

SUMMARY

The Automatic Identification Systems (AIS) monitors ship traffic for the purpose of improving safety of navigation worldwide. This system provides coastal planners with insight into marine transportation patterns over long periods of time. The National AIS program was initiated in response to the **Maritime Transportation Security Act of 2002**. The NAIS system currently receives 92 million AIS messages per day from approximately 12,700 unique vessels.

MORE ABOUT THE DATA

Developer: [United States Coastal Guard, Bureau of Ocean Energy Management,](#) and [National Oceanic and Atmospheric Administration](#)

Update Frequency: Annually

Temporal Coverage: Per minute

Geographical Coverage: National

Geographical Resolution: Ship Location

Modal Coverage: Marine (Water)

Data Range: 2009-present

Data Format: File Geodatabases

Licensing Agreement: N/A

Acquisition Cost: Free

Legal Reference: Maritime Transportation Security Act, 2002

Contact:

[FDOT TRANSTAT](#)

(850)-414-4848

CURRENT APPLICATIONS

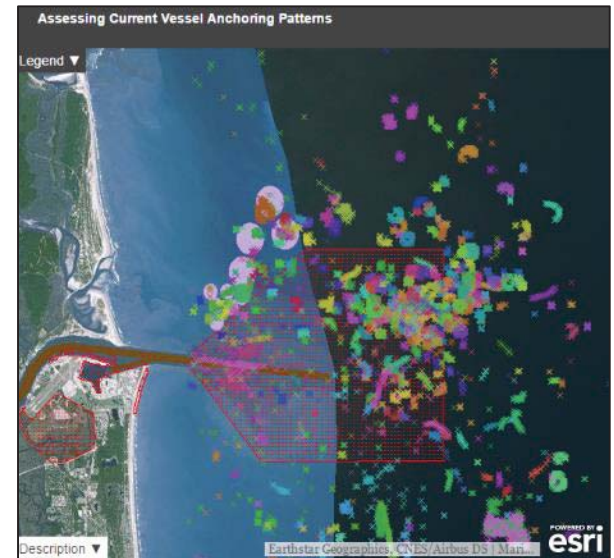
- » North Carolina Wind Energy Task Force
 - » Identify outer continental shelf lease blocks for offshore wind energy siting
- » Eastern Research Group
 - » 2007 commercial vehicle emissions in Texas
- » U.S Coast Guard
 - » Training in workshops
- » Jacksonville
 - » Studying Anchorage patterns

POTENTIAL APPLICATIONS

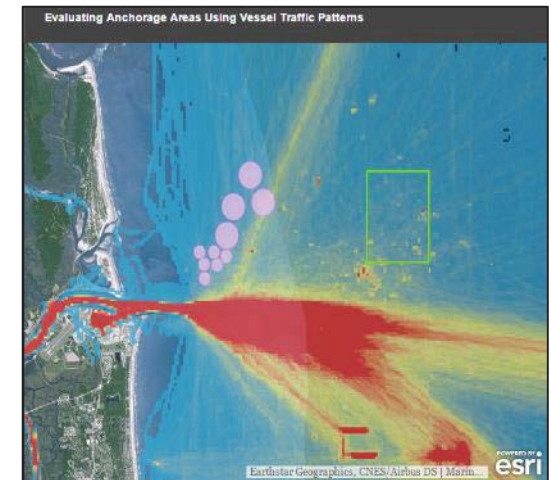
- » Data fusion of PIERS and AIS
- » Anchorage patterns
- » Port volume and capacity
- » Model vessel noise
- » Temporal trends
- » Shipping lanes and regulations
- » Infrastructure evaluation
- » Determine potential location-based conflicts
- » Developing and tracking port performance measures

DESCRIPTION OF DATA

- » AIS database contains vessel traffic data for security and planning purposes within the U.S. coastal waters.
- » Broadcast point feature class contains the position reports, which have been pre-filtered to a one-minute time stamp.
- » AIS is required on ships of 300 gross tons or more and for ships greater than or equal to 65 feet in length and towing vessels greater than 26 feet in length.
- » AIS data do not include recreational boats or other small craft. Vessels owned, leased, or operated by the military or other U.S. government entities are also exempt from the carriage requirement.
- » NAIS collects valuable maritime data in 58 critical ports throughout the United States and collect safety and security data from AIS-equipped vessels in the nation's territorial waters and adjacent sea areas.
- » AIS is a ship-to-ship collision avoidance system that allows for communication of position, speed, and other ship data.
- » Major attributes are Vessel Identifier, Purpose, Course, Vessel location, MMSI, and Speed, Heading, Vessel Information, Timestamp, Draft.



A. Point Vessel Data (Anchorage Patterns)



B. Vessel Density (Density Maps)
Case Study: Jacksonville – Studying anchorage patterns

Complexity Measure	Spatial Coverage	Commodity Coverage	Industry Coverage	Modal Coverage	Temporal Coverage	Collection Frequency/update	Accuracy	Access	Usability
Rating	●	◐	○	●	●	●	●	●	●



SUMMARY

The Navigation Data Center (NDC) is responsible for establishing and maintaining databases of waterborne commerce, domestic commercial vessels, port facilities, lock facilities, lock operations, and navigation dredging projects. The NDC data collection and dissemination efforts encompass all the commercially navigable waterways of the United States. The sources of these data include monthly reporting from more than 1,500 vessel operating companies, lockage and dredging statistics from Army Corps' and Engineers personnel at locks and district offices, and commercial port and terminal characteristics from on-site surveys conducted by NDC engineers

MORE ABOUT DATA

Developer: [U.S. Army Corps of Engineers Institute for Water Resources](#)

Update Frequency: Annually; except dredging projects (monthly)

Geographical Coverage: Nationwide

Geographical Resolution: Ports/waterway network

Modal Coverage: Waterborne

Data Format: Printed publications, CSV, Shape files, Oracle Databases

Licensing Agreement: N/A

Acquisition Cost: Free

Contact:

[FDOT TRANSTAT](#)
(850)-414-4848

WATER-BORNE COMMERCE STATISTIC CENTER DATA:

Temporal Coverage: 1922 - present

Legal Reference: River and Harbor Act, September 22, 1922 (42 Stat; 1043)

Important attributes of data: For domestic: vessel name, vessel type, commodity carried (SITC), tonnage, origin-destination (port, dock, date departed, draft)

PORTS AND WATERWAYS DIVISION DATA:

Temporal Coverage: 1922 - present

Legal Reference: Section 7 of the River and Harbor Act of 1918, Section 8 of the Merchant Marine Act of 1920, Section 500 of the Transportation Act of 1920

Important attributes of data: Location, operation characteristics, types and dimensions of construction, water body name

LOCK PERFORMANCE MONITORING SYSTEM DATA:

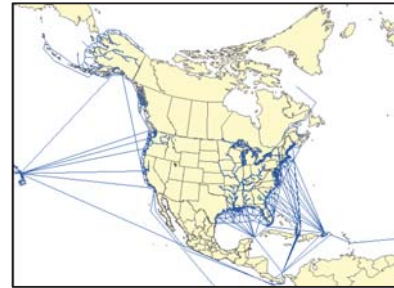
Temporal Coverage: 1975 - present

Legal Reference: Engineering Regulation 1130-2-429

Important attributes of data: number of vessels and barges using the lock; type, dates, and times of lockage, entry and exit types; number of cuts

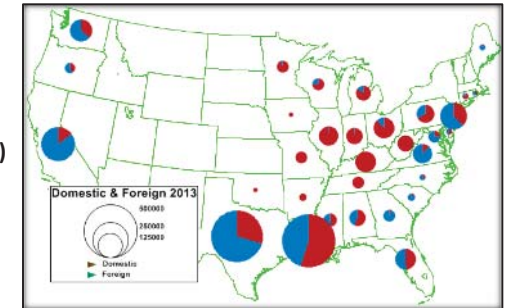
LOCK PERFORMANCE MONITORING SYSTEM DATA:

Lock Characteristics data base contains information on physical aspects of all USACE locks. Data base relies on updates from field surveys and District personnel to provide the most current and accurate data about the physical aspects of locks.



U.S Waterway Network

Domestic and Foreign Commodity tonnage (2013)



CURRENT APPLICATIONS

- » Florida DOT – Office of Policy Planning
 - » Florida Transportation Trends and Conditions
- » Florida DOT – Design Office
 - » Structures Design Guidelines
- » Florida DOT – Systems Planning
 - » Structures Design Guidelines
- » Florida DOT – Seaport Office
 - » South Florida Inland Port Feasibility Study
 - » Florida Seaport System Plan

POTENTIAL APPLICATIONS

- » Managing dredging and locking operations
- » Support U.S Customs Service in collecting harbor maintenance
- » Freight travel demand models
- » Seaports planning
- » Intermodal Trade Corridor Planning
- » Environmental Planning
- » Modal Shift Analysis
- » Terminal and Border Access Planning
- » Economic Development Planning
- » Sustainable Transportation Investment
- » Structural Design

Complexity Measure	Spatial Coverage	Commodity Coverage	Industry Coverage	Modal Coverage	Temporal Coverage	Collection Frequency/ update	Accuracy	Access	Usability
Rating	●	●	●	●	●	●	●	●	●



SUMMARY

PIERS collects import/export data from Bills of Lading for all waterborne cargo vessels that enter or exit U.S. ports. This data is analyzed and augmented with supplementary datasets to produce the PIERS trade intelligence data resources. PIERS provides comprehensive trade data that contains detailed information on commodity description, tonnage shipped, TEUs, estimated value, and import/export companies profiles. It also provides historical records dating from 1950. PIERS data can be used for multiple purposes including market share and trend analysis by different users such as manufacturing industries or government agencies.

MORE ABOUT THE DATA

Developer: JOC Group (IHS Inc.)

Update Frequency: Daily

Latest Year Available: 2016

Temporal Coverage: Annual

Geographical Coverage: National & Worldwide

Geographical Resolution: Major U.S. Ports

Modal Coverage: Maritime (Water)

Data Format: MS Excel, PDF
Automated platform (Dashboards, Online Queries)

Licensing Agreement: Subscription agreement required

Acquisition Cost: Variable

Contact:

[FDOT Seaports and Waterways Office](#)

(850) 414-4527

[FDOT TRANSTAT](#)

(850) 414-4848

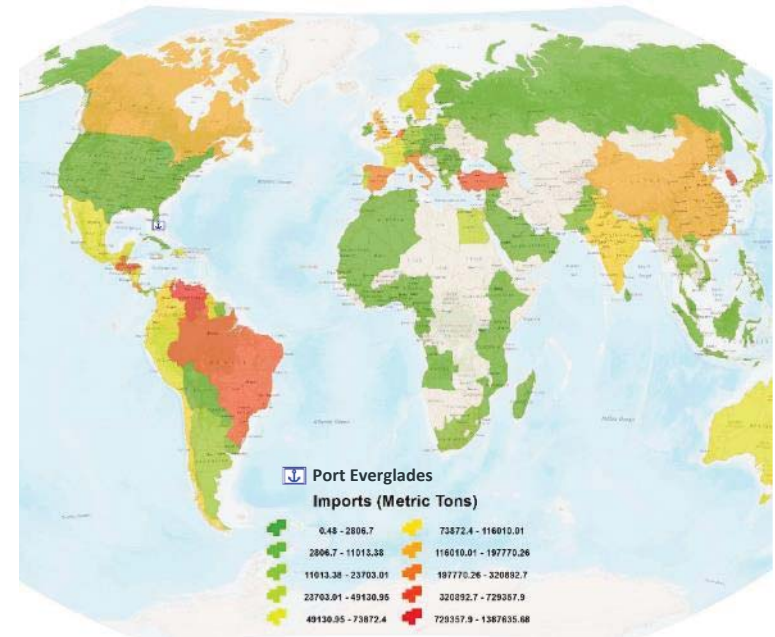
CURRENT APPLICATIONS

- » State Seaport and Waterways Office
 - » Florida Seaport System Plan, 2015
 - » Florida Seaport System Plan, 2010
 - » Office Research and Statistical Analysis, Ongoing
- » Florida Ports Council and Individual Florida Ports
 - » Five-year Florida Seaport Mission Plan, Annual
 - » Analysis of Global Opportunities and Challenges for Florida Seaports, 2013
- » Florida Chamber Foundation
 - » Florida Trade and Logistics Study 2.0, 2012
 - » Florida Trade and Logistics Study, 2010
- » TRANSTAT
 - » Florida Statewide Freight Model (FreightSIM), 2015
 - » Reducing Traffic Congestion in South Florida, 2008

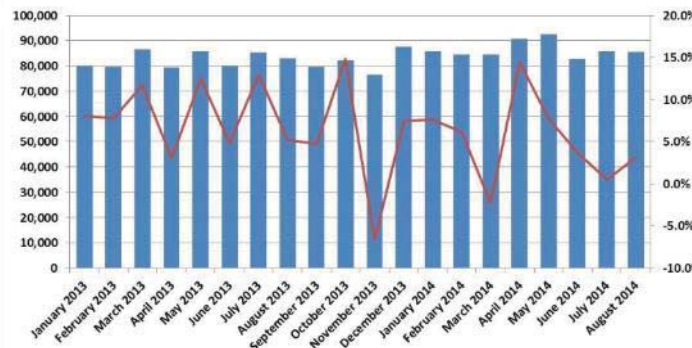
POTENTIAL APPLICATIONS

- » Economic Development Planning
- » Modal Shift Analysis
- » Environmental Planning
- » Intermodal Trade Corridor Planning
- » Freight Mobility Planning
- » Operations/Services
- » Terminal and Border Access Planning
- » Sustainable Transportation Investment
- » Land Use Planning
- » Congestion Management

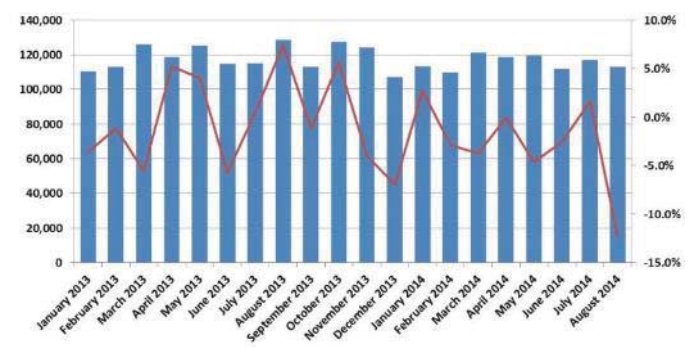
Port Everglades Import Commodity Flows, 2013



Import Volume in TEUs



Export Volume in TEUs



Source: Florida Seaports Market Trends: Extracting Intelligence From Trade Data, 2014

Complexity Measure	Spatial Coverage	Commodity Coverage	Industry Coverage	Modal Coverage	Temporal Coverage	Collection Frequency/update	Accuracy	Access	Usability
Rating	●	●	●	◐	●	◐	●	◐	●

