

View Metadata As: [Get Data](#), [FAQ](#), [HTML](#), [19139 XML](#)

Assess Metadata For: [Completeness](#), [DOI Readiness](#), [CSW Readiness](#), [Components](#)

[spatialRepresentationInfo](#)
[referenceSystemInfo](#)
[referenceSystemInfo](#)
[identificationInfo](#)
[distributionInfo](#)
[dataQualityInfo](#)
[metadataMaintenance](#)

2013 NOAA Coastal California TopoBathy Merge Project

(MI_Metadata)

fileIdentifier: gov.noaa.csc.maps:2013_CA_TopoBathy_m2612
language: eng; USA
characterSet: (MD_CharacterSetCode) utf8
hierarchyLevel: (MD_ScopeCode) dataset
contact: (CI_ResponsibleParty)
 individualName: Mike Sutherland
 organisationName: DOC/NOAA/NESDIS/NGDC > National Geophysical Data Center, NESDIS, NOAA, U.S. Department of Commerce
 contactInfo: (CI_Contact)
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 deliveryPoint: NOAA/NESDIS/NGDC E/GC1 325 Broadway
 city: Boulder
 administrativeArea: CO
 postalCode: 80305-3328
 country: USA
 electronicMailAddress: mike.sutherland@noaa.gov
 hoursOfService: 7:30am-5:00pm Mountain
 role: (CI_RoleCode) author
dateStamp: 2014-02-24
metadataStandardName: ISO 19115-2 Geographic Information - Metadata - Part 2: Extensions for Imagery and Gridded Data
metadataStandardVersion: ISO 19115-2:2009(E)

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spatialRepresentationInfo: (MD_VectorSpatialRepresentation)
geometricObjects: (MD_GeometricObjects)
geometricObjectType: (MD_GeometricObjectTypeCode) point

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referenceSystemInfo: (MD_ReferenceSystem)
referenceSystemIdentifier: (RS_Identifier)
authority: (CI_Citation)
 title: North American Datum 1983
 alternateTitle: NAD83
 date: (CI_Date)
 date: 2007-01-19
 dateType: (CI_DateTypeCode) revision
citedResponsibleParty: (CI_ResponsibleParty)
 organisationName:
 contactInfo: (CI_Contact)
 onlineResource: (CI_OnlineResource)
 linkage: <http://www.epsg-registry.org/export.htm?gml=urn:ogc:def:crs:EPSG::4269>
 name: NAD83

description: Link to Geographic Markup Language (GML) description of reference system.

function: (CI_OnLineFunctionCode) information

role: (CI_RoleCode) resourceProvider

citedResponsibleParty: (CI_ResponsibleParty)

organisationName: European Petroleum Survey Group

contactInfo: (CI_Contact)

onlineResource: (CI_OnlineResource)

linkage: <http://www.epsg-registry.org/>

name: European Petroleum Survey Group Geodetic Parameter Registry

description: Registry that accesses the EPSG Geodetic Parameter Dataset, which is a structured dataset of Coordinate Reference Systems and Coordinate Transformations.

function: (CI_OnLineFunctionCode) search

role: (CI_RoleCode) publisher

code: urn:ogc:def:crs:EPSG::4269

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referenceSystemInfo: (MD_ReferenceSystem)

referenceSystemIdentifier: (RS_Identifier)

code: Ellipsoid in Meters

codeSpace: Local Vertical Reference

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identificationInfo: (MD_DataIdentification)

citation: (CI_Citation)

title: 2013 NOAA Coastal California TopoBathy Merge Project

date: (CI_Date)

date: 2014-02-01

dateType: (CI_DateTypeCode) publication

citedResponsibleParty: (CI_ResponsibleParty)

organisationName: DOC/NOAA/NOS/OCM > Office for Coastal Management, National Ocean Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce

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deliveryPoint: 2234 South Hobson Ave.

city: Charleston

administrativeArea: SC

postalCode: 29405-2413

electronicMailAddress: coastal.info@noaa.gov

onlineResource: (CI_OnlineResource)

linkage: <http://coast.noaa.gov>

role: (CI_RoleCode) originator

citedResponsibleParty: (CI_ResponsibleParty)

organisationName: DOC/NOAA/NOS/OCM > Office for Coastal Management, National Ocean Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce

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city: Charleston

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postalCode: 29405-2413

electronicMailAddress: coastal.info@noaa.gov

onlineResource: (CI_OnlineResource)

linkage: <http://coast.noaa.gov>

role: (CI_RoleCode) publisher

presentationForm: (CI_PresentationFormCode) imageDigital

abstract: This project merged recently collected topographic, bathymetric, and acoustic elevation data along the entire California coastline from approximately the 10 meter elevation contour out to California's 3 mile state water's boundary. Topographic LiDAR: The topographic lidar data used in this merged project was the 2009-2011 CA Coastal Conservancy Lidar Project. The data were collected between October 2009 and August 2011. This collection was a joint effort by the NOAA Coastal Services Center (CSC); the California State Coastal Conservancy (SCC) Ocean Protection Council (OPC); Scripps Institution of Oceanography; and the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX). The data coverage extends landward 500 m from the shoreline, along the entire California coastline. The LAS classifications are as follows: 1-Unclassified, 2-Ground, 7-Noise, 9-Water, 10- Mudflats, 12-Overlap. The LAS points were manually re-classified from water and unclassified to ground in offshore areas where necessary. Bathymetric LiDAR: The bathymetric lidar data used in this merged project was 2009-2010 U.S. Army Corps of Engineers (USACE) Joint Airborne Lidar Bathymetry Center of Expertise (JALBTCX) lidar, provided by JALBTCX. The data were collected for the California Coastal Mapping Project (CCMP). The original data were in ASCII format and were converted to LAS v1.2. The LAS data were classified as follows: 21-Non-submerged Bathymetry, 22-Bathymetry, 23-Ignored

Submerged Bathymetry/Overlap.Multibeam Acoustic Data: The acoustic data data used in this merged project were provided by the California Seafloor Mapping Program (CSMP) Ocean Protection Council and NOAA's National Geophysical Data Center (NGDC). The original data were in ASCII format and were converted to LAS v1.2. NOAA's VDatum software was used to vertically transform soundings from mean lower low water (MLLW) tidal datum to NAVD88 orthometric datum where necessary. The LAS data were classified as follows: 25-Submerged Acoustic, 26-Ignored Submerged Acoustic/Overlap. Upon receipt of the data, the NOAA Coastal Services Center (CSC) converted some of the classifications for data storage and Digital Coast provisioning purposes. The following are the classifications of data available from the NOAA Digital Coast: 1 - Unclassified, 2 - Ground, 7 - Low point (noise), 9 - Water, 11 - Bathymetry, 12 - Overlap, 13 - Submerged Acoustic, 14 - Non-Submerged Bathymetry, 15 - Ignored Submerged Bathymetry/Overlap, 16 - Ignored Submerged Acoustic/Overlap

purpose: The primary purpose is to merge recently collected topographic, bathymetric, and acoustic data along the entire California coastline from approximately the 10 meter elevation contour out to California's 3 mile state water's boundary. The result of this merge is a high resolution point data set containing the best available topographic LiDAR, bathymetric LiDAR, and multibeam acoustic data from various primary data sources.

status: (MD_ProgressCode) completed

pointOfContact: (CI_ResponsibleParty)

organisationName: DOC/NOAA/NOS/OCM > Office for Coastal Management, National Ocean Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce

contactInfo: (CI_Contact)

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deliveryPoint: 2234 South Hobson Ave.

city: Charleston

administrativeArea: SC

postalCode: 29405-2413

electronicMailAddress: coastal.info@noaa.gov

onlineResource: (CI_OnlineResource)

linkage: <http://coast.noaa.gov>

role: (CI_RoleCode) pointOfContact

resourceMaintenance: (MD_MaintenanceInformation)

maintenanceAndUpdateFrequency: (MD_MaintenanceFrequencyCode) asNeeded

graphicOverview: (MD_BrowseGraphic)

fileName: http://csc.noaa.gov/htdata/lidar1_z/geoid12a/data/2612/supplemental/ca2013_noaa_topobathy_merge_m2612.kmz

fileDescription: This kmz file shows the extent of coverage for the 2013 NOAA California Coastal TopoBathy Merge Project lidar data set.

fileType: kmz

descriptiveKeywords: (MD_Keywords)

keyword: Bathymetry/Topography

keyword: LiDAR

keyword: Elevation

keyword: LAS

keyword: DEM

keyword: Topographic

keyword: Bathymetric

keyword: Acoustic

keyword: Multibeam

keyword: Best Fit

keyword: Merge

keyword: Interpolated Voids

keyword: Smoothed

type: (MD_KeywordTypeCode) theme

thesaurusName: (CI_Citation)

title: None

date:

descriptiveKeywords: (MD_Keywords)

keyword: United States

keyword: California

keyword: Del Norte County

keyword: Humboldt County

keyword: Marin County

keyword: Mendocino County

keyword: Monterey County

keyword: San Francisco County

keyword: San Luis Obispo County

keyword: San Mateo County

keyword: Santa Barbara County

keyword: Santa Cruz County

keyword: Sonoma County

keyword: Ventura County

keyword: Los Angeles County

keyword: Orange County

keyword: San Diego County

type: (MD_KeywordTypeCode) place

thesaurusName: (CI_Citation)

title: None

date:

resourceConstraints: (MD_Constraints)

useLimitation: These data depict the elevations at the time of the survey and are only accurate for that time. Users should be aware that temporal changes may have occurred since this data set was collected and some parts of this data may no longer represent actual surface conditions. Users should not use this data for critical applications without a full awareness of its limitations. Any conclusions drawn from analysis of this information are not the responsibility of NOAA or any of its partners. These data are NOT to be used for navigational purposes.

resourceConstraints: (MD_LegalConstraints)

useLimitation: While every effort has been made to ensure that these data are accurate and reliable within the limits of the current state of the art, NOAA cannot assume liability for any damages caused by any errors or omissions in the data, nor as a result of the failure of the data to function on a particular system. NOAA makes no warranty, expressed or implied, nor does the fact of distribution constitute such a warranty.

aggregationInfo: (MD_AggregateInformation)

aggregateDataSetName: (CI_Citation)

title: Project Report

date:

citedResponsibleParty: (CI_ResponsibleParty)

positionName: Citation URL

contactInfo: (CI_Contact)

onlineResource: (CI_OnlineResource)

linkage: http://csc.noaa.gov/htdata/lidar1_z/geoid12a/data/2612/supplemental/ca2013_noaa_topobathy_merge_m2612_final_report.pdf

name: Lidar Report

description:

function: (CI_OnLineFunctionCode) information

role:

associationType: (DS_AssociationTypeCode) crossReference

spatialRepresentationType: (MD_SpatialRepresentationTypeCode) vector

language: eng; USA

topicCategory: (MD_TopicCategoryCode) elevation

extent: (EX_Extent)

geographicElement: (EX_GeographicBoundingBox)

westBoundLongitude: -124.535124

eastBoundLongitude: -117.047904

southBoundLatitude: 32.525255

northBoundLatitude: 42.012734

temporalElement: (EX_TemporalExtent)

extent:

TimeInstant:

timePosition: 2013-10-30

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distributionInfo: (MD_Distribution)

distributionFormat: (MD_Format)

name: LAZ

version:

distributor: (MD_Distributor)

distributorContact: (CI_ResponsibleParty)

organisationName: DOC/NOAA/NOS/OCM > Office for Coastal Management, National Ocean Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce

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postalCode: 29405-2413

electronicMailAddress: coastal.info@noaa.gov

onlineResource: (CI_OnlineResource)

linkage: <http://coast.noaa.gov>

role: (CI_RoleCode) distributor

distributionOrderProcess: (MD_StandardOrderProcess)

orderingInstructions: The National Geophysical Data Center serves as the archive for this LIDAR data. NGDC should only be contacted for this data if it cannot be obtained from NOAA Coastal Services Center.

distributor: (MD_Distributor)

distributorContact: (CI_ResponsibleParty)

individualName: Mike Sutherland

organisationName: DOC/NOAA/NESDIS/NGDC > National Geophysical Data Center, NESDIS, NOAA, U.S. Department of Commerce

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facsimile: 303-497-6513
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city: Boulder
administrativeArea: CO
postalCode: 80305-3328
country: USA
electronicMailAddress: mike.sutherland@noaa.gov
hoursOfService: 7:30am-5:00pm Mountain
role: (CI_RoleCode) distributor

distributionOrderProcess: (MD_StandardOrderProcess)

orderingInstructions: The National Geophysical Data Center serves as the archive for this LIDAR dataset. NGDC should only be contacted for the data if it cannot be obtained from NOAA Coastal Services Center.

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dataQualityInfo: (DQ_DataQuality)

scope: (DQ_Scope)

level: (MD_ScopeCode) dataset

report: (DQ_AbsoluteExternalPositionalAccuracy)

nameOfMeasure: Horizontal Positional Accuracy Report

evaluationMethodDescription: Dewberry does not perform independent horizontal accuracy testing on the LiDAR. LiDAR vendors perform calibrations on the LiDAR sensor. LiDAR sources used for this project were existing. Horizontal accuracy testing was not performed. Industry standard calibration procedures used for topographic LiDAR sensors would yield 1 meter horizontal accuracy at the 95% confidence level. For the bathymetric data, the data positions were obtained using post processed KGPS methods. The horizontal accuracy of the data is better than +/- 1.5m RMSE. As multiple acoustic datasets from multiple sources were used, the horizontal accuracy varies.

result:

report: (DQ_AbsoluteExternalPositionalAccuracy)

nameOfMeasure: Vertical Positional Accuracy Report

evaluationMethodDescription: The vertical accuracy of the LiDAR was not tested by Dewberry. LiDAR sources used for this project were existing. Vertical accuracy testing was not performed by Dewberry. Vertical accuracy of the topographic data is reported at 4.8cm RMSE. JALBTCX bathymetric data is reported at 15cm RMSE. As multiple multibeam acoustic datasets from multiple sources were used, the vertical accuracy varies.

result:

report: (DQ_CompletenessCommission)

evaluationMethodDescription: A visual qualitative assessment was performed to ensure data completeness.

result:

report: (DQ_ConceptualConsistency)

measureDescription: Covers data found in Universal Transverse Mercator (UTM) Zones 10 and 11 in California.

result:

lineage: (LI_Lineage)

processStep: (LE_ProcessStep)

description: All data were imported into GeoCue software, converted to LAS v1.2, and transformed, if necessary, to UTM coordinate system, zone 10 North, meters, horizontal datum NAD83 (NSRS2007), vertical datum NAVD88, Geoid 09, meters. Each data type (topographic, bathymetric, and acoustic) were then tiled individually according to project specifications (1500m x 1500m). Data for the NOAA Coastal California Data Merge Project were provided by various sources. Topographic data were provided by NOAA in LAS format, collected for the California Coastal Mapping Project (CCMP). The topographic data were provided with the following classifications: Class 1 = Unclassified (This class includes vegetation, buildings, noise etc.), Class 2 = Ground, Class 7 = Noise, Class 9 = Water, Class 10 = Mudflats, Class 12 = Overlap. Bathymetric data were provided by Joint Airborne Bathymetry LiDAR Technical Center of Expertise (JALBTCX) in ASCII format, collected for the National Coastal Mapping Program (NCMP) in 2009. Initial bathymetric data were classified in GeoCue to Class 22 = Submerged bathymetry. Multibeam acoustic data were downloaded from the California Seafloor Mapping Program: Ocean Protection Council (CSMP) (<http://seafloor.csu.edu/SFMLwebDATA.htm>), and from NOAA's NGDC (<http://maps.ngdc.noaa.gov/viewers/bathymetry/>) in ASCII formats, or from USGS open file reports where available. NOAA's VDatum software (version 2.3.5) was used to vertically transform soundings from mean lower low water (MLLW) tidal datum to NAVD88 orthometric datum where necessary.

dateTime:

dateTime: 2012-12-14T00:00:00

processor: (CI_ResponsibleParty)

individualName: Josh Novac

organisationName: Dewberry - Geospatial Services Group

positionName: Project Manager

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country: USA

electronicMailAddress: jnovac@dewberry.com

role: (CI_RoleCode) processor

processStep: (LE_ProcessStep)

description: Reclassification of Topographic data: Reclassification of offshore islands and pinnacles was a critical component to the success of

the final merged product. Tiles within 100m of the coastal shoreline were selected for review and manual classification. Each tile was brought into TerraScan and a temporary surface model was created from the topographic ground points (class 2). Using aerial imagery as a guide, the coastline was examined for any exposed islands that may be incorrectly classified as water in the LAS. Once located, points were reclassified from water (class 9) to ground (class 2) or from unclassified (class 1) to ground. Date for this process step is 20130201-20130412.

dateTime:

DateTime: 2013-04-12T00:00:00

processor: (CI_ResponsibleParty)

individualName: Josh Novac

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electronicMailAddress: jnovac@dewberry.com

role: (CI_RoleCode) processor

processStep: (LE_ProcessStep)

description: Topographic-Bathymetric Seamline:All breaklines provided by NOAA were merged into a single polygon feature class. This became the foundation of the initial seamline. Areas containing both topographic and bathymetric data along the coastline were reviewed on a tile-by-tile basis using difference rasters. Because the topographic data had better horizontal resolution and vertical accuracy than the bathymetric data, it generally took priority over bathymetric data in overlap areas. However, a smoother transition between the topographic and bathymetric LiDAR datasets may be achieved by modifying the extent of the topographic data in favor of the bathymetric data. In these cases, the breakline was adjusted accordingly. The final polygon feature class was used for reclassification of LAS points in TerraScan. The polygon was converted to a polyline in Arc and clipped to the extent of the coastal shoreline. This final polyline was used as basis for the creation of the DEM smoothing buffers. Date for this process step is 20130222-20130510.

dateTime:

DateTime: 2013-05-10T00:00:00

processor: (CI_ResponsibleParty)

individualName: Josh Novac

organisationName: Dewberry - Geospatial Services Group

positionName: Project Manager

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country: USA

electronicMailAddress: jnovac@dewberry.com

role: (CI_RoleCode) processor

processStep: (LE_ProcessStep)

description: Acoustic-Acoustic Seamline (Production Block 2b):In surveys with multiple resolutions, the best available resolution data was prioritized and reclassified using TerraScan software. A best fit line was not produced. Between surveys, a best fit line was generated by creating difference rasters and manually digitizing a new boundary.

dateTime:

DateTime: 2013-02-19T00:00:00

processor: (CI_ResponsibleParty)

individualName: Josh Novac

organisationName: Dewberry - Geospatial Services Group

positionName: Project Manager

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electronicMailAddress: jnovac@dewberry.com

role: (CI_RoleCode) processor

processStep: (LE_ProcessStep)

description: Acoustic-Acoustic Seamline (Production Blocks 3 and 4):In bathymetric attributed grid (BAG) surveys with multiple resolutions, the best available resolution data was prioritized and reclassified using TerraScan software. A best fit line was not produced. Between unique surveys, a best fit line was generated by creating difference rasters and manually digitizing a new boundary along areas with minimal offset. Date for this process setp

20130501-20130621.

dateTime:

DateTime: 2013-06-21T00:00:00

processor: (CI_ResponsibleParty)

individualName: Rich McClellan

organisationName: Fugro Earthdata

positionName: Project Manager

contactInfo: (CI_Contact)

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administrativeArea: MD

postalCode: 21704

country: USA

electronicMailAddress: rmcclellan@fugro.com

role: (CI_RoleCode) processor

processStep: (LE_ProcessStep)

description: Bathymetric-Acoustic Seamline (Production Block 2b): The bathymetric-acoustic seamline was generated using the same methodology as the acoustic overlap seamline. The final polyline was used as basis for the creation of the DEM smoothing buffers.

dateTime:

DateTime: 2013-02-27T00:00:00

processor: (CI_ResponsibleParty)

individualName: Josh Novac

organisationName: Dewberry - Geospatial Services Group

positionName: Project Manager

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country: USA

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role: (CI_RoleCode) processor

processStep: (LE_ProcessStep)

description: Bathymetric-Acoustic Seamline (Production Blocks 3 and 4):The bathymetric-acoustic seamline was generated using the same methodology as the acoustic overlap seamline, using difference rasters and manually digitizing seamlines with minimal offset. The final polyline was used as basis for the creation of the DEM smoothing buffers. The date for this process step is 20130501-20130621.

dateTime:

DateTime: 2013-06-21T00:00:00

processor: (CI_ResponsibleParty)

individualName: Rich McClellan

organisationName: Fugro Earthdata

positionName: Project Manager

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administrativeArea: MD

postalCode: 21704

country: USA

electronicMailAddress: rmcclellan@fugro.com

role: (CI_RoleCode) processor

processStep: (LE_ProcessStep)

description: Reclassification of Bathymetric data:In areas of overlap where topographic data were given priority over bathymetric data, overlapping bathymetric points were moved to class 21(non-submerged bathymetry). This was performed in TerraScan using the final seamline polygon. A minimum of three (3) data points within a 15m eter radius is required for inclusion in the DEM. An extent polygon is needed to accomplish this task. Topographic ground points (class 2) and bathymetric points (class 22) were converted to a masspoint feature class in Arc. The masspoints were used as the input in the Aggregate Points tool in Arc with a set distance of 15m. After the final extent polygons were generated, class 22 bathymetric points not within these polygons were moved to class 23 in TerraScan. Points outside the extent polygon remained in class 21/22. Finally, to remove above-ground artifacts from the bathymetric data, all class 22 points with elevations above +1m were reassigned to class 21 using an automated process in TerraScan. This removed docks, piers, bridges, and other miscellaneous artifacts from the point cloud. Bathymetric data between 0-1m elevation were left in class 22 to avoid classifying out too many data points in the nearshore areas. Bathymetric elevations between 0-1m were evaluated on a tile-by-tile basis and moved to class

21 if necessary. The date for this process step is 20130304-20130517.

dateTime:

DateTime: 2013-05-17T00:00:00

processor: (CI_ResponsibleParty)

individualName: Josh Novac

organisationName: Dewberry - Geospatial Services Group

positionName: Project Manager

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city: Tampa

administrativeArea: FL

postalCode: 33602

country: USA

electronicMailAddress: jnovac@dewberry.com

role: (CI_RoleCode) processor

processStep: (LE_ProcessStep)

description: Reclassification of Acoustic data (Production Block 2b):Each area of the acoustic data was reclassified from the temporary class codes to the final class 25 (submerged multibeam acoustic) and class 26 (acoustic overlap) designations using the polygons generated from the acoustic-acoustic seamline boundaries. Best resolution data was prioritized in multi-resolution surveys. Best fit seamline was used between surveys.

dateTime:

DateTime: 2013-03-06T00:00:00

processor: (CI_ResponsibleParty)

individualName: Josh Novac

organisationName: Dewberry - Geospatial Services Group

positionName: Project Manager

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address: (CI_Address)

deliveryPoint: 1000 N. Ashley Drive, Suite 801

city: Tampa

administrativeArea: FL

postalCode: 33602

country: USA

electronicMailAddress: jnovac@dewberry.com

role: (CI_RoleCode) processor

processStep: (LE_ProcessStep)

description: Reclassification of Acoustic data (Production Blocks 3 and 4):Each area of the acoustic data was reclassified from the temporary class codes to the final class 25 (submerged multibeam acoustic) and class 26 (acoustic overlap) designations. Voids in high resolution acoustic BAG data were filled with available lower resolution BAG data for each acoustic data set. This is an automated process using Fugro proprietary software specially developed for this project. This process results in a merged LAS point cloud for each survey location utilizing the best resolution BAG data. The ignored points were classified as class 26. The same filling process was used in case of NCCMP data for survey locations where data of various acquisition dates were available within a survey. Priority was given to data collected in 2010, following by 2008 and older datasets. Surface subtraction images were generated and utilized to digitize best fit line between overlapping acoustic project data sets. Overlapping acoustic datasets were reclassified and merged based on the best fit line using LAS mosaic software developed by Fugro. The merged point cloud data for each acoustic project was tiled to the project required tiling scheme. The date for this process step is 20130501-20130621.

dateTime:

DateTime: 2013-06-21T00:00:00

processor: (CI_ResponsibleParty)

individualName: Rich McClellan

organisationName: Fugro Earthdata

positionName: Project Manager

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address: (CI_Address)

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city: Frederick

administrativeArea: MD

postalCode: 21704

country: USA

electronicMailAddress: rmcclellan@fugro.com

role: (CI_RoleCode) processor

processStep: (LE_ProcessStep)

description: Reclassification of Bathymetric data (Production Block 2b):In overlapping areas between acoustic and bathymetric datasets, priority was given to the acoustic dataset due to more efficient coverage and higher resolution where available. With exception of two instances where best fit line was used, the bathymetric-acoustic seamline was represented by geographic extent of class 25. The bathymetric data within this extent was reclassified to

class 23.

dateTime:

DateTime: 2013-03-06T00:00:00

processor: (CI_ResponsibleParty)

individualName: Josh Novac

organisationName: Dewberry - Geospatial Services Group

positionName: Project Manager

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postalCode: 33602

country: USA

electronicMailAddress: jnovac@dewberry.com

role: (CI_RoleCode) processor

processStep: (LE_ProcessStep)

description: Reclassification of Bathymetric data (Production Blocks 3 and 4): In overlapping areas between acoustic and bathymetric datasets, priority was given to the acoustic dataset due to more efficient coverage and higher resolution where available. With exception of two instances where best fit line was used, the bathymetric-acoustic seamline was represented by geographic extent of class 25. The bathymetric data within this extent was reclassified to class 23. Acoustic point cloud and bathymetric lidar data were merged using TSCAN project. The date for this process step is 20130501-20130621.

dateTime:

DateTime: 2013-06-21T00:00:00

processor: (CI_ResponsibleParty)

individualName: Rich McClellan

organisationName: Fugro Earthdata

positionName: Project Manager

contactInfo: (CI_Contact)

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voice: 301.948.8550

facsimile: 301.963.2064

address: (CI_Address)

deliveryPoint: 7320 Executive Way

city: Frederick

administrativeArea: MD

postalCode: 21704

country: USA

electronicMailAddress: rmcclellan@fugro.com

role: (CI_RoleCode) processor

processStep: (LE_ProcessStep)

description: The NOAA Coastal Services Center (CSC) received the files in LAS format 1.2. The horizontal datum was NAD83 NSRS2007. The vertical datum was NAVD88. The coordinate system was UTM Zones 10 and 11 North. The horizontal and vertical units were in meters and the Geoid model was Geoid 09. CSC performed the following processing for data storage and Digital Coast provisioning purposes: 1. The data were converted from NAVD88 elevations to GRS80 (ellipsoid) elevations using Geoid 09. 2. The data were converted from UTM Zones 10 and 11 North coordinates to geographic coordinates. 3. Elevation outliers were filtered. 4. Re-classing of the following: points that were classed as 10 (mudflats) were changed to 2 (ground), points that were classed as 21 (non-submerged bathymetry) were changed to 14 (non-submerged bathymetry), points that were classed as 22 (bathymetry) were changed to 11 (bathymetry), points that were classed as 23 (ignored submerged bathymetry/overlap) were changed to 15 (ignored submerged bathymetry/overlap), points that were classed as 25 (submerged acoustic) were changed to 13 (submerged acoustic), points that were classed as 26 (ignored multibeam acoustic/overlap) were changed to 16 (ignored multibeam acoustic/overlap) 5. The data were converted to LAZ format.

dateTime:

DateTime: 2013-01-01T00:00:00

processor: (CI_ResponsibleParty)

organisationName: DOC/NOAA/NOS/OCM > Office for Coastal Management, National Ocean Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce

contactInfo: (CI_Contact)

phone: (CI_Telephone)

voice: 843-740-1200

address: (CI_Address)

deliveryPoint: 2234 South Hobson Ave.

city: Charleston

administrativeArea: SC

postalCode: 29405-2413

electronicMailAddress: coastal.info@noaa.gov

onlineResource: (CI_OnlineResource)

linkage: <http://coast.noaa.gov>

role: (CI_RoleCode) processor

processStep: (LE_ProcessStep)

description: The NOAA National Geophysical Data Center (NGDC) received lidar data files via ftp transfer from the NOAA Coastal Services Center. The data are currently being served via NOAA CSC Digital Coast at <http://www.csc.noaa.gov/digitalcoast/>. The data can be used to re-populate the

system. The data are archived in LAS or LAZ format. The LAS format is an industry standard for LiDAR data developed by the American Society of Photogrammetry and Remote Sensing (ASPRS); LAZ is a loseless compressed version of LAS developed by Martin Isenburg (<http://www.laszip.org/>). The data are exclusively in geographic coordinates (either NAD83 or ITRF94). The data are referenced vertically to the ellipsoid (either GRS80 or ITRF94), allowing for the ability to apply the most up to date geoid model when transforming to orthometric heights.

dateTime:

DateTime: 2014-02-24T00:00:00

processor: (CI_ResponsibleParty)

individualName: Mike Sutherland

organisationName: DOC/NOAA/NESDIS/NGDC > National Geophysical Data Center, NESDIS, NOAA, U.S. Department of Commerce

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voice: 303-497-6120

facsimile: 303-497-6513

address: (CI_Address)

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administrativeArea: CO

postalCode: 80305-3328

country: USA

electronicMailAddress: mike.sutherland@noaa.gov

hoursOfService: 7:30am-5:00pm Mountain

role: (CI_RoleCode) processor

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metadataMaintenance: (MD_MaintenanceInformation)

maintenanceAndUpdateFrequency: (MD_MaintenanceFrequencyCode) annually

dateOfNextUpdate: 2015-02-24

maintenanceNote: This metadata was automatically generated from the FGDC Content Standards for Digital Geospatial Metadata standard (version FGDC-STD-001-1998) using the 2013-01-04 version of the FGDC RSE to ISO 19115-2 for LiDAR transform.

maintenanceNote: Translated from FGDC 2014-02-24T13:24:01.182-05:00