

HYDROGRAPHIC TITLE SHEET

W00241

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: **HI**

General Locality: North Pacific Ocean

Sub-Locality: **North of Kaua'i**

Scale: **1:10,000** Date of Survey: **19 Jul to 20 Jul 2006**

Instructions Dated: N/A Project Number: OSD-AHB-12

Vessel: *R/V AHI*

Chief of Party: N/A

Surveyed by: R/V AHI personnel

Soundings by: Reson 8101ER Multibeam

Graphic record scaled by: N/A

Graphic record checked by: N/A

Protracted by: N/A Automated Plot: N/A

Verification by: ***Atlantic Hydrographic Branch***

Soundings in: **Meters at MLLW**

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. Revisions and Rednotes were generated during office processing. The processing branch concurs with all information and recommendations in the DR unless otherwise noted. Page numbering may be interrupted or non-sequential. All pertinent records for this survey, including the Descriptive Report, are archived at the National Geophysical Data Center (NGDC) and can be retrieved via <http://www.ngdc.noaa.gov/>.

Outside source survey W00241 was submitted without a formal report. The following was included as the body of the Descriptive Report and contains the metadata for this survey.

- Remarks:
- 1) All Times are in UTC.**
 - 2) This is a Navigable Area Hydrographic Survey.**
 - 3) Projection is NAD83, UTM Zone 04N**

Identification_Information:

Citation:

Citation_Information:

Originator:

National Oceanic and Atmospheric Administration
Pacific Islands Fisheries Science Center Coral Reef
Ecosystem Division Pacific Islands Benthic Habitat
Mapping Center

Publication_Date: 20070406

Title:

2006 Reson 8101ER Multibeam Sonar Data from Cruise
AHI-06-09 - Kure Atoll, Pearl and Hermes Atoll and Kauai

Island

Geospatial_Data_Presentation_Form: Generic Sensor Format
(GSF) digital data

Online_Linkage: <http://www.soest.hawaii.edu/pibhmc/>

Description:

Abstract:

Reson 8101ER multibeam Data were collected from
23 June to 19 July 2006 aboard NOAA Survey Launch Acoustic
Habitat Investigator (AHI) at Kure Atoll, Pearl and Hermes
Atoll, and Kaua'i Island in the Central Pacific during
cruise

HI-06-09. These multibeam data were collected using SAIC
ISS-2000 software in the Generic Sensor Format and
processed

using SABER editing software. Sound velocity corrections
from

a Seabird SBE19 CTD sensor and motion corrections from a
POS-MV
vertical reference were applied to the data in real time.

Predicted tides were applied to the data in real time using
tide

zoning and predicted tides supplied by NOAA's National
Ocean Service
Center for Operational Oceanographic Products and Services
(CO-OPS).

At Kure Atoll, Sand Island (1619910) predicted tides were
used in
zone HI48. At Pearl and Hermes Atoll, Sand Island (1619910)
predicted tides were used in zones HI46 and HI47. At Kauai
Island,

Nawiliwili (1611400) predicted tides were used in zones
HI137,
HI138, and HI139.

Horizontal accuracy is 20m (no differential GPS correctors
applied),

vertical accuracy is depth dependent (~1% of water depth),
WGS84

datum. These data are not to be used for navigation.

Depths mapped
range from 10 - 300 m. The AHI was deployed from the NOAA
Ship
Hi'ialakai and concurrent mapping was done using the Simrad
EM300
and EM3002D sonars aboard the ship; metadata for HI-06-09
are
submitted separately.

Purpose:

The data were collected in support of Coral Reef
Conservation
Program goals to map all shallow (0-30 m) coral reefs in US
Pacific
waters and priority moderate (> 30 m) depth areas by 2009.
The data
are being used to provide bathymetric and backscatter data
for
previously unmapped areas; in support of ecosystem
management
requirements for benthic habitat mapping and location of
Essential
Fish Habitat; and to study the geologic features of the
area.

Supplemental_Information:

Data were collected aboard the R/V AHI (Acoustic Habitat
Investigator), a 8 m (25') survey launch owned and operated
by the NOAA Pacific Islands Fisheries Science Center in
Honolulu, HI. The R/V AHI's survey sensors include a 240
kHz RESON 8101-ER sonar which measures bathymetry and
acoustic backscatter, a TSS/Applanix POS/MV Model
320 which measures time, position, velocity, attitude and
heading, and a Seabird SBE 19 CTD used to measure sound
velocity profiles.

The AHI's equipment serial numbers, software versions and
sensor configuration settings are as follows:

RESON 8101-ER multibeam echosounder
Transducer serial #: 201004
Firmware, dry: 8101-2.07-2D4D
Firmware, wet: 8101-1.06-2F6B

R/V AHI POS/MV Model 320, version 3
PCS serial #: 474
IMU serial #: 203
Controller software: v 2.1
PCS Firmware: 2.16

Seabird SBE19 CTD:
Serial #: 3029

R/V AHI Lever Arm Distances and Alignment Offsets: The R/V

AHI Reference Point (RP) is defined to be the intersection of the vessel's centerline, the cabin deck and the bulkhead immediately aft of the transducer. This is marked by a punch in the deck weld at that location. Positive X means the point is forward of the RP, positive Y means the point is to starboard of the RP, positive Z means the point is below the RP. The loaded waterline is defined as the intersection of the vessel's performance wing with the hull at the transom.

POS/MV Settings:

RP to IMU, m	0.80	0.00	0.08
RP to Primary GPS(port),m	0.85	-0.50	-2.29
RP to Vessel, m	0.16	0.00	0.77
IMU w.r.t. Ref. Frame, deg	0.00	0.00	0.00
RP to Heave lever arm, m	-0.67	0.00	0.00
RP to Sensor 1(MB transducer), m	0.16	0.00	0.77
RP to Sensor 2	0	0	0
Sensor 1 rotation Ref. Frame, deg	0	0	0
Sensor 2 rotation Ref. Frame, deg	0	0	0

Antenna Baseline Distance: 1.229

ISS2000 Settings for RESON DTC:

Roll Bias, deg	0.15
Pitch Bias, deg	0.025
Gyro Bias, deg	0.0
Transducer depth, m	0.62

Time_Period_of_Content:

Time_Period_Information:

Range_of_Dates/Times:

Beginning_Date: 20060623

Ending_Date: 20060720

Currentness_Reference: ground condition

Status:

Progress: In Work

Maintenance_and_Update_Frequency: As needed

Spatial_Domain:

Bounding_Coordinates:

West_Bounding_Coordinate: -178.46

East_Bounding_Coordinate: -159

North_Bounding_Coordinate: 28.57

South_Bounding_Coordinate: 22

Keywords:

Theme:

Theme_Keyword_Thesaurus: CoRIS Discovery Thesaurus

Theme_Keyword: Geographic Information > Bathymetry

Theme:

Theme_Keyword_Thesaurus: ISO 19115 Topic Category

Theme_Keyword: elevation

Theme_Keyword: 006

Theme:

Theme_Keyword_Thesaurus: CoRIS Theme Thesaurus

Theme_Keyword: EARTH SCIENCE > Oceans > Bathymetry/Seafloor
Topography > Bathymetry
Theme:
Theme_Keyword_Thesaurus: None
Theme_Keyword: Bathymetry
Theme_Keyword: Multibeam sonar
Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Kure Atoll
Place_Keyword: Pearl and Hermes Atoll
Place_Keyword: Kauai Island
Place_Keyword: Northwestern Hawaiian Islands
Place_Keyword: Main Hawaiian Islands
Place_Keyword: Islands
Place:
Place_Keyword_Thesaurus: CoRIS Place Thesaurus
Place_Keyword: OCEAN BASIN > Pacific Ocean > Central
Pacific Ocean > Hawaiian Islands > Northwestern Hawaiian Islands
> Kure Atoll (28N178W0001)
Place_Keyword: COUNTRY/TERRITORY > United States of America
> Hawaii > Honolulu > Kure Atoll (28N178W0001)
Place_Keyword: OCEAN BASIN > Pacific Ocean > Central
Pacific Ocean > Hawaiian Islands > Northwestern Hawaiian Islands
> Pearl and Hermes Reef (27N176W0001)
Place_Keyword: COUNTRY/TERRITORY > United States of America
> Hawaii > Honolulu > Pearl and Hermes Reef (27N176W0001)
Place_Keyword: OCEAN BASIN > Pacific Ocean > Central
Pacific Ocean > Hawaiian Islands > Kauai Island > Kauai Island
(22N159W0001)
Place_Keyword: COUNTRY/TERRITORY > United States of America
> Hawaii > Hawaii > Kauai Island (22N159W0001)
Access_Constraints: None.
Use_Constraints: These data are NOT TO BE USED FOR NAVIGATION
Point_of_Contact:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Joyce E. Miller
Contact_Organization: Joint Institute for Marine and
Atmospheric Research/NOAA Coral Reef Ecosystem Division
Contact_Position: Oceanographer
Contact_Address:
Address_Type: mailing and physical address
Address: Kewalo Research Facility, 1125B Ala Moana Blvd
City: Honolulu
State_or_Province: Hawaii
Postal_Code: 96814
Country: USA
Contact_Voice_Telephone: (808) 592-8303
Contact_Facsimile_Telephone: (808) 592-7013
Contact_Electronic_Mail_Address: Joyce.Miller@noaa.gov
Data_Set_Credit: NOAA PIFSC CRED PIBHMC and JIMAR
Native_Data_Set_Environment:

Generic Sensor Format multibeam
data processed with SAIC SABER processing software on LINUX
operating system computers

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report:
Horizontal accuracy is ~20 m as
data were collected using GPS with no differential
corrections. Vertical accuracy of multibeam data is
estimated at 1% of water depth; predicted tidal corrections
were applied.

Logical_Consistency_Report:
These data are believed to be
logically consistent though no tests were performed

Completeness_Report: Varies

Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report: Variable
Quantitative_Horizontal_Positional_Accuracy_Assessment:
Horizontal_Positional_Accuracy_Value: 20
Horizontal_Positional_Accuracy_Explanation:
Multibeam
sonar data. No DGPS corrections applied; 20 m accuracy

Vertical_Positional_Accuracy:
Vertical_Positional_Accuracy_Report: Variable
Quantitative_Vertical_Positional_Accuracy_Assessment:
Vertical_Positional_Accuracy_Value: 1
Vertical_Positional_Accuracy_Explanation:
Accuracy
varies with water depth. Multibeam data vertical
accuracy is ~1% of water depth.

Lineage:
Source_Information:
Source_Citation:
Citation_Information:
Originator:
NOAA PIFSC CRED Pacific Islands
Benthic Habitat Mapping Center and JIMAR
Publication_Date: 20070115
Title: Reson 8101ER multibeam bathymetric data

Type_of_Source_Media: Digital data

Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2006
Source_Currentness_Reference: ground condition

Source_Citation_Abbreviation: Reson 8101ER

Source_Contribution:
Reson 8101ER (240 kHz) bathymetry and
imagery data were collected in depths of ~2-300 m.

Process_Step:
Process_Description: None

Process_Date: Unknown
Distribution_Information:
Distributor:
Contact_Information:
Contact_Person_Primary:
Contact_Person: Joyce E. Miller
Contact_Organization: Joint Institute for Marine and
Atmospheric Research/NOAA Coral Reef Ecosystem Division
Contact_Position: Oceanographer
Contact_Address:
Address_Type: mailing and physical address
Address: Kewalo Research Facility, 1125B Ala Moana Blvd
City: Honolulu
State_or_Province: Hawaii
Postal_Code: 96814
Country: USA
Contact_Voice_Telephone: (808) 592-8303
Contact_Facsimile_Telephone: (808) 592-7013
Contact_Electronic_Mail_Address: Joyce.Miller@noaa.gov
Resource_Description:
Reson 8101ER Multibeam Sonar Data from
Cruise AHI-06-09 (R/V AHI)
Distribution_Liability:
These data are not to be used for
navigational purposes. NOAA makes no warranty regarding these
data, expressed or implied, nor does the fact of distribution
constitute such a warranty. NOAA cannot assume liability for
any damages caused by any errors or omissions in these data,
nor as a result of the failure of these data to function on a
particular system.
Custom_Order_Process:
Please contact the Distributor (see above) for distribution
options

Data Format - Generic Sensor Format, as described in
http://www.ldeo.columbia.edu/res/pi/MB-System/formatdoc/gsf_spec.pdf

Metadata_Reference_Information:
Metadata_Date: 20090804
Metadata_Review_Date: 20090804
Metadata_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization: NOAA PIFSC CRED PIBHMC and JIMAR
Contact_Person: Emily Lundblad
Contact_Position: GIS Specialist
Contact_Address:
Address_Type: mailing and physical address
Address: 1680 East-West Road, POST Bldg, Rm 833
City: Honolulu
State_or_Province: Hawaii
Postal_Code: 96822

Country: USA
Contact_Voice_Telephone: (808) 956-2698
Contact_Facsimile_Telephone: (808) 956-6530
Contact_Electronic_Mail_Address: Emily.Lundblad@noaa.gov
Metadata_Standard_Name:
FGDC Content Standards for Digital
Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998
Metadata_Time_Convention: Universal Time

APPENDIX I

Tides and Water Levels

No tidal records were submitted with the survey deliverables

APPENDIX II

Supplemental Survey Records and Correspondence

No supplemental and correspondence records were
submitted with the survey deliverables

APPENDIX III

Feature Report

AWOIS: NONE

DtoNs: NONE

MARITIME BOUNDARY: NONE

WRECKS: NONE

APPROVAL PAGE

W00241

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 NGDC for archive

- W00241_DR.pdf
- Collection of depth varied resolution BAGS
- Processed survey data and records
- W00241_GeoImage.pdf

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

Approved: _____

LT Abigail Higgins
Chief, Atlantic Hydrographic Branch