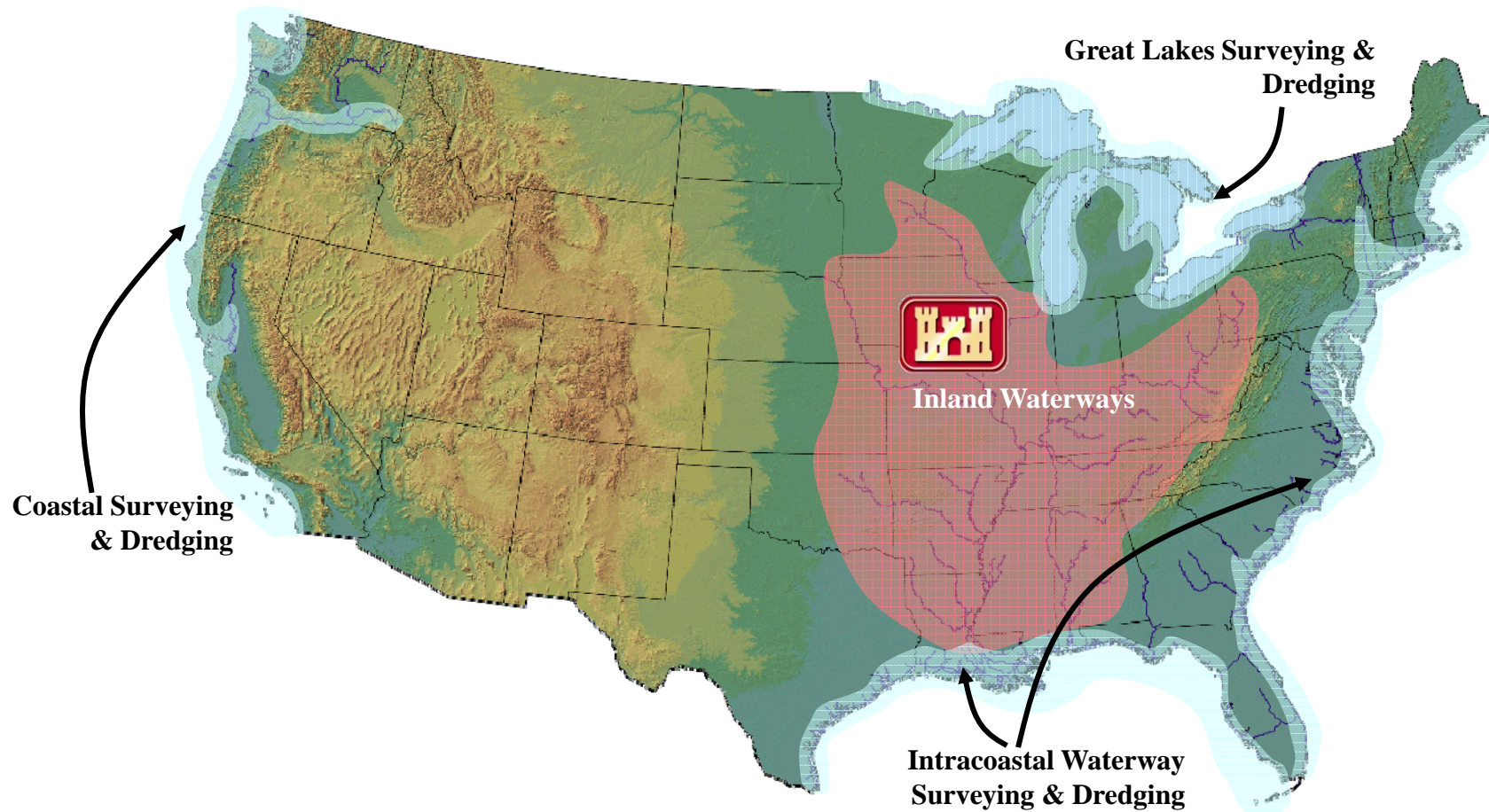


# Status of Inland ENC's in the USA

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

# USACE Navigation Mission

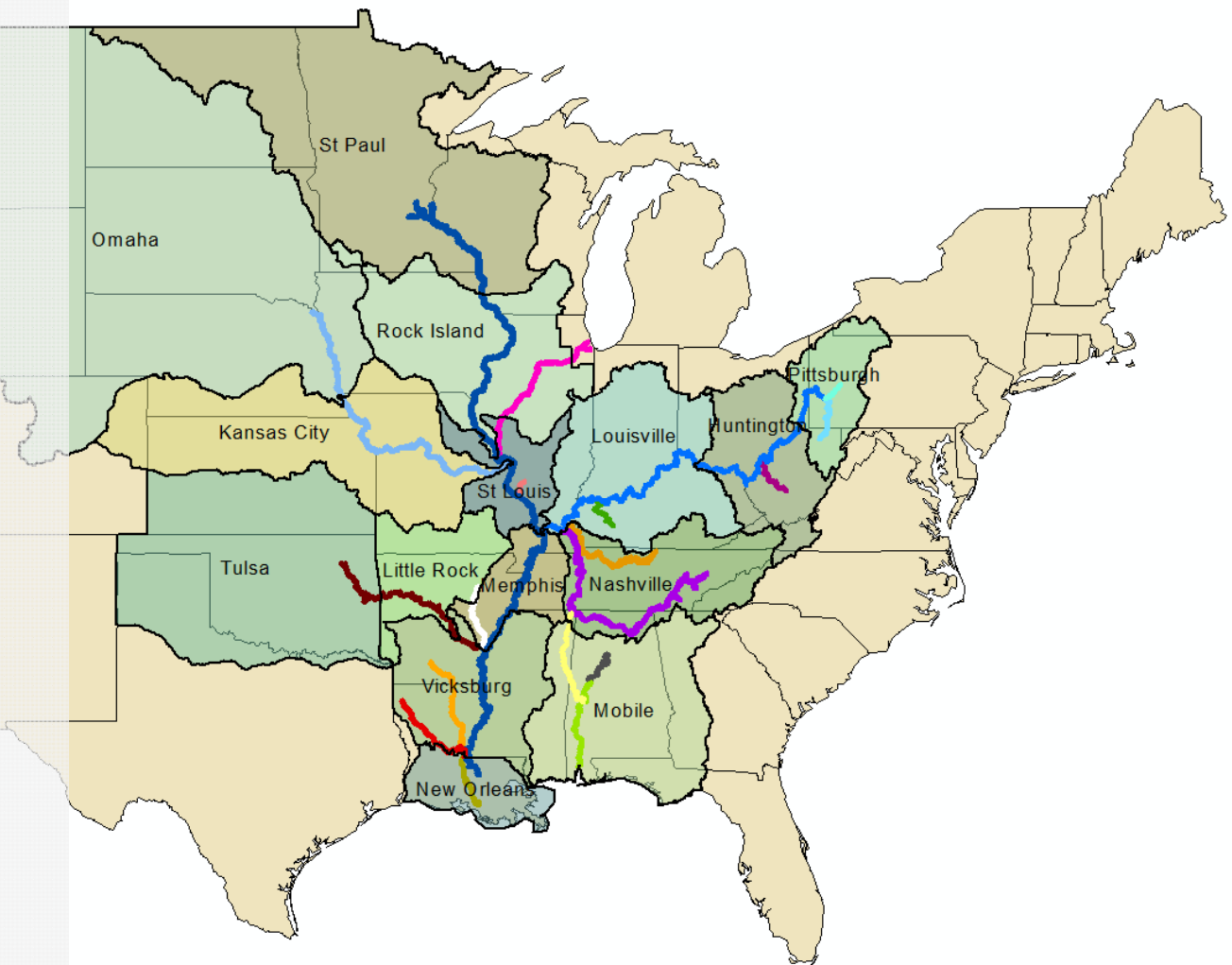


# 15 USACE Districts in IENC Program



# 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





# 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

107 IENCs are updated and maintained monthly

- All charts currently maintained in IENC 2.3 Standard & are checked and cleared through the USACE Chart Center prior to public release
- 46 cells maintained in-house
- 61 cells maintained by contractor

# 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
<b>Total</b>	<b>7,260</b>	<b>11,684</b>	

# Implementation of Inland ENCs in the USA

- 🌐 Presently there are no mandatory carriage requirements for electronic charts on US Inland waterways. Despite this fact:
  - 🌐 99% of commercial push boats voluntarily have ECS on-board
  - 🌐 Depending on the waterway, between 65-80% of vessels are voluntarily using AIS.

# Inland ENC Data Download Services



HOME > MISSIONS > ECHARTS



## 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

## 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

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# IENC On-line Feature Catalogue

## IENC Feature Catalog 2.3

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

### Features:

Feature Name:

Acronym:

Feature Code:

### Attributes:

Attribute Name:

Acronym:

Attribute Code:

- Available as IENC FC 2.3
- IENC FC 2.4 can be developed and published at any point in time
- **Should IENC FC 2.3 be replaced or would users like to have both options (2.3 & 2.4) made available?**

# Implementation of Inland ENCs in the USA

Questions ?

