

EHYDRO IMPLEMENTING A BIS

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For NOAA's Open House on Nautical Cartography

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US Army Corps
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TALKING POINTS

- Define eHydro
- Advertise where to access the repository
- Define the authoritative datasets
- Status update of survey details
- Show sample map
- Describe how the BIS is expected to be used
- Expectations moving forward



What is eHydro?

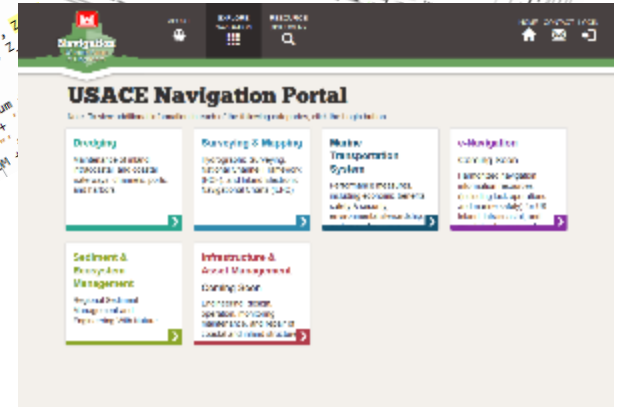
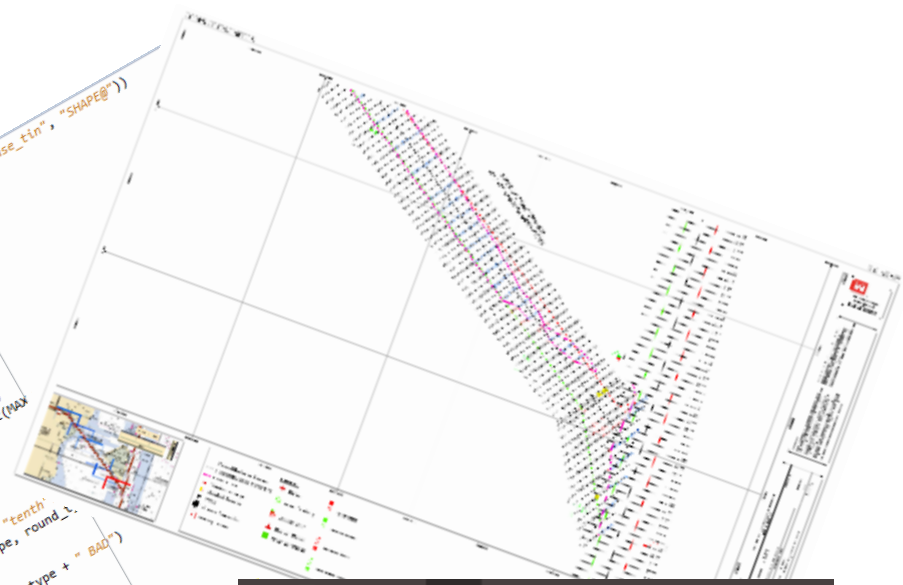
Enterprise Hydrographic Data Repository





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```
.label", "SurveyDateStamp", "SurveyId", "channelAreaIDFK", "Z_use_tin", "SHAPE@")  
set_Z  
e_count;  
le_name_list_loc[x], ""  
.rstrip().rstrip() and 0 != is_num(line_data[1])  
e_sub("[" + line_01  
= line_03.split(",")  
ne_data > 2;  
@ != is_num(line_data[0]) and 0 != is_num(line_data[2]);  
float(line_data[2]) - float(line_data[1]) != 0  
if float(line_data[0]) != 0 and float(line_data[1]) != 0  
Z_float = float(line_data[2]) - float(line_data[1])  
if Z_float > int((MIN_Z_value) and Z_float < int(MAX_Z_value) == "depth";  
Z_value_type = "Z_float";  
Z_depth = Z_float;  
else:  
Z_depth = Z_float + -1  
Z_use = Z_depth - offset_Z_float  
if Z_label_type == "feet" or Z_label_type == "tenths"  
Z_label = ehydroround(Z_use, Z_label_type, round_L)  
else:  
print_error()  
print_and_log("Z_label_type" + Z_label_type + "BAD")  
Z_use_tin = Z_use + tin_buffer  
sys.exit(20)  
Z_use_tin = Z_use + tin_buffer  
Z_use_tin = Z_use + tin_buffer  
XX = float(line_data[0])  
YY = float(line_data[1])  
ZZ = line_data[2]  
cursor.insertRow([line_data[0], line_data[1], line_data[2], "elevationDatum", "", "", + elevationDatum +  
"elevationUOM", "", sourceType +  
"locationUOM", "", + locationUOM +  
Z_label, dateStamp, FileNameIpostfix, channelAreaIDFK_ext, Z
```



EHYDRO

To Catalog, Organize and Disseminate navigation related data efficiently and effectively.



NAVIGATION WEBSITE

The navigation website utilizes web map services hosted by ACE-IT at the CPC.

As the source layers are updated so are the pages, maps, and applications on the site.

USACE Navigation Portal

Note: To view additional information in each of the following categories, click the Login button.

- Dredging**
Maintenance of inland, intracoastal, and coastal waterways, channels, ports, and harbors
- Surveying & Mapping**
Hydrographic Surveying, National Channel Framework (NCF), and Inland Electronic Navigational Charts (IENC)
- Marine Transportation System**
Performance measures, including economic benefits, safety & security, environmental stewardship, system performance
- e-Navigation**
Coming Soon
Harmonized navigation information resources (including lock operations and marine safety) for US inland, intracoastal, and coastal waterways and...
- Sediment & Ecosystem Management**
Regional Sediment Management and Engineering With Nature

Hydrographic Surveys

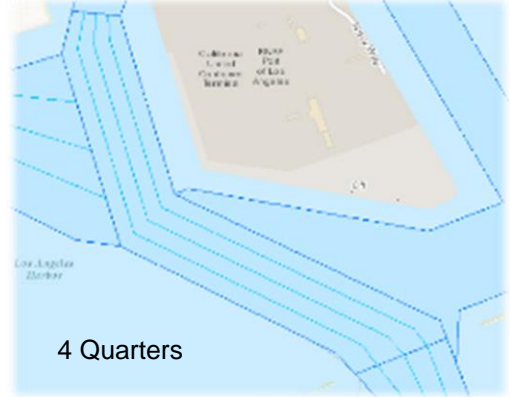
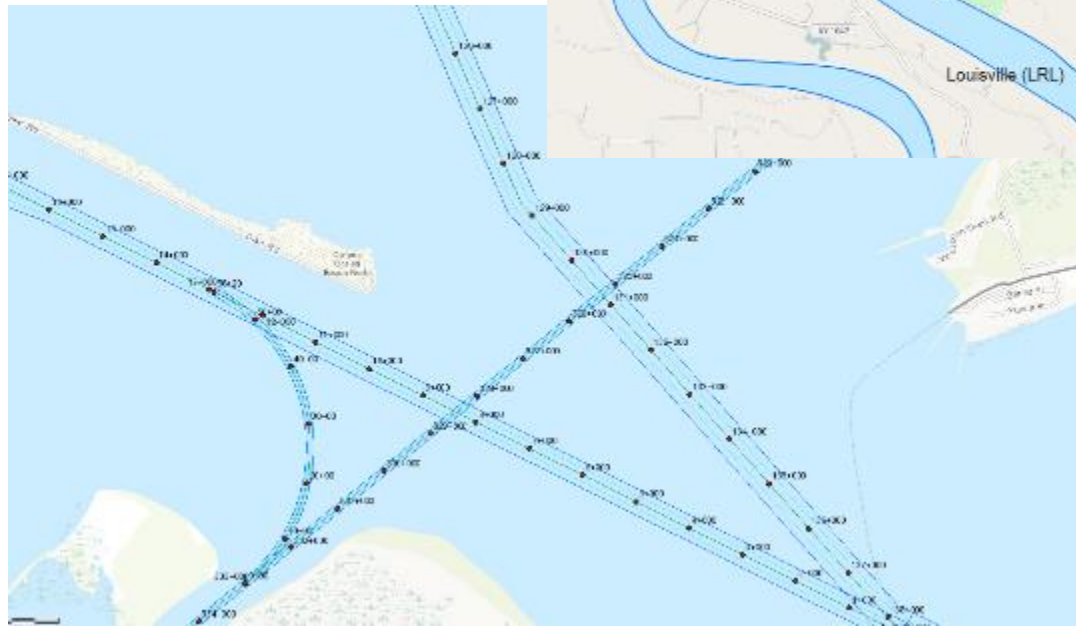
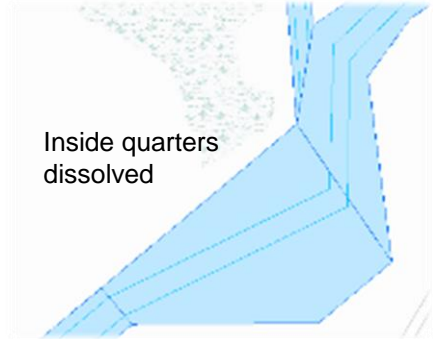
Date	Survey Name	Devices
2006-07	USACE SURVEILLANCE SURVEY	AMAD
2007-07	USACE SURVEILLANCE SURVEY	AMAD
2008-07	USACE SURVEILLANCE SURVEY	AMAD
2009-07	USACE SURVEILLANCE SURVEY	AMAD
2010-07	USACE SURVEILLANCE SURVEY	AMAD
2011-07	USACE SURVEILLANCE SURVEY	AMAD

Displaying Surveys 1 - 5 out of 123

<http://navigation.usace.army.mil>

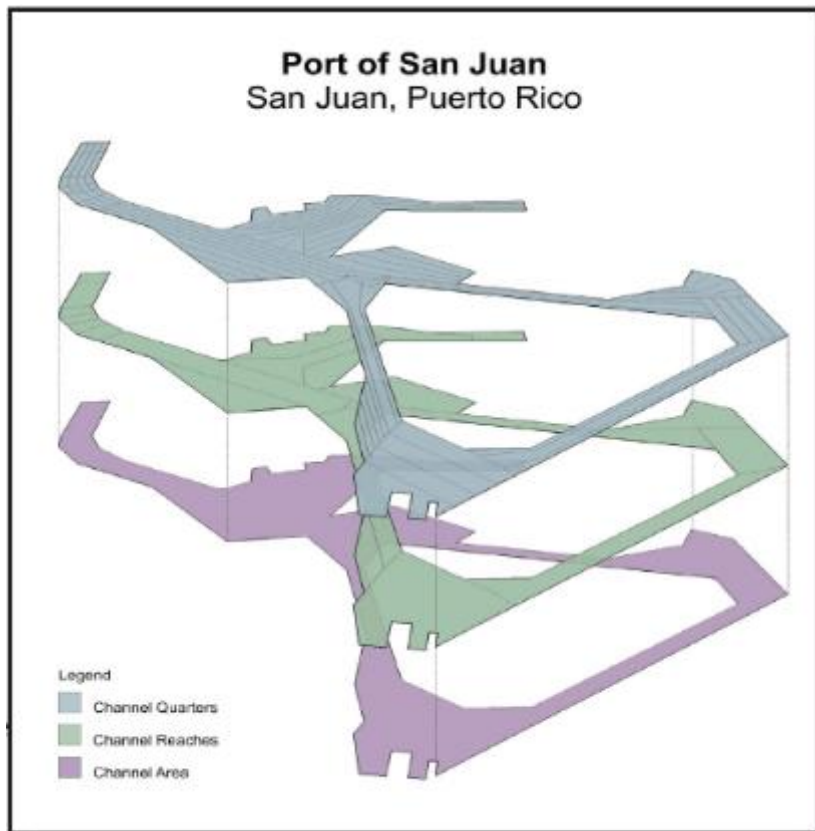
NCF FEATURES MANAGED

- Channel Project Areas
- Reaches
- Quarters (4/4, 3/4, & Full width)
- Centerlines
- Station lines



NCF GEOMETRY

Coastal



Inland



SURVEY STATUS

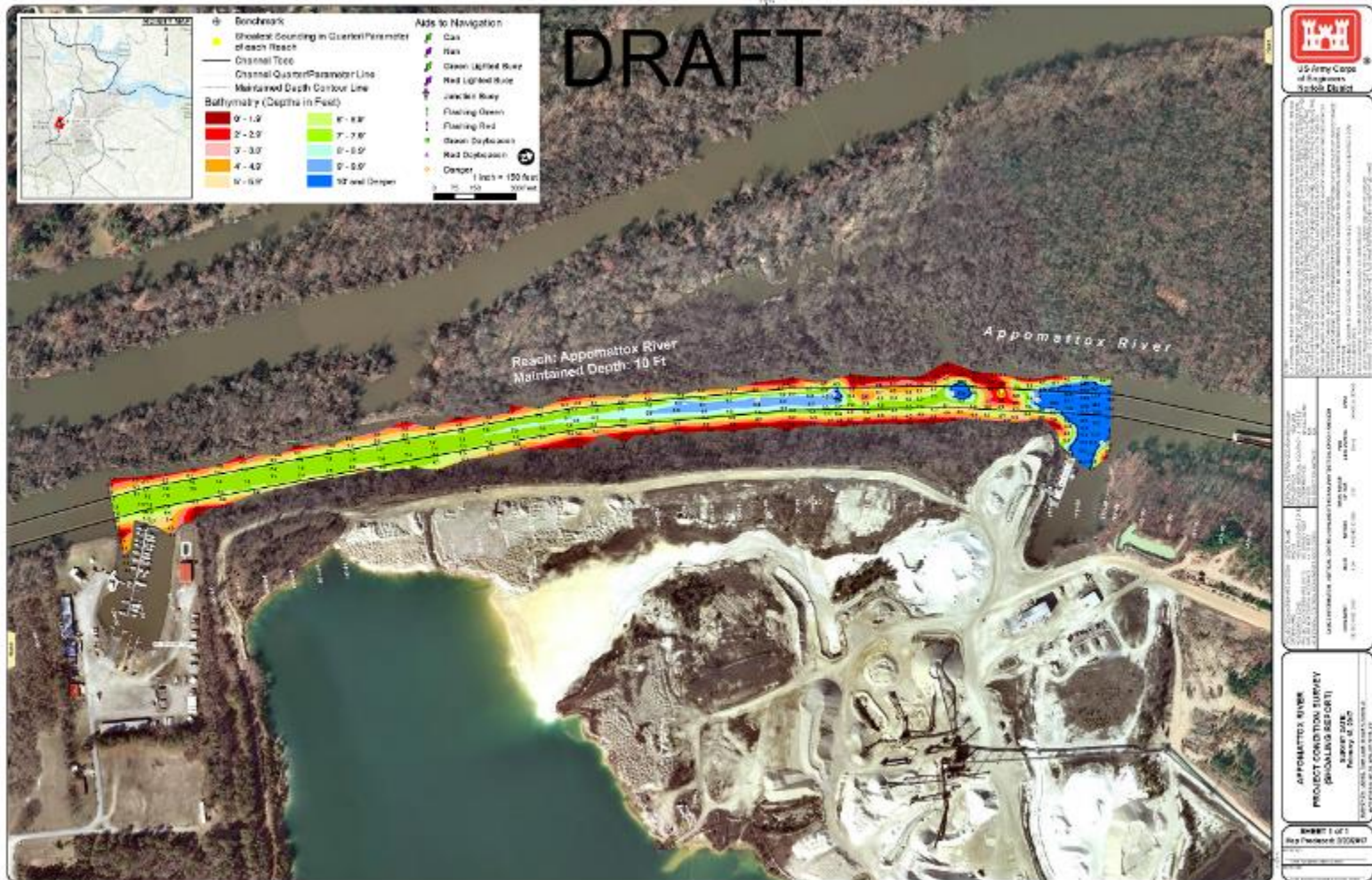
Operational Surveys are defined as a survey start date less than 60 days from 30 JUN 2017

Totals @ a Glance			
	Coastal	Inland	USACE Totals
Operational Surveys (<60 Days)	694	77	771
Total Surveys (<=30 Days)	480	117	597
Total Surveys (<=60 Days)	1086	186	1272
Total Surveys (<=120 Days)	2043	269	2312
Total Surveys (All Times)	22221	709	22930
Total Channel Area (Polygons)	1724	79	1803

DISTRICT	OPS_SURVEYS_60_DAYS	TOTAL_SURVEYS_60_DAYS	TOTAL_SURVEYS
LRB	0	0	20
LRC	1	7	29
LRE	0	0	223
LRL	23	68	334
MVN	403	415	10337
MVP	52	77	77
MVR	38	46	316
MVS	0	46	46
NAB	1	7	469
NAE	0	5	46
NAN	0	8	8
NAO	6	28	333
NAP	3	11	112
NWP	119	138	3736
NWS	12	13	359
POA	1	8	55
POH	0	0	20
SAC	4	9	187
SAJ	0	33	139
SAM	17	69	680
SAS	2	3	46
SAW	73	112	1483
SPK	0	0	19
SPL	2	16	61
SPN	0	0	183
SWG	43	121	3890



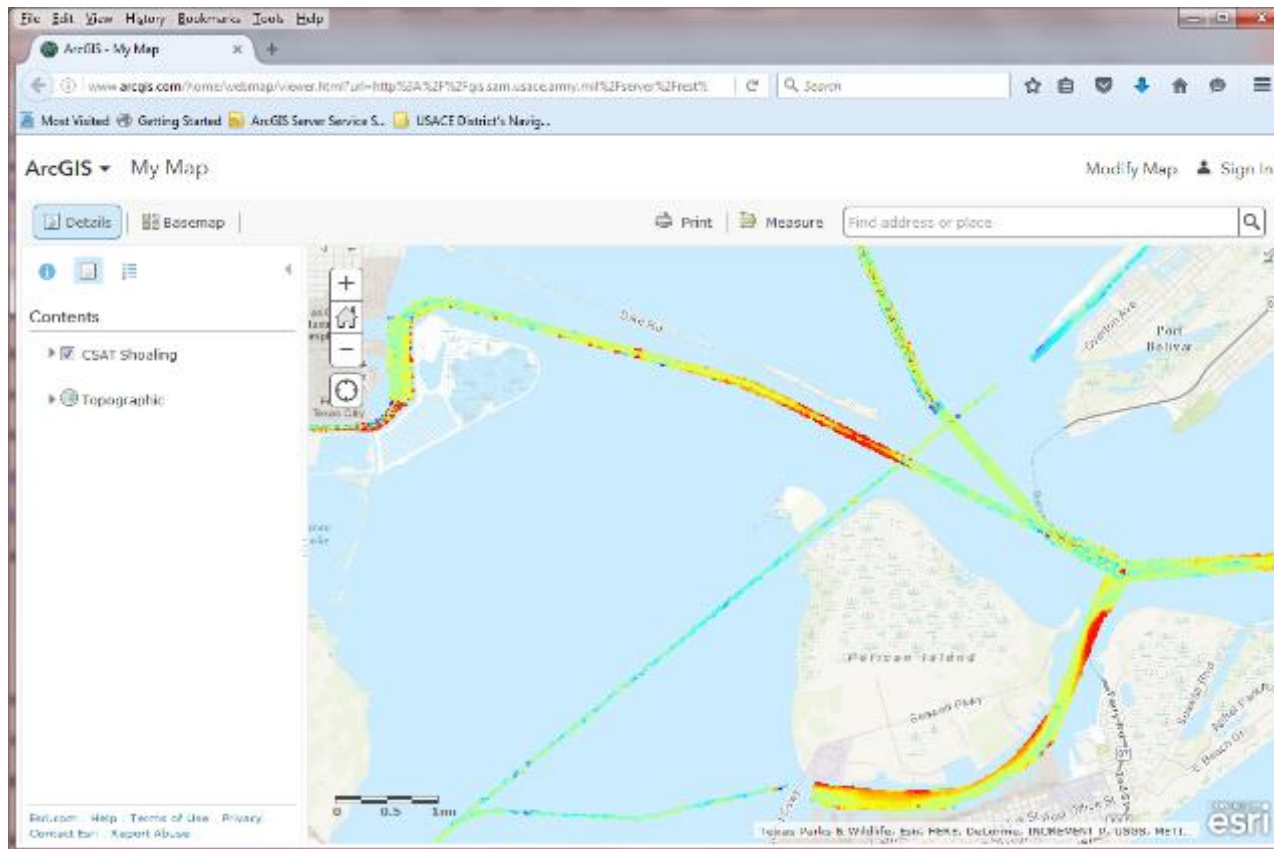
DATA PRODUCTS



eHydro Project Specific MXD

CSAT: CORPS SHOALING ANALYSIS TOOL

- Fed by eHydro survey data
- Analysis by Reach from Channel Framework
- Expectation of 5 years of data

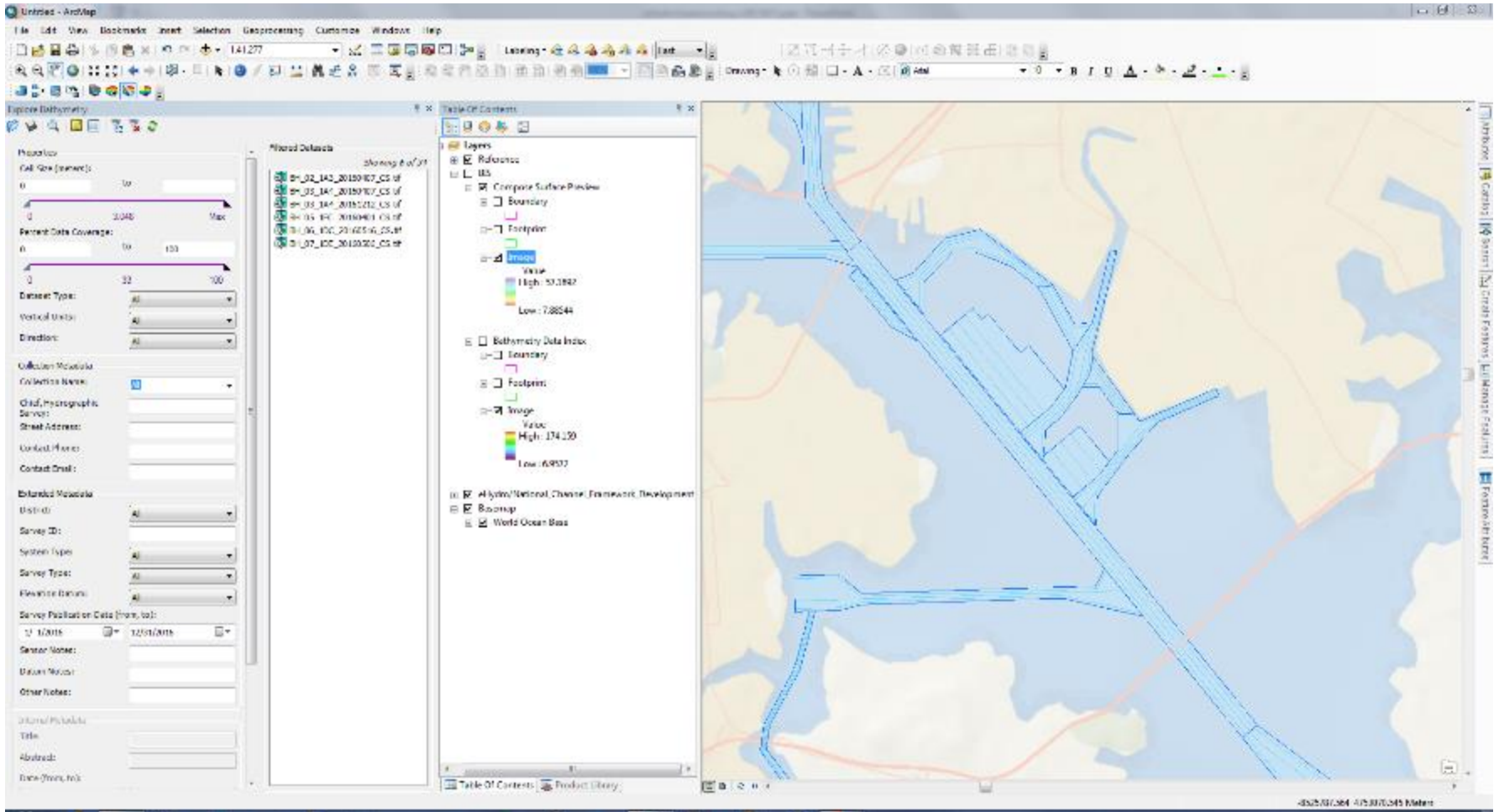


CSAT ESTIMATED VOLUME TABLES

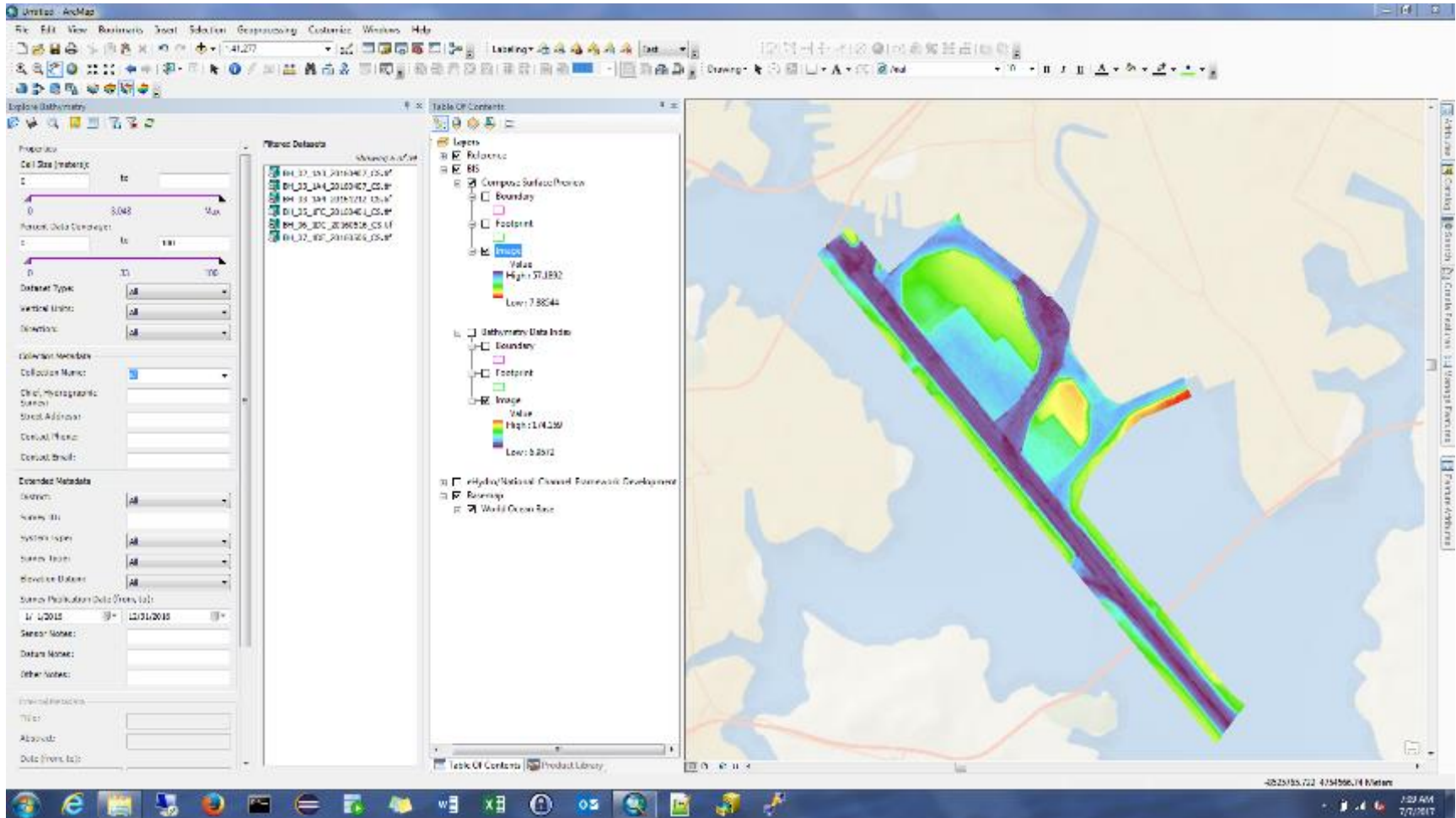
Shoaling rate w/ last survey 

Dredge Cut (ft)	Now (CY)	6 months (CY)	12 months (CY)	18 months (CY)	24 months (CY)	30 months (CY)	36 months (CY)
-45	195,320	271,020	373,070	492,200	624,890	771,020	931,220
-44	125,140	173,140	238,620	331,710	444,910	572,680	713,450
-43	76,249	109,860	153,260	210,570	293,080	399,730	522,310
-42	43,628	65,655	95,990	135,350	186,480	258,070	356,920
-41	24,409	37,093	56,313	83,402	119,100	165,270	227,370
-40	14,958	21,022	31,470	48,147	72,041	104,370	146,170
-39	10,060	13,343	18,250	26,832	41,017	61,922	91,020
-38	7,083	9,092	11,945	16,084	23,035	34,823	53,059
-37	5,194	6,480	8,241	10,728	14,312	19,888	29,576
-36	3,865	4,787	5,944	7,496	9,673	12,784	17,358
-35	2,806	3,555	4,412	5,465	6,843	8,751	11,457





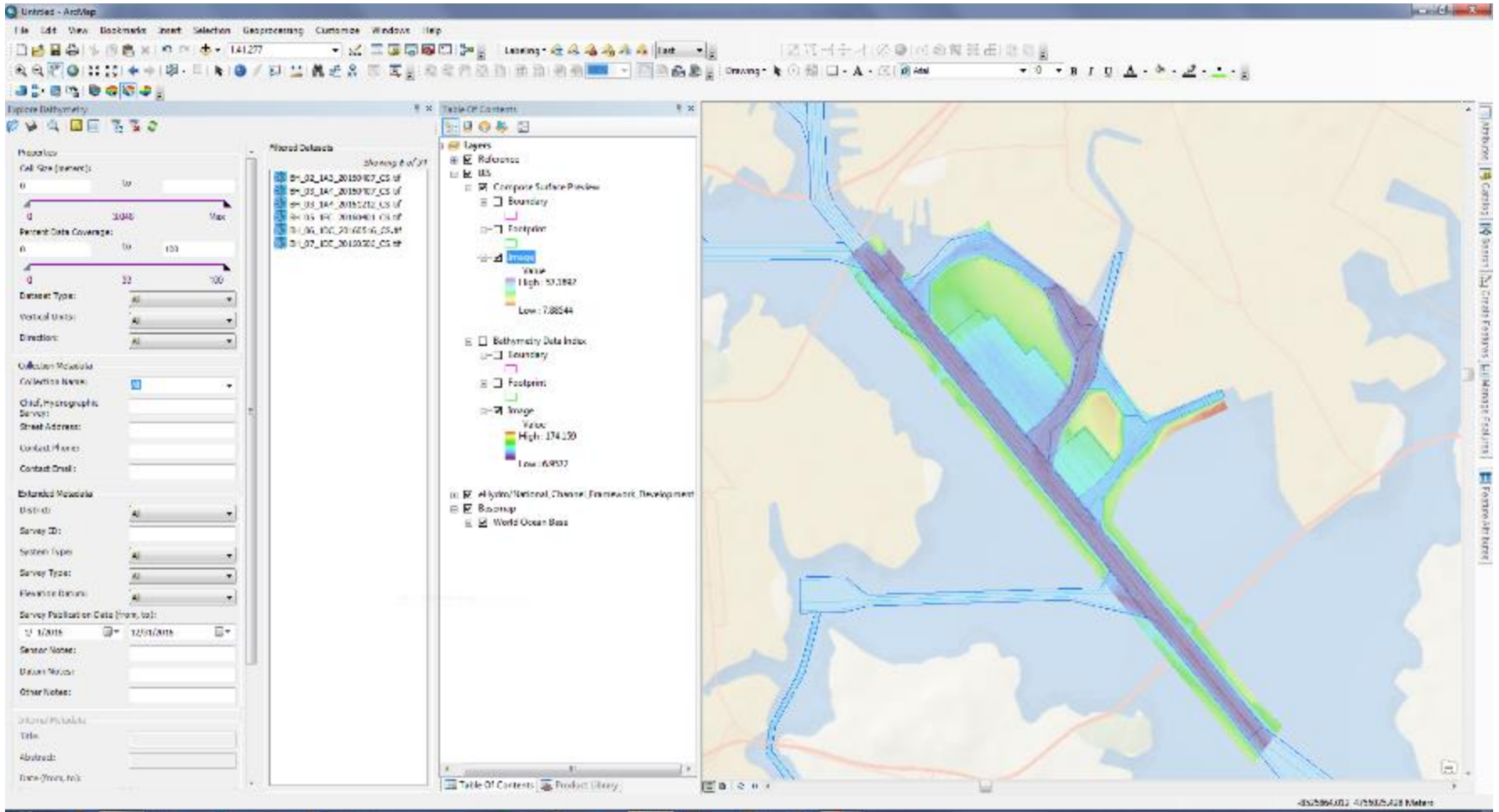
National Channel Framework



eHydro Composite Survey 2016 (Baltimore Harbor)

eHydro Implementing a BIS 2017





Complete view (NCF & BIS)

EXPECTATIONS

- Complete Proof of Concept on USACE network
- Implement an enterprise version of the BIS
- Expand BIS into web services for public consumption
- Coordinate with other agencies for future uses



THANK YOU!

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