Data Documentation

Dataset Information

Dataset Title:

NOAA RESTORE Science Program: Living shoreline site suitability model transfer for selected water bodies within the Gulf of Mexico: Best Management Practice for Lake Pontchartrain, Louisiana.

Description:

Best Management Practice for living shoreline armoring in Lake Pontchartrain, Louisiana, based on Shoreline Management Model (SMM) V5.1 model created by Virginia Institute of Marine Science, Center for Coastal Resources Management, digital format as shapefile.

Purpose:

This dataset was created to help determine alternate shoreline best management practices for Lake Pontchartrain, Louisiana.

Shoreline Management Model (SMM) Version 5.1 for preferred shoreline best management practices for Lake Pontchartrain, Louisiana, NOAA Restore Science Program and Troy University, and VIMS CCRM.

The data in this accession were funded by the NOAA National Centers for Coastal Ocean Science (NCCOS) RESTORE Science Program under award NA17NOS4510100 to Troy University.

Methods:

Troy University digitized shoreline around Lake Pontchartrain based on satellite imagery from ArcGIS Imagery Base Map. Troy University used DEM data obtained from Lake Pontchartrain Basin Foundation to delineate bank height. Troy University used bathymetry data obtained from Louisiana Coastal Protection and Restoration Authority to delineate water depth. Troy University used Land Use/Land Cover obtained from USGS to delineate Riparian LU. Troy University used satellite imagery from ArcGIS Imagery Base Map to aid in delineating canal, roads, Beach, Exposure, Structure, Sand Spit, Permanent Structures, and forested shoreline. Troy University attributed these fields for the input to run the model version 5.1.

Data Sources:

- Louisiana Coastal Protection and Restoration Authority, 2019. System Wide Assessment and Monitoring Program (SWAMP) Raw and Processed Bathymetry Data from the Pontchartrain, Breton Sound, Barataria, and Terrebonne Basins. Accessed July 3, 2020. https://cims.coastal.louisiana.gov/RecordDetail.aspx?Root=0&sid=22481
- U.S. Geological Survey (USGS), Canada Centre for Remote Sensing (CCRS). 2020. 2010 Land Cover of North America at 30 meters. The National Map Download, accessed March 14, 2018. http://www.cec.org/north-american-environmental-atlas/land-cover-2010-landsat-30m/

Associated Datasets:
- NOAA RESTORE Science Program: living shoreline site suitability model transfer for selected water bodies within the Gulf of Mexico: best management practice for Perdido Bay, Baldwin County, Alabama (NCEI Accession 0222947), https://doi.org/10.25921/1s1a-d817
- NOAA RESTORE Science Program: Living shoreline site suitability model transfer for selected water bodies within the Gulf of Mexico: Best Management Practice for Galveston Bay, Texas (NCEI Accession 0224760), https://doi.org/10.25921/r24k-sc49

People & Projects
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- US DOC; NOAA; NOS; NCCOS; RESTORE Science Program

Associated Online Resources:
- National Centers for Coastal Ocean Science. 2020. RESTORE Sponsored Research Project: Living shoreline site suitability model transfer for selected water bodies within the Gulf of Mexico: A GIS and remote sensing-based approach. https://www.fisheries.noaa.gov/inport/item/63228
- RESTORE Project, Living shoreline site suitability model transfer for selected water bodies within the Gulf of Mexico: A GIS and remote sensing-based approach, https://restoreactscienceprogram.noaa.gov/projects/living-shoreline-tool
- Lake Pontchartrain Shore BMP (Version 5.1), https://troygeoamtics.maps.arcgis.com/apps/webappviewer/index.html?id=f10332f81b9547bb956272c088b282e4

Extents
Start Date: 2019-05-10
End Date: 2020-12-31

Northern Boundary: 30.4219
Southern Boundary: 30.0161
Western Boundary: -90.4395
Eastern Boundary: -89.7378

Keywords
Sea Areas, Water Bodies, Marine Protected Areas:
- Gulf of Mexico
- Lake Pontchartrain
- Tchefuncta River

NCCOS Keywords:
- NCCOS Sponsored Research > RESTORE Science Program
- NCCOS Research Location > Region > Gulf of Mexico
- NCCOS Research Location > U.S. States and Territories > Louisiana
- NCCOS Research Data Type > Geospatial
- NCCOS Research Data Type > Model

File Information
Total File Size: 2.01 MB, 3 files in 1 folder (unzipped), 1.98 MB (zipped)
Data File Format(s):
- GIS format: ShapeFile .SHP (and ancillary files .CPG, .DBF, .PRJ, .SBN, .SBX, .SHX)
Data File Compression: N/A
Data File Resolution: 10 (meter)
GIS Projection: NAD 1983 UTM Zone 15N

Data Files:
- LakePontchartrain_SMM_V51_results.shp

Documentation Files:
- BrowseGraphic.JPG
- DataDocumentation.PDF

Parameter Information
Parameter Description:
Parameters: SMMv5Class
Property Type: calculated
Units: Enumerated Domain
Observation Category: model output
Sampling Instrument: Models/Analyses > Data Analysis > Environmental Modeling
Sampling and Analyzing Method:
        Results are determined based on input parameters.
Data Quality Method:
        Results were compared to field observations and previous version model run.

Table 1: Data Dictionary for LakePontchartrain_SMM_V51_results

Column	Variable	Label	Definition	Attribute Type	Range	Attribute Values
1	Object Id	FID	Internal feature number	Unrepresentable Domain	1 - 1271	
2	Geometry	Shape	Feature geometry - Polyline	Unrepresentable Domain		
3	String	RiparianLU	Code of shoreline with riparian land use/land cover	Enumerated Domain		Extensive Marsh, Paved, Scrub, Forested, Residential, Bare, Industrial, Commercial, Agriculture, Grass, Public land, Railroad
4	String	Shoreline	Feature description – shoreline	Enumerated Domain		shl
5	String	marsh_all	Marsh encountered in study	Enumerated Domain		No, Marsh Present
6	String	forestshl	Yes if riparian landuse is Forested or tree fringe is wide	Enumerated Domain		Yes, No
7	String	offshorest	Structures built in water	Enumerated Domain		Groin, Marsh Toe, Breakwater
8	String	bnk_height	Bank height within 100 feet of shoreline in feet	Enumerated Domain		0-5, 5-30
9	String	roads	if road is adjacent to shoreline within shoreline buffer	Enumerated Domain		Roads
10	String	PermStruc	Yes if permanent structure is built within shoreline buffer	Enumerated Domain		Permanent Structure
11	String	Beach	Yes if beach is present	Enumerated Domain		Yes, No
12	String	bathymetry	Nearshore bathymetry within 10 meters of shoreline	Enumerated Domain		Deep, Shallow
13	String	SandSpit	If a sand spit is present	Enumerated Domain		Yes
14	String	WideBeach	If Beach is present and greater than 10 feet at high tide line	Enumerated Domain		Yes, No
15	String	tribs	A tidal creek has limited shoreline exposure to fetch less than 2 miles.	Enumerated Domain		Minor Tributary

Column	Variable	Label	Definition	Attribute Type	Range	Attribute Values
16	String	Structure	Erosional control structure	Enumerated Domain		Debris, Riprap, Wharf, Marina>50 slips, Marina<50 slips, Bulkhead, Debris, Seawall
17	String	SAV	If Submerged Aquatic Vegetation (SAV) is present within buffer of 30 feet	Enumerated Domain		Yes
18	String	PublicRamp	If Public Ramp is present	Enumerated Domain		Yes
19	String	Exposure	Maximum fetch for a section of shoreline	Enumerated Domain		Low, Moderate, High
20	String	defended	Yes if structure and/or offshore structure is present	Enumerated Domain		Yes
21	String	canal	if a man-made, navigable canal is present	Enumerated Domain		Canal
22	String	SMMv5Def	A hyper link to Shoreline Management Model Definitions	Unrepresentable Domain		
23	Double	Shape_Leng	Length of segment	Range Domain	0.1- 9157.13 (m)	
24	String	rd_pdstruc	Road or permanent structure is present within the shoreline buffer	Enumerated Domain		Yes
25	String	lowBnkStrc	Low bank and permanent structure	Enumerated Domain		Yes
26	String	ShlType	shoreline defended or undefended based on time of survey	Enumerated Domain		Defended, Undefended
27	String	HiModArea	Highly Modified Areas include marinas, canals, sand spits, paved landuse with roads adjacent to the shoreline, and commercial, industrial, military, or government areas with bulkhead, riprap, debris, unconventional, or wharf	Enumerated Domain		Highly Modified Area

Column	Variable	Label	Definition	Attribute Type	Range	Attribute Values
28	String	selectThis	internal coding item for shoreline management model	Enumerated Domain		Yes, no
29	String	StrucList	list of shoreline structures present	Enumerated Domain		
30	String	fshl	a value generated during the model processing	Enumerated Domain		yes
31	String	SMMv5Class	Shoreline Management Model, Center for Coastal Resources Management, VIMS	Enumerated Domain		Groin Field with Beach Nourishment, Maintain Beach or Offshore Breakwater with Beach Nourishment, Non-Structural Living Shoreline, Plant Marsh with Sill, Revetment, Revetment/Bulkhead Toe Revetment, Ecological Conflicts: Seek regulatory advice, Highly Modified Area. Seek expert advice, No Action Needed,
32	Double	bmpCountv5	shoreline management model qa/qc attribute	Unrepresentable Domain		
33	String	SMMv5Def	SMMv5Classification definitions	Unrepresentable Domain		
34	String	DefDate	revised date of definition	Unrepresentable Domain		
35	Double	Shape_Length	Length of feature in internal units	Unrepresentable Domain		

Document Information

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Resource Provider:	NCCOS Data Manager, nccos.data@noaa.gov, US DOC; NOAA; NOS; National Centers for Coastal Ocean Science (NCCOS)
Comment:	This data documentation describes data files archived as a NOAA NCEI data accession, and is intended to provide dataset-level metadata for the purposes of discovery, use, and understanding.
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