

The Evolution of Geospatial Data Elements for Commercial Marine Vessels in the EPA's National Emission Inventory

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National Emissions Inventory (NEI)

- Point, area, and mobile sources in the U.S.
- Commercial Marine Vessels (CMV)
 - Large Category 3 vessels
 - Tankers
 - Containerships
 - Port
 - Hoteling
 - Maneuvering
 - Smaller Category 1/2 vessels
 - Fishing vessels
 - USCG
 - Underway
 - Cruising
 - RSZs



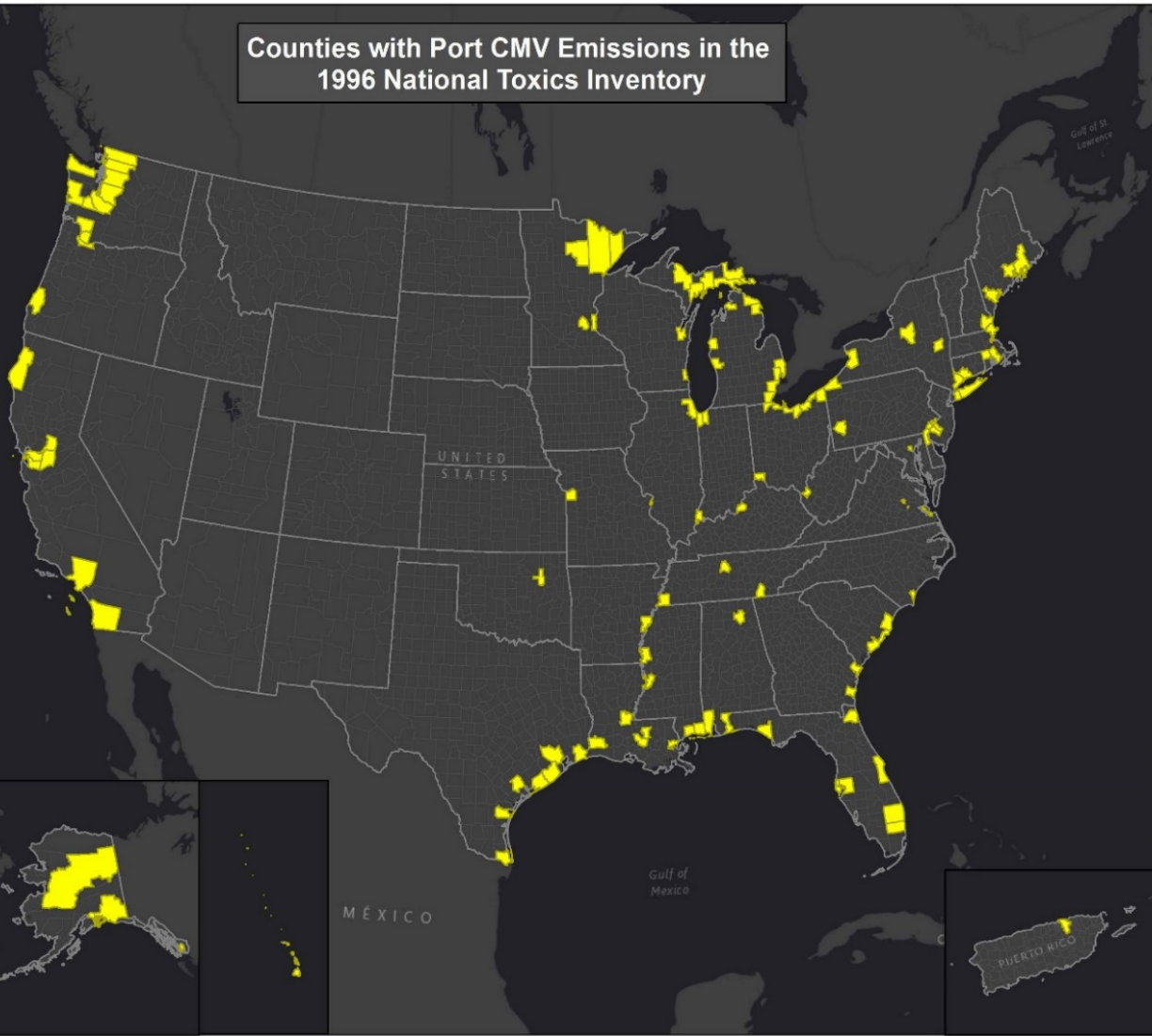
Geospatial Data Elements

- Spatial Representation
 - Federal waters
 - State waters
 - Inland waterways
 - Great Lakes
- Activity Data

1996 – County Level Representation

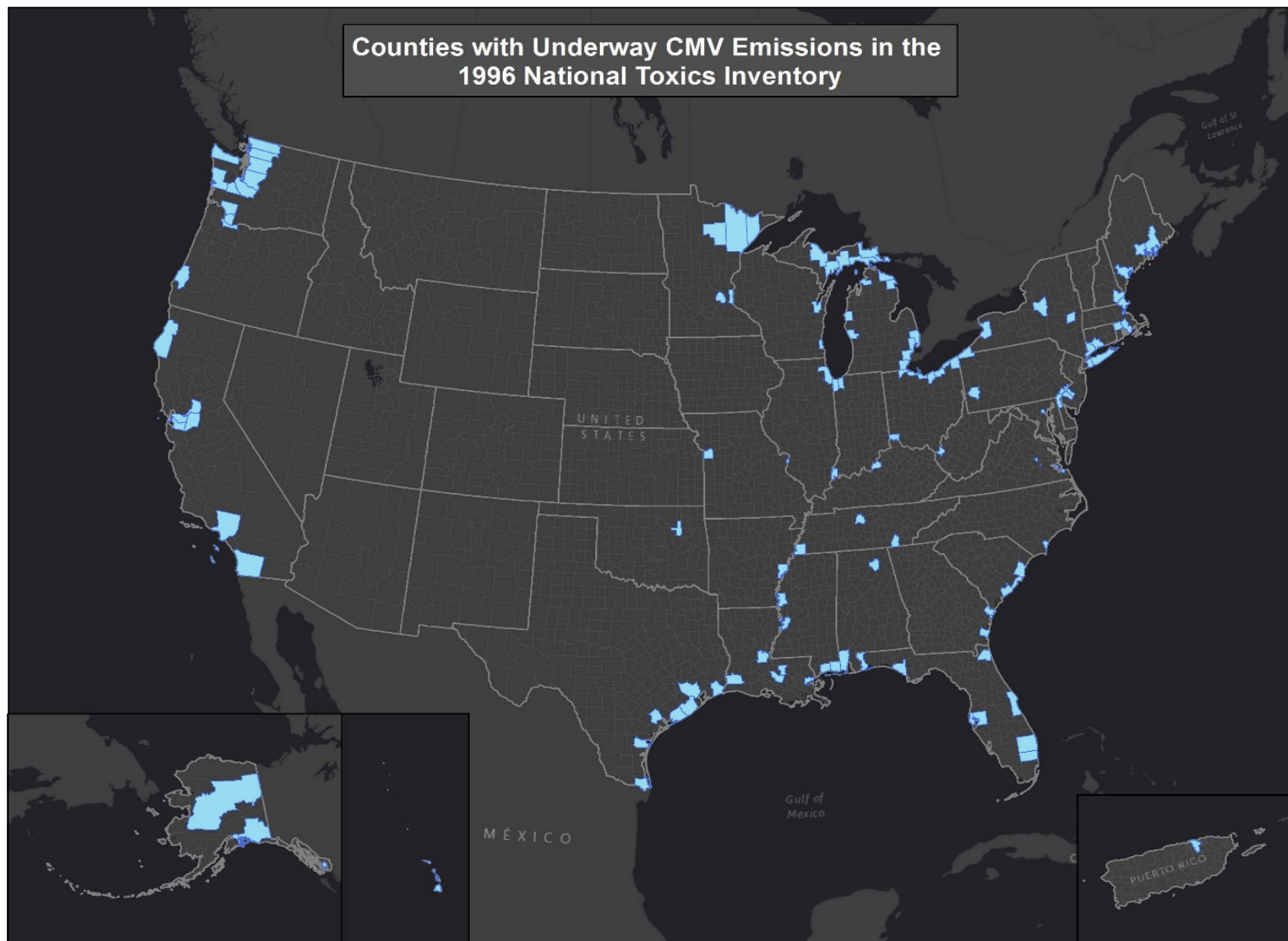


Counties with Port CMV Emissions in the
1996 National Toxics Inventory

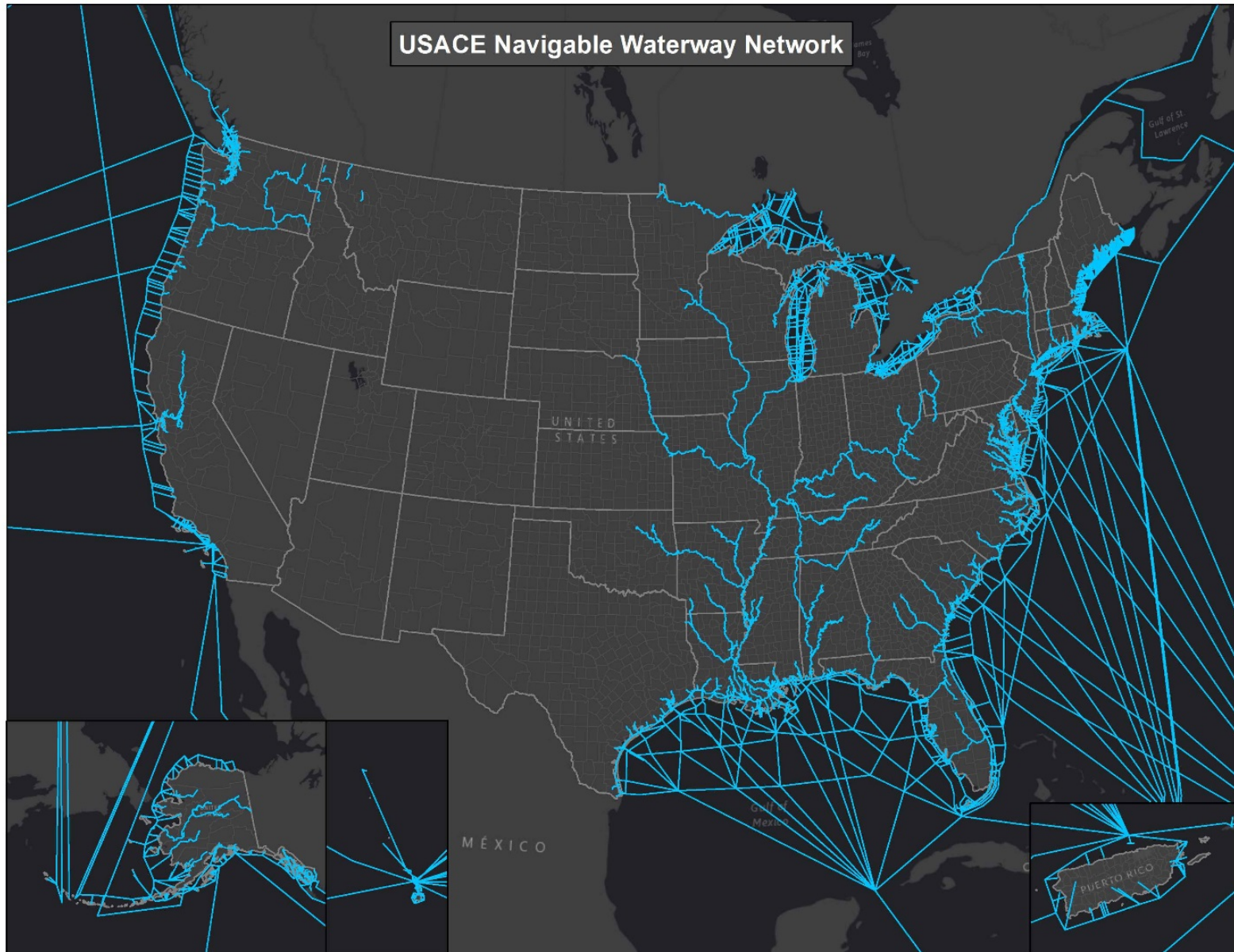


- 150 largest ports
- Fuel-based activity data

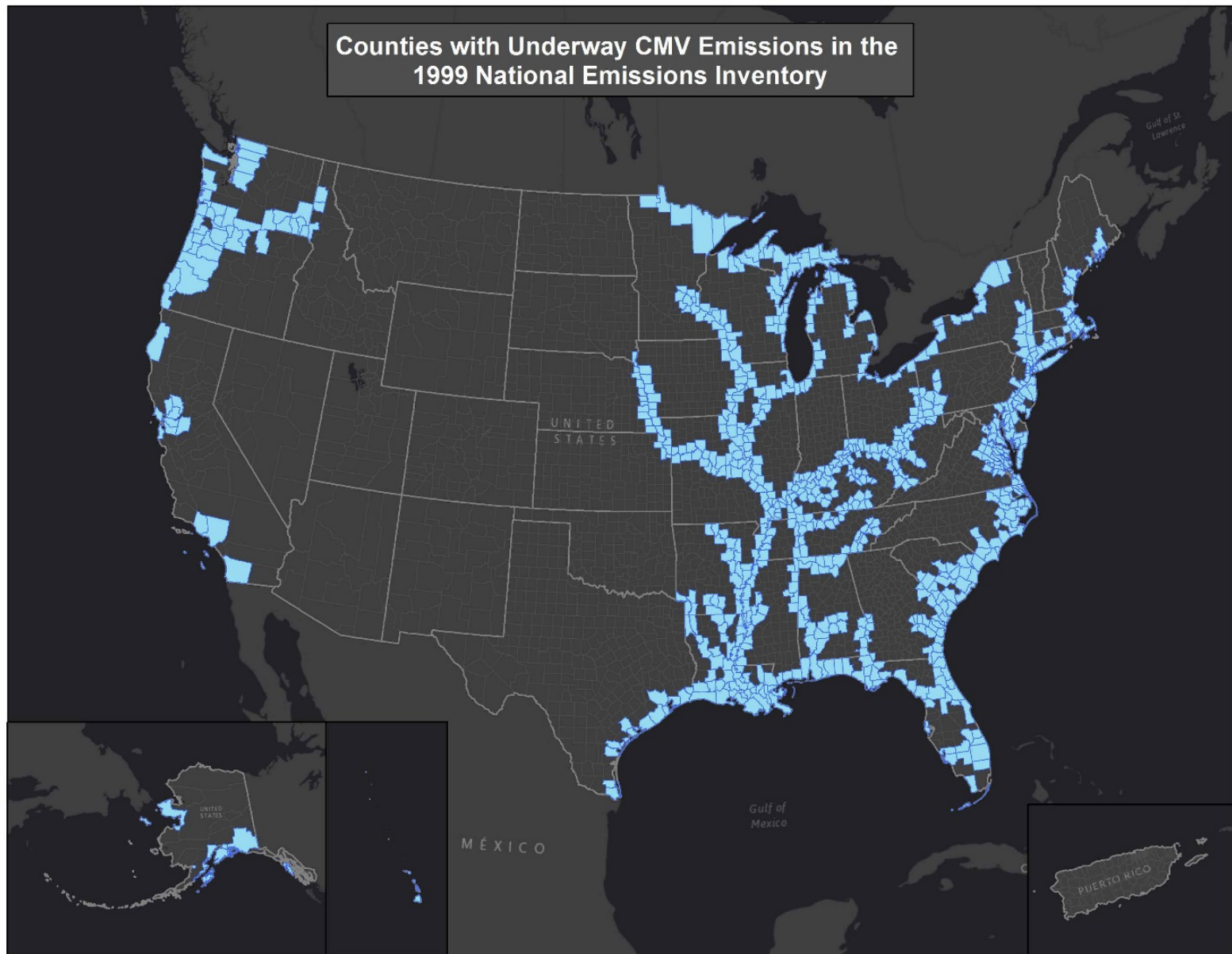
1996 – County Level Representation



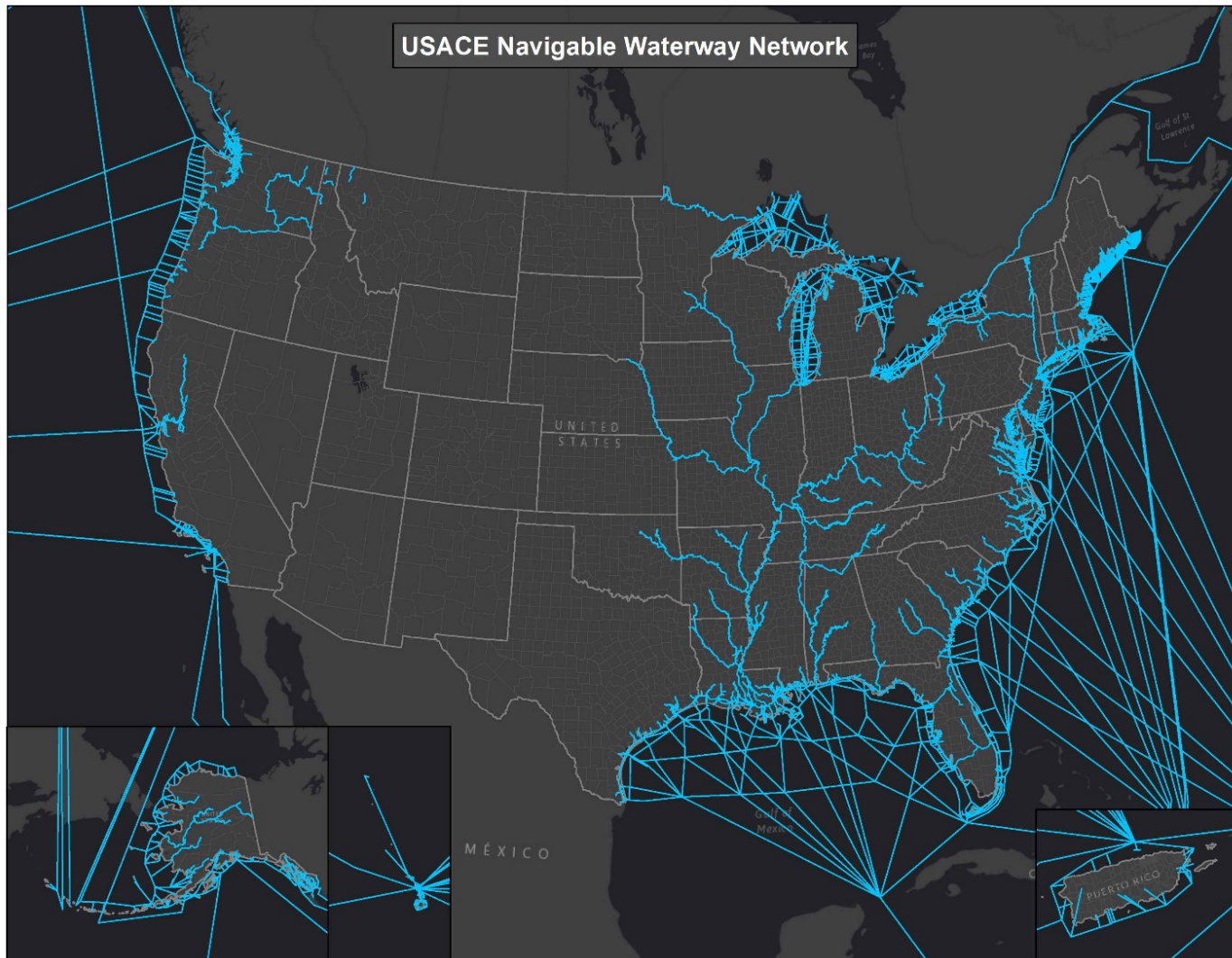
1999 – New Underway Allocation



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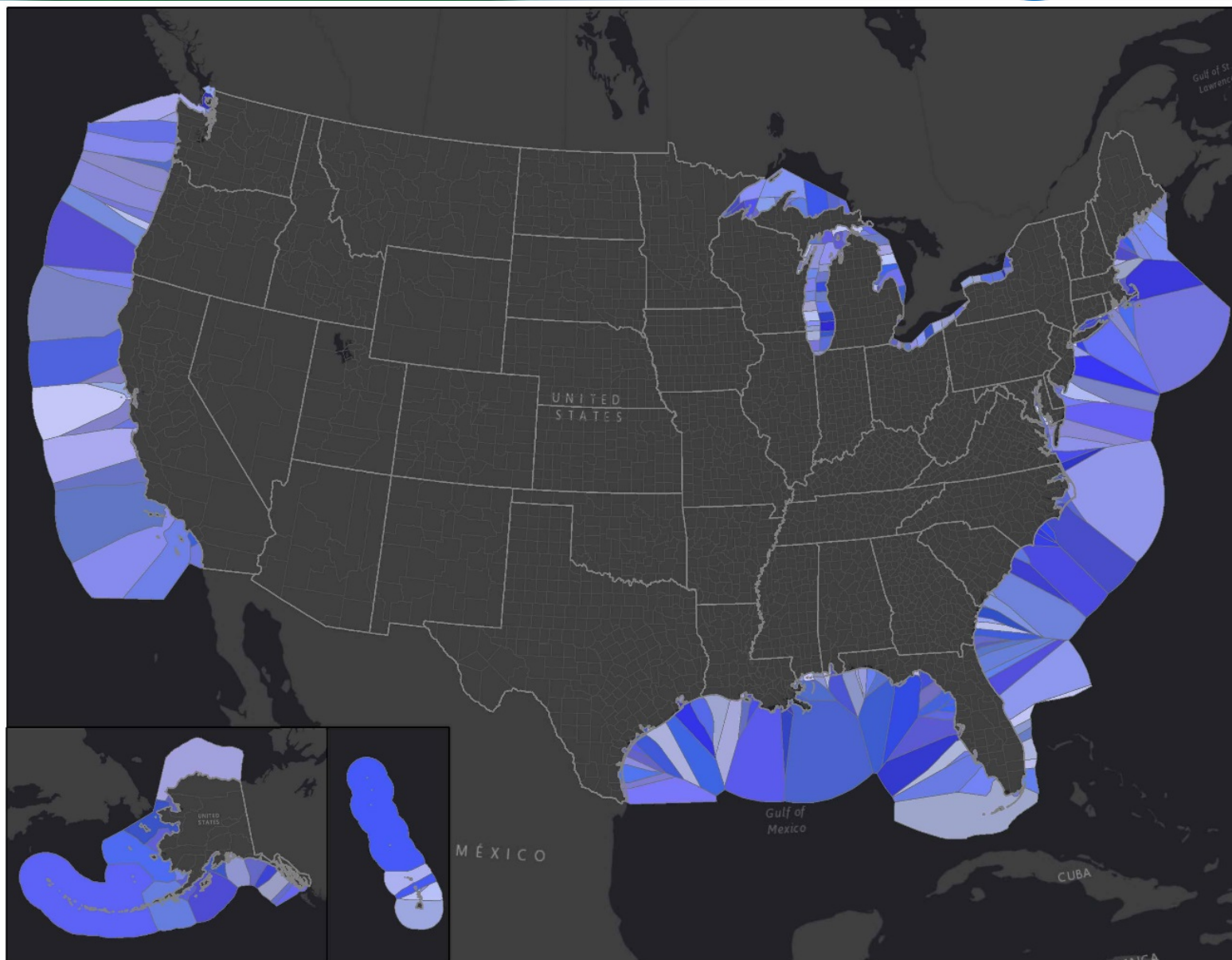


2002 – Modified Coastal Allocation

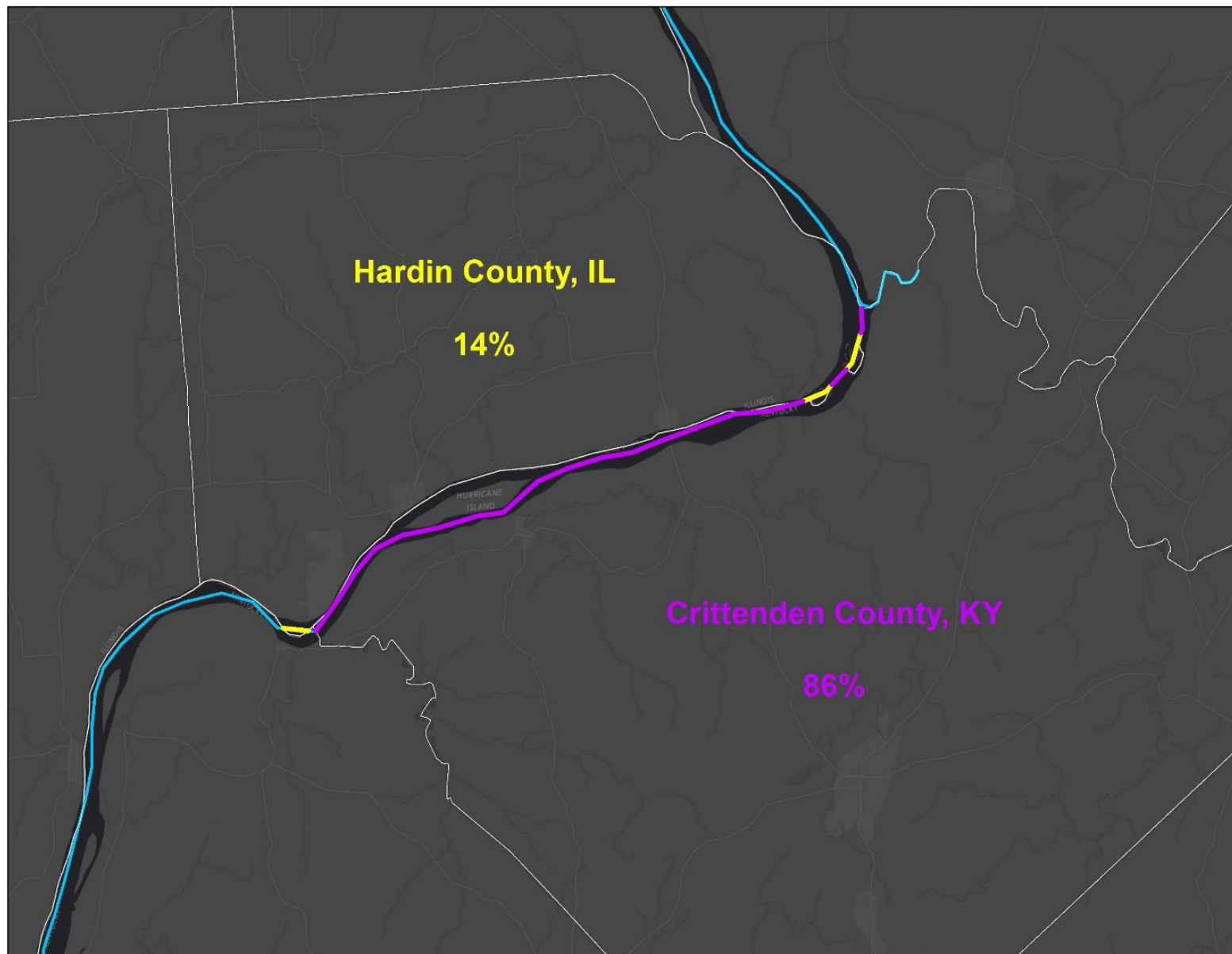


- Inland waterways: USACE waterway network
- Coastal waters: shoreline length

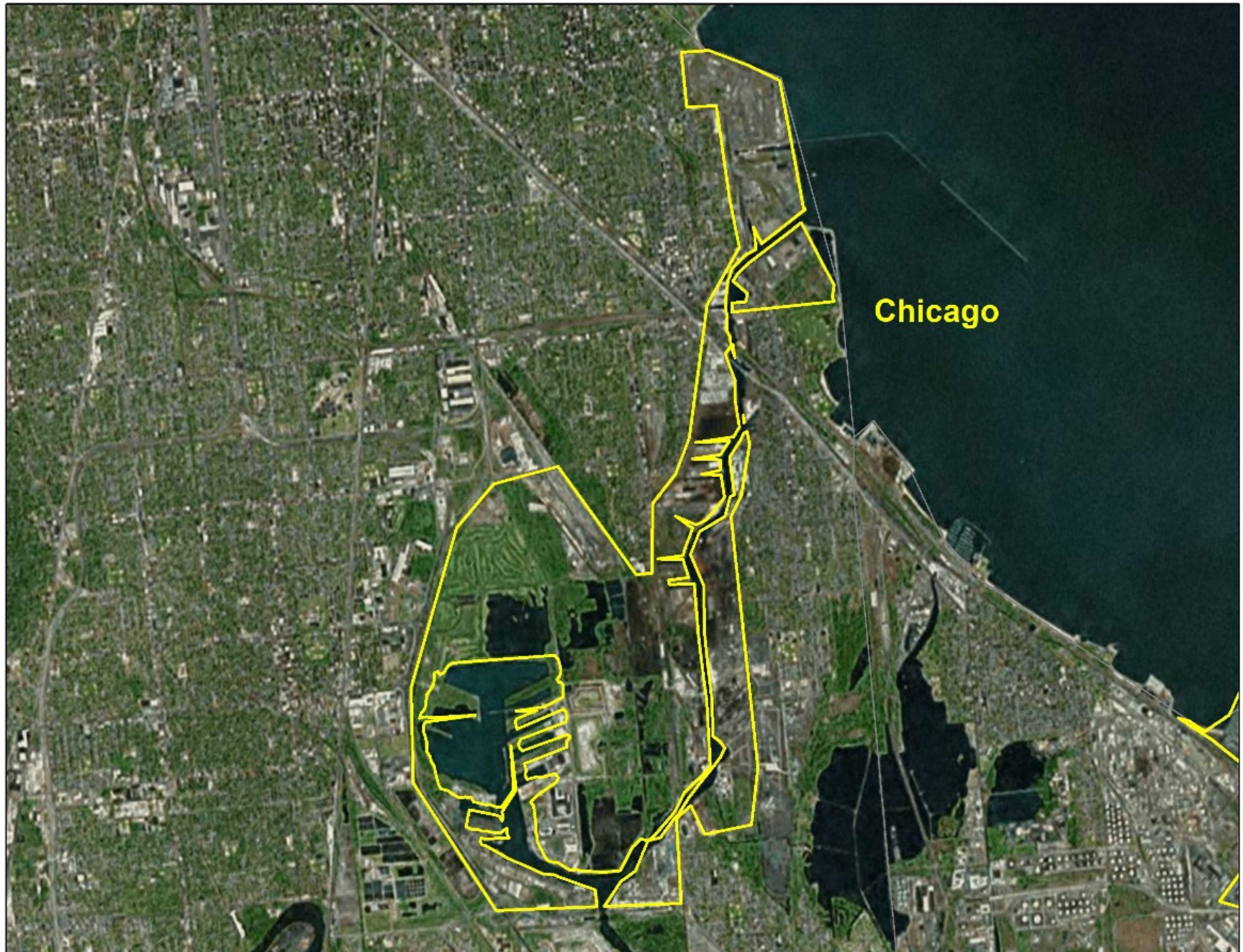
2005 – Federal Waters

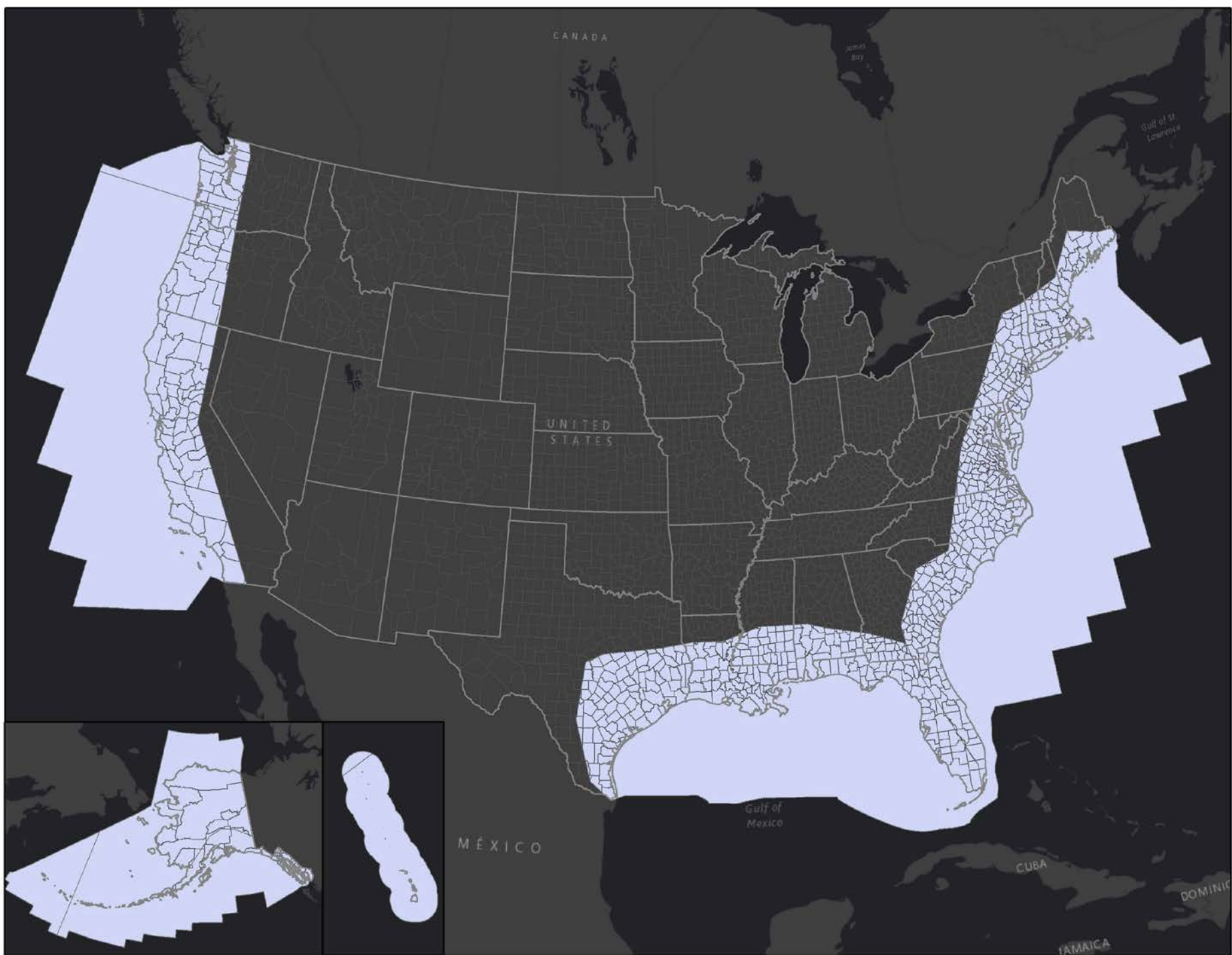


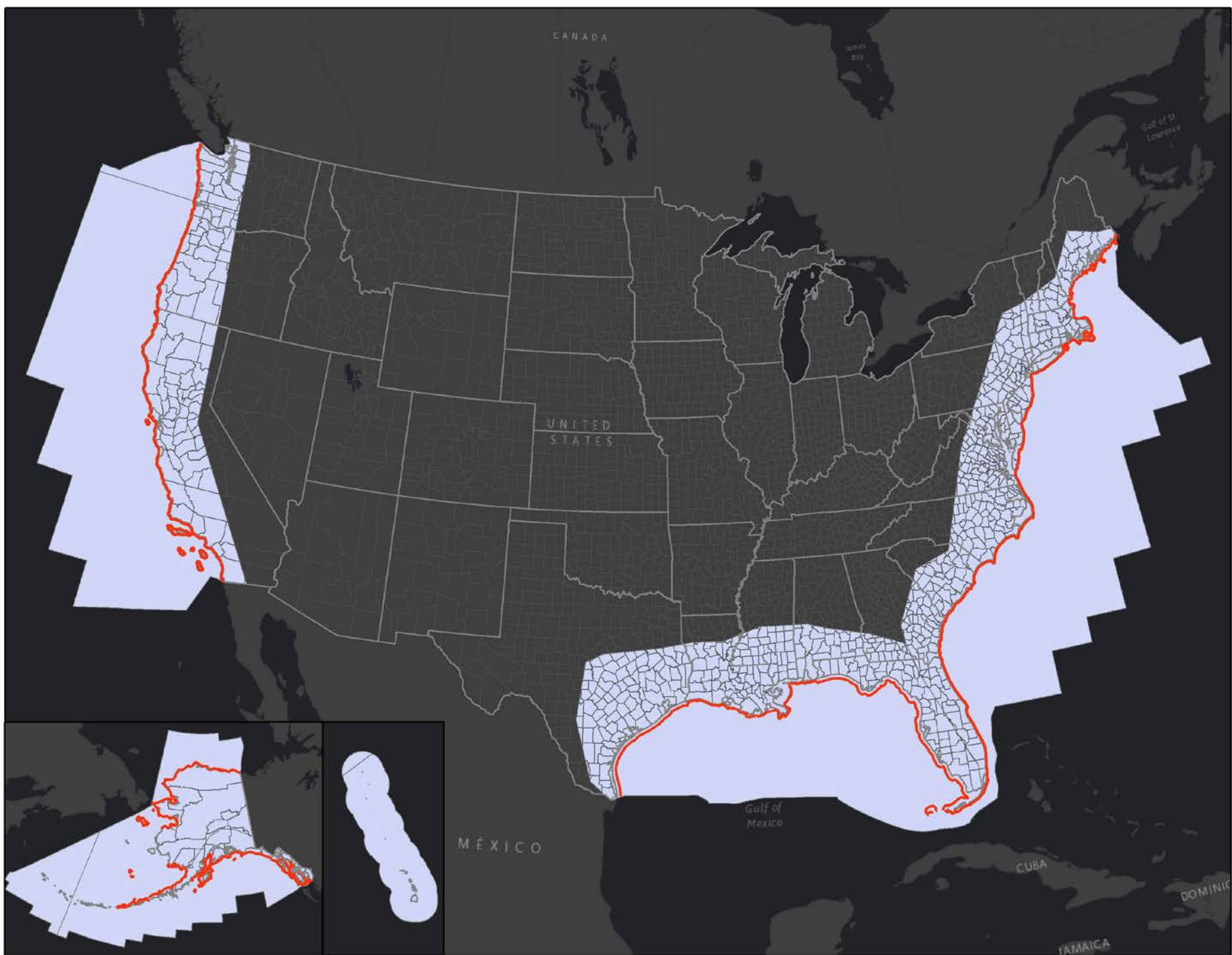
Challenges in Inland Waterways

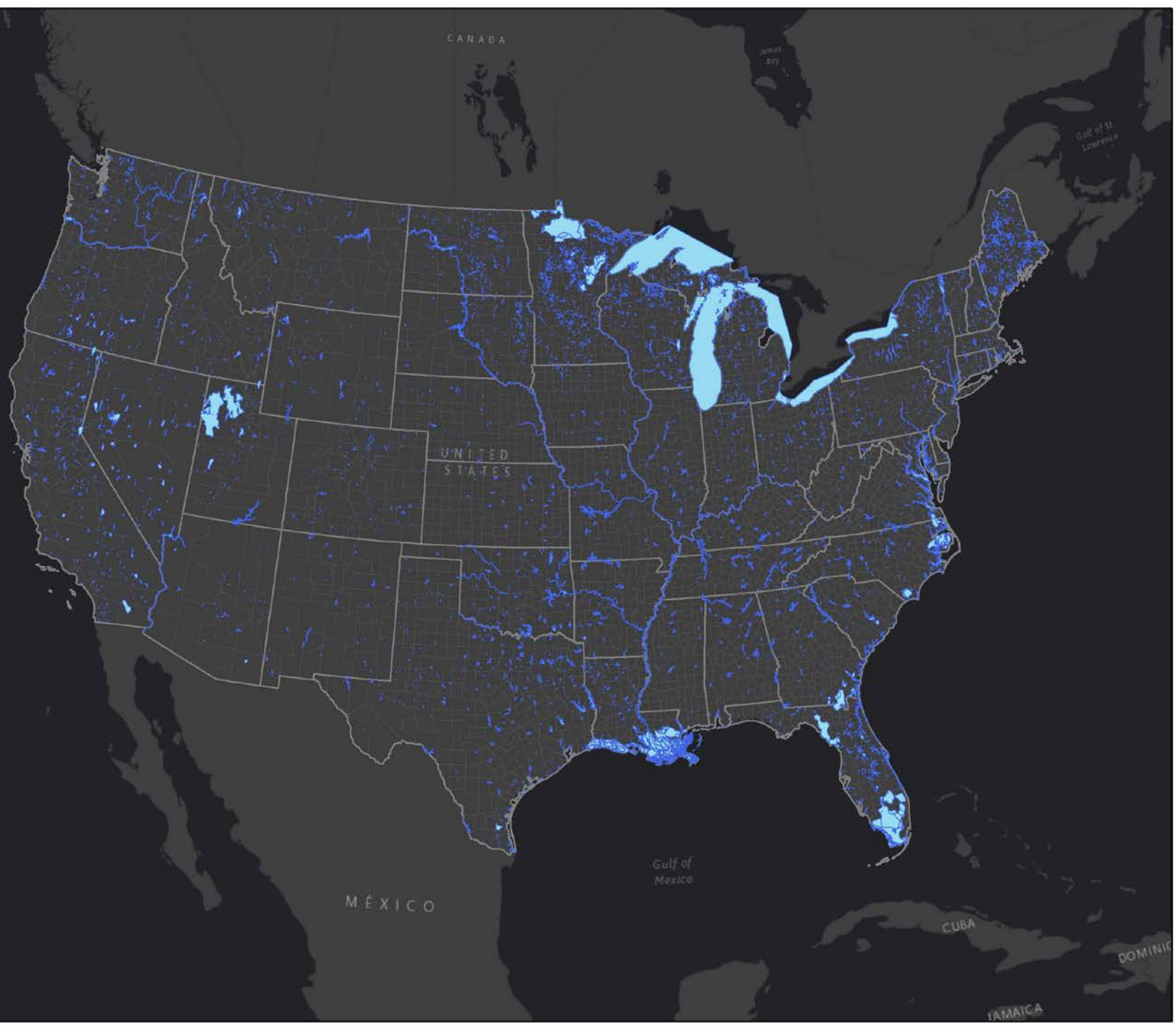


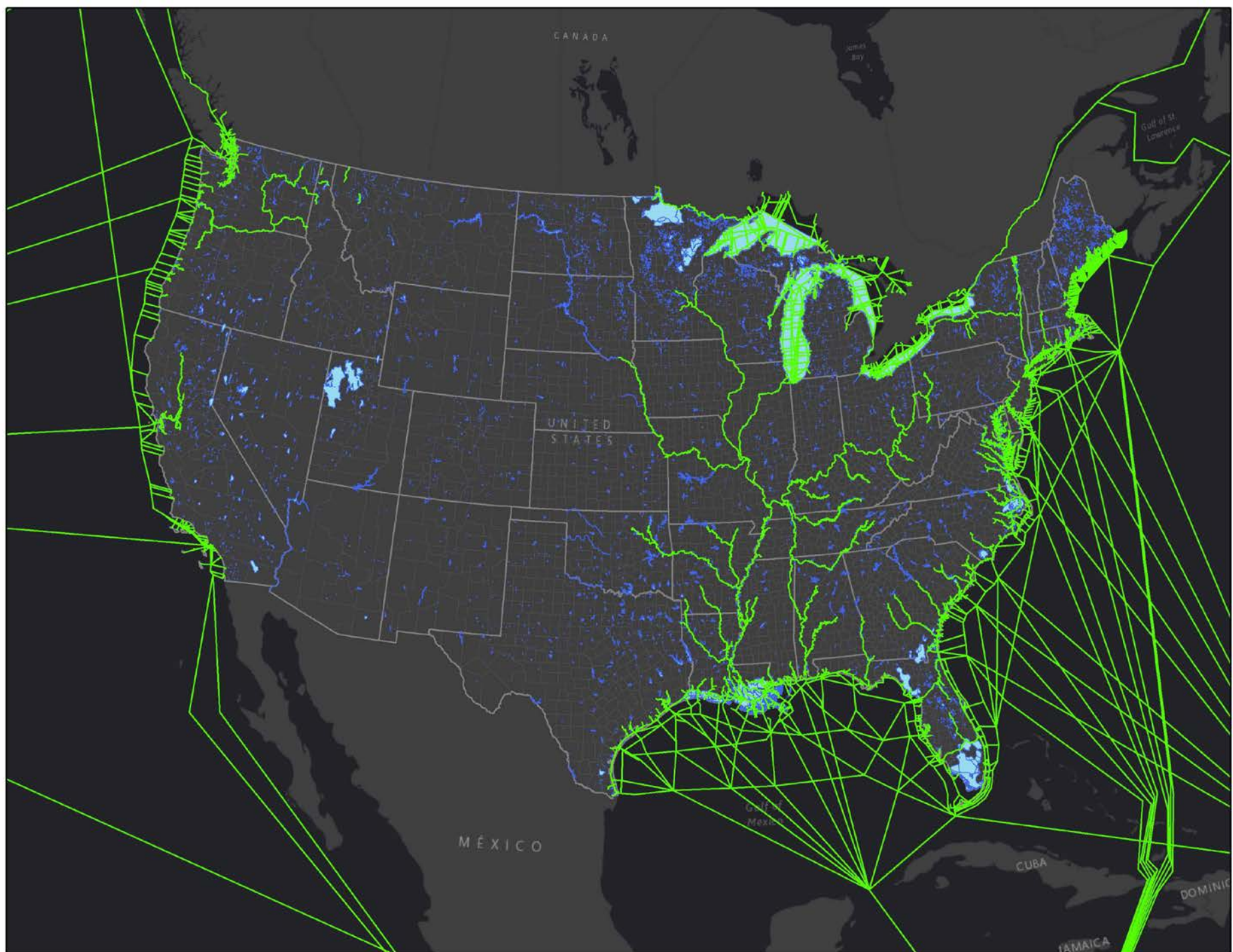
2008 – Port Shapefiles











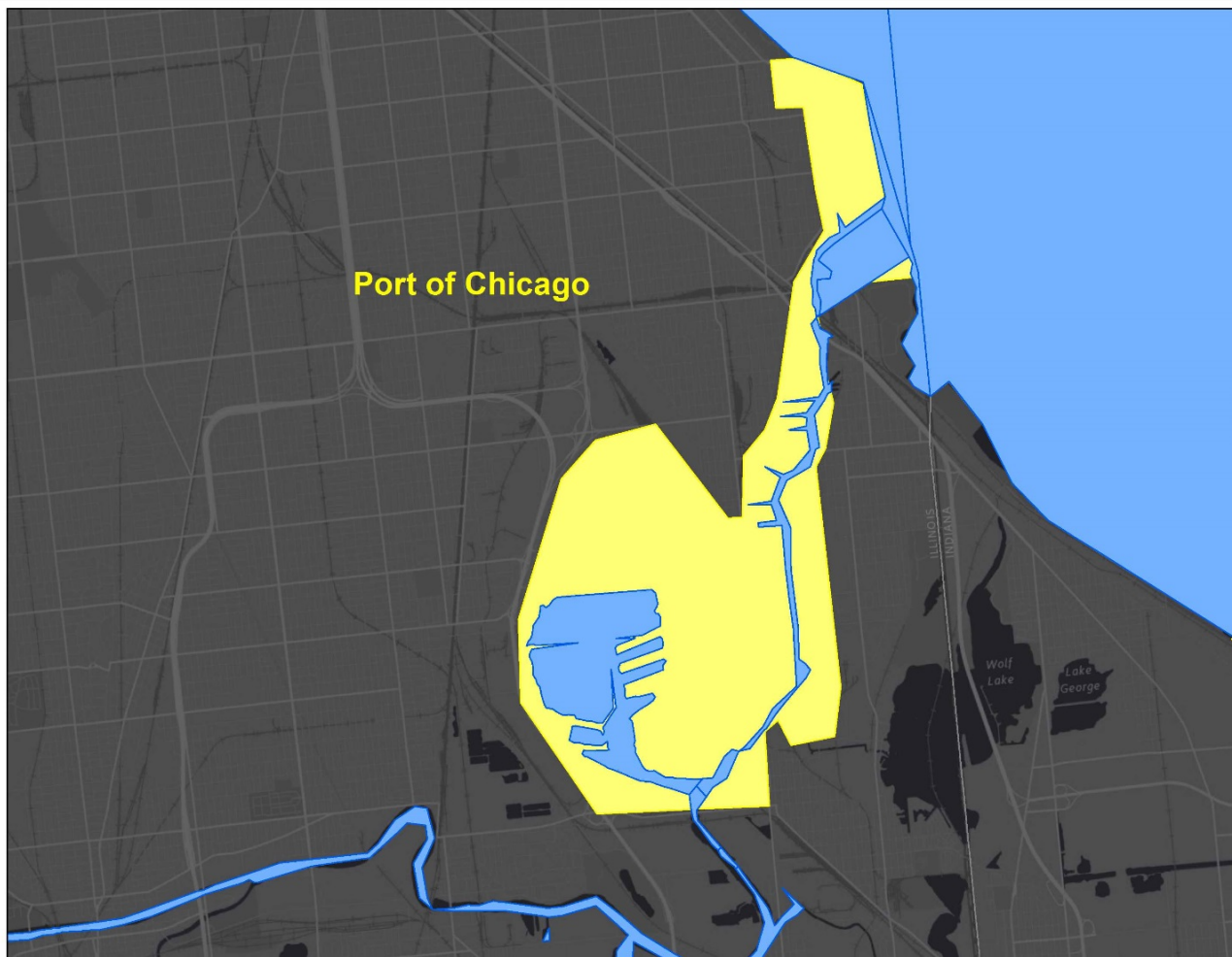
**Port and Shipping Lane Shapefiles Developed for the
2008 National Emissions Inventory**



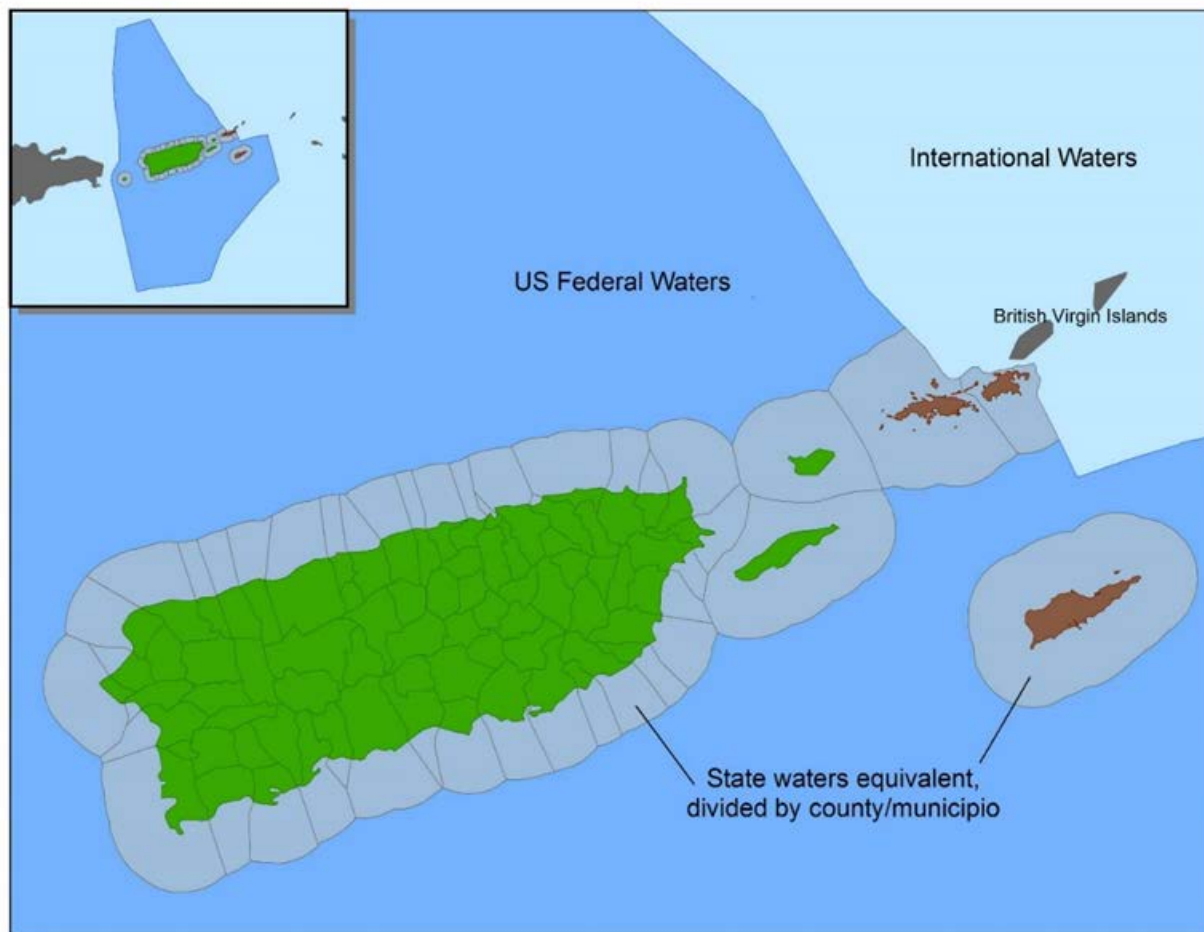


2008 Custom Port and Underway Shapefiles

- Emissions in/near water
- State waters accurately represented
- Federal waters included
- County FIPS



2008 – 2014 Additions and Revisions

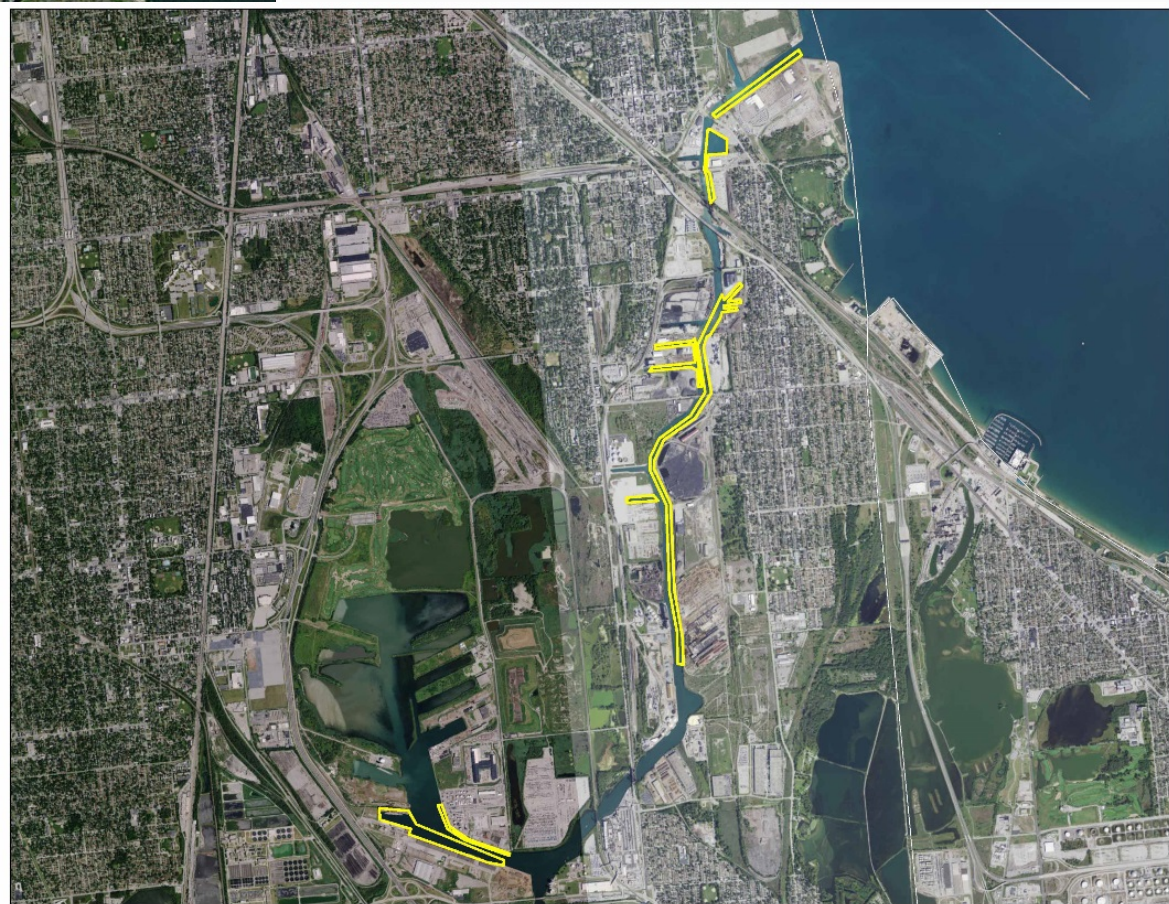


- Port of Huntington
- Port Angeles offshore anchorage
- Port and underway additions
- Additional ferry ports
- Puerto Rico and U.S. Virgin Islands



2014 – New Port Shapes

- Water-based
- Brand new ShapeIDs
- Simplified for modeling
- Single-part features
- Facilitate county sums
- 489 ports and 889 individual shapes
- All previous shapes retired





Moving Forward

- New Activity Data
- Revised spatial allocations
- Shipping lane revisions
- Additional ports
- U.S. Territories



Thanks!

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