the HSSD. Figure 1 details the assigned survey area and MBES coverage.

A.5 Survey Statistics

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

	HULL ID	<i>S221</i>	<i>Total</i>
LNM	SBES Mainscheme	0	0
	MBES Mainscheme	519.85	519.85
	Lidar Mainscheme	0	0
	SSS Mainscheme	0	0
	SBES/SSS Mainscheme	0	0
	MBES/SSS Mainscheme	0	0
	SBES/MBES Crosslines	0	0
	Lidar Crosslines	0	0
Number of Bottom Samples			0
Number Maritime Boundary Points Investigated			0
Number of DPs			0
Number of Items Investigated by Dive Ops			0
Total SNM			370.01

Table 3: Hydrographic Survey Statistics

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

Survey Dates	Day of the Year
08/20/2018	232
08/19/2018	231
08/18/2018	230
08/17/2018	229

Table 4: Dates of Hydrography

B. Data Acquisition and Processing

B.1 Equipment and Vessels

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

B.1.1 Vessels

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

Hull ID	<i>S221</i>
LOA	70.4 meters
Draft	4.7 meters

Table 5: Vessels Used

All data for H13118 were acquired by NOAA Ship RAINIER (S221). The vessel acquired depth soundings, backscatter imagery and sound speed profiles.

B.1.2 Equipment

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

Manufacturer	Model	Type
Applanix	POS MV 320 v5	Positioning and Attitude System
Kongsberg Maritime	EM 710	MBES
Teledyne RESON	SVP 70	Surface Sound Speed Sensor
Sippican Inc.	XBT Deep Blue	Temperature Sensor

Table 6: Major Systems Used

B.2 Quality Control

B.2.1 Crosslines

Multibeam/single beam echo sounder/side scan sonar crosslines acquired for this survey totaled 0.00% of mainscheme acquisition.

The priority for this project was to maximize overall MBES coverage during the short duration of acquisition. Given this priority and the deep, offshore nature of the survey area, crosslines were not acquired. This deviation was verbally approved by the project manager during the survey, and a waiver from HSD Operations Branch has been granted, please see Appendix II (Supplemental Correspondence), for additional information.

B.2.2 Uncertainty

The following survey specific parameters were used for this survey:

Method	Measured	Zoning
ERS via VDATUM	0 meters	0.173 meters

Table 7: Survey Specific Tide TPU Values.

Hull ID	Measured - CTD	Measured - MVP	Surface
S221	N/A meters/second	N/A meters/second	0.05 meters/second

Table 8: Survey Specific Sound Speed TPU Values.

Expendable Bathythermographs (XBT) were used in lieu of a CTD or MVP due to the survey depth. The measured XBT sound speed uncertainty used for H13118 was 4 m/s.

Total Propagated Uncertainty (TPU) values for survey H13118 were derived from a combination of fixed values for equipment and vessel characteristics, as well as from field assigned values for sound speed uncertainties. Tidal zoning uncertainty of 0.173 meters was provided in the Project Instructions as part of VDatum. See the 2018 DAPR for further information.

In addition to the usual a priori estimates of uncertainty, some real-time and post-processing uncertainty sources were also incorporated into the depth estimates of this survey. Real-time uncertainties from Kongsberg MBES sonars were recorded and applied in post-processing. Applanix TrueHeave (POS) files, which record estimates of heave uncertainty, were applied during post-processing. Finally, the post processed uncertainties associated with vessel roll, pitch, yaw, and position were applied in Caris HIPS using SBET and RMS files generated using POSpac MMS software.

Uncertainty values of the submitted finalized grid was calculated in Caris using "Greater of the Two" of uncertainty and standard deviation (scaled to 95%). Grid QA v5 within Pydro QC Tools 2 was used to analyze H13118 TVU compliance.

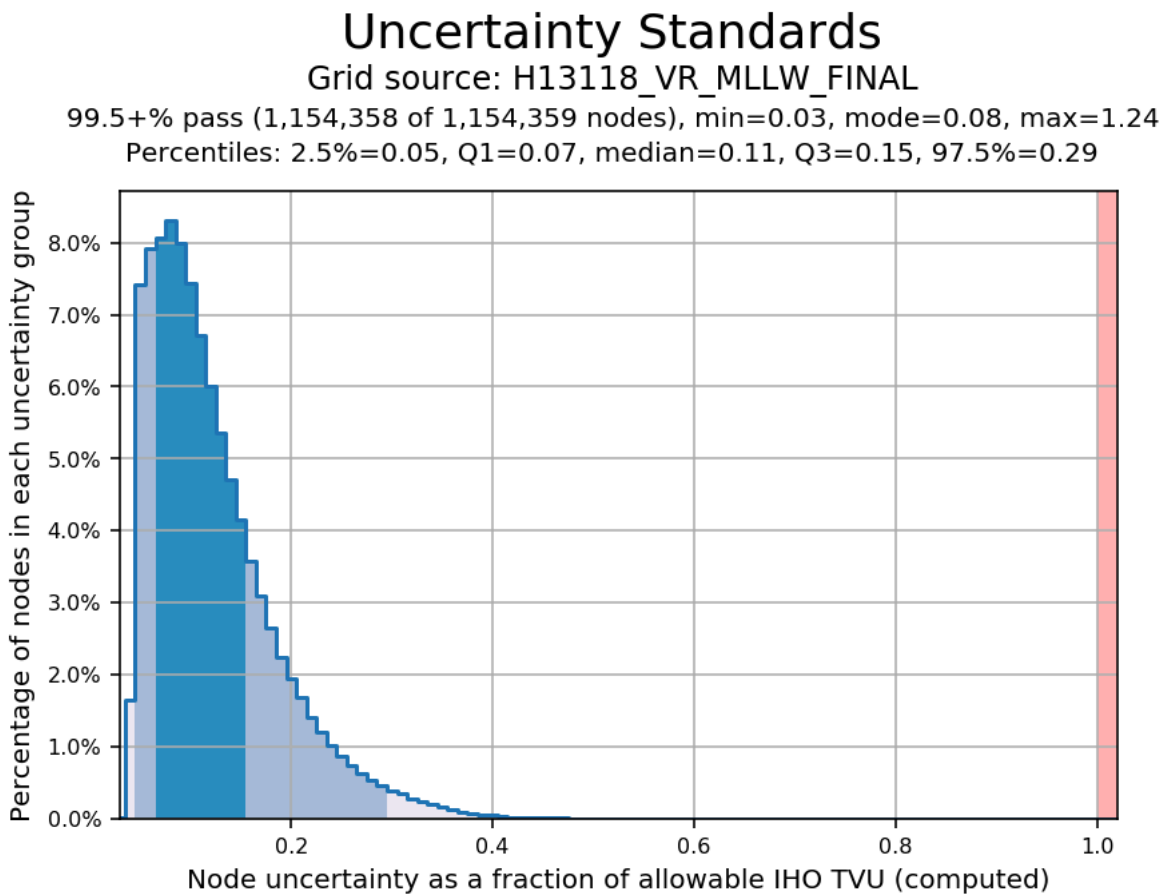


Figure 3: Pydro derived plot showing TVU compliance of H13118 finalized multi-resolution MBES data.

B.2.3 Junctions

No junctions were performed on sheet H13118.

There are no contemporary surveys that junction with this survey.

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

Sonar Ping Mode

Survey H13118 was acquired to produce bathymetric data and high quality backscatter data. In order to acquire high quality backscatter, minimal changes to the sonar's operating mode were required. Instead of operating sonar ping mode automatically, it was manually switched between "shallow", "medium", "deep", "very deep", and "extra deep" where appropriate. The hydrographer monitored the effects of these manual changes out in the field and found no issues with the resulting data.

B.2.6 Factors Affecting Soundings

There were no other factors that affected corrections to soundings.

B.2.7 Sound Speed Methods

Sound Speed Cast Frequency: At least once every four hours.

Additional casts were taken when significant changes to surface sound speed were observed or when operating in a new area. Sound speed profiles were acquired using Sippican Deep Blue XBT Profilers. All casts were concatenated into a master file and applied to MBES data in Caris HIPS using the nearest in distance within time 4 hours profile selection method. The first cast was taken before starting the first line of MBES acquisition to give the sonar system an SVP profile. Figure 4 shows locations of all XBT casts overlaid on the MBES coverage.

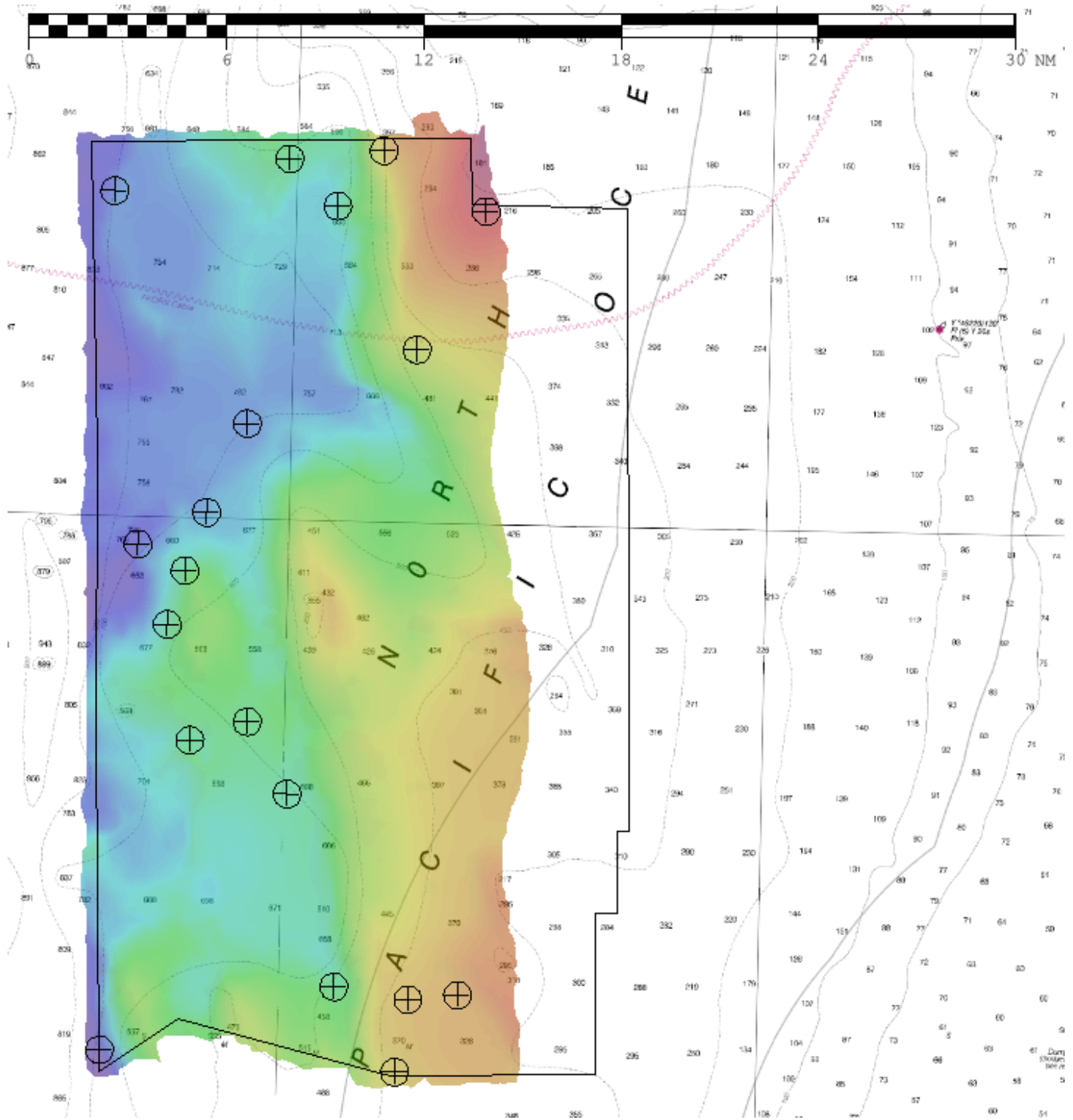


Figure 4: H13118 MBES Coverage With Overlaid Cast Locations (Black Crosshairs)

B.2.8 Coverage Equipment and Methods

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

B.2.9 Detect Fliers

Pydro QC Tools 2 Detect Fliers was used to find fliers in the finalized VR surface. The following are the settings used for Detect Fliers:

- (1) Force flier heights left blank
- (2) Checks - #1 and #6 unchecked, #2 #3 #4 and #5 checked
- (3) Filters - Distance ≤ 1.0 nodes, Delta Z ≤ 0.01 meters, #1 and #2 unchecked.

Obvious noise was rejected by the hydrographer in Caris subset editor. After data cleaning, Detect Fliers listed 59 potential fliers. All potential fliers were investigated by the hydrographer in CARIS subset editor and are located on the outer boundaries of the data. They were all found to be false positives, edge fliers, or caused by the down slope of the sea floor. The results of the Detect Fliers tool are included as a .000 file in Appendix II of this report. An example of a typical detected flier is included in figure 5.

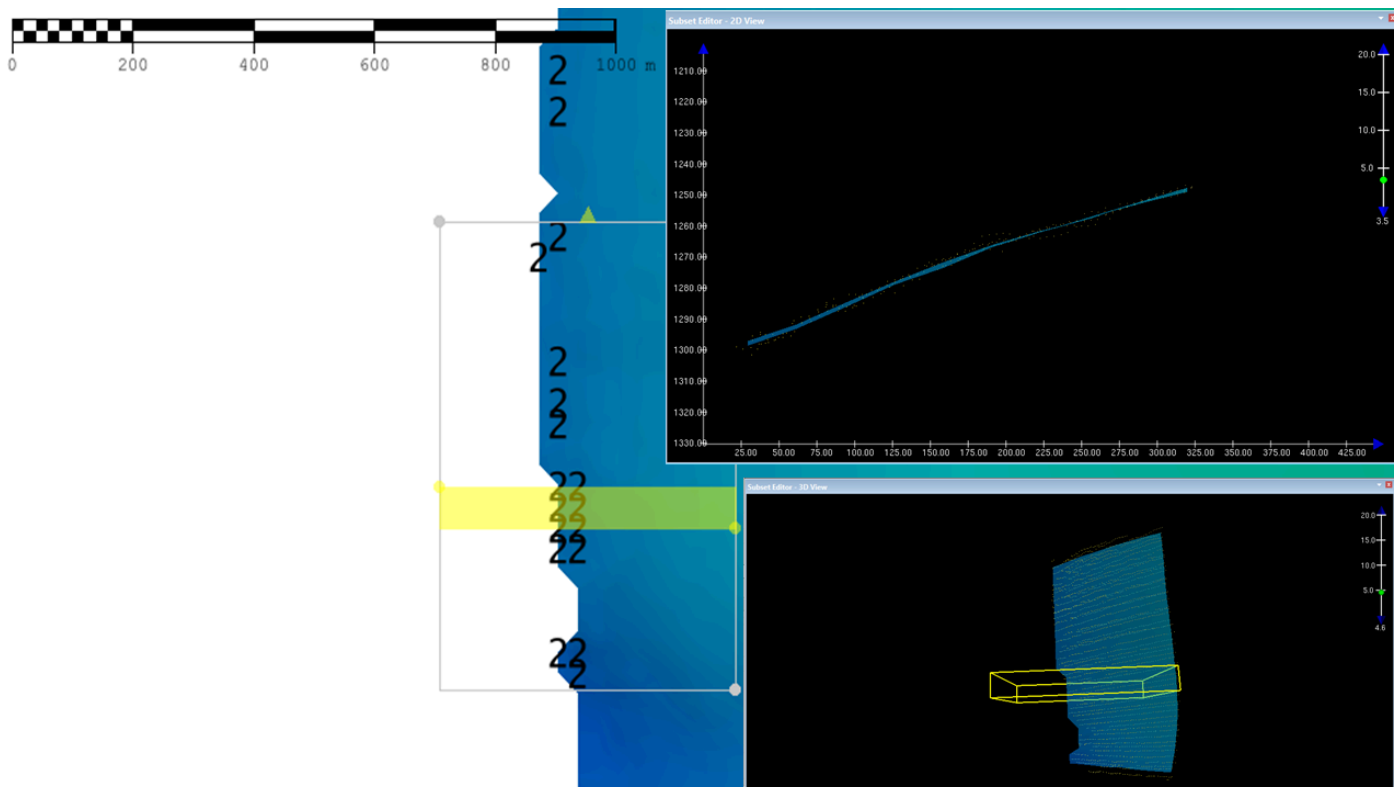


Figure 5: Example of typical edge flier with Caris subset editor examination.

B.3 Echo Sounding Corrections

B.3.1 Corrections to Echo Soundings

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

B.3.2 Calibrations

All sounding systems were calibrated as detailed in the DAPR.

B.4 Backscatter

Raw Backscatter was acquired as .all files logged during MBES operations and subsequently processed by personnel aboard Rainier. One mosaic has been delivered with this report. All backscatter processing procedures utilized follow those detailed in the DAPR.

B.5 Data Processing

B.5.1 Primary Data Processing Software

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

Manufacturer	Name	Version
Caris	HIPS/SIPS	10.3.3

Table 9: Primary bathymetric data processing software

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

Manufacturer	Name	Version
Fledermaus	Fledermaus Geocoder Toolbox (FMGT)	7.8.1

Table 10: Primary imagery data processing software

The following Feature Object Catalog was used: NOAA Profile V_5_7.

B.5.2 Surfaces

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

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
H13118_MB_VR_MLLW_Final	CARIS VR Surface (CUBE)	Variable Resolution	316.0 meters - 1632.8 meters	NOAA_VR	Complete MBES
H13118_MB_VR_MLLW	CARIS VR Surface (CUBE)	Variable Resolution	316.0 meters - 1632.8 meters	NOAA_VR	Complete MBES

Table 11: Submitted Surfaces

Submitted surfaces were generated using the recommended parameters for "Ranges" style variable resolution bathymetric grids as specified in HSSD 2018. No soundings were designated in this survey and no Dangers to Navigation (DTONs) were detected throughout the survey area.

C. Vertical and Horizontal Control

Additional information discussing the vertical or horizontal control for this survey can be found in the accompanying HVCR.

C.1 Vertical Control

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

ERS Methods Used:

ERS via VDATUM

Ellipsoid to Chart Datum Separation File:

shapefile_xyNAD83-MLLW_geoid12b.csar

C.2 Horizontal Control

The horizontal datum for this project is North American Datum 1983.

The projection used for this project is Universal Transverse Mercator (UTM) Zone 10 North.

Precise Positioning-Real Time Extended (PP-RTX) processing methods were used in Applanix POSPac MMS 8.1 software to produce Smooth Best Estimates of Trajectory (SBETs) for post-processing horizontal correction.

C.3 Additional Horizontal or Vertical Control Issues

C.3.1 Missing SBET Data

On Line 54 of DN 230, the SBET data was corrupted by an error in the Inertial Measurement Unit of the POS M/V system referenced in Table 6. This resulted in a loss of SBET data from 1748:51 to 1749:21 UTC of DN 231. Though the data was collected on DN 231 UTC, the raw and processed line is named using the naming convention for DN230. This 30 second gap does have real-time position and attitude data applied to it. In Caris navigation editor, the navigation data through the gap appears unaffected by the gap other than a nearly instantaneous spike (<0.5 S) at the end of the gap. The SBET data was applied to the remainder of the line, and the bathymetry data was analyzed in Caris subset editor for continuity with surrounding lines. There was no discernible effect on the individual soundings, the uncertainty, or the surface.

D. Results and Recommendations

D.1 Chart Comparison

A comparison was made between H13118 survey data and Electronic Navigation Chart (ENC) US3OR02M. This was accomplished by creating CUBE surfaces and contours in Caris and comparing the surveyed contours with the charted depth curves on chart US3OR02M. The chart used is the most recent edition.

D.1.1 Electronic Navigational Charts

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

ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US3OR02M	1:191730	27	10/19/2017	11/16/2018	NO

Table 12: Largest Scale ENCs

US3OR02M

Most surveyed contours generally agree with the charted ENC depth curves, with some disagreements in different areas. In the northern part of the survey, the 200, 300, 400, 500, and 600-fathom survey contours are well represented by the charted ENC depth curves. The 700-fathom survey contour does diverge from the corresponding ENC depth curve by a maximum of almost 5,000 meters in some sections. The 800-fathom survey contour generally agrees with the charted depth curve aside from an area near the center of the west side of the survey.

In the southern portion of the survey, the 300-fathom survey contour shows some divergence to seaward from the ENC contour. The 400 and 500-fathom survey contours generally agree with the charted depth curves, aside from the enclosed 400-fathom survey contour in the center of the survey being shifted slightly east of the charted location. The 600-fathom survey contour data shows some divergence in the central and southern parts of the survey, but still follows the general trend of the charted depth curves. The 700 and 800-fathom survey contours generally agree with charted data, except for a slight shift to the east of the 800-fathom survey contour in the southwest corner of the survey.

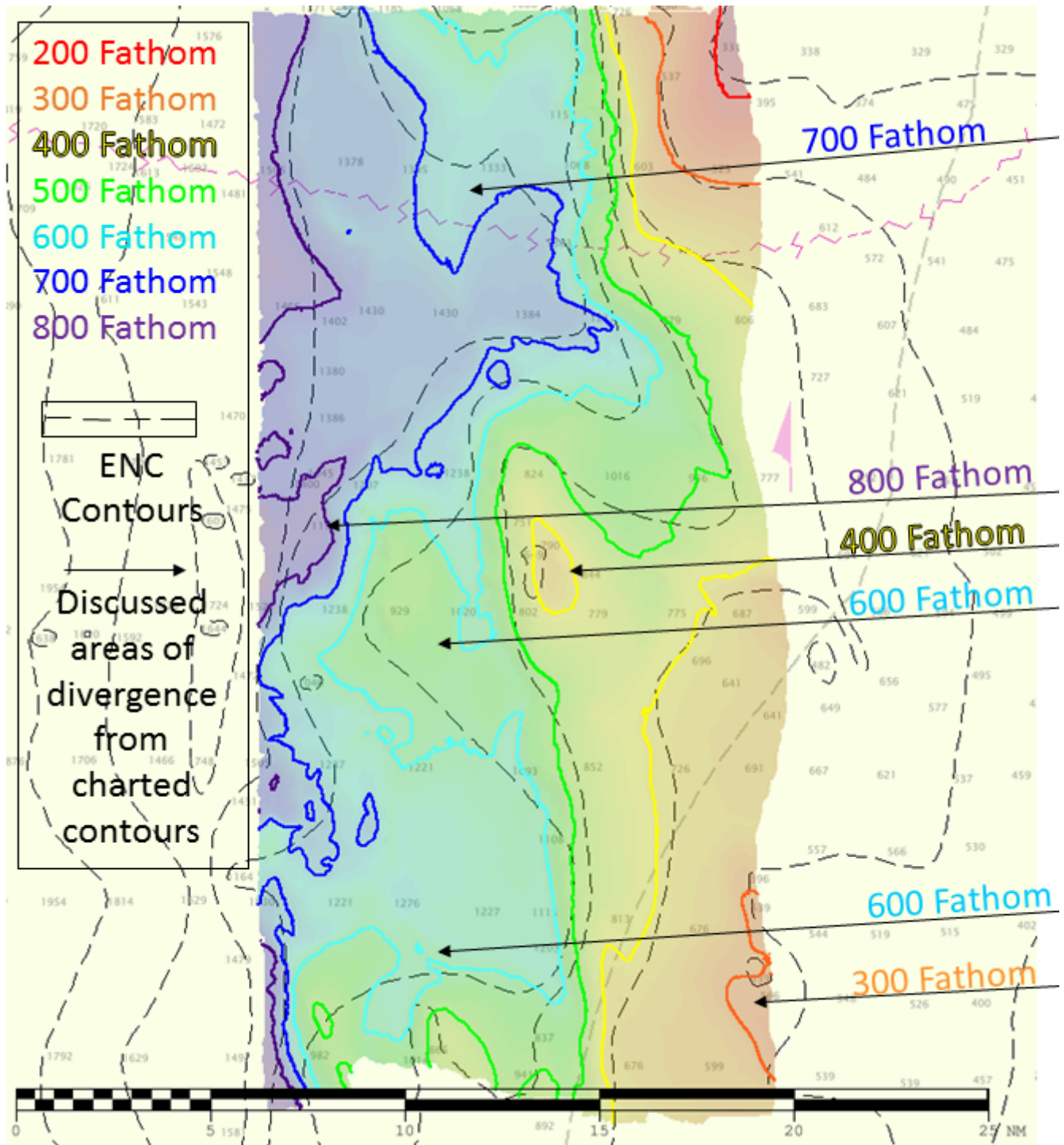


Figure 6: H13118 Survey Contours, Compared with US3OR02M Depth Curve Locations

D.1.2 Maritime Boundary Points

No Maritime Boundary Points were assigned for this survey.

D.1.3 Charted Features

One charted feature exists in the form of a submarine cable in the northern part of the survey. Please see section D.2.5 for additional information.

D.1.4 Uncharted Features

No uncharted features exist for this survey.

D.1.5 Shoal and Hazardous Features

No shoals or potentially hazardous features exist for this survey.

D.1.6 Channels

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

D.1.7 Bottom Samples

No bottom samples were required for this survey.

D.2 Additional Results**D.2.1 Shoreline**

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

D.2.2 Prior Surveys

No prior survey comparisons exist for this survey.

D.2.3 Aids to Navigation

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

D.2.4 Overhead Features

No overhead features exist for this survey.

D.2.5 Submarine Features

A submarine cable is depicted on the ENC and Raster Nautical Chart (RNC) in the northern area of the survey coverage. No evidence of the cable was identified in H13118 MBES data. The "Investigation Requirements" attribute field of this feature in the Composite Source File dictates that this feature is not to be included in the Final Feature File. Because this is the only assigned feature in the survey area, no Final Feature File is included with H13118. The hydrographer recommends retaining the cable as charted.

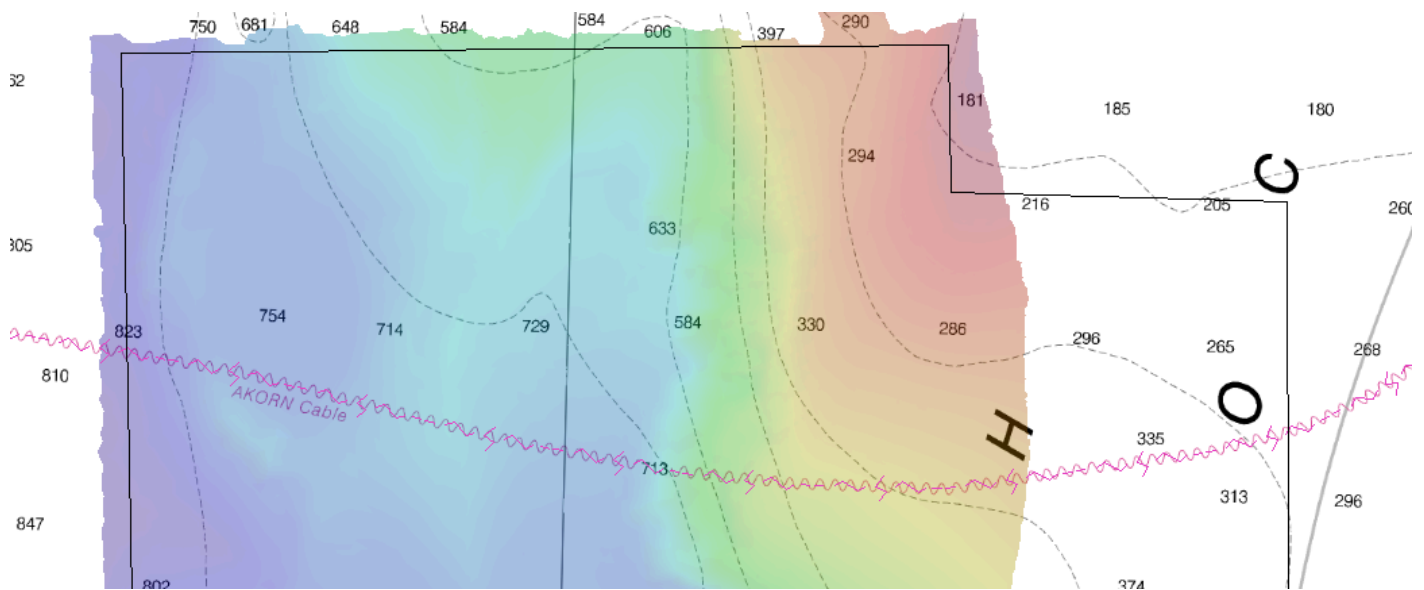


Figure 7: H13118 Coverage With Charted Submarine Cable

D.2.6 Platforms

No platforms exist for this survey.

D.2.7 Ferry Routes and Terminals

No ferry routes or terminals exist for this survey.

D.2.8 Abnormal Seafloor and/or Environmental Conditions

No abnormal seafloor and/or environmental conditions exist for this survey.

D.2.9 Construction and Dredging

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

D.2.10 New Survey Recommendation

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

D.2.11 Inset Recommendation




No new insets are recommended for this area.

E. Approval Sheet

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

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

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

Approver Name	Approver Title	Approval Date	Signature
Benjamin K. Evans, CDR/NOAA	Chief of Party	01/30/2019	 Digitally signed by EVANS.BENJAMIN.K.1237217094 Date: 2019.01.30 22:26:48 -08'00'
James B. Jacobson	Chief Survey Technician	01/30/2019	 JACOBSON.JAMES.BRYAN.1269664017 I have reviewed this document 2019.01.30 10:40:19 -08'00'
Andrew R. Clos, LT/NOAA	Field Operations Officer	01/30/2019	
Nicholas J. Azzopardi, ENS/NOAA	Sheet Manager	01/30/2019	AZZOPARDI.NICHOLA S.JAMES.1539165093 Digitally signed by AZZOPARDI.NICHOLAS.JAMES.15 39165093 Date: 2019.01.30 10:01:28 -08'00'

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 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
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	Linear Nautical Miles
MBAB	Multibeam Echosounder Acoustic Backscatter
MCD	Marine Chart Division
MHW	Mean High Water
MLLW	Mean Lower Low Water
NAD 83	North American Datum of 1983
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
SSSAB	Side Scan Sonar Acoustic Backscatter
ST	Survey Technician
SVP	Sound Velocity Profiler
TCARI	Tidal Constituent And Residual Interpolation
TPE	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



Michael Card - NOAA Federal <michael.card@noaa.gov>

Fwd: Cascadia Margin and CalDIG Project Adjustments

1 message

CO Rainier - NOAA Service Account <co.rainier@noaa.gov>
To: Michael Card - NOAA Federal <michael.card@noaa.gov>

Tue, Oct 9, 2018 at 8:43 AM

FYI, re. XLs on Cascadia Margin.

----- Forwarded message -----

From: **Paul Turner - NOAA Federal** <paul.turner@noaa.gov>

Date: Fri, Aug 10, 2018 at 6:12 AM

Subject: Cascadia Margin and CalDIG Project Adjustments

To: _OMAO MOP CO Rainier <co.rainier@noaa.gov>, Richard Brennan <richard.t.brennan@noaa.gov>, Corey Allen <corey.allen@noaa.gov>, Ashley Chappell <ashley.chappell@noaa.gov>

Cc: Megan Greenaway <megan.greenaway@noaa.gov>, Meredith Payne - NOAA Federal <meredith.payne@noaa.gov>, Lorraine Robidoux <lorraine.robidoux@noaa.gov>

All:

Following up on Cdr Evans feed-back from the Cascadia Margin project regarding crosslines. I can remove that requirement within the final PI's for the CalDIG project unless there are any objections from this group. This will help limit time taken away from the USGS operations. I could also 'un-assign' crosslines for any un-opened H_sheets for the Cascadia Margin project.

However I feel like holidays still need to be ran for both projects so we have complete coverage.

Paul

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Integrated Ocean and Coastal Mapping
NOAA's Office of Coast Survey
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CDR Benjamin K. Evans, NOAA
Commanding Officer
NOAA Ship *Rainier* (S-221)



UNITED STATES DEPARTMENT OF COMMERCE
 National Oceanic and Atmospheric Administration
 NOAA Ship Rainier
 2002 SE Marine Science Drive
 Newport, OR 97365-5229

November 16th, 2018

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MEMORANDUM FOR: Paul Turner, NOAA
 Cascadia Margin and CalDIG Project Manager, HSD

FROM: Commander Benjamin Evans, NOAA
 Commanding Officer, NOAA Ship *Rainier*

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SUBJECT: Waiver Request: Crossline and Holiday Acquisition
 Projects: OPR-L373-RA-18 and OPR-M367-RA-18

Due to the priorities of USGS and BOEM to maximize the amount of area covered by MBES data, *Rainier* is requesting a waiver to modify our crossline and holiday acquisition requirements. *Rainier* requests that the requirement to acquire crossline data and fill in gaps in MBES coverage be waived for surveys with projects OPR-L373-RA-18 and OPR-M367-RA-18.

The following sheets are affected:

H13117, H13118, H13119, H13137, H13206, D00248, H13151 and H13152.

Justification

These surveys are primarily for seafloor mapping and sub-bottom profiling as opposed to nautical charting. The surveys areas are miles offshore of the Oregon and California coasts and in sufficiently deep water that the potential for hazards to navigation is extremely small.

The partnering organizations (USGS and BOEM) do not have use for crossline or holiday coverage, and specifically requested that we dispense with this requirement. As a result, the crossline requirement was not met on all surveys of these projects. While every effort was made to avoid holidays, some small gaps between lines do exist and were not filled.

Decision

Waiver is:

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 99394
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 Granted

 Denied

cc: Chief, HSD OPS; OPS-RA, CHST-RA



APPROVAL PAGE

H13118

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

The following products will be sent to NCEI for archive

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

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

Approved: _____
Commander Olivia Hauser, NOAA
Chief, Pacific Hydrographic Branch