

W00431

NOAA Form 76-35A

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

DESCRIPTIVE REPORT

Type of Survey: Navigable Area

Registry Number: W00431

LOCALITY

State: California, Oregon

General Locality: CA, OR Coastline

Sub-locality: Channel Islands to Cape Blanco

2016

CHIEF OF PARTY
Nicole Raineault
E/V Nautilus

LIBRARY & ARCHIVES

Date:

HYDROGRAPHIC TITLE SHEET

W00431

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: **California, Oregon**

General Locality: **CA, OR Coastline**

Sub-Locality: **Channel Islands to Cape Blanco**

Scale: **1:10,000**

Dates of Survey: **08/29/2016 to 09/11/2016**

Instructions Dated: **N/A**

Project Number: **ESD-PHB-18**

Field Unit: **E/V *Nautilus***

Chief of Party: **Nicole Raineault**

Soundings by: **Multibeam Echo Sounder**

Imagery by: **N/A**

Verification by: **Pacific Hydrographic Branch**

Soundings Acquired in: **meters at Mean Sea Level**

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/>. The hydrographic branch generated final survey products in NAD83 UTM 11N, Mean Lower Low Water (MLLW). All references to other horizontal or vertical datums in this report are applicable to the processed hydrographic data provided by the field unit.

DESCRIPTIVE REPORT MEMO

June 19, 2018

MEMORANDUM FOR: Pacific Hydrographic Branch

FROM: Nicole Raineault
Lead Scientist, E/V Nautilus

SUBJECT: Submission of Suvey W00431

In partnership with the NOAA Channel Islands National Marine Sanctuaries (CINMS), the Ocean Exploration Trust acquired exploratory mapping data of geological and geophysical aspects of the region, while covering areas not recently acquired with modern day survey techniques, in an effort to fill in gaps identified by the Southern California Seafloor Mapping Initiative. The CINMS and NOAA National Center for Coastal and Ocean Science (NCCOS) started the Southern California Seafloor Mapping Initiative (<http://sanctuaries.noaa.gov/science/conservation/pdfs/seafloor-mapping-initiative.pdf>) to identify areas that need to be mapped with modern hydrographic methods and organize resources to coordinate closing those gaps. Accurate, full coverage data is critical for informing marine management decision-making. The Office of Coast Survey is contributing to this initiative by post processing the Ocean Exploration Trust data for application to the chart and for use by NCCOS and the CINMS.

Single resolution grids were created in CARIS HIPS and SIPS 10.4

Some soundings were reduced to Mean Lower Low Water (MLLW) using observed tides from 9410170 (San Diego), 911340 (Santa Barbara) and tide zones (IOCMChannelIslandsCORP.zdf) provided by CO-OPS. There is data that was not reduced to chart datum due to the nature of the survey. These data remain at the surveyed datum.

Since only parts of the data were able to be reduced to Mean Lower Low Water with zoned tides, the zone tides were removed from the data. For the sake of consistency with similar surveys, new tide uncertainty values were applied to the data to bring it to Mean Sea Level. The data was then gridded and shifted to Mean Lower Low Water using a separation model.

The Joint Hydrographic Center Integrated Ocean and Coastal Mapping Group received raw and processed data from the Ocean Exploration Trust and various reports including: instrument lists and calibration reports, equipment wiring diagrams, vessel survey report, and the most recent Multibeam Advisory Committee (MAC) System Review report from 2015. These reports have been included in the data submission. Qimera version 1.2.5 was used by OET to process the data and exported GSFs were included in the data submission. Some of the raw data were used to process the grids submitted to the Coast Survey's Hydrographic Surveys Division in Caris Hips and Sips 10.4. This survey also contains data sourced directly from the submitted GSFs. Sound speed data was collected and applied during acquisition. Sound speed data are stored in the raw .ALL files. No major sound speed errors were found in the dataset. This data was reconverted from the raw .all files and had sound velocity, tides and uncertainty applied in order to create the CUBE grids that will be used for nautical chart updates. The data that was not converted from raw was converted into

CARIS HIPS and SIPS from the processed GSF data at the NOAA's Atlantic Hydrographic Branch. This data did not have tides applied after conversion and only had the Uncertainty applied in order to make the necessary grids. All data has been processed in CARIS HIPS and SIPS and has been scanned for "fliers", depth anomalies, and where these anomalies exist the data has been examined and spurious soundings have been removed.

New tide uncertainty values were applied to the data to bring it to Mean Sea Level. The data was then gridded and shifted to Mean Lower Low Water using a separation model.

There were no DTONs created for this survey.

Ocean Exploration Trust acquired the data outlined in this report. Data are available at <http://www.oceanexplorationtrust.org>

The survey covers an area of predominantly sparse chart soundings. High variability is observed between charted soundings and survey soundings, with some flat areas agreeing well and some areas different by 50 -100m, due to the highly irregular nature of the seabed in the area. Large discrepancies throughout the survey exist between charted and W00431 survey depths.

Concur with clarification. The charted data on the California ENC's was acquired between 2000 and 2013. The charted data on the Oregon ENC's was acquired between 2001 and 2014. Contours generated from the survey data show good agreement with charted contours on the California ENC's. Contours generated from the survey data agree to some extent with the charted contours on the Oregon ENC's, however there are several locations where there are significant discrepancies, as well as, approximated contours on ENC US3OR02M.

* No crosslines were collected as part of the data set, however transit lines were recorded and included in the submission and provide some areas for perpendicular line comparison. Transit lines were included to maximize data potential and provide more opportunity for overlap with other surveys for depth validation. Data was also differenced with data from the NOAA Ship Rainier (D00228). The difference surface showed a mean difference of -0.57m utilizing a 64m resolution grid. It should be noted that the area of overlap for these two surveys is quite small, and only incorporated 149 nodes.*

This survey does meet charting specifications and is adequate to supersede prior data. The survey data meets or exceeds requirements as set forth in the NOS Hydrographic Surveys and Specifications Deliverables Manual, Field Procedures Manual, Standing and 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. All surfaces, this Survey Summary Report, and all accompanying records and data are approved. All records are forwarded for final review and processing to the Processing Branch.

Concur with clarification. The data has been given CATZOC B and is only adequate to supersede data that has been evaluated to have equal or lesser quality, such as older CATZOC B data or any CATZOC C or D data.

Survey data should be archived at NCEI and the DR memo forwarded to HSD.

Metadata for Survey W00431	
Project	ESD-PHB-18
Survey	W00431
State	CaliforniaOregon
Locality	CA, OR Coastline
Sub-Locality	Channel Islands to Cape Blanco
Scale of Survey	1:10000
Sonars Used	Kongsberg EM302 (MBES)
Horizontal Datum	World Geodetic System (WGS) 1984
Vertical Datum	Mean Sea Level
Vertical Datum Correction	VDatum
Projection	Projected UTM 11N
Field Unit	E/V Nautilus
Survey Dates	08/29/2016 - 09/11/2016
Chief of Party	Ocean Exploration Trust
Submission Date	06/19/2018



UNITED STATES DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

NATIONAL OCEAN SERVICE- Office of Coast Survey

Hydrographic Surveys Division: Pacific Hydrographic Branch
Seattle, Washington 98115

April 25th 2019

External Source Data Use Permissions Form

Data provider name and title:

Lindsay J. Gee
Mapping and Science Coordinator
Ocean Exploration Trust
215 South Ferry Road
Narragansett RI 02882
603-957-1461

NOAA's Office of Coast Survey greatly appreciates your voluntary contribution of data. These data will be used to update NOAA's nautical charts and ancillary products. Once processed, these data will be archived at the National Center for Environmental Information (NCEI) and made publicly available. Before the Office of Coast Survey applies your data to nautical charts, please acknowledge that you understand and accept that these data will be considered in the public domain once it is archived at NCEI. We require your acknowledgement to apply your data to nautical charts and archive it at NCEI. Thank you for your continued support.

Hydrographic survey/dataset name and description:

E/V Nautilus Exploratory Mapping Data in the vicinity of Olympic Coast National Marine Sanctuary, Channel Islands National Marine Sanctuary and in areas identified by the Southern California Seafloor Mapping Initiative.

Data provider signature:

Thank you,

Kurt Mueller
Physical Scientist
National Oceanic and Atmospheric Administration
Pacific Hydrographic Branch
7600 Sand Point Way NE
Seattle, WA 98115
206-526-6853



APPROVAL PAGE

W00431

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)
- Processed survey data and records
- GeoPDF of survey products

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

Approved: _____

Commander Olivia Hauser, NOAA
Chief, Pacific Hydrographic Branch