

H11021

NOAA FORM 76-35A

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

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC
Field No. RA-40-01-02
Registry No. H11021

LOCALITY

State Alaska
General Locality SW Alaska Peninsula and Semidi Islands
Sublocality Offshore-East of Chankliut Island

2002

CHIEF OF PARTY
Capt. James C. Garner, NOAA

LIBRARY & ARCHIVES

DATE

HYDROGRAPHIC TITLE SHEET**H-11021**INSTRUCTIONS The hydrographic sheet should be accompanied by this form,
filled in as completely as possible, when the sheet is forwarded to the office.

FIELD NO.

RA-40-01-02State AlaskaGeneral Locality SW Alaska Peninsula and Semidi IslandsSublocality Offshore-East of Chankliut IslandScale 1:40,000Date of Survey 6/6/2002 - 8/1/2002Instructions Date 6/1/2001Project No. OPR-P182-RA-02**Change 1 - 6/12/2001; Change 2 - 7/6/2001; Change 3 - 7/27/2001**Vessel RAINIER (2120), RA-5 (2125), RA-6 (2126)Chief of Party CAPT James C. Gardner, NOAASurveyed by RAINIER PersonnelSoundings taken by echo sounder, hand lead, pole Seabeam/Elac 1050D, Knudsen 320 MGraphic record scaled by N/A Reason Seabat 8101, Seabeam/Elac 1180Graphic record checked by N/AEvaluation by R. Shipley, G. Nelson Automated plot by HP Designjet 1050CVerification by R. Shipley, G. NelsonSoundings in Fathoms at MLLWREMARKS: Time in UTC Zone 4**Revisions and annotations appearing as endnotes were****generated during office processing.****All separates are filed with the hydrographic data****As a result, page numbering may be interrupted or non-sequential**

Descriptive Report to Accompany Hydrographic Survey H11021

Project OPR-P182-RA-02
Southwest Alaska Peninsula, Alaska
Scale 1:40,000
June - August 2002
NOAA Ship RAINIER
Chief of Party: Captain James C. Gardner, NOAA

A. AREA SURVEYED

This hydrographic survey was completed as specified by Hydrographic Survey Letter Instructions OPR-P182-RA, dated March 21, 2002,¹ and the Draft Standing Project Instructions dated March 21, 2001. The survey area is located east of Castle Cape on the Alaska Peninsula. This survey corresponds to sheet “AM” in the sheet layout provided with the Letter Instructions.

One hundred percent shallow-water multibeam (SWMB) coverage was obtained in the survey area.²

Data acquisition was conducted from June 6 to August 1, 2002 (DN 157 to 213). Due³ time constraints sheet H11021 survey AM was not completed. The South East portion of sheet AM remains unsurveyed and due to the complexity of the area the hydrographer recommends the area be surveyed.⁴

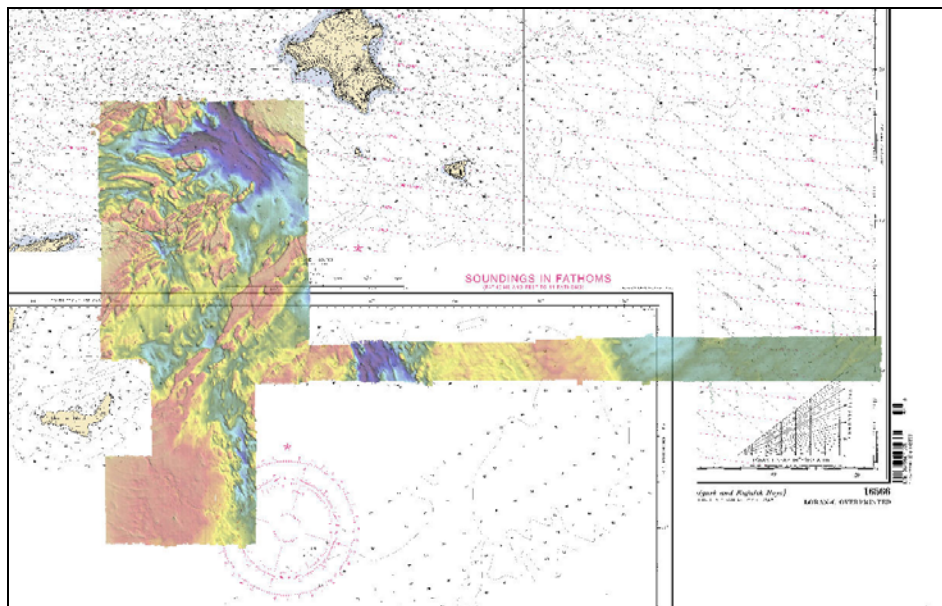


Figure 1. H11021 Survey Limits.

B. DATA ACQUISITION AND PROCESSING

A complete description of data acquisition and processing systems, survey vessels, quality control procedures and data processing methods can be found in the *OPR-O112⁵-RA-02 Data Acquisition and Processing Report⁶* submitted under separate cover. Items specific to this survey, and any deviations from the aforementioned report are discussed in the following sections.

B1. Equipment and Vessels

Data were acquired by RAINIER and her survey launches (vessel numbers 2120, 2125, and 2126). Vessels 2120, 2125, and 2126 were used to acquire shallow-water multibeam (SWMB) soundings and sound velocity profiles. No unusual vessel configurations or problems were encountered during this survey.⁷

No unusual vessel configurations were used for data acquisition.

B2. Quality Control

Crosslines

No Vertical Beam Echo Sounder (VBES) lines were run.

Shallow-Water Multibeam (SWMB) crosslines totaled 49.91 nautical miles, comprising 6.79% of ELAC SWMB hydrography. The Quality Control Report (CARIS HIPS) for the checkline file averaged 85.29352%, with a depth tolerance factor of 0.023. Data collected does not conform (85%) to International Hydrographic Organization Order 2 specifications detailed in Special Publication S-44, Edition 4, as well as NOS Hydrographic Surveys Specifications and Deliverables Manual. But, due to the characteristics of the offshore Alaskan peninsula such as extreme steep bathymetry and rough weather conditions this average is reasonable. Through manual examination of the data, the hydrographer believes the accuracy standards have been met and the crossline agreement is good.⁸ All survey data is adequate to supersede the chart.⁹

Junctions

The following contemporary survey junctions with H11021 (see Figure 2.):

<u>Registry #</u>	<u>Scale</u>	<u>Date</u>	<u>Junction side</u>
H11062	1:10,000	2002	North West
H11066	1:40,000	2001	West
H10701	1:20,000	1996	North
H10701A	1:20,000	1997	North

Surveys H1062, H1066 junction well with this survey, a cursory comparison indicates differences are generally less than one fathom. A junction comparison was not completed with sheets H11071 and H11071A. Copies of these data were not provided with the project instructions.

Final comparisons will be made at the Pacific Hydrographic Branch (PHB) after the application of smooth tides.¹⁰

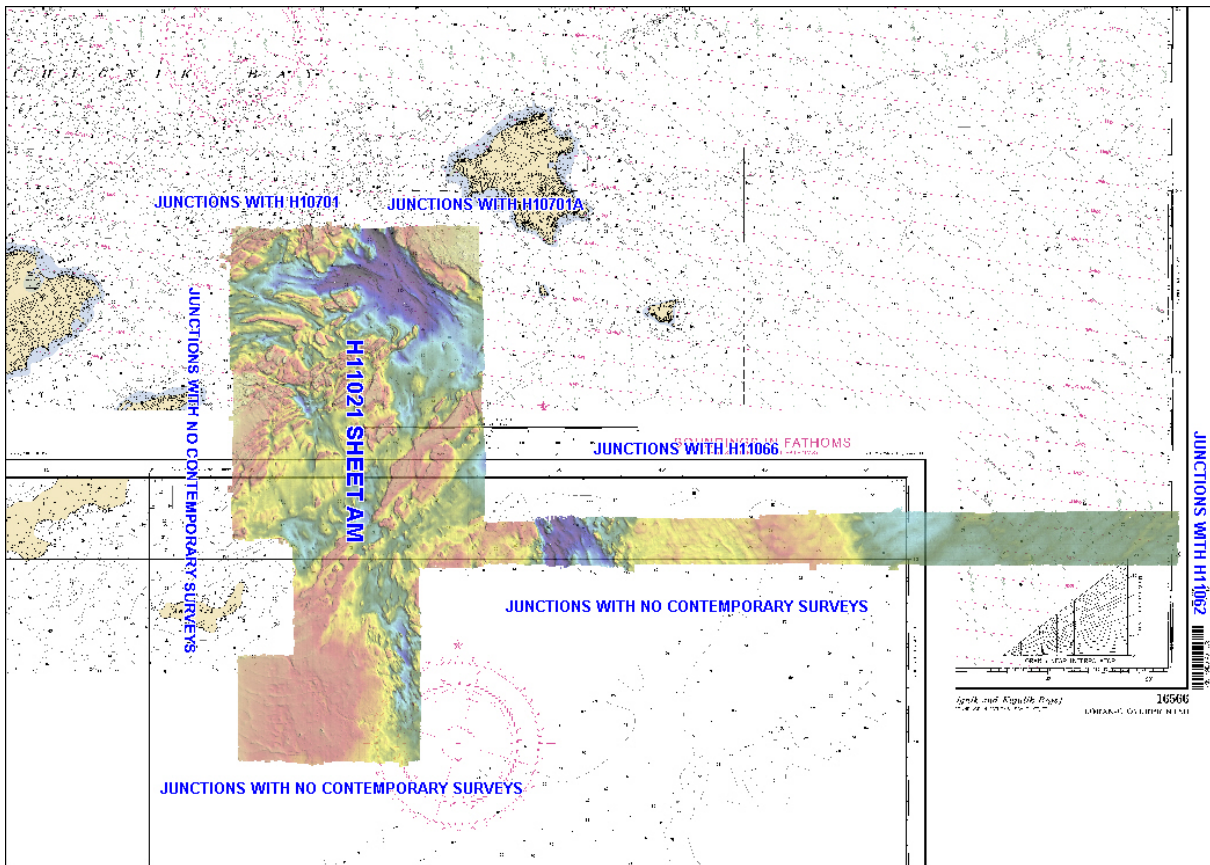


Figure 2. H11021 Junctions.

Data Quality Factors

No unusual conditions were encountered during the survey that affected the expected accuracy and quality of survey data.

B3. Data Reduction

Data reduction procedures for survey H11021 conform to those detailed in the *OPR-O112¹¹-RA-02 Data Acquisition and Processing Report* with the exception of vessels 2126.

The firmware on the TSS inertial motion sensor was changed over the 2001/2002 winter inport and the sign was reversed on the analog input. This affected only the ELAC 1180 data

on RA6. The heave value for the ELAC 1180 data was corrected in post processing through the Pydro Utility program “Postacquisitiontools”.

C. VERTICAL AND HORIZONTAL CONTROL

A complete description of vertical and horizontal control for survey H11021 can be found in the *OPR-P182-RA-02 Horizontal and Vertical Control Report*,¹² submitted under separate cover. A summary of horizontal and vertical control for this survey follows.

Horizontal Control

The horizontal datum for this project is the North American Datum of 1983 (NAD83). Differential GPS (DGPS) was the sole method of positioning. Differential corrections from U.S. Coast Guard beacon at Kodiak (313 kHz) and Cold Bay (289 kHz) were utilized during this survey. Launch-to-launch DGPS performance checks using U.S. Coast Guard beacon Kodiak (313 kHz) as the check station were performed weekly in accordance with Section 3.2 of the FPM. Copies of the performance checks are included in the *OPR-P182-RA-02 Horizontal and Vertical Control Report*.

Vertical Control

The vertical datum for this project is Mean Lower-Low Water (MLLW). The operating National Water Level Observation Network (NWLON) primary tide station at Sand Point, AK (945-9450) served as control for datum determination and as the primary source for water level reducers for survey H11021.

RAINIER personnel installed Sutron 8210 “bubbler” tide gauge at the following subordinate stations to provide information for N/OPS1 to determine time and height correctors in accordance with the Project Instructions:

Station Name	Station Number	Type of Gauge	Date of Installation	Date of Removal
Chankliut Island	945-8849	30-day	June 9, 2001	July 30, 2002

All data were reduced to MLLW using unverified observed tides from station Sand Point, AK (945-9450) using the tide file 9459450.tid. These data were used in conjunction with time zone and height correctors from definition file "P182RA2002CORP.zdf." to apply tides to all data.

The Pacific Hydrographic Branch will apply final approved (smooth) tides to the survey data during final processing.¹³ A request for delivery of final approved (smooth) tides for survey H11021 was forwarded to N/OPS1 on July 31, 2002 in accordance with FPM 4.8. A copy of the request is included in Appendix IV.¹⁴

D. RESULTS AND RECOMMENDATIONS

D.1 Automated Wreck and Obstruction Information System (AWOIS) Investigations

No AWOIS items are located on sheet H11021.¹⁵

D.2 Chart Comparison

Chart 16561 and 16566 charted soundings

Current charted soundings are based on sparse hydrographic data from 1897-1943 track-line reconnaissance surveys and lead-line hydrographic surveys. Depths from survey H11021 were generally 2 to 16 fathoms shoaler than depths on chart 16561 and 16566. In many instances, this survey found shoaler soundings between charted soundings even though agreement at the position of the charted depths was good. This can be attributed to increased bottom coverage using SWMB methods.¹⁶

The Hydrographer has determined that data accuracy standards and bottom coverage requirements have been met and survey data are adequate to supersede charted data in their common areas.¹⁷

Final chart comparisons will be made at the Pacific Hydrographic Branch after the application of smooth tides.¹⁸

D.3 Shoreline

Shoreline Source

Sheet H11021 is an offshore survey with no shoreline.¹⁹

Shoreline Verification

Not applicable to current survey.

D.4 Dangers to Navigation

No dangers to navigation were found.²⁰

D.5 Aids to Navigation

No aids to navigation (ATONs) are located within the limits of H11021.²¹

D.6 Miscellaneous

No bottom samples were collected.²²

E. APPROVAL

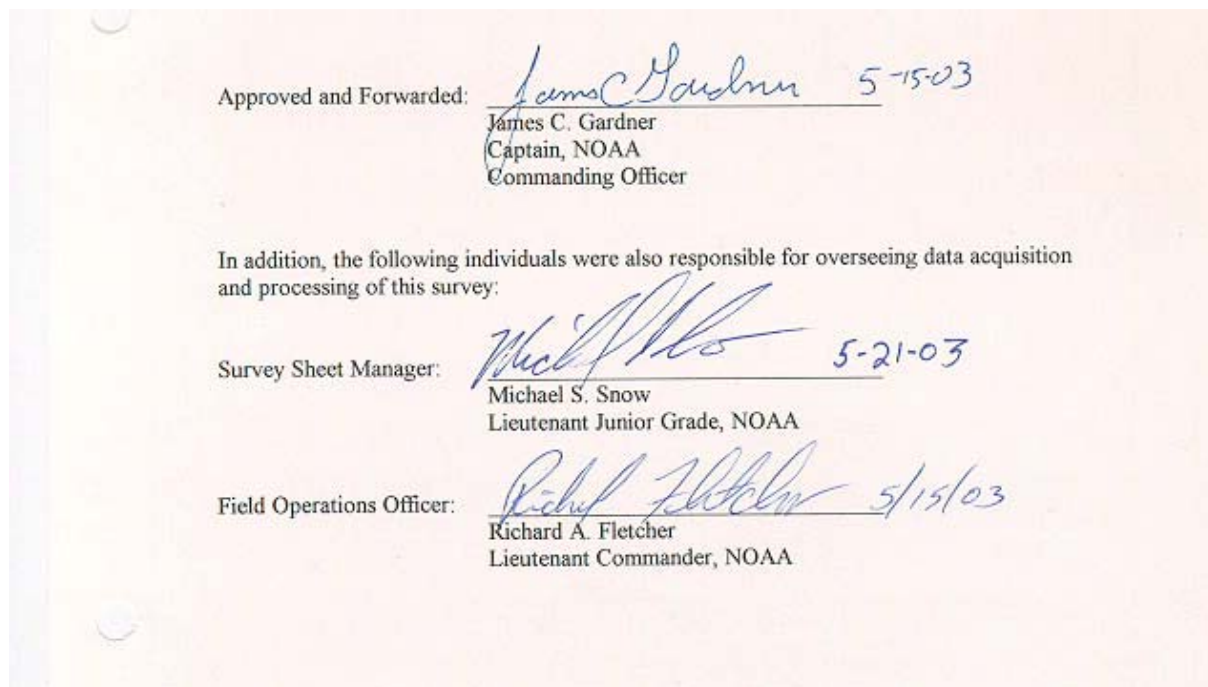
As Chief of Party, I have ensured that standard field surveying and processing procedures were followed in producing this examination in accordance with the Hydrographic Manual, Fourth Edition, Hydrographic Survey Guidelines, Field Procedures Manual and the NOS Hydrographic Surveys Specifications and Deliverables, as updated for 2001.

The digital data and supporting records have been reviewed by me, are considered complete and adequate for charting purposes, and are approved. All records are forwarded for final review and processing to N/CS34, Pacific Hydrographic Branch.

Survey H11021 is complete and adequate to supersede charted soundings in their common areas.²³ No additional work is required for this survey.²⁴

Listed below are supplemental reports submitted separately that contain additional information relevant to this survey:

<u>Title</u>	<u>Date Sent</u>	<u>Office</u>
Data Acquisition and Processing Report for OPR-P182-RA-02	2 August 2002	N/CS34
Horizontal and Vertical Control Report for OPR-P182-RA-02	12 Feb 2003	N/CS34
Tides and Water Levels Package for OPR-P182-RA-02	21 August 2002	N/OPS1
Coast Pilot Report for OPR-P182-RA-02	TBD ²⁵	N/CS26



Revisions Compiled During Office Processing and Certification

¹ Do not concur. Strike "~~March 21, 2001~~" and insert June 1, 2001. Change #1 dated June 12, 2001; Change #2 dated July 6, 2001; Change #3 dated July 27, 2001.

² Concur

³ Insert "to".

⁴ Concur. Complete survey as resources allow.

⁵ Strike "~~0112~~" insert P182.

⁶ Filed with the Project Records.

⁷ Concur

⁸ Concur with clarification. A PHB review of the data showed the data met IHO 1 specifications in depths of less than 100 meters. In depths greater than 100 meters IHO 2 specifications were met.

⁹ Concur. The survey is adequate to supersede all charted and prior survey data within the common area.

¹⁰ Junction comparisons were made during office processing. A few depths were transferred in color to the present survey to provide a more complete portrayal of depth curves within the common areas. Multibeam data within the common areas of H10701 and H10701a provided a better depiction of the bottom. Standard depth curves have been shown on the present survey in consideration for these datasets.

¹¹ See endnote 3

¹² Filed with the Project Records.

¹³ Approved tide note dated December 4, 2002 is attached.

¹⁴ Filed with the Hydrographic Records.

¹⁵ Concur

¹⁶ Concur with clarification. Major differences occur where no contemporary survey data exist. See endnote 10.

¹⁷ Concur

¹⁸ See endnote 16.

¹⁹ Concur

²⁰ Concur

²¹ Concur

²² Concur. Retain charted bottom samples.

²³ Concur

²⁴ Concur

²⁵ Submitted March 28, 2003



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
Silver Spring, Maryland 20910

TIDE NOTE FOR HYDROGRAPHIC SURVEY

DATE: December 4, 2002

HYDROGRAPHIC BRANCH: Pacific
HYDROGRAPHIC PROJECT: OPR-P182-RA-2002
HYDROGRAPHIC SHEET: H11021

LOCALITY: South of Nakchamik, AK
TIME PERIOD: June 6 - August 1, 2002

TIDE STATION USED: 945-8849 Chankliut Island, AK
Lat. 56° 08.7'N Lon. 158° 06.8'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 2.368 meters

TIDE STATION USED: 945-9450 Sand Point, AK
Lat. 55° 19.9'N Lon. 160° 30.3'W
PLANE OF REFERENCE (MEAN LOWER LOW WATER): 0.000 meters
HEIGHT OF HIGH WATER ABOVE PLANE OF REFERENCE: 1.985 meters

REMARKS: RECOMMENDED ZONING
Use zone(s) identified as: SWA157, SWA158, SWA159, SWA160, SWA161
& SWA164.

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.

Thomas V. Hero 12/4/02

CHIEF, REQUIREMENTS AND DEVELOPMENT DIVISION



Final tide zone node point locations for **OPR-P182-RA-2002, Sheet H11021.**

Format: Tide Station (in recommended order of use)
 Average Time Correction (in minutes)
 Range Correction
 Longitude in decimal degrees (negative value denotes
 Longitude West),
 Latitude in decimal degrees

	Tide Station Order	AVG Time Correction	Range Correction
Zone SWA157	945-8849	-12	1.05
-156.453487 56.083477	945-9450	-6	1.29
-156.535086 56.0872			
-157.095579 56.174362			
-157.463905 56.279948			
-157.70266 56.188715			
-157.561336 56.143358			
-157.172021 56.057531			
-156.607631 55.969471			
-156.573673 55.986595			
-156.453487 56.083477			
Zone SWA158	945-8849	-12	1.02
-157.70266 56.188715	945-9450	-6	1.25
-157.773372 56.161757			
-157.966354 56.106955			
-157.846555 56.074959			
-157.439901 55.971501			
-157.007725 55.891311			
-156.806844 55.86912			
-156.607631 55.969471			
-157.172021 56.057531			
-157.561336 56.143358			
-157.70266 56.188715			
Zone SWA159	945-8849	-12	0.98
-157.966354 56.106955	945-9450	-6	1.21
-158.249691 56.02319			
-157.900613 55.91079			
-157.130644 55.737042			
-157.046414 55.726228			
-156.893291 55.825475			

-156.806844 55.86912
-157.007725 55.891311
-157.439901 55.971501
-157.846555 56.074959
-157.966354 56.106955

Zone SWA160

945-8849	0	0.98
945-9450	0	1.21

-157.966354 56.106955
-158.118958 56.146102
-158.270381 56.179384
-158.352707 56.167654
-158.357095 56.192143
-158.430272 56.19459
-158.477124 56.130876
-158.4259 56.110439
-158.41177 56.075263
-158.249691 56.02319
-157.966354 56.106955

Zone SWA161

945-8849	0	1.02
945-9450	0	1.25

-157.70266 56.188715
-157.872073 56.242919
-158.061374 56.278696
-158.21176 56.28666
-158.447246 56.247319
-158.430272 56.19459
-158.357095 56.192143
-158.352707 56.167654
-158.270381 56.179384
-158.118958 56.146102
-157.966354 56.106955
-157.773372 56.161757
-157.70266 56.188715

Zone SWA164

945-8849	0	1.05
945-9450	0	1.29

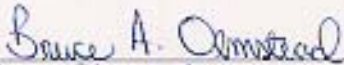
-157.463905 56.279948
-157.611337 56.332309
-157.797065 56.397724
-158.001591 56.438608
-158.185932 56.458642
-158.390942 56.516782
-158.451602 56.410008
-158.451315 56.376112
-158.44083 56.343794
-158.482054 56.328704

-158.447246 56.247319
-158.21176 56.28666
-158.061374 56.278696
-157.872073 56.242919
-157.70266 56.188715
-157.463905 56.279948

APPROVAL SHEET
H11021


Initial Approvals:

The survey and associated records have been inspected with regard to survey coverage, delineation of the depth curves, development of critical depths, cartographic symbolization, and verification or disproof of charted data. The survey records and digital data comply with NOS requirements except where noted in the Descriptive Report and are adequate to supersede prior surveys and nautical charts in the common area.


Bruce Olmstead
Cartographic Team
Pacific Hydrographic Branch

Date: 11/28/2005

I have reviewed the smooth sheet, accompanying data, and reports. This survey and accompanying digital data meet or exceed NOS requirements and standards for products in support of nautical charting except where noted in the Descriptive Report.


Donald W. Haines, CDR/NOAA
CDR, NOAA
Chief, Pacific Hydrographic Branch

Date: 30 Nov, 2005

