



2014 Harbor Safety Committee Conference

**21ST CENTURY WATERWAY
FUTURE OF NAVIGATION**

CAPT Scott J. Smith
Deputy Director
Marine Transportation Systems



Future of Navigation Sessions & Feedback



- **Conducted USCG, NOAA, &USACE Listening Session**

Honolulu, HI: 19 May
Fort Lauderdale, FL: 22 May
Hampton Roads, VA: 22 May
Boston, MA: 03 Jun
Seattle, WA: 03 Jun
New York, NY: 10 Jun
Alameda, CA: 10 Jun
Port Huron, MI: 12 Jun
Long Beach, CA: 17 Jun
St. Louis, MO: 18 Jun

- **An on-line link to a Future of Navigation Feedback form is located on the CG NAVCEN website. Intend for the survey to be carried out at least to the end of the year.**



NAVIGATION CENTER

The Navigation Center of Excellence

U.S. Department of Homeland Security

UNITED STATES COAST GUARD



Home | DGPS Advisories | GPS Constellation Status | MSI Data Downloads | GPS Testing Notices | LNM's | Almanacs | Nav Rules | AIS | N. Amer. Ice Svc | Contact Us | Search

Mission Areas

- Global Positioning System
- Nationwide DGPS
- Nationwide AIS (NAIS)
- AIS (Overview, Messages, etc.)
- Long Range Identification and Tracking
- Local Notice to Mariners
- Light Lists
- Civil GPS Service Interface Committee
- LORAN C (archive)

Subscribe / Report (free)

- Local Notice to Mariners (Weekly)
- GPS Operational Summary (Daily)
- NANUs (upon occurrence)
- Join CGSIC
- Report an ATON Discrepancy or Outage
- Report a GPS Problem
- Report an NDGPS Problem
- Report an LRIT Problem
- Report an NAIS Problem
- Contact Us

Maritime Information

- Maritime Safety Information Downloads
- Maritime Telecommunications
- CG Nat'l Distress System
- Global Maritime Distress and Safety System
- Marine Safety Information Broadcasts
- MF & HF Channels
- Nav Pubs and Documents
- Radio Watch Requirements
- Vessel Traffic Services
- VHF Channels & Freqs
- USCG "Homeport" Website

U.S. COAST GUARD NAVIGATION CENTER

August 19, 2014

NAVIGATION CENTER POINTS OF INTEREST



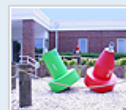
Current Operational / Safety Information

- Consolidated Nav Info
- DGPS Site Status
- GPS Ops Advisories & NANUs
- GPS Almanacs
- GPS CNAV Testing
- FCC GPS Jammer Enforcement
- Current Ice Chart
- Public Notices for Bridges
- Local Notice to Mariners
- Light List and Corrections
- Navigation Rules
- Navigation Regulations



Maritime Information

- Automatic ID System (AIS)
- Global Maritime Distress and Safety System (GMDSS)
- CG Nat'l Distress System
- Digital Selective Calling
- Vessel Traffic Services
- USCG "Homeport" Website
- Maritime Telecommunications
- Radionavigation Pubs
- Radio Watch Requirements
- Marine Safety Information Broadcasts
- Ports and Waterways Safety Assessment



About NAVCEN

- Mission Statement
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- Site Map
- Website Privacy Policy



America's Waterway Watch



Provide your feedback today!

News and Notices:

- RSS Feeds (LNMs, LL Corrections)
- The USCG "Vessel Requirements for Notices of Arrival and Departure (NOAD) and Automatic Identification System (AIS) [USCG-2005-21869]" Final Rule regarding expansion of NOAD and AIS requirements in the U.S. is currently under E.O. 12886 Regulatory Review at the White House Office of Information and Regulatory Affairs (OIRA)—this is the final review prior to its publication. Most OIRA reviews take less than 90 days, this is a notice that this rule may be published prior to its current Semi-Annual Unified Regulatory Agenda prognostication—December 2014.
- The Navigation Center has produced a consolidated [Marine Safety Information data download page](#) where you may access data files. Please review these files and provide us feedback so that we may improve our products...thank you.
- You are invited to visit the 21st Century / Future of Navigation Feedback Website to share your comments and provide feedback on the joint agency initiative that will determine user requirements and emerging needs for navigation information and services. The Coast Guard, U.S. Army Corps of Engineers and the National Oceanic and Atmospheric Administration are collaborating in the eNAV environment to promote safety and efficiency of the Marine Transportation System. For more information, please view our 21st Century / Future of Navigation Feedback Website information sheet.
- The Air Force GPS Operations Center links reports of GPS user equipment errors to flawed equipment processing of almanac data from PRN-30. Please read the [Air Force statement](#).
- The 2014 Light Lists have been published and are now [available for download](#) from our website.
- In February, the Coast Guard and other USCG approved entities (i.e. U.S. Army Corp of Engineers, Marine Exchange of Alaska, NOAA) commenced transmitting AIS Aids to Navigation messages and

Practice Your Visual NAVRULES!

Presented below is a randomly selected visual NAVRULE problem from our flashcard database. In many cases, what is presented are words or phrases, and you should think of the definition or definitions that meet the condition(s) of the words or phrases.



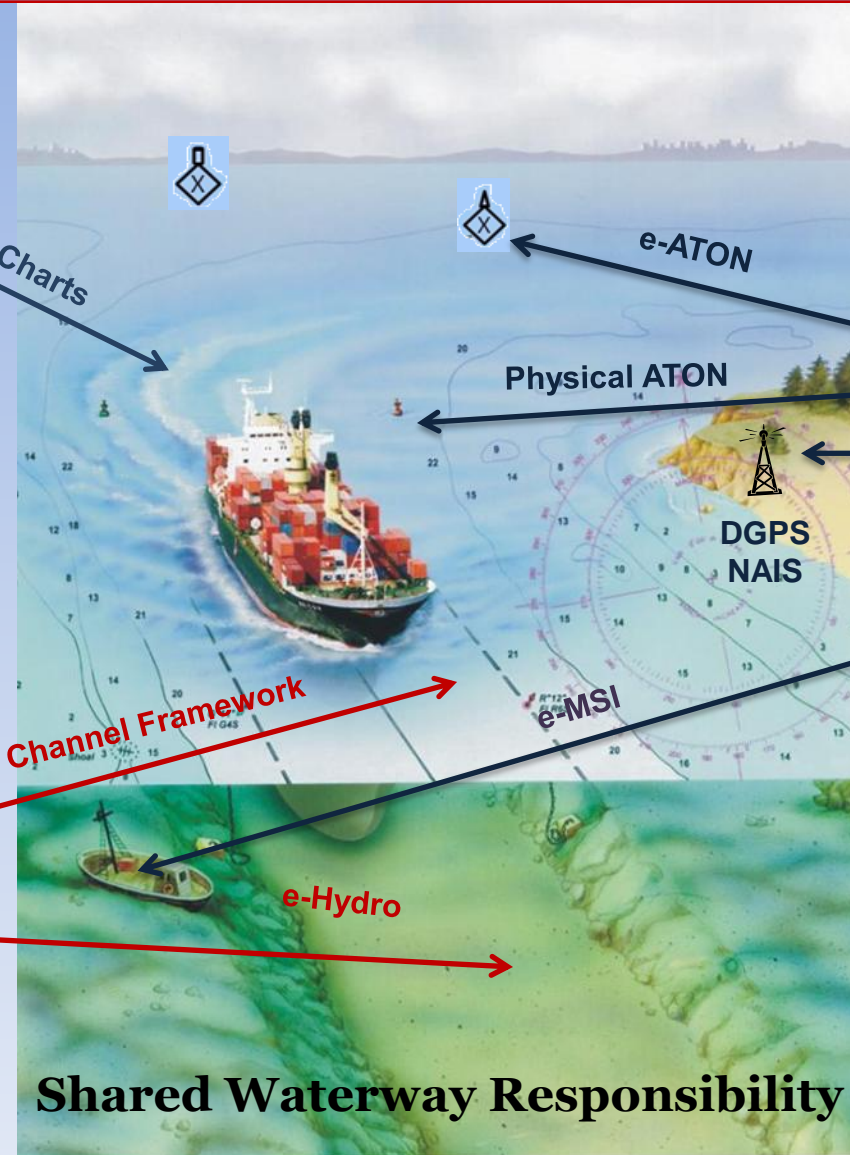
21ST CENTURY WATERWAYS



PORTS
RNCs
Hydrographic Survey



IENC
Chart Booklets






United States Visual Aids to Navigation System (USATONS)

“The primary objective of the USATONS is to mitigate transit risks to promote the safe, economic, and efficient movement of military, commercial, and other vessels by assisting navigators with determining their position, a safe course, and warning them of dangers and obstructions.”



The Role of e-Navigation



“The U.S. vision for e-Navigation is to establish a framework that enables the transfer of data between and among ships and shore facilities, and that integrates and transforms that data into decision and action information.”

“The ultimate goal of e-Navigation efforts in the U.S. is to use timely and reliable information to make the U.S. Marine Transportation System operate better.”



21ST CENTURY WATERWAYS



MTS at a Glance

Infrastructure

- 25,000 miles of navigable waterways
- Over 350 ports
- 3,700 marine terminals
- 238 lock chambers
- 1,400 intermodal connections
- 92,000 aids to navigation

Traffic

- 68,000 vessel calls at US Ports
- 640 ferry vessels – 147 million passengers
- 110+ cruise ships – 10.1 million passengers
- 12 million recreational boats – 74 million persons





21ST CENTURY WATERWAYS



Impact of the U.S. MTS

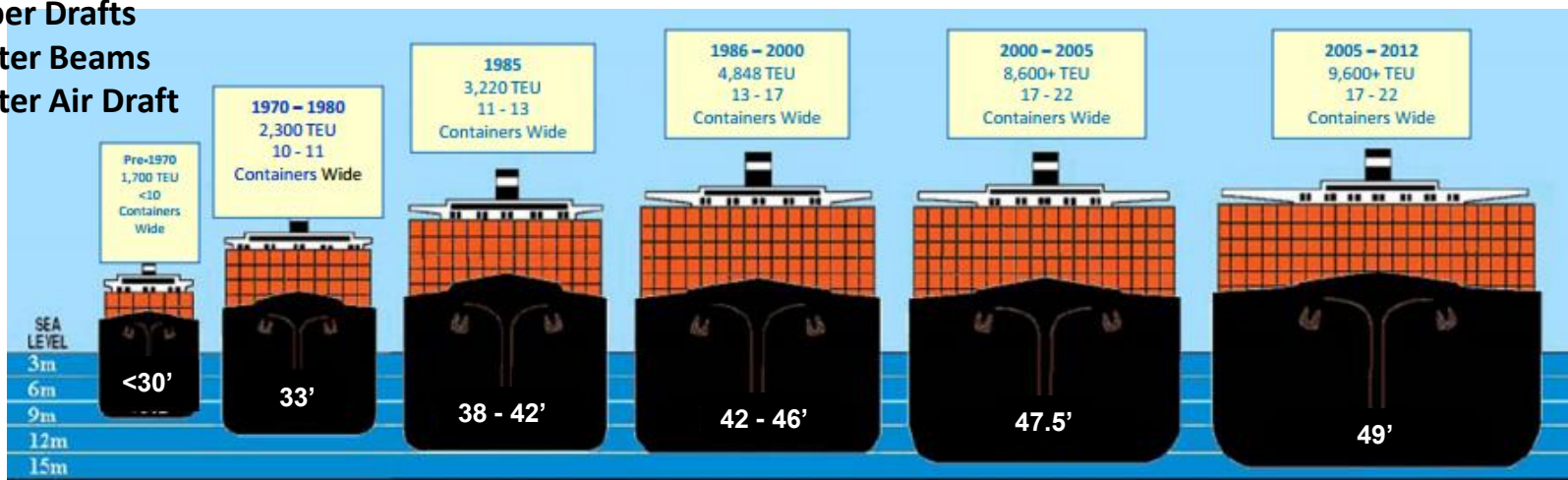
- More than 13 million seaport related jobs accounting for \$649 billion of US GDP
- \$1.3 trillion value, (64.1%) & 99.4% by weight of overseas cargo annually
- \$3.8 billion value of goods moving through U.S. seaports each day
- MTS International trade accounts for 32% of GDP; 37% expected next year
- \$42 billion & 356K jobs – economic impact of cruise line industry
- \$121.5 million & 338K jobs – economic impact of recreational boating





Larger Ships
Deeper Drafts
Greater Beams
Greater Air Draft

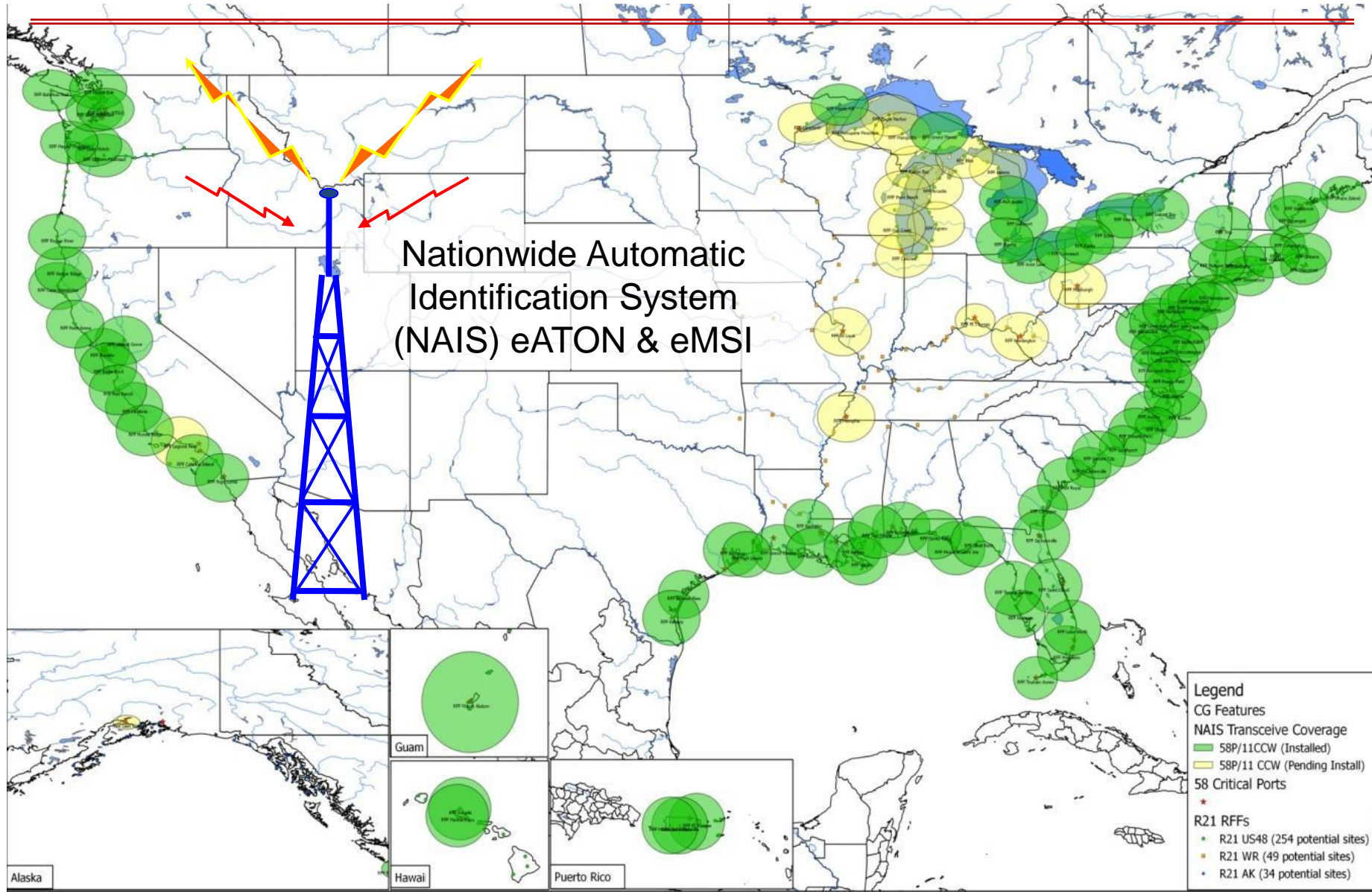
Navigation Situation



**Channel
Dimensions have
remained fairly
constant**



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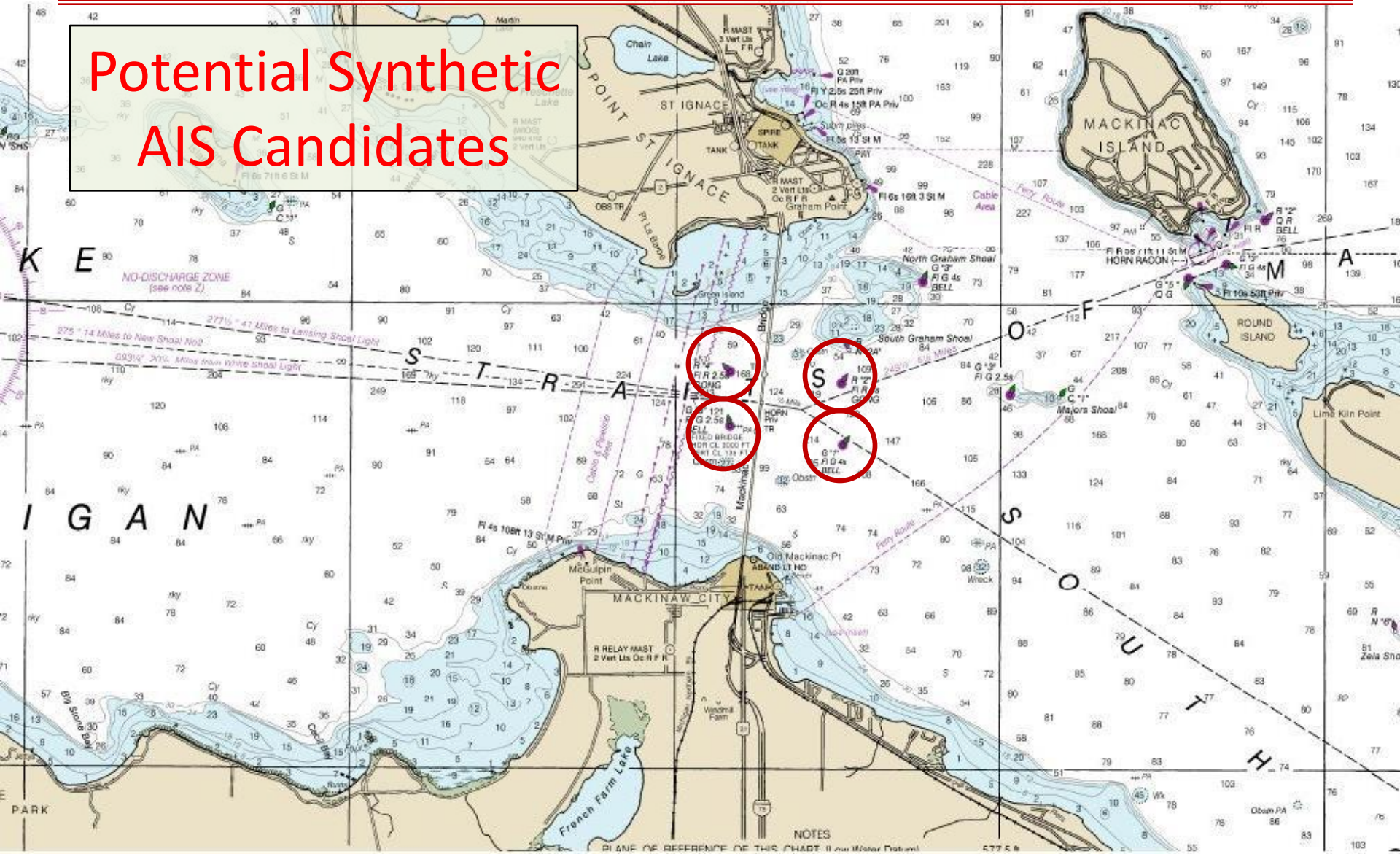




21ST CENTURY WATERWAYS

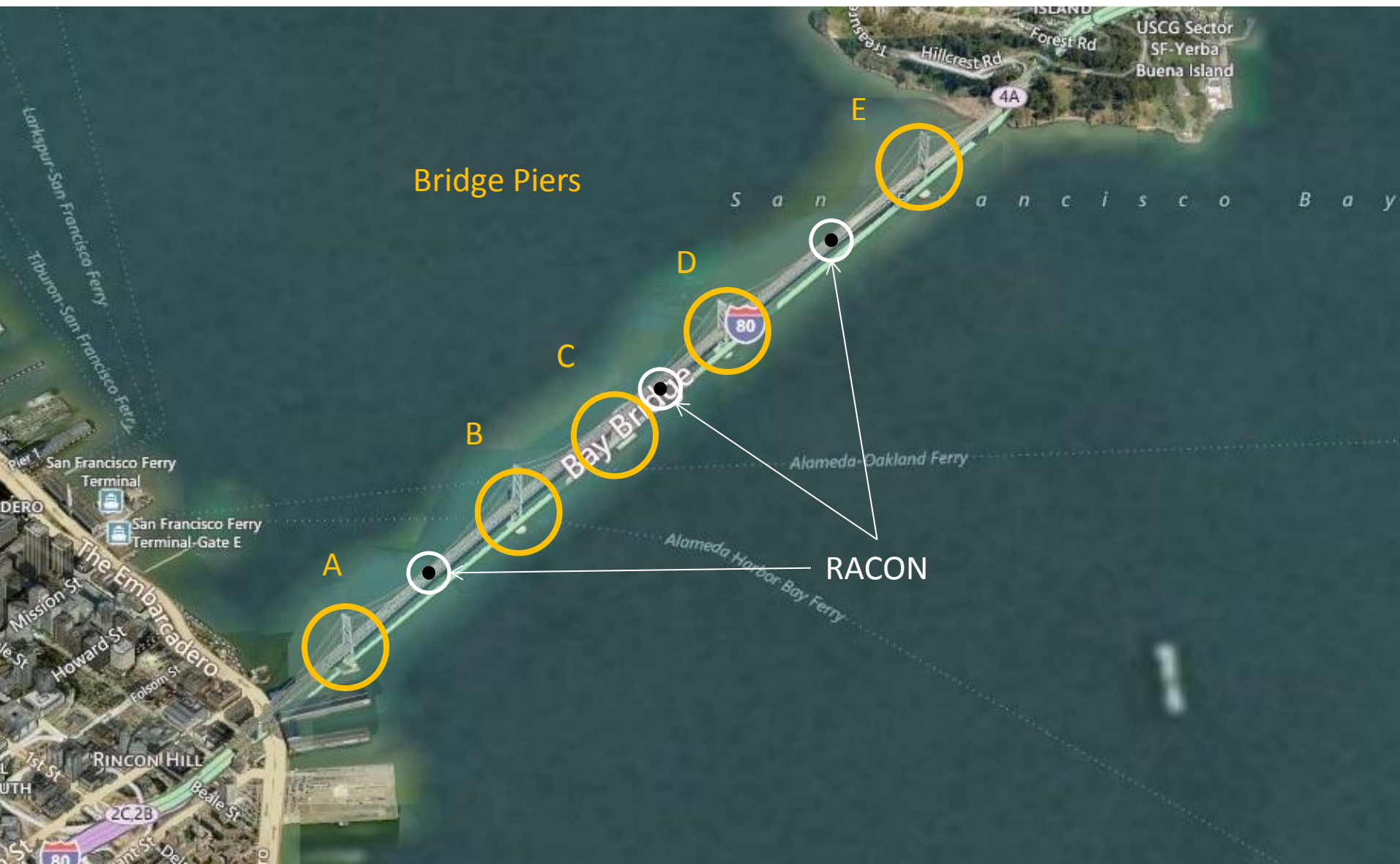


Potential Synthetic AIS Candidates





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Future Capability

ATON
Outage

Temporary
Restricted
Area

**Notice to Mariners?
What do you need?
How best to deliver?**



21ST CENTURY WATERWAYS



Integrated Navigation
System with Radar,
Echo Sounder, & AIS



Smart  **Chart**
AIS

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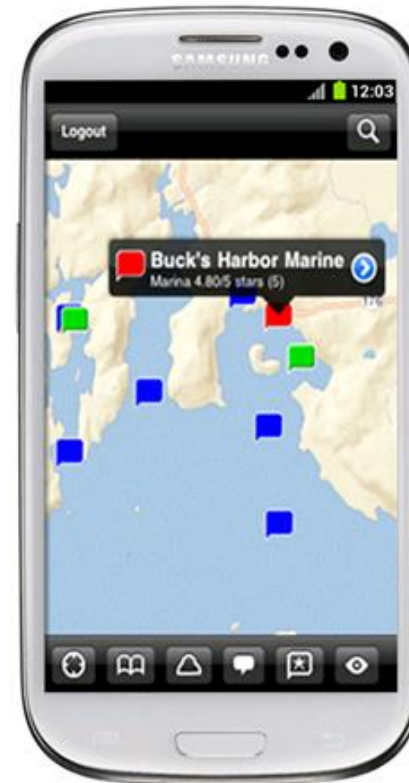
Android App now available!!

FEATURES

It's easy to know exactly where you are and what other vessels are around you. You can also chat with friends on other boats, find the best fuel and dockage prices, see your way in low visibility, and much more.

Smart Chart AIS gives you:

- Electronic Charts
- AIS (Automatic Identification System) via cellular networks
- Augmented Reality (see your way into the harbor or anchorage even in the fog or dark)
- Social Networking
- **All on your Smartphone or Tablet. And it's completely free!**





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QUESTIONS?

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