Benthic Habitats of Florida Keys Derived From IKONOS satellite imagery

Metadata also available as - [Parseable text]

Metadata:

Identification_Information:
Citation:
Citation_Information:
Originator:
Miles Anderson, Analytical Laboratories of Hawaii and Richard Eastlake, Photo Science Inc.
Publication_Date: 2011
Title:
Benthic Habitats of Florida Keys Derived From IKONOS satellite imagery
Edition: version 1.1
Geospatial_Data_Presentation_Form: vector digital data
Publication_Information:
Publication_Place: Kailua, Hawaii and St. Petersburg, Florida
Publisher: Analytical Laboratories of Hawaii and Photo Science Inc.
Larger_Work_Citation:
Citation_Information:
Originator:
Department of Commerce (DOC), National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Centers for Coastal Ocean Science (NCCOS), Center for Coastal Monitoring and Assessment (CCMA), Biogeography Program
Publication_Date: 2011
Title:
Benthic Habitats of The Florida Keys prepared from IKONOS Satellite Imagery
Edition: version 1.1
Geospatial_Data_Presentation_Form: map

Publication_Information:
Publication_Place: Silver Spring, MD
Publisher:
NOAA's Ocean Service, National Centers for Coastal Ocean Science (NCCOS)
Description:
Abstract:
This seafloor habitat mapping project is a cooperative effort between the National Ocean Service, National Centers for Coastal Ocean Science, Center for Coastal Monitoring and Assessment, the Florida Keys National Marine Sanctuary, and Photo Science, Inc. as the prime contractor and Analytical Laboratories of Hawaii, Inc. as the sub-contractor. The purpose is to produce a benthic habitat map of portions of the Florida Keys. These mapping products are generated by visual interpretation and on-screen computerized delineation of features visible in georeferenced IKONOS color satellite imagery and color aerial photography. To learn more about the project, please visit: <http://ccma.nos.noaa.gov/ecosystems/coralreef/fl_mapping/>. A non-hierarchial benthic habitat classification scheme was used to characterize and classify the seafloor features visible in the satellite imagery and aerial photography. The scheme integrates geomorphologic reef structure and biological cover into a single scheme. The scheme also includes thirteen geomorphologic zones. To learn more about the classification scheme, please visit: <http://ccma.nos.noaa.gov/ecosystems/coralreef/benthic/>.
Purpose:
The National Ocean Service is digitally mapping biotic resources and coordinating a long-term monitoring program to evaluate the condition and detect change in U.S. coral reefs and their associated habitats and biological communities.
Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 2007
Ending_Date: 2012
Currentness_Reference: ground condition
Status:
Progress: Complete
Maintenance_and_Update_Frequency: None planned
Spatial_Domain:
Bounding_Coordinates:
West_Bounding_Coordinate: -83.171964
East_Bounding_Coordinate: -80.114873
North_Bounding_Coordinate: 25.626428
South_Bounding_Coordinate: 24.131283
Keywords:
Theme:
Theme_Keyword_Thesaurus: ISO 19115 Topic Category
Theme_Keyword: coral reef
Theme_Keyword: coralline algae
Theme_Keyword: habitat
Theme_Keyword: reef

Theme_Keyword: submerged
Theme_Keyword: aquatic vegetation
Theme_Keyword: unconsolidated sediments
Theme_Keyword: polygon
Theme_Keyword: zone
Theme_Keyword: structure
Theme_Keyword: cover
Theme:
Theme_Keyword_Thesaurus: CoRIS Discovery Thesaurus
Theme_Keyword: Map Images > Ikonos
Theme_Keyword: Mapping > Habitat mapping
Theme_Keyword:
EARTH SCIENCE > Biosphere > Zoology > Corals > Reef monitoring and assessment > Mapping > Habitat mapping
Theme_Keyword: Remote sensing > Satellite (digital scans) > IKONOS
Theme_Keyword:
EARTH SCIENCE > Biosphere > Zoology > Corals > Reef monitoring and assessment > Remote sensing > Satellite (digital scans) > IKONOS
Place:
Place_Keyword_Thesaurus: CoRIS Place Keyword Thesaurus
Place_Keyword: OCEAN BASIN > Gulf of Mexico > Florida
Place_Keyword: COUNTRY/TERRITORY > United States of America > Florida
Place:
Place_Keyword_Thesaurus: None
Place_Keyword: United States
Place_Keyword: south Florida
Place:
Place_Keyword_Thesaurus: None
Place_Keyword: Florida Keys
Place_Keyword: Florida
Place_Keyword: Hawk Channel
Access_Constraints: None
Use_Constraints: Not for navigation
Point_of_Contact:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Centers for Coastal Ocean Science (NCCOS), Center for Coastal Monitoring and Assessment (CCMA), Biogeography Program
Contact_Position: Biogeography Team Leader, Florida Keys Mapping Project Manager
Contact_Address:
Address_Type: mailing and physical address
Address: 1305 East West Highway
City: Silver Spring
State_or_Province: MD

Postal_Code: 20910
Contact_Voice_Telephone: 301-713-7283
Contact_Facsimile_Telephone: 301-713-0404
Contact_Electronic_Mail_Address: Steve.Rohmann@noaa.gov
Hours_of_Service: 0800 - 1700, Monday to Friday, EST
Native_Data_Set_Environment:
Microsoft Windows XP Version 5.1 (Build 2600) Service Pack 1; ESRI ArcCatalog 9.0.0.535

Data_Quality_Information:
Attribute_Accuracy:
Attribute_Accuracy_Report:
An assessment of thematic (habitat feature) accuracy of this map is underway and will be completed by 2013.
Logical_Consistency_Report:
All mapping was conducted from georeferenced IKONOS color satellite imagery provided by NOAA or orthorectified color aerial photography provided by Photo Science prior to map production. The IKONOS satellite imagery also was corrected for atmospheric and water column effects, color balanced, pan sharpened and, if needed, deglinted. During the digitizing process, image stretches and manipulation of image contrast, brightness and color balance was performed in the ArcView Image Analysis Extension to enhance features visible in the imagery. GIS topologic quality was established by executing ArcView extension routines that check for: overlapping polygons, multipart polygons, sliver polygons, void polygons and feature attribute check. Checks for adjacent polygons with the same habitat attributes also were completed. All errors were corrected. This file is believed to be logically consistent.
Completeness_Report:
NOAA supplied georeferenced with a horizontal positioning accuracy of <5m imagery to Analytical Laboratories of Hawaii and Photo Science. Delineation of all habitat boundaries was conducted with the zoom image scale at 1:6,000 or less. The minimum mapping unit (MMU) for identifying and delineating habitats or features was 4047 sq m for most features. For individual patch reefs, the MMU was 625 sq m. For land features, the MMU was 1000 sq m. The different MMU vaules wereused to allow habitat featuers of particular interest (e.g., individual patch reefs) to be captured.
Lineage:
Source_Information:
Source_Citation:
Citation_Information:
Originator: Steve Rohmann
Publication_Date: 2012
Title: Classification Scheme for Benthic Habitats of the Florida Keys
Geospatial_Data_Presentation_Form: document
Publication_Information:
Publication_Place: Silver Spring, MD
Publisher:
NOAA's Ocean Service, National Centers for Coastal Ocean Science (NCCOS)

Type_of_Source_Media: Report
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2012
Source_Currentness_Reference: publication date
Source_Citation_Abbreviation: Classification Scheme for Benthic Habitats of Florida
Source_Contribution:
This document identified the zone, structure and biological cover types attributed in the data set
Source_Information:
Source_Citation:
Citation_Information:
Originator: Ken Buja
Publication_Date: 2009
Title: Coral Reef Digitizing Extension
Publication_Information:
Publication_Place: Silver Spring, MD
Publisher:
NOAA's Ocean Service (NOS), National Centers for Coastal Ocean Science (NCCOS)
Online_Linkage: <http://biogeo.nos.noaa.gov/products/apps/digitizer/>
Type_of_Source_Media: computer program
Source_Time_Period_of_Content:
Time_Period_Information:
Single_Date/Time:
Calendar_Date: 2007
Source_Currentness_Reference: publication date
Source_Citation_Abbreviation: Habitat Digitizer
Source_Contribution:
This ArcView extension was used to digitize and attribute benthic zones, structure and biological cover of this map.
Source_Information:
Source_Citation:
Citation_Information:
Originator: GeoEye Inc.
Publication_Date: 2005-2007
Title: IKONOS Satellite Imagery
Geospatial_Data_Presentation_Form: remote-sensing image
Publication_Information:
Publication_Place: Dulles VA
Publisher: GeoEye Inc.
Other_Citation_Details:
The imagery was obtained at a 4 m pixel GSD resolution, corrected for water column and atmospheric effects, deglinted and Pan sharpened using 1 m panchromatic IKONOS imagery to one meter resolution.
Online_Linkage: www.geoeye.com

Type_of_Source_Media: Digital on external hard drive
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 2005
Ending_Date: 2007
Source_Currentness_Reference: ground condition
Source_Citation_Abbreviation: IKONOS color satellite imagery
Source_Contribution: Used to identify and digitize benthic habitats for Florida.
Source_Information:
Source_Citation:
Citation_Information:
Originator: Photo Science Inc.
Publication_Date: 2009-2010
Title: color aerial photography
Geospatial_Data_Presentation_Form: remote-sensing image
Publication_Information:
Publication_Place: St. Petersburg, FL
Publisher: GeoEye Inc.
Other_Citation_Details:
This imagery was obtained at a 0.6 m pixel GSD resolution and orthorectified to State of Florida Department of Revenue standards.
Online_Linkage:
Type_of_Source_Media: Digital on external hard drive
Source_Time_Period_of_Content:
Time_Period_Information:
Range_of_Dates/Times:
Beginning_Date: 2009
Ending_Date: 2010
Source_Currentness_Reference: ground condition
Source_Citation_Abbreviation: aerial photography
Source_Contribution: Used to identify and digitize benthic habitats for Florida.
Process_Step:
Process_Description:
Benthic habitat maps were digitized by delineating habitat boundaries from georeferenced orthorectified IKONOS satellite imagery or aerial photography loaded into ArcGIS software with the Image Analysis and NOAA Coral Reef Habitat Digitizing extensions activated. Digitizing was conducted using heads-up on computer screen methods with the image scale at 1:6,000 or less. The IKONOS imagery was processed by NOAA prior to map production. The satellite imagery was corrected for atmospheric and water column effects, pan sharpened and deglinted. The color aerial photography was orthorectified. During the digitizing process, images were stretched and contrast, brightness and color balance was modified using the Image Analysis Extension to enhance features in the processed imagery. The overall map production plan includes a first draft map completed with features in the imagery where uncertainties existed due to confusing or difficult to interpret spectral and spatial signatures in the imagery. The

confusing habitat features were identified for future ground validation effort. A GIS point theme was generated with points positioned on the features of uncertain habitat type or along transects though gradients between habitat types. The GIS points are converted to GPS waypoints using Trimble Pathfinder Software and are navigated to in the field using a Trimble GeoExplorer 3 GPS data logger. A benthic habitat ground validation characterization was conducted at each site using either a tethered video camera, snorkeling, free diving, or where water depth and clarity permitted, by observation from the surface using a look box. GPS data were collected at each location and site ID, depth, habitat type, zone and the method used to make the assessment was recorded. A second draft of the map was generated incorporating these ground validation data. The map produced using the gropundvalidation information as input was designated the fist draft habitat map. The first draft habitat map was tested to ensure its' topologic correctness and adherence to NOAA standards.
Process_Date: 2012
Process_Step:
Process_Description: Metadata imported.
Source_Used_Citation_Abbreviation:
\\SELLERS\Administration\Groups\GIS\gis_data_mgt_team\forSDE\NOAA_habitat_map_metadata.xml
Process_Date: 20120302
Process_Time: 10201600
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:
RMS from digitized output was determined using the ESRI RMEer2 extension and shown to be < 5 m when conducted at 1:6000 scale.
Positional_Accuracy:
Horizontal_Positional_Accuracy:
Horizontal_Positional_Accuracy_Report:
RMS from digitized output was determined using the ESRI RMEer2 extension and shown to be < 5 m when conducted at 1:6000 scale.

Spatial_Data_Organization_Information:
Direct_Spatial_Reference_Method: Vector
Point_and_Vector_Object_Information:
SDTS_Terms_Description:
SDTS_Point_and_Vector_Object_Type: G-polygon
Point_and_Vector_Object_Count: 10835

Spatial_Reference_Information:
Horizontal_Coordinate_System_Definition:
Planar:
Grid_Coordinate_System:
Grid_Coordinate_System_Name: Universal Transverse Mercator
Universal_Transverse_Mercator:
UTM_Zone_Number: 17N
Transverse_Mercator:

Scale_Factor_at_Central_Meridian: 0.999600
Longitude_of_Central_Meridian: -81.000000
Latitude_of_Projection_Origin: 0.000000
False_Easting: 500000.000000
False_Northing: 0.000000
Planar_Coordinate_Information:
Planar_Coordinate_Encoding_Method: coordinate pair
Coordinate_Representation:
Abscissa_Resolution: 0.000032
Ordinate_Resolution: 0.000032
Planar_Distance_Units: meters
Geodetic_Model:
Horizontal_Datum_Name: North American Datum of 1983
Ellipsoid_Name: Geodetic Reference System 80
Semi-major_Axis: 6378137.000000
Denominator_of_Flattening_Ratio: 298.257222

Entity_and_Attribute_Information:
Detailed_Description:
Entity_Type:
Entity_Type_Label: Keys_Coral.mdb
Entity_Type_Definition: personal geodatabase
Entity_Type_Definition_Source: None
Attribute:
Attribute_Label: Shape
Attribute_Definition: Feature geometry
Attribute_Definition_Source: ESRI
Attribute_Domain_Values:
Unrepresentable_Domain: Coordinates defining the features
Attribute:
Attribute_Label: ZONE_
Attribute_Definition:
Geomorphologic zone. Values include: Back Reef, Bank/Shelf, Bank/Shelf Escarpment, Channel, Dredged, Fore Reef, Lagoon, Land, Reef Crest, Ridges and Swales, Salt Pond, Shoreline Intertidal, Unknown
Attribute_Definition_Source: non-hierarchical classification scheme
Attribute_Domain_Values:
Unrepresentable_Domain: Assigned during digitizing character field
Attribute:
Attribute_Label: MAJ_STRUCT
Attribute_Definition:
Major reef structure. Values include: Coral Reef and Hard Bottom, Other Delineations, Unconsolidated Sediment, Unknown
Attribute_Definition_Source: non-hierarchical classification scheme
Attribute_Domain_Values:
Unrepresentable_Domain: Assigned during digitizing character field

Attribute:
Attribute_Label: DET_STRUCT
Attribute_Definition:
Detailed structure. Values include: Aggregate Reef, Aggregated Patch Reefs, Artificial, Individual Patch Reef, Land, Mud, Pavement, Pavement with Sand Channels, Reef Rubble, Sand, Sand with Scattered Coral and Rock, Scattered Coral, Spur and Groove, Unknown
Attribute_Definition_Source: non-hierarchical classification scheme
Attribute_Domain_Values:
Unrepresentable_Domain: Assigned during digitizing character field
Attribute:
Attribute_Label: MAJ_COV
Attribute_Definition:
Major biological cover. Values include: Algae, Emergent Vegetation, Live Coral, Mangrove, No Cover, Seagrass, Unclassified, Unknown
Attribute_Definition_Source: non-hierarchical classification scheme
Attribute_Domain_Values:
Unrepresentable_Domain: Assigned during digitizing
Attribute:
Attribute_Label: P_MAJ_COV
Attribute_Definition:
Percent biological cover of major cover type. Values include: 10%-50%, 50%-90%, 90%-100%, N/A, Unknown
Attribute_Definition_Source: non-hierarchical classification scheme
Attribute_Domain_Values:
Unrepresentable_Domain: Assigned during digitizing character field
Attribute:
Attribute_Label: P_CORAL_CV
Attribute_Definition:
Percent coral cover. Values include: 0%-10%, 10%-50%, N/A, Unknown
Attribute_Definition_Source: non-hierarchical classification scheme
Attribute_Domain_Values:
Unrepresentable_Domain: Assigned during digitizing character field
Attribute:
Attribute_Label: SHAPE_Length
Attribute_Definition: Length of feature line in meters
Attribute_Definition_Source: ArcView script
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 45.904215
Range_Domain_Maximum: 1475425.562968
Attribute_Units_of_Measure: meters
Attribute:
Attribute_Label: SHAPE_Area
Attribute_Definition: Area of habitat polygon in square meters
Attribute_Definition_Source: ArcView script

Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 117.542227
Range_Domain_Maximum: 414862872.121858
Attribute_Units_of_Measure: square meters
Attribute:
Attribute_Label: ACRES
Attribute_Definition: Area of habitat polygon in acres
Attribute_Definition_Source: ArcView script
Attribute_Domain_Values:
Range_Domain:
Range_Domain_Minimum: 0.029045
Range_Domain_Maximum: 102512.640625
Attribute_Units_of_Measure: acres

Distribution_Information:
Distributor:
Contact_Information:
Contact_Organization_Primary:
Contact_Organization:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Centers for Coastal Ocean Science (NCCOS), Center for Coastal Monitoring and Assessment (CCMA), Biogeography Program
Contact_Position: Florida Keys Mapping Project Manager
Contact_Address:
Address_Type: mailing and physical address
Address: 1305 East West Highway
City: Silver Spring
State_or_Province: MD
Postal_Code: 20910
Contact_Voice_Telephone: 301-713-7283
Contact_Facsimile_Telephone: 301-713-0404
Contact_Electronic_Mail_Address: Steve.Rohmann@noaa.gov
Hours_of_Service: 0800 - 1700, Monday to Friday, EST
Resource_Description: Downloadable Data
Distribution_Liability:
The National Oceanic and Atmospheric Administration (NOAA), National Ocean Service, National Centers for Coastal Ocean Science (NCCOS) produced these data. NCCOS Biogeography Program does not guarantee the accuracy of the geographic features or attributes. Please see the metadata records for each data set for complete information on the source, limitations, and proper use.
Custom_Order_Process: Contact NOAA for distribution options (see Distributor).

Metadata_Reference_Information:
Metadata_Date: 20120302
Metadata_Contact:

Contact_Information:
Contact_Organization_Primary:
Contact_Organization:
National Oceanic and Atmospheric Administration (NOAA), National Ocean Service (NOS), National Centers for Coastal Ocean Science (NCCOS), Center for Coastal Monitoring and Assessment (CCMA), Biogeography Program
Contact_Position: Florida Keys Mapping Project Manager
Contact_Address:
Address_Type: mailing and physical address
Address: 1305 East West Highway
City: Silver Spring
State_or_Province: MD
Postal_Code: 20910
Contact_Voice_Telephone: 301-713-7283
Contact_Facsimile_Telephone: 301-713-0404
Contact_Electronic_Mail_Address: Steve.Rohmann@noaa.gov
Hours_of_Service: 0800 - 1700, Monday to Friday, EST
Metadata_Standard_Name: FGDC Content Standards for Digital Geospatial Metadata
Metadata_Standard_Version: FGDC-STD-001-1998
Metadata_Time_Convention: local time
Metadata_Extensions:
Online_Linkage: <http://www.esri.com/metadata/esriprof80.html>
Profile_Name: ESRI Metadata Profile

Lineage:

Generated by mp version 2.9.3 on Tue May 21 10:12:35 2013