

Status of Inland ENCs in the USA

Denise R. LaDue
US Army Corps of Engineers (USACE)

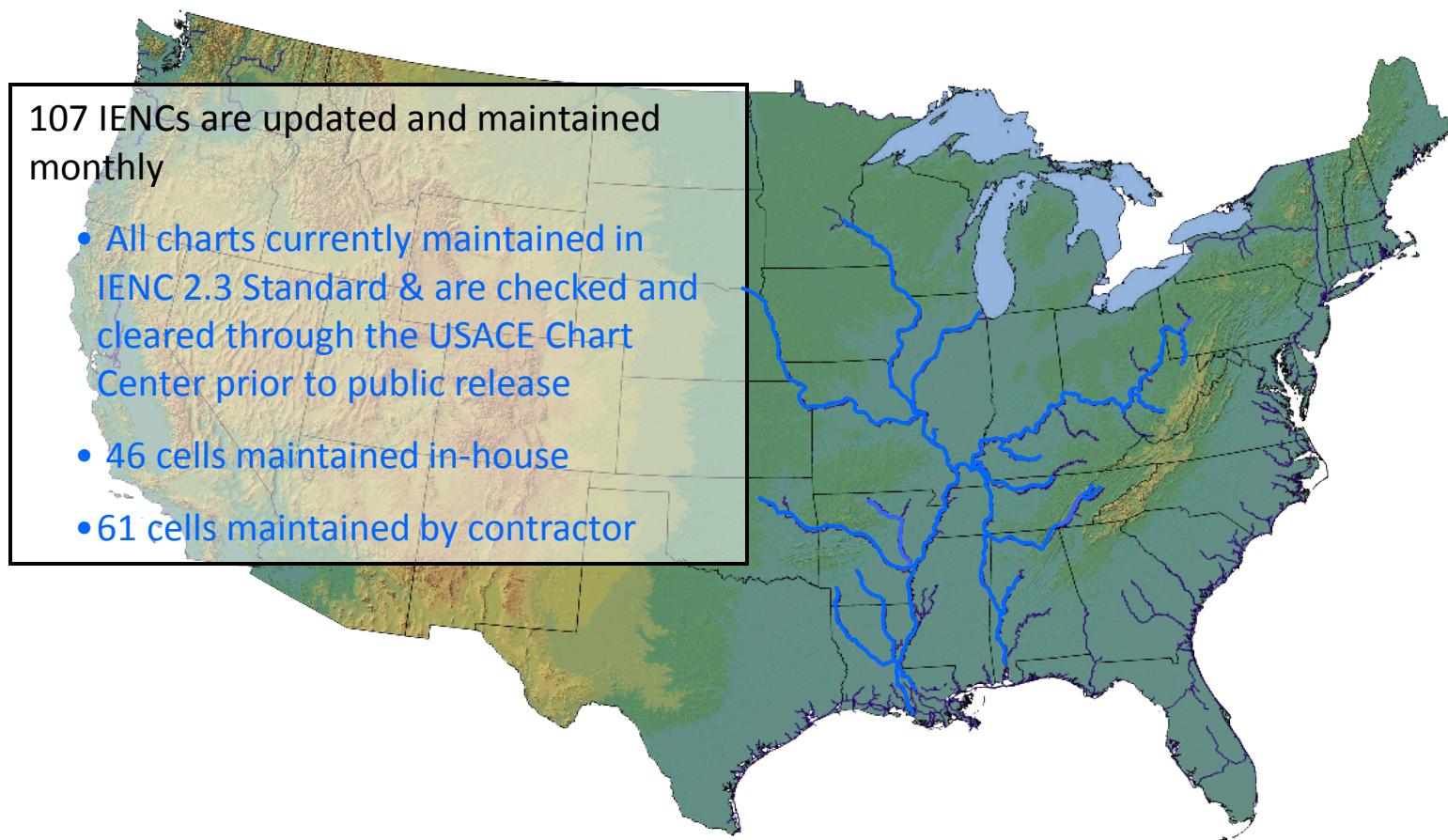
USACE Navigation Mission



Status of IENC Production in the USA

<http://www.agc.army.mil/echarts/>

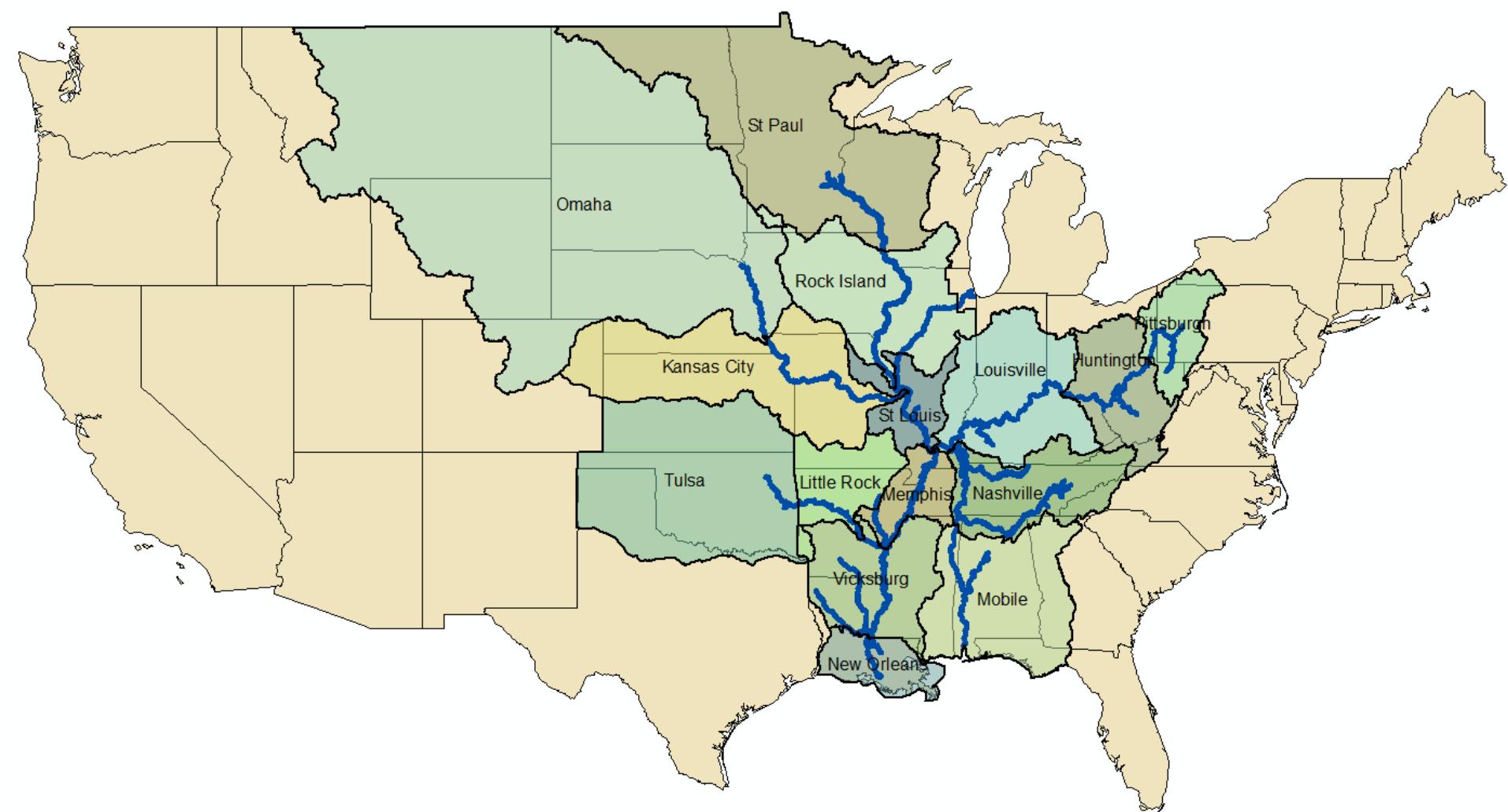
7,260 mi (11,684 km) of inland waterways are scheduled for Inland ENC coverage



Implementation of Inland ENCs in the USA

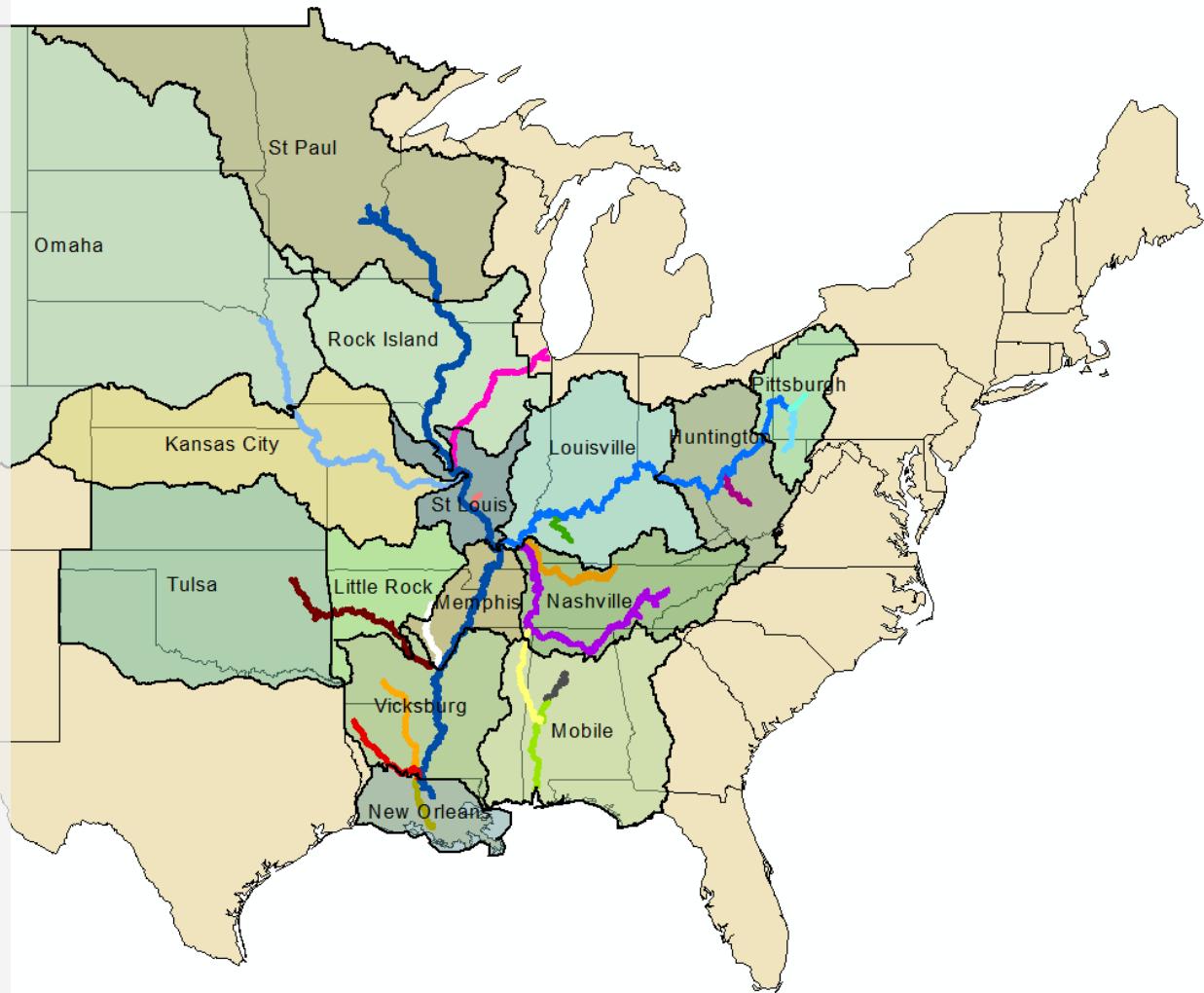
River / Waterway	Miles	Kilometers	Inland ENC 2.3 (converted Jan. 2015)
Allegheny River	45	72	Published
Arkansas River	445	716	Published
Atchafalaya River	118	190	Published
Black Warrior River	235	378	Published
Cumberland River	381	613	Published
Green River	108	174	Published
Illinois Waterway	337	542	Published
Kanawha River	91	146	Published
Kaskaskia River	36	58	Published
Lower Mississippi River	715	1,151	Published
Missouri River	733	1,180	Published
Mobile / Tombigbee Rivers	217	349	Published
Monongahela River	129	208	Published
Ohio River	981	1,579	Published
Ouachita River	351	565	Published
Red River	237	381	Published
Tennessee River	765	1,231	Published
Tennessee-Tombigbee Waterway	225	362	Published
Upper Mississippi River	866	1,394	Published
White River	245	394	Published
Total	7,260	11,684	

15 USACE Districts in IENC Program



Inland Waterways in the USA

- Allegheny – 72 km
- Arkansas – 716 km
- Atchafalaya – 190 km
- Black Warrior – 378 km
- Cumberland – 613 km
- Green – 174 km
- Illinois – 542 km
- Kanawha – 146 km
- Kaskaskia – 58 km
- Mississippi – 2545 km
- Missouri – 1180 km
- Mobile / Tombigbee – 349 km
- Monongahela – 208 km
- Ohio – 1579 km
- Ouachita – 565 km
- Red – 381 km
- Tennessee – 1231 km
- Tenn-Tom Waterway – 349 km
- White – 394 km



“Formal” Source Submittal

IENC District Source Metadata & Check Sheet
US Army Corps of Engineers
USACE District Assessment of Current Data Source Submittals



April 2016 –Version 2.0

AGC **USACE**

IENC Source Review Checklist:

This checklist is a form that should be completed prior to source delivery to the IENC program QA Manager and IC Technologies or the IENC Production Manager (LRS). Please submit this completed form with each new source submission. This form replaces the previously used metadata sheet, and can help identify potential problem areas common to differences between SOS 2.6 (or later) and IENC product specifications as well as any skin of the Earth (SOE) changes that may have occurred. Discrepancies found in the new source data may result in a request for clarification or re-submission, resulting in the delay of data implementation.

District: _____

District POC: _____

POC Phone #: _____

Metadata:

Description of Data: (e.g. hydro or feature)

Delivery Date to Charting Center: _____

Intended Implementation Date (delivery date): _____

Source Data Specifics:

(Each piece of submitted source info)
(To add a new row, left click in a row, right mouse click “Insert Row”)

File Name	S-57 Object Class	Feature Description
e.g. tentom.txt	DEPARE	New survey

Source Replacement Specifics:

Is any of the data a Total Source Replacement of an existing layer/feature in chart completely?

No
 Yes
If "Yes", please list the source file names: _____

Additional Remarks:

IENC Source Review and Metadata Sheet

Depths/Depth Area Source:

For all Depth/Sounding Data submissions:

Should Data Quality (M_QUAL) be changed to reflect accuracy of data?

Yes – Please choose Zone of Confidence (CATZOC) – most USACE IENCS should be 1, 2 or 3.

Topography (Land / Shoreline):

1. Does coastline (COALNE) cross any depth contours (0' or 9')?

- No – Proceed to question 2
 Yes – Answer question below

If you answered “Yes” above, have you provided new depth contours or sounding data to avoid overlap?

- No – Source will likely be rejected until new depth information is provided
 Yes – Proceed to Question 2

Additional District Remarks:

2. Does coastline (COALNE) maintain consistency with adjacent features, such as shoreline construction features (piers, wharfs, revetments, etc) or locks and dams?

river bottom features
t.

in features and depths

submerged) features
beam surveys).

alias expected_low

Other Sources



U.S. Department
of Homeland Security
**United States
Coast Guard**

LOCAL NOTICE TO MARINERS

District 8 MRS

Week: 16/17

Mississippi River System

SECTION II - DISCREPANCIES
This section lists all reported and corrected discrepancies related to Aids to Navigation in this edition. A discrepancy is a change in the status of an aid to navigation that differs from what is published or charted.

DISCREPANCIES

LLNR	720
760	790
805	943
1070	1213
1267	1275
11280	

SECTION III - TEMPORARY CHANGES and TEMPORARY CHANGES CORRECTED
This section contains temporary changes and corrections to Aids to Navigation for this edition. When charted aids are temporarily relocated for dredging, testing, evaluation, or marking an obstruction, a temporary correction shall be listed in Section IV giving the new position.

TEMPORARY CHANG

LLNR	7030
7040	11250
11275	11280

SECTION VII - GENERAL
This section contains information of general concern to the Mariners. Mariners are advised to use caution while transiting these areas.

SECTION VIII - LIGHT LIST CORRECTIONS
An Asterisk *, indicates the column in which a correction has been made to new information

(1) No.	(2) Name and Location	(3) Mile	(4) Bank	(5) Characteristic	(6) Structure / Dayboard Up	(7) Remarks
6260	Nettle Lower Daybeacon					Remove from list. 12/17*

USCG Navigation Center: <https://www.navcen.uscg.gov/>

IENC Chart Discrepancy Reporting System: <https://ienc-report.usace.army.mil/>

US Army Corps of Engineers
IENC Chart Discrepancy Reporting System

BUILDING STRONG®

menu

Login

Signed in as:

Reference Links

About Our Program

Help

Contact Information

Welcome to the IENC Chart Discrepancy Reporting System

The IENC Chart Discrepancy Reporting System provides registered users the opportunity to report inaccuracies in and problems with IENC charts.

Do You Need An Account?
If you are not a registered user, click the button below.

Register For An Account

Registered Users:
If you are a registered user, log in here.

Login To My Account



Chart Discrepancy Reporting System

<https://ienc-report.usace.army.mil/>

The screenshot shows the homepage of the IENC Chart Discrepancy Reporting System. At the top, there is a banner with the US Army Corps of Engineers logo and the text "IENC Chart Discrepancy Reporting System". To the right of the banner is a "menu" icon and the slogan "BUILDING STRONG®". Below the banner, there is a navigation bar with links for "Home", "Reference Links", "About Our Program", "Help", and "Contact Information". On the right side of the page, there is a "Signed in as:" section with a "Login" button. The main content area features a welcome message: "Welcome to the IENC Chart Discrepancy Reporting System". It explains that the system allows registered users to report inaccuracies in IENC charts. There are two buttons: "Register For An Account" (blue) and "Login To My Account" (green). The "Reference Links" sidebar contains three items: "About Our Program", "Help", and "Contact Information", each with a small green arrow icon.

Welcome to the IENC Chart Discrepancy Reporting System

The IENC Chart Discrepancy Reporting System provides registered users the opportunity to report inaccuracies in and problems with IENC charts.

Do You Need An Account?

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If you are a registered user, log in here.

Login To My Account

History Files

IENC Meta | **Source Application** | Compiler Reviewer | Discrepancy Report | "Legacy" Source Application

US Army Corps of Engineers IENC History File					
IENC Meta Data					
IENC Cell No.	IENC Cell Name	River Name	District	From Mile	To Mile
U370H912	Bay City, IL to Cairo, IL	Ohio	CELRL	912	981
Product Release History					
New Edition (EN) / Update (ER)	IENC File Name	Edition No.	Update No.	Update Application Date	Issue Date
EN	U370H912.000	33	-	7/13/2016	
ER	U370H912.001	33	1	8/2/2016	
ER	U370H912.002	33	2	8/17/2016	
ER	U370H912.003	33	3	9/14/2016	
ER	U370H912.004	33	4	10/12/2016	
ER	U370H912.005	33	5	12/14/2016	
ER	U370H912.006	33	6	1/18/2017	
EN	U370H912.000	34	-	2/8/2017	
ER	U370H912.001	34	1	3/8/2017	
ER	U370H912.002	34	2	4/12/2017	
261 USCG LNM Section 7: General - 32/16 Chart Chart M_NPUB Text File - U30H912NP1.TXT Text Added text entry: MILE 953.0 - MILE 968.0 - LD REPAIRS/TOW RESTRICTIONS - UPDATE Removed text entry: MILE 935.0 - CONSTRUCTION OPERATION					
262 M_NPUB Text File - U30H912NP1.TXT Text					
263 USCG LNM Section 7: General - 37/16 Chart Chart M_NPUB Text File - U30H912NP1.TXT Text Added text entry: MILE 953.0 - MILE 968.0 - LD REPAIRS/TOW RESTRICTIONS and MILE 940.8 - BRIDGE MAINTENANCE - UPDATE					
264 Email Email from G. Thornberry - "RECTRC misalignment at Care" - 9/20/2016 981 - RECTRC - Modified RECTRC to alignment with U37UM000.					
265 M_NPUB Text File - U30H912NP1.TXT Text					
266 USCG LNM Section 7: General - 35/16 Chart Chart M_NPUB Text File - U30H912NP1.TXT Text Added text entry: MILE 962.6 - LD REPAIR					
267 M_NPUB Text File - U30H912NP1.TXT Text					

Source Application								
Item No.	Source Description	Source Name / Identifier	Source Date	Vector / Raster	Location; River Mile & Descending Bank	Action Taken	Date Completed	
1	Encoding Guide 4.0 Compliance		5/8/2007	V	Entire Cell		5/8/2007	
2	2007 SEAS, Inc. 400' X-section hydrographic survey			V	New shoreline, drying height and 9' depth contour added to cell		5/2/2008	
3	McClane Environmental Services feature survey		9/7/2007	V	Field verification of all lights, facilities & ramps		5/2/2008	
4	Homeland Security		-	V	Removed intakes and pipeline products		5/2/2008	
5	M_NPUB	M_NPUB	-	V	M_NPUB Added to cell		5/1/2008	
6	USCG LNM	D8 LNM 19/08	5/8/2008	R	IENC corrected through LNM 19/08. Multiple corrections, to include changes to SOTE		5/8/2008	
Source Application								
Date	Location; River Mile	Descending Bank	IENC OBJECTS	Local Notice to Mariner Feature	Addition or Revision	IENC Object SORCAT	IENC Object SORIND	Date Completed
08	Chart	Chart	M_NPUB Text File - U30H912NP1.TXT	Text	Added text entry: MILE 953.0 - MILE 968.0 - LD REPAIRS/TOW RESTRICTIONS - UPDATE Removed text entry: MILE 935.0 - CONSTRUCTION OPERATION	20160804	US,US,Light,USCG Light List - LNM 18/16	5/5/2016
09	922.3	Left	Isolat, LIGHTS, DAYMAR	Federal Aid	"STRUCT DEST" removed from OBUNAM for Cumberland Island Junction Light (Master object only)	20160316 (Slave objects only)	US,US,Light,USCG Light List No. 28145 - LNM 11/16 (Slave objects only)	5/5/2016
09	928.4	Left	LIGHTS, DAYMAR, Isolat	Federal Aid	Lightbar Light removed from USCG Light List and from IENC cell	-	-	5/5/2016
IENC cleared through week 18/16 (May 4, 2016)								
10	Chart	Chart	M_NPUB Text File - U30H912NP1.TXT	Text	Modified text entry: MILE 953.0 - MILE 968.0 - LD REPAIRS/TOW RESTRICTIONS	20160808	US,US,Light,USCG Light List - LNM 23/16	6/13/2016
IENC cleared through week 23/16 (June 8, 2016)								
11	Chart	Chart	M_NPUB Text File - U30H912NP1.TXT	Text	Removed text entries: MILE 953.0 - MILE 968.5 - LD REPAIRS/TOW RESTRICTIONS and MILE 940.8 - BRIDGE MAINTENANCE - UPDATE	20160713	US,US,Light,USCG Light List - LNM 29/16	7/15/2016
016	964.5	-	DAMCON, SLCONS, LINARE	-	Added footprint of current construction at Gimlet Locks and Dam	20160711	US,US,shape,USACE_Louisville_GIS	7/15/2016
IENC Cleared through week 26/16 (July 13, 2016)								
016	964.5	Left	DEPOT, DEPARE	-	Connected two nodes to ensure topology was complete	-	-	8/2/2016
IENC Cleared through week 26/16 (July 13, 2016)								
261	USCG LNM	Section 7: General	-	32/16	Chart Chart M_NPUB Text File - U30H912NP1.TXT Text	Added text entry: MILE 953.0 - MILE 968.0 - LD TOW RESTRICTIONS	20160817	US,US,Light,USCG Light List - LNM 33/16
IENC Cleared through week 33/16 (August 17, 2016)								
263	USCG LNM	Section 7: General	-	37/16	Chart Chart M_NPUB Text File - U30H912NP1.TXT Text	Added text entry: MILE 953.0 - MILE 968.0 - LD RESTRICTIONS Removed text entry: MILE 953.0 - MILE 968.5 - LD TOW RESTRICTIONS	20160914	US,US,Light,USCG Light List - LNM 37/16
IENC Cleared through week 37/16 (September 14, 2016)								
264	Email	Email from G. Thornberry - "RECTRC misalignment at Care"	-	9/20/2016	981 - RECTRC -	Modified RECTRC to alignment with U37UM000.	20131231	US,US,GRAPH_2013_USCG_AS
IENC Cleared through week 37/16 (September 14, 2016)								
266	USCG LNM	Section 7: General	-	35/16	Chart Chart M_NPUB Text File - U30H912NP1.TXT Text	Added text entry: MILE 962.6 - LD REPAIR	20161012	US,US,Light,USCG Light List - LNM 41/16
IENC Cleared through week 41/16 (October 12, 2016)								
267								



Status Report

 <p>US Army Corps of Engineers Louisville District PO Box 59 Louisville, KY 40201 Ph: 502-315-6926</p>			
IENC MAINTENANCE STATUS REPORT - PROJECT DETAILS			
Project:	IENC Monthly Maintenance	Prepared by:	Denise LaDue
Date:	March 8, 2017	E-Mail Address:	Denise.R.LaDue@usace.army.mil

1. PROJECT SCHEDULE UPDATE

IENC Cell No.	Chart Name (River Miles)	Update Date: 11/9/2016	Update Date: 12/14/2016	Update Date: 1/18/2017	Update Date: 2/8/2017	Update Date: 3/8/2017
		Corrected/Cleared through: LNM 45/16 (November 9, 2016)	Corrected/Cleared through: LNM 50/16 (December 14, 2016)	Corrected/Cleared through: LNM 03/17 (January 18, 2017)	Corrected/Cleared through: LNM 06/17 (February 8, 2017)	Corrected/Cleared through: LNM 10/17 (March 8, 2017)
U37AG001	Allegheny River (001 to 046)	✓	U37AG001.003 Ed. 10.3	✓	✓	✓
U37CL007	Cumberland River (007 to 052)	U37CL007.012 Ed. 4.12	✓	✓	✓	✓
U37CR003	Cumberland River (003 to 075)	U37CR003.004 Ed. 13.4	U37CR003.000 Ed. 14.0	U37CR003.001 Ed. 14.1	U37CR003.002 Ed. 14.2	U37CR003.003 Ed. 14.3
U37CR075	Cumberland River (075 to 149)	U37CR075.005 Ed. 9.5	U37CR075.000 Ed. 10.0	U37CR075.001 Ed. 10.1	✓	✓
U37CR149	Cumberland River (149 to 221)	U37CR149.012 Ed. 10.12	U37CR149.000 Ed. 11.0	U37CR149.001 Ed. 11.1	✓	✓
U37CR221	Cumberland River (221 to 301)	✓	✓	✓	✓	✓
U37CR307	Cumberland River (307 to 381)	U37CR307.001 Ed. 8.2	✓	✓	✓	✓
U37GR001	Green River (001 to 108)	✓	✓	✓	✓	U37GR001.000 Ed. 9.0
U37KA001	Kanawha River (001 to 024)	U37KA001.006 Ed. 12.6	U37KA001.007 Ed. 12.7	U37KA001.008 Ed. 12.8	✓	✓
U37KA024	Kanawha River (024 to 050)	U37KA024.014 Ed. 13.14	U37KA024.015 Ed. 13.15	U37KA024.016 Ed. 13.16	✓	✓
U37KA050	Kanawha River (050 to 065)	✓	U37KA050.014 Ed. 12.14	U37KA050.015 Ed. 12.15	U37KA050.016 Ed. 12.16	✓
U37KA065	Kanawha River (065 to 091)	U37KA065.010 Ed. 11.10	U37KA065.011 Ed. 11.11	U37KA065.012 Ed. 11.12	U37KA065.013 Ed. 11.13	U37KA065.014 Ed. 11.14
U37MN001	Monongahela River (001 to 042)	✓	✓	✓	✓	✓
U37MN042	Monongahela River (042 to 086)	U37MN042.002 Ed. 12.2	U37MN042.003 Ed. 12.3	✓	U37MN042.004 Ed. 12.4	U37MN042.005 Ed. 12.5

Page 1 of 4

- Monthly change log
 - Current edition
 - Which cells changed
 - Descriptive summary of changes
- Summary of all History files in a small package

Quality Assurance

Inland Electronic Navigational Charts
District QA Chart Documentation Sheet

Delivery Cycle Date: **12 APR 17** Date QA Started: **18 APR 17** Date QA Completed: **18 APR 17**
 Chart Name: **OH736** Edition and Update #: **28.2** Date Produced: **12 APR 17**
 River Name: **Ohio** River Section Covered: From mile: **736** To mile: **852**
 USACE District: **Lrl** Chart Producer: **Denise LaDue**

Deliverables:

- Chart Exchange Set (*.000 file(s), catalog file(s), Image file(s))
- Final Report
- Metadata File
- Error Report
- Final Chart Production Files
- Other files requested in Scope/Task Order:

S-57/IENC Compliance:
Performed by: 

Compiler / Reviewer Information							
Source Application Item No.s	Completed By	Date Complete	Reviewed By	Review Complete; Ready for USACE Review	USACE Reviewer	Approved Date	Notes
166-168	Denise LaDue CELR-L-OP-E	12/16/2013	Todd Davis CELR-L-OP-TM				Sharps Bar light removed in Dec. delivery. Removed 1 MORFAC at Mile 961.0 and 1 at Mile 961.4 (Verified.)
169-170	Denise LaDue CELR-L-OP-E	1/14/2014	Todd Davis CELR-L-OP-TM				Metropolis Light has been removed
171-172	Denise LaDue CELR-L-OP-E	2/13/2014	Todd Davis CELR-L-OP-TM				Added text entry: MILE 962.5-MILE 966.0 - USACE VESSEL RESTRICTION Removed text entry: MILE 963.0 - MILE 966.0 - NO PASSING ZONE/CHANGE IN LD OPERATING HOURS VERIFIED BY LOOKING AT TXT FILE
173-175	Denise LaDue CELR-L-OP-E	3/19/2014	Todd Davis CELR-L-OP-TM				Owens Island Light changed from 934.6 to 934.2
177-179	Denise LaDue CELR-L-OP-E	5/8/2014	Todd Davis CELR-L-OP-TM				Verified - SCAMIN changed to 60,000 for LNDRGN (P) & (A) Verified - Modified text entry: MILE 962.5-MILE 966.0 - USACE VESSEL RESTRICTION
180-184	Denise LaDue CELR-L-OP-E	6/17/2014	Todd Davis CELR-L-OP-TM				Verified - Added CATSEA, Added CATCBL, Bird Nesting Platform Added text entry
185-186	Denise LaDue CELR-L-OP-E	7/10/2014	Todd Davis CELR-L-OP-TM				Verified-Added test entries: MILE 925.0 - DREDGE OPERATION at 963.0-MILE 966.0 - USACE VESSEL RESTRICTION. Removed text entry: MILE 962.5-MILE 966.0 - USACE VESSEL RESTRICTION
187-189	Gerald Thornberry CELR-L-OP-E	8/28/2014	Todd Davis CELR-L-OP-TM				Verified - "DISCONTINUED" added to OBNAME for Grand Chan L Daybeacon / Removed text entries: MILE 925.0 - DREDGE OPERA
189-190	Denise LaDue CELR-L-OP-E						

- Contains QA comments
 - “PASSED” if all is okay
 - Otherwise, a statement describing the problem with the edit to help the Producer resolve the issue

Discrepancy Reports				
Discrepancy Report No.	Reference Source Application	Discrepancy Description	Date Reported	Date Resolved
248		small DEPARE and DEPCNT from 20140820 remains inside new DEPARE and DEPCNT in Lock 53 pool at mile 956.6 (Sharps Bar)	5/9/2016	
249		small DEPARE and DEPCNT from 20141209 remains inside new DEPARE and DEPCNT in Lock 52 pool, backchannel of Cumberland Island at Cumberland River mile 1.0	5/9/2016	

Inland ENC Data Download Services

The screenshot shows the official website of the US Army Corps of Engineers. At the top right, the text "ARMY GEOSPATIAL CENTER" is displayed above a search bar labeled "Search AGC". The main navigation menu includes links for HOME, ABOUT, BUSINESS WITH US, MISSIONS, LOCATIONS, CAREERS, MEDIA, LIBRARY, and CONTACT. Below the menu, a breadcrumb trail shows "HOME > MISSIONS > ECHARTS". On the left, a sidebar titled "Echart Menu" lists "Chart Discrepancy Reports", "Inland Chart Books", "Inland Electronic Navigation Charts", and "Product Downloads". The main content area features a title "IENC Program Overview" next to a map of a river system with a red box highlighting a specific area. To the right of the map is a detailed text block describing the U.S. inland navigation system.

IENC Program Overview



The U.S. inland navigation system consists of 8,200 miles of rivers maintained by the Corps of Engineers in 22 states, and includes 276 lock chambers with a total lift of 6,100 feet. The highly adaptable and effective system of barge navigation moves over 625 million tons of commodities annually, which includes coal, petroleum products, various other raw materials, food and farm products, chemicals, and manufactured goods (Reference Corps Navigation Data Center). The shallow draft waterways have many unique characteristics and difficulties over coastal harbor and ocean navigation; river levels can change by over 30 feet in a seasonal cycle, the navigation channel can shift significantly within the river banks, and shifting yet ever present river currents pose constant challenges in these confined waterways. Electronic chart systems can offer significant benefits to vessels including accurate and real-time display of vessel position relative to waterway features, voyage planning and monitoring, training tools for new personnel and integrated display of river charts, radar, and Automatic Identification Systems.

<http://www.agc.army.mil/Missions/Echarts.aspx>

Inland ENC Data Download Services

The screenshot shows the official website of the US Army Corps of Engineers. At the top right, it says "ARMY GEOSPATIAL CENTER". Below that is the "US Army Corps of Engineers" logo. A navigation bar at the bottom includes links for "ABOUT", "BUSINESS WITH US", "MISSIONS", "LOCATIONS", "CAREERS", "MEDIA", "LIBRARY", and "CONTACT".

This is a screenshot of a page titled "Products". On the left, there is a vertical menu with options: "Products" (which is highlighted), "Charts", "RSS Feeds", "XML Catalogs", "Web Services", and "GeoPDF". To the right, the main content area has a large title "Products" and a small image of a river bend.

<http://ienccloud.us>

Inland ENC Data Download Services

Product Catalogue:

- XML based: universal and flexible
- Allows automated data updates for software clients
- Allows automated querying of available products
- Expandable and scalable to accommodate future products and services

```
<?xml version="1.0" encoding="UTF-8"?>
<IENCU37ProductCatalog>
  - <Header>
    <title>IENC U37 Product Catalog</title>
    <date_created>10/01/2015</date_created>
    <time_created>17:02:51</time_created>
    <ref_spec>USACE IENC Product Catalog Technical Specifications</ref_spec>
    <ref_spec_vers>1</ref_spec_vers>
  </Header>
  - <Cell>
    <name>U37AG001</name>
    - <location>
      <from>Pittsburgh, PA</from>
      <to>Kittanning, PA</to>
    </location>
    <river_name>Allegheny</river_name>
    - <river_miles>
      <begin>1</begin>
      <end>46</end>
    </river_miles>
    - <area>
      <north>40.821667</north>
      <south>40.44224</south>
      <east>-79.514143</east>
      <west>-80.012797</west>
    </area>
    <edition>8.6</edition>
    - <shp_file>
      <location>http://ienccloud.us/ienc/web/iencU37productsdownload.cfm?mode=0550&cell=U37AG001</location>
      <date_posted>09/25/2015</date_posted>
      <time_posted/>
      <file_size/>
    </shp_file>
    - <s57_file>
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      <date_posted>09/25/2015</date_posted>
      <time_posted/>
      <file_size/>
    </s57_file>
    - <kml_file>
      <location>http://ienccloud.us/ienc/web/iencU37productsdownload.cfm?mode=0770&cell=U37AG001</location>
      <date_posted>09/25/2015</date_posted>
      <time_posted/>
      <file_size/>
    </kml_file>
  </Cell>
  - <Cell>
    <name>U37AR001</name>
    - <location>
      <from>Birmingham Bend</from>
      <to>Plum Bayou</to>
    </location>
    <river_name>Arkansas</river_name>
    - <river_miles>
      <begin>1</begin>
```

IENC On-line Feature Catalogue

IENC Feature Catalog 2.4.0

[go to IENC Feature Catalogue 2.3.6](#)

Features:

Feature Name:

Acronym:

Feature Code:

Attributes:

Attribute Name:

Acronym:

Attribute Code:

- Available as IENC FC 2.3 and as IENC FC 2.4

<http://ienccloud.us/ienc/web/s-57>

Inland ENC Carriage Requirements in the USA

- ▣ Presently there are no mandatory carriage requirements for electronic charts on US Inland waterways. However ...
- ▣ US Coast Guard NVIC 01-16, which was revised earlier this year, states that Inland ENCs, when displayed in certain charting systems, are now considered a suitable alternative to paper charts.

eHydro Interface

Surv & Map
US Army Corps of Engineers

ABOUT HYDROGRAPHIC SURVEYS CHANNEL FRAMEWORK INLAND CHARTS RESOURCE DISCOVERY

Hydrographic Surveys

The hydrographic surveys provided by this application are to be used for informational purposes only and should not be used as a navigational aid. Channel conditions can change rapidly and the surveys may or may not be accurate. Click [help](#) for additional details.

Select State ▾ Select Channel ▾

- Alabama
- Alaska
- California
- Connecticut
- Delaware
- Florida
- Georgia
- Hawaii
- Illinois
- Indiana
- Iowa
- Kentucky
- Louisiana
- Maine
- Maryland

Key Name Download Select Basemap

Map data © OpenStreetMap contributors. CC-BY. 1:1,250,000

Kentucky ▾ Select Channel ▾

Date

- GR_LD_GR1 - Lock1 Pool_green_river
- GR_LD_GR2 - Lock2 Pool_green_river
- GR_LD_GR3 - Lock3 Pool_green_river
- GR_LD_JTM - Ohio Backwater_green_river
- LR_LD_MKL - Ohio Backwater_licking_river
- OH_LD_CAI - Cairo Pool_ohio_river
- OH_LD_CAN - Cannetton Pool_ohio_river
- OH_LD_JTM - Jitmerys Pool_ohio_river
- OH_LD_MCA - Mcalpine Pool_ohio_river
- OH_LD_MKL - Markland Pool_ohio_river
- OH_LD_NBG - Newburgh Pool_ohio_river
- OH_LD_OLM - Olmsted Pool_ohio_river
- OH_LD_SMT - Smithland Pool_ohio_river

Select Basemap ▾

Kentucky ▾ CELRL_OH_LD_OLM ▾

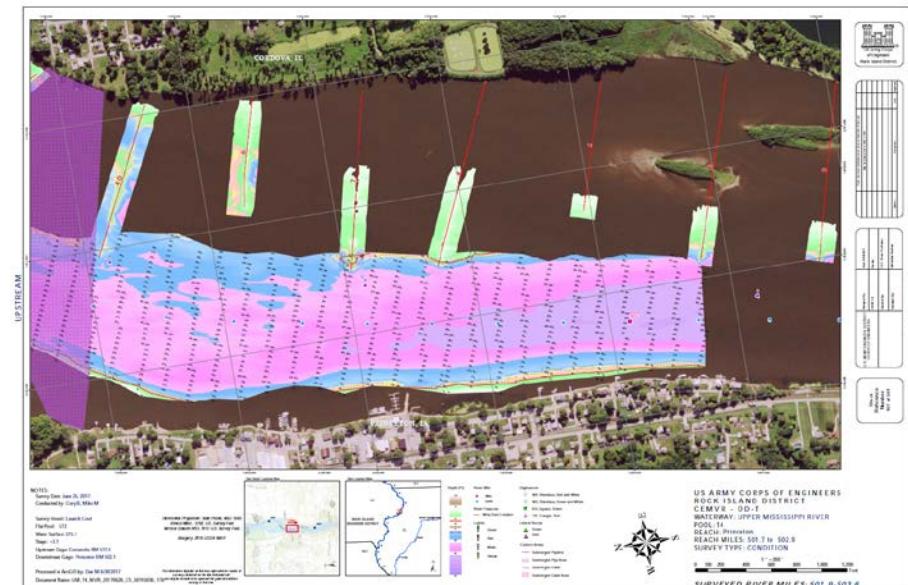
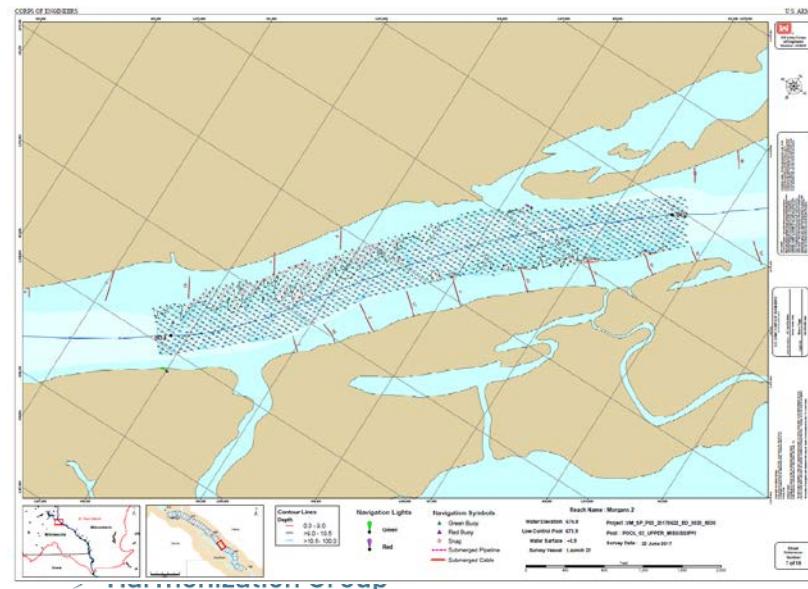
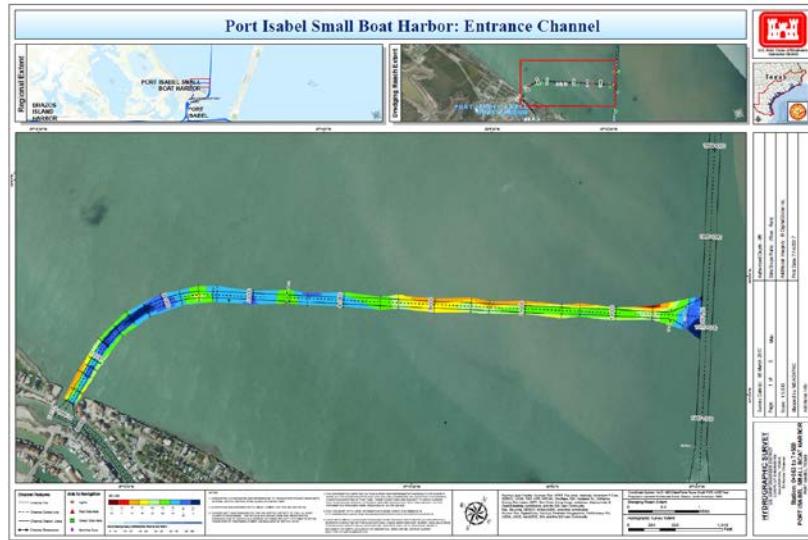
Date Survey Name Download

- 6/19/2017 OH_LD_OLM_20170620_CS_963_964_S... Select ▾
- 6/14/2017 OH_LD_OLM_20170615_CS_954_962_S... Select ▾
- 6/13/2017 OH_LD_OLM_20170614_CS_946_950_S... Select ▾
- 6/12/2017 OH_LD_OLM_20170613_CS_941_943_S... Select ▾

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OH_LD_OLM_20170615_CS_954_962_SORT.XML
OH_LD_OLM_20170615_CS_954_962_SORT.XYZ
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OH_LD_OLM_20170615_CS_954_962_SORT.ZIP

157 port US 51 Vienna

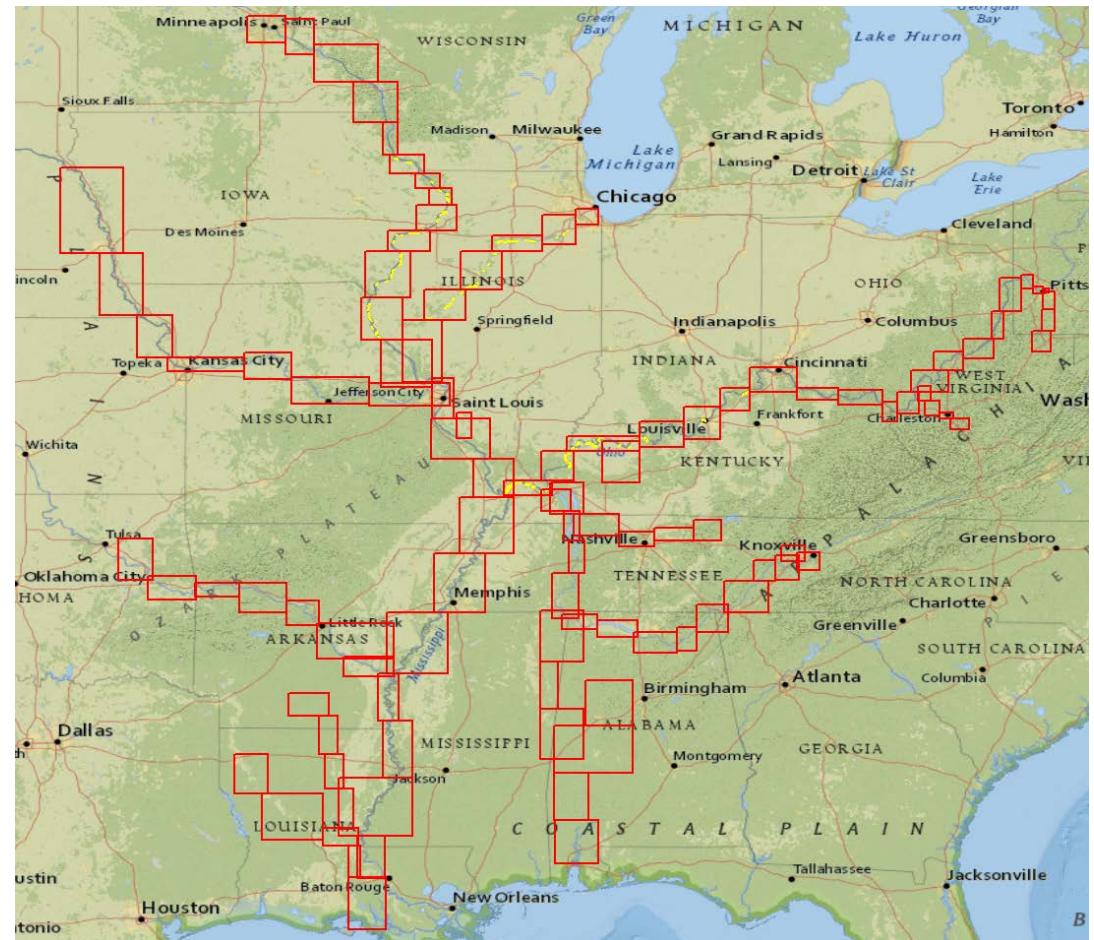
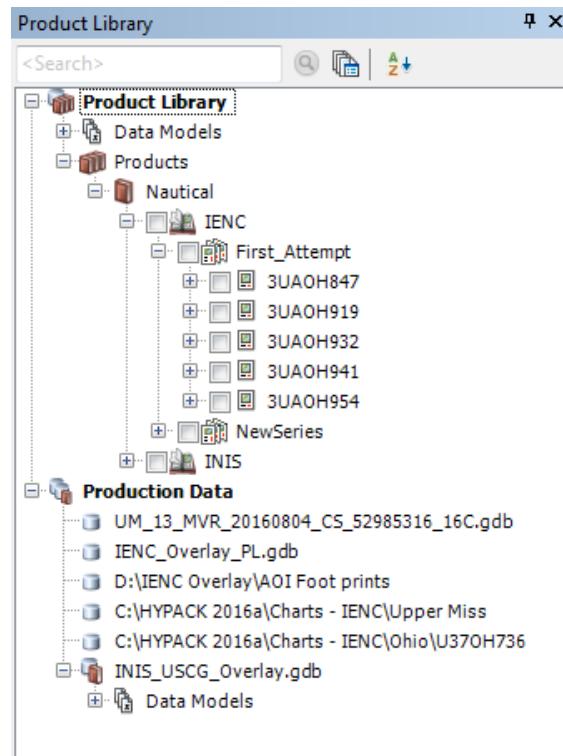
eHydro Output



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of Engineers®**

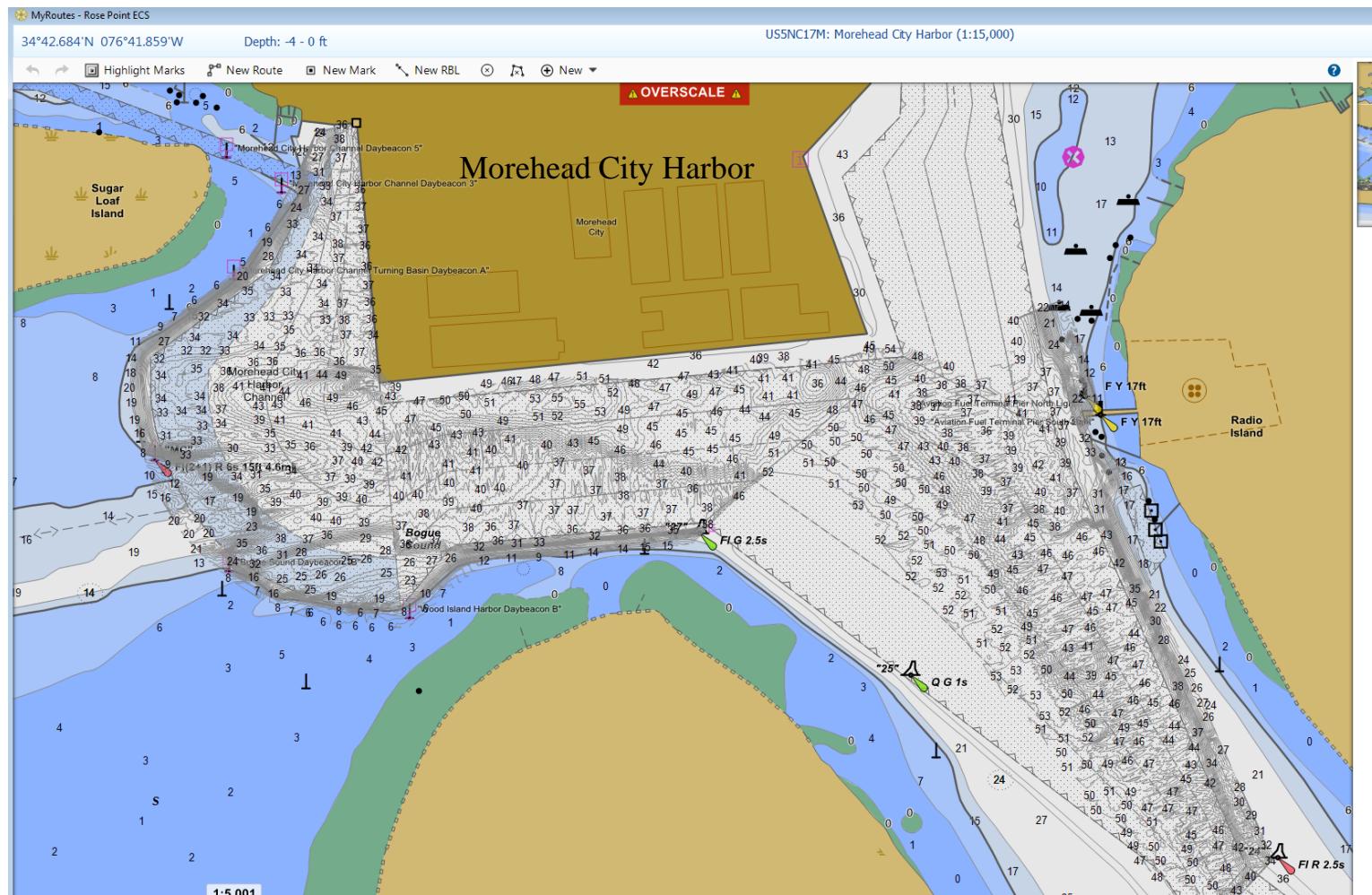
eHydro Overlay Module

IENC – Automated Overlay Production Using ArcMap 10.4.1

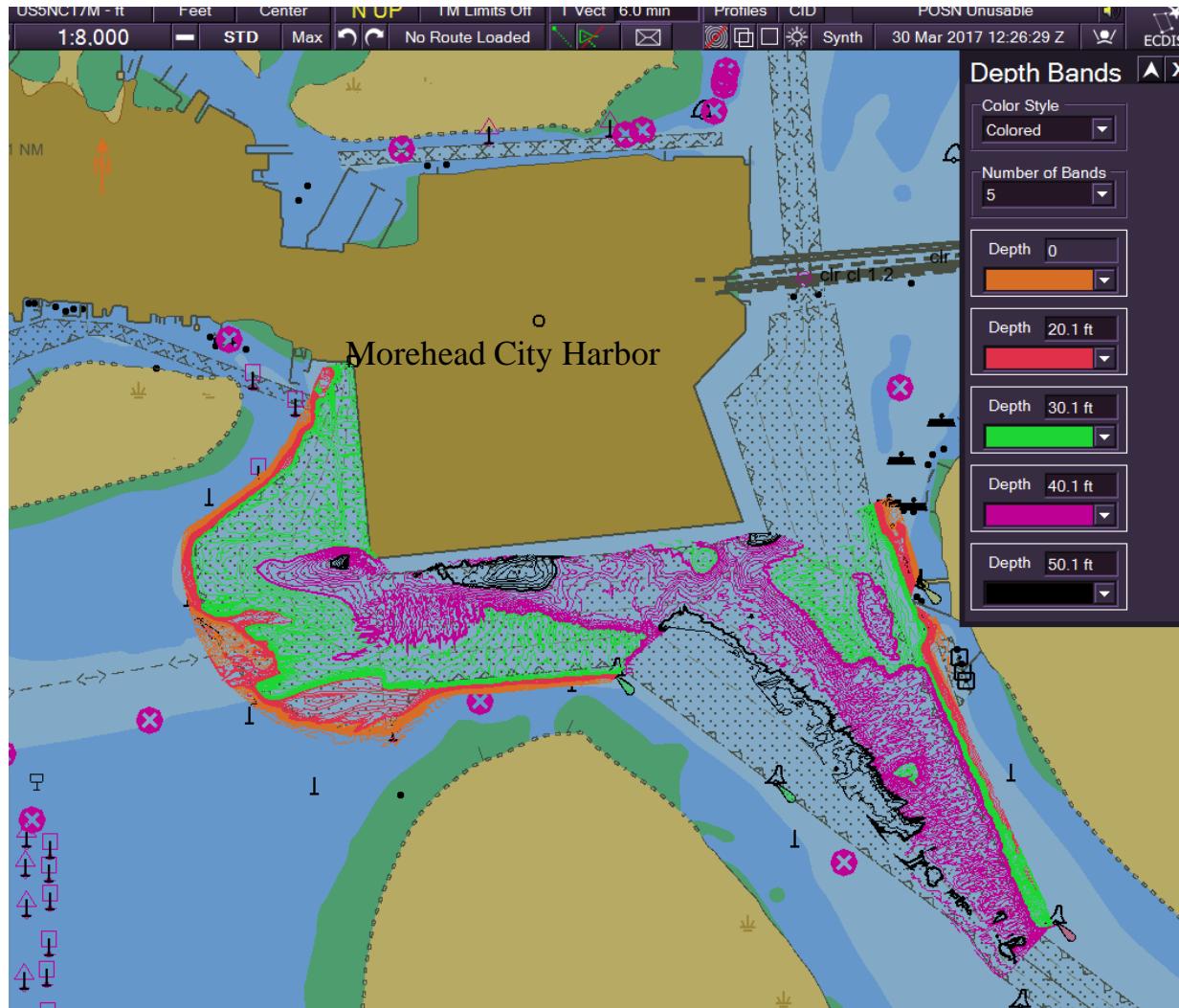


IENC Overlay Output

Shown using Rose Point Electronic Chart System (ECS)



US Coast Guard ECS



US Coast Guard ECS

Import/Export
Bathymetric Data

Manual Chart Updates L-Clic
Markers R-Clic

Nav Objects
Overlays
Parallel Index Lines
Routes
User Profiles
Western Rivers

Main Menu
Alarms Charts
Import/Export Nav Tools
Overlays Routes
Sensors Settings
System Targets
Western Rvrs

Dashboard

Surveying **Trip Management**

Depth and Trip Data
Depth Below Surface: 0.0 ft
Miles: 0.0
Traveled: Mile Marker at Ownership: Unknown

Draft: 0.0 ft

Buoy Work Mode
Tend Buoys **Drop Buoys**

Buoy Tending
Active Buoy Port
Port **Starboard**

Buoy To Work
Select Buoy To Work **Clear Buoy To Work**
Pick Up Buoy **Place Buoy**

Buoy Type:

Range: Bearing: TTG:

Edit Buoy Details

Close Dashboard

Depth Offset

Western River Settings

Depth Display Nav Comp

Depth Offset: 0.0 ft

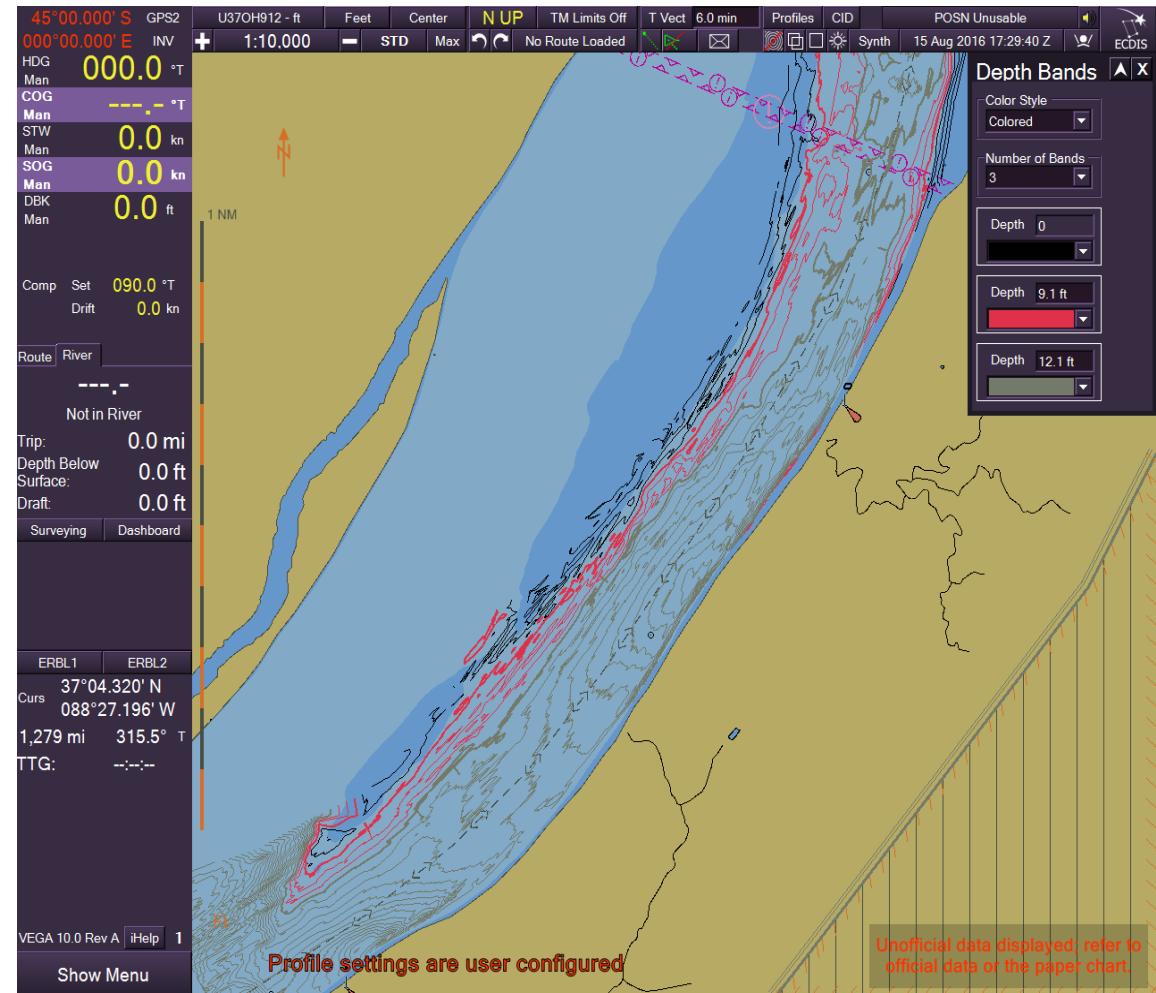
Ownership Draft: 0.0 ft

Bathymetric Depth Data
For Scales \geq 1:50,000

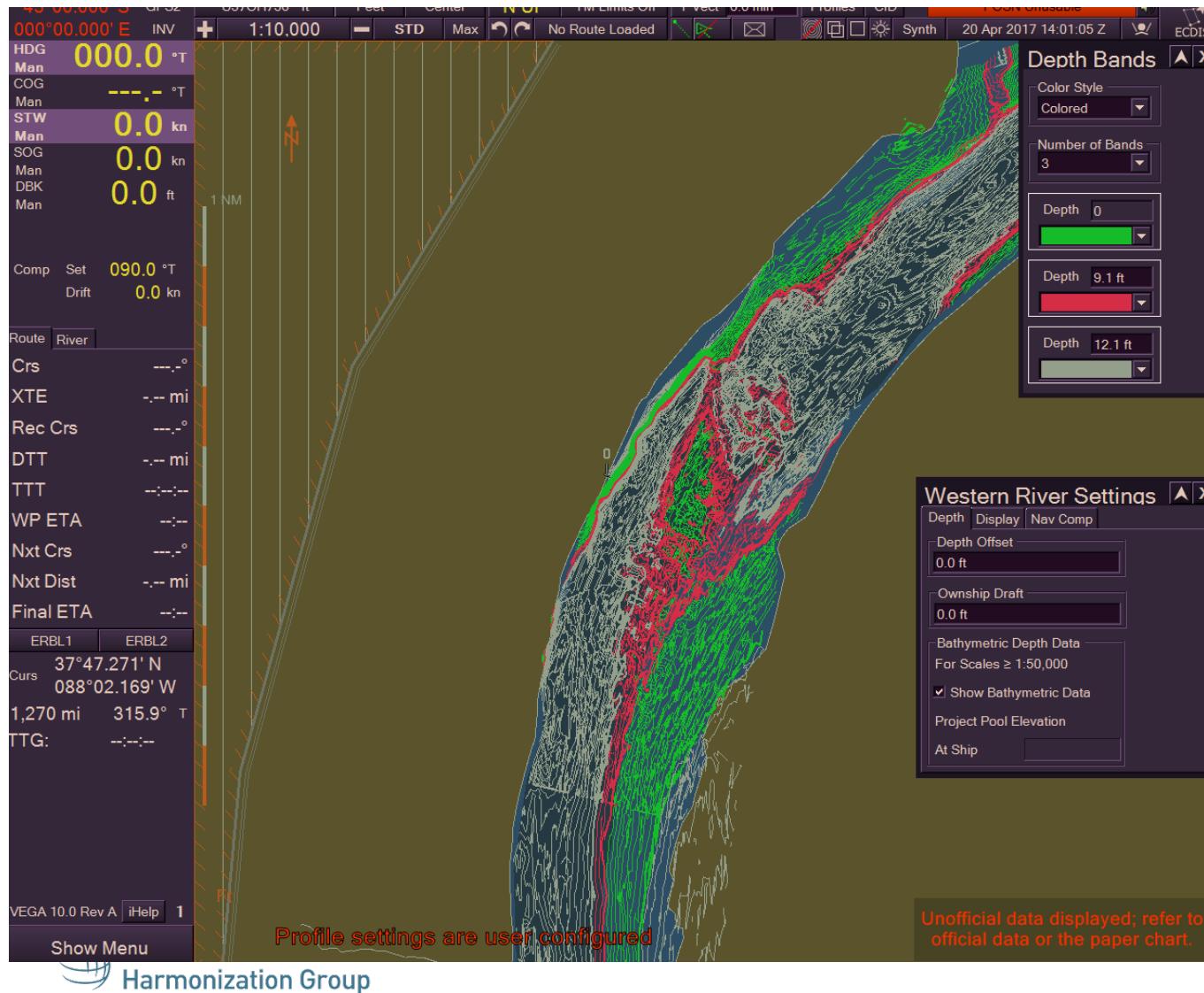
Show Bathymetric Data

Project Pool Elevation

At Ship



US Coast Guard ECS

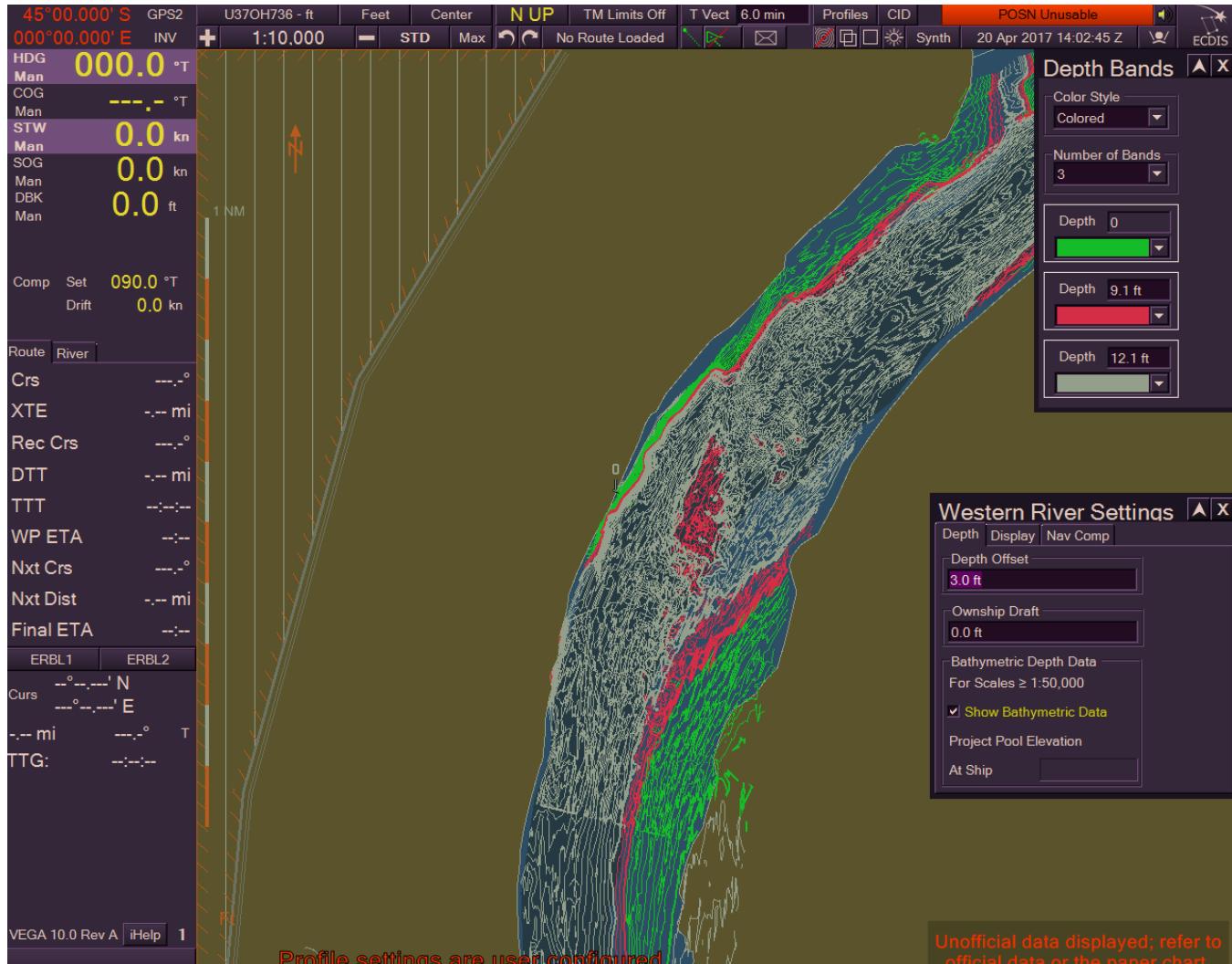


Wabash Island:
Survey Processed to
Low Pool
(Project Pool/MLLW)



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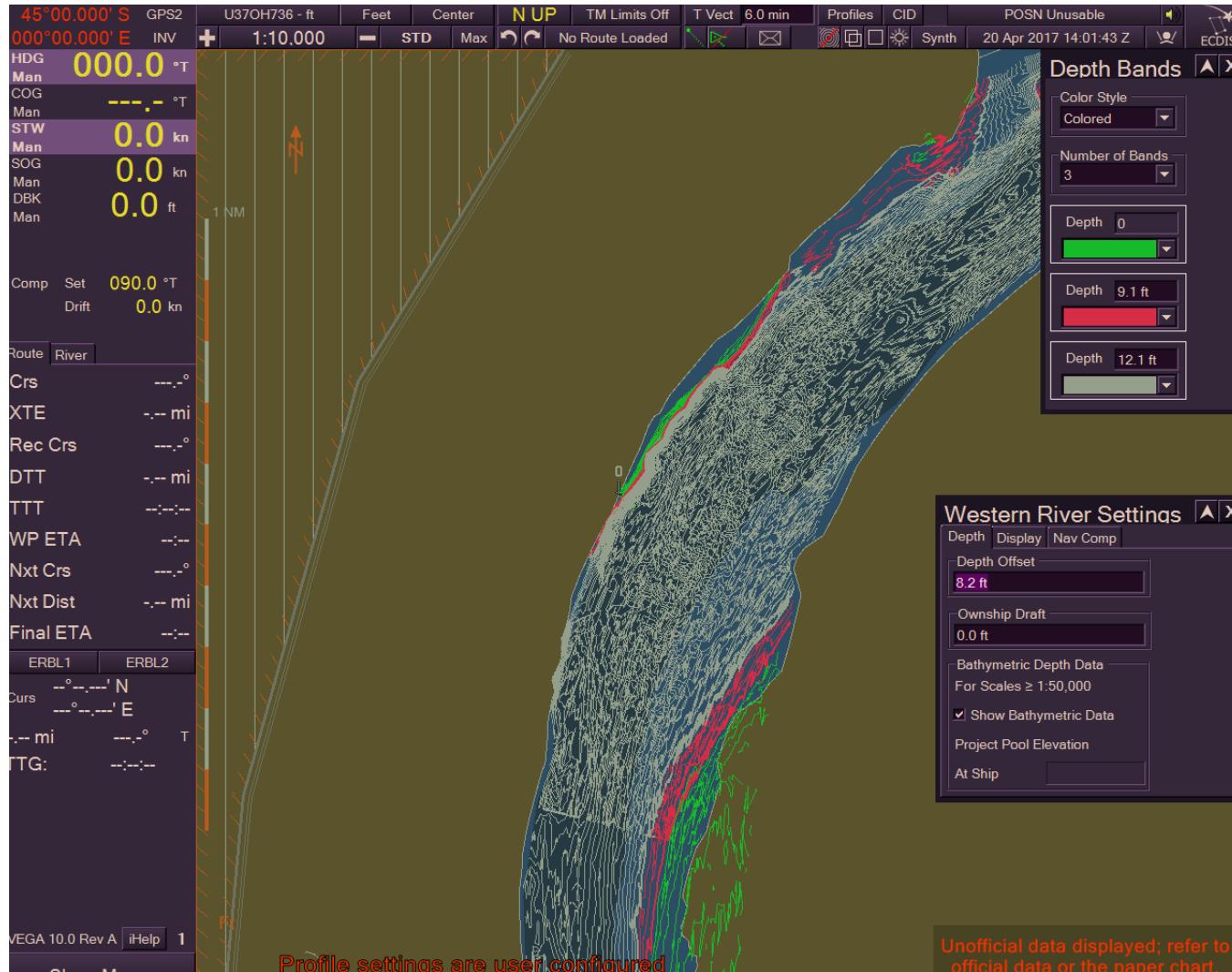
US Coast Guard ECS



Wabash Island:
Survey 3' over Low
Pool



US Coast Guard ECS



Wabash Island:
Survey 8.2' Over
Low Pool -
Conditions Date of
Survey

Show Menu

Inland ENC
Harmonization Group



US Army Corps
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Implementation of Inland ENCs in the USA

Questions ?

