H12963

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

DESCRIPTIVE REPORT

Type of Survey:	Navigable Area
Registry Number:	H12963

LOCALITY

State(s):	Georgia
General Locality:	Approaches to Savannah
Sub-locality:	Southwest Savannah

2017

CHIEF OF PARTY
Commander Christiaan van Westendorp, NOAA

LIBRARY & ARCHIVES

Date:

U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION	REGISTRY NUMBER:
HYDROGRAPHIC TITLE SHEET	**H12963**

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):	**Georgia**
General Locality:	**Approaches to Savannah**
Sub-Locality:	**Southwest Savannah**
Scale:	**20000**
Dates of Survey:	**11/05/2017 to 11/07/2017**
Instructions Dated:	**02/27/2018**
Project Number:	**OPR-G329-TJ-17**
Field Unit:	**NOAA Ship *Thomas Jefferson***
Chief of Party:	**Commander Christiaan van Westendorp, NOAA**
Soundings by:	**Multibeam Echo Sounder**
Imagery by:	**Side Scan Sonar and Multibeam Echo Sounder Backscatter**
Verification by:	**Atlantic Hydrographic Branch**
Soundings Acquired in:	**meters at Mean Lower Low Water**

Remarks:

The purpose of this survey is to provide contemporary surveys to update National Ocean Service (NOS) nautical charts. All separates are filed with the hydrographic data. Any revisions to the Descriptive Report (DR) generated during office processing are shown in bold red italic text. The processing branch maintains the DR as a field unit product, therefore, all information and recommendations within the 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 https://www.ncei.noaa.gov/.

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Descriptive Report to Accompany Survey H12963

Project: OPR-G329-TJ-17

Locality: Approaches to Savannah

Sublocality: Southwest Savannah

Scale: 1:20000

5 November 2017 - 7 November 2017

NOAA Ship *Thomas Jefferson*

Chief of Party: Commander Christiaan van Westendorp, NOAA

A. Area Surveyed

Survey sheet H12963 was partially surveyed. Survey operations on the sheet began on 05 NOV 2017 and ended on 07 NOV 2017 at the scheduled conclusion of the *Thomas Jefferson* field season. A subsection of the sheet measuring approximately 1 km by 16.5 km was completed in accordance with hydrographic survey project instructions for project OPR-G329-TJ-17. Figures 1-3 show the extents of the area surveyed.

A.1 Survey Limits

Data were acquired within the following survey limits (Table 1):

Northwest Limit	Southeast Limit
31° 47' 31.25" N 80° 43' 41.88" W	31° 46' 53.72" N 80° 33' 16.56" W

Table 1: Survey Limits

Project	OPR-G329-TJ-17
Sheet	H12963

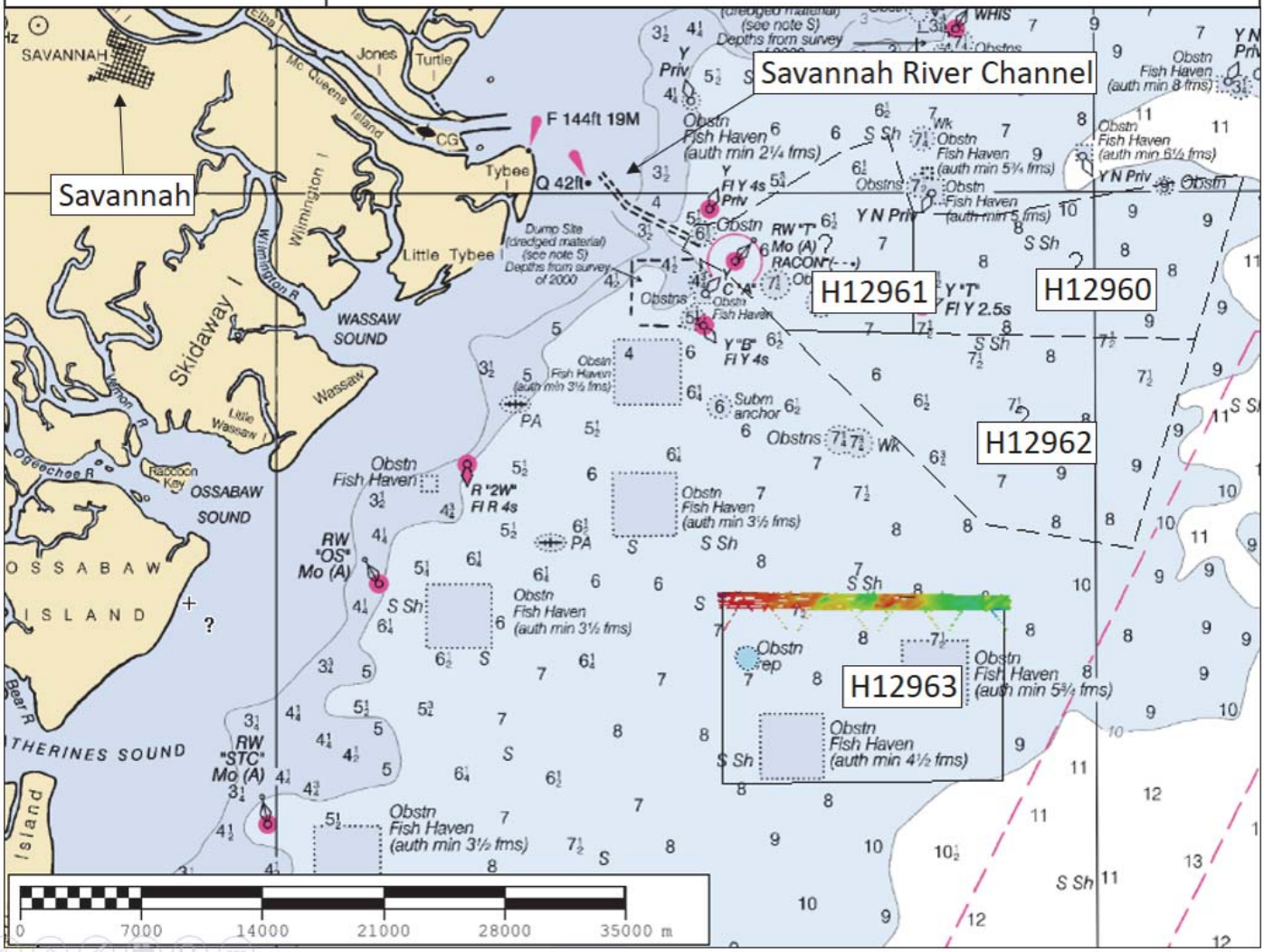


Figure 1: Survey location

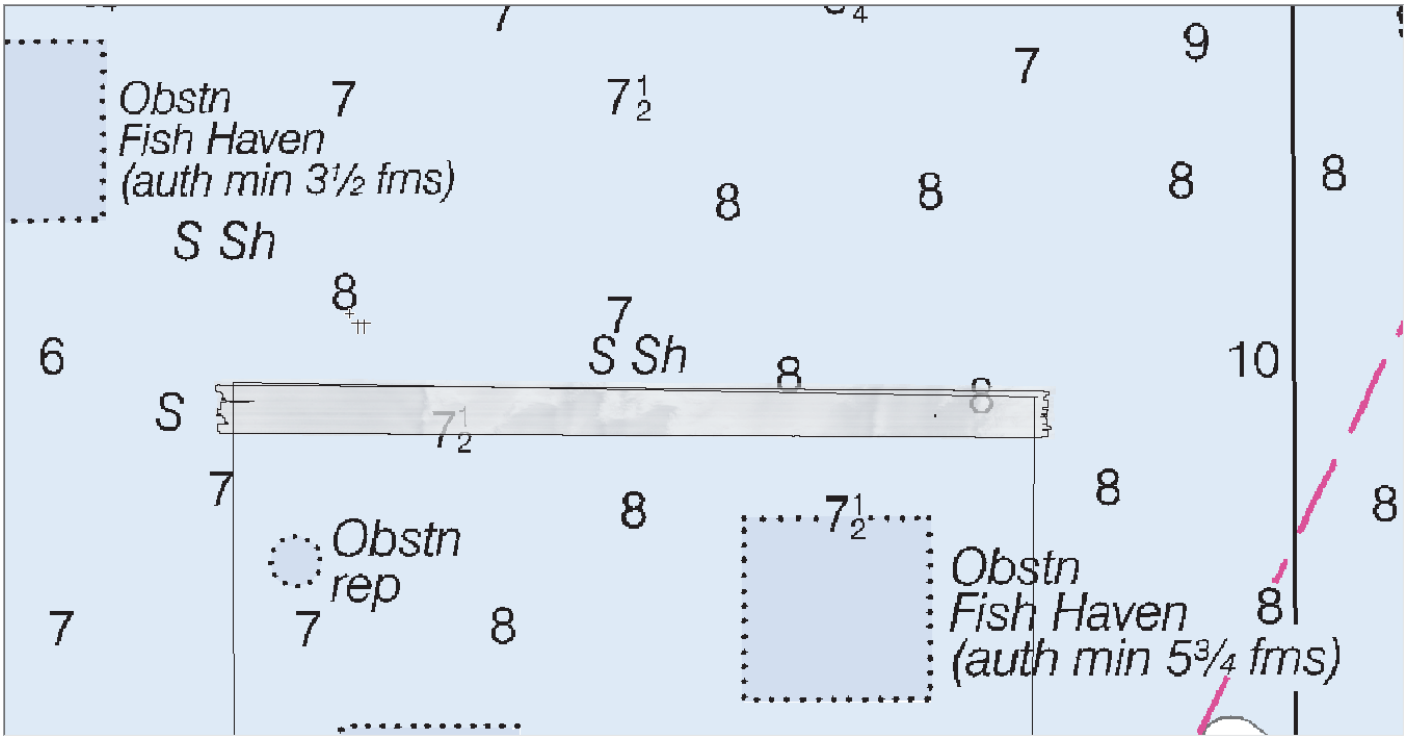


Figure 2: SSS coverage with survey outline

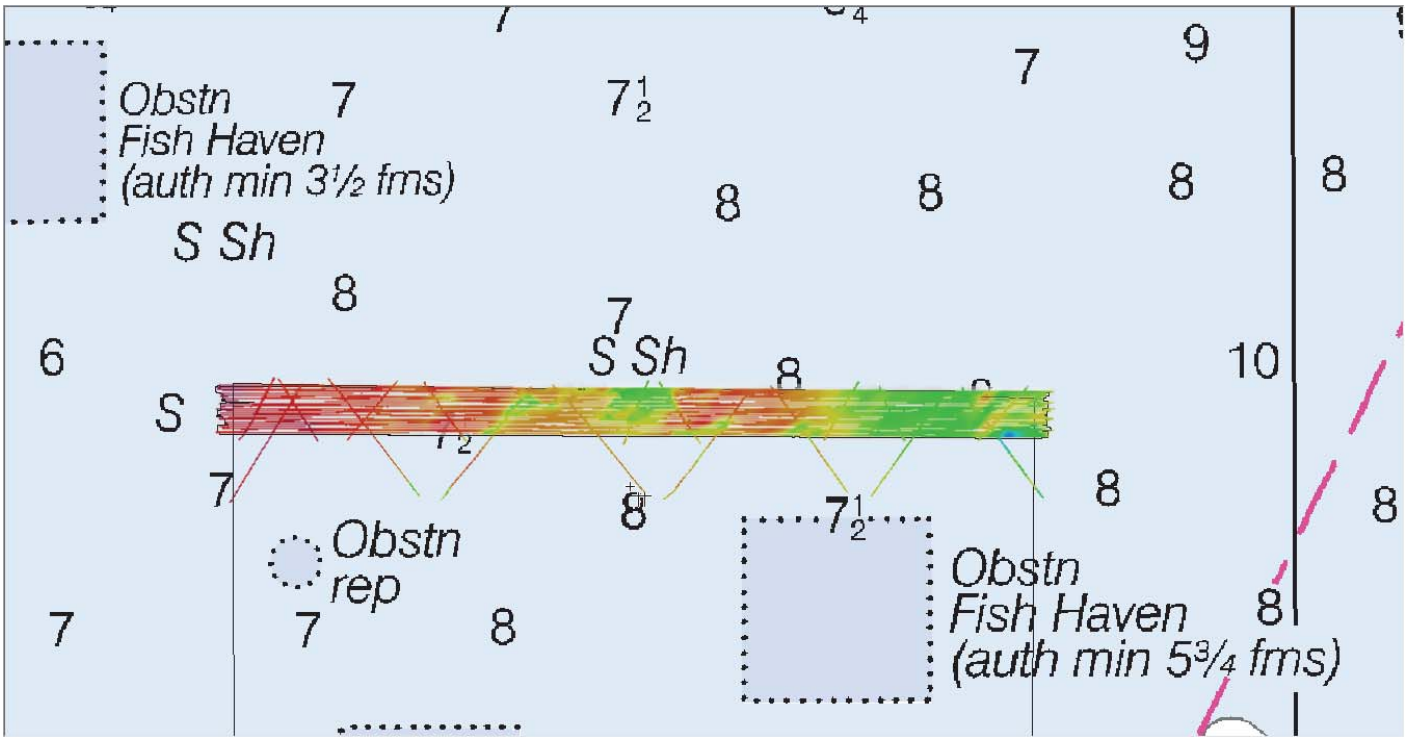


Figure 3: MBES coverage with survey outline

Survey limits were acquired in accordance with the requirements in the Project Instructions and the Hydrographic Surveys Specifications and Deliverables (HSSD).

A.2 Survey Purpose

This survey will update the chart to meet the needs of larger ships transiting into Savannah Harbor. The Savannah Harbor Expansion Project (SHEP) is being deepened to prepare for Neo-Panamax vessels, whose increased capacity is expected net more than $174 million in annual benefits to the nation.[1] Larger ships generate more business for US companies, but it also means that the ships will be passing closer to the seafloor. The Approaches to Savannah survey will provide the data to reduce risk to the transport of those goods.

In addition to supporting the SHEP, Approaches to Savannah will address concerns of migrating shoals and improving the positional accuracy of other dangers to navigation. The Port of Savannah handled 10.3% of all U.S. containerized exports in 2015. The total economic impact of Georgia's deepwater ports is $84.1 billion, and support more than 369,000 jobs providing approximately $20.4 billion in personal income annually.[2] This survey will support the navigational safety of commercial and recreational ship traffic at the mouth of the Savannah River.

[1]US Army Corps of Engineers
[2]"Double-Digit Growth for US Ports". Port Technology. February 27, 2017

A.3 Survey Quality

The survey is adequate to supersede previous data.

Field season operations concluded before the entire assigned sheet area could be surveyed. The area within the survey outline for H12963 is adequate to supersede previous chart data.

A.4 Survey Coverage

The following table lists the coverage requirements for this survey as assigned in the project instructions (Table 2):

Water Depth	Coverage Required
All Waters	Object Detection Coverage (refer to HSSD Section 5.2.2.2)
All Waters	All multibeam echo sounder (MBES) acquisition requires backscatter acquisition (refer to HSSD Section 6.2)

Table 2: Survey Coverage

H12963 was surveyed to object detection specifications by 200% side scan sonar (SSS) coverage with concurrent MBES per HSSD 2017 section 5.2.2.2.

Three deficiencies (holidays) exist in SSS coverage (Figures 4-7). Two of the deficiencies exist in the 200% coverage and one of the deficiencies exists in the 100% coverage. These holidays were covered by either the other 100% SSS coverage or MBES surface, and no indications of significant features were observed.

One deficiency exists in MBES coverage (Figure 8). The holiday in MBES coverage was covered by 200% SSS coverage and no indications of significant features were observed.

No holidays were addressed before the ship departed the operating area at the conclusion of the field season.

Non-standard line spacing was used to achieve 200% side scan coverage. See Appendix II (H12963_sss_line_spacing.pdf) for additional details.

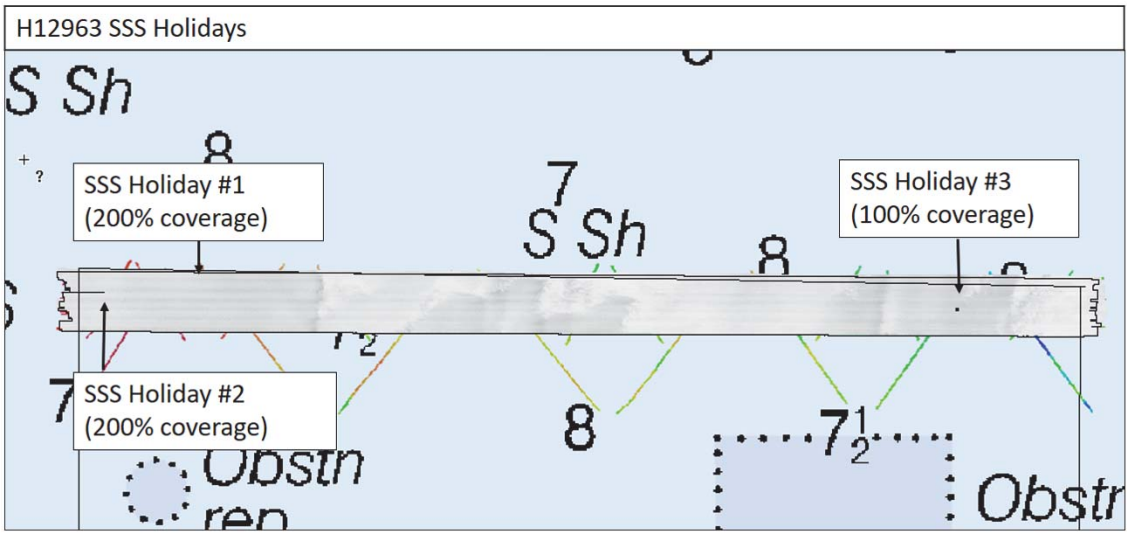


Figure 4: Overview of SSS coverage deficiencies

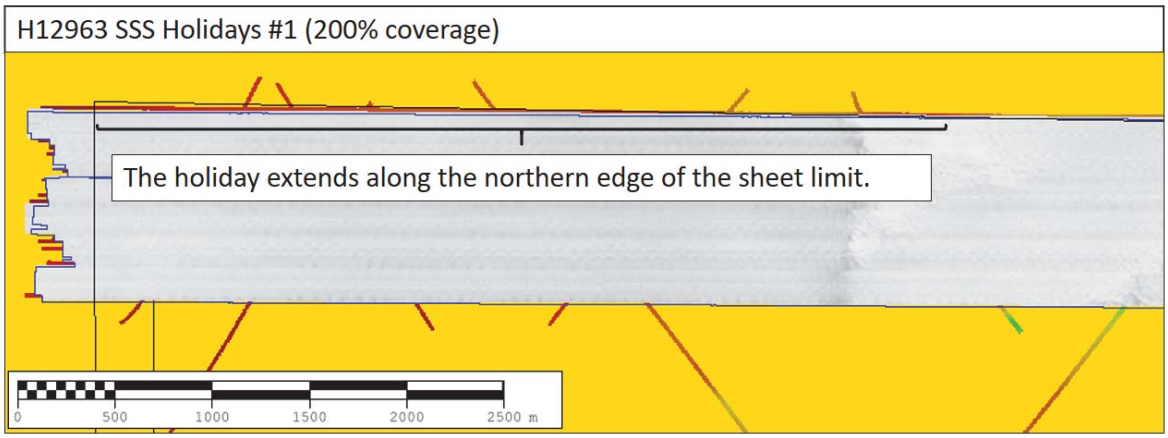


Figure 5: SSS holiday #1 (200% coverage)

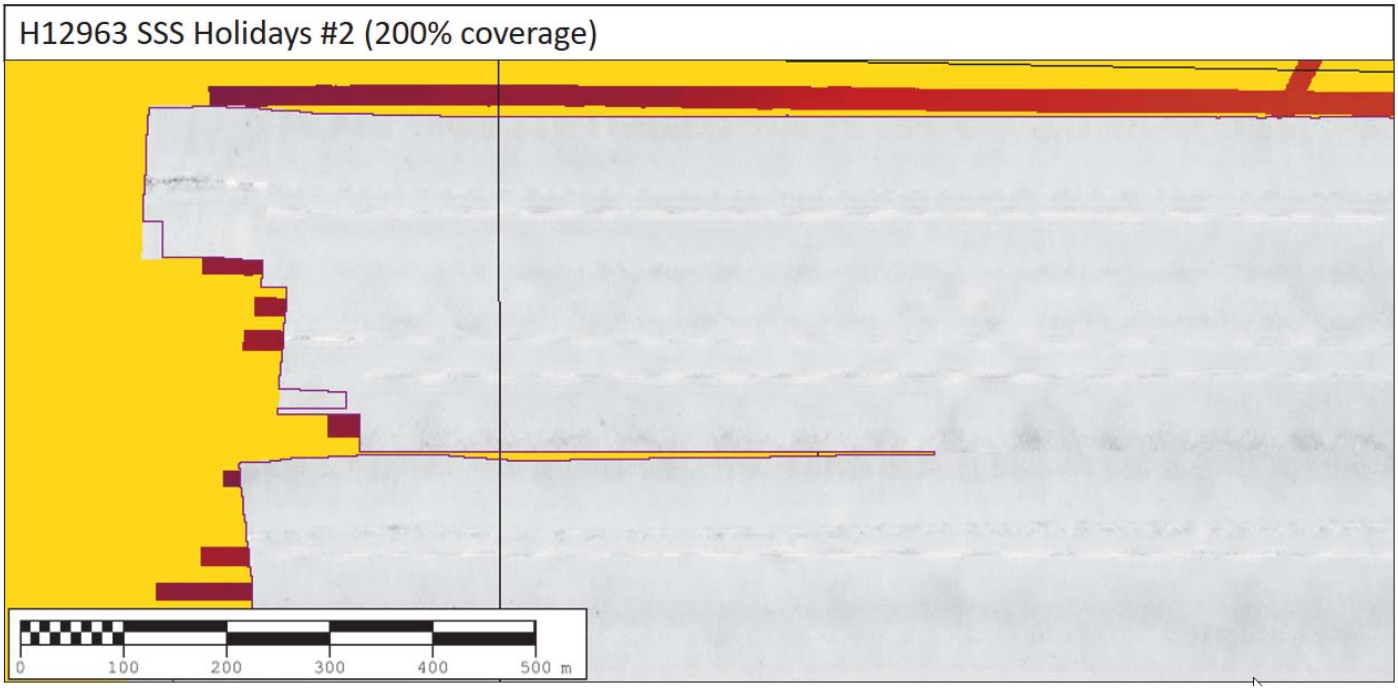


Figure 6: SSS holiday #2 (200% coverage)

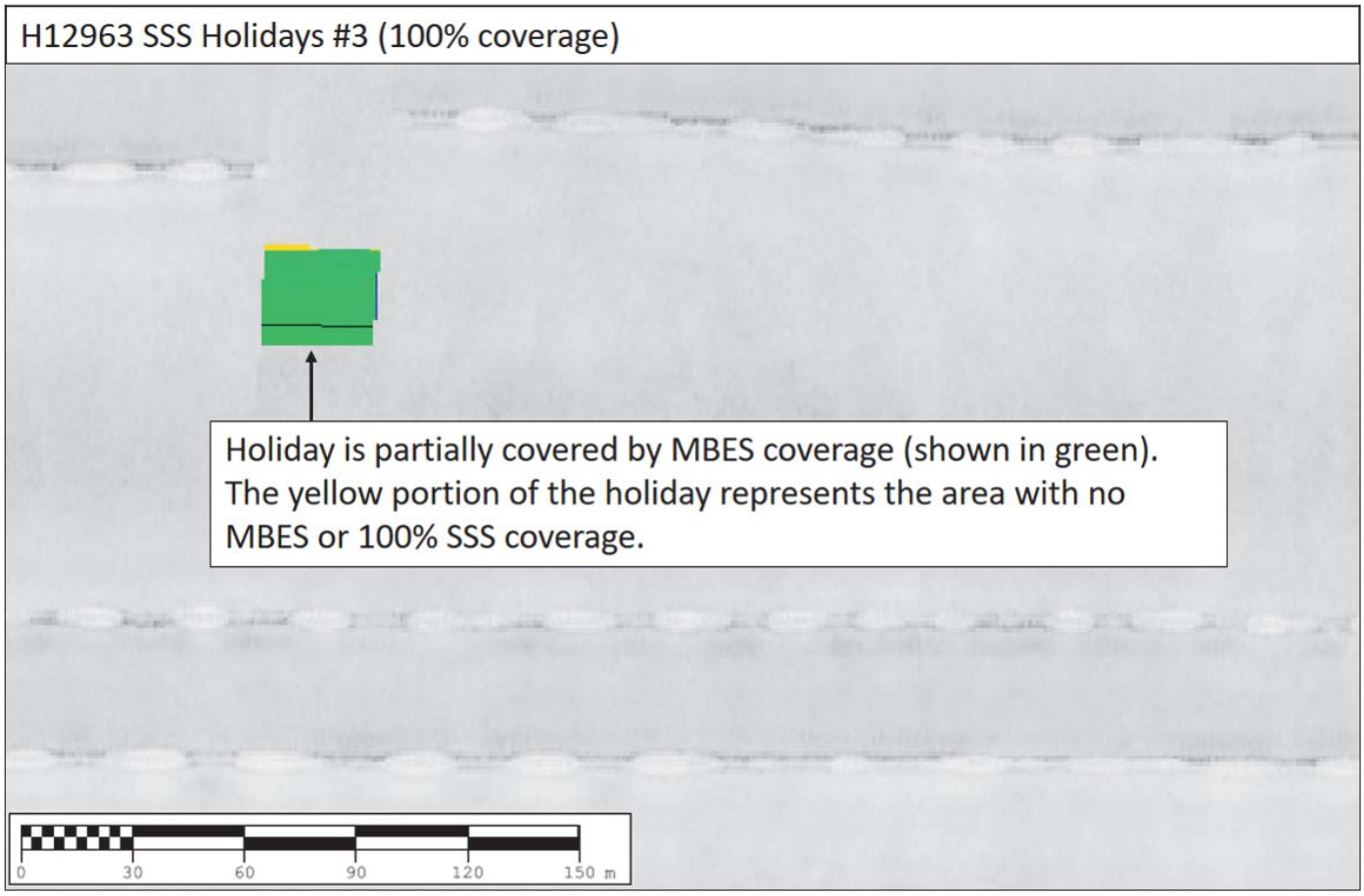


Figure 7: SSS holiday #3 (100% coverage)

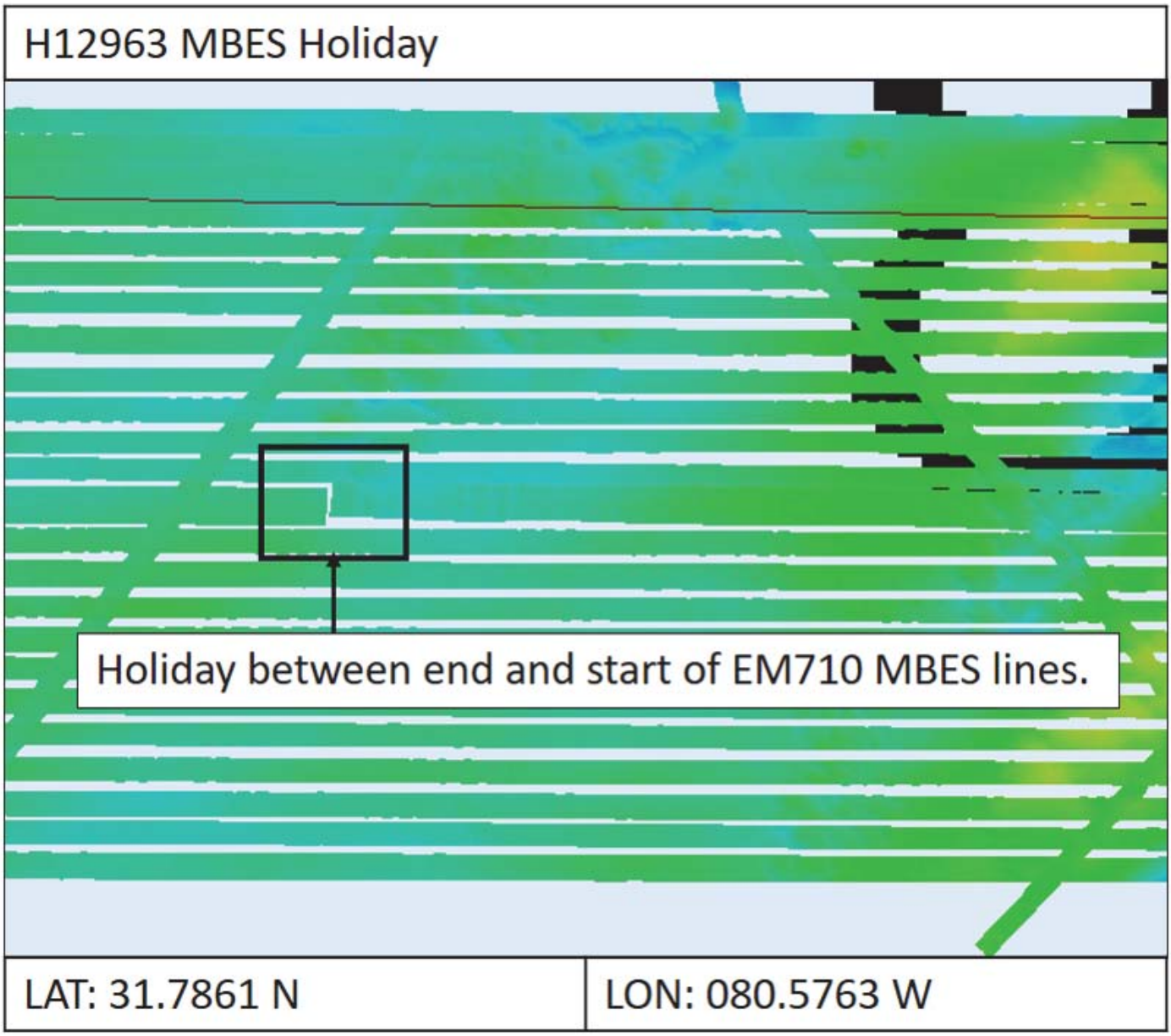


Figure 8: MBES holiday

A.6 Survey Statistics

The following table lists the mainscheme and crossline acquisition mileage for this survey (Table 3):

	HULL ID	*S222*	*Total*
LNM	**SBES Mainscheme**	0	0
	MBES Mainscheme	236	236
	Lidar Mainscheme	0	0
	SSS Mainscheme	236	236
	SBES/SSS Mainscheme	0	0
	MBES/SSS Mainscheme	236	236
	SBES/MBES Crosslines	19.5	19.5
	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			4.7

Table 3: Hydrographic Survey Statistics

The following table lists the specific dates of data acquisition for this survey (Table 4):

Survey Dates	Day of the Year
11/05/2017	309
11/06/2017	310

Survey Dates	Day of the Year
11/07/2017	311

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 (Table 5):

Hull ID	*S222*
LOA	208 feet
Draft	15 feet

Table 5: Vessels Used

B.1.2 Equipment

The following major systems were used for data acquisition during this survey (Table 6):

Manufacturer	Model	Type
Klein Marine Systems	System 5000 V2	SSS
Kongsberg Maritime	EM 2040	MBES
Kongsberg Maritime	EM 710	MBES
Applanix	POS MV 320 v5	Positioning and Attitude System
AML Oceanographic	Micro-CTD	Sound Speed System
Valeport	MODUS SVS Thruhull	Sound Speed System

Table 6: Major Systems Used

B.2 Quality Control

B.2.1 Crosslines

Total crossline mileage was 8.3% of total mainscheme MBES mileage. Crosslines extended far outside of the the main scheme area in some instances; however, distribution and percentage of crosslines over mainscheme lines (approximately 5.4%) still met HSSD 2017 requirements. Crosslines were compared to mainscheme lines using a difference surface created in Caris HIPS and SIPS 10.3. The crossline analysis was performed in accordance with the DAPR and Section 5.2.4.3 of the HSSD. The summary statistics and distribution of difference values correspond with the uncertainty values included in the finalized MBES Combined Uncertainty and Bathymetric Estimator (CUBE) surface (Figure 9). Visual inspection of the difference surface revealed no systematic issues.

Project	OPR-G329-TJ-17
Sheet	H12963
Surface	H12963_MB_50cm_MLLW_MS_less_XL.csar

Count	1,246,917	**Mean**	0.0
Min	-0.7	**Std Dev**	0.2
Max	0.6		

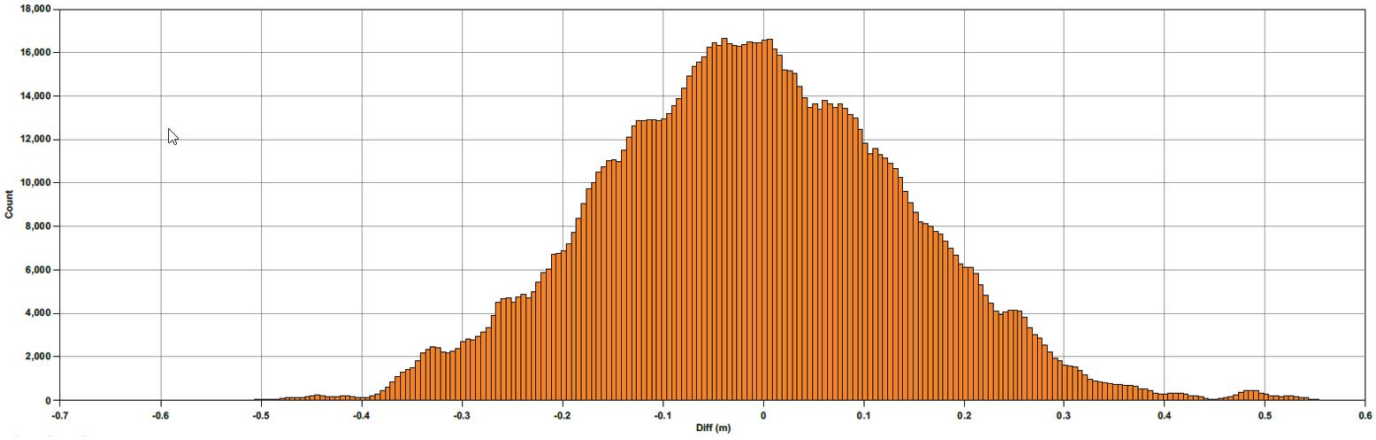


Figure 9: Summary statistics and distribution of crossline-mainscheme difference surface

B.2.2 Uncertainty

The following survey specific parameters were used for this survey (Table 7 and Table 8):

Method	Measured	Zoning
ERS via VDATUM	0.11 meters	0.157 meters

Table 7: Survey specific tide total uncertainty values.

Hull ID	Measured - CTD	Measured - MVP	Surface
S222	0 meters/second	1.0 meters/second	0.2 meters/second

Table 8: Survey specific sound speed total uncertainty values.

The bathymetric surface uncertainty layer showed compliance with HSSD 2017 standards for uncertainty. The summary statistics and distribution of uncertainty values (Figure 10) correspond to the distribution values associated with the crossline-mainscheme comparison previously discussed. Over 99% of nodes exceeded uncertainty standards (Figure 11).

Project	OPR-G329-TJ-17
Sheet	H12963
Surface	H12963_MB_50cm_MLLW_Final.csar
Layer	Uncertainty

Count	44,752,826	**Mean**	0.4
Min	0.4	**Std Dev**	0.0
Max	0.7		

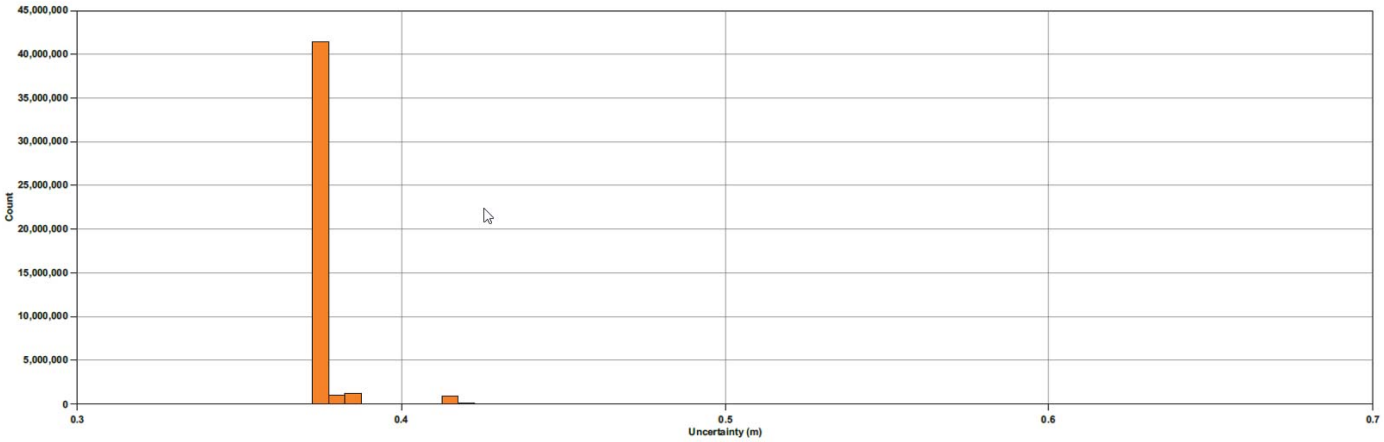


Figure 10: Total vertical uncertainty analysis results.

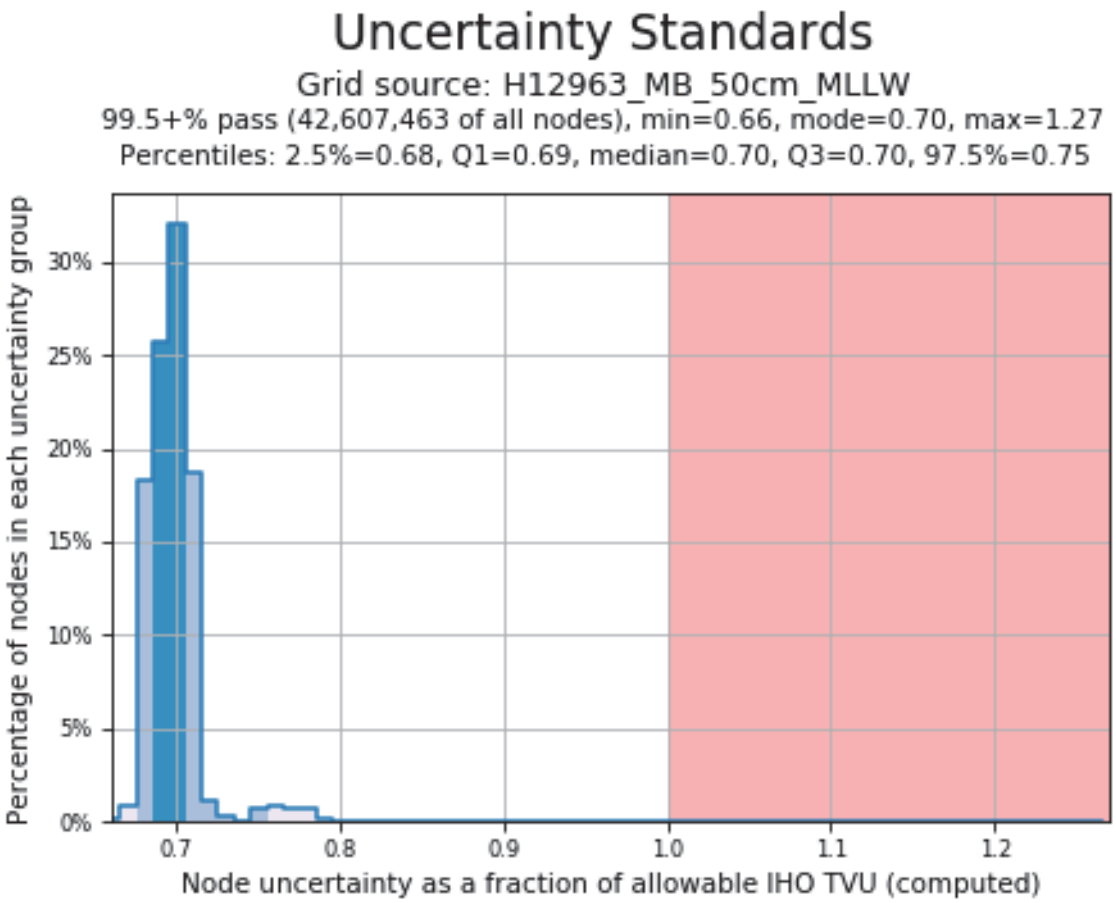


Figure 11: Total vertical uncertainty uncertainty standards.

B.2.3 Junctions

No junction surfaces existed for this survey.

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

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

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: Sound speed casts were taken in accordance with DAPR.

See the DAPR for further information.

B.2.8 Coverage Equipment and Methods

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

B.2.9 MBES surface density requirements

The bathymetric surface exceeded HSSD 2017 requirements for overall node density (Figure 12) and met density requirements across the entire range of depths surveyed. Nodes with low density values are generally distributed along the edges of the bathymetric surface.

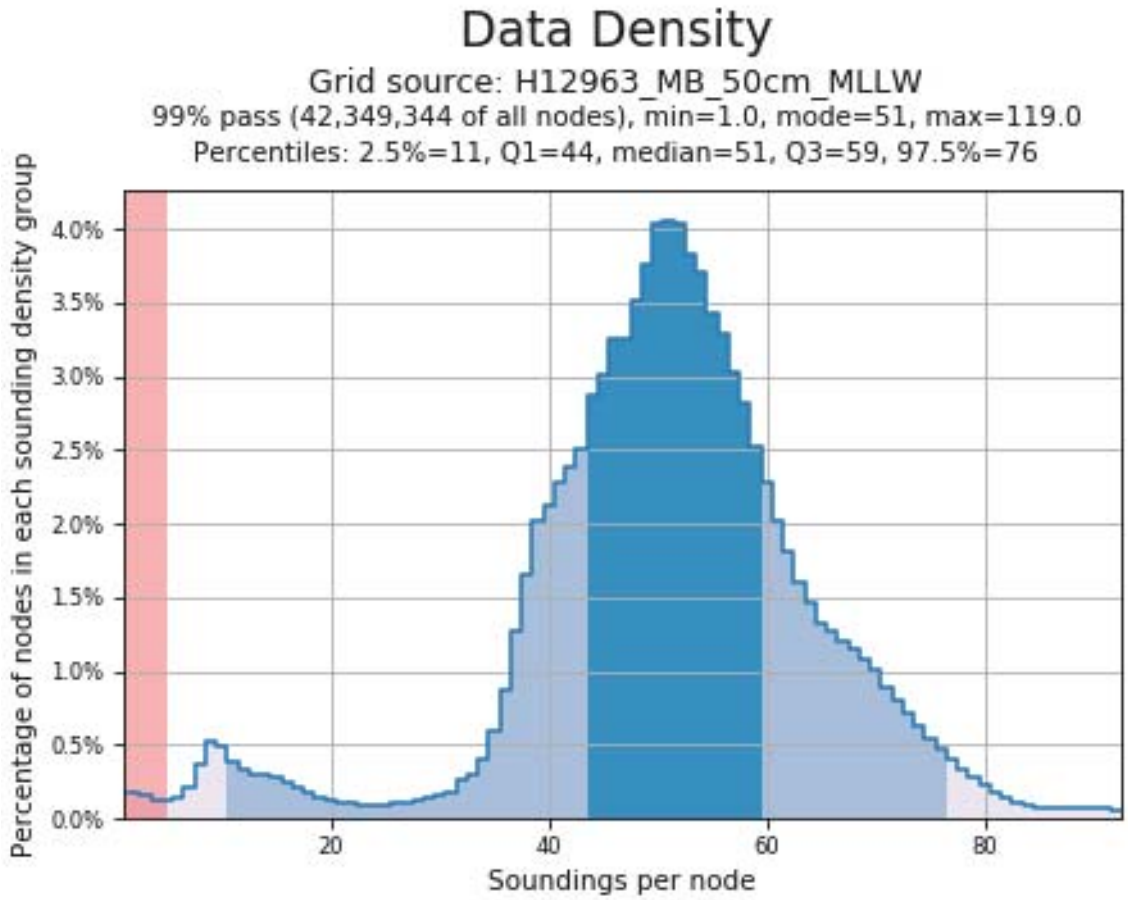


Figure 12: Overall distribution of node density values.

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

Backscatter was processed by the field unit per the DAPR and submitted to the Atlantic Hydrographic Branch (AHB).

B.5 Data Processing

B.5.1 Primary Data Processing Software

The following Feature Object Catalog was used: NOAA Profile V_5_6.

The following Feature Object Catalog was used: NOAA Extended Attribute Files V 5.6.

B.5.2 Surfaces

The following surfaces and/or BAGs were submitted to the Processing Branch (Table 9):

Surface Name	Surface Type	Resolution	Depth Range	Surface Parameter	Purpose
H12963_MB_50cm_MLLW_Final.csar	CARIS Raster Surface (CUBE)	0.5 meters	12.7 meters - 21.2 meters	NOAA_0.5m	Object Detection
H12963_MB_50cm_MLLW.csar	CARIS Raster Surface (CUBE)	0.5 meters	12.7 meters - 21.2 meters	NOAA_0.5m	Object Detection
H12963_SSS_1m_100	SSS Mosaic	1 meters	N/A	N/A	100% SSS
H12963_SSS_1m_200	SSS Mosaic	1 meters	N/A	N/A	200% SSS

Table 9: Submitted Surfaces

C. Vertical and Horizontal Control

Additional information discussing the vertical or horizontal control for this survey can be found in the accompanying Horizontal and Vertical Control Report (HVCR).

C.1 Vertical Control

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

Traditional Methods Used:

Discrete Zoning

The following National Water Level Observation Network (NWLON) stations served as datum control for this survey (Table 10):

Station Name	Station ID
Fort Pulaski, GA	8670870

Table 10: NWLON Tide Stations

The following tide files were used for this survey (Table 11 and Table 12):

File Name	Status
8670870.tid	Final Approved

Table 11: Water Level Files (.tid)

File Name	Status
G329TJ2017CORP.zdf	Final

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

A request for final approved tides was sent to N/OPS1 on 11/21/2017. The final tide note was received on 12/04/2017.

Traditional tide correctors were used for quality control purposes only.

Ellipsoidally Referenced Survey (ERS) Methods Used:

ERS via VDATUM

Ellipsoid to Chart Datum Separation File:

VDATUM_AREA_xyWGS84-MLLW_geoid12b.csar

All soundings were reduced to MLLW via ERS and VDATUM.

C.2 Horizontal Control

The horizontal datum for this project is WGS 84.

The projection used for this project is UTM 17N.

The Fugro Marinestar G2 real-time precise point positioning service was used with an Applanix POS MV v5 GNSS-INS system to obtain highly accurate ellipsoidally referenced position data. Ellipsoid height was derived from the POS MV solution and applied to MBES data in real-time. The real-time ellipsoid height was used in all ERS sounding reductions in CARIS HIPS 10.3.

D. Results and Recommendations

D.1 Chart Comparison

D.1.1 Electronic Navigational Charts

The following are the largest scale ENCs, which cover the survey area (Table 13):

ENC	Scale	Edition	Update Application Date	Issue Date	Preliminary?
US5GA20M	1:40000	42	06/07/2016	06/07/2016	NO
US4GA17M	1:80000	9	10/20/2011	10/20/2011	NO
US3GA10	1:449659	20	08/03/2011	08/03/2011	NO

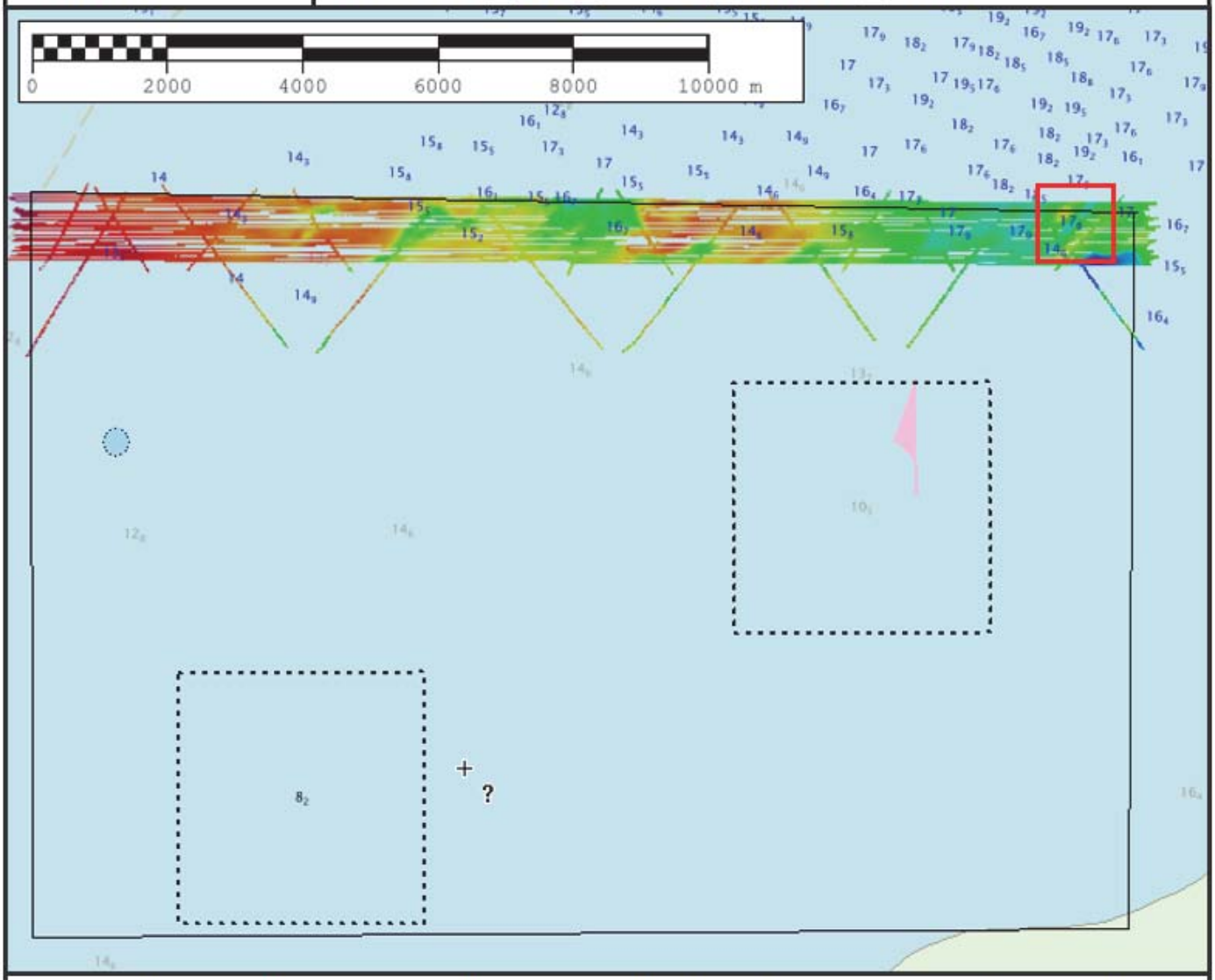
Table 13: Largest Scale ENCs

US5GA20M

ENC US5GA20M is the largest scale chart impacted by survey H12963. The survey area falls within the southern limits of ENC US5GA20M. One significant discrepancy between the bathymetric surface and charted depths was observed near the north-east corner of the survey area (Figure 14). The

discrepancy is characterized by a localized area 1.8 meters shallower than depth values generated from a TIN of charted depths and 2.2 meters shallower than the nearest charted sounding (Figures 13 and 14).

ENC	US5GA20M
Surface	H12963_MB_50cm_MLLW_Final



A significant discrepancy between the bathymetric surface and charted depths was observed at latitude 31.789° N and 080.566° W (shown by the red box above).

Figure 13: Area of observed discrepancy between the bathymetric surface and ENC US5GA20M charted depths

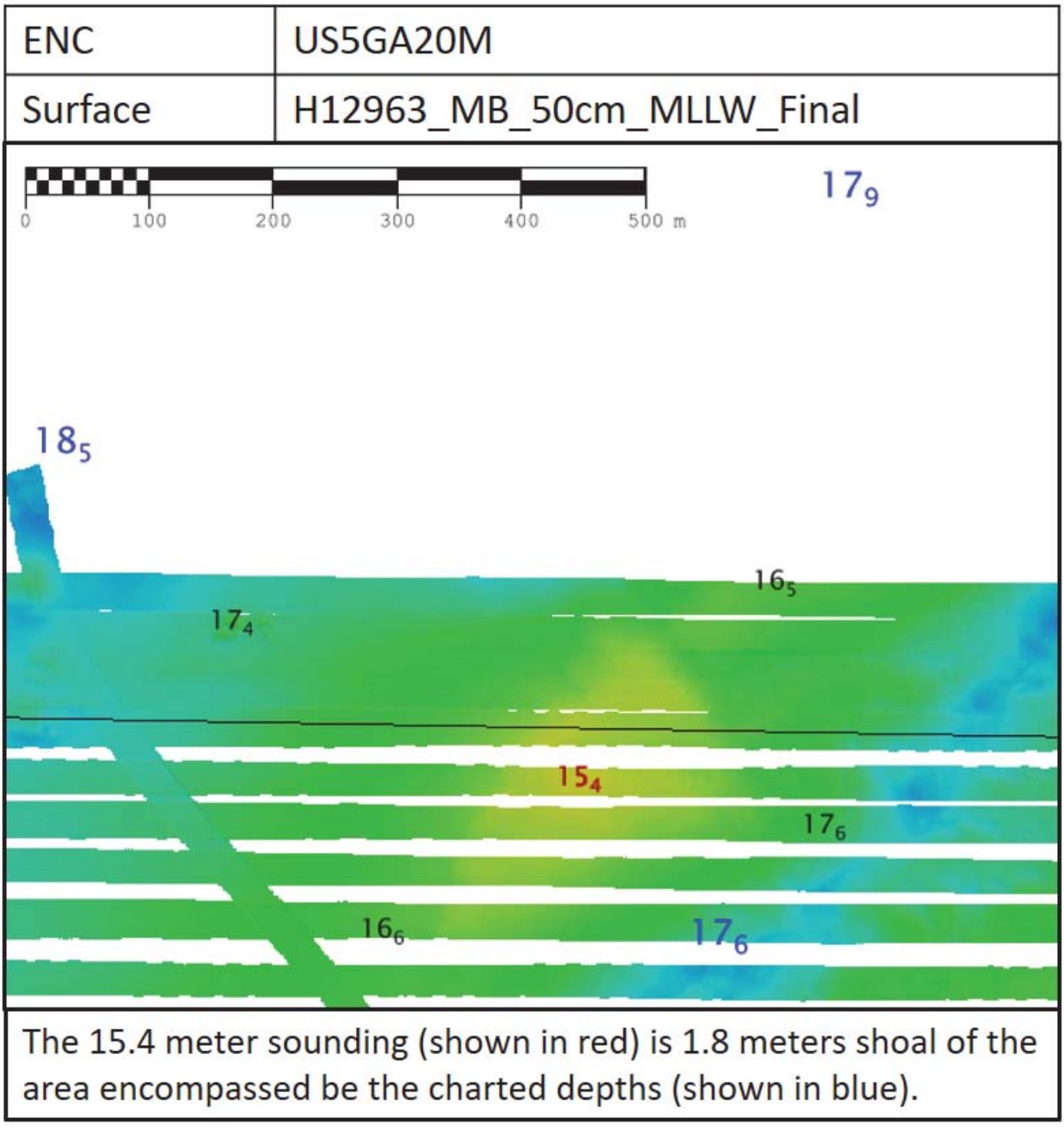


Figure 14: Observed discrepancy between the bathymetric surface and a TIN surface generated from ENC US5GA20M charted depths

US4GA17M

No significant discrepancies were observed between the bathymetric surface and charted depths on ENC US4GA17M.

US3GA10

No significant discrepancies were observed between the bathymetric surface and charted depths on ENC US3GA10.

D.1.2 Maritime Boundary Points

No Maritime Boundary Points were assigned for this survey.

D.1.3 Charted Features

Charted features exist for this survey, but were not investigated (Figure 15).

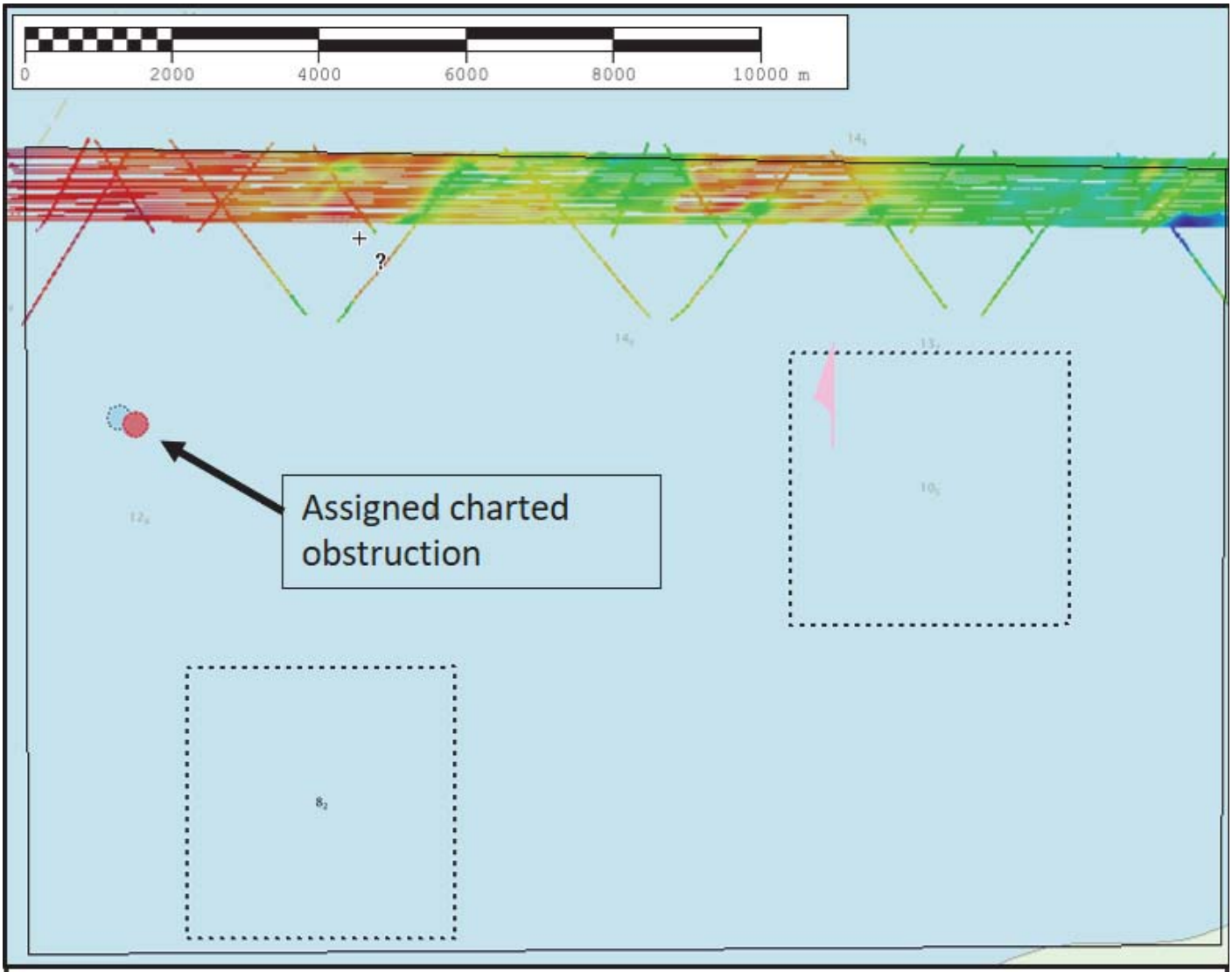


Figure 15: Assigned feature not addressed

D.1.4 Uncharted Features

No uncharted features exist for this survey.

D.1.5 Shoal and Hazardous Features

See the chart comparison results section above for a discussion of observed shoaling within the area surveyed.

No DTON reports were submitted for this survey.

Two charted fish haven areas fell within the assigned survey sheet limits. Neither fish haven area was investigated.

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

No submarine features exist for this survey.

D.2.6 Platforms

No platforms exist for this survey.

D.2.7 Ferry Routes and Terminals

No ferry routes or terminals exist for this survey.

D.2.8 Abnormal Seafloor 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 and Specifications Deliverables, Field Procedures Manual, Letter Instructions, and all HSD Technical Directives, except as previously noted in this DR. 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
LT Charles Wisotzkey, NOAA	Sheet Manager	03/05/2018	Digitally signed by WISOTZKEY.CHARLES.JUSTIN.1300819660 Date: 2018.03.05 17:30:36 -05'00'
LT Anthony Klemm, NOAA	Field Operations Officer	03/05/2018	KLEMM.ANTHONY.ROSS.1392701601 Digitally signed by KLEMM.ANTHONY.ROSS.1392701601 DN: c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=NOAA, cn=KLEMM.ANTHONY.ROSS.1392701601 Date: 2018.03.05 16:52:00 -05'00'
CDR Christiaan van Westendorp, NOAA	Commanding Officer	03/05/2018	VAN WESTENDORP.CHRISTIAAN.HENRY.1012828175 c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=NOAA, cn=VAN WESTENDORP.CHRISTIAAN.HENRY.1012828175 2018.03.05 16:46:53 -05'00'

F. Table of Acronyms

Acronym	Definition
AHB	Atlantic Hydrographic Branch
AST	Assistant Survey Technician
ATON	Aid to Navigation
AWOIS	Automated Wreck and Obstruction Information System
BAG	Bathymetric Attributed Grid
BASE	Bathymetry Associated with Statistical Error
CO	Commanding Officer
CO-OPS	Center for Operational Products and Services
CORS	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	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
PRF	Project Reference File

Acronym	Definition
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
TPE	Total Propagated 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

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NOAA Ship THOMAS JEFFERSON (MOA-TJ)
439 West York St
Norfolk, VA 23510-1145

November 20, 2017

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

FROM: CDR Christiaan van Westendorp, NOAA Ship THOMAS JEFFERSON (MOA-TJ)

SUBJECT: Request for Approved Tides/Water Levels

Please provide the following data:

1. Tide Note
2. Final zoning in MapInfo and .MIX format
3. Six Minute Water Level data (Co-ops web site)

Transmit data to the following:

NOAA Ship THOMAS JEFFERSON (MOA-TJ)
439 West York St
Norfolk, VA 23510-1145

These data are required for the processing of the following hydrographic survey:

Project No.:	OPR-G329-TJ-17
Registry No.:	H12963
State:	GA
Locality:	Approaches to Savannah
Sublocality:	Southwest Savannah

Attachments containing:

1) an Abstract of Times of Hydrography,
2) digital MID & MIF files of the track lines from Pydro

cc: MOA-TJ

Year_DOY	Min Time	Max Time
2017_309	20:41:47	23:49:36
2017_310	00:12:11	23:54:13
2017_311	00:24:22	08:01:56

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

PROVISIONAL TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE : December 4, 2017

HYDROGRAPHIC BRANCH: Atlantic
HYDROGRAPHIC PROJECT: OPR-G329-TJ-2017
HYDROGRAPHIC SHEET: H12963
LOCALITY: Southwest Savannah, Approaches to Savannah, GA
TIME PERIOD: November 5 - November 7, 2017

TIDE STATION USED: 8670870 Fort Pulaski, GA
Lat. 32° 2.2'N Long. 80° 54.1' W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.173 meters

REMARKS: RECOMMENDED ZONING Preliminary zoning is accepted as the final zoning for project OPR-G329-TJ-2017, H12963, during the time period between November 5 and November 7, 2017.

Please use the zoning file G329TJ2017CORP submitted with the project instructions for OPR-G329-TJ-2017. Zones SA172A and SA172B are the applicable zones for H12963.

Refer to attachments for zoning information.

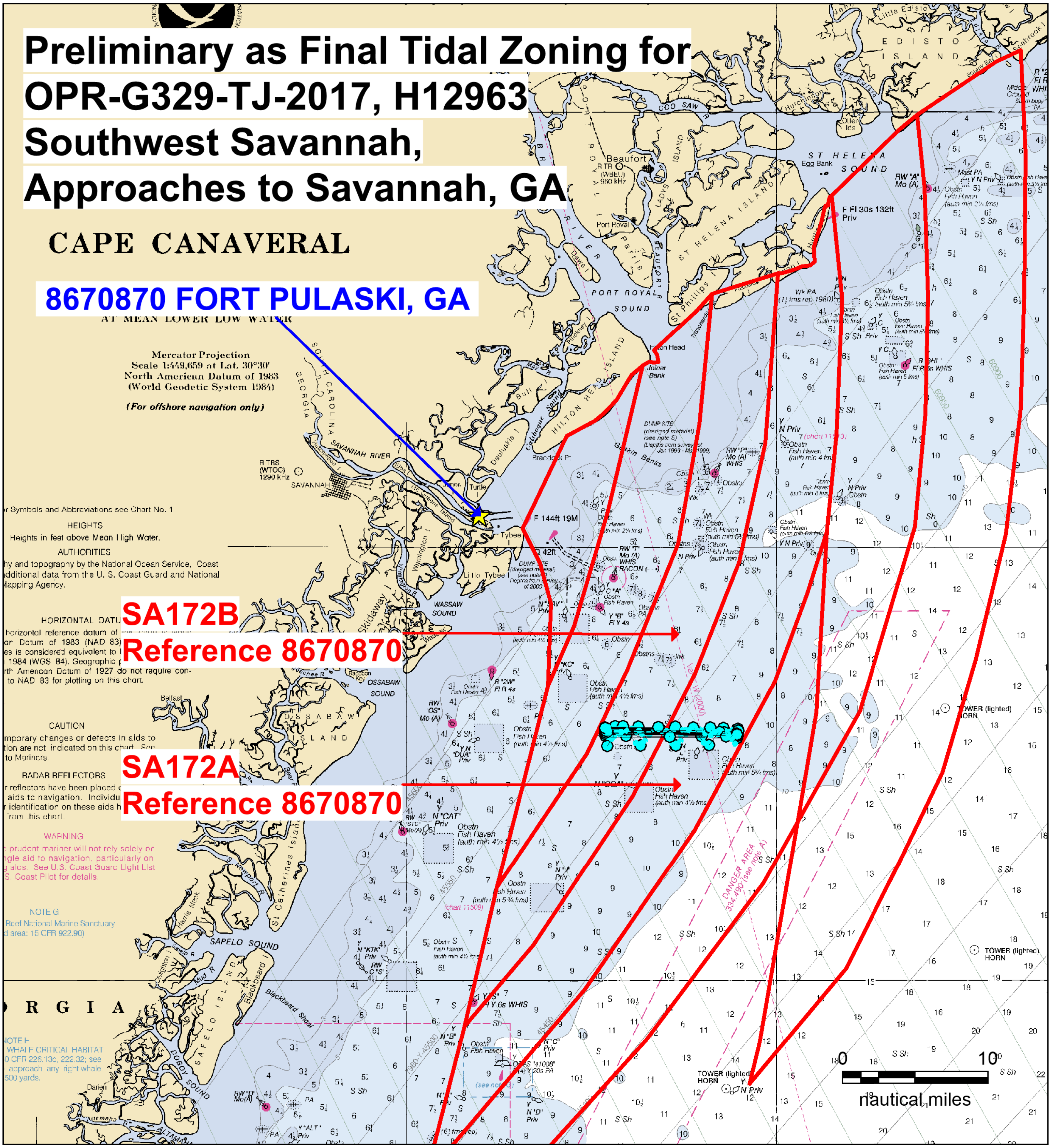
Note 1: Provided time series data are tabulated in metric units (meters), relative to MLLW and on Greenwich Mean Time on the 1983-2001 National Tidal Datum Epoch (NTDE).

Note 2: Annual leveling for Fort Pulaski, GA (8670870) was not completed in FY17. A review of the verified leveling records from October 2005 - 2015 shows the tide station benchmark network to be stable within an allowable 0.009 m tolerance. This Tide Note may be used as final stability verification for survey OPR-G329-TJ-2017, H12963. CO-OPS will immediately provide a revised Tide Note should subsequent leveling records indicate any benchmark network stability movement beyond the allowable 0.009 m tolerance.

HOVIS.GERALD.THOMAS.JR.1365860250
Digitally signed by HOVIS.GERALD.THOMAS.JR.1365860250
Date: 2017.12.04 14:55:28 -05'00'

CHIEF, PRODUCTS AND SERVICES BRANCH

Preliminary as Final Tidal Zoning for OPR-G329-TJ-2017, H12963 Southwest Savannah, Approaches to Savannah, GA



APPENDIX II

SUPPLEMENTAL SURVEY RECORDS AND CORRESPONDENCE

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of Marine and Aviation Operations
NOAA Ship *Thomas Jefferson* (S222)
439 West York St, Norfolk, VA 23510

6/22/2017

MEMORANDUM FOR: Starla Robinson
Project Manager, OPR-G329-TJ-17
Hydrographic Surveys Division Operations Branch

FROM: Commander Chris van Westendorp, NOAA
Commanding Officer, NOAA Ship *Thomas Jefferson*

VAN WESTENDORP.CHRISTIAAN.HENRY.1012828175
c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=NOAA, cn=VAN WESTENDORP.CHRISTIAAN.HENRY.1012828175
2017.06.22 10:51:49 -04'00'

SUBJECT: Waiver request – WGS84 Datum

Thomas Jefferson requests a waiver of the HSSD 2017 Section 2.2 Horizontal Datum requirement to acquire survey data for project OPR-G329-TJ-17 in WGS84 rather than NAD83.

Justification

Retaining the current procedure and configurations will reduce the possibility of errors.

Decision

Waiver is: Granted _____ Denied _____

cc: Chief, HSD OPS
OPS, *Thomas Jefferson*
HCST, *Thomas Jefferson*

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of Marine and Aviation Operations
NOAA Ship *Thomas Jefferson* (S222)
439 West York St, Norfolk, VA 23510

3/1/2017

MEMORANDUM FOR: Starla Robinson
Project Manager, OPR-G329-TJ-17
Hydrographic Surveys Division Operations Branch

FROM: Commander Chris van Westendorp, NOAA
Commanding Officer, NOAA Ship *Thomas Jefferson*

VAN WESTENDORP.CHRISTIAAN.HENRY.1012828175
c=US, o=U.S. Government, ou=DoD, ou=PKI, ou=NOAA, cn=VAN WESTENDORP.CHRISTIAAN.HENRY.1012828175
2018.03.01 14:43:03 -05'00'

SUBJECT: Waiver request – Submission of single resolution depth surface

Thomas Jefferson requests a waiver of the HSSD 2017 Section 5.2.2.3: Object detection multibeam surface grid-resolution thresholds requirement. *Thomas Jefferson* requests approval to submit a single 50cm resolution CUBE multibeam surface for H12963, in spite of depths ranging from 12m – 21m.

Justification

The grid nodes with a depth greater than 20m have an average sounding density of 33 soundings per node, which is sufficient to meet minimum required sounding density requirements at the 50cm grid size.

Decision ROBINSON.STARLA.DICEY.1406711249
Digitally signed by ROBINSON.STARLA.DICEY.1406711249
Date: 2018.03.08 14:05:44 -06'00'

Waiver is: Granted _____ Denied _____

cc: Chief, HSD OPS
OPS, *Thomas Jefferson*
HCST, *Thomas Jefferson*

Subject: Fwd: OPR-G329-TJ-17 WGS84 Waiver
From: Matthew Forrest - NOAA Federal <matthew.r.forrest@noaa.gov>
Date: 8/10/2017 1:24 PM
To: Kimberly Glomb - NOAA Federal <kimberly.glomb@noaa.gov>, Max Andersen - NOAA Federal <max.andersen@noaa.gov>, Garrison Grant - NOAA Federal <garrison.grant@noaa.gov>, Tracy McMillan - NOAA Federal <tracy.mcmillan@noaa.gov>, Joshua Hiteshew - NOAA Federal <joshua.hiteshew@noaa.gov>
CC: _OMAO MOA OPS Thomas Jefferson <ops.thomas.jefferson@noaa.gov>, _OMAO MOA ChiefST Thomas Jefferson <chiefst.thomas.jefferson@noaa.gov>

---------- Forwarded message ----------
From: **Starla Robinson - NOAA Federal** <starla.robinson@noaa.gov>
Date: Thu, Aug 10, 2017 at 12:35 PM
Subject: Fwd: OPR-G329-TJ-17 WGS84 Waiver
To: _OMAO MOA OPS Thomas Jefferson <OPS.Thomas.Jefferson@noaa.gov>, _OMAO MOA CO Thomas Jefferson <co.thomas.jefferson@noaa.gov>

Attached is the approved waiver for WGS84. Please copy it to your correspondence folder.

Thanks,
Starla

---------- Forwarded message ----------
From: **Russell Quintero - NOAA Federal** <russell.quintero@noaa.gov>
Date: Thu, Aug 10, 2017 at 8:11 AM
Subject: Re: OPR-G329-TJ-17 WGS84 Waiver
To: Starla Robinson - NOAA Federal <starla.robinson@noaa.gov>

Signed and attached

Lieutenant Russell Quintero, NOAA
Chief, Hydrographic Surveys Division Operations Branch
National Oceanic & Atmospheric Administration
1315 East-West Hwy, SSMC3 6217
Silver Spring, MD 20910
Cell: 970-481-2030

On Wed, Aug 9, 2017 at 2:30 PM, Starla Robinson - NOAA Federal <starla.robinson@noaa.gov> wrote:

> Could you sign this please?
>
> Thank you,

Starla

On Thu, Jun 22, 2017 at 11:49 AM, Russell Quintero - NOAA Federal <russell.quintero@noaa.gov> wrote:

> I don't have the ability to sign at the moment. Corey can if it is time sensitive, or remind me Monday.
>
> On Thu, Jun 22, 2017 at 11:44 Starla Robinson - NOAA Federal <starla.robinson@noaa.gov> wrote:
>
> > Please grant the forwarded waiver.
> >
> > Thanks,
> > Starla
> >
> > ---------- Forwarded message ----------
> > From: **Matthew Forrest - NOAA Federal** <matthew.r.forrest@noaa.gov>
> > Date: Thu, Jun 22, 2017 at 11:09 AM
> > Subject: OPR-G329-TJ-17 WGS84 Waiver
> > To: Starla Robinson - NOAA Federal <Starla.Robinson@noaa.gov>
> > Cc: _OMAO MOA CO Thomas Jefferson <co.thomas.jefferson@noaa.gov>, AHB Chief - NOAA Service Account <ahb.chief@noaa.gov>, _OMAO MOA OPS Thomas Jefferson <ops.thomas.jefferson@noaa.gov>
> >
> > Starla,
> >
> > Please find attached our request for a waiver to use WGS84 on OPR-G329-TJ-17. Please let me know if you have any questions. Thank you!
> >
> > V/r,
> >
> > LT Forrest
> >
> > --
> > LT Matthew Forrest, NOAA
> > Operations Officer
> > NOAA Ship Thomas Jefferson
> > 439 W York St
> > Norfolk, VA 23510
> > Tel: (757) 647-0187
> > Iridium: (808) 434-2706

> > --
> > *Starla D. Robinson, Physical Scientist*
> > *NOS - OCS - Hydrographic Survey Division - Operations Branch*
> > *National Oceanic Atmospheric Administration*
> > *Office:* ***240-533-0034*** ***(Updated 6/13/17)***
> > *Cell: 360-689-1431*
> > *Website:* HSD Planned Hydrographic Surveys
>
> --
> Lieutenant Russell Quintero, NOAA
> Chief, Hydrographic Surveys Division Operations Branch
> National Oceanic & Atmospheric Administration
> 1315 East-West Hwy, SSMC3 6217
> Silver Spring, MD 20910
> Cell: 970-481-2030

--
Starla D. Robinson, Physical Scientist
NOS - OCS - Hydrographic Survey Division - Operations Branch
National Oceanic Atmospheric Administration
Office: ***240-533-0034*** ***(Updated 6/13/17)***
Cell: 360-689-1431
Website: HSD Planned Hydrographic Surveys

--
Starla D. Robinson, Physical Scientist
NOS - OCS - Hydrographic Survey Division - Operations Branch
National Oceanic Atmospheric Administration
Office: ***240-533-0034*** ***(Updated 6/13/17)***
Cell: 360-689-1431
Website: HSD Planned Hydrographic Surveys

--
LT Matthew Forrest, NOAA
Operations Officer
NOAA Ship Thomas Jefferson
439 W York St
Norfolk, VA 23510
Tel: (757) 647-0187
Iridium: (808) 434-2706

Attachments:

Waiver request WGS84.pdf 165 KB

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of Marine and Aviation Operations,
Marine Operation Center-Atlantic, NOAA Ship Thomas Jefferson
Norfolk, Virginia 23510

July 7, 2017

MEMORANDUM FOR: Jay Nunenkamp
Environmental Compliance Coordinator, NOAA Office of Coast Survey

FROM: ENS Jacquelyn Putnam, NOAA
Junior Officer, NOAA Ship *Thomas Jefferson*

SUBJECT: Marine Species Trained Observers

The following personnel completed the required Marine Species Awareness Training (MSAT) on June 30, 2017:

- LCDR Olivia Hauser
- LT Matthew Forrest
- LT Anthony Klemm
- ENS Max Andersen
- ENS Dale Gump
- ENS Sydney Catoire
- ENS Garrison Grant
- ENS Jacquelyn Putnam
- 2AE Stephen Williams
- 2AE William Osborn
- 3AE Otis Tate
- JUE Sharon Gilliam
- EU Andy Medina
- WP Michael Wilson
- ET Thomas Loftin
- ET Michael Peperato
- HSST Allison Stone
- HST Kim Glomb
- HAST Joshua Hiteshew
- HAST Tracey McMillan
- CB Bernard Pooser
- BGL Robert Bayliss

- SS Francine Grains
- SS James Brzostek
- AB Patrick Osborn
- AB Thomas Bascom
- GVA Joshua Thompson
- CS David Fare
- CC Ace Burke
- 2C Nester Poblete

Jacquelyn Putnam - NOAA Federal <jacquelyn.putnam@noaa.gov>

NOAA Ship Thomas Jefferson Marine Mammal Sightings

Jacquelyn Putnam - NOAA Federal <jacquelyn.putnam@noaa.gov> Mon, Jan 22, 2018 at 4:13 PM
To: _NMFS AFSC NMML POP INFORMATION <pop.information@noaa.gov>

Good Morning,

I apologize for the delay; I misunderstood how marine mammal sightings are transmitted via AMVER/SEAS. I thought these observations were automatically transmitted to POP at the time the report is generated in AMVER/SEAS, but now I am aware that is not the case. Attached are sightings (in the AMVER/SEAS interface .txt format) for NOAA Ship *Thomas Jefferson* for the Approaches to Savannah 18 Oct 2017 - 09 Nov 2017. I apologize again.

Thank you in advance,

--
ENS Jacquelyn Putnam, NOAA
Junior Officer, NOAA Ship *Thomas Jefferson*
Ship Land Line: 757-441-6322
Ship Cell: 757-647-0187
Ship Iridium: 808-434-2706
Jacquelyn.Putnam@noaa.gov

5 attachments

- **Thomas Jefferson_20171021175510_MARINE_MAMMAL.txt** 1K
- **Thomas Jefferson_20171023153746_MARINE_MAMMAL.txt** 1K
- **Thomas Jefferson_20171023160648_MARINE_MAMMAL.txt** 1K
- **Thomas Jefferson_20171023160702_MARINE_MAMMAL.txt** 1K
- **Thomas Jefferson_20171102195329_MARINE_MAMMAL.txt** 1K

Anthony Klemm - NOAA Federal <anthony.r.klemm@noaa.gov>

Coast Pilot Review

1 message

Joshua Hiteshew - NOAA Federal <joshua.hiteshew@noaa.gov> Wed, Jan 31, 2018 at 8:09 AM
To: OCS NDB - NOAA Service Account <ocs.ndb@noaa.gov>, _NOS OCS NSD Coast Pilot <coast.pilot@noaa.gov>
Cc: Starla Robinson - NOAA Federal <Starla.Robinson@noaa.gov>, _OMAO MOA ChiefST Thomas Jefferson <chiefst.thomas.jefferson@noaa.gov>, _OMAO MOA OPS Thomas Jefferson <ops.thomas.jefferson@noaa.gov>, Anthony Klemm - NOAA Federal <anthony.r.klemm@noaa.gov>

To whom it may concern,

Attached is the Coast Pilot review for project OPR-G329-TJ-17.

V/r,

Josh
--
HST Joshua Hiteshew, NOAA
NOAA ship Thomas Jefferson
439 W York St, Norfolk, VA 23510

OPR-G329-TJ-17_Coast Pilot Review Report.pdf
464K

Anthony Klemm - NOAA Federal <anthony.r.klemm@noaa.gov>

Coast Pilot Review

2 messages

Joshua Hiteshew - NOAA Federal <joshua.hiteshew@noaa.gov> Wed, Jan 31, 2018 at 8:09 AM
To: OCS NDB - NOAA Service Account <ocs.ndb@noaa.gov>, _NOS OCS NSD Coast Pilot <coast.pilot@noaa.gov>
Cc: Starla Robinson - NOAA Federal <Starla.Robinson@noaa.gov>, _OMAO MOA ChiefST Thomas Jefferson <chiefst.thomas.jefferson@noaa.gov>, _OMAO MOA OPS Thomas Jefferson <ops.thomas.jefferson@noaa.gov>, Anthony Klemm - NOAA Federal <anthony.r.klemm@noaa.gov>

To whom it may concern,

Attached is the Coast Pilot review for project OPR-G329-TJ-17.

V/r,

Josh
--
HST Joshua Hiteshew, NOAA
NOAA ship Thomas Jefferson
439 W York St, Norfolk, VA 23510

OPR-G329-TJ-17_Coast Pilot Review Report.pdf
464K

Laura Jeffery - NOAA Federal <laura.jeffery@noaa.gov> Wed, Jan 31, 2018 at 10:01 AM
To: Joshua Hiteshew - NOAA Federal <joshua.hiteshew@noaa.gov>
Cc: OCS NDB - NOAA Service Account <ocs.ndb@noaa.gov>, _NOS OCS NSD Coast Pilot <coast.pilot@noaa.gov>, Starla Robinson - NOAA Federal <Starla.Robinson@noaa.gov>, _OMAO MOA ChiefST Thomas Jefferson <chiefst.thomas.jefferson@noaa.gov>, _OMAO MOA OPS Thomas Jefferson <ops.thomas.jefferson@noaa.gov>, Anthony Klemm - NOAA Federal <anthony.r.klemm@noaa.gov>

Hello Joshua,

Thank you for your updates to the Savannah pilotage area. It will be made into a source document applied to Coast Pilot 4.

-Laura Jeffery
[Quoted text hidden]
--
Laura B. Jeffery
Nautical Publications Branch/NOS
Cartographer/Reviewer
240-533-0073

NOAA-NOS-OCS-NSD-NPB
1315 E. West Hwy
SSMC3, Station 6315
Silver Spring, MD 20910

Charles Wisotzkey - NOAA Federal <charles.j.wisotzkey@noaa.gov>

H12963 Survey Outline

1 message

Anthony Klemm - NOAA Federal <anthony.r.klemm@noaa.gov> Wed, Jan 17, 2018 at 2:27 PM
To: _NOS OCS Survey Outlines <survey.outlines@noaa.gov>, Starla Robinson - NOAA Federal <starla.robinson@noaa.gov>
Cc: _OMAO MOA OPS Thomas Jefferson <ops.thomas.jefferson@noaa.gov>

Good morning,

I recently realized we never sent this out. Please let me know if you have any questions. The compressed file includes a shapefile. Both the .000 and the shapefile are in geographic coordinate system WGS84, unprojected.

Best regards,
Anthony

LT Anthony Klemm, NOAA
Field Operations Officer
NOAA Ship *Thomas Jefferson*
439 W York Street
Norfolk, VA 23510
757-647-0187

Learn about NOAA nautical charts - www.nauticalcharts.noaa.gov

2 attachments

H12963_SurveyOutline_SHAPEFILE.zip
12K

H12963_SurveyOutline.000
11K

Charles Wisotzkey - NOAA Federal <charles.j.wisotzkey@noaa.gov>

HSSD Waiver - H12963 - Single Resolution Surface

1 message

Anthony Klemm - NOAA Federal <anthony.r.klemm@noaa.gov> Thu, Mar 1, 2018 at 7:55 PM
To: Starla Robinson - NOAA Federal <starla.robinson@noaa.gov>
Cc: Corey personal cell Allen <corey.allen@noaa.gov>, _OMAO MOA OPS Thomas Jefferson <ops.thomas.jefferson@noaa.gov>

Hi Starla,

We are requesting approval to submit a single resolution 50cm surface for H12963 (in OPR-G329-TJ-17). The depth range is 12-21m, and the sounding density of grid nodes greater than 20m is greater than 33 soundings/node, more than sufficient to meet density requirements at the higher resolution.

Please let me know if you have any questions.

Best regards,
Anthony

LT Anthony Klemm, NOAA
Field Operations Officer
NOAA Ship *Thomas Jefferson*
439 W York Street
Norfolk, VA 23510
757-647-0187

Learn about NOAA nautical charts - www.nauticalcharts.noaa.gov

OPR-G329-TJ-17 H12963 Waiver request - single resolution surface.pdf
139K

Charles Wisotzkey - NOAA Federal <charles.j.wisotzkey@noaa.gov>

Final Tides Request: G-329-TJ-17; H12962, H12963, F00693

5 messages

OPS.Thomas Jefferson - NOAA Service Account <ops.thomas.jefferson@noaa.gov> Tue, Nov 21, 2017 at 3:14 PM
To: Final Tides - NOAA Service Account <final.tides@noaa.gov>
Cc: Charles Wisotzkey - NOAA Federal <charles.j.wisotzkey@noaa.gov>, "ChiefST.Thomas Jefferson - NOAA Service Account" <chiefst.thomas.jefferson@noaa.gov>, Anthony Klemm - NOAA Federal <anthony.r.klemm@noaa.gov>, Tracy McMillan - NOAA Federal <tracy.mcmillan@noaa.gov>, Joshua Hiteshew - NOAA Federal <joshua.hiteshew@noaa.gov>, Kimberly Glomb - NOAA Federal <kimberly.glomb@noaa.gov>, Jacquelyn Putnam - NOAA Federal <jacquelyn.putnam@noaa.gov>

All,

Please find attached the Final Tides Request for H12962, H12963, and F00693 in project G-329-TJ-17. Many thanks for your support.

Very Respectfully,
LT Anthony Klemm, NOAA

Field Operations Officer, NOAA Ship *Thomas Jefferson*
439 West York Street
Norfolk, VA 23510
cell: (757) 647-0187
voip: (541) 867-8927
fax: (757) 512-8295
http://www.moc.noaa.gov/tj/

3 attachments

F00693_Final_Tides_Request.zip
110K

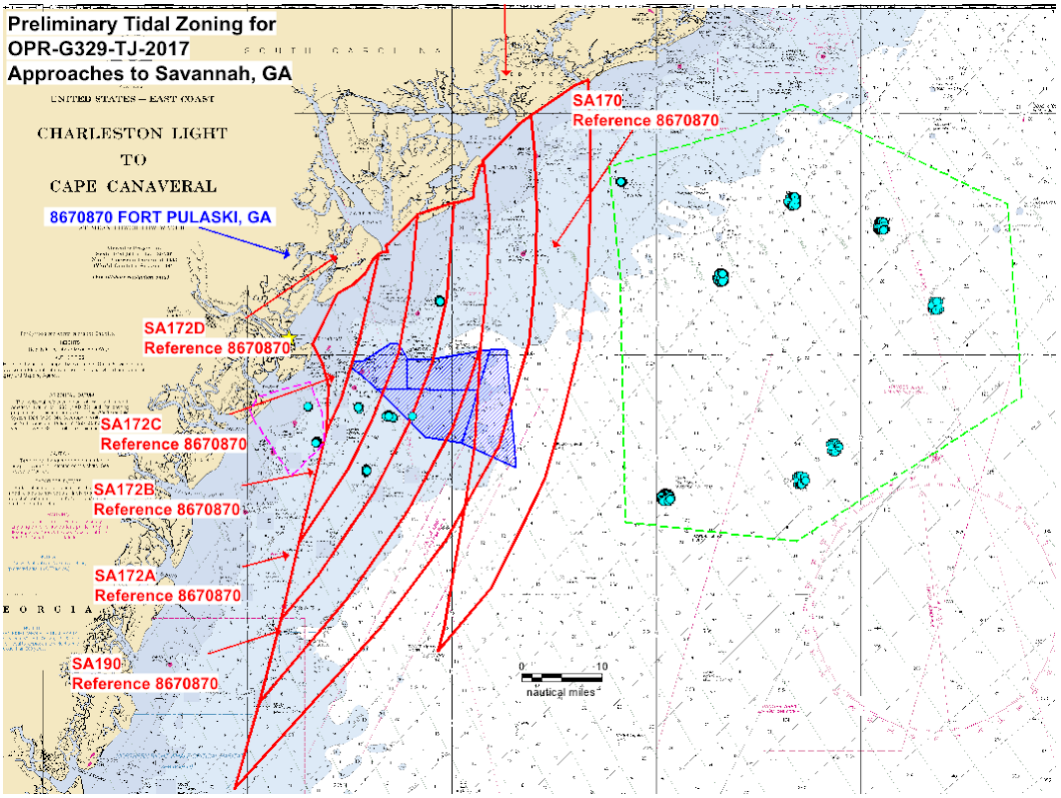
H12962_Final_Tides_Request.zip
79K

H12963_Final_Tides_Request.zip
97K

Final Tides - NOAA Service Account <final.tides@noaa.gov> Fri, Nov 24, 2017 at 4:34 PM
To: "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>
Cc: Charles Wisotzkey - NOAA Federal <charles.j.wisotzkey@noaa.gov>, "ChiefST.Thomas Jefferson - NOAA Service Account" <chiefst.thomas.jefferson@noaa.gov>, Anthony Klemm - NOAA Federal <anthony.r.klemm@noaa.gov>, Tracy McMillan - NOAA Federal <tracy.mcmillan@noaa.gov>, Joshua Hiteshew - NOAA Federal <joshua.hiteshew@noaa.gov>, Kimberly Glomb - NOAA Federal <kimberly.glomb@noaa.gov>, Jacquelyn Putnam - NOAA Federal <jacquelyn.putnam@noaa.gov>, Colleen Fanelli - NOAA Federal <colleen.fanelli@noaa.gov>, "_NOS.CO-OPS.HPT" <nos.coops.hpt@noaa.gov>

Hi LT Anthony Klemm,

I have a question about the Tides Request for F00693. Some tracklines (circled out by the green dashed line to the east and purple dashed line to the west) are far out of the original planned survey area (the blue shaded area). Are they real survey tracklines?



Thanks,

-Hua

[Quoted text hidden]

Anthony Klemm - NOAA Federal <anthony.r.klemm@noaa.gov> Mon, Nov 27, 2017 at 3:09 PM
To: Final Tides - NOAA Service Account <final.tides@noaa.gov>
Cc: "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>, Charles Wisotzkey - NOAA Federal <charles.j.wisotzkey@noaa.gov>, "ChiefST.Thomas Jefferson - NOAA Service Account" <chiefst.thomas.jefferson@noaa.gov>, Tracy McMillan - NOAA Federal <tracy.mcmillan@noaa.gov>, Joshua Hiteshew - NOAA Federal <joshua.hiteshew@noaa.gov>, Kimberly Glomb - NOAA Federal <kimberly.glomb@noaa.gov>, Jacquelyn Putnam - NOAA Federal <jacquelyn.putnam@noaa.gov>, Colleen Fanelli - NOAA Federal <colleen.fanelli@noaa.gov>, "_NOS.CO-OPS.HPT" <nos.coops.hpt@noaa.gov>, Starla Robinson - NOAA Federal <starla.robinson@noaa.gov>

Good morning Hua,

These are real survey lines. I realize now that they are outside of the project limits. I will contact my project manager from Coast Survey to ask what we should do. For right now, we have used VDatum to reduce the surveyed depths to MLLW.

Thank you for your assistance.

Best regards,
Anthony

LT Anthony Klemm, NOAA
Field Operations Officer
NOAA Ship *Thomas Jefferson*
439 W York Street
Norfolk, VA 23510
757-647-0187

Learn about NOAA nautical charts - www.nauticalcharts.noaa.gov

[Quoted text hidden]

Starla Robinson - NOAA Federal <starla.robinson@noaa.gov> Mon, Nov 27, 2017 at 4:26 PM
To: Anthony Klemm - NOAA Federal <anthony.r.klemm@noaa.gov>
Cc: Final Tides - NOAA Service Account <final.tides@noaa.gov>, "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>, Charles Wisotzkey - NOAA Federal <charles.j.wisotzkey@noaa.gov>, "ChiefST.Thomas Jefferson - NOAA Service Account" <chiefst.thomas.jefferson@noaa.gov>, Tracy McMillan - NOAA Federal <tracy.mcmillan@noaa.gov>, Joshua Hiteshew - NOAA Federal <joshua.hiteshew@noaa.gov>, Kimberly Glomb - NOAA Federal <kimberly.glomb@noaa.gov>, Jacquelyn Putnam - NOAA Federal <jacquelyn.putnam@noaa.gov>, Colleen Fanelli - NOAA Federal <colleen.fanelli@noaa.gov>, "_NOS.CO-OPS.HPT" <nos.coops.hpt@noaa.gov>, Briana Welton - NOAA Federal <Briana.Hillstrom@noaa.gov>, Corey Allen - NOAA Federal <corey.allen@noaa.gov>

NOAA Ship Thomas Jefferson,

Please disregard the contacts outside of the tide zone. Traditional tides are not required for F00693. VDATUM meets the ERS requirement for the F00693 PA hunt.

Please copy this into your correspondence folder.

Thank you,
Starla Robinson
[Quoted text hidden]
--
Starla D. Robinson, Physical Scientist
NOS - OCS - Hydrographic Survey Division - Operations Branch
National Oceanic Atmospheric Administration
Office: ***240-533-0034*** ***(Updated 6/13/17)***
Cell: 360-689-1431
Website: HSD Planned Hydrographic Surveys

Final Tides - NOAA Service Account <final.tides@noaa.gov> Mon, Nov 27, 2017 at 4:35 PM
To: Starla Robinson - NOAA Federal <starla.robinson@noaa.gov>
Cc: Anthony Klemm - NOAA Federal <anthony.r.klemm@noaa.gov>, "OPS.Thomas Jefferson - NOAA Service Account" <ops.thomas.jefferson@noaa.gov>, Charles Wisotzkey - NOAA Federal <charles.j.wisotzkey@noaa.gov>, "ChiefST.Thomas Jefferson - NOAA Service Account" <chiefst.thomas.jefferson@noaa.gov>, Tracy McMillan - NOAA Federal <tracy.mcmillan@noaa.gov>, Joshua Hiteshew - NOAA Federal <joshua.hiteshew@noaa.gov>, Kimberly Glomb - NOAA Federal <kimberly.glomb@noaa.gov>, Jacquelyn Putnam - NOAA Federal <jacquelyn.putnam@noaa.gov>, Colleen Fanelli - NOAA Federal <colleen.fanelli@noaa.gov>, "_NOS.CO-OPS.HPT" <nos.coops.hpt@noaa.gov>, Briana Welton - NOAA Federal <Briana.Hillstrom@noaa.gov>, Corey Allen - NOAA Federal <corey.allen@noaa.gov>

Thanks Starla and Anthony!
[Quoted text hidden]

Charles Wisotzkey - NOAA Federal <charles.j.wisotzkey@noaa.gov>

Final Tide Notes for OPR-G329-TJ-2017, Registry Nos. H12962 and H12963

2 messages

Cristina Urizar - NOAA Federal <cristina.urizar@noaa.gov> Mon, Dec 4, 2017 at 8:09 PM
To: _OMAO MOA CO Thomas Jefferson <co.thomas.jefferson@noaa.gov>, _OMAO MOA OPS Thomas Jefferson <ops.thomas.jefferson@noaa.gov>, _OMAO MOA Tides Thomas Jefferson <thomas.jefferson.tides@noaa.gov>
Cc: "_NOS.CO-OPS.HPT" <nos.coops.hpt@noaa.gov>, Jerry Hovis <gerald.hovis@noaa.gov>, Corey Allen <corey.allen@noaa.gov>, Janice Eisenberg - NOAA Federal <janice.eisenberg@noaa.gov>, Castle E Parker <Castle.E.Parker@noaa.gov>, Starla Robinson - NOAA Federal <Starla.Robinson@noaa.gov>, AHB Chief - NOAA Service Account <ahb.chief@noaa.gov>

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

DATE: 12/04/2017

MEMORANDUM FOR: CDR Christiaan Van Westendorp
Commanding Officer, NOAA Ship THOMAS JEFFERSON

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

SUBJECT: Delivery of Tide Requirements for Hydrographic Surveys

This is notification that the preliminary zoning is accepted as the final zoning for survey project OPR-G329-TJ-2017, Registry Nos. H12962 and H12963 during the time period between August 26 and November 7, 2017. The accepted reference station for Registry Nos. H12962 and H12963 is Fort Pulaski, GA (867-0870).

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

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Cristina Urizar
Oceanographer

National Oceanic and Atmospheric Administration
NOS/CO-OPS/Oceanographic Division
263 13th Avenue South, Rm. 302
St Petersburg, Florida 33701
Office: 727-209-5954
Cell: 301-325-6793

http://tidesandcurrents.noaa.gov

2 attachments

H12962.pdf
485K

H12963.pdf
594K

Anthony Klemm - NOAA Federal <anthony.r.klemm@noaa.gov> Mon, Dec 4, 2017 at 9:01 PM
To: Charles Wisotzkey <charles.j.wisotzkey@noaa.gov>, Jacquelyn Putnam - NOAA Federal <jacquelyn.putnam@noaa.gov>

LT Anthony Klemm, NOAA
Field Operations Officer
NOAA Ship *Thomas Jefferson*
439 W York Street
Norfolk, VA 23510
757-647-0187

Learn about NOAA nautical charts - www.nauticalcharts.noaa.gov
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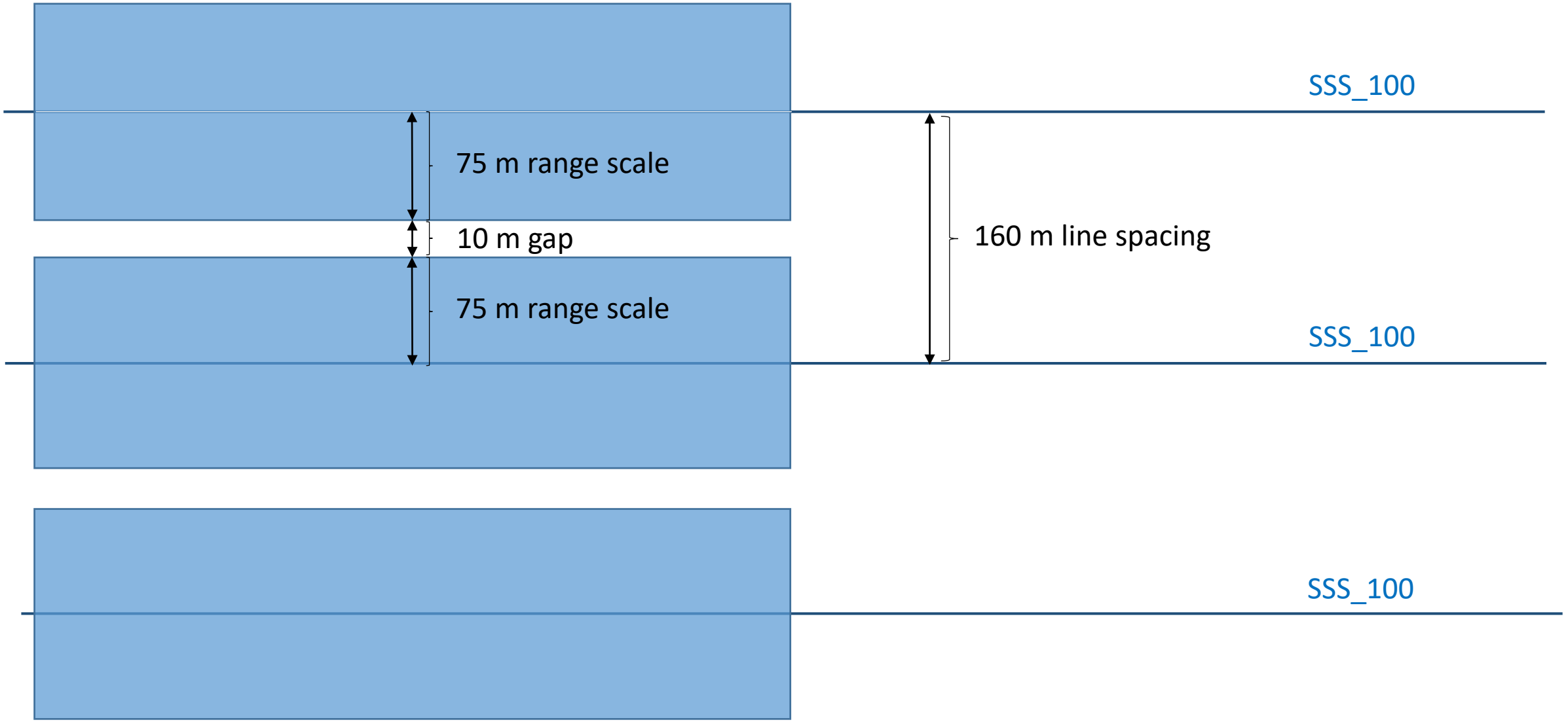
H12962.pdf
485K

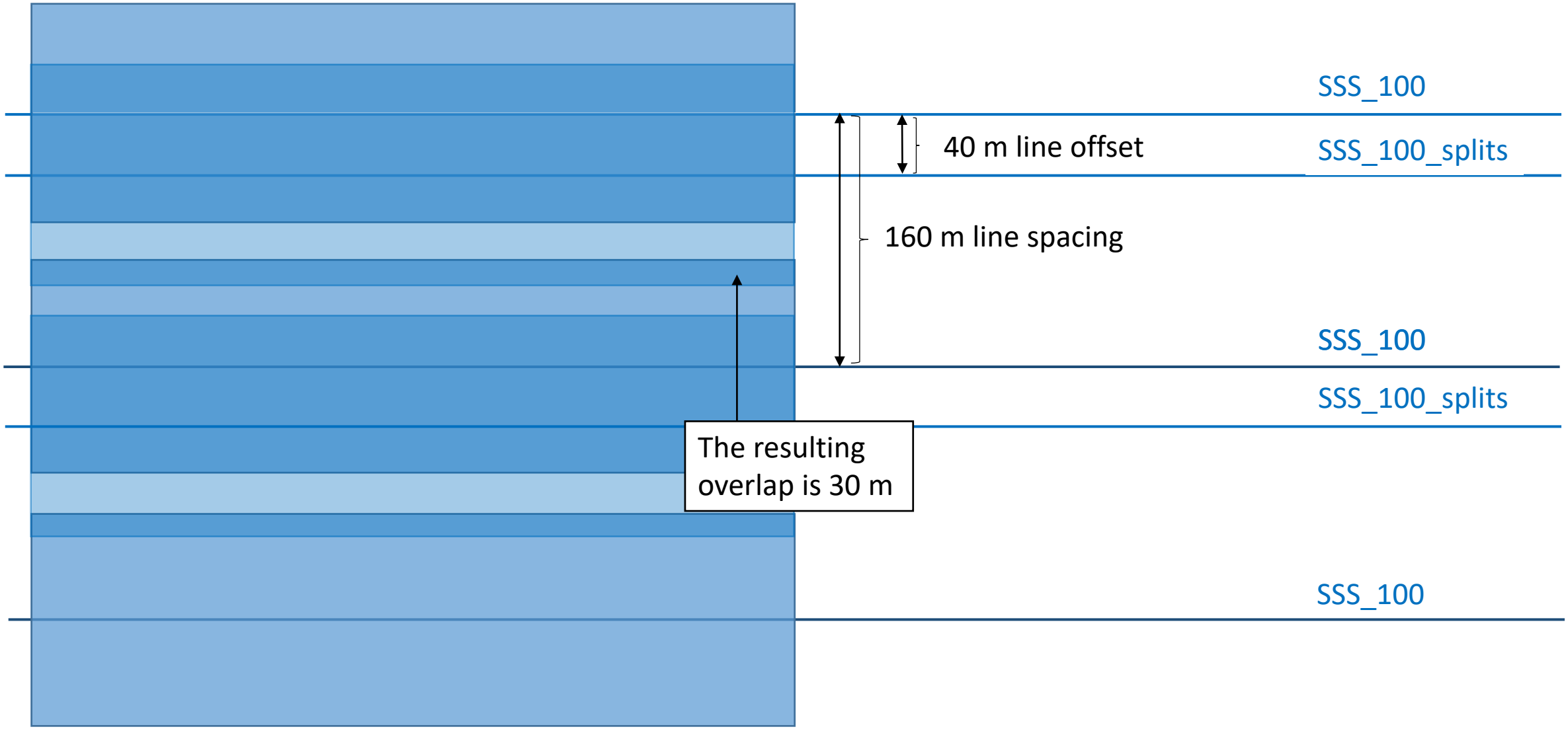
H12963.pdf
594K

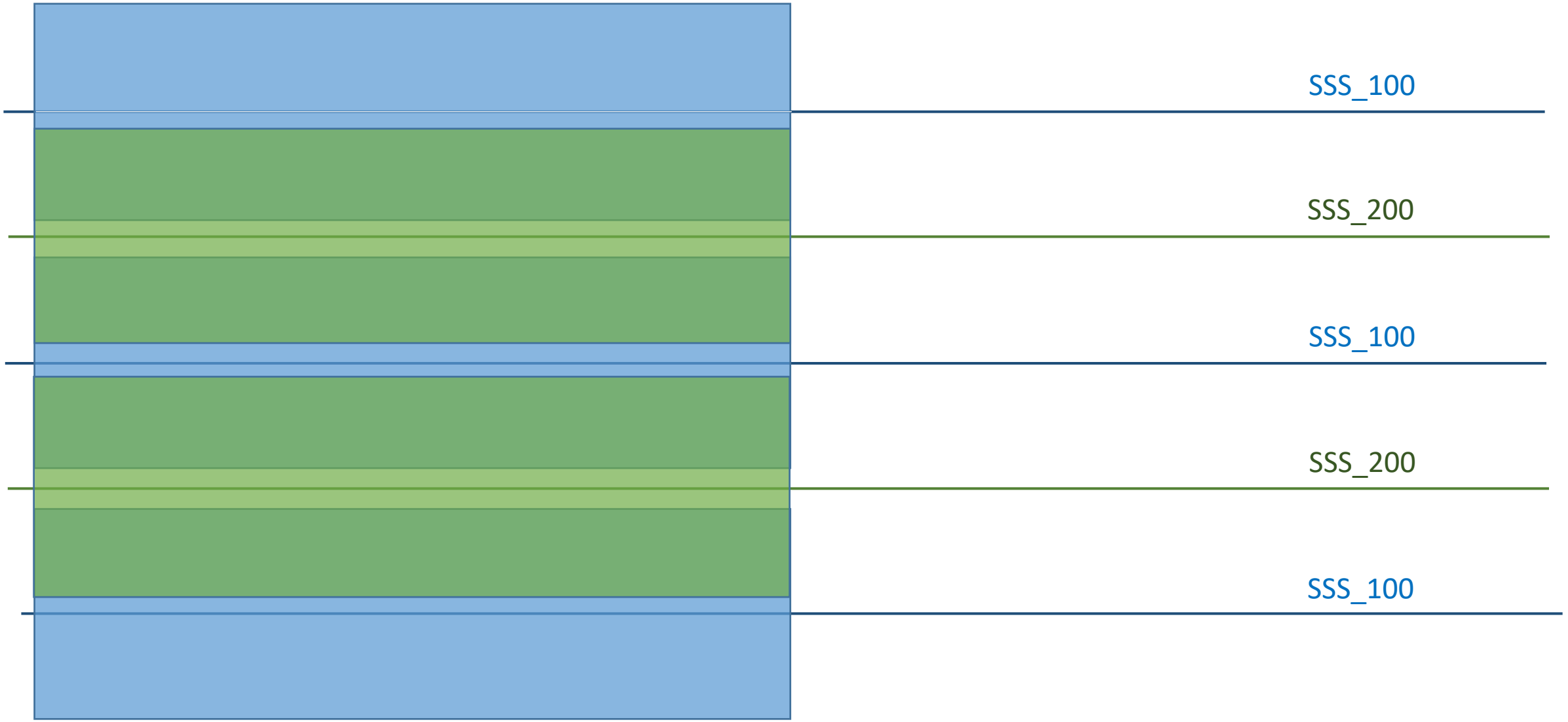
H12963 SSS Line Spacing

Overview

Non-standard line spacing was used to achieve 200% SSS coverage for sheet H12963. The following slides show the spacing used to achieve survey specification.


SSS_100
75 m range scale
10 m gap
160 m line spacing
75 m range scale
SSS_100
SSS_100


SSS_100
SSS_100_splits
40 m line offset
160 m line spacing
SSS_100
SSS_100_splits
The resulting overlap is 30 m
SSS_100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SSS_200
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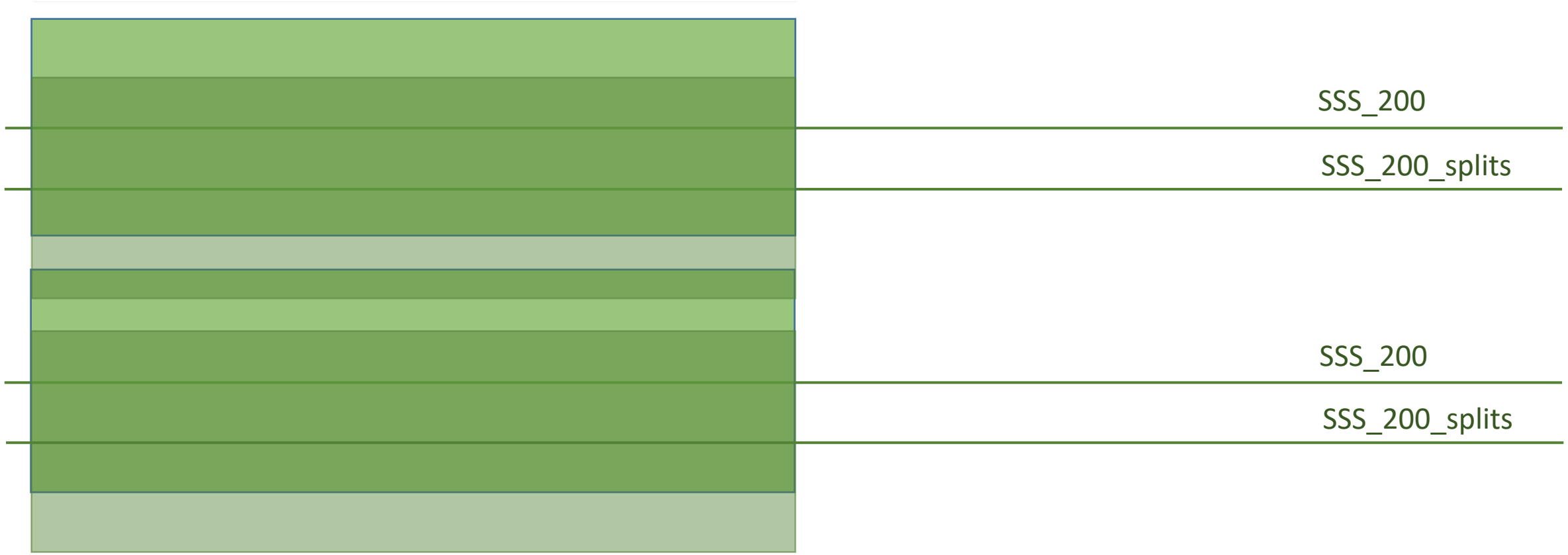
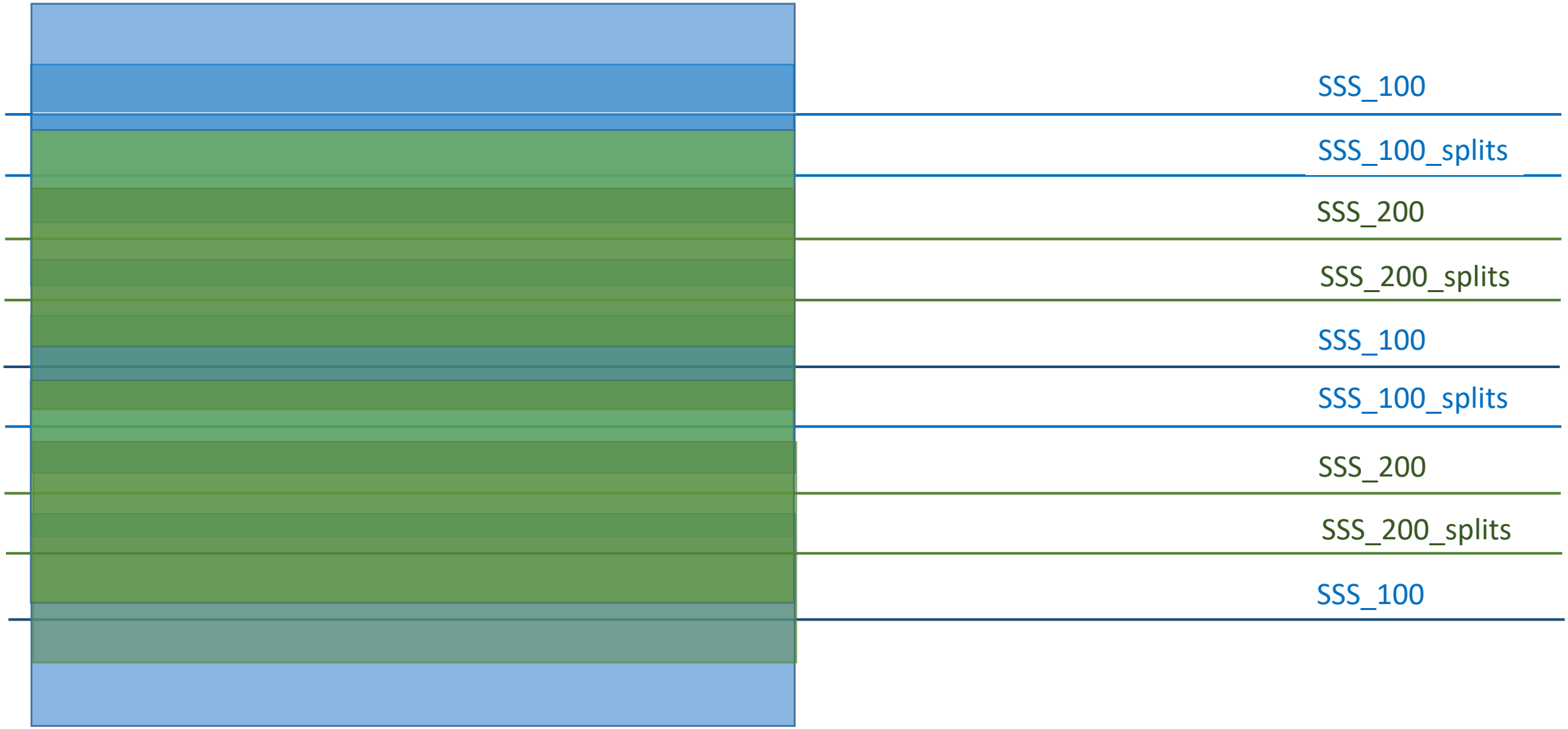
SSS_200
SSS_100


SSS_200
SSS_200_splits
SSS_200
SSS_200_splits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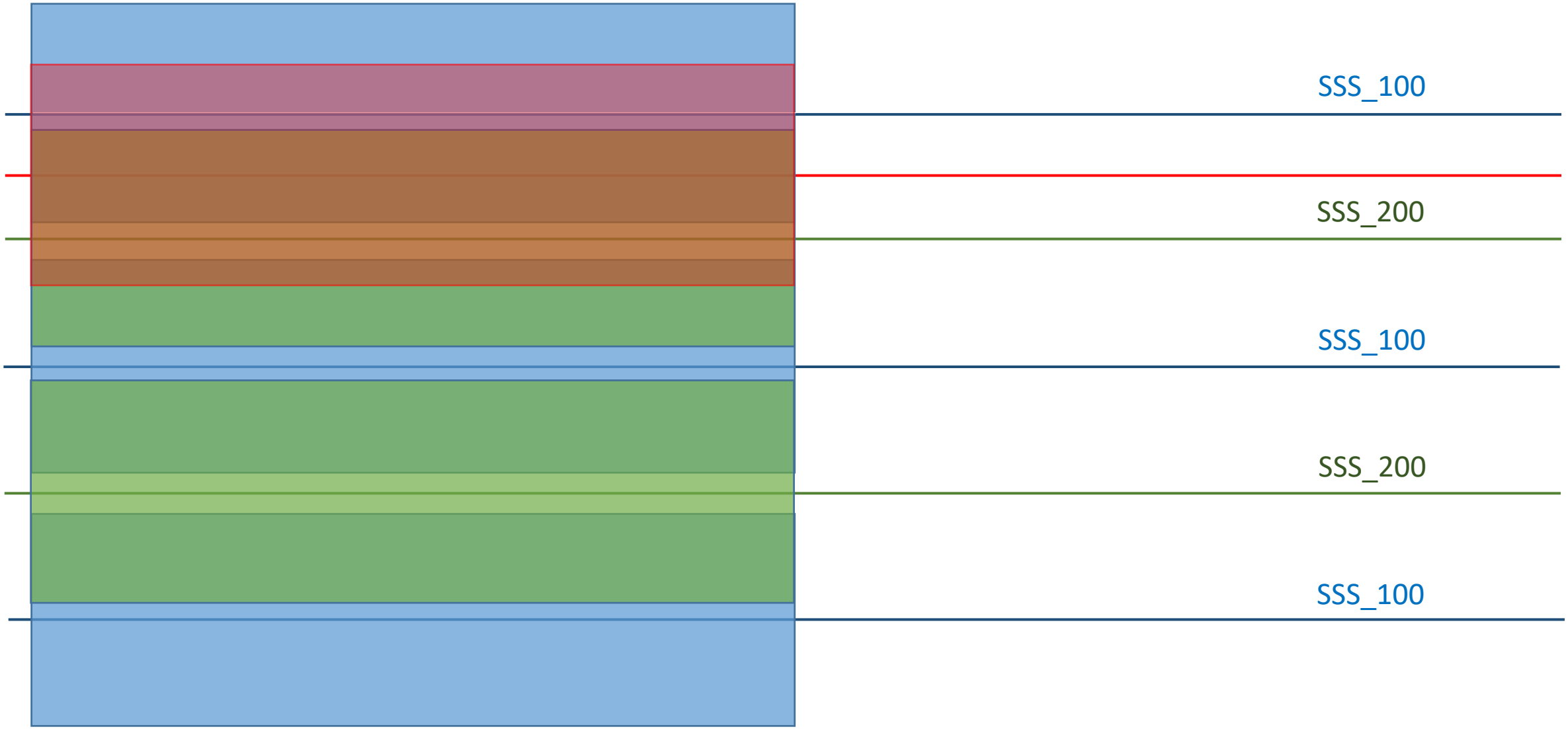
SSS_100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SSS_100
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SSS_100

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
Office of Marine and Aviation Operations
NOAA Ship *Thomas Jefferson* (S222)
439 West York St, Norfolk, VA 23510

3/1/2017

MEMORANDUM FOR: Starla Robinson
Project Manager, OPR-G329-TJ-17
Hydrographic Surveys Division Operations Branch

FROM: Commander Chris van Westendorp, NOAA
Commanding Officer, NOAA Ship *Thomas Jefferson*

SUBJECT: Waiver request – Submission of single resolution depth surface

Thomas Jefferson requests a waiver of the HSSD 2017 Section 5.2.2.3: Object detection multibeam surface grid-resolution thresholds requirement. *Thomas Jefferson* requests approval to submit a single 50cm resolution CUBE multibeam surface for H12963, in spite of depths ranging from 12m – 21m.

Justification

The grid nodes with a depth greater than 20m have an average sounding density of 33 soundings per node, which is sufficient to meet minimum required sounding density requirements at the 50cm grid size.

Decision

Waiver is: _____ Granted _____ Denied

cc: Chief, HSD OPS
OPS, *Thomas Jefferson*
HCST, *Thomas Jefferson*

Fwd: Thomas Jefferson 2017 NODC Files

2 messages

Tracy McMillan - NOAA Federal <tracy.mcmillan@noaa.gov> Tue, Jan 23, 2018 at 12:46 PM
To: Anthony Klemm - NOAA Federal <anthony.r.klemm@noaa.gov>, Allison Stone - NOAA Federal <allison.c.stone@noaa.gov>, "ChiefST.Thomas Jefferson - NOAA Service Account" <chiefst.thomas.jefferson@noaa.gov>

I apologize for not sending this Friday. I didn't see your email until I had already left for the day. H12961 and H12962 didn't have any issues to correct so I assume they were added to the database already. I will work on the issues found with the other sheets from the season after our content review. Again, I'm sorry for the delay.

Tracy

---------- Forwarded message ----------
From: **Tracy McMillan - NOAA Federal** <tracy.mcmillan@noaa.gov>
Date: Tue, Jan 2, 2018 at 8:29 AM
Subject: Thomas Jefferson 2017 NODC Files
To: "NODC.Submissions" <nodc.submissions@noaa.gov>
Cc: Sam Greenaway <Samuel.Greenaway@noaa.gov>

Attached are all the NODC files from the Thomas Jefferson for the 2017 Field season.

Please let me know if there are any issues.

Thank you,

Tracy McMillan
tracy.mcmillan@noaa.gov

NODC_2017.zip
4039K

Anthony Klemm - NOAA Federal <anthony.r.klemm@noaa.gov> Tue, Jan 23, 2018 at 12:59 PM
To: Tracy McMillan - NOAA Federal <tracy.mcmillan@noaa.gov>

Tracy,

Perfect. Thanks for forwarding this on.

Best,
Anthony

LT Anthony Klemm, NOAA
Field Operations Officer
NOAA Ship *Thomas Jefferson*
439 W York Street
Norfolk, VA 23510
757-647-0187

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APPROVAL PAGE

H12963

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 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.

Briana Welton Hillstrom

Digitally signed by HILLSTROM.BRIANA.WELTON.1267667531
Date: 2019.04.05 09:13:41 -04'00'

Approved: _____

Commander Briana W. Hillstrom, NOAA
Chief, Atlantic Hydrographic Branch