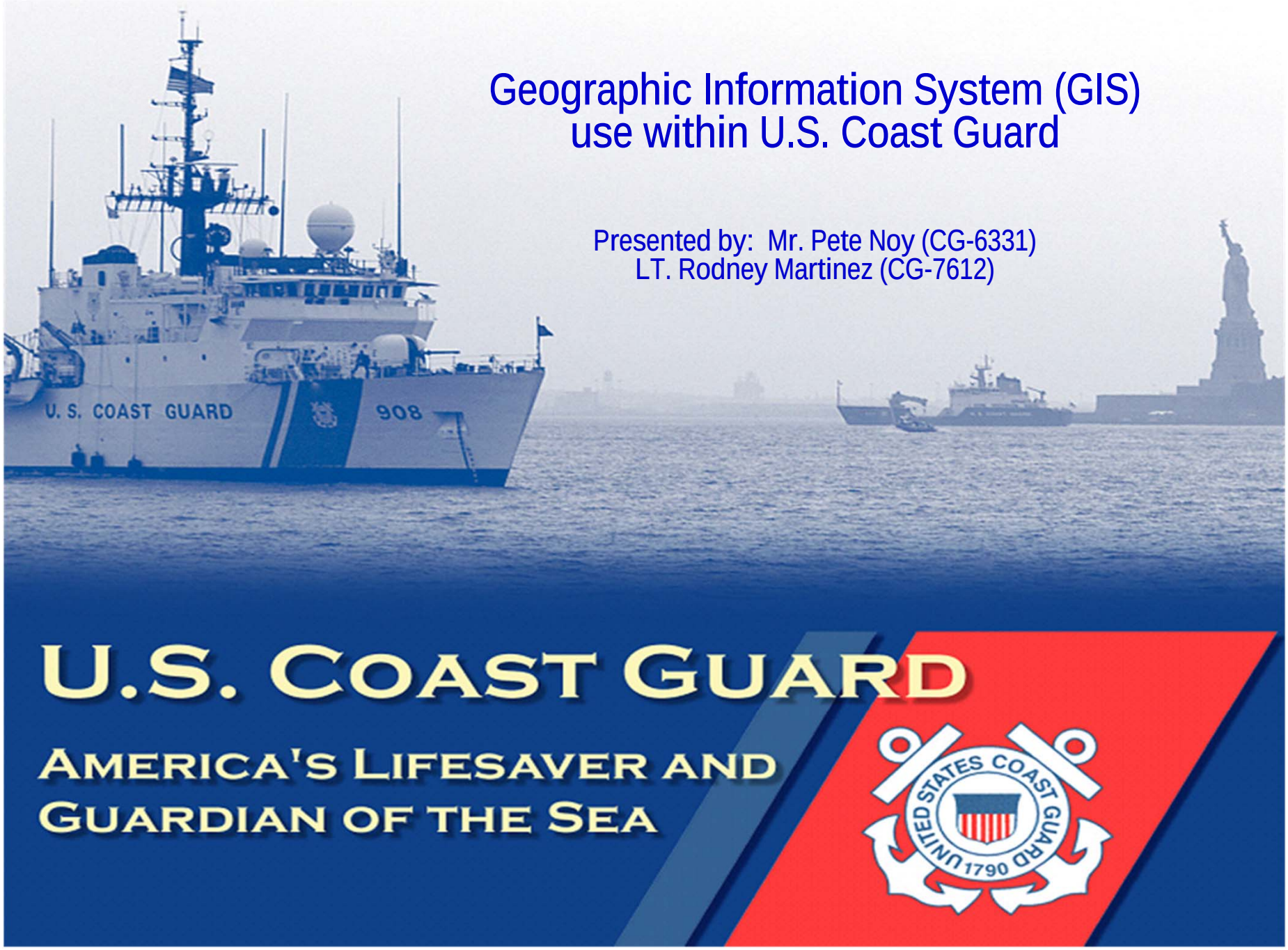
Geographic Information System (GIS) use within U.S. Coast Guard

Presented by: Mr. Pete Noy (CG-6331)
LT. Rodney Martinez (CG-7612)



Coast Guard GIS

Purpose: Provide GIS data and services to the Coast Guard for its fundamental missions:

- Maritime Safety
- Maritime Security
- Maritime Mobility
- National Defense
- Incident Management
- Port Intelligence (unclassified)
- Protection of Natural Resources
- Search and Rescue

Geographic Information System (GIS) use within U.S. Coast Guard

Current challenges

- Ease of use
- Adaptability of technology
- Data Accuracy
- Identification of Trusted Data Sources
- DOD/DHS IT requirements

What is Coast Guard Enterprise GIS (EGIS)

- A Data Warehouse for static GIS data
  - Contains an extensive library of vector and raster data
  - Alleviates need for local storage and maintenance of large or common data sets
- Accessible to all Coast Guard users
  - Through both a desktop client and a web-enabled viewer
  - GIS clients include ArcGIS Explorer for Desktop and ArcGIS Desktop
- Sensitive but Unclassified (SBU)

EGIS Data Warehouse Services

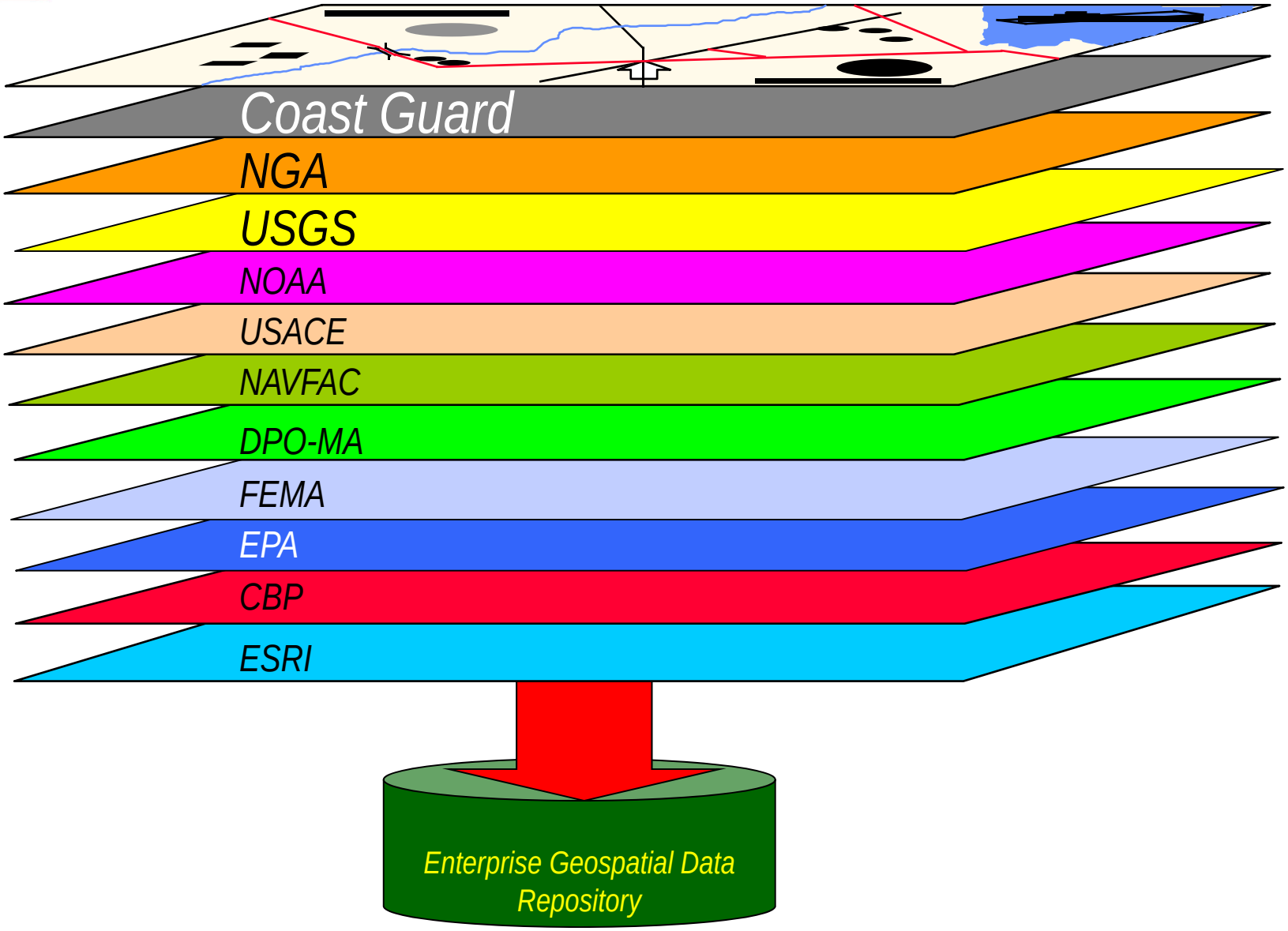
National Data Coverage

- Relevant vector data sets from federal government and industry providers
  - Focus: Homeland Security Infrastructure Program (HSIP) vector data sets
- Coast Guard data
  - Jurisdictional/CFR data
  - Program-specific data
- Nautical Charts (NOAA RNC/ENC, USACE IENC, CYC)
- Access to Microsoft Bing via DHS ELA

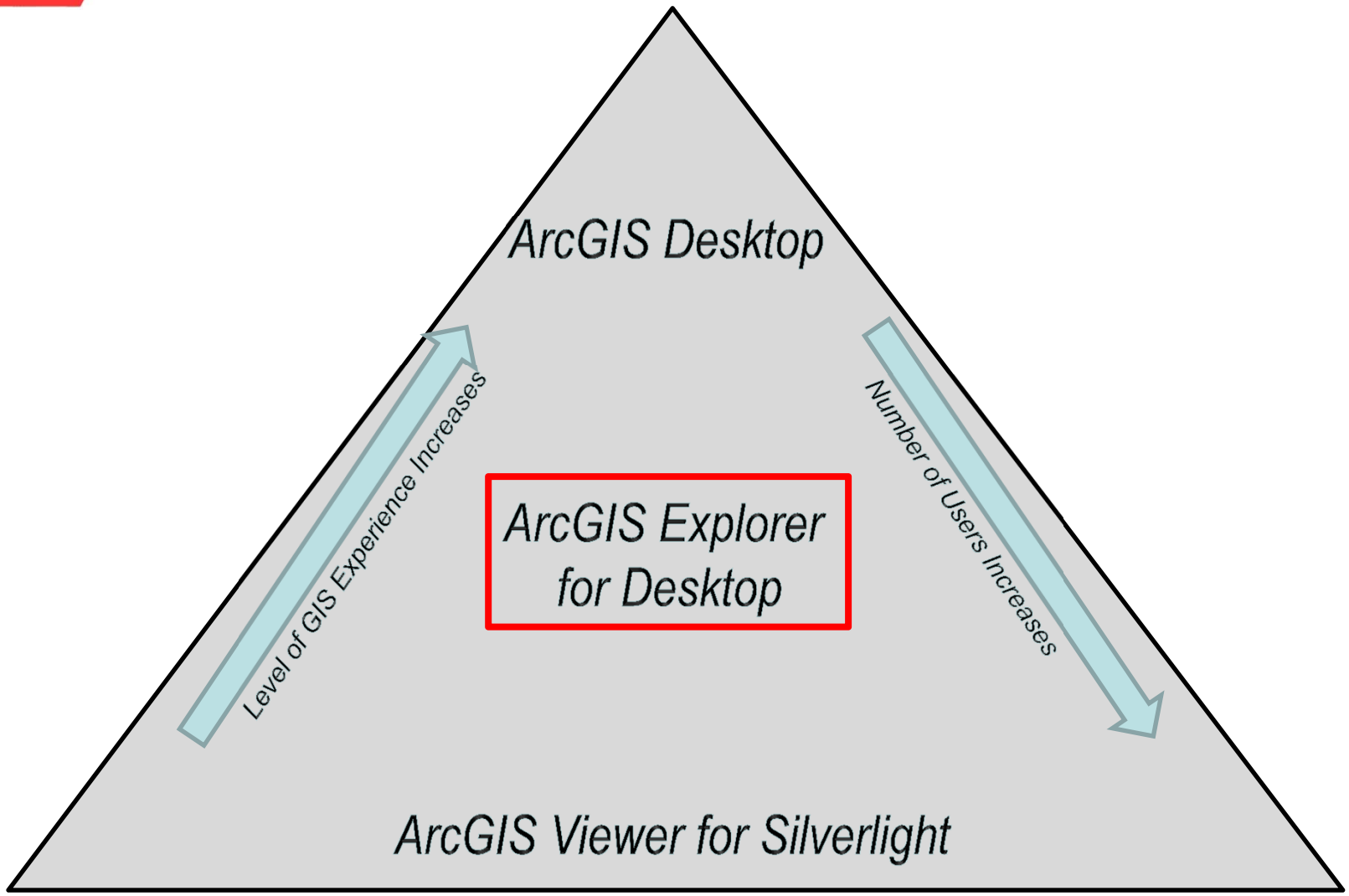
HSIP Vector Data Sets

- Other Vector & Raster Data from Federal Providers
- External and Internal Data Services
- Real-time Vessel Track Data Fee Data Warehouse for National-level GIS Data

GIS Data Providers

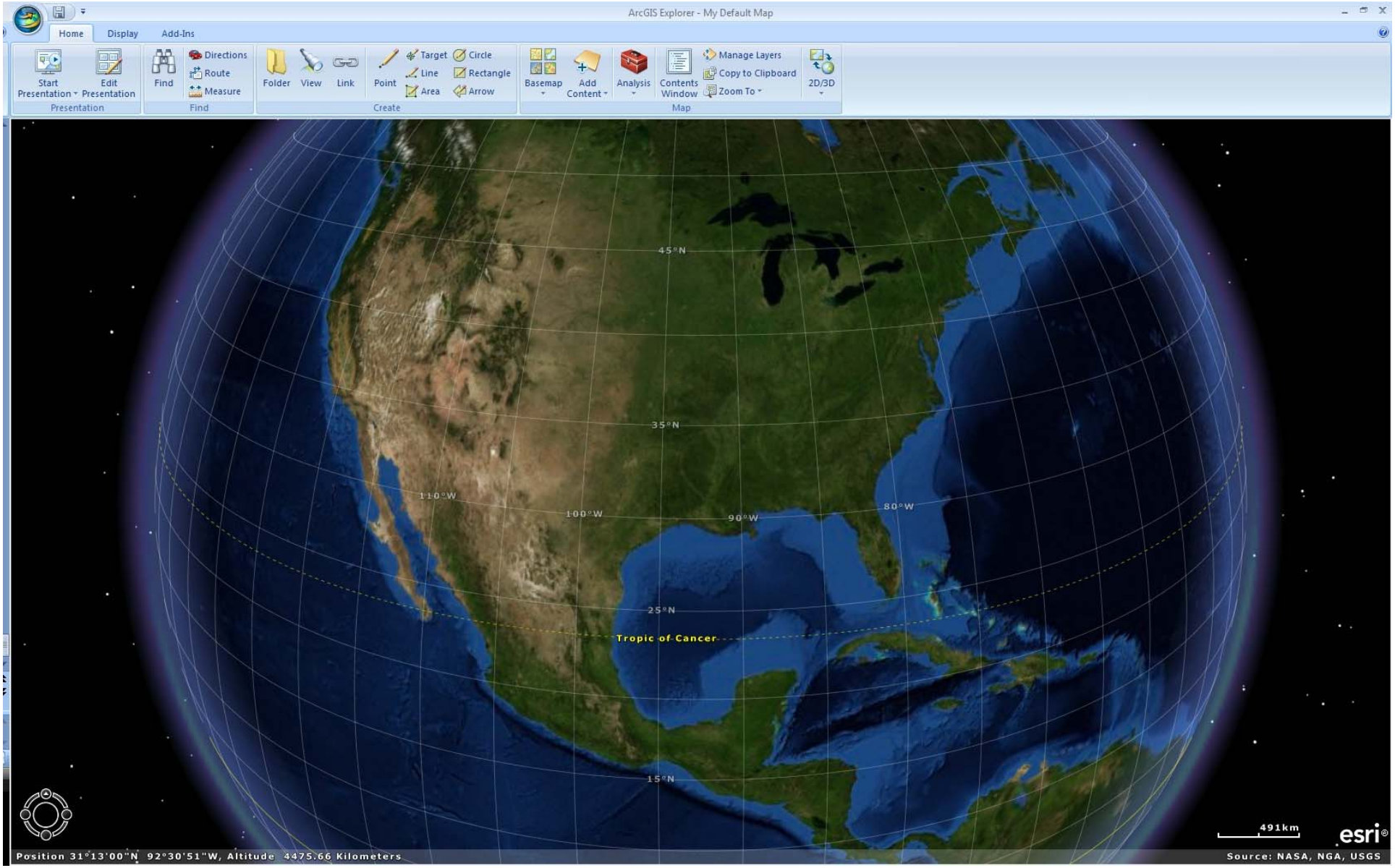


GIS Software Capability

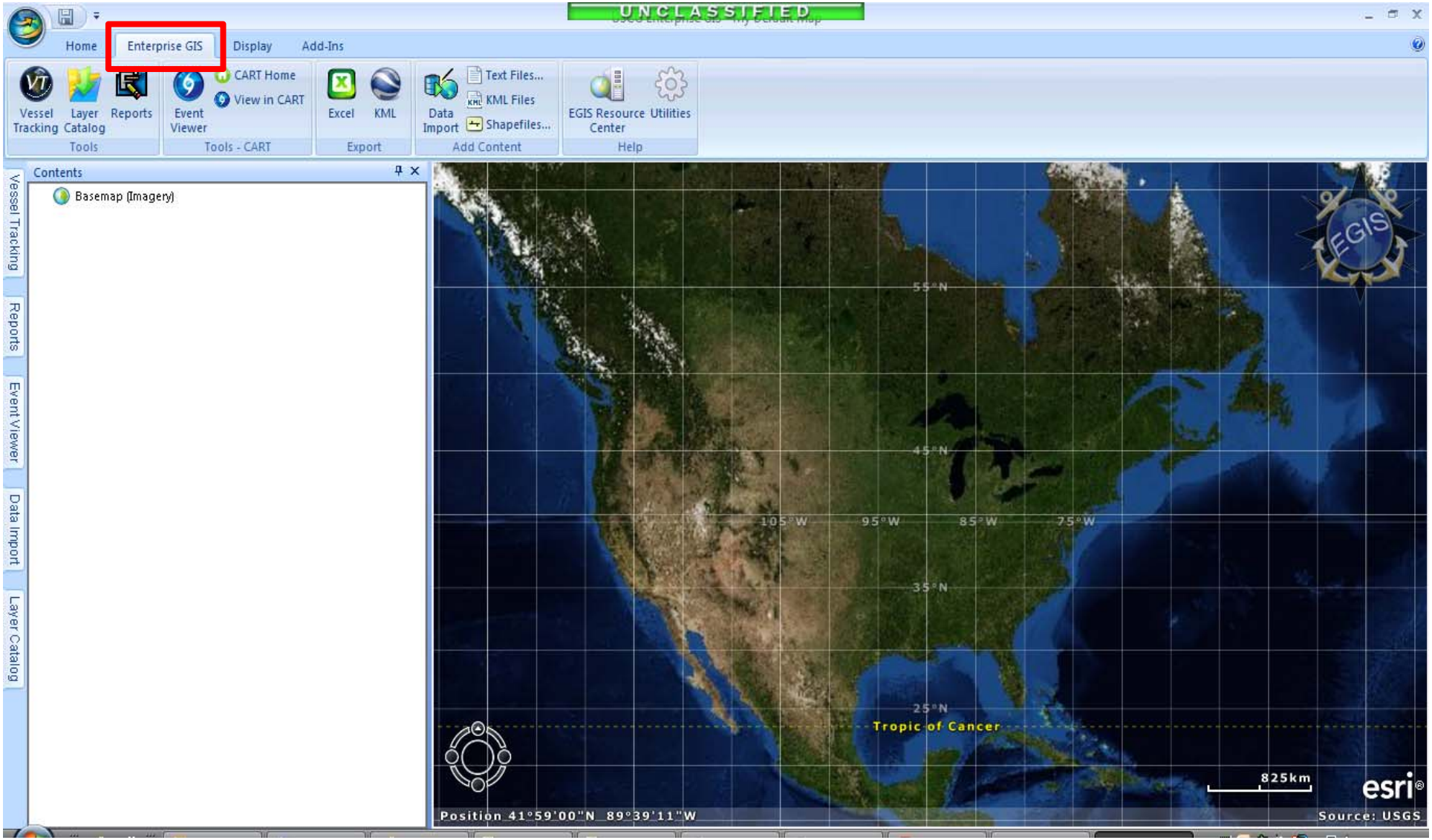


Conceptual model of GIS user community within United States Coast Guard.

ArcGIS Explorer for Desktop (Build 1700)



USCG Modified ArcGIS Explorer for Desktop



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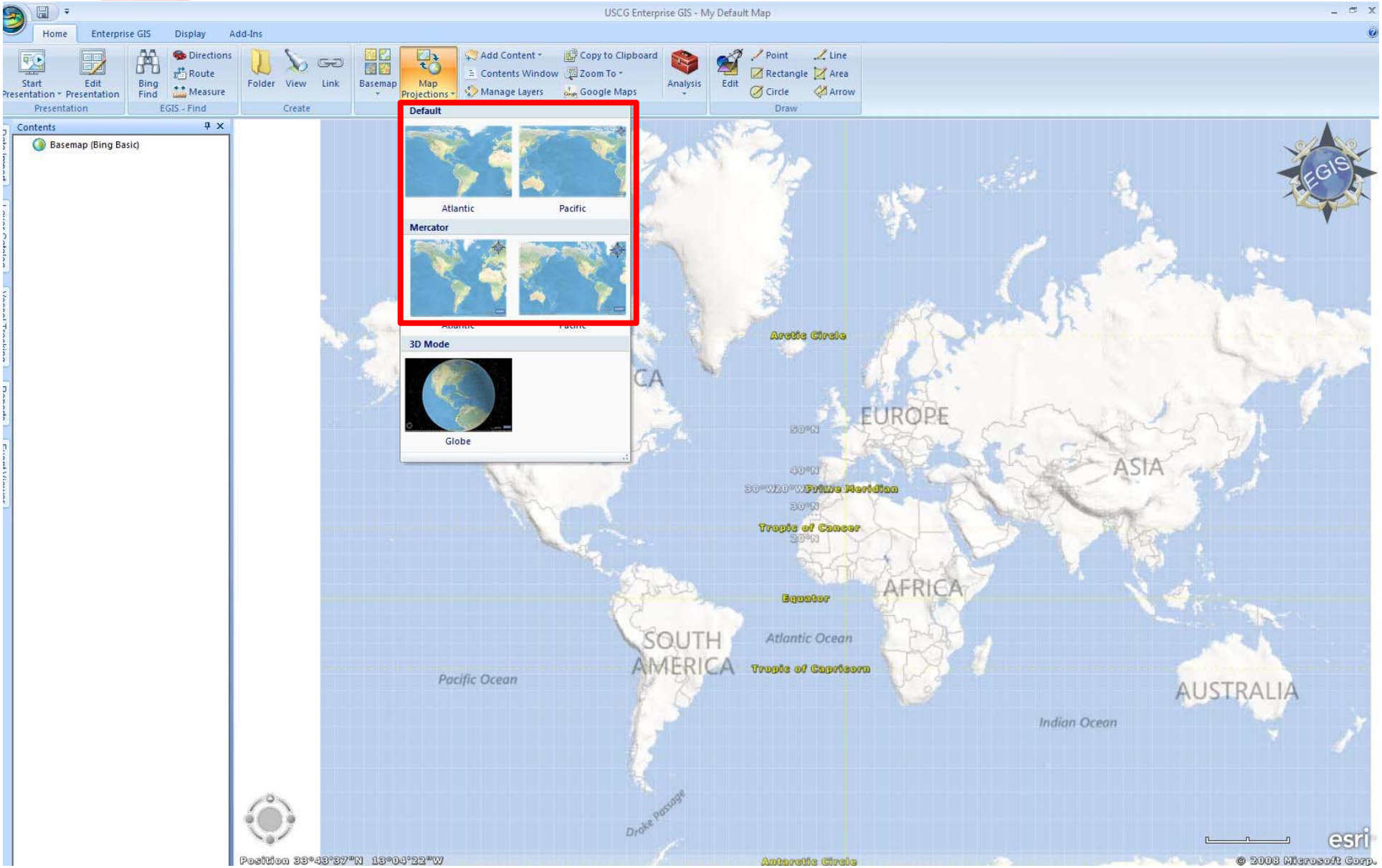
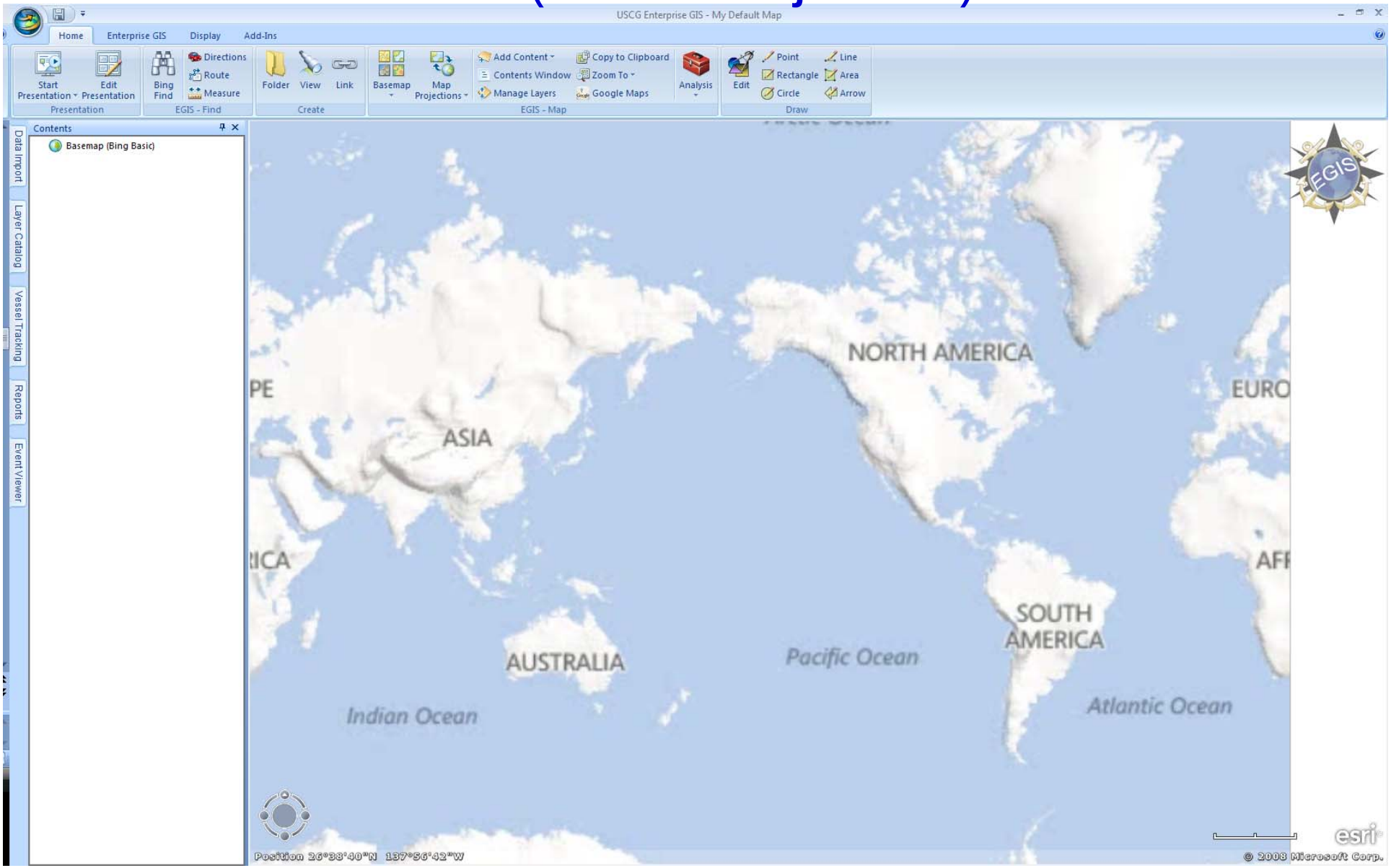
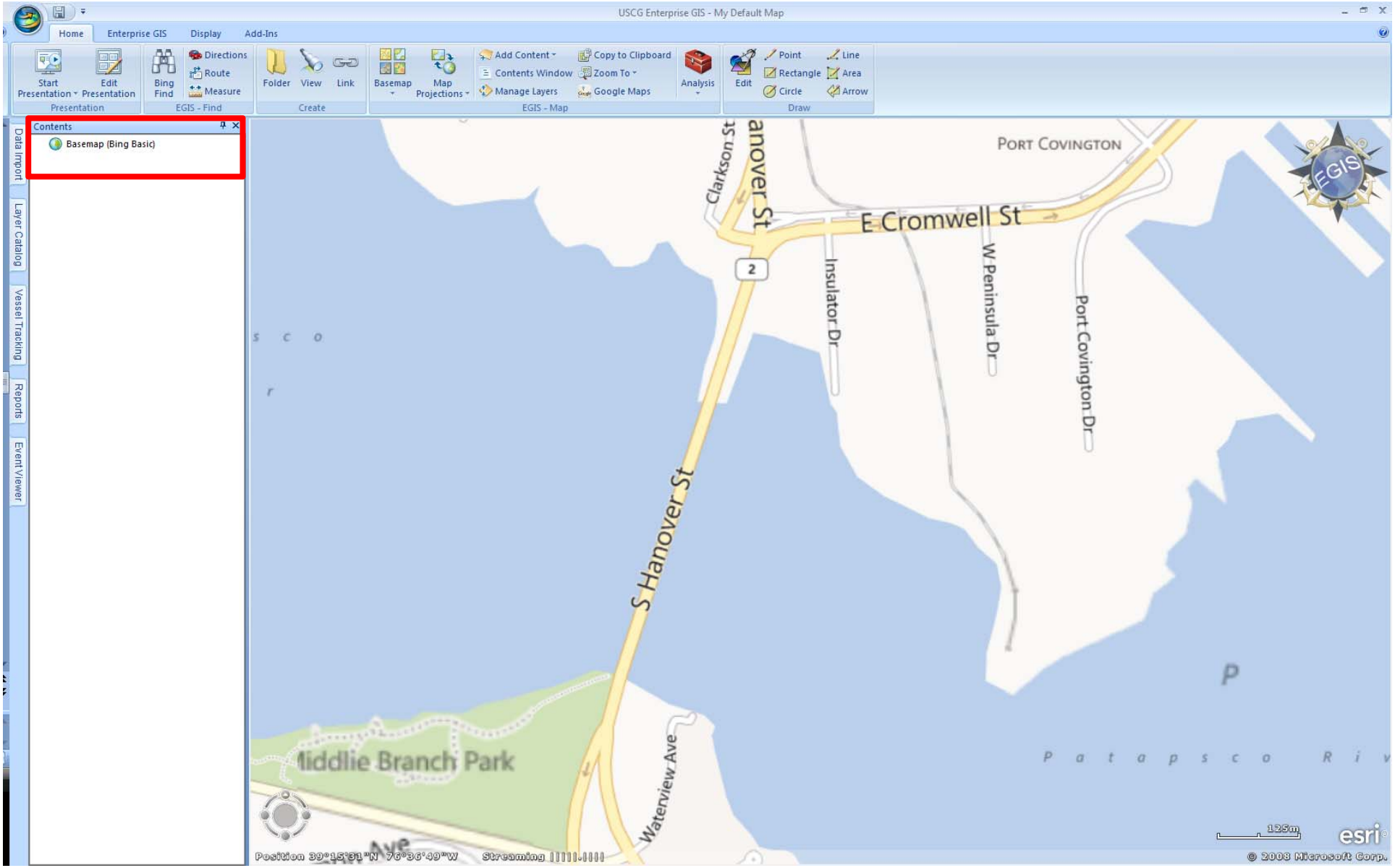


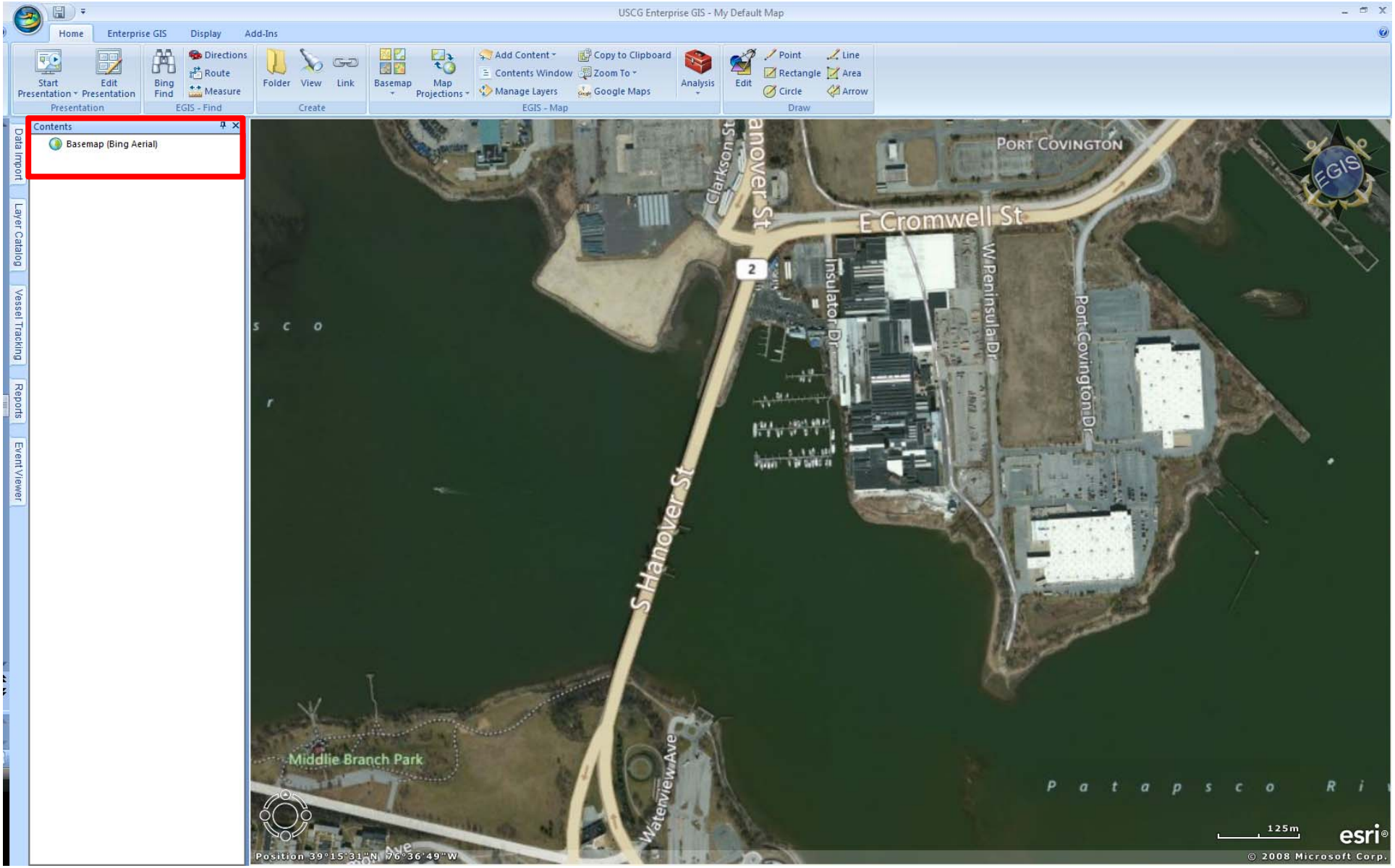
USCG Modified ArcGIS Explorer for Desktop (Custom Projections)



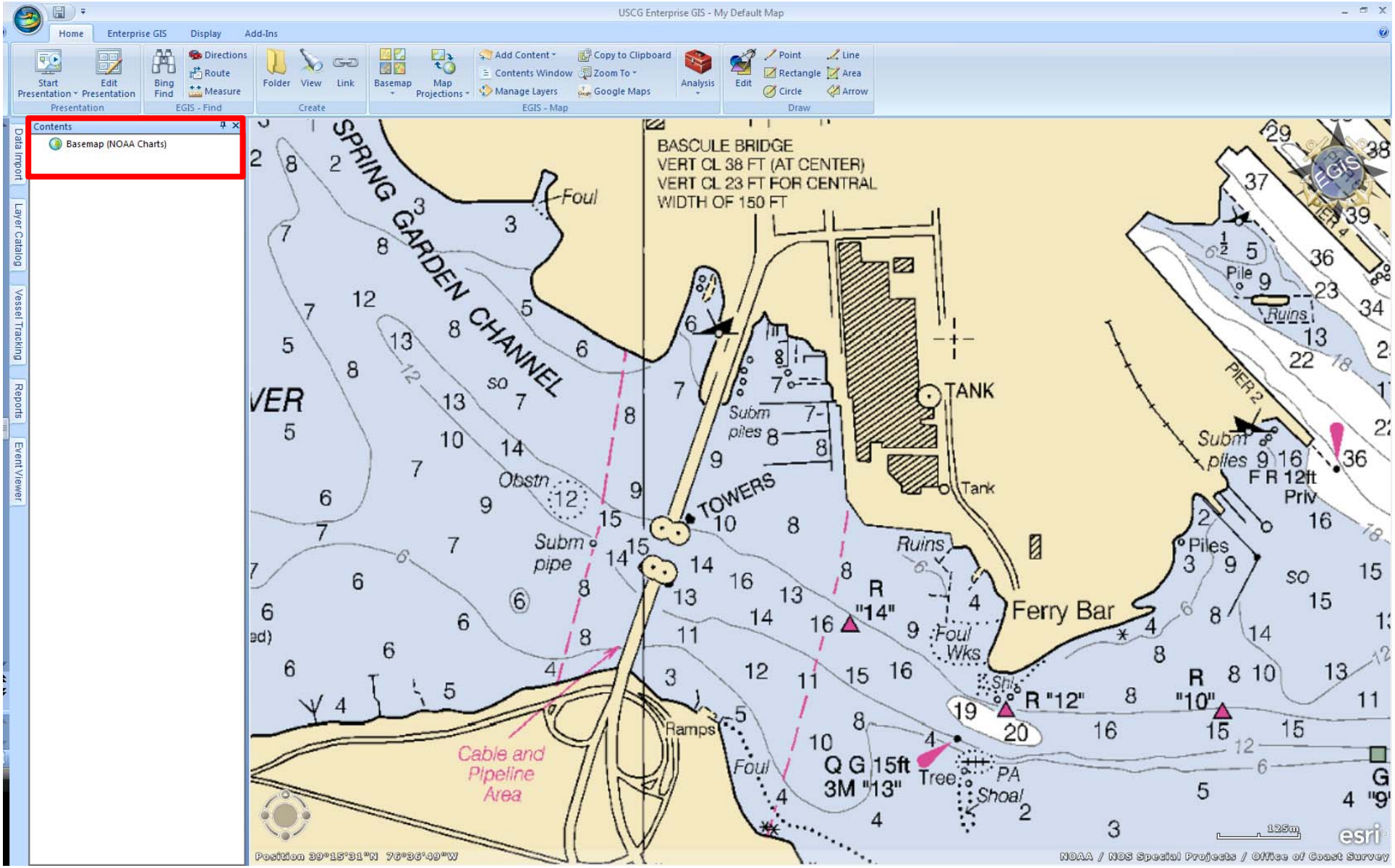
Leverages DHS ELA with Microsoft Bing



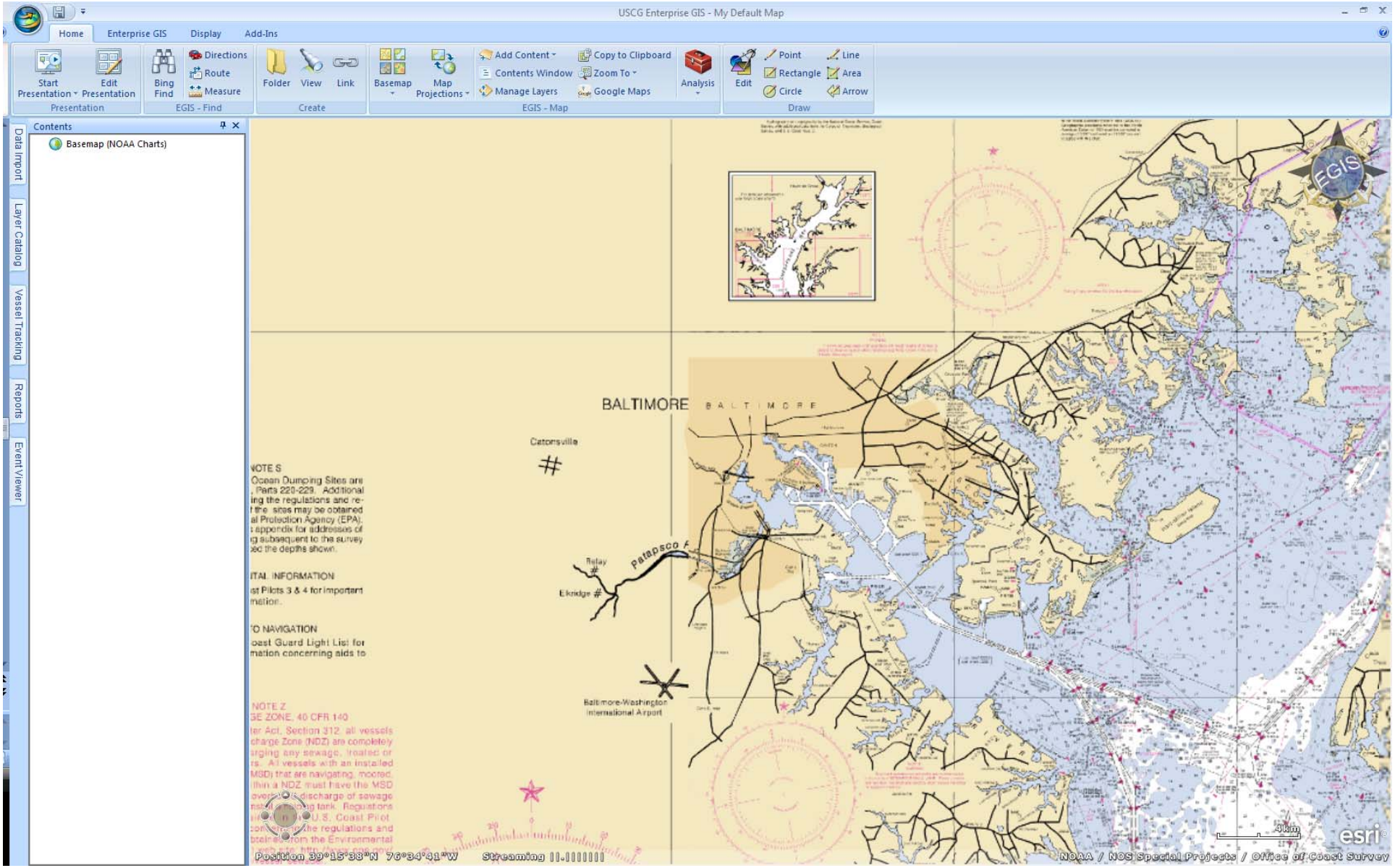
Leverages DHS ELA with Microsoft Bing



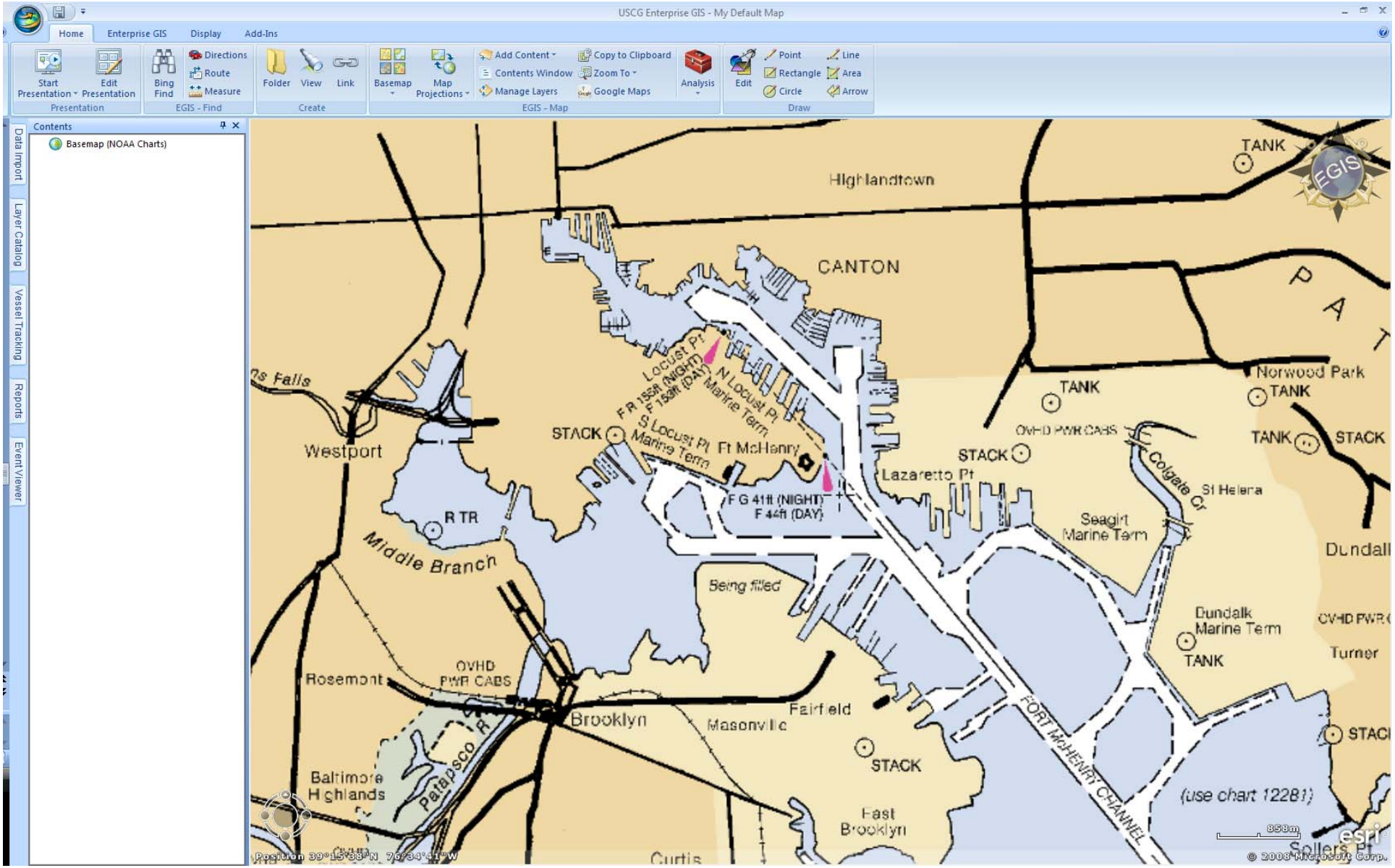
NOAA Seamless RNC Services



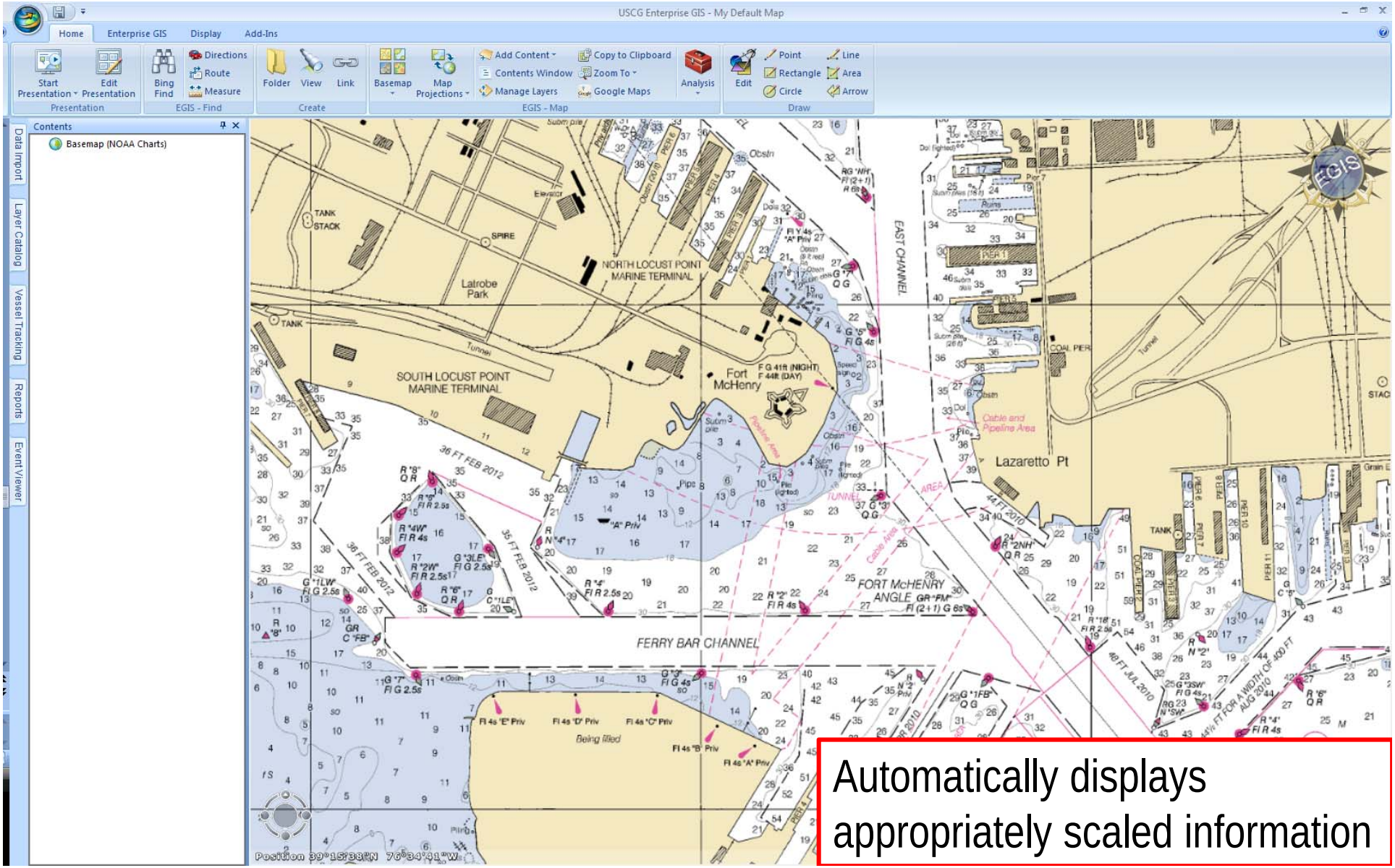
NOAA Seamless RNC Services



NOAA Seamless RNC Services

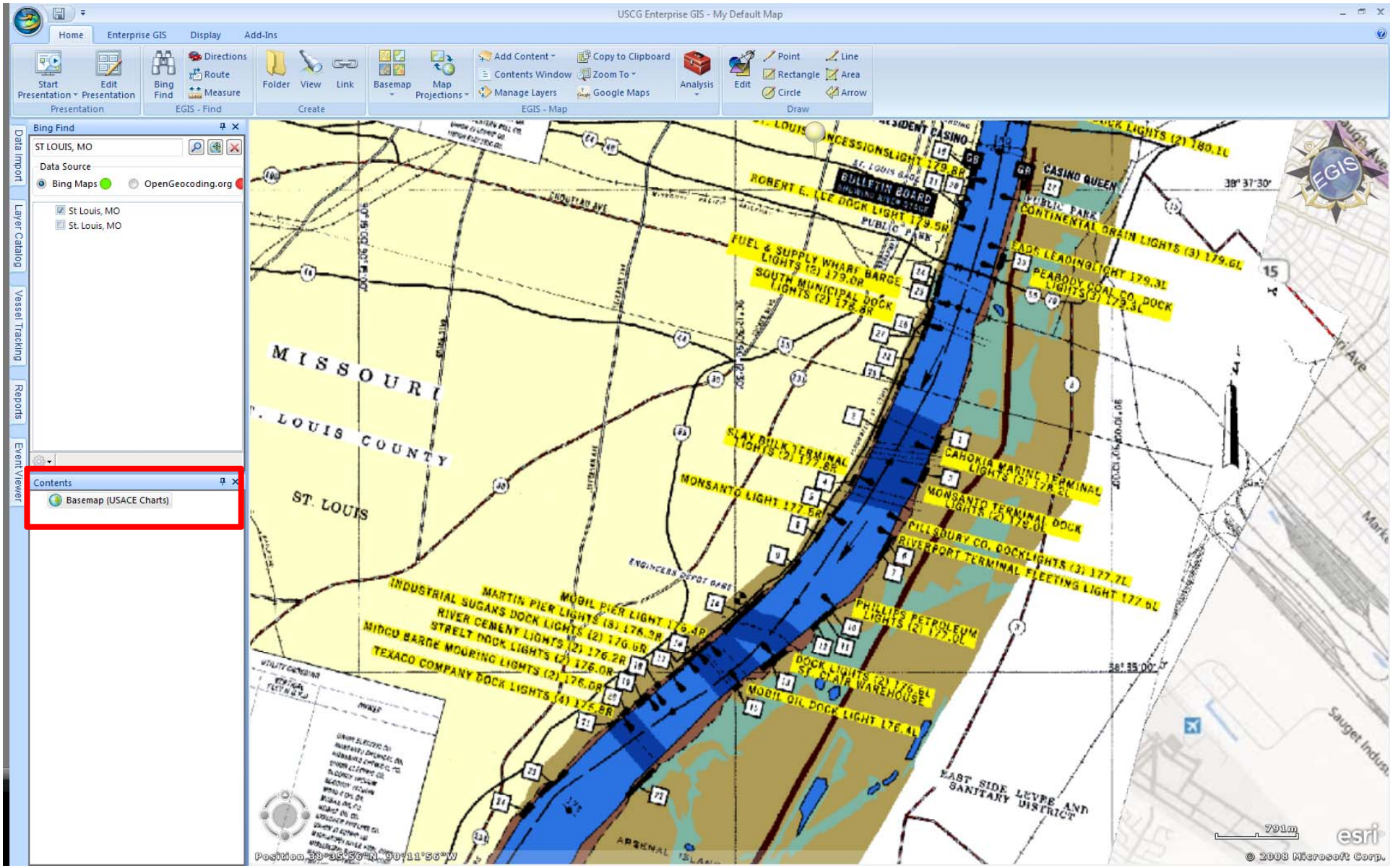


NOAA Seamless RNC Services

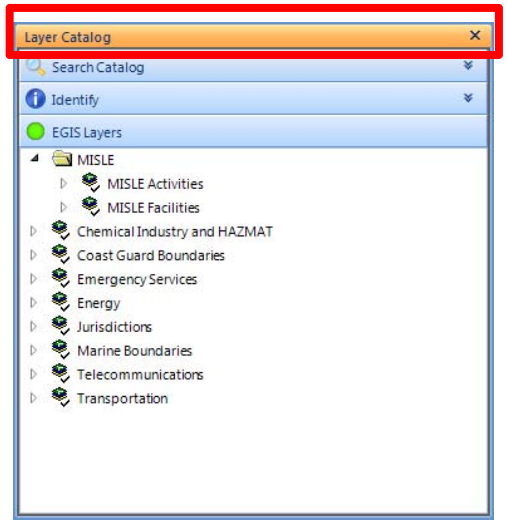


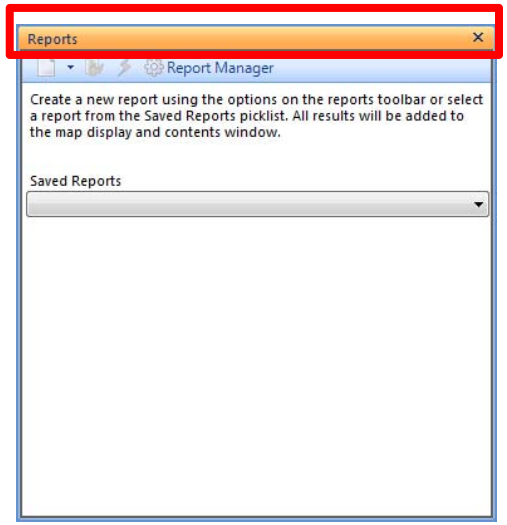
Automatically displays appropriately scaled information

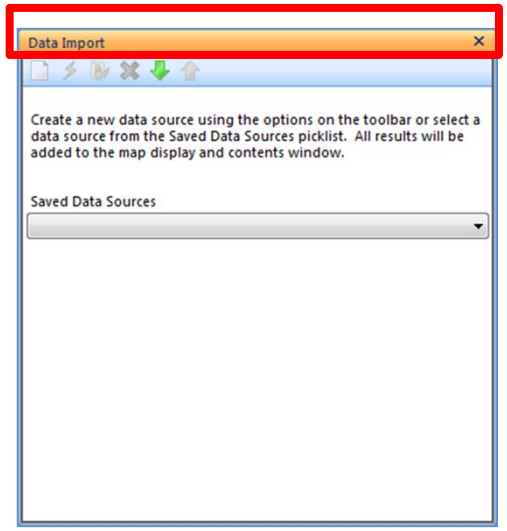
USACE Seamless IENC Services

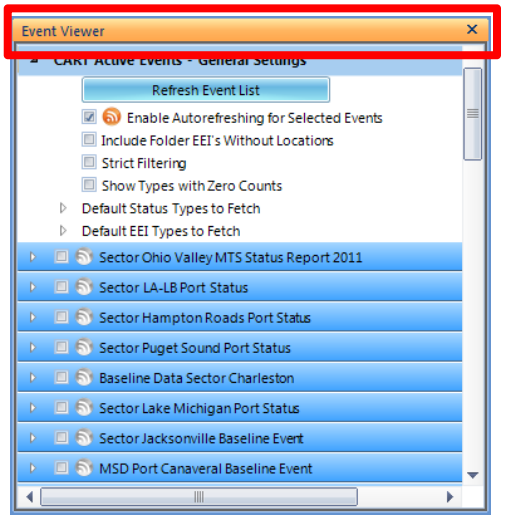


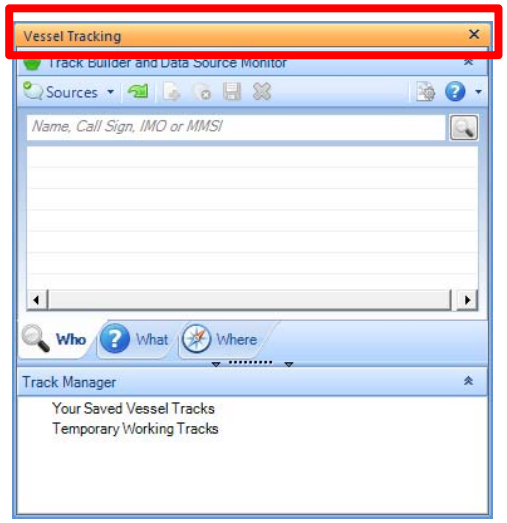
USCG Customized Capabilities



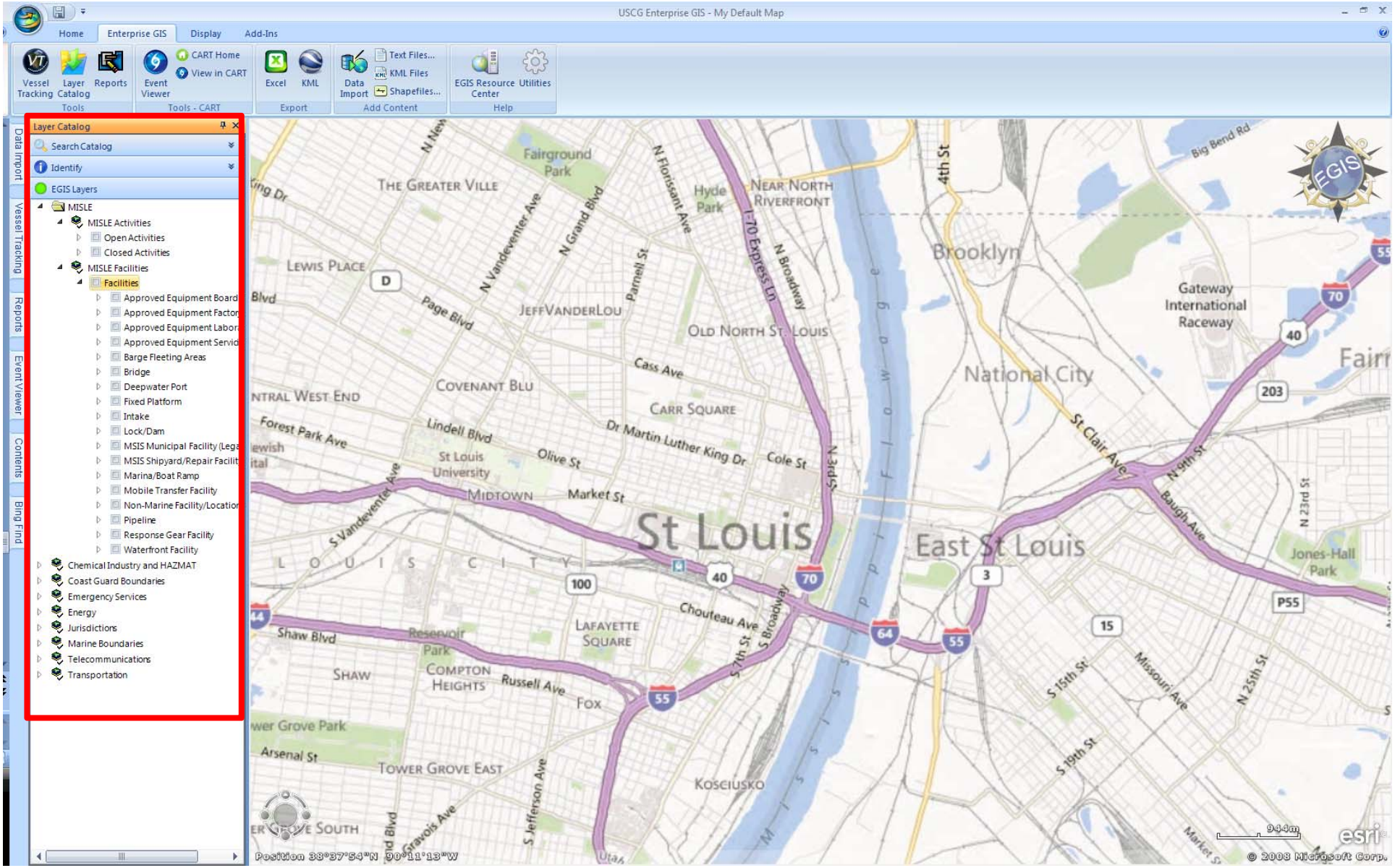




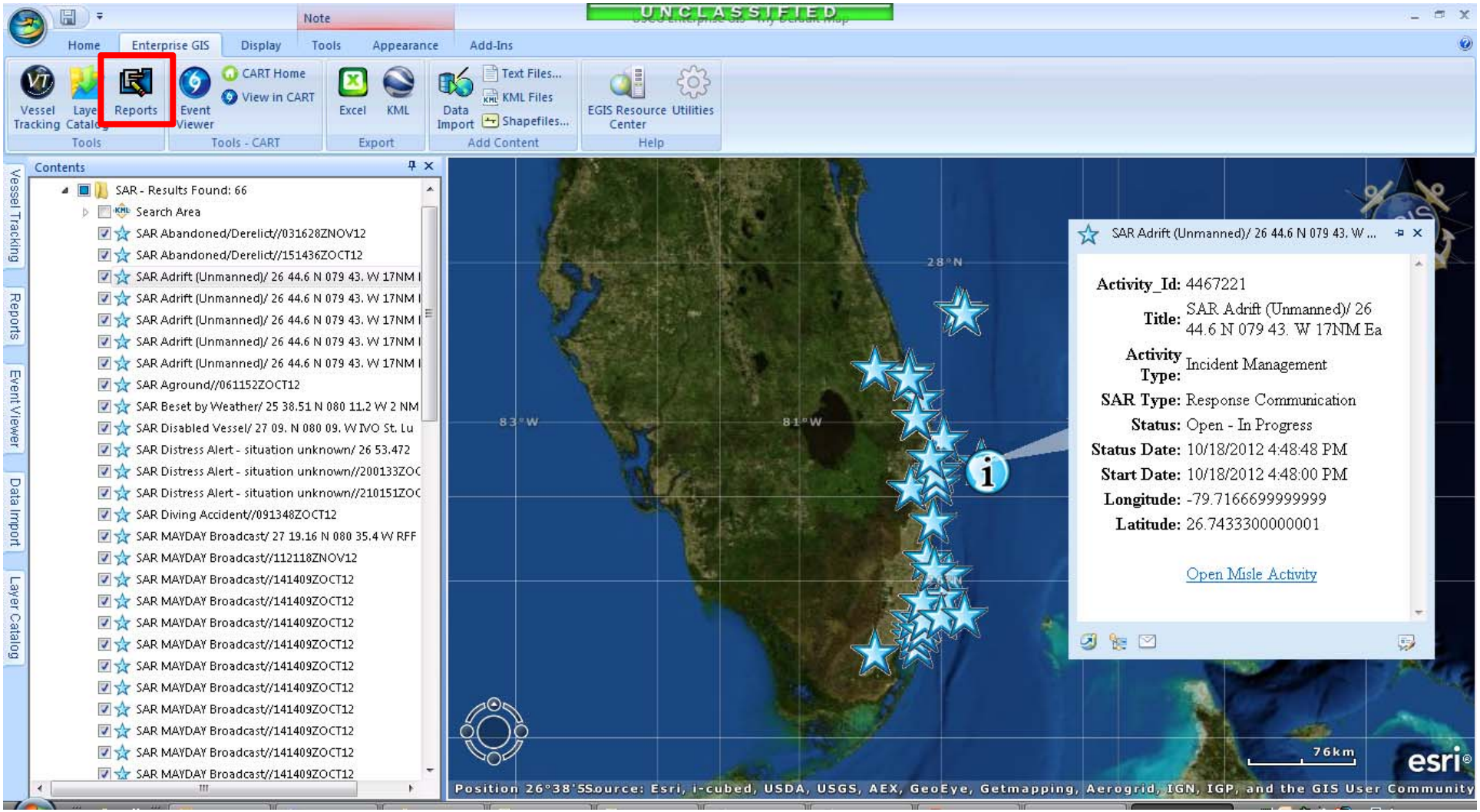




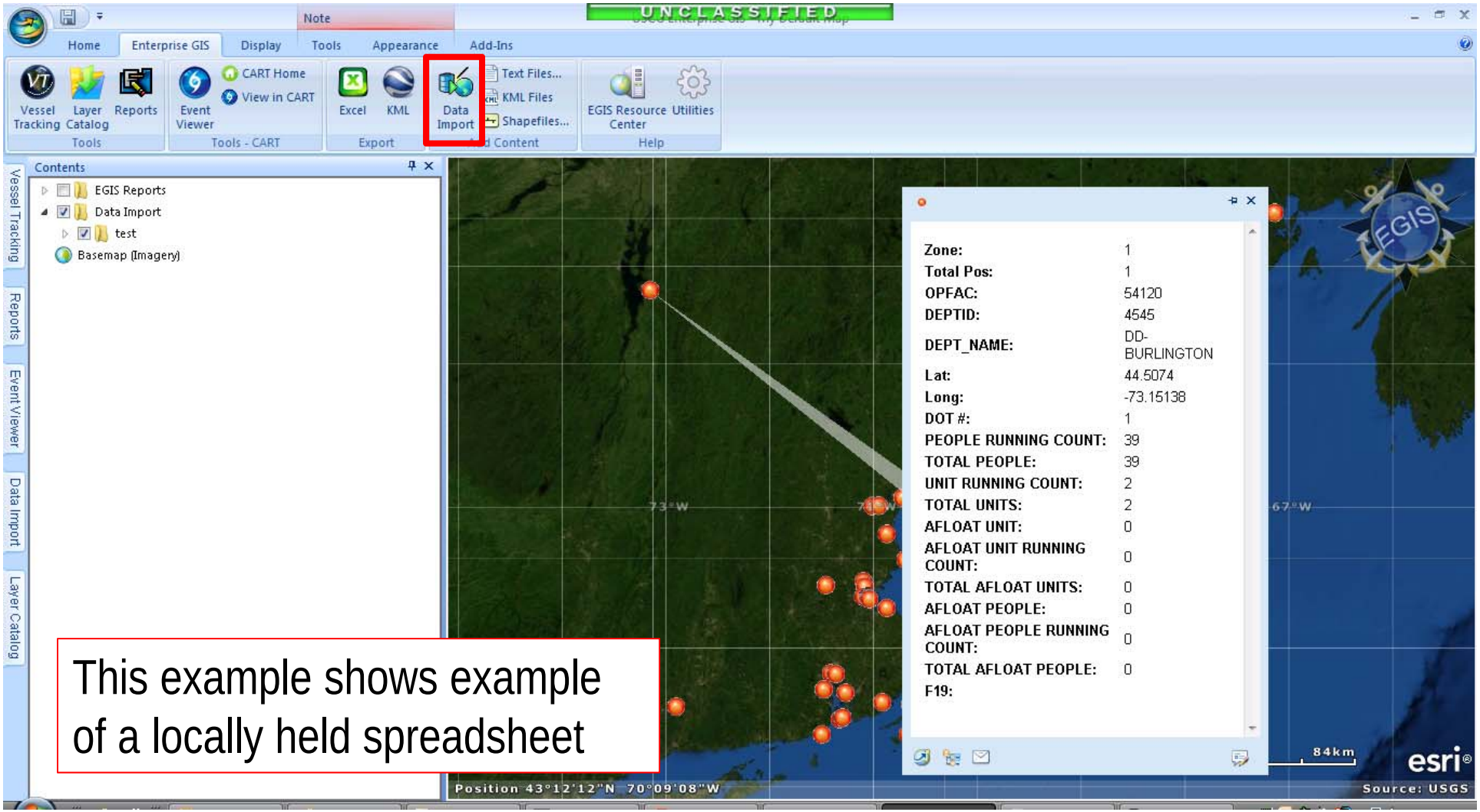
USCG Customized Capabilities
Layer Catalog



USCG Customized Capabilities
Reports

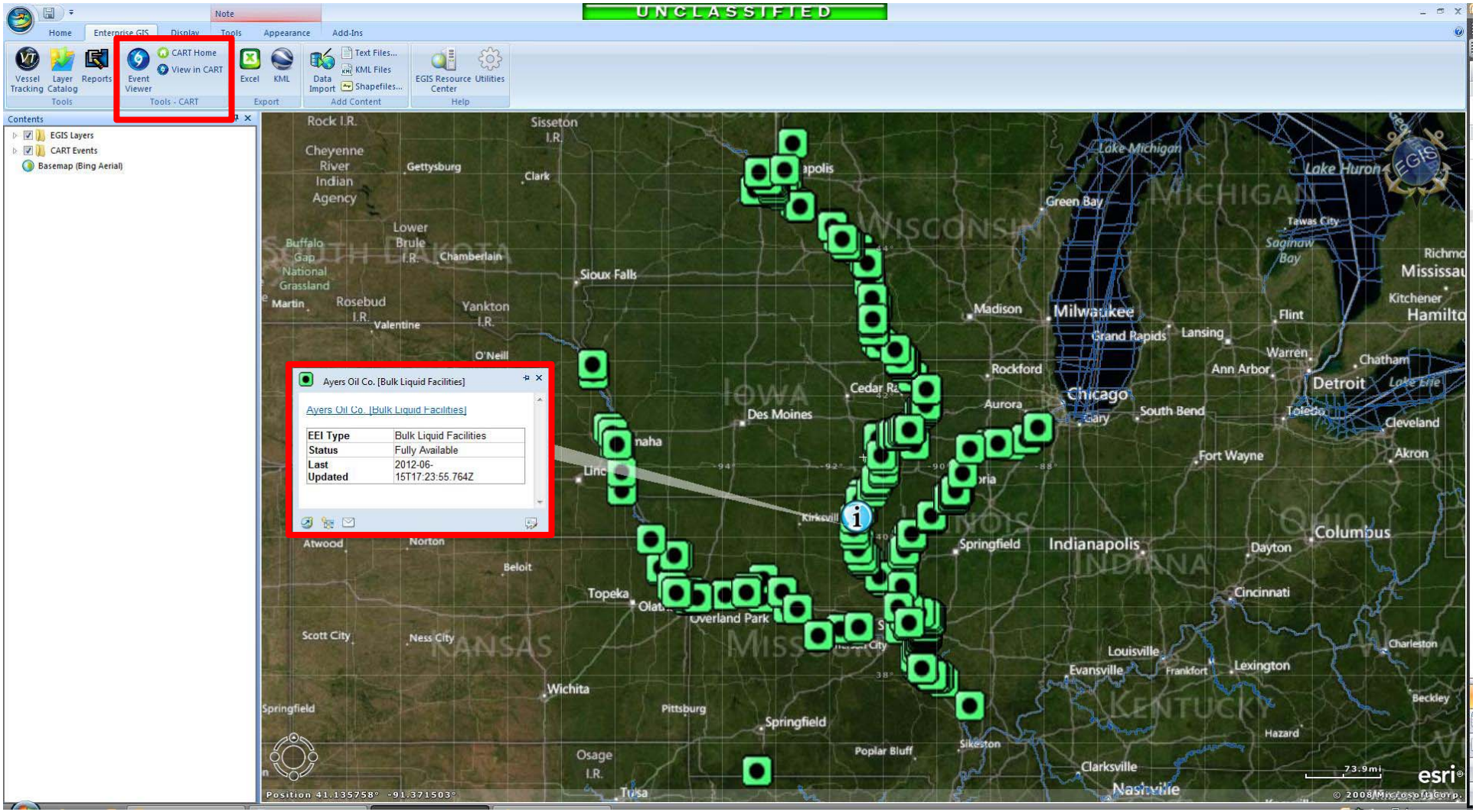


USCG Customized Capabilities
External Data Import

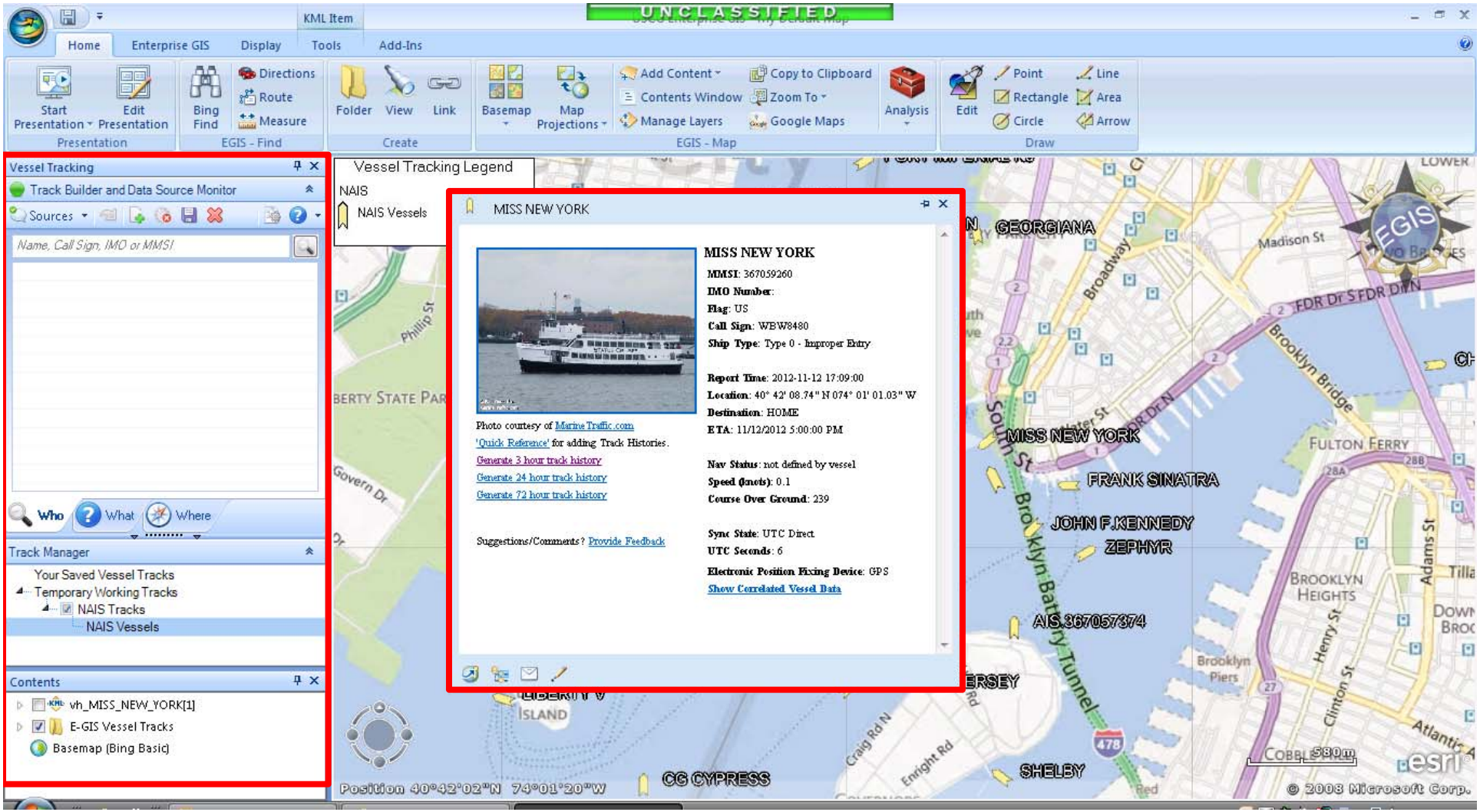


This example shows example of a locally held spreadsheet

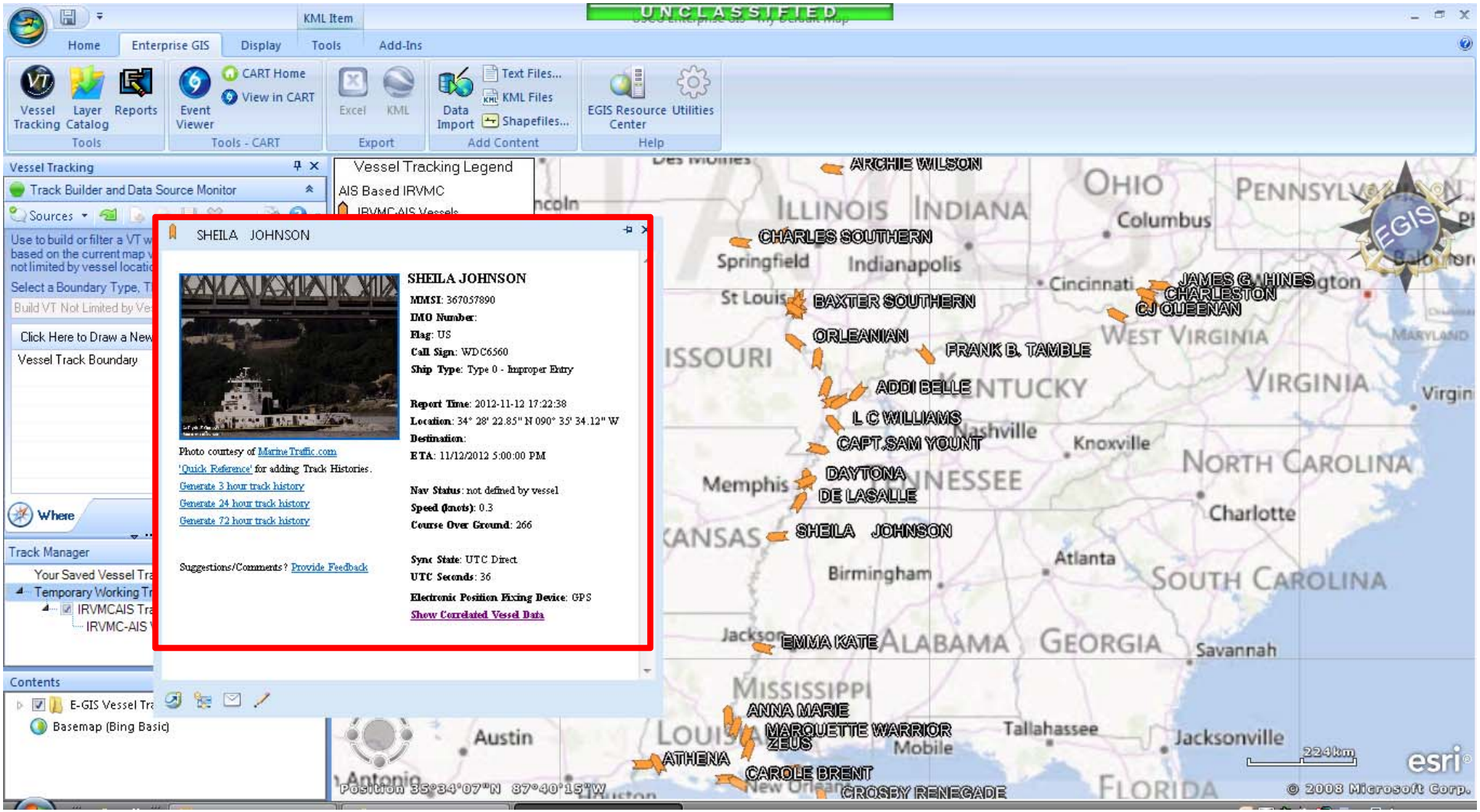
USCG Customized Capabilities
MTSR-CART Function



USCG Customized Capabilities
Vessel Tracks



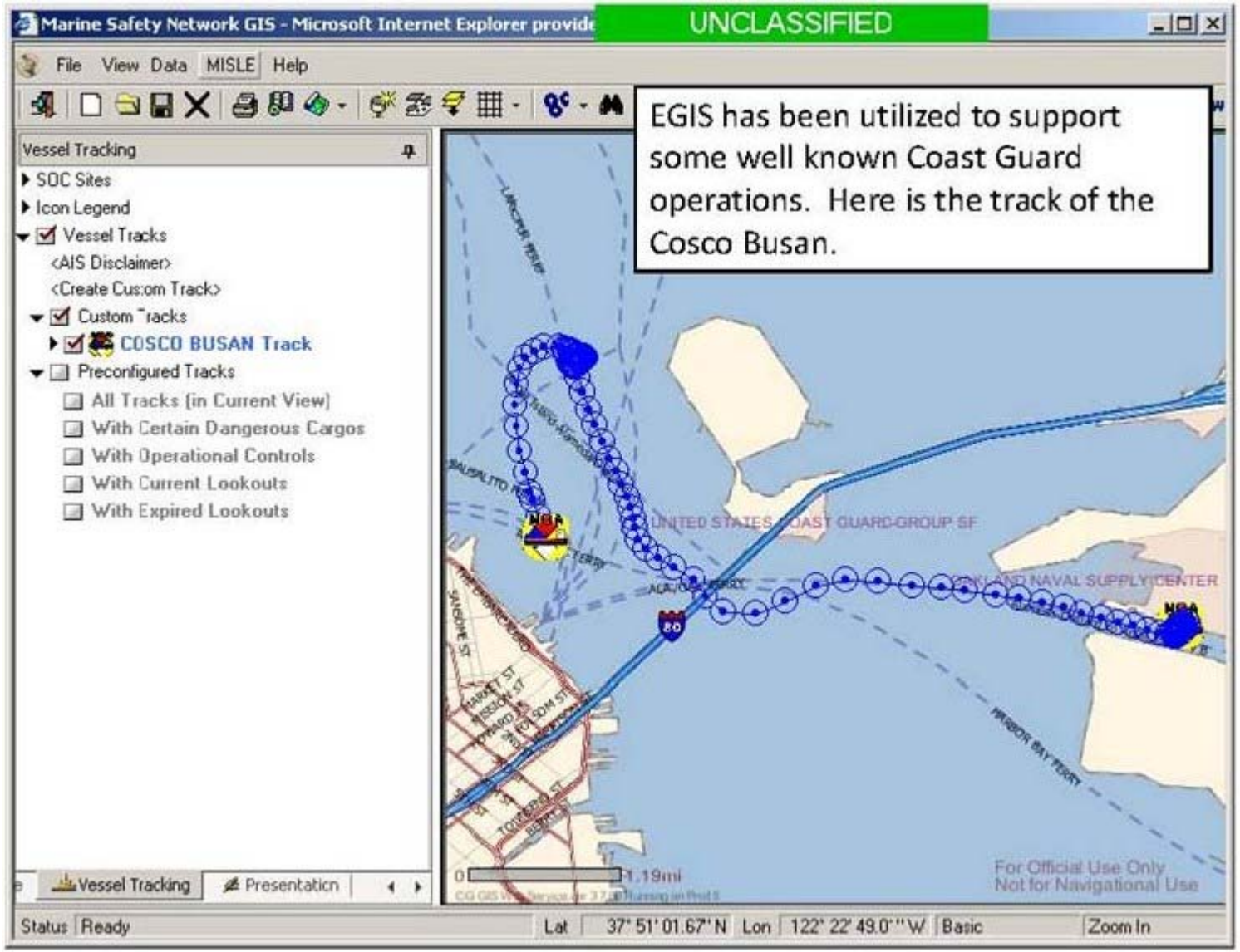
USCG Customized Capabilities
Vessel Tracks - NAIS



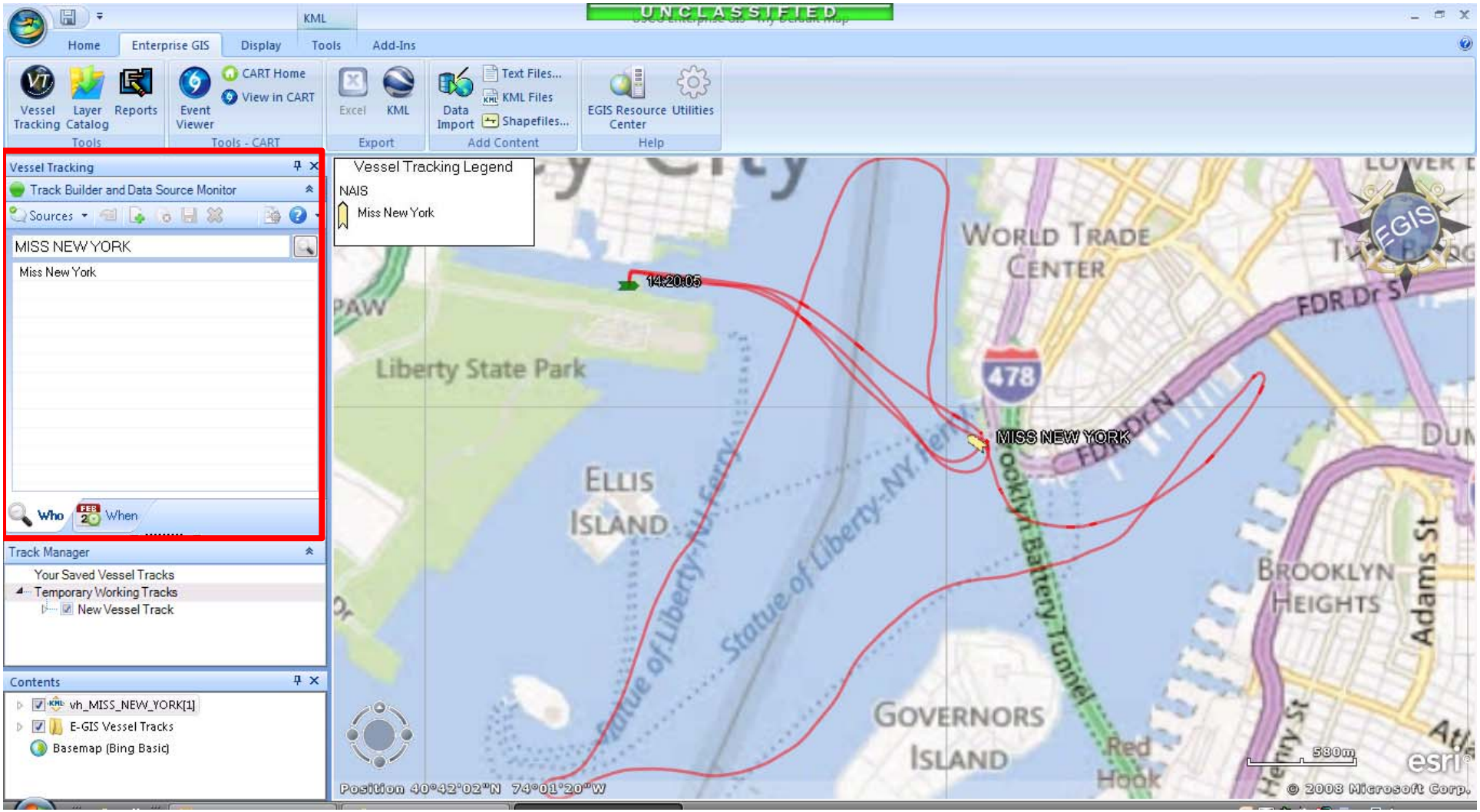
USCG Customized Capabilities
Vessel Track – Drill Through

USCG Customized Capabilities
Satellite-based AIS

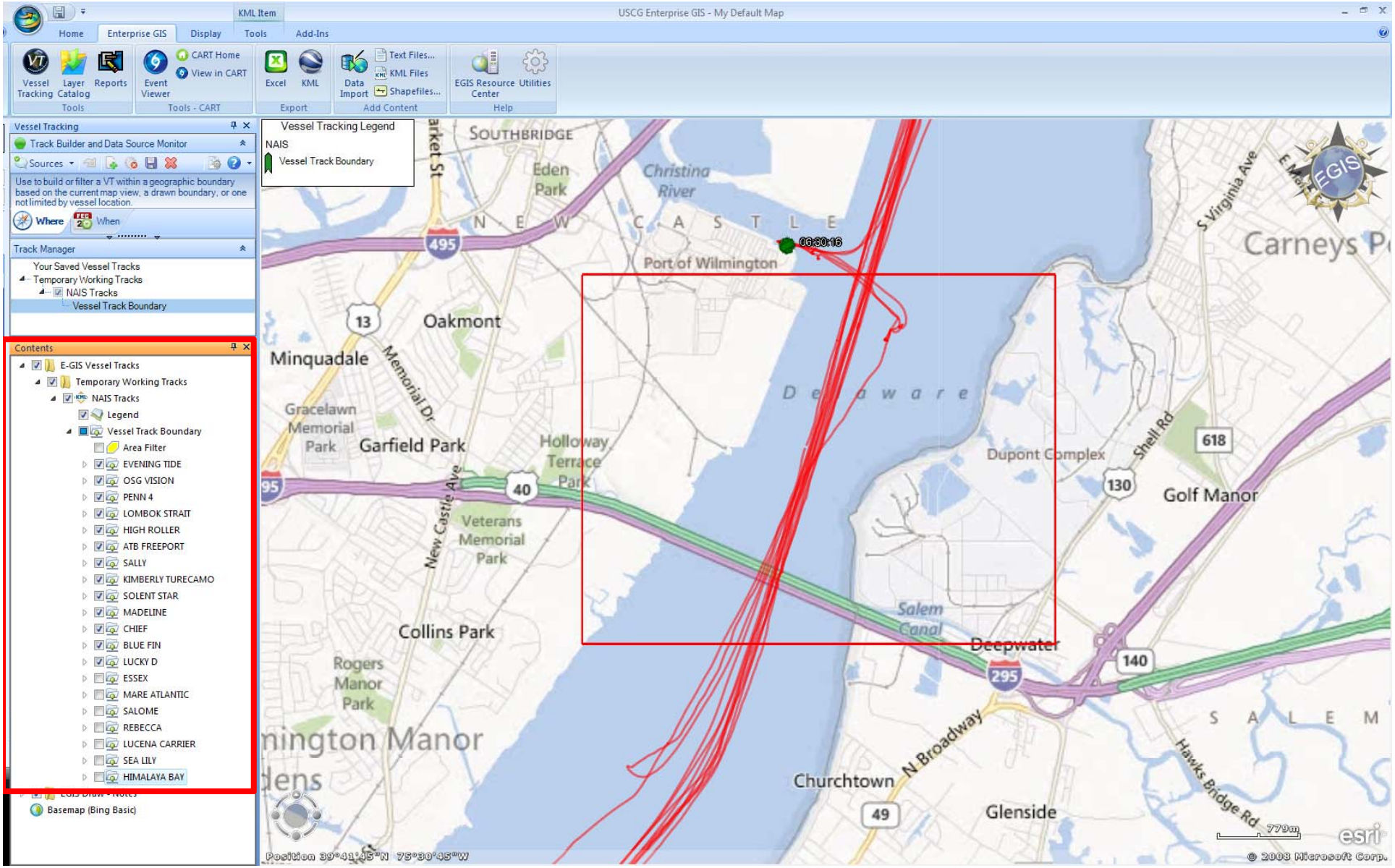
USCG Legacy Capabilities
Vessel Track Playback



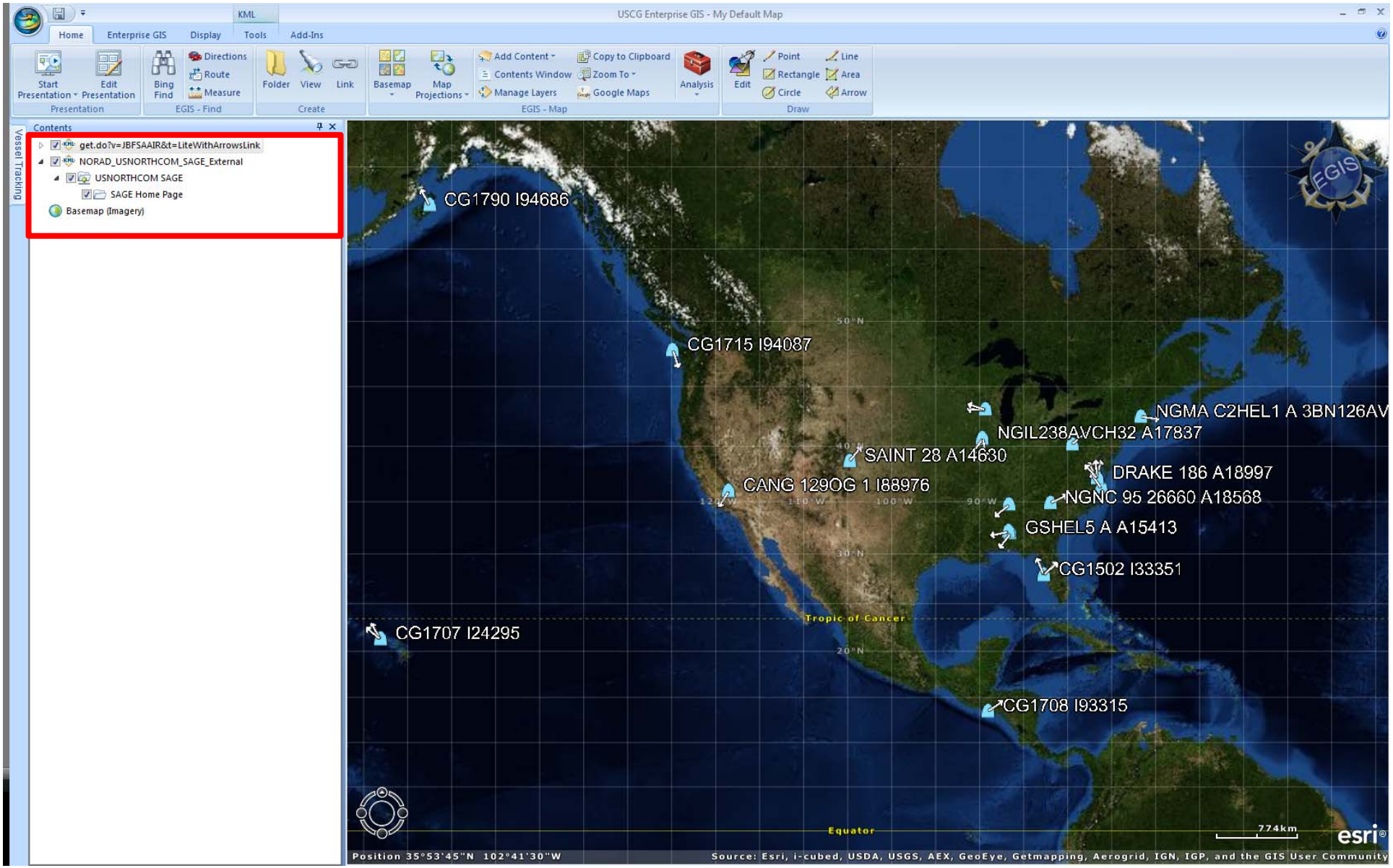
USCG New Customized Capabilities
Vessel Track Playback



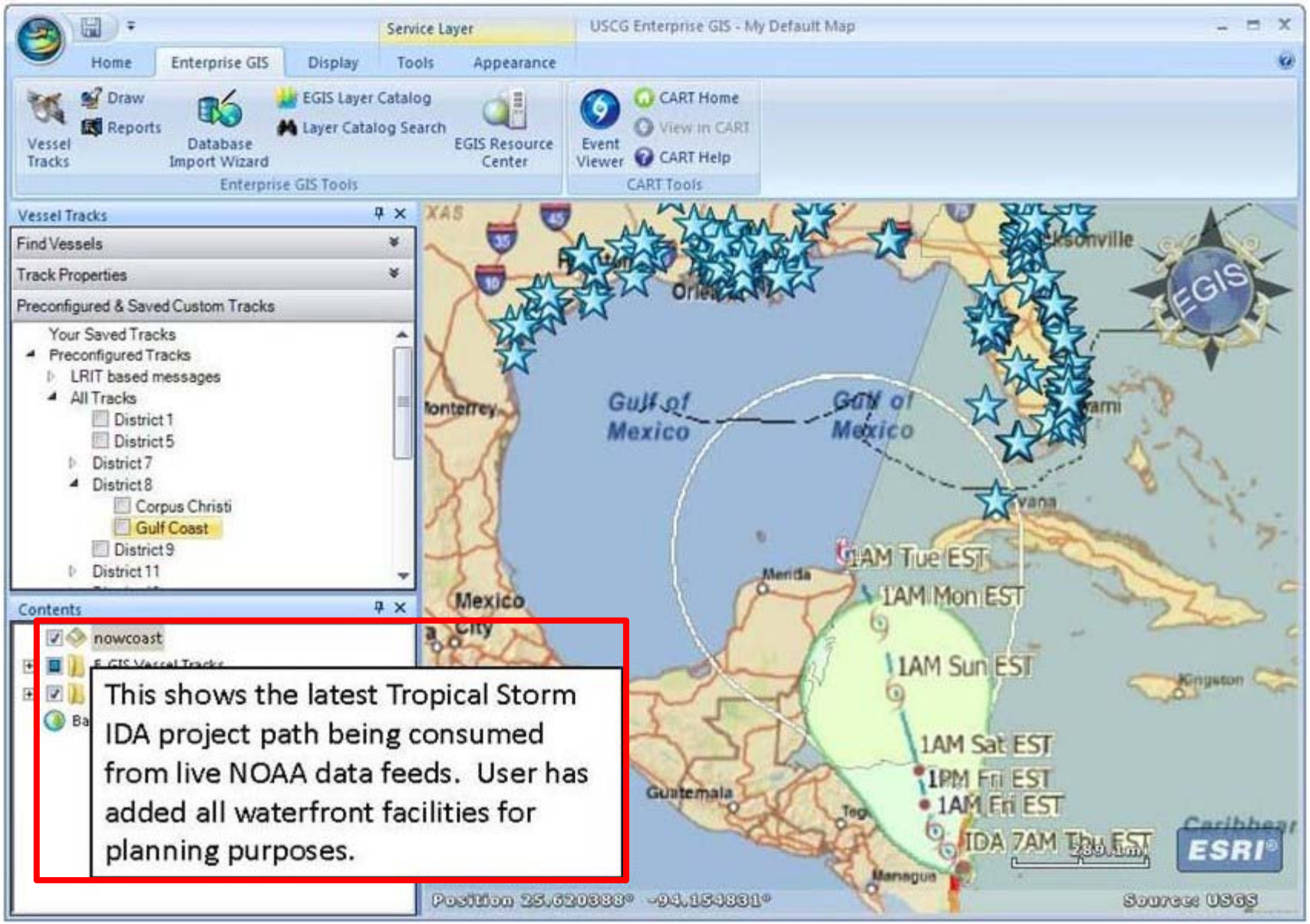
USCG Customized Capabilities
Area Transit



USCG Customized Capabilities
NORTHCOM Sage Consumption

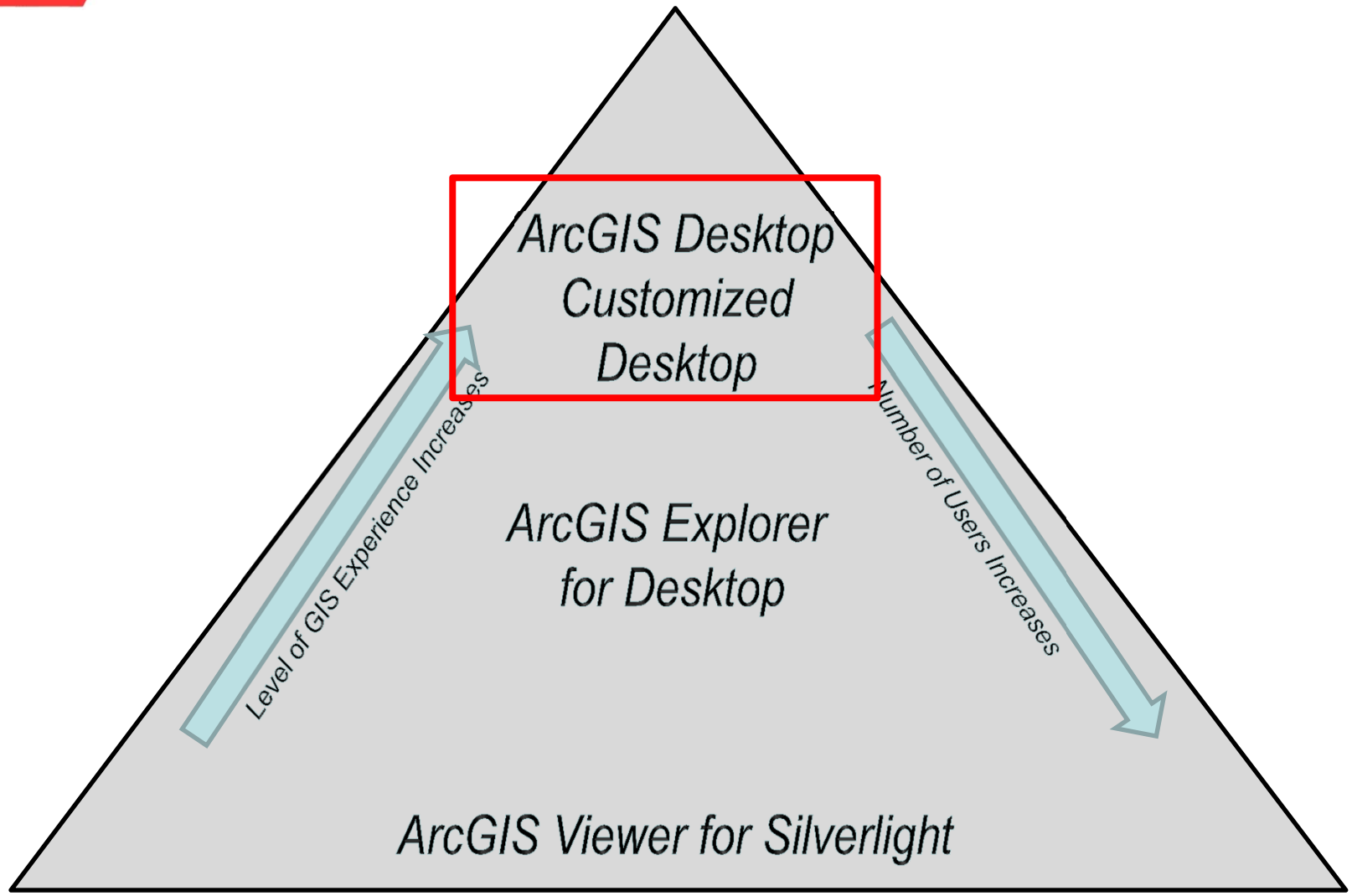


USCG Customized Capabilities
NORTHCOM Sage Consumption



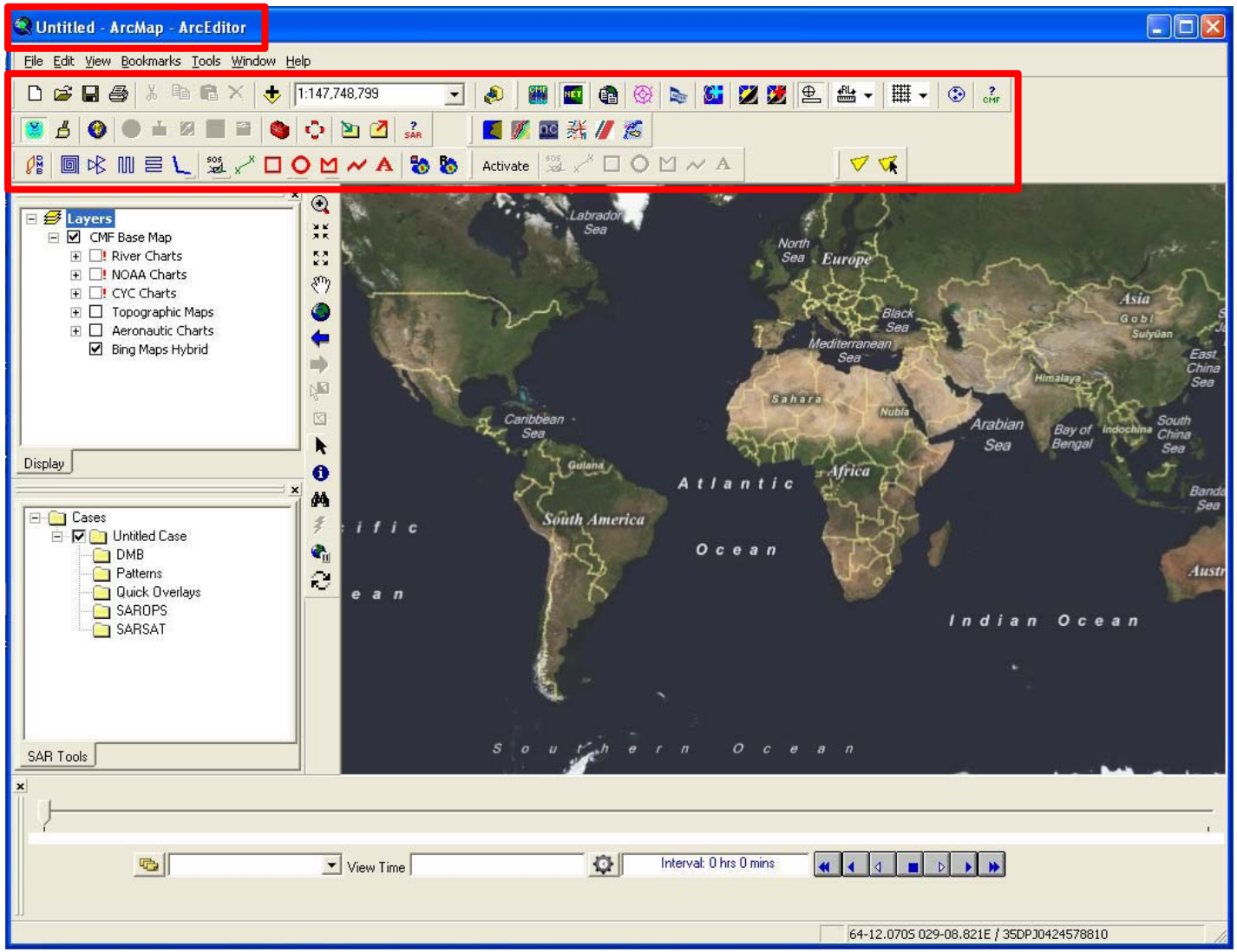
This shows the latest Tropical Storm IDA project path being consumed from live NOAA data feeds. User has added all waterfront facilities for planning purposes.

GIS Software Capability

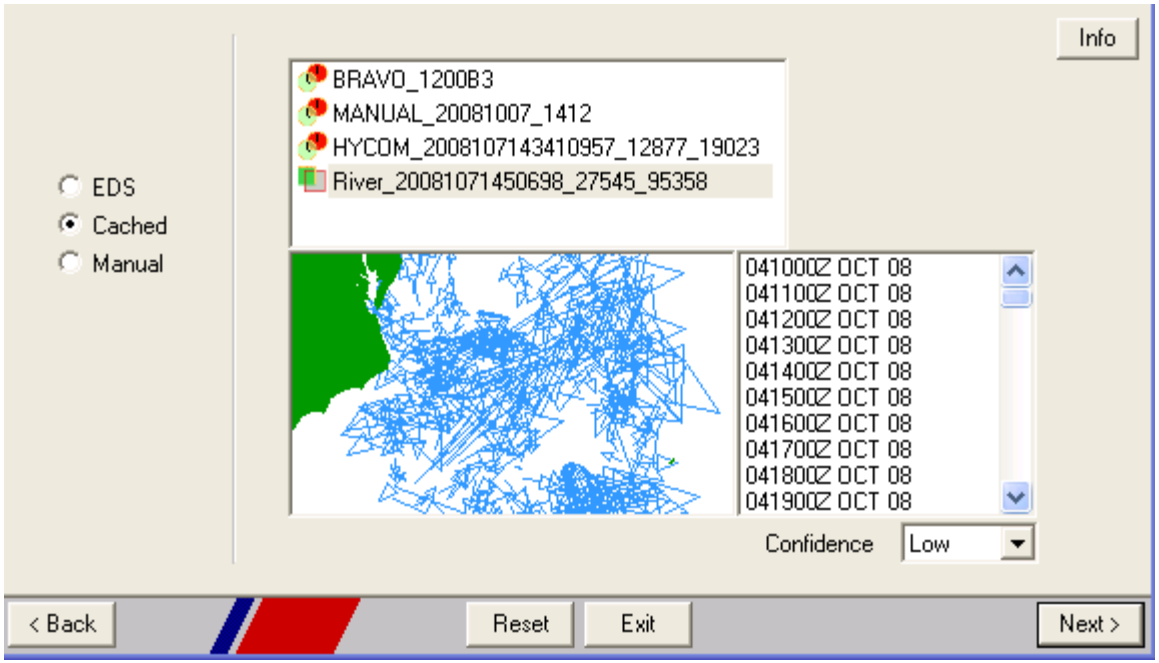


Conceptual model of GIS user community within United States Coast Guard.

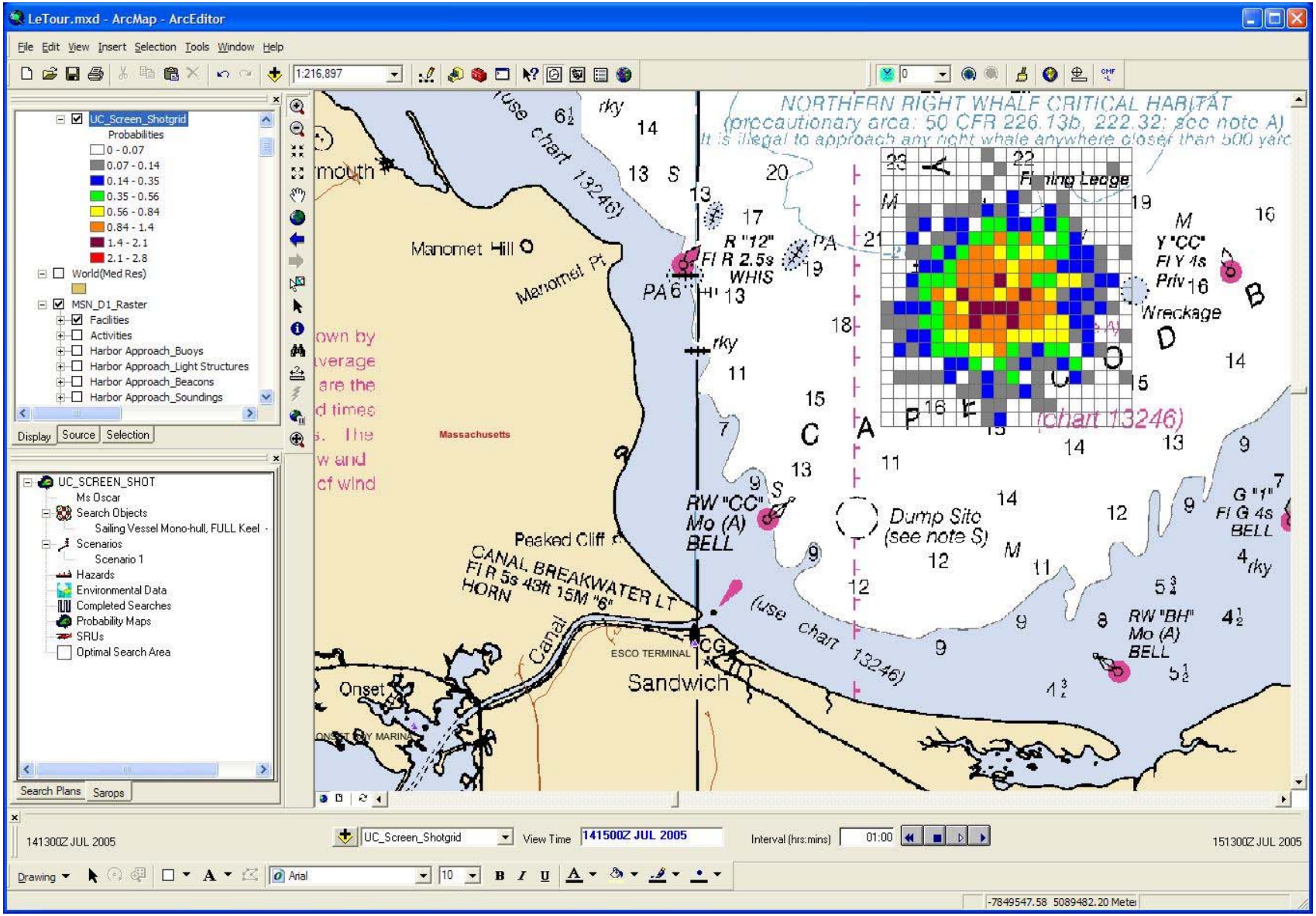
Search and Rescue Optimal Planning System (SAROPS)



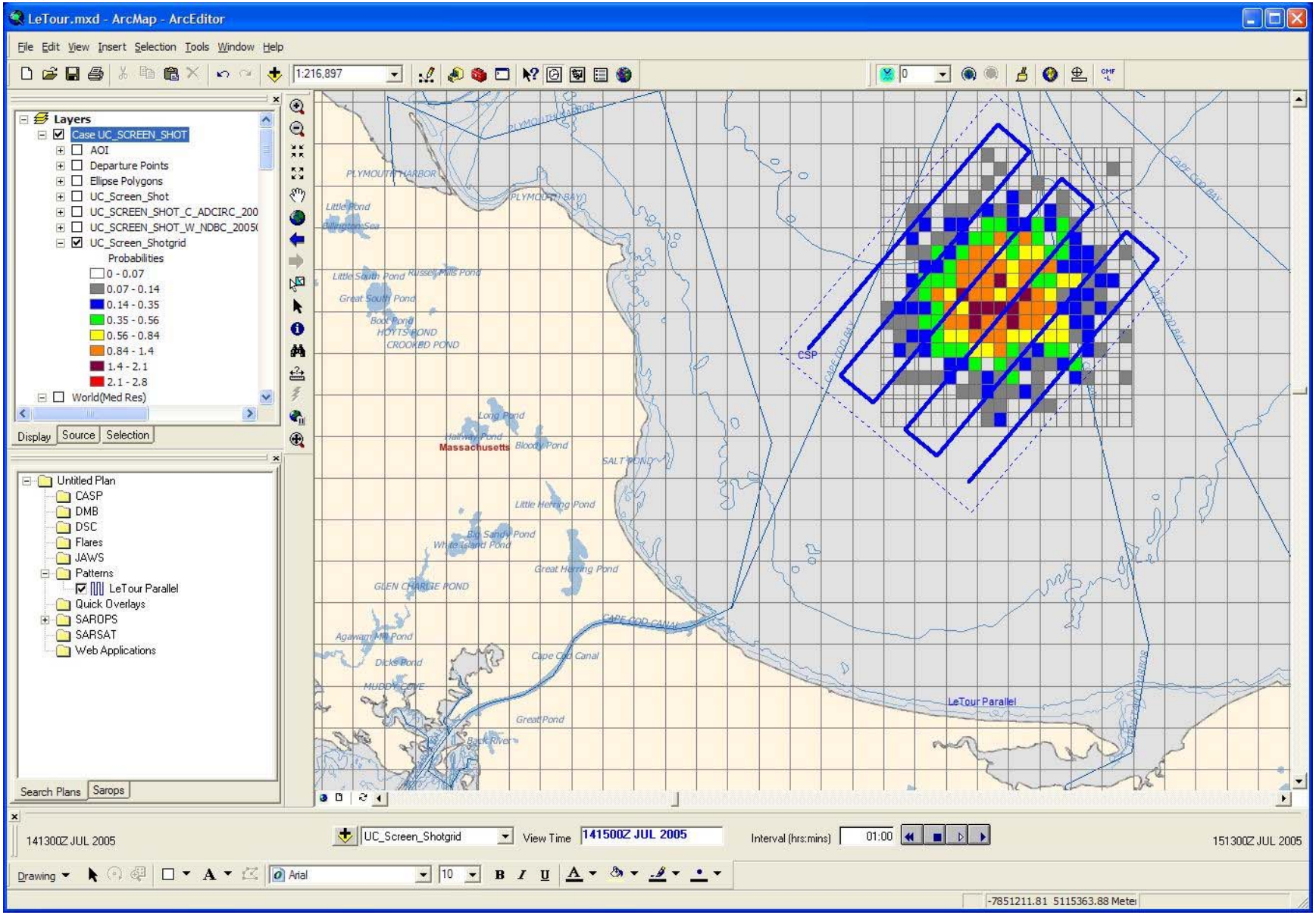
Search and Rescue Optimal Planning System (SAROPS) – Environmental Data Services



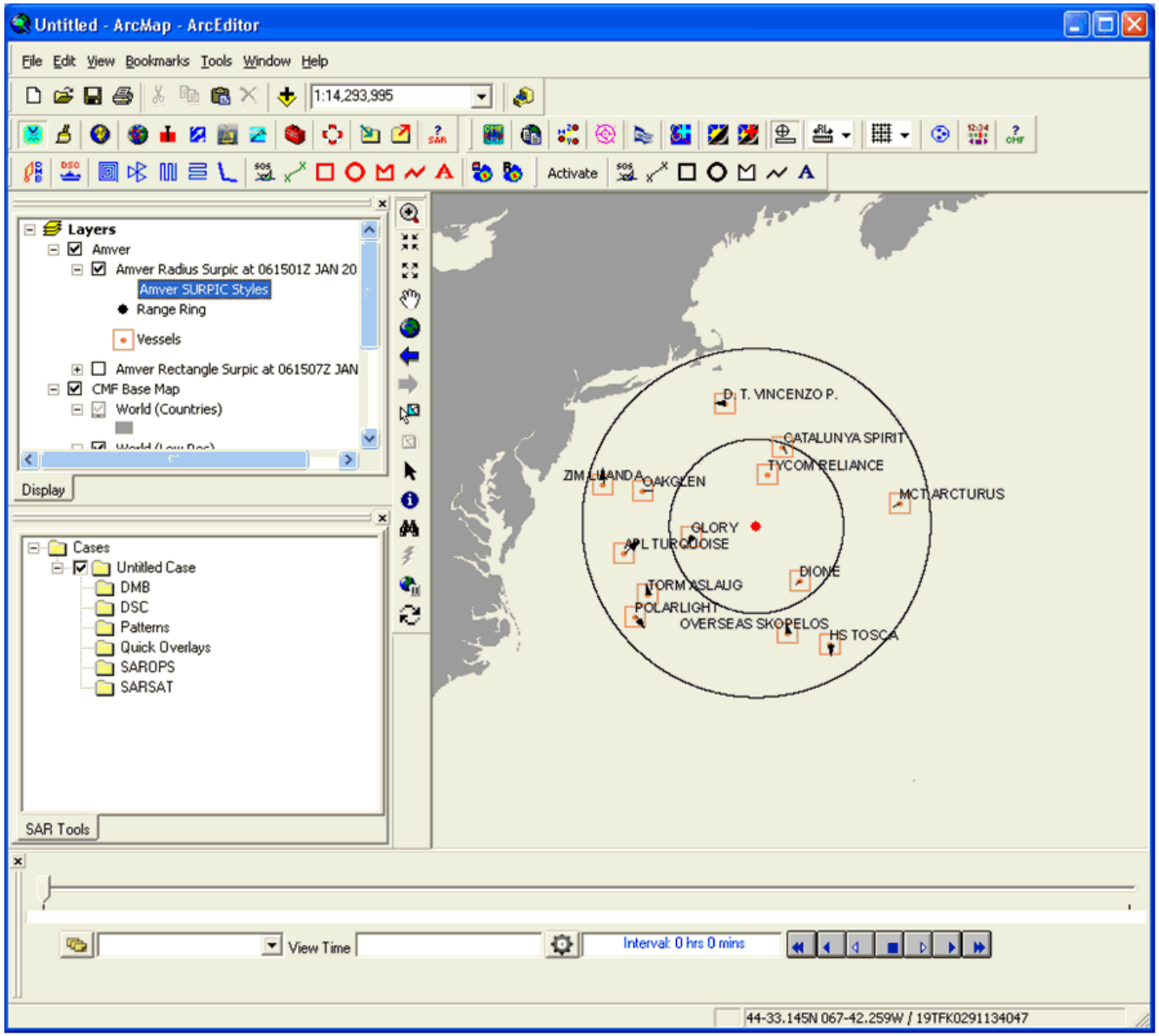
Search and Rescue Optimal Planning System (SAROPS) – Probability Grid



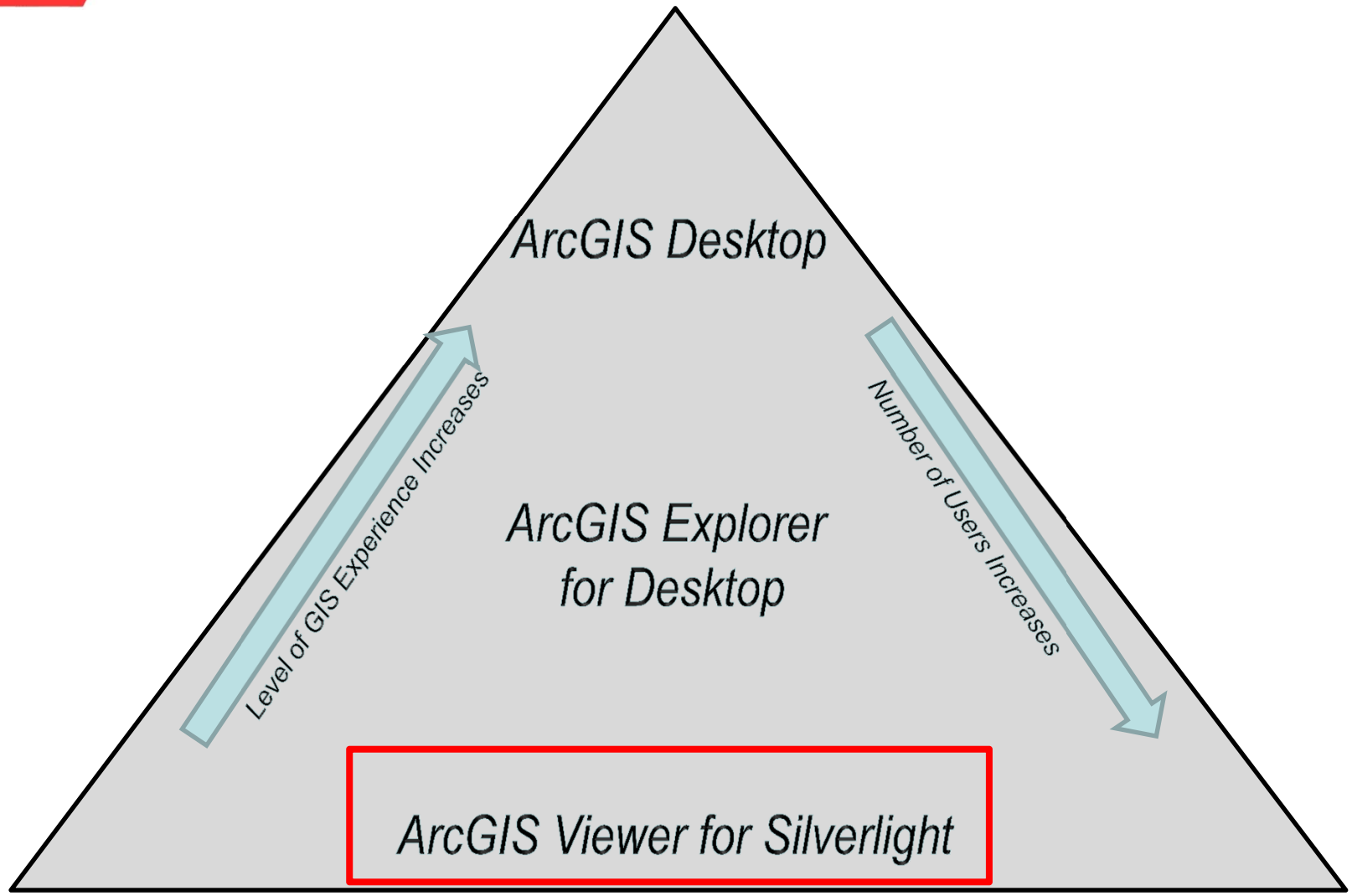
Search and Rescue Optimal Planning System (SAROPS) – Search Pattern



Search and Rescue Optimal Planning System (SAROPS) – AMVER Linkage

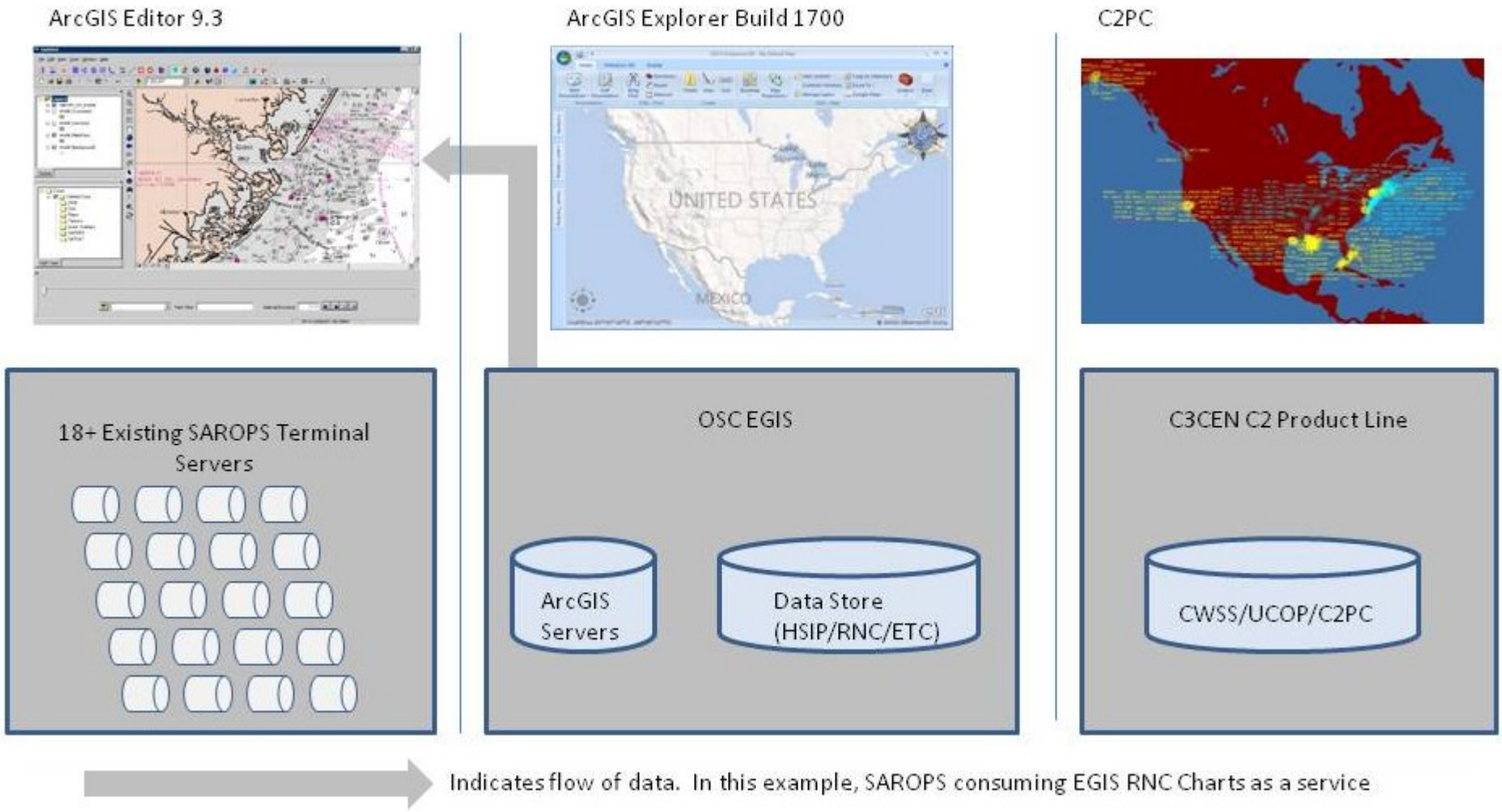


GIS Software Capability

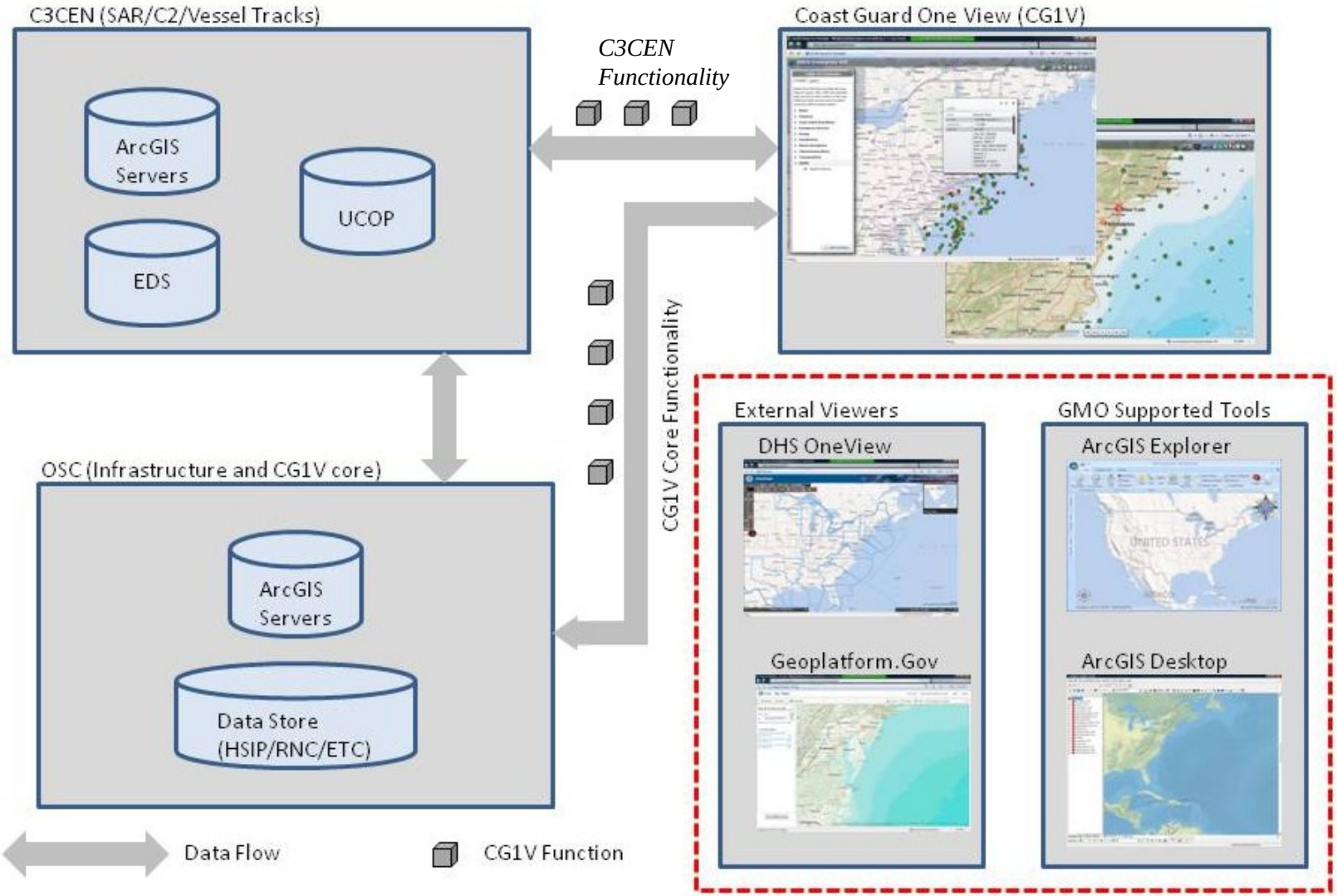


Conceptual model of GIS user community within United States Coast Guard.

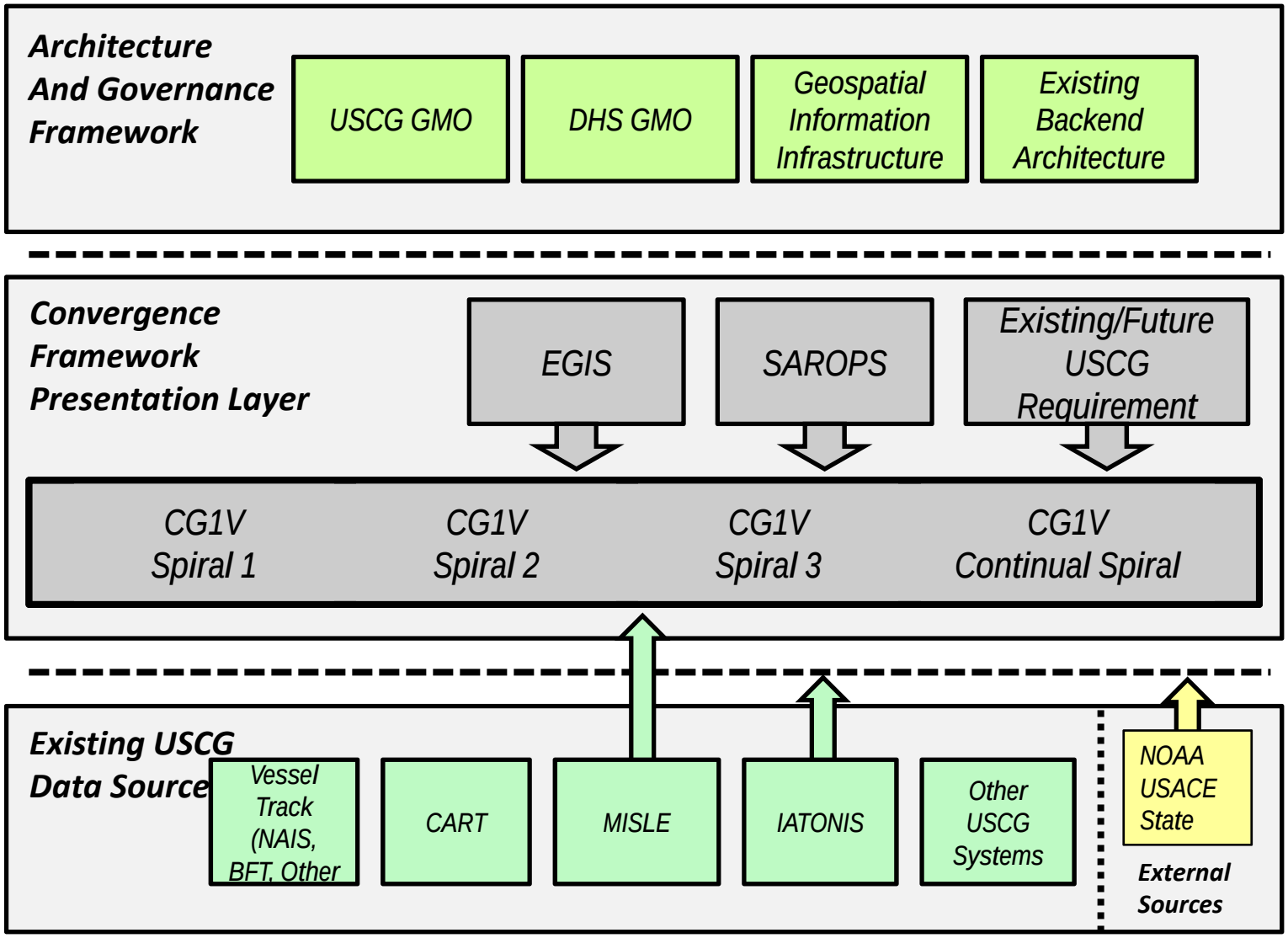
Coast Guard GIS - Current



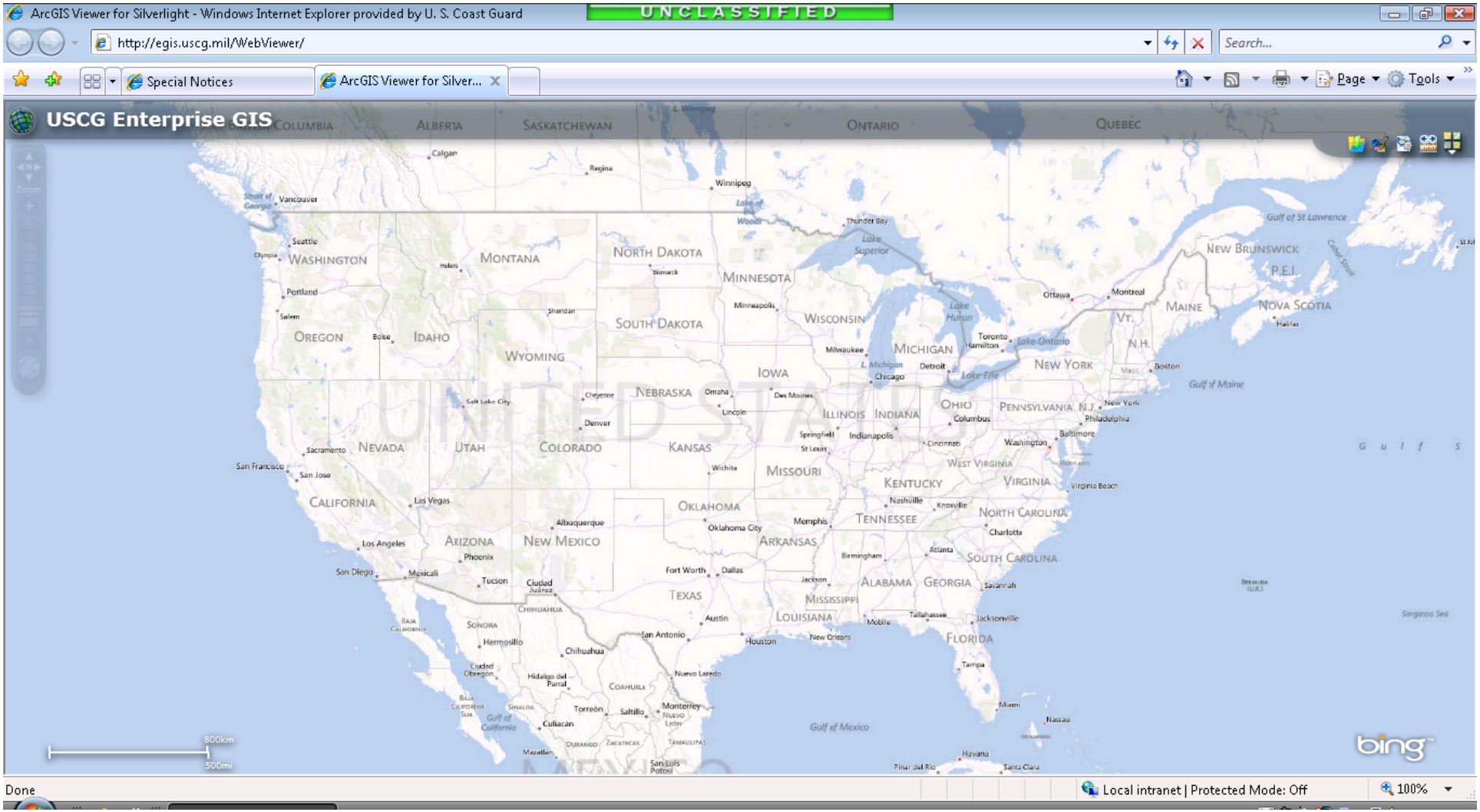
Coast Guard GIS - Future



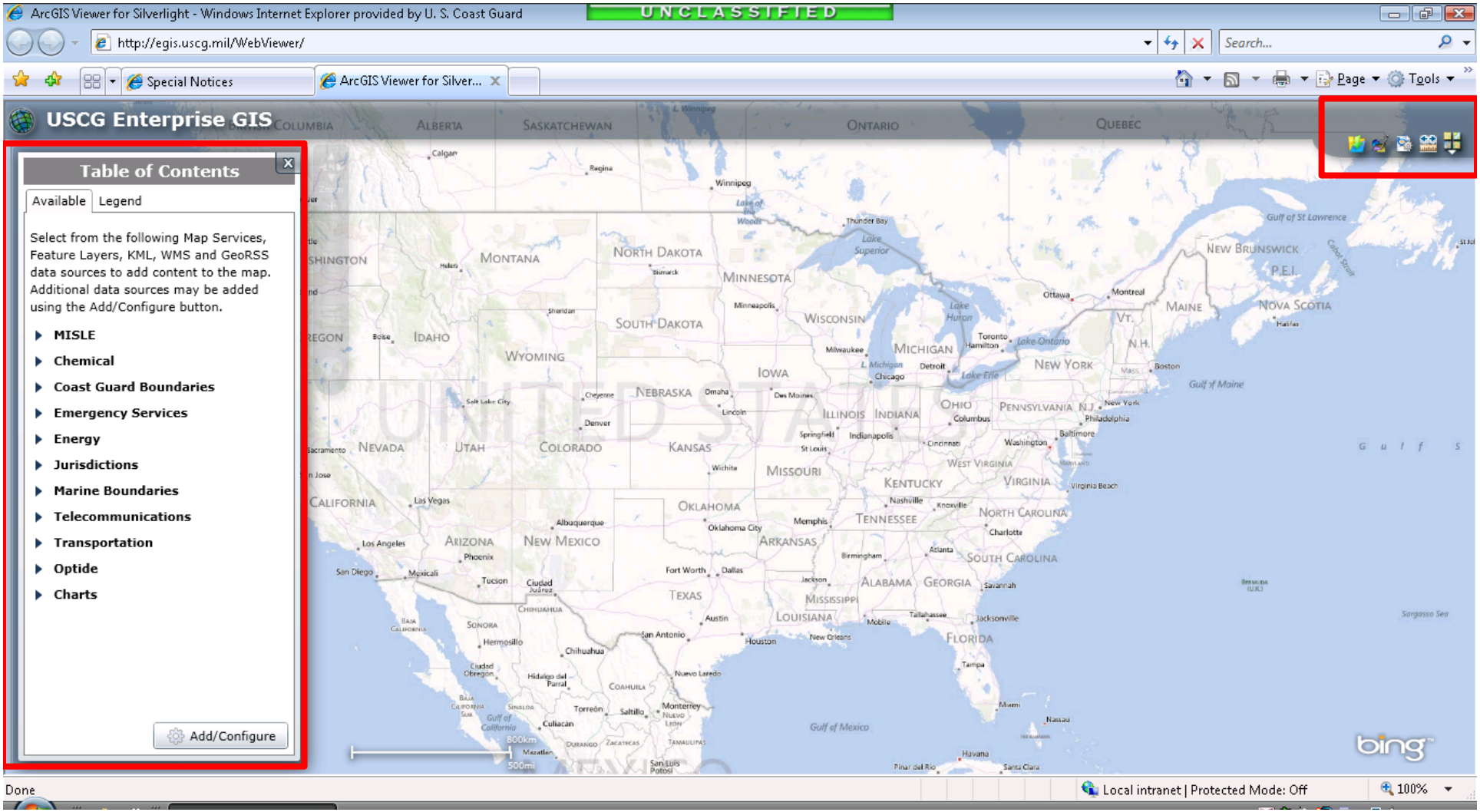
Coast Guard GIS – CG1V



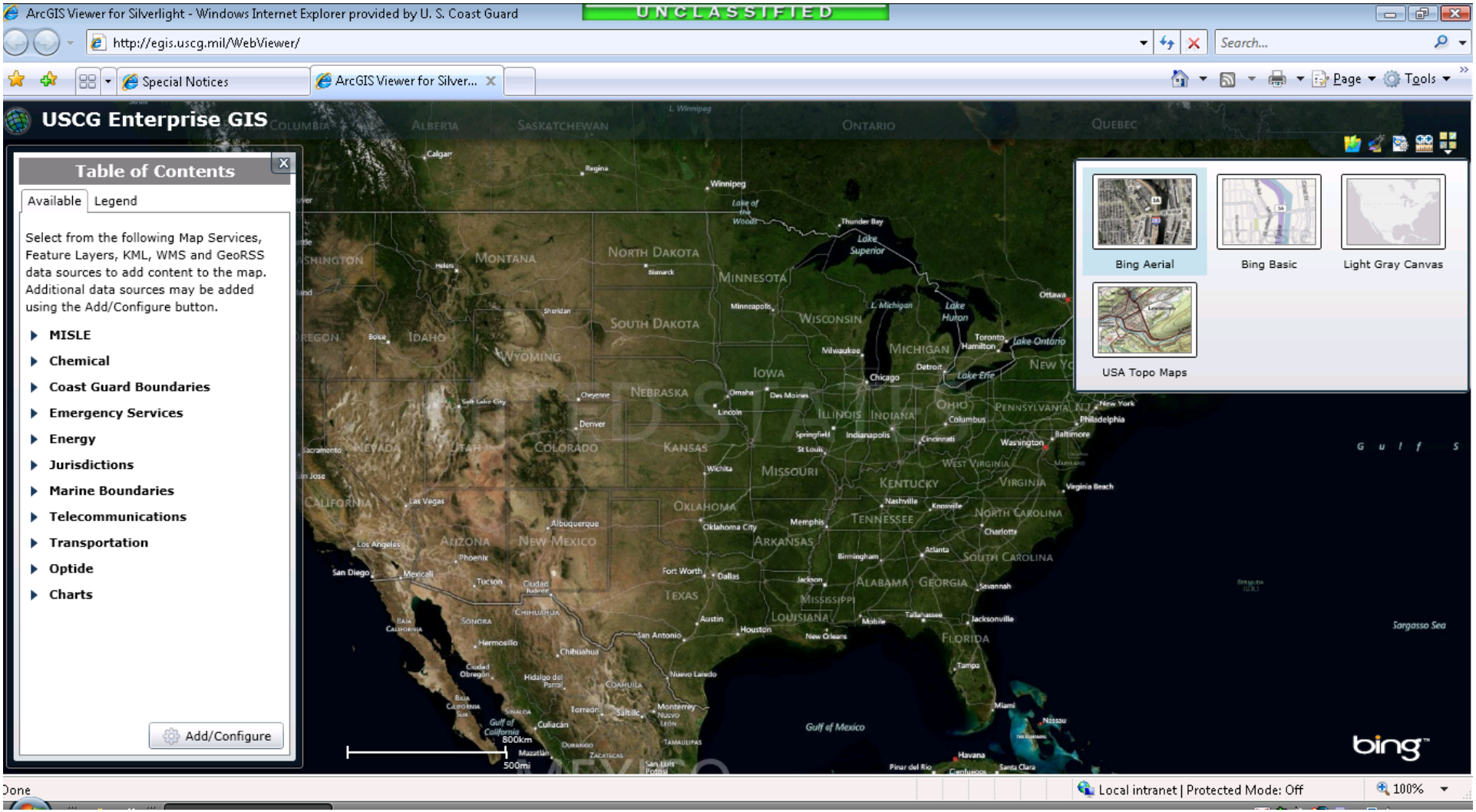
Coast Guard One View (CG1V)
Silverlight-based Common Viewer



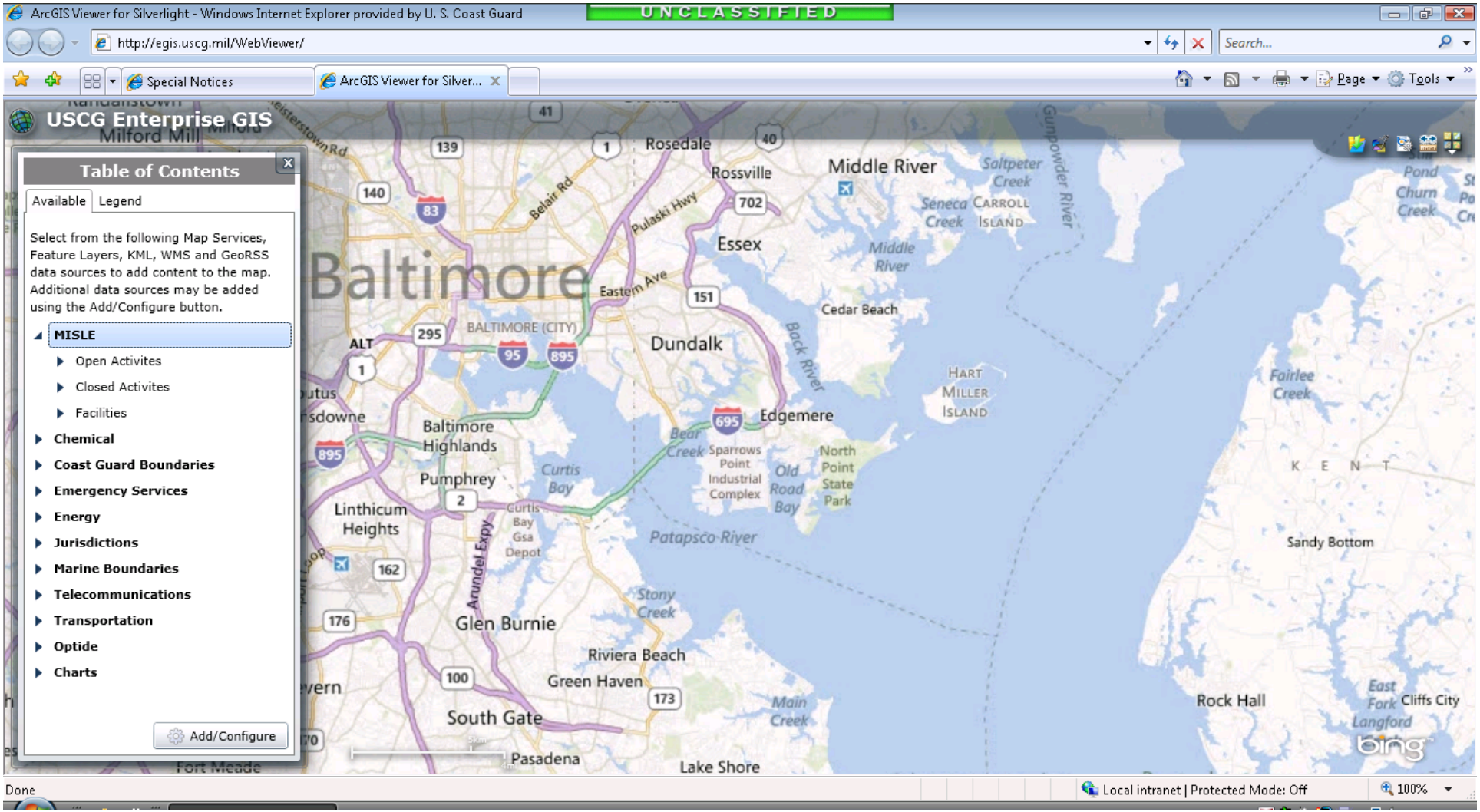
Coast Guard One View (CG1V)
Silverlight-based Common Viewer



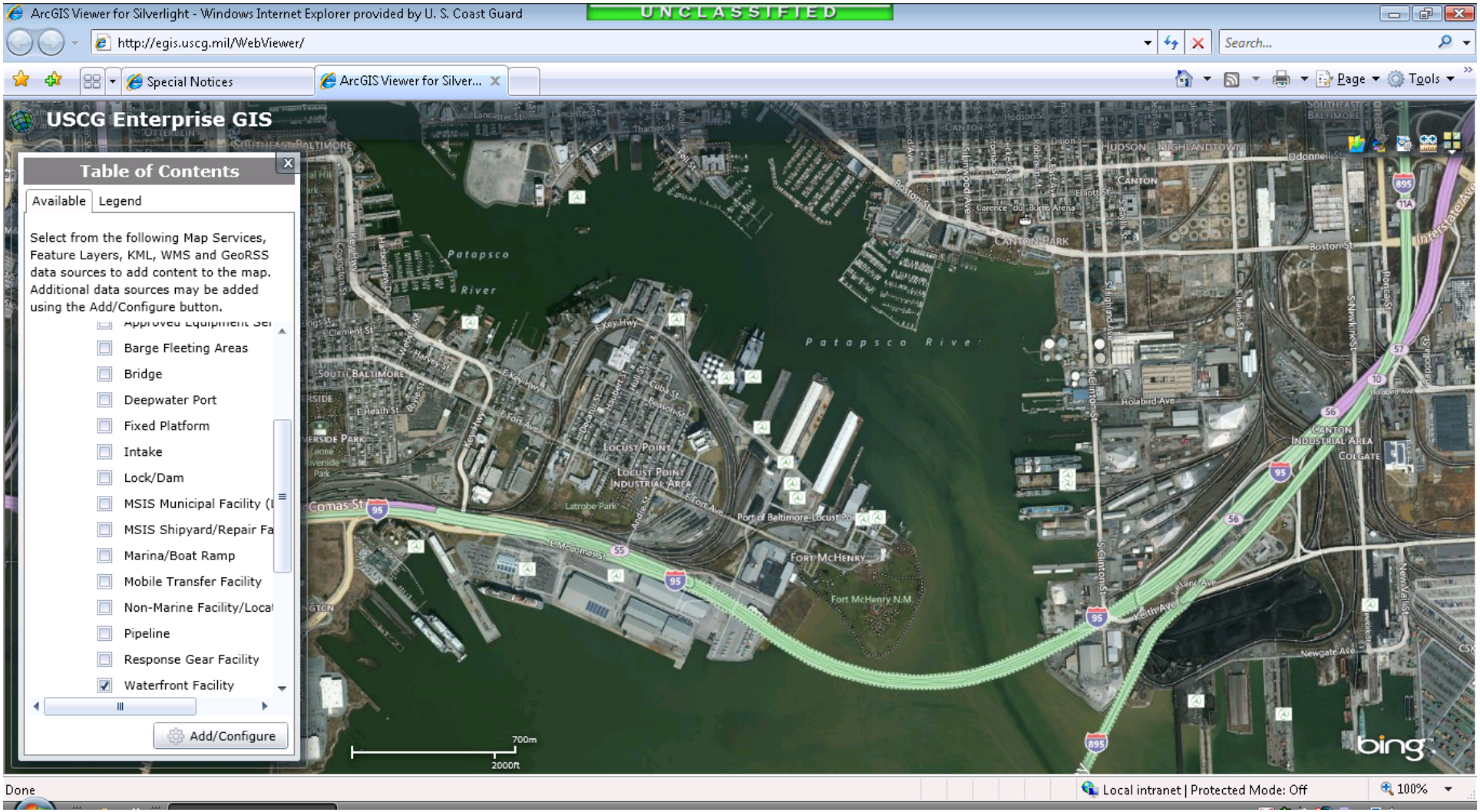
Coast Guard One View (CG1V)
Silverlight-based Common Viewer



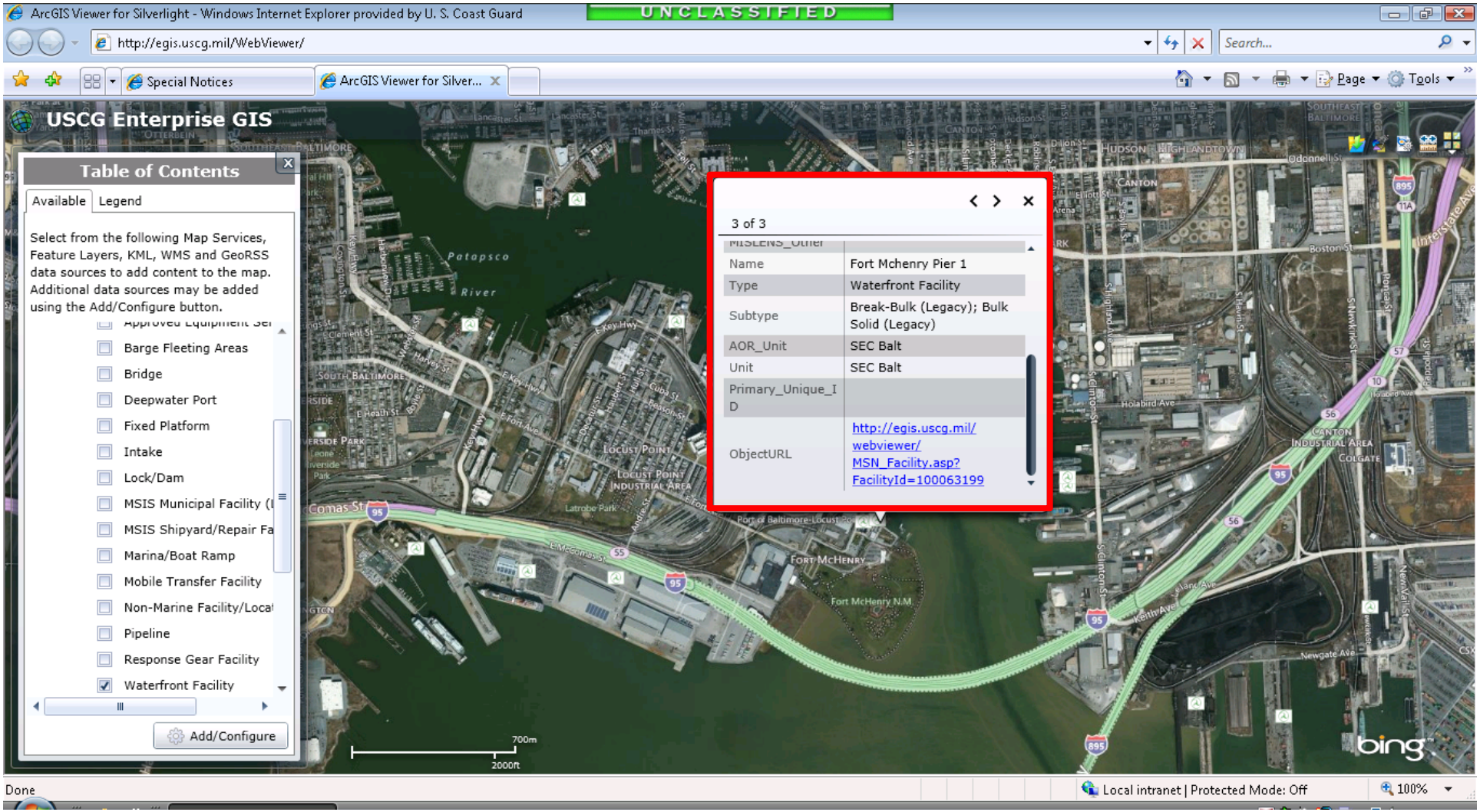
Coast Guard One View (CG1V)
Silverlight-based Common Viewer



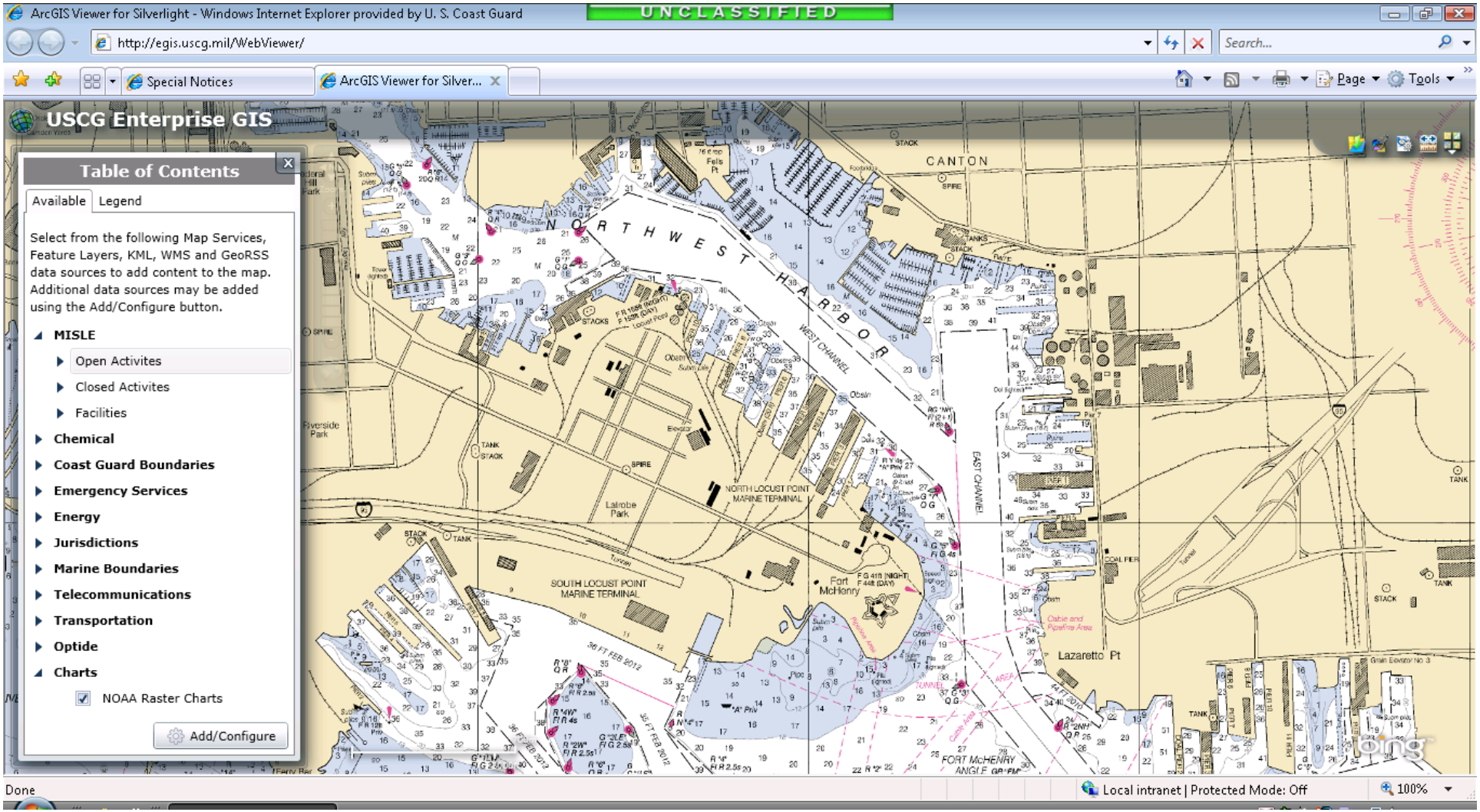
Coast Guard One View (CG1V)
Silverlight-based Common Viewer



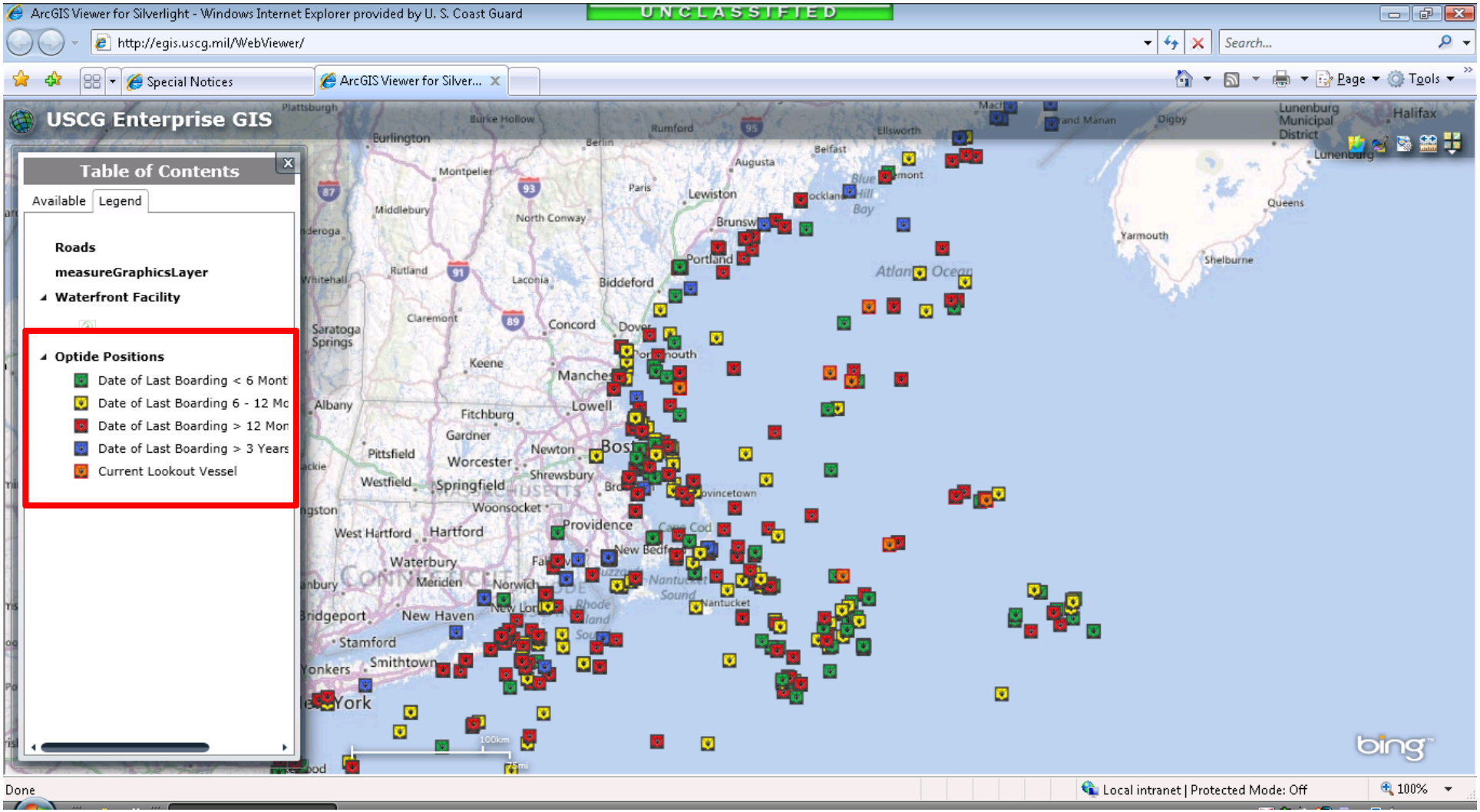
Coast Guard One View (CG1V)
Silverlight-based Common Viewer



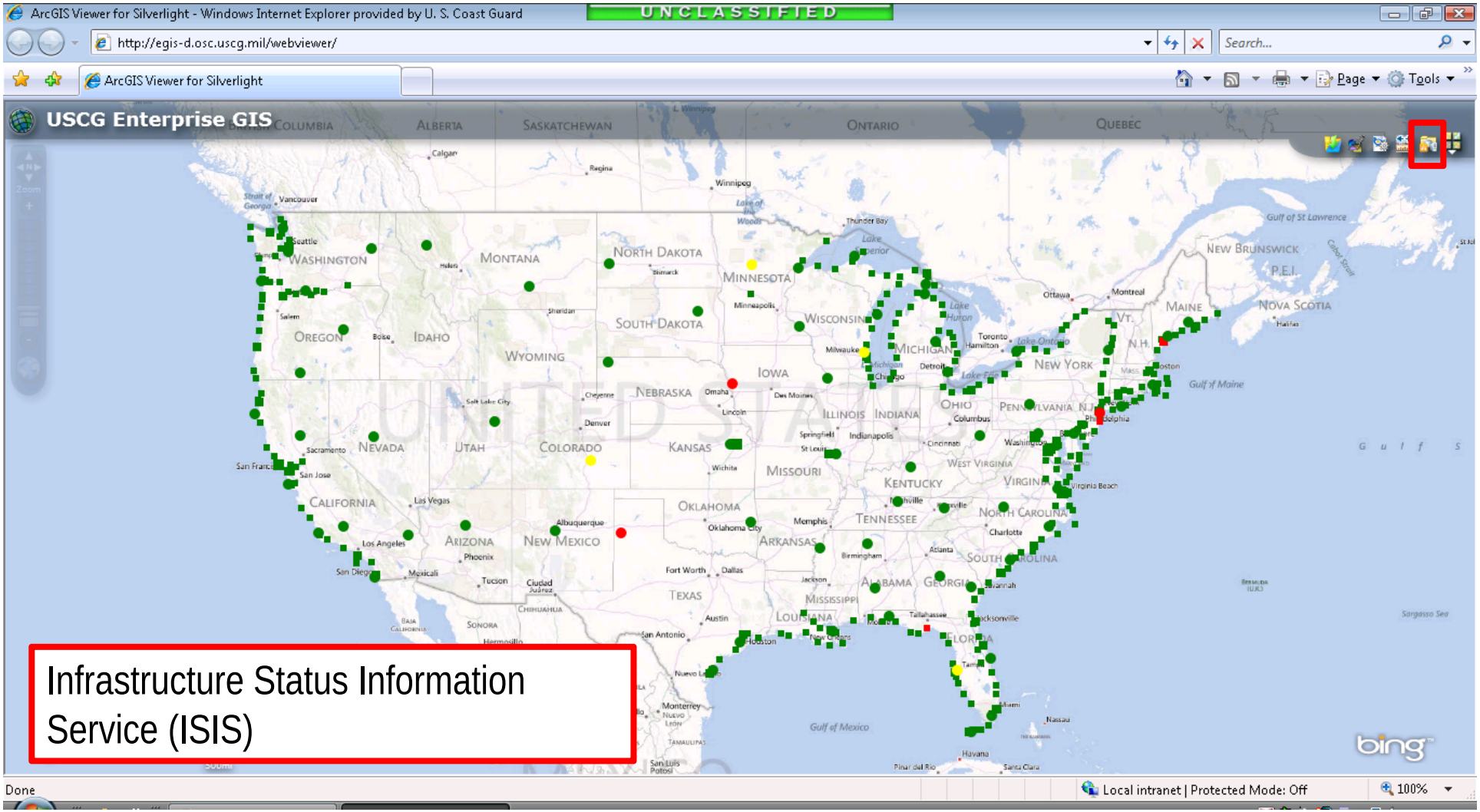
Coast Guard One View (CG1V)
Silverlight-based Common Viewer



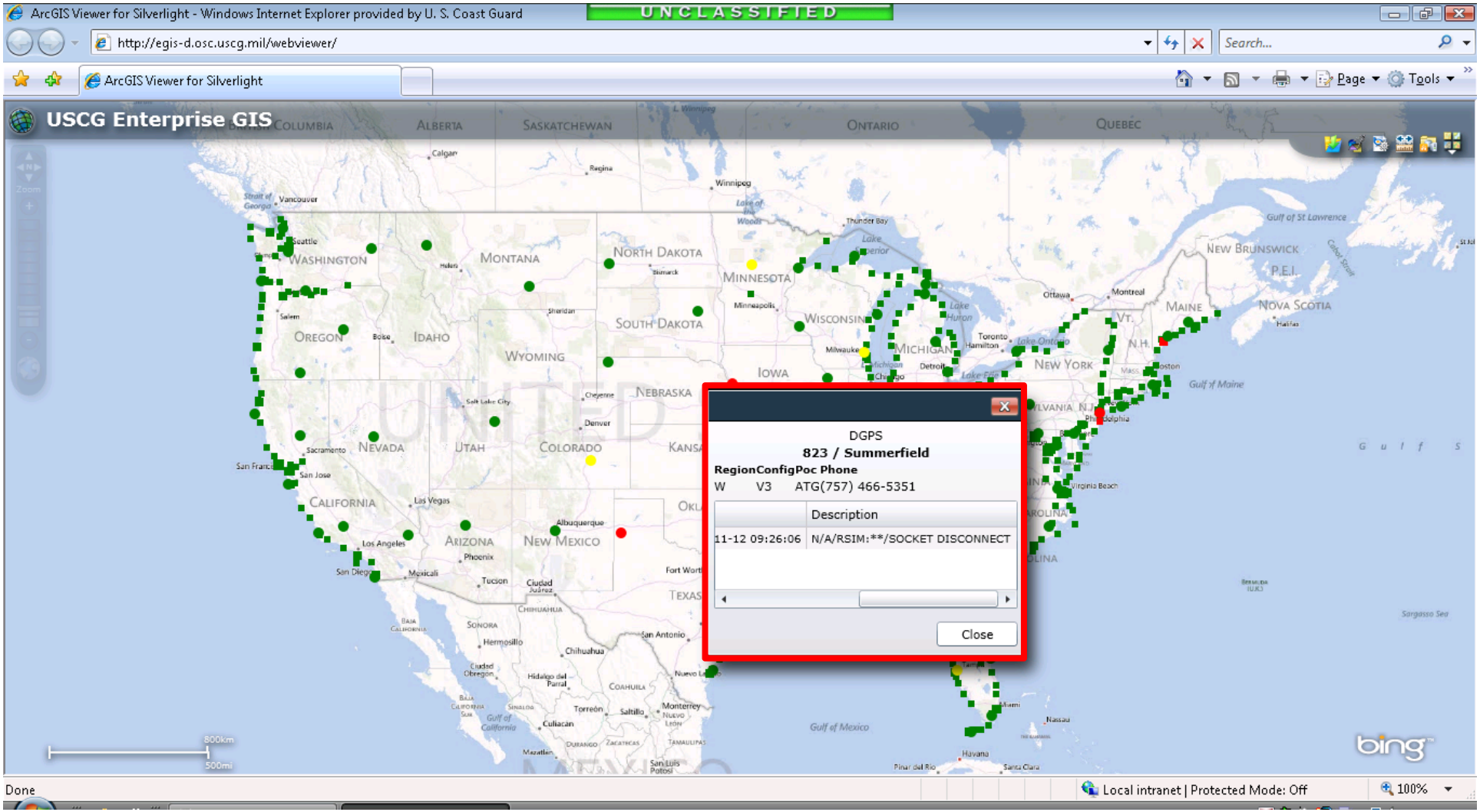
Coast Guard One View (CG1V)
Silverlight-based Common Viewer



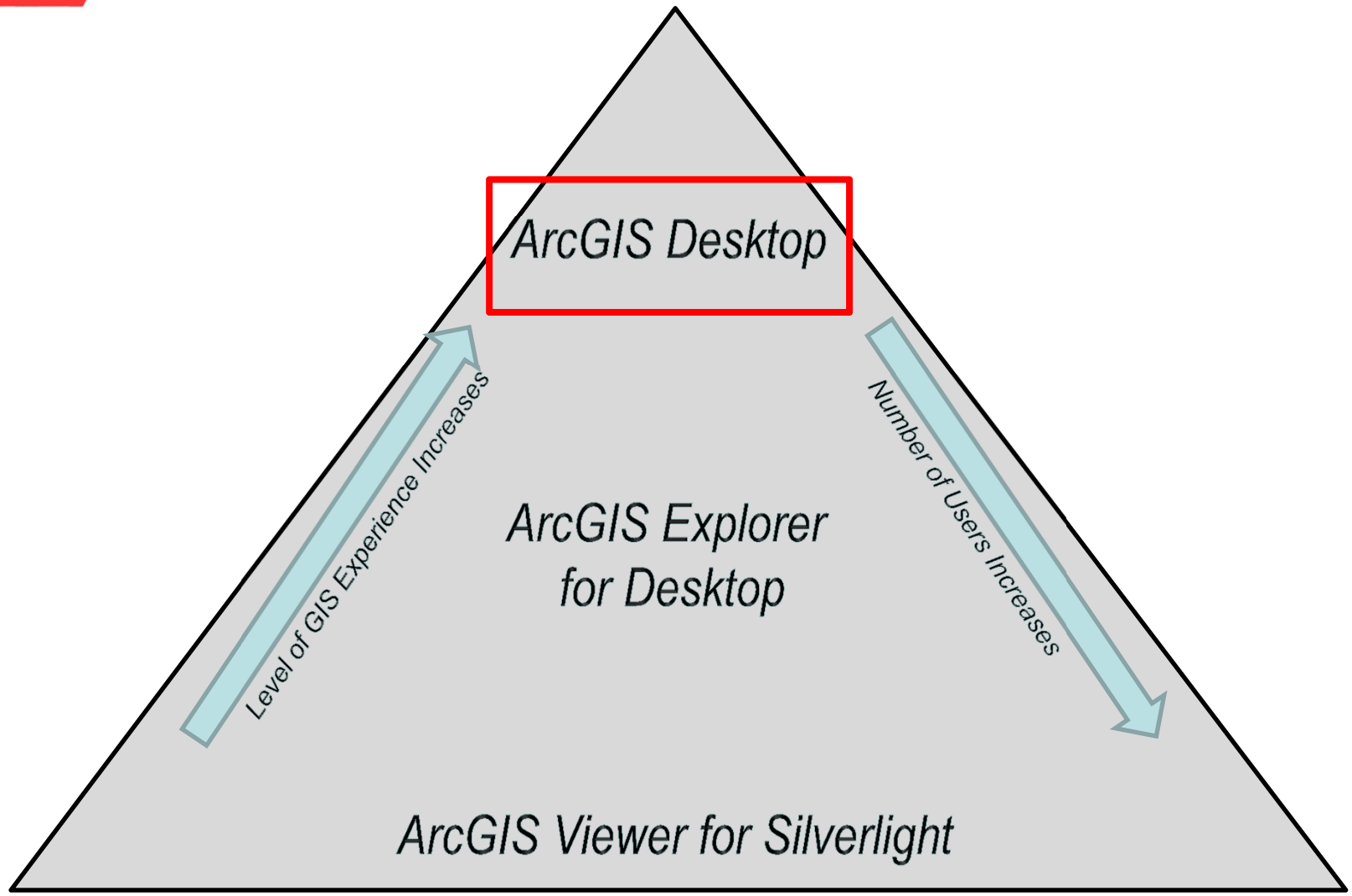
Coast Guard One View (CG1V)
Silverlight-based Common Viewer



Coast Guard One View (CG1V)
Silverlight-based Common Viewer



GIS Software Capability



Conceptual model of GIS user community within United States Coast Guard.

Coast Guard GIS – Advanced Use

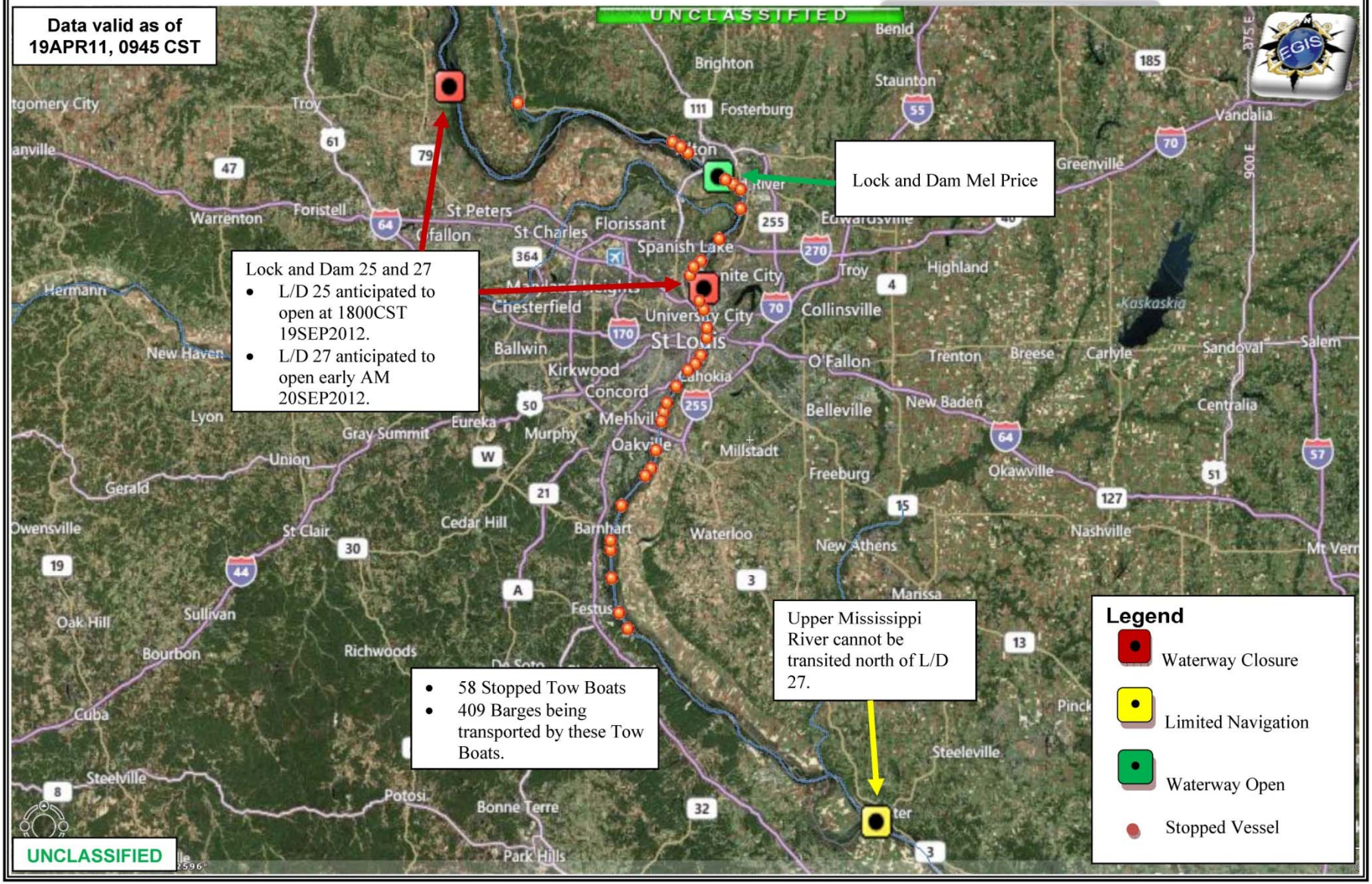
- Currently leverage DHS ELA with Esri
  - Unclassified
  - Classified
- Software available to all Coast Guard users
  - Moving to ArcGIS 10/10.1
  - Access includes extensions
  - Will use concurrent use model – users can checkout license on a quarterly basis
- Training
  - Available via Esri Virtual Campus
  - NGA Training

SECTOR UPPER MISSISSIPPI MTS STATUS

Upper Mississippi River from Mile Marker 185.5 (L/D 27)

CART data provided by SUMR

UNCLASSIFIED



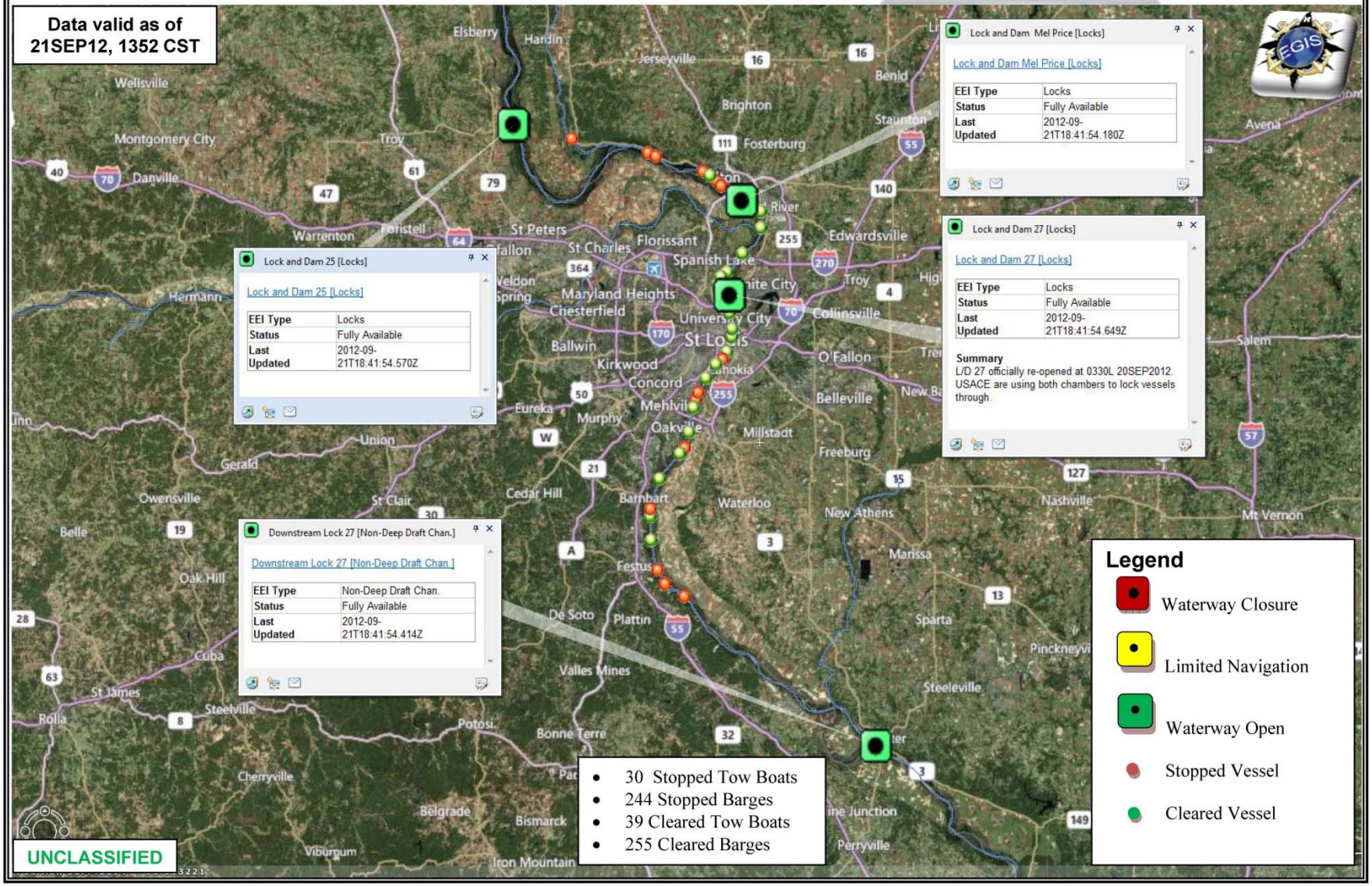
SECTOR UPPER MISSISSIPPI MTS STATUS

Upper Mississippi River Mile Marker 185.5 (L/D 27)

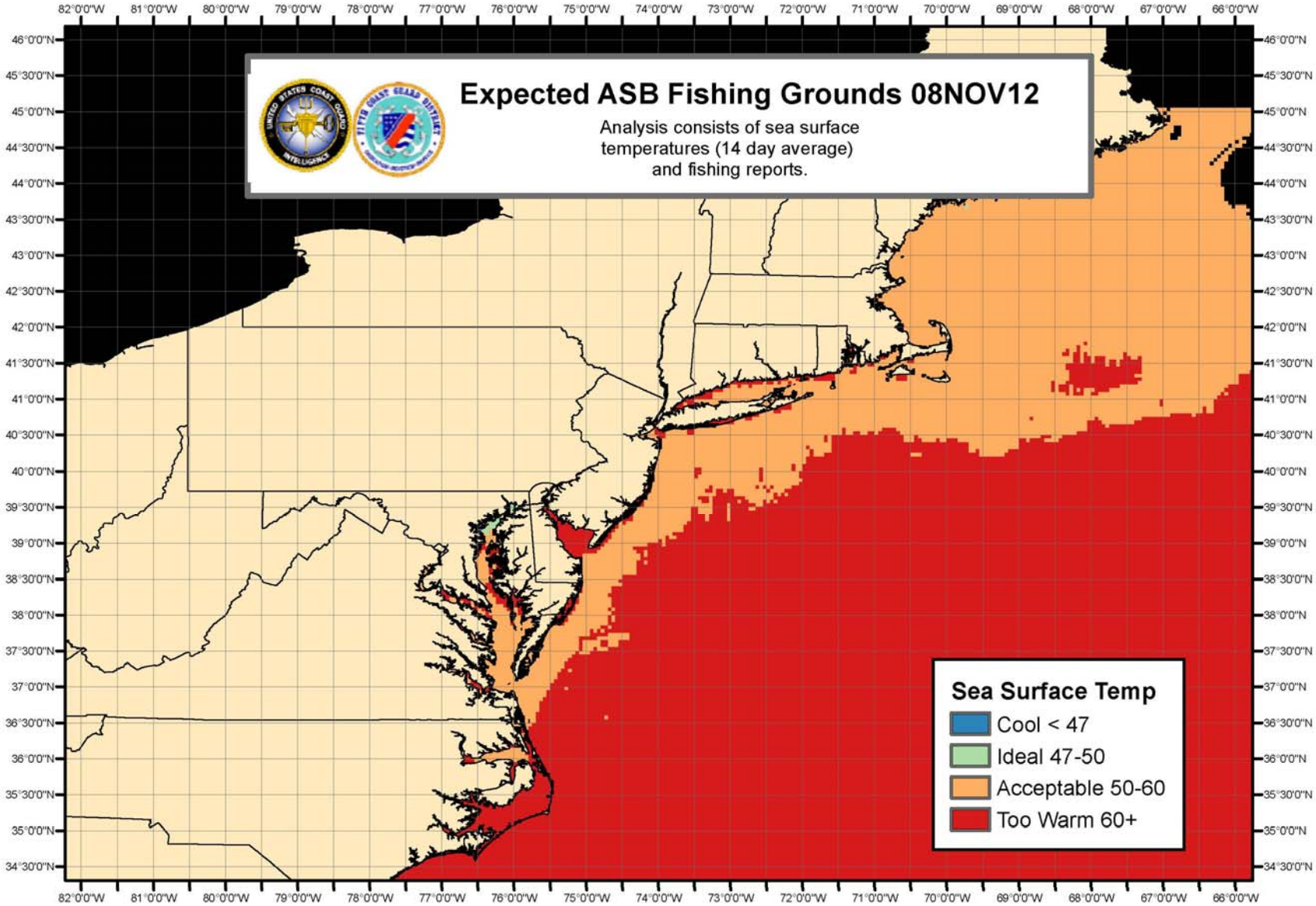
CART & VqPASS data provided by SUMR

UNCLASSIFIED

Data valid as of 21SEP12, 1352 CST

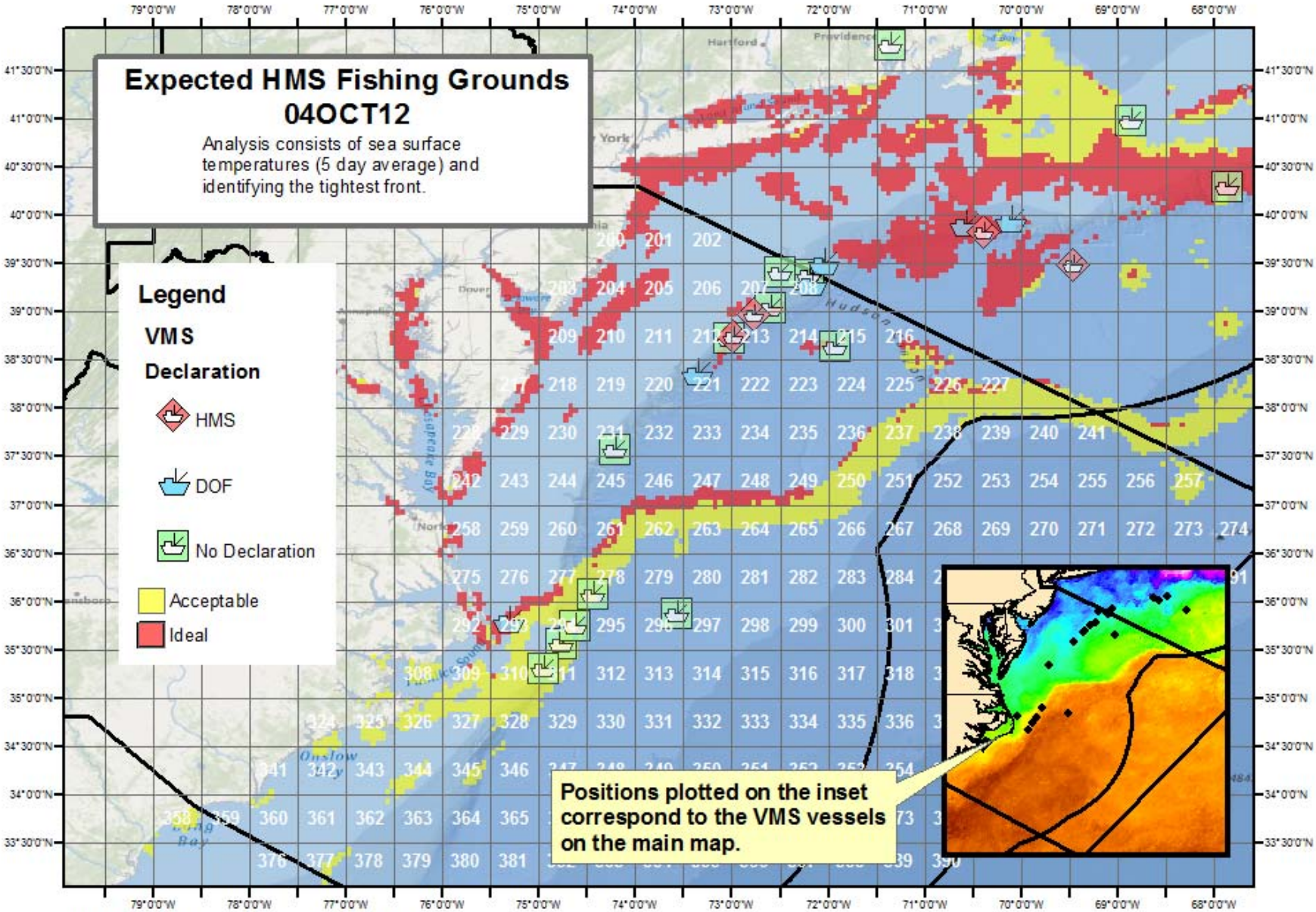


UNCLASSIFIED

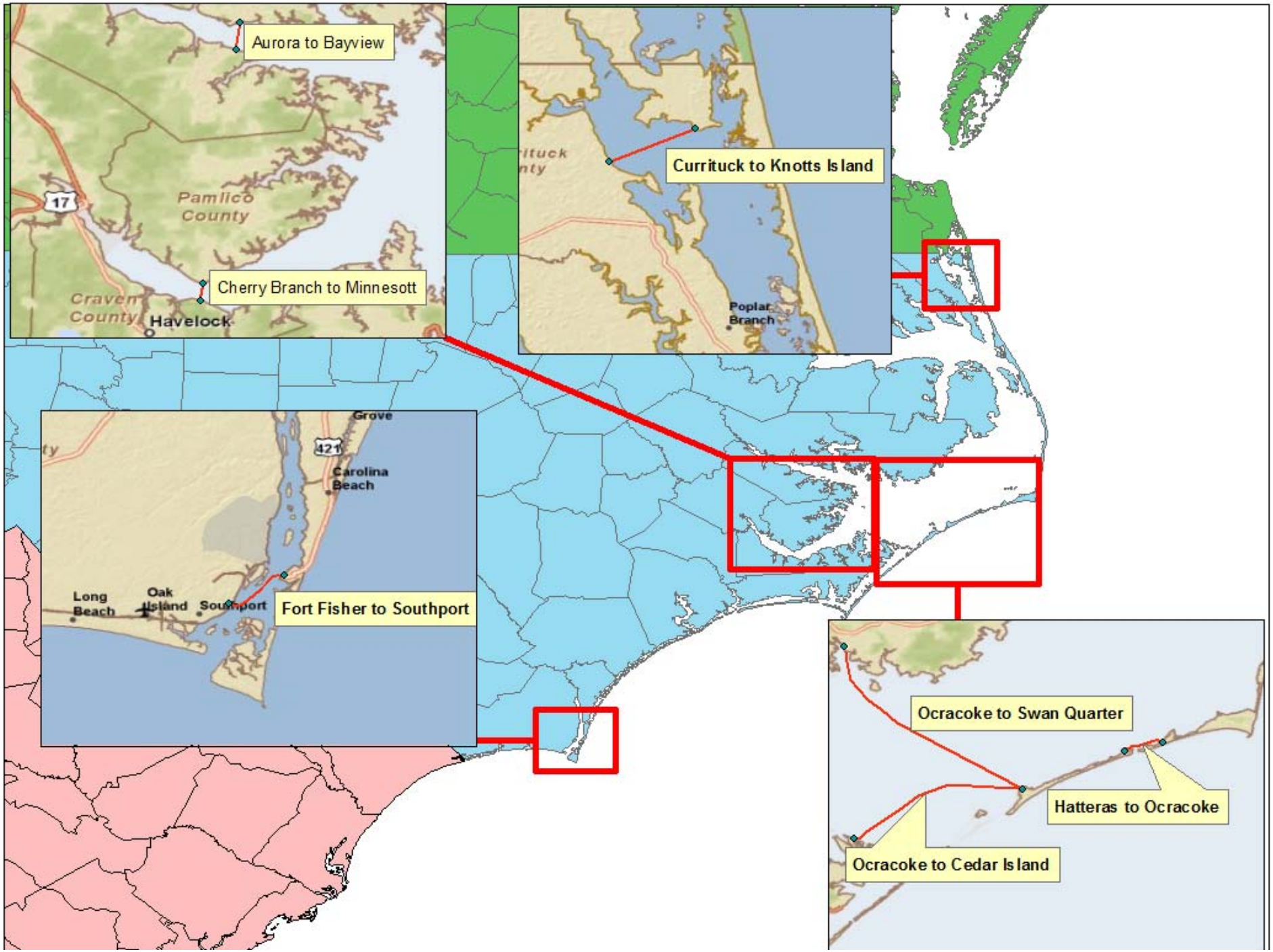


Source: SST, NOAA GOES Imager, Day and Night, 0.05 degrees
14 Day average centered on 01NOV12
Black areas denote no data due to persistant cloud cover.

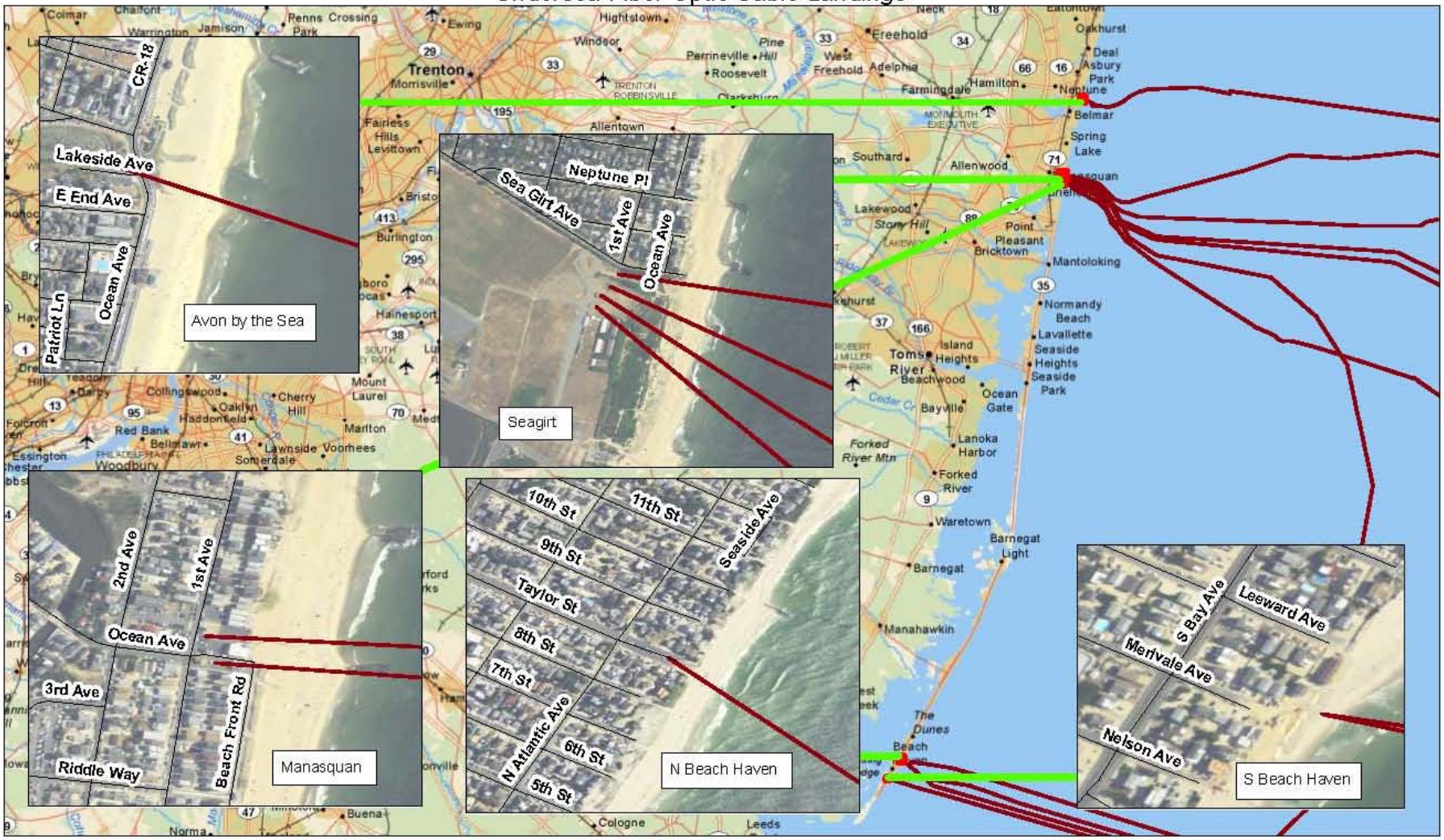
UNCLASSIFIED



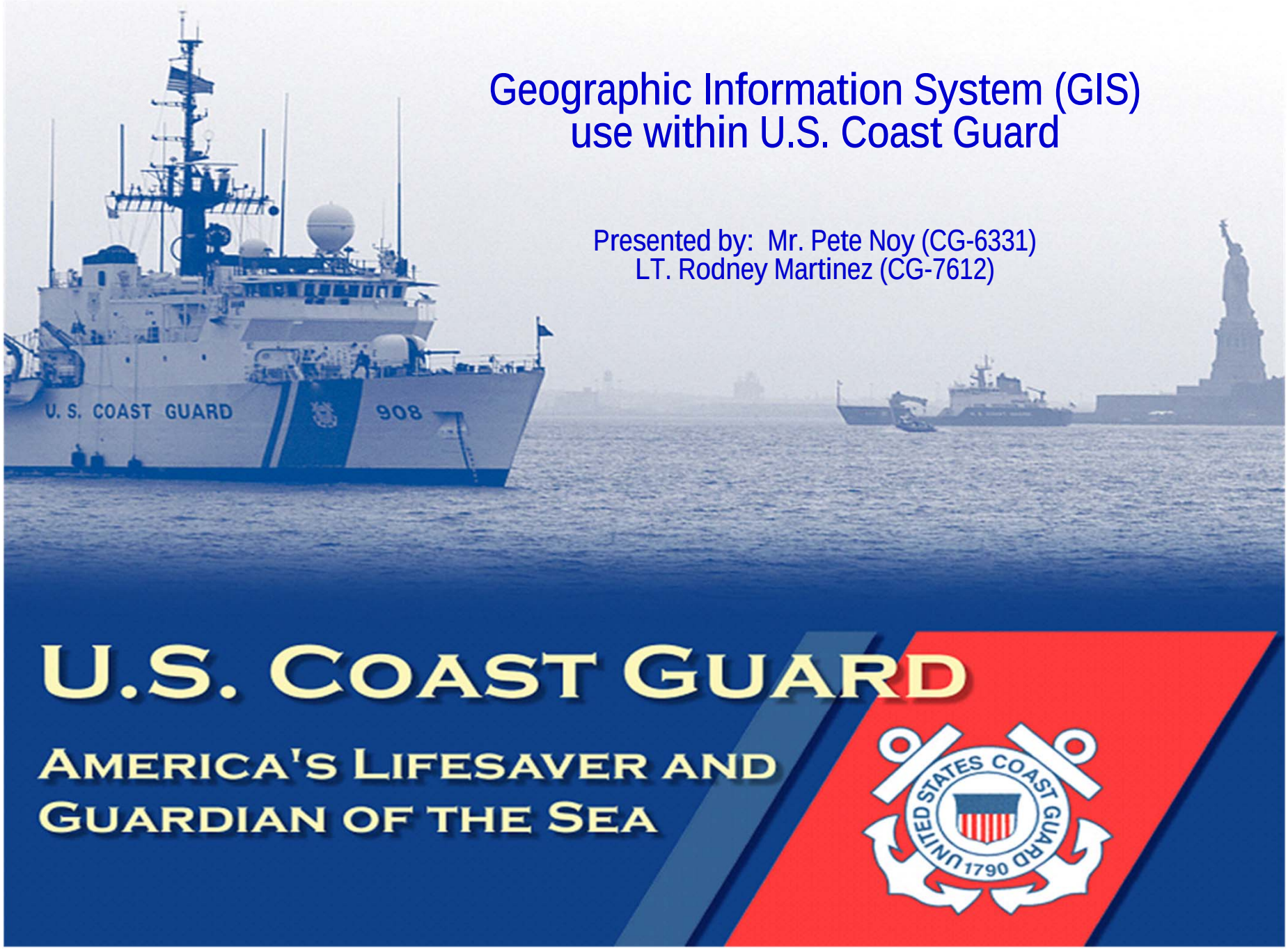
Source: SST, NOAA GOES Imager, Day and Night, 0.05 degrees
8 day average centered on 30SEP12.


Aurora to Bayview
Pamlico County
17
Cherry Branch to Minnesott
Craven County
Havelock
Currituck to Knotts Island
Poplar Branch
Grove
421
Carolina Beach
Long Beach
Oak Island
Southport
Fort Fisher to Southport
Ocracoke to Swan Quarter
Hatteras to Ocracoke
Ocracoke to Cedar Island

Undersea Fiber Optic Cable Landings



Questions?

Geographic Information System (GIS) use within U.S. Coast Guard

Presented by: Mr. Pete Noy (CG-6331)
LT. Rodney Martinez (CG-7612)