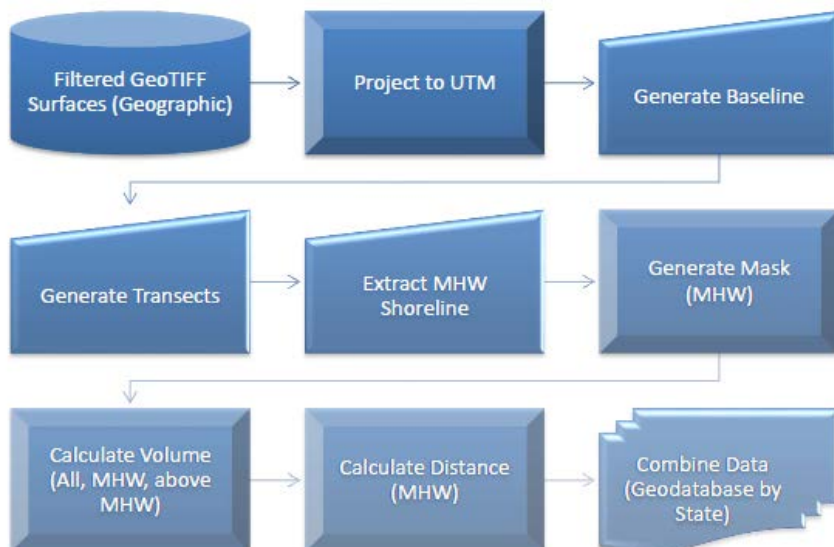


JALBTCX Volume Change Toolbox



ArcToolbox

JALBTCX_quick_response_v2

- QR 01. Label Baseline and Generate Transects (optional)
- QR 01b. Update Transect Coordinates (optional)
- QR 02. Generate Transect Mask and Clip Mask (optional)
- QR 03. Generate Difference Grid by Clip Mask (optional)
- QR 03b. Clip Difference Grid to Segment (optional)
- QR 04. Calculate Difference Grid Volume by Zonal Statistics
- QR 05. Generate Shoreline (optional)
- QR 06. Label Transect and Mask with MHW Value (optional)
- QR 06b. Generate Mask Between Transect above MHW (optional)
- QR 07. Calculate MHW Volume and Volume above MHW
- QR 08. Calculate MHW Volume Difference and Volume above MHW Difference
- QR 09. Calculate Shoreline Change
- QR 10. Generate Final Table
- QR 11. Summarize Table



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Baseline & Transect

QR 01. Label Baseline and Generate Transects (optional)

workspace (GDB required)

Baseline_feature_input

Column Number in Input Baseline as Label

1

State Name

Revision Number of Baseline (type '1' for first time revision)

Transect interval

100

Transect length

2000

Transect length unit

METERS

Which side of baseline to generate transect ?

Right

Trim Intersecting lines with baseline ?

YES

Transect Revision Number (type "1" for first revision)

OK Cancel Environments... << Hide Help Tool Help

QR 01. Label Baseline and Generate Transects (optional)

JALBTCX
Quick
Response
Toolset.

(Default
projection is
NAD83 UTM
meters)

If you have
already
generated the
transects, skip
this step

Table Of Contents

Value
High : 190
Low : 158

- ☒ Backline
- ☒ SELM_Macro Fluxes
- ☐ DiffVol_merged_poly
- ☐ SedimentManagementMacro
- ☐ deltaVolume
- ☐ Cell Loss
- ☐ Cell Balance
- ☐ Cell Gain
- ☐ SELM_Macro
- ☒ IN_Difference_Grid_2008_20
- ☐ <VALUE>
- ☐ -10.48667908 - -1.2565
- ☐ -1.256533812 - -0.5
- ☐ -0.5 - 0.5
- ☐ 0.5 - 1
- ☐ 1.000000001 - 7.75895
- ☒ Basemap
- ☒ World Street Map



Table Of Contents

- ☐ IN_Surface_Grid_Volume
- ☐ IN_Surface_Grid_Volume
- ☒ IN_MI_Baseline_01_SPLIT
- ☐ IN_MI_Transect_Baseline_rev
- ☐ IN_MI_Transect_Baseline_rev
- ☐ IN_MI_Transect_Baseline_rev
- ☐ IN_MI_Transect_Baseline_rev
- ☐ IN_MI_Transect_Baseline_rev
- ☐ Spatial Data
- ☒ IN_Surface_Grid_2008_Sr
- ☐ Value
- ☐ High : 190
- ☐ Low : 158
- ☐ IN_Surface_Grid_2012_Sr
- ☐ Value
- ☐ High : 190
- ☐ Low : 158



- Baseline – landward limit; used to clip grids for volume calculations
- Split Baseline – cuts baseline at transect interval; can be same as baseline or unique
- Transect – user defined interval (typical 100m)



BUILDING

Masks

QR 02. Generate Transect Mask and Clip Mask (optional)

workspace(GDB required)

Input Transect

Input SPLIT baseline

QR 02. Generate Transect Mask and Clip Mask (optional)

JALBTCX
Quick
Response
Toolset

(Default
projection is
NAD83 UTM
meters)

If you have
already
generated the
transect mask
and clip mask,

OK

Cancel

Environments...

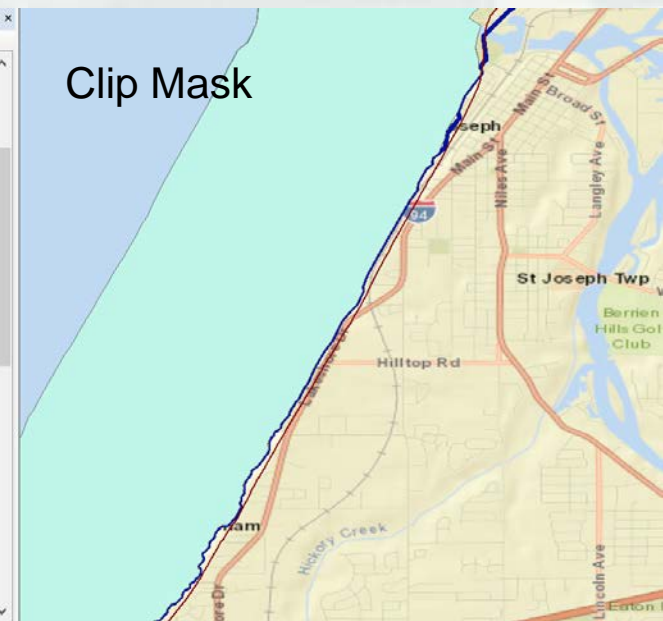
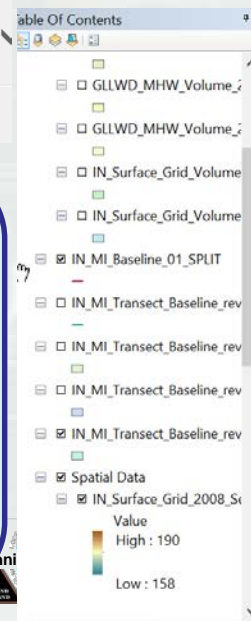
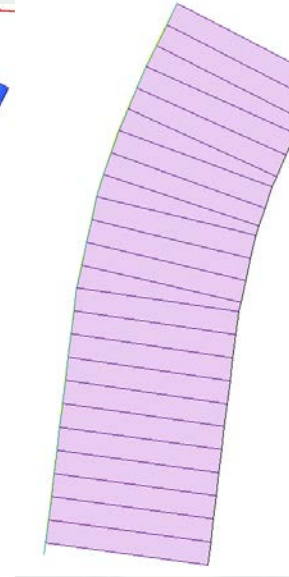
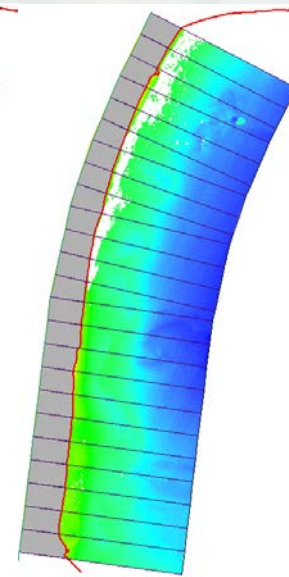
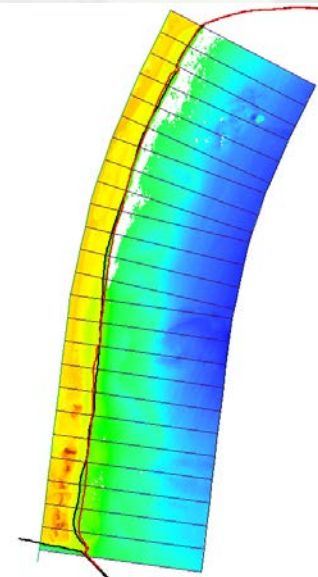
<< Hide Help

Tool Help

Shorelines

MHW mask

Bin mask



- MHW Mask - Shoreline used to create masks for subaerial
- Bin Mask - transects set R/L boundary for bin
- Clip Mask – dissolved bin masks per segment

Difference Grid

QR 03. Generate Difference Grid by Clip Mask (optional)

workspace (GDB required)

Raster1_input_before

Year of Raster1 (in format "YYYY")

Raster2_input_after

Year of Raster2 (in format "YYYY")

Input Clip Mask

QR 03. Generate Difference Grid by Clip Mask (optional)

JALBTCX Quick Response Toolset

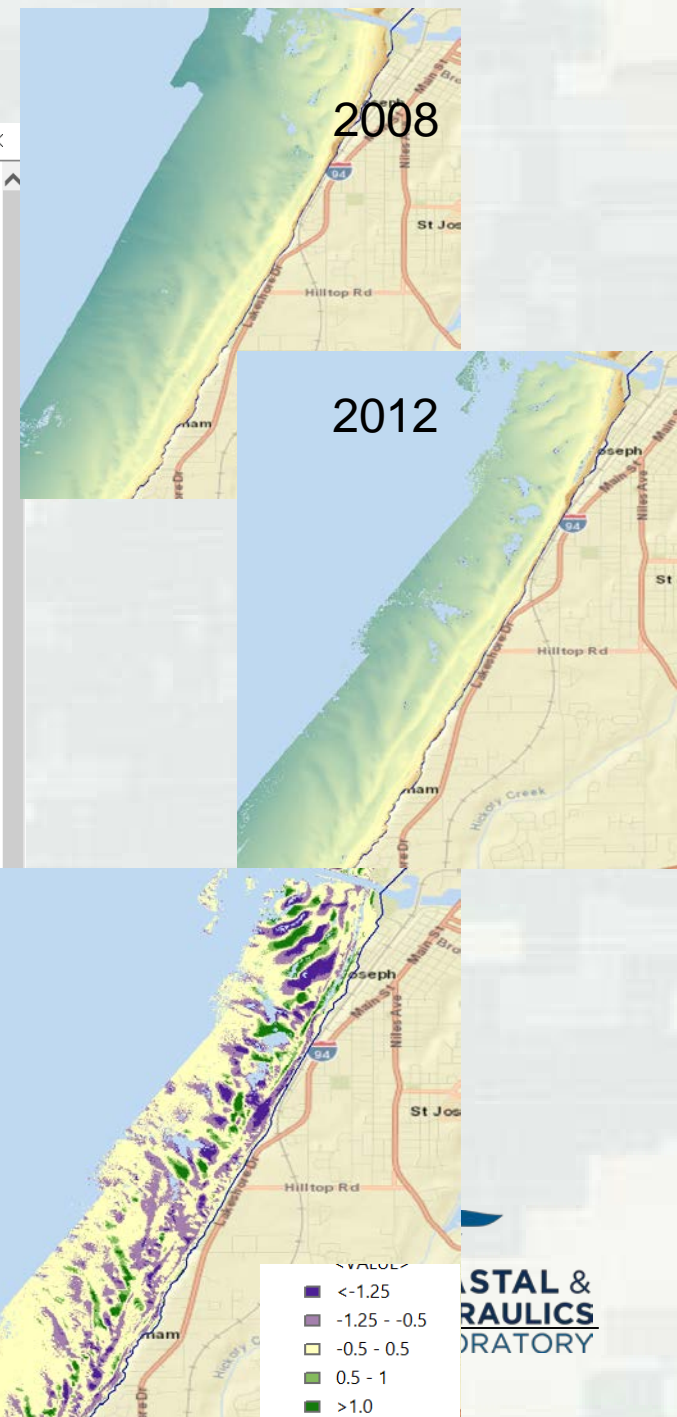
(Default projection is NAD83 UTM meters)

Use this script when you have two surfaces : before and after. If you have already generated the difference grid, use QR 03b.

This tool generates difference grids between two years of data and merges the difference grid for volume calculations.

The output file name will be "StateName" + "_Difference_Grid_" + "beforeyear_" + "afteryear"

OK Cancel Environments... << Hide Help Tool Help



- Difference Grid – two raster datasets (before/after) to create elevation change grid
- Note – if elevation difference grid is created outside the toolbox, run step QR 03b



BUILDING

of Expertise

Difference Grid - Alternative

QR 03b. Clip Difference Grid to Segment (optional)

workspace (GDB recommended)

Difference grid (raster)

Year of Before Raster (in format "YYYY")

Year of After Raster (in format "YYYY")

Input Clip Mask

JALBTCX Quick Response Toolset

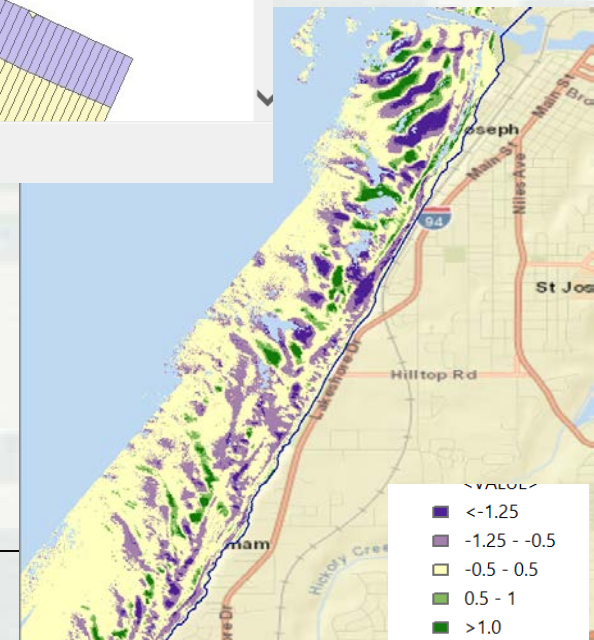
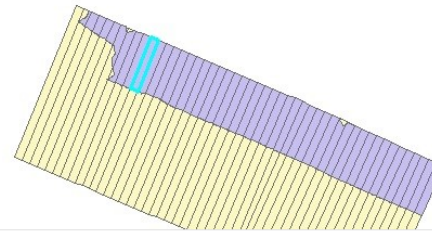
(Default projection is NAD83 UTM meters)

Use this script to clip the difference grid into segment, focus on the interested area only. It reduces the size of input surface.

This tool clips and merges the difference grids for volume calculations. The output file name will be "StateName" + "_Difference_Grid_" + "beforeyear" + "_afteryear"

OK Cancel Environments... << Hide Help Tool Help

- Difference Grid – elevation difference grid created outside toolbox used as input
- Note – can be used with historical datasets that have been compared



Difference Grid Volume

QR 04. Calculate Difference Grid Volume by Zonal Statistics

workspace (GDB)

Input Difference Raster

Before Raster Date (in format "YYYYMMDD")

After Raster Date(in format "YYYYMMDD")

Transect_mask_input

Volume Unit
CUBIC YARD

OK Cancel Environments... << Hide H

QR 04. Calculate Difference Grid Volume by Zonal Statistics

JALBTCX Quick Response Toolset

(Default projection is NAD83 UTM meters)

This tool analyzes the difference grid within each transect bin and quantifies the maximum, minimum, mean and standard deviation, and save the statistics as a table.

Catalog

Location: Home - S

New folder

NJ_03

RSM

FY13

FY14

FY18

Project

Sedime

LRE

POH

2017

St Joseph Twp

W Napie

Berrien

Langley Ave

Niles Ave

Main St

Broad St

94

binArea

Start_Date

End_Date

dDensity

dMin

dMax

dMean

STD

dVol

Accretion

Erosion

156008.7

20080901

20120901

-3.6

-3.47

2.05

-0.02

0.76

-1173

19837

-21010

174884.4

20080901

20120901

-56.8

-3.25

1.99

-0.22

1

-18640

21464

-40104

190919.5

20080901

20120901

-59.5

-3.39

2.18

-0.22

1.18

-19513

29962

-49475

182742.3

20080901

20120901

-98.9

-3.69

2.37

-0.34

1.2

-32444

30754

-63198

182079.3

20080901

20120901

-26.5

-2.93

3.13

-0.09

1.08

-8686

38144

-46830

235908.6

20080901

20120901

-82.7

-2.86

3.11

-0.24

1.1

-27140

38234

-65374

244142.3

20080901

20120901

-156

-2.89

3.32

-0.48

0.95

-51188

21531

-72719

223778.9

20080901

20120901

-108.9

-3.69

3.23

-0.38

1

-35726

18500

-54226

■ Difference Grid Volume – total volume change calculated for each individual bin

■ dVol – net volume change – input into SBAS

■ Note – zonal statistics used for volume calculation

Shoreline

QR 05. Generate Shoreline (optional)

workspace (GDB recommended)

Raster layer input

Date of raster layer(format "YYYYMMDD")

State Name ("DE" for Delaware)

MHW (value)

Smooth shoreline or not ?

Smooth Algorithm (if smooth applies) (optional)

Smooth Tolerance (if smooth applies, 20 recommended) (optional)

Minimum length of the line to keep

QR 05. Generate Shoreline (optional)

JALBTCX Quick Response Toolset

(Default projection is NAD83 UTM meters)

This tool generates a shoreline or any contour line based on a raster layer at a given elevation (such MHW). Following MHW generation, if multiple surfaces the user has to connect the ends of the MHW lines to create a continuous shoreline. The user will also need to delete extra lines should they be created in areas that do not represent the shoreline.

OK Cancel Environments... << Hide Help Tool Help

- Shoreline – contour line extracted from lidar grids
- Note – may require manual delineation in areas with data gaps
- Optional step

Transect & Mask – MHW

QR 06. Label Transect and Mask with MHW Value (optional)

workspace

Input Transect

Input Transect Mask

Input MHW line

QR 06. Label Transect and Mask with MHW Value (optional)

JALBTCX Quick Response Toolset

(Default projection is NAD83 UTM meters)

You can skip this one if the transect lines and transect mask already have MHW value assigned.

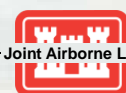
States with multiple MHW values are complicated. This tool ties the MHW value to the transect number and the respective mask so that future calculations know that areas MHW value. The tool assumes that the MHW values may vary from segment to segment, but each segment has a single MHW value.

OK Cancel Environments... << Hide Help

- Shoreline – used as input
- Note – MHW or other datum can vary along region; this step copies values to the transects and masks created in Step 2
- Optional step



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LABORATORY

MHW Mask

QR 06b. Generate Mask Between Transect above MHW (optional)

workspace (GDB required)

Input Transect

Input Splitted Baseline

Input MHW line

If multiple points, which one to choose ?

QR 06b. Generate Mask Between Transect above MHW (optional)

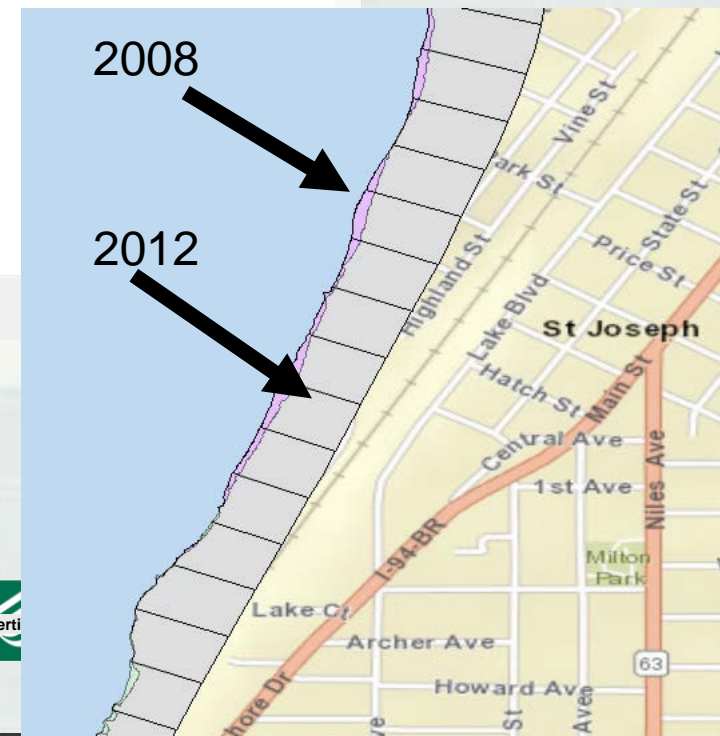
JALBTCX Quick Response Toolset

(Default projection is NAD83 UTM meters)

You can skip this one if the MHW mask has been generated.

This tool creates a mask between the MHW line and the baseline for the respective year. Each year's worth of data needs to be run. If the MHW line is not continuous, there will not be a MHW mask in unmapped areas. The mask output may require additional editing caused by irregular shorelines (shorelines that intersect with multiple transects or baselines or shorelines with varying directions).

- Shoreline – used as seaward boundary
- Note – areas with discontinuous MHW line/shoreline/contour will not have a mask created for that bin
- Optional step – may choose to skip and run only the above MHW volume calculation (does not require a mask)



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MHW Volume

QR 07. Calculate MHW Volume and Volume above MHW

workspace (GDB recommended)

Surface Grid Raster Input

Year of data (in format "YYYY")

MHW_mask_input for MHW Volume (optional)

Transect_mask_input for Volume above MHW (optional)

Volume Unit
CUBIC YARD

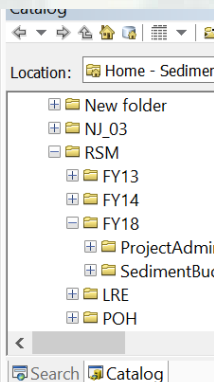
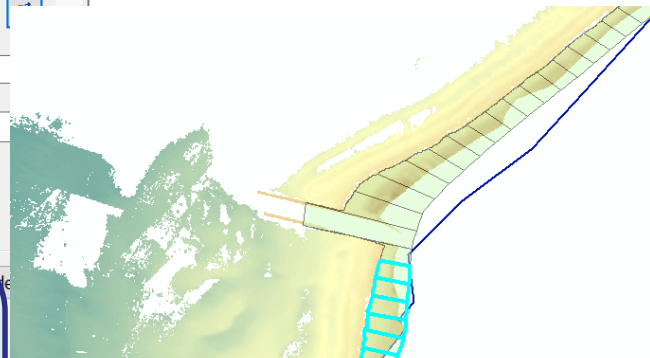
MHW value

QR 07. Calculate MHW Volume and Volume above MHW

JALBTCX Quick Response Toolset

(Default projection is NAD83 UTM meters)

This tool analyzes the volume of a grid using the mask between transect above MHW and quantifies the maximum, minimum, mean and standard deviation, and save the statistics in a table. This tool needs to be run for each respective year being analyzed.



- Surface Grid – must be run for each year
- Note – if MHW mask was created in Step 6b – option to include in the calculation of volume of sediment for each bin

befBinArea	befDensMHW	MinValue	MaxValue	befMean	STD	befVol	Accretion	Erosion	ElevFloor
16175.3	47.9	0.17	8.29	2.03	1.92	15718	15718	<Null>	17
17377.8	86	0.08	8.85	2.56	1.88	28212	28212	<Null>	17
18236.3	93.2	0.28	5.01	2.37	1.25	30573	30573	<Null>	17
18693.4	142.7	0.31	5.72	2.94	1.72	46816	46816	<Null>	17
18340.3	117	0.23	5.7	2.87	1.59	38382	38382	<Null>	17
16847.3	69.3	0.18	4.94	2.51	1.34	22747	22747	<Null>	17
16749.3	47.6	0.07	6.02	2.5	1.49	15602	15602	<Null>	17
16627.4	52.8	0.21	6.18	2.97	1.93	17323	17323	<Null>	17

MHW Volume Difference

QR 08. Calculate MHW Volume Difference and Volume above MHW Difference

workspace (GDB recommended)

before MHW volume (optional)

after MHW volume (optional)

before volume above MHW (optional)

after volume above MHW (optional)

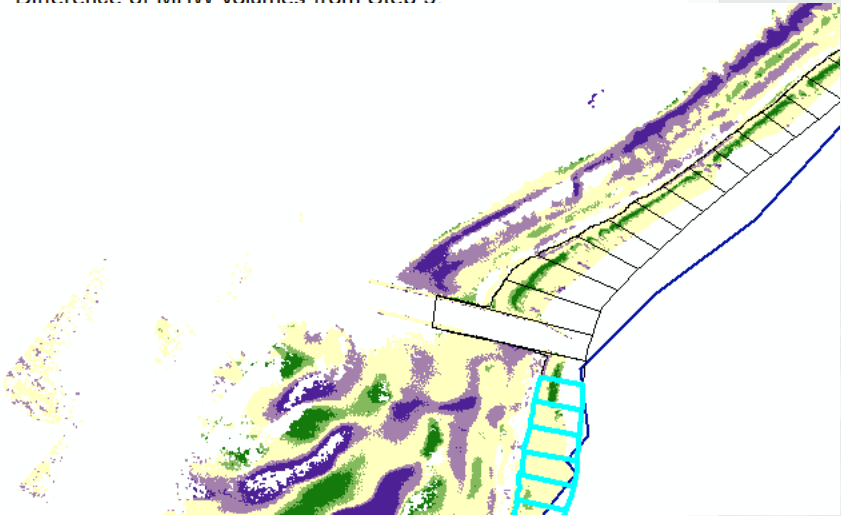
H:\WorkDraft\RSM\SedimentBudgetTraining\Demo

QR 08. Calculate MHW Volume Difference and Volume above MHW Difference

JALBTCX Quick Response Toolset

(Default projection is NAD83 UTM meters)

Difference of MHW volumes from Step 9



MHW (before/after) – must be run for each year – Step 7

Note – if MHW mask was created in Step 6b – option to include in the calculation of volume of sediment for each bin

befBinArea	befDensMHW	befMean	befVol	ElevFloor	Shape_Length	Shape_Area	aftBinArea	aftDensMHW	aftMean	aftVol	dMHW_Vol	dDensityMHW
16175.3	47.9	2.03	15718	176	475.988086	13524.643253	16519.5	61.6	2.47	20206	4488	13.
17377.8	86	2.56	28212	176	495.46208	14530.086079	18360.7	93	2.5	30504	2292	
18236.3	93.2	2.37	30573	176	508.826883	15247.867954	19092.4	100.5	2.21	32957	2384	7.
18693.4	142.7	2.94	46816	176	524.398628	15630.033746	20321.6	149.9	2.65	49175	2359	7.
18340.3	117	2.87	38382	176	515.885224	15334.810886	19243	123.9	2.76	40650	2268	6.
16847.3	69.3	2.51	22747	176	491.21389	14086.526879	18346.8	79.1	2.43	25939	3192	9.

Shoreline Change

QR 09. Calculate Shoreline Change

workspace (GDB)

Transect_input_feature_layer

Shoreline_before

Shoreline_after

If multiple points, which to choose

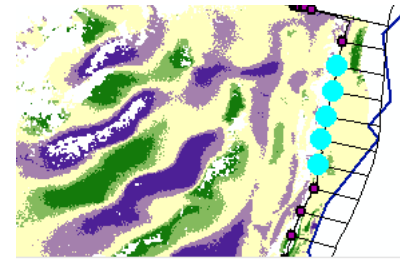
- MHW shoreline (before/after) – must be run for each year –
- Note – other shoreline or lines (bluffs) can be used for the change rates

QR 09. Calculate Shoreline Change

JALBTCX Quick Response Toolset

(Default projection is NAD83 UTM meters)

This tool calculates the difference from the baseline to the shoreline for two years.



OINT_Y	dMHW	dMHW_Rate	dMHW_Rate_ft
32346.635441	5.179231	1.294808	4.248057
362246.37804	14.058619	3.514655	11.531019
32150.606976	7.559131	1.889783	6.200075
32056.126171	8.642464	2.160616	7.088635
31959.322099	11.343237	2.835809	9.303836



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Lookup Table

QR 10. Generate Final Table

workspace (GDB required)

Input Transects

Input Difference Volume Table (optional)

Input MHW Difference Volume Table (optional)

Input Difference Volume above MHW (optional)

Input Shoreline Change (optional)

QR 10. Generate Final Table

JALBTCX Quick Response Toolset

(Default projection is NAD83 UTM meters)

This tool is designed to combine the information developed in QR 01 through QR 09 in a single geodatabase table for future querying. Data are organized by state.

Start_Date	End_Date	dDensity	dMean	dVol	dMHW_Vol	dDensityMHW	dMHW_Vol2	dDensityMHW2	dMHW	dMHW_Rate	dMHW_Rate_ft
20080901	20120901	-7.7	-0.32	-2537	-737	-2.3	-724	-2.2	12.374311	3.093578	10.149533
20080901	20120901	9.7	0.14	3183	48	0.1	32	0.1	4.244024	1.061006	3.480991
20080901	20120901	7.8	0.09	2558	1220	3.7	1216	3.7	1.245752	0.311438	1.021778
20080901	20120901	-19.3	-0.16	-6329	-1048	-3.2	-1087	-3.3	0.326217	0.081554	0.267567
20080901	20120901	-63	-0.34	-20662	-3663	-11.2	-3666	-11.2	-15.04843	-3.762107	-12.342872
20080901	20120901	-88	-0.43	-28881	-4703	-14.3	-4745	-14.4	-27.334133	-6.833533	-22.419728
20080901	20120901	-123.8	-0.69	-40614	-5798	-17.6	-5793	-17.7	-34.423458	-8.605865	-28.234464
20080901	20120901	-149.4	-0.85	-49021	-5004	-15.2	-5001	-15.3	-37.682739	-9.420685	-30.907759
20080901	20120901	-166.5	-0.81	-54636	-3326	-10.1	-3356	-10.2	-22.79835	-5.699587	-18.699434
20080901	20120901	-110.8	-0.46	-36350	-2329	-7.1	-2378	-7.2	-11.697398	-2.924349	-9.594322
20080901	20120901	-44.6	-0.19	-14647	28	0	-1	0	-7.259955	-1.814989	-5.954687
20080901	20120901	-43.6	-0.19	-14294	1775	5.4	1791	5.5	-2.242941	-0.560735	-1.839683
20080901	20120901	-83.4	-0.38	-27363	2360	7.1	2359	7.2	-3.024103	-0.756026	-2.480399

OK

Cancel

Environments...

<< Hide Help

Tool Help



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HYDRAULICS
LABORATORY

$\Delta V = 0; P = 0; R = 43,800$

$Q = 22,600$

$\Delta V = 27,300(\text{plume}); \Delta V = -600; P = 16,800; R = 0$

Cell 9

The basic sediment budget equation can be expressed as:

$$\sum Q_{\text{source}} - \sum Q_{\text{sink}} - \Delta V + P - R = \text{Residual}$$

Where:

Q_{source} and Q_{sink} are the sources and sinks to the control volume, respectively

ΔV is the net change in volume within the cell

P is the amounts of material placed in the cell

R is the amounts of material removed from the cell (usually dredging)

Residual represents the degree to which the cell is balanced

$Q = 12,700$

Cell 10

$Q = 1,700$

Cell 12

$\Delta V = -1,800; P = 0; R = 0$

$\Delta V = -100; P = 0; R = 2,600$

Cell 13

Cell 14

Legend

→ Flux (yd³/yr)

Littoral Cell

ΔV

Vol. loss

Neutral

Vol. gain



0 0.5 1 Miles

Cell 1	Q_{source1}		
North Point Marina	Q_{sink1}		
Built 1987-88	Q_{source2}		
	Q_{sink2}		
	Q_{source3}		
	Q_{sink3}		
	$Q_{\text{source-LST1}}$	16,000	From north
	$Q_{\text{sink-LST1}}$		
	$Q_{\text{source-LST2}}$		
	$Q_{\text{sink-LST2}}$	20,400	To Cell 2
	Placement	9,400	Sand imported to form feeder beach, Chrzastowski <i>et al.</i> 1996, p. 17.
	Removal	9,600	Annual dredge from David Sutherland, 8/21/14
	Removal	0	
	DeltaV	-4,600	Compare 1976-2012 bathy
	Residual	0	

Cell 2	Q_{source1}		
IL Beach State Park N	Q_{sink1}		
	Q_{source2}		
	Q_{sink2}		
	Q_{source3}		
	Q_{sink3}		
	$Q_{\text{source-LST1}}$	29,400	From north, Cell 1
	$Q_{\text{sink-LST1}}$		
	$Q_{\text{source-LST2}}$		
	$Q_{\text{sink-LST2}}$	188,300	To Cell 3
	Placement	9,600	Bypassed from North Point Marina
	Placement	27,000	Backpassed from Waukegan
	Removal		
	DeltaV	-131,300	Compare 1976-2012 bathy
	Residual	0	

Cell 3	Q_{source1}		
IBSP S unit	Q_{sink1}		
to Waukegan Elec.	Q_{source2}		
Generate Sta.)	Q_{sink2}		
	Q_{source3}		
	Q_{sink3}	52,000	To canal, Cell 4
	$Q_{\text{source-LST1}}$	188,300	From Cell 2
	$Q_{\text{sink-LST1}}$		
	$Q_{\text{source-LST2}}$	0	
	$Q_{\text{sink-LST2}}$	167,700	To Canal, Cell 4
	Placement		
	Placement	0	Assume no placement from canal dredging.



$$\Sigma Q_{\text{source}} - \Sigma Q_{\text{sink}} - \Delta V + P - R = \text{Residual}$$

							Lidar/1976 contour analysis	
PLACEMENT	REMOVAL	SINK	RESIDUAL	CELL_ID	gridcode	VolChange_	DV_v2_CYyr	Q-S (to next cell)
0	0	0	0	Cell WI-1	0	0	0	16000
9400	9600	0	0	Cell 1	-44433	-4,571	-4,571	20,371
36618	0	0	0	Cell 2	-1276312	-131,308	-131,308	188,297
0	0	0	0	Cell 3	200023	20,578	20,578	167,719
0	0	52000	0	Cell 4	0	0	0	115,719
0	0	0	0	Cell 5	0	0	0	115,719
0	0	0	0	Cell 6	303500	31,224	44,187	71,531
0	0	0	0	Cell 7	49529	5,096	5,096	66,436
0	43800	0	0	Cell 8			0	22,636
16800	0	0	0	Cell 9	302000	31,070	27,250	12,185
				Cell 9	-108000	-11,111	-556	12,741
0	0	0	0	Cell 10	-20748	-2,135	-107	12,848
0	0	1668	0	Cell 11	0	0	0	11,180
0	0	0	0	Cell 12	-306068	-35,425	-1,771	12,951
0	2630	0	0	Cell 13	-26147	-2,690	-135	10,456
2630	0	0	0	Cell 14	-7751	-797	0	13,086
0	0	0	0	Cell 15	0	0	0	13,086
0	0	0	0	Cell 16	0	0	0	13,086
12800	12800	0	0	Cell 17	0	0	0	13,086
0	0	0	13000	Cell 18	0	0	0	13,086

Web Map

- Lauren Dunkin
- Coastal and Hydraulics Laboratory



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National Coastal Mapping Program

Topo (500 m)

Volume Change/Post-Storm Web Map

- <https://tinyurl.com/VolumeChange>
- <https://usace.maps.arcgis.com/apps/webappviewer/index.html?id=d1ee0da4887046edbc9ff05c66d40708>

Lidar Data Access

- USACE Geospatial Repository and Data Management System (GRiD):
<https://griduc.rsgis.erdc.dren.mil/griduc/corpsmap/>
- NOAA OCM (Digital Coast) and NCEI (Boulder):
<https://coast.noaa.gov/dataviewer/>
- USGS St. Petersburg, FL and Sioux Falls, SD
- By request to jalbtcx@usace.army.mil

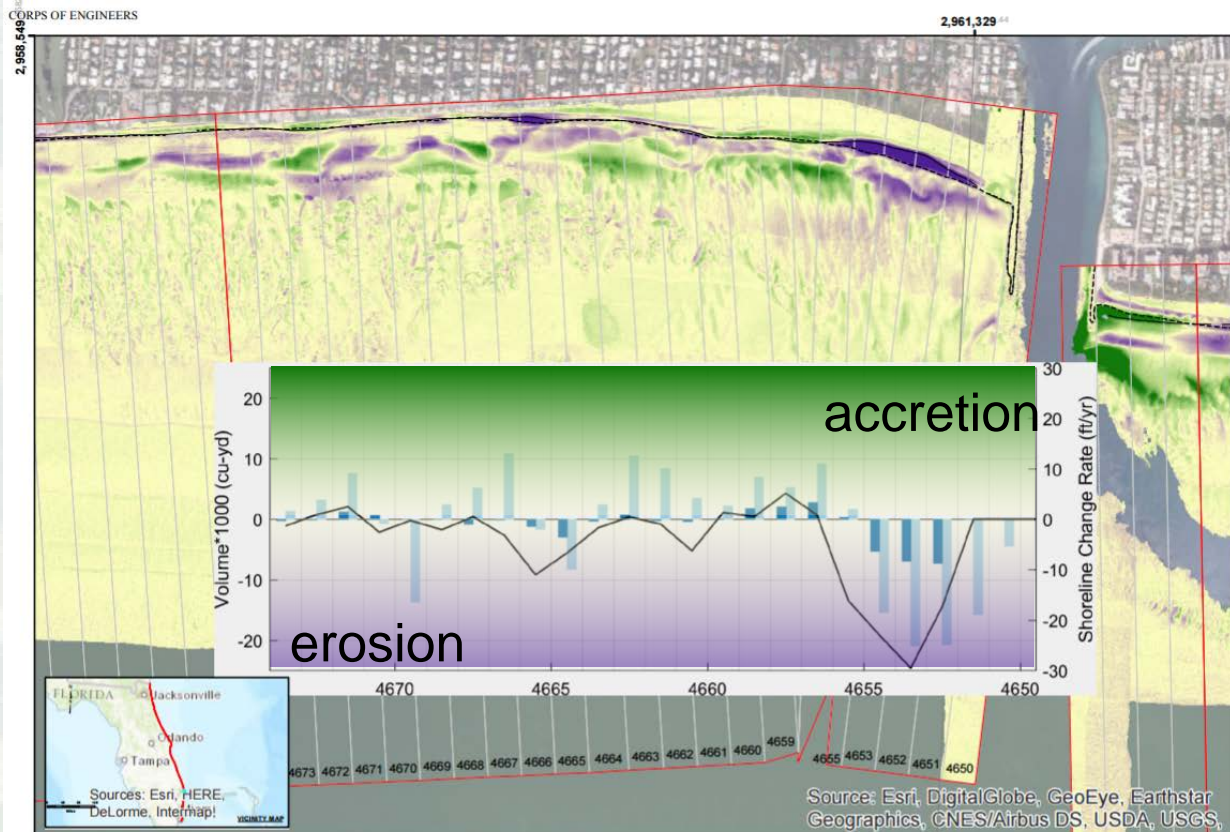
(1000 m) Hydro

NAVD83 Elevation -m



Volume and shoreline change

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Section	Volume Change (cu-yd)	MHW Volume Change (cu-yd)	Shoreline Change Rate (ft/yr)	Section	Volume Change (cu-yd)	MHW Volume Change (cu-yd)	Shoreline Change Rate (ft/yr)	Section	Volume Change (cu-yd)	MHW Volume Change (cu-yd)	Shoreline Change Rate (ft/yr)
4,650	-8,219	0	0.00	4,666	-1,624	-1,183	-11.02				
4,651	-4,452	0	0.00	4,667	10,932	-70	-3.18				
4,652	-15,720	0	0.00	4,668	5,205	-505	0.48				
4,653	-20,685	-7,285	-17.43	4,669	2,481	-15	-0.08				
4,654	-20,822	-6,807	-15.53	4,670	-13,684	16	-0.25				
4,655	-15,368	-5,257	-23.03	4,671	-988	610	-2.56				
4,656	1,603	260	-18.13	4,672	7,038	1,244	2.48				
4,657	9,187	2,798	5.13	4,673	3,232	-99	0.90				
4,658	5,278	2,067	5.13	4,674	1,350	-198	-1.34				
4,659	6,955	1,752	0.52								
4,660	2,190	78	1.34								
4,661	3,469	-370	-6.26								
4,662	8,306	-222	-3.97								
4,663	10,522	662	0.43								
4,664	2,470	-257	-1.71								
4,665	-6,272	-2,947	-6.79								
4,666	-1,624	-1,183	-11.02								

Elevation Difference (feet)



Horizontal Coordinate System:
NAD 1983 UTM Zone 17N
Datum: North American 1983
Distance Units: Meter



The information depicted on this map represents elevation changes along the Florida Coast comparing the post-Hurricane Matthew with the pre-storm condition.

Volumes included in the table were computed in 300-ft alongshore sections, and are provided in units of cubic yards (cu-yd). Pre- and post-storm shorelines are included on the map as a dashed black line and solid black line, respectively. The bar chart includes the Volume Change (right blue) and MHW Volume Change (dark blue). The Shoreline Change Rate is represented by the black line.

Data Sources: 2016 pre storm and 2016 National Coastal Mapping Program topobathymetric lidar elevation data from the Joint Airborne Lidar Bathymetry Technical Center of Expertise (JALBTCX).

Delivered by:

- AMRDEC
- Web viewer



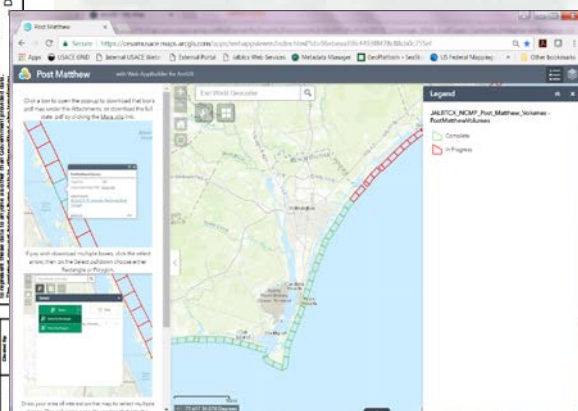
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Model Viewer

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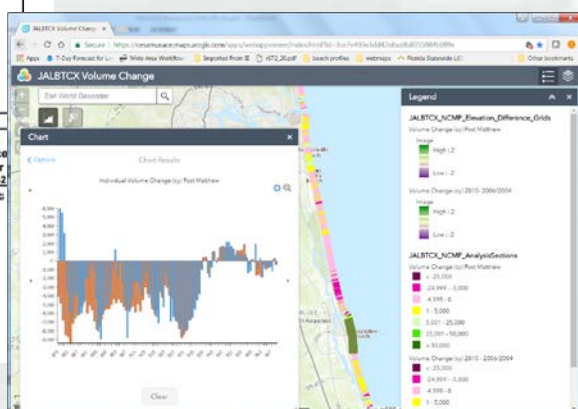
U.S. ARMY
CORPS OF ENGINEERS
Model Viewer

Florida
Elevation Difference and Volume Change
Map Number: 191

Sheet Reference Number 191 of 242



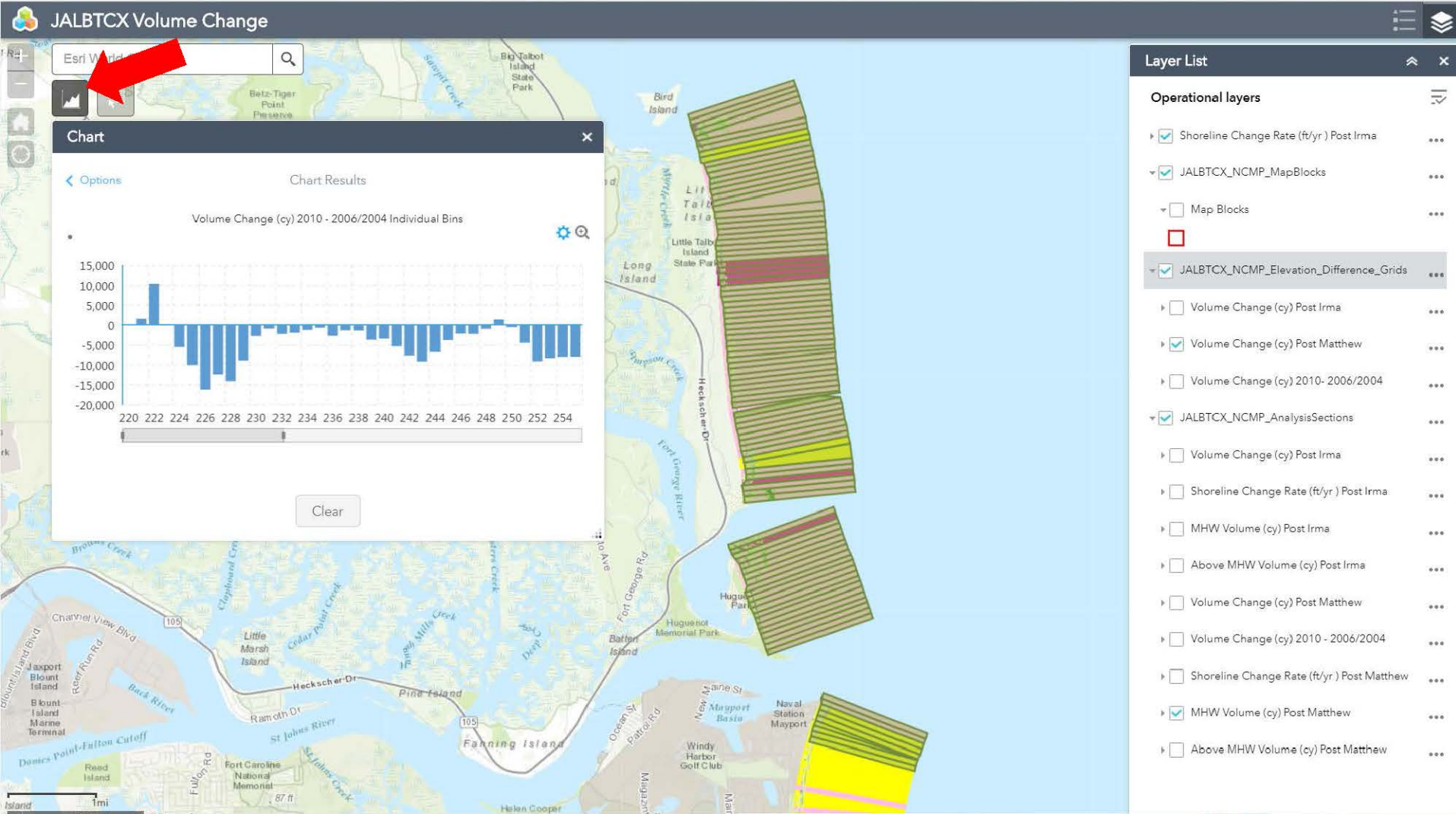
- Interactive web map



<https://tinyurl.com/VolumeChange>

<https://usace.maps.arcgis.com/apps/webappviewer/index.html?id=d1ee0da4887046edbc9ff05c66d40708>

Web Map - Volume and Shoreline Change



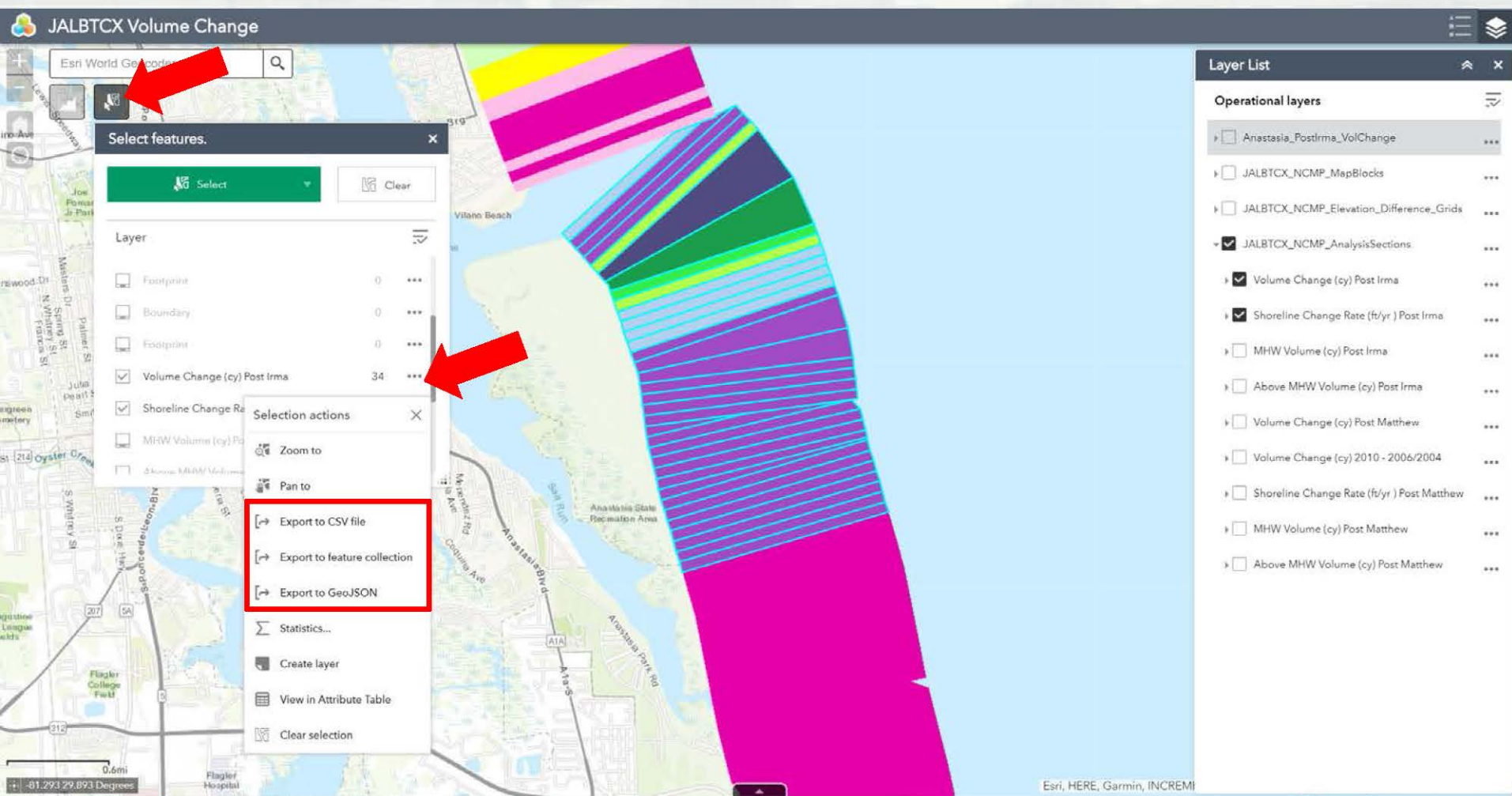
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Web Map - Volume and Shoreline Change

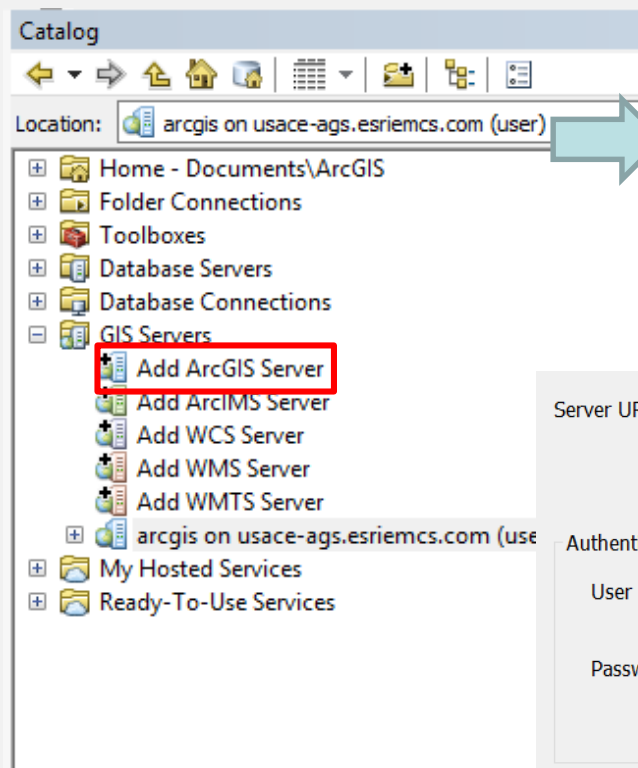


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Accessing through ArcGIS server

<http://usace-ag.s.esriemcs.com/arcgis/services>



What would you like to do?

- ☒ Use GIS services
- ☐ Publish GIS services
- ☐ Administer GIS server

Server URL:

<http://usace-ag.s.esriemcs.com/arcgis/services>

ArcGIS Server: <http://gisserver.domain.com:6080/arcgis>

Authentication (Optional)

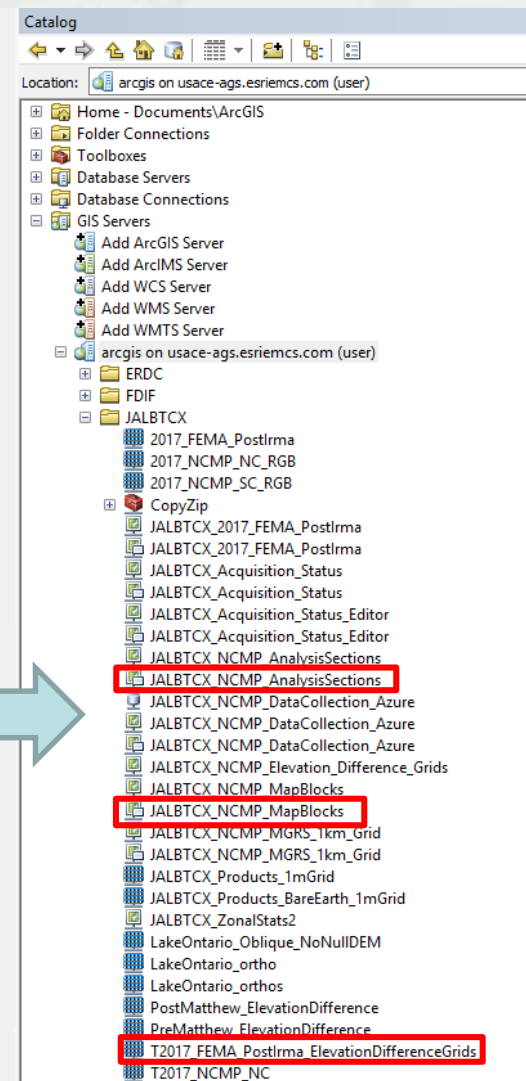
User Name:

Leave blank

Password:

Leave blank

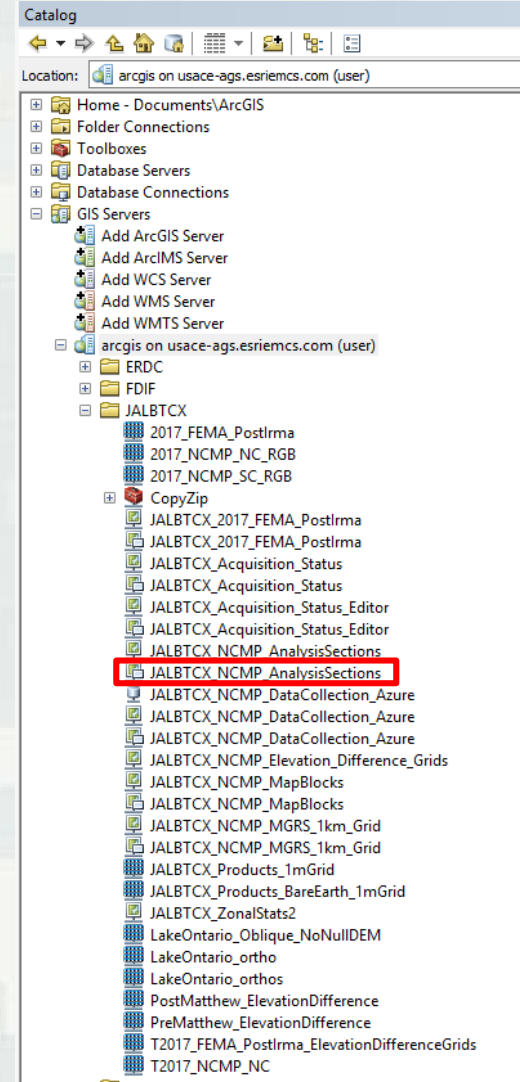
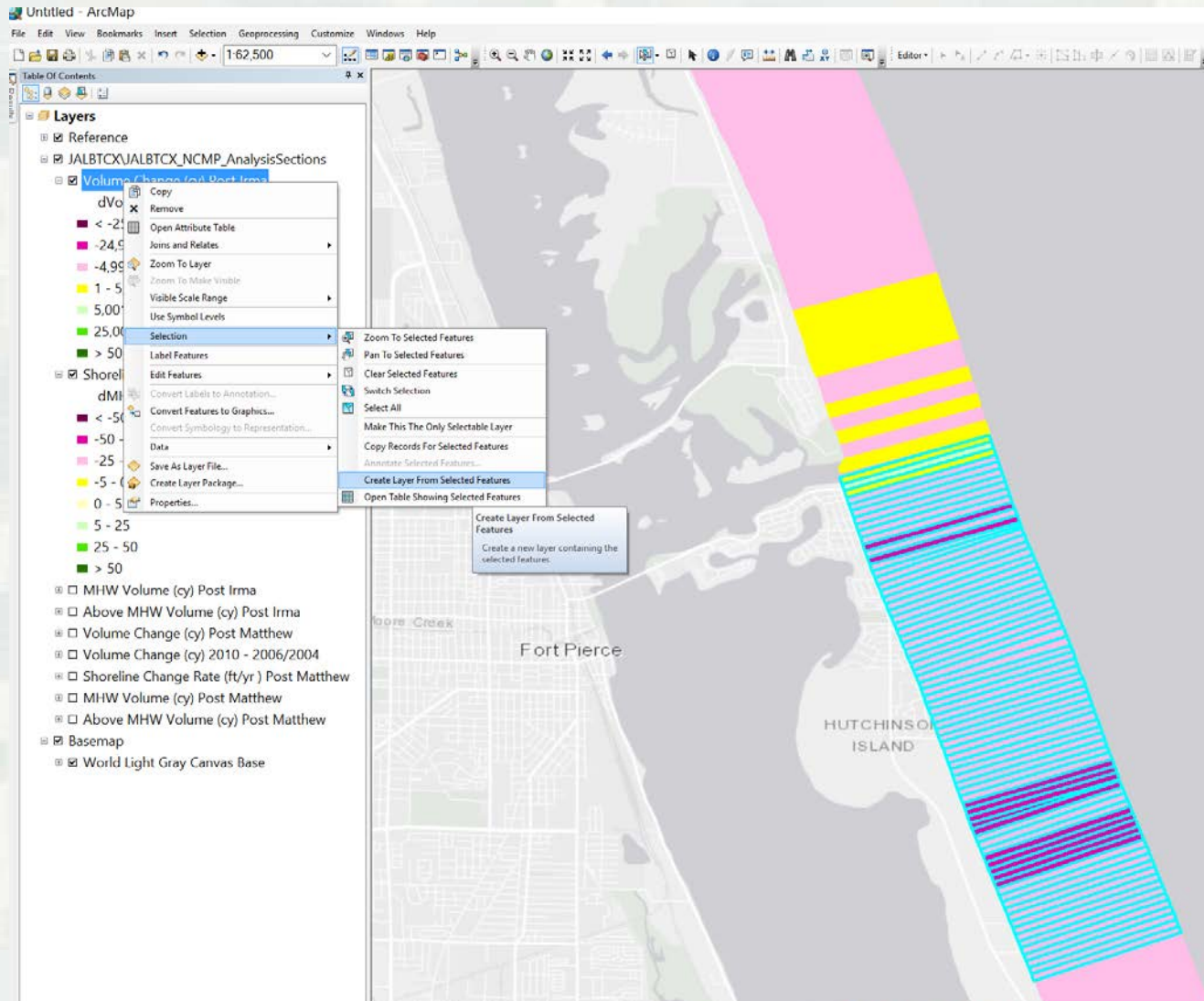
☒ Save Username/Password



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Accessing through ArcGIS server



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Web Map - Geomorphic Metrics

Dune Crest

Beach Width

Dune Crest
Dune Toe

Layer List

Operational layers

- ☐ Map Blocks
- ☐ Dune Toe points (m) Post Matthew
- ☒ Dune Crest points (m) Post Matthew
 - Crest_Height
 - 7.614601 - 15.406419
 - 5.693376 - 7.614600
 - 1.304162 - 5.693375
- ☐ Dune Toe line Post Matthew
- ☐ Dune Crest line Post Matthew
- ☐ Elevation_Difference_Grids
- ☐ Analysis_Sections
- ☒ Dune Toe points (m) Post Matthew
- ☒ Dune Crest line Post Matthew
- ☒ Elevation_Difference_Grids
 - Volume Change (cy) Post Irma
 - ☒ Volume Change (cy) Post Matthew
- ☐ Boundary
- ☐ Footprint
- ☒ Image
 - High : 2
 - Low : -2



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