

H13206

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

DESCRIPTIVE REPORT

Type of Survey: Navigable Area

Registry Number: H13206

LOCALITY

State(s): California
Oregon

General Locality: Offshore Southern Oregon

Sub-locality: Saint George Reef

2018

CHIEF OF PARTY
Benjamin Evans, CDR/NOAA

LIBRARY & ARCHIVES

Date:

HYDROGRAPHIC TITLE SHEET

H13206

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): **California Oregon**

General Locality: **Offshore Southern Oregon**

Sub-Locality: **Saint George Reef**

Scale: **80000**

Dates of Survey: **08/14/2018 to 08/15/2018**

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

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

Field Unit: **NOAA Ship *Rainier***

Chief of Party: **Benjamin 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 H13206

Project: OPR-M367-RA-18

Locality: Offshore Southern Oregon

Sublocality: Saint George Reef

Scale: 1:80000

August 2018 - August 2018

NOAA Ship *Rainier*

Chief of Party: Benjamin Evans, CDR/NOAA

A. Area Surveyed

The project instructions reference sheet H13117 which was subsequently split into H13117 and H13206. Please see the supplemental correspondence for more information on the split. The survey area for H13206 is referred to as Saint George Reef (sheet 5). The area encompasses approximately 238 square nautical miles. The area is roughly rectangular extending from 25 nm west of Crescent City, CA to 17 nm west of Rogue River, OR, as shown in Figure 1.

A.1 Survey Limits

Data were acquired within the following survey limits:

Northwest Limit	Southeast Limit
42° 24' 34" N	41° 45' 56" N
124° 55' 12" W	124° 50' 3" W

Table 1: Survey Limits

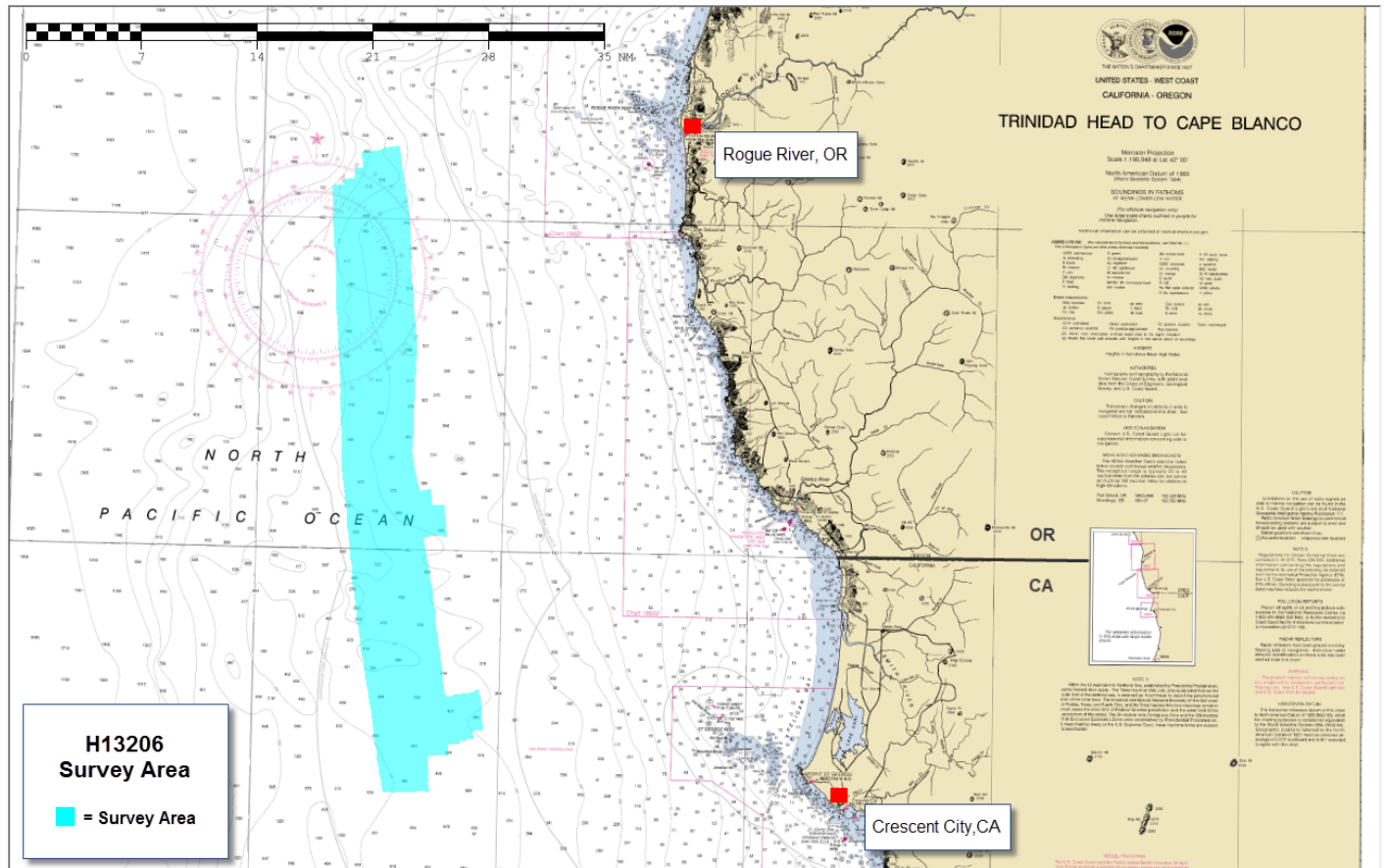


Figure 1: Cyan tint shows the coverage area of H13206 offshore CA-OR border.

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

A.2 Survey Purpose

The primary purpose of this survey is to provide bathymetry, backscatter, and water column data to the United States Geological Society (USGS) Hazard Mission Area objectives. The survey also supports the Expanding Pacific Research and Exploration of Submerged Systems (EXPRESS) campaign. Additionally, the survey supports NOAA's Integrated Ocean and Coastal Mapping project and updates NOAA's nautical charting products. The bathymetric data will be used as a pre-event baseline to be analyzed after large earthquakes. The water column data will be used to continue mapping sea floor seep distribution.

A.3 Survey Quality

The entire survey is adequate to supersede previous data.

Pydro QC Tools 2 Grid QA was used to analyze H13206 multibeam echosounder (MBES) data density. The submitted H13206 variable-resolution (VR) surface met HSSD density requirements.

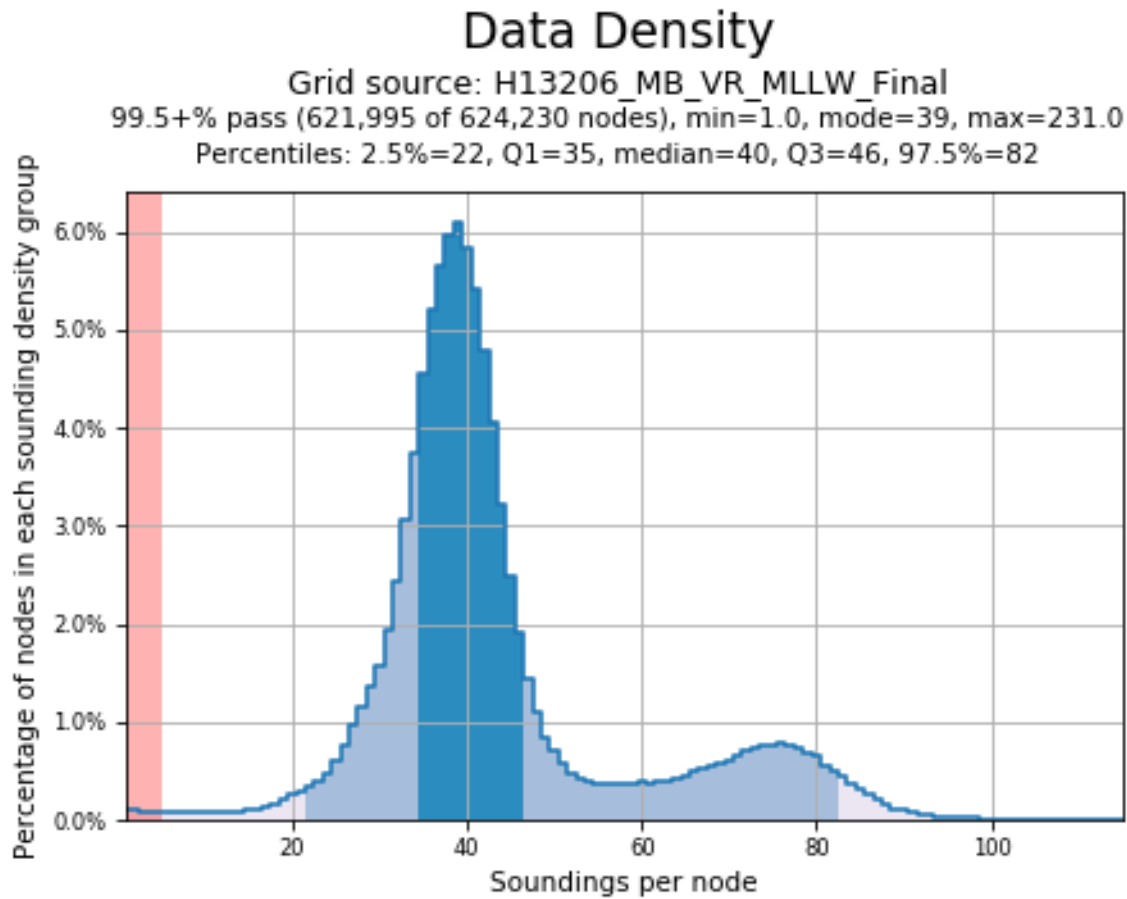


Figure 2: Pydro derived histogram plot showing HSSD density compliance of H13206 finalized variable-resolution MBES data.

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.

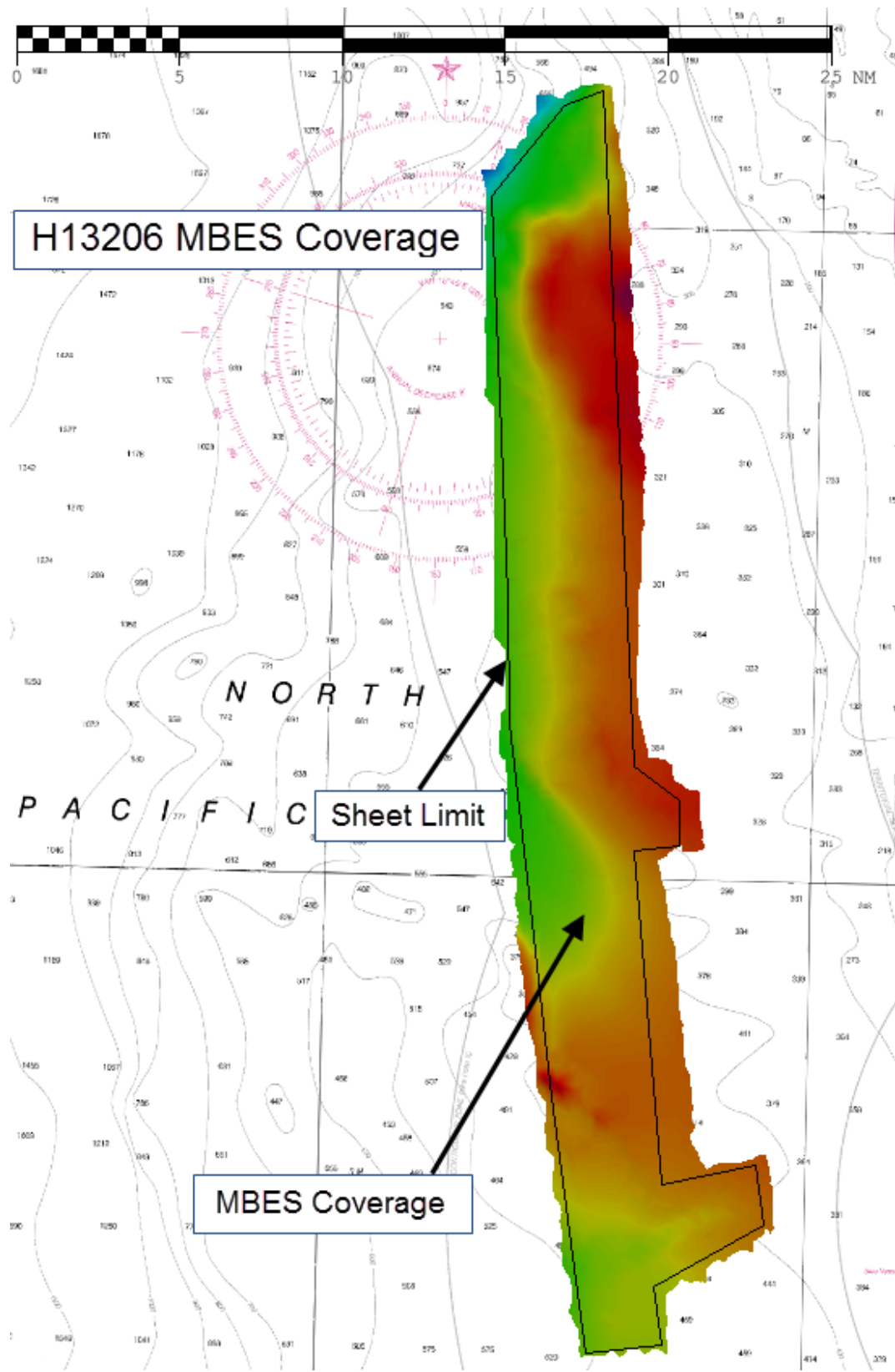


Figure 3: H13206 MBES Coverage with Sheet Limit

A.6 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	239.8	239.8
	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			238.47

Table 3: Hydrographic Survey Statistics

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

Survey Dates	Day of the Year
08/15/2018	227
08/16/2018	228

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



Figure 4: NOAA Ship Rainier (S221)

All data for H13206 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
Kongsberg Maritime	EM 710	MBES
Teledyne RESON	SVP 70	Sound Speed System
Sippican	XBT Deep Blue	Temperature sensor
Applanix	POS MV 320 v5	Positioning and Attitude System

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. See Appendix 2, Supplemental Correspondence. A waiver from HSD Operations Branch has been requested.

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 H13206 was 4 m/s.

Total Propagated Uncertainty (TPU) values for survey H13206 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 H13206 TVU compliance, a histogram plot of the results is shown below.

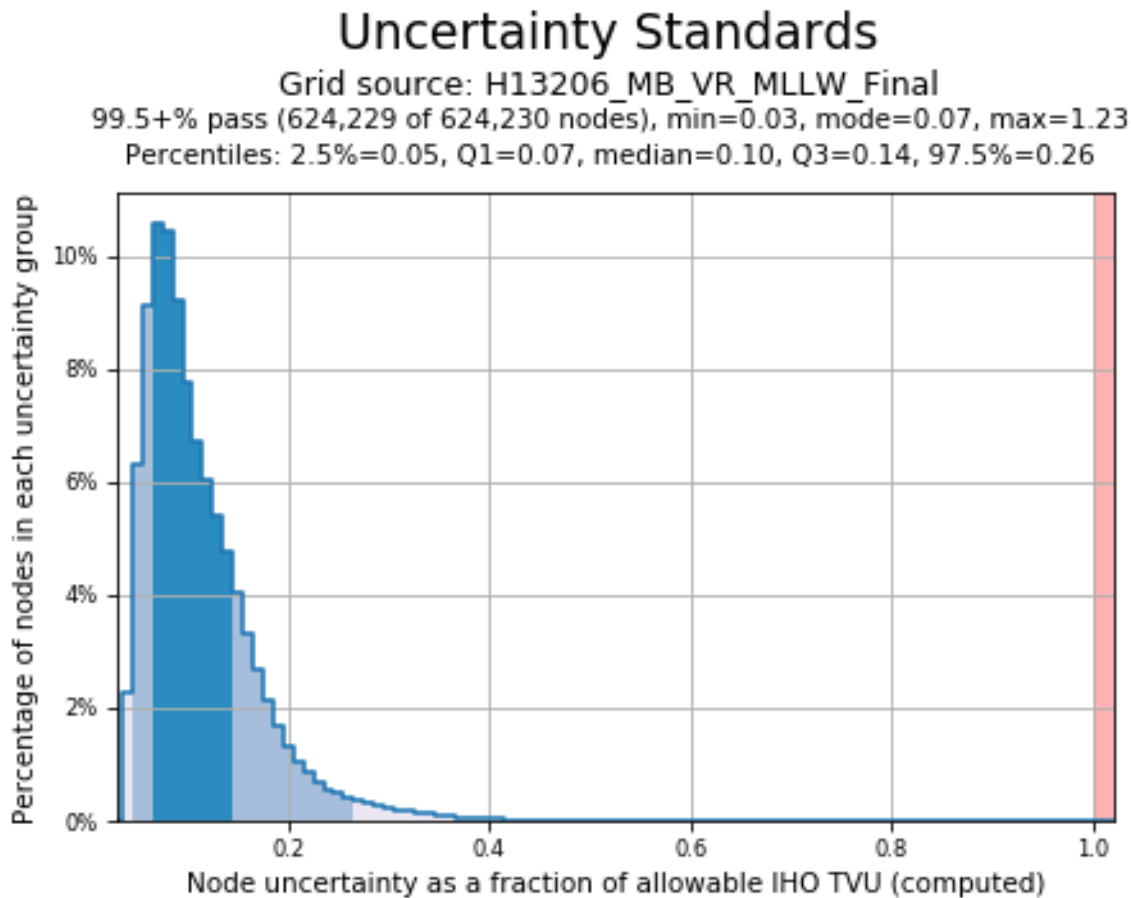


Figure 5: Pydro derived plot showing TVU compliance of H13206 finalized multi-resolution MBES data.

B.2.3 Junctions

No junctions were performed on sheet H13206.

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 H13206 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 outside the sheet limits to give the sonar system an SVP profile before starting the first line of MBES acquisition, as shown in Figure 6.

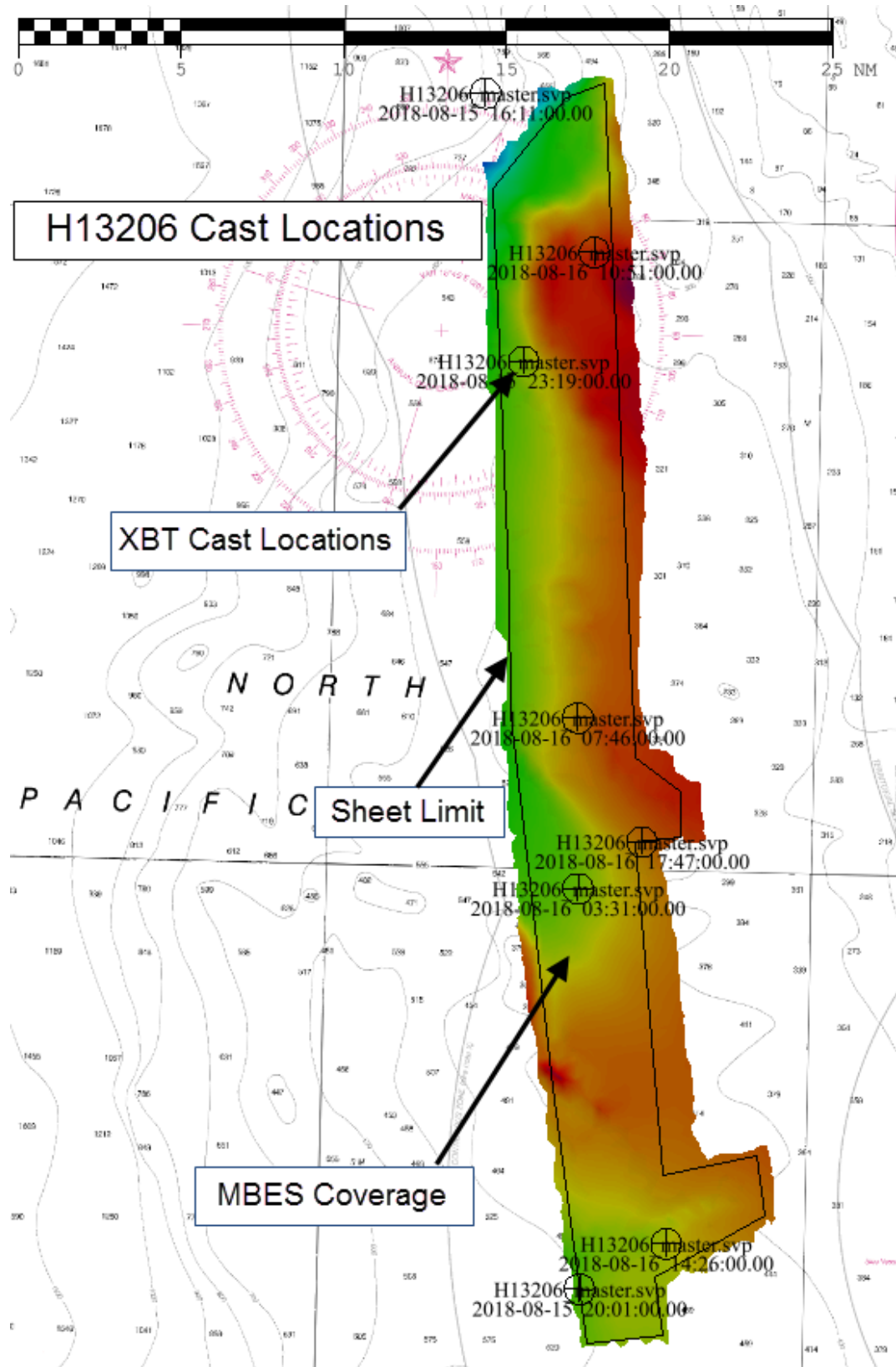


Figure 6: H13206 Cast Locations

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 a 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 five potential fliers. All potential fliers are outside the sheet limit. All potential fliers were investigated in subset editor and were found to be natural slopes comprising the sea floor. The results of the Detect Fliers tool are included as a .000 file in the Pydro QC section of this report. Potential fliers shown in Figure 7.

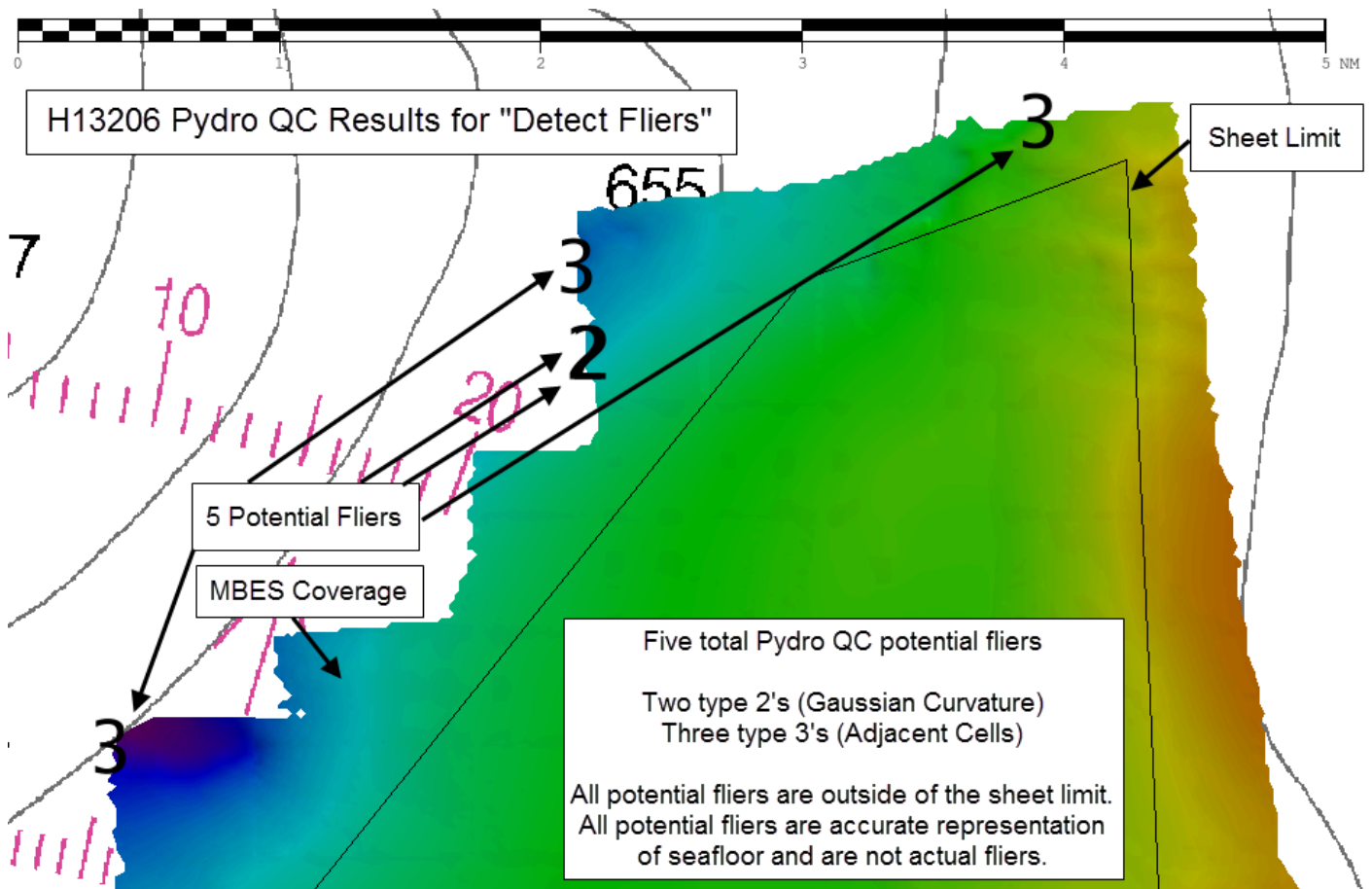


Figure 7: Results for Detect Fliers

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

All equipment and survey methods were used as 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
H13206_MB_VR_MLLW_Final	CARIS VR Surface (CUBE)	Variable Resolution	1394.2 meters - 523.5 meters	NOAA_VR	Complete MBES
H13206_MB_VR_MLLW	CARIS VR Surface (CUBE)	Variable Resolution	1394.2 meters - 523.5 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 Datum Transformation

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

Method	Ellipsoid to Chart Datum Separation File
ERS via VDATUM	shapefile_xyNAD83-MLLW_geoid12b.csar

Table 12: ERS method and SEP file

C.2 Horizontal Control

The horizontal datum for this project is North American Datum of 1983 (NAD 83).

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

WAAS

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.

D. Results and Recommendations

D.1 Chart Comparison

A comparison was made between H13206 survey data and Electronic Navigation Chart (ENC) US3OR03M. This was accomplished by creating CUBE surfaces and contours in Caris and comparing the surveyed contours with the charted depth curves on chart US3OR03M. 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?
US3OR03M	1:196948	21	07/19/2018	07/19/2018	NO

Table 13: Largest Scale ENCs

US3OR03M

A comparison with H13206 surveyed contours and ENC US3OR03M revealed the following: All surveyed contours generally agree with the ENC charted depth curves except in southern portion of the survey. Minor revision is required for the H13206 survey area, as shown in Figure 8.

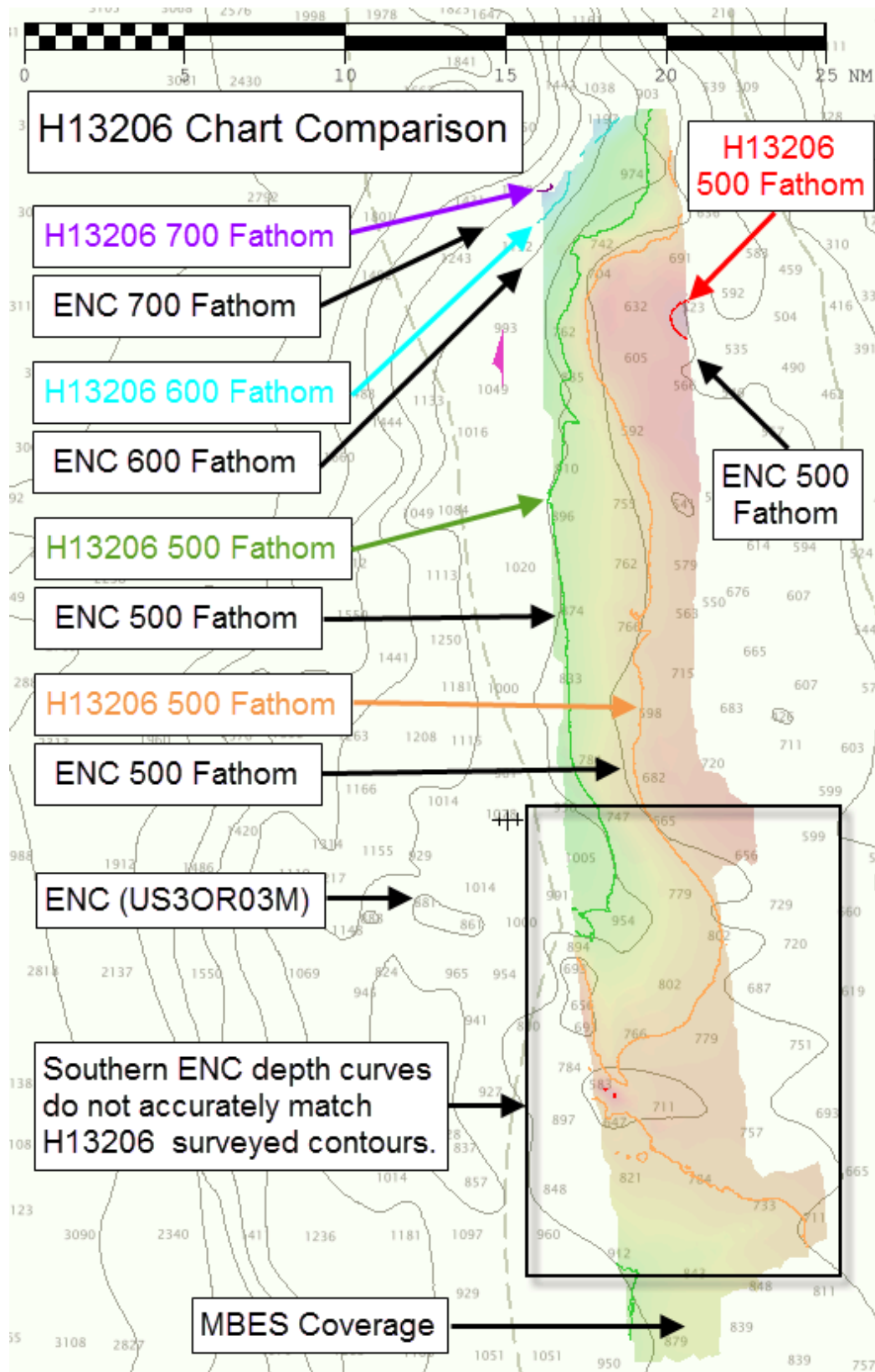


Figure 8: ENC US3OR03M overlaid with H13206 surveyed contours

D.1.2 Maritime Boundary Points

No Maritime Boundary Points were assigned for this survey.

D.1.3 Charted Features

No charted features exist for this survey.

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 Aids to Navigation

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

D.2.3 Overhead Features

No overhead features exist for this survey.

D.2.4 Submarine Features

No submarine features exist for this survey.

D.2.5 Platforms

No platforms exist for this survey.

D.2.6 Ferry Routes and Terminals

No ferry routes or terminals exist for this survey.

D.2.7 Abnormal Seafloor and/or Environmental Conditions

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

D.2.8 Construction and Dredging

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

D.2.9 New Survey Recommendation

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

D.2.10 Inset Recommendation


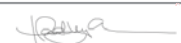


No new insets are recommended for this area.

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	12/19/2018	 Digitally signed by EVANS.BENJAMIN.K.1237217094 Date: 2018.12.19 09:00:13 -08'00'
Andrew R. Clos, LT/NOAA	Field Operations Officer	12/19/2018	 Digitally signed by OWEN.HADLEY.ANNE.1410967070 Date: 2018.12.19 10:19:36 -08'00'
James B. Jacobson	Chief Survey Technician	12/19/2018	 JACOBSON.JAMES.BRYAN.1269664017 I have reviewed this document 2018.12.19 11:07:53 -08'00'
Christopher K. Dunn	Sheet Manager	12/19/2018	 Digitally signed by OWEN.HADLEY.ANNE.14109670 70 Date: 2018.12.19 12:48:18 -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	Continuously Operating Reference Station
CTD	Conductivity Temperature Depth
CEF	Chart Evaluation File
CSF	Composite Source File
CST	Chief Survey Technician
CUBE	Combined Uncertainty and Bathymetry Estimator
DAPR	Data Acquisition and Processing Report
DGPS	Differential Global Positioning System
DP	Detached Position
DR	Descriptive Report
DTON	Danger to Navigation
ENC	Electronic Navigational Chart
ERS	Ellipsoidal Referenced Survey
ERTDM	Ellipsoidally Referenced Tidal Datum Model
ERZT	Ellipsoidally Referenced Zoned Tides
FFF	Final Feature File
FOO	Field Operations Officer
FPM	Field Procedures Manual
GAMS	GPS Azimuth Measurement Subsystem
GC	Geographic Cell
GPS	Global Positioning System
HIPS	Hydrographic Information Processing System
HSD	Hydrographic Surveys Division

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

Acronym	Definition
PRF	Project Reference File
PS	Physical Scientist
RNC	Raster Navigational Chart
RTK	Real Time Kinematic
RTX	Real Time Extended
SBES	Singlebeam Echosounder
SBET	Smooth Best Estimate and Trajectory
SNM	Square Nautical Miles
SSS	Side Scan Sonar
SSSAB	Side Scan Sonar Acoustic Backscatter
ST	Survey Technician
SVP	Sound Velocity Profiler
TCARI	Tidal Constituent And Residual Interpolation
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
ZDF	Zone Definition File



OPS Rainier - NOAA Service Account <ops.rainier@noaa.gov>

H13117 Split Into Two Parts - Can We Make Two Sheets?

6 messages

OPS Rainier - NOAA Service Account <ops.rainier@noaa.gov>

Fri, Aug 10, 2018 at 5:45 PM

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

Cc: _OMAO MOP CO Rainier <CO.Rainier@noaa.gov>, Andrew Clos - NOAA Federal <andrew.clos@noaa.gov>, Hadley Owen - NOAA Federal <hadley.a.owen@noaa.gov>, Janet Watt <jwatt@usgs.gov>, Pete Dartnell <pdartnell@usgs.gov>, James Conrad <jconrad@usgs.gov>

Bcc: Christopher Dunn - NOAA Federal <christopher.dunn@noaa.gov>, Michael Card - NOAA Federal <michael.card@noaa.gov>

Paul,

I learned today from Janet that all of H13118 has been de-prioritized such that it's no longer on our tasking. Also, H13117 has been taken in quite a bit, but now contains two non-contiguous pieces.

I had two sheet managers lined up to manage H13117 and H13118, and still intend to put them both to work over the next two weeks. Can you please give the smaller, northern portion of the new H13117 a new registry number so that we can adhere to our personnel development?

Greatly appreciated,

Scott

P.S. LT Andrew Clos and LT Hadley Owen will carry on the comms from here on our end. It was a pleasure working with you these past few months.

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

Sat, Aug 11, 2018 at 5:14 AM

To: OPS Rainier - NOAA Service Account <ops.rainier@noaa.gov>

Cc: _OMAO MOP CO Rainier <CO.Rainier@noaa.gov>, Andrew Clos - NOAA Federal <andrew.clos@noaa.gov>, Hadley Owen - NOAA Federal <hadley.a.owen@noaa.gov>, Janet Watt <jwatt@usgs.gov>, Pete Dartnell <pdartnell@usgs.gov>, James Conrad <jconrad@usgs.gov>

Please let me know if the RA would like H13117 split into two smaller sheets. I am going to assign a additional sheet to this project which might reesolve the personal development requires for the RA.

Paul

[Quoted text hidden]

--

Paul Turner
Integrated Ocean and Coastal Mapping
NOAA's Office of Coast Survey
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Paul.Turner@noaa.gov

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Tue, Aug 14, 2018 at 10:52 AM

To: OPS Rainier - NOAA Service Account <ops.rainier@noaa.gov>

Cc: _OMAO MOP CO Rainier <CO.Rainier@noaa.gov>, Andrew Clos - NOAA Federal <andrew.clos@noaa.gov>, Hadley Owen - NOAA Federal <hadley.a.owen@noaa.gov>, Janet Watt <jwatt@usgs.gov>, Pete Dartnell <pdartnell@usgs.gov>, James Conrad <jconrad@usgs.gov>, Corey Allen <corey.allen@noaa.gov>, Ashley Chappell <ashley.chappell@noaa.gov>

Good afternoon,

The following registry number is assigned for the smaller, northern portion of H13117.

At this time, I do not have a geographic file to provide you with but use the following registry number for the new sheet.

H13206
Saint George Reef
ESNM: 800

Please follow-up with any questions.

Paul

[Quoted text hidden]

OPS Rainier - NOAA Service Account <ops.rainier@noaa.gov>

Tue, Aug 14, 2018 at 3:11 PM

To: Barry Jackson - NOAA Federal <barry.jackson@noaa.gov>, Jim Jacobson <ChiefST.Rainier@noaa.gov>

Since it looks like you were not on this email list.

R,
Hadley

[Quoted text hidden]

Andrew Clos - NOAA Federal <andrew.clos@noaa.gov>

Wed, Aug 15, 2018 at 8:53 AM

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

Cc: OPS Rainier - NOAA Service Account <ops.rainier@noaa.gov>, _OMAO MOP CO Rainier <CO.Rainier@noaa.gov>, Hadley Owen - NOAA Federal <hadley.a.owen@noaa.gov>, Janet Watt <jwatt@usgs.gov>, Pete Dartnell <pdartnell@usgs.gov>, James Conrad <jconrad@usgs.gov>, Corey Allen <corey.allen@noaa.gov>, Ashley Chappell <ashley.chappell@noaa.gov>

Hi Paul,

Here are the revised sheet limits for the Cascadia Margin project -- updated about an hour ago.


Are we covered as far as ECO permitting for the new limits? Is there a shape file or other boundary we could have that shows where we are covered on this project for ECO? With the changes to sheet limits occurring, I just want to be sure we don't end up conducting survey where we weren't approved to do so.

Thank you,
Andrew Clos

[Quoted text hidden]

--

LT Andrew Clos
Field Operations Officer, NOAA Ship Rainier
Personal Cell: 360-909-7767

 **OPR_M367_RA_18_revised081518.zip**
5K

Andrew Clos - NOAA Federal <andrew.clos@noaa.gov>

Wed, Aug 15, 2018 at 9:03 AM

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

Cc: OPS Rainier - NOAA Service Account <ops.rainier@noaa.gov>, _OMAO MOP CO Rainier <CO.Rainier@noaa.gov>, Hadley Owen - NOAA Federal <hadley.a.owen@noaa.gov>, Janet Watt <jwatt@usgs.gov>, Pete Dartnell <pdartnell@usgs.gov>, James Conrad <jconrad@usgs.gov>, Corey Allen <corey.allen@noaa.gov>, Ashley Chappell <ashley.chappell@noaa.gov>

8/27/2018

National Oceanic and Atmospheric Administration Mail - H13117 Split Into Two Parts - Can We Make Two Sheets?

Hi Again Paul,

It just saw a forwarded email from CDR Evans about the ECO areas -- thank you for helping us sort that out!

V/R,
LT Andrew Clos

[Quoted text hidden]



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

Digitally signed by
 TURNER.PAUL.TO
 WERS.1365899394
 Date: 2018.11.18
 08:12:21 -05'00'

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

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

Digitally signed by
 EVANS.BENJAMIN.K.12372170
 94
 Date: 2018.11.16 16:38:51
 -08'00'

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:

TURNER.PAUL.TO Digitally signed by
 WERS.1365899394 TURNER.PAUL.TOWERS.13658
 99394
 4 Date: 2018.11.18 08:18:21
 -05'00'

 Granted

 Denied

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



APPROVAL PAGE

H13206

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)
- Collection of backscatter mosaics
- Processed survey data and records
- GeoPDF of survey product

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