



14th NIOHC Conference

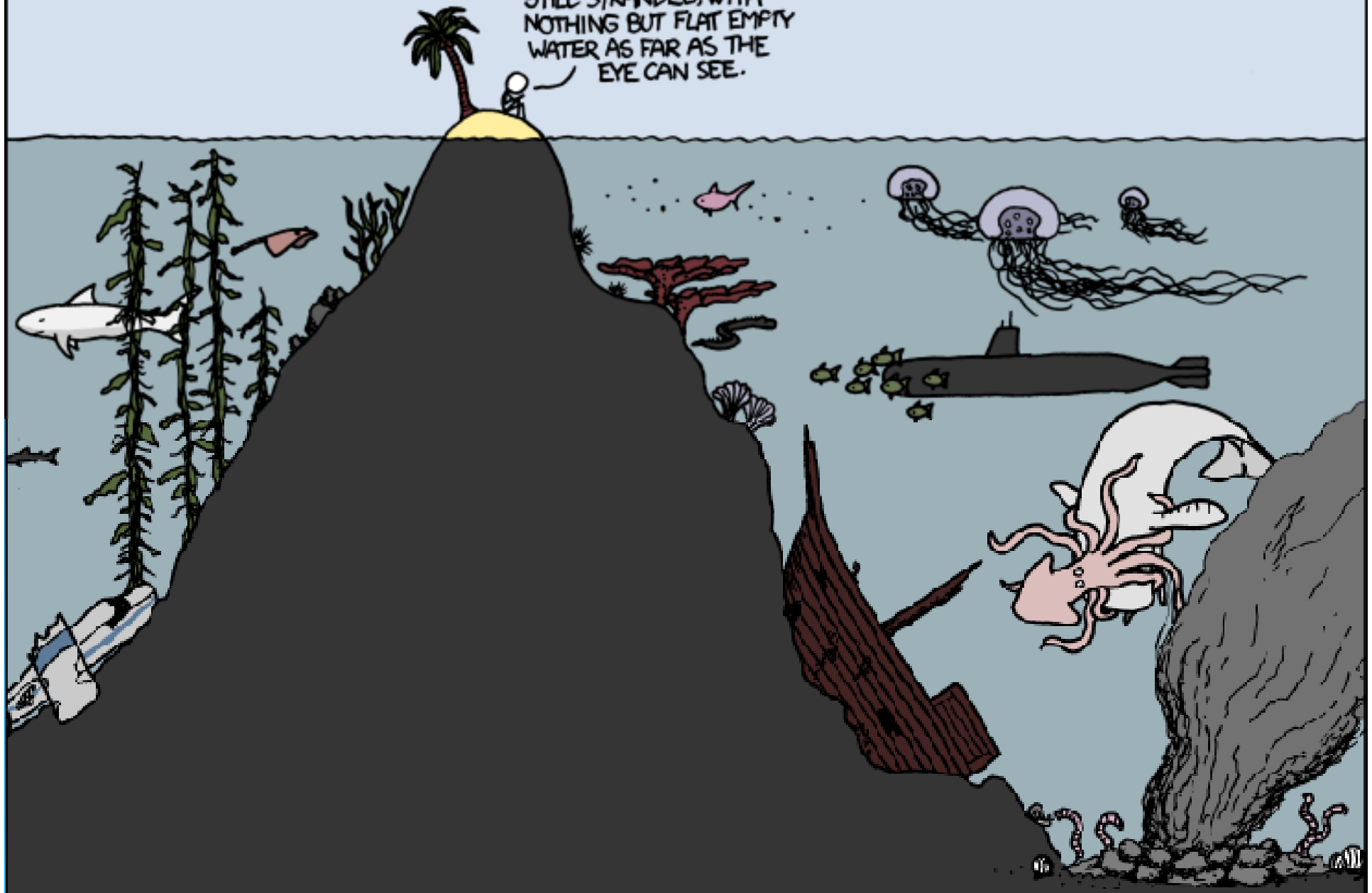
ArcGIS: Charting New Value for your Data

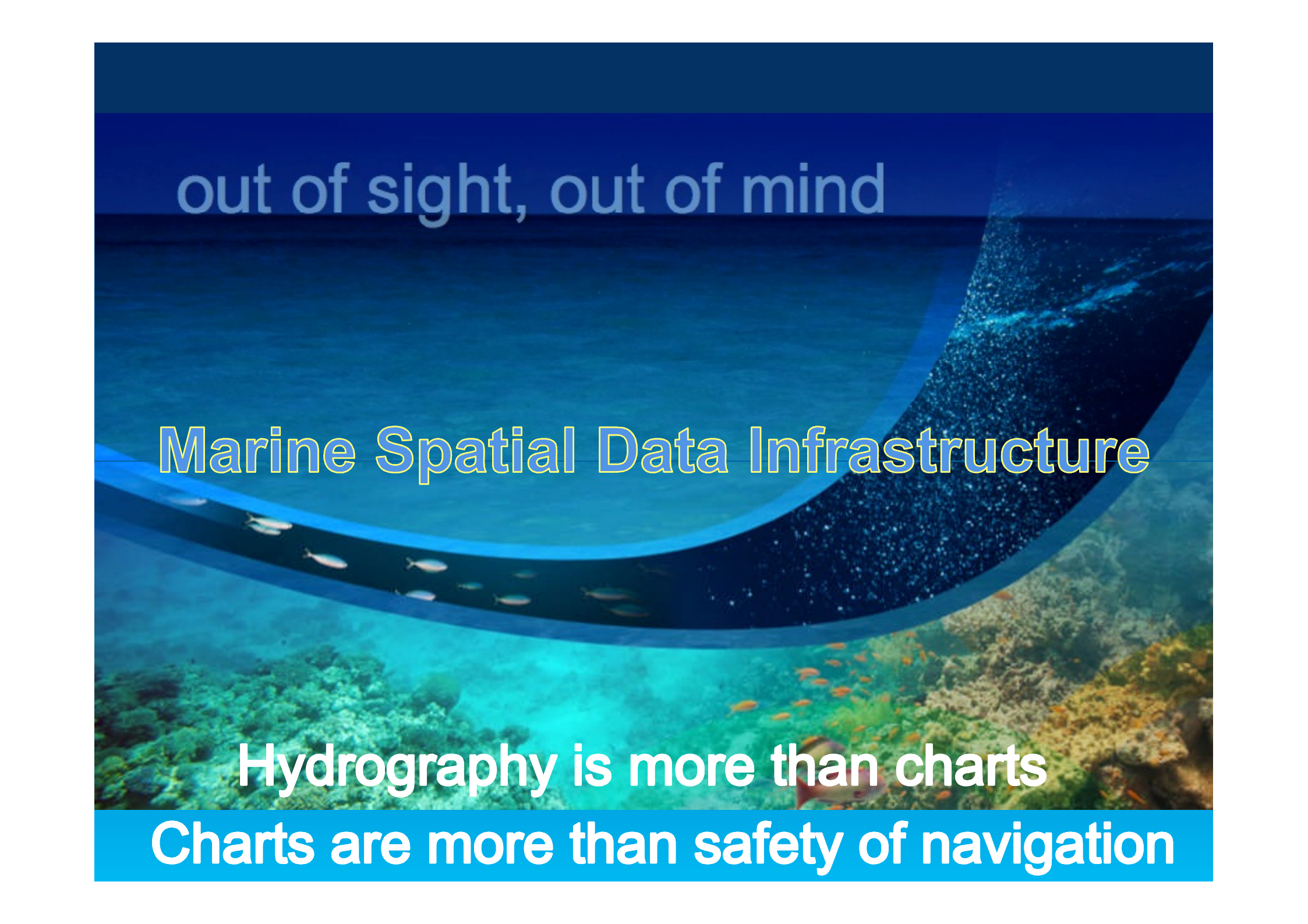
Rafael Ponce

Global Maritime Business Development

Thursday, February 27, 2014
Bangkok, Thailand

DAY 44:
STILL STRANDED, WITH
NOTHING BUT FLAT EMPTY
WATER AS FAR AS THE
EYE CAN SEE.



An underwater scene featuring a curved blue band that separates the surface water from a deeper, darker section. The bottom section shows a vibrant coral reef with many small orange fish. The top section is a dark blue gradient.

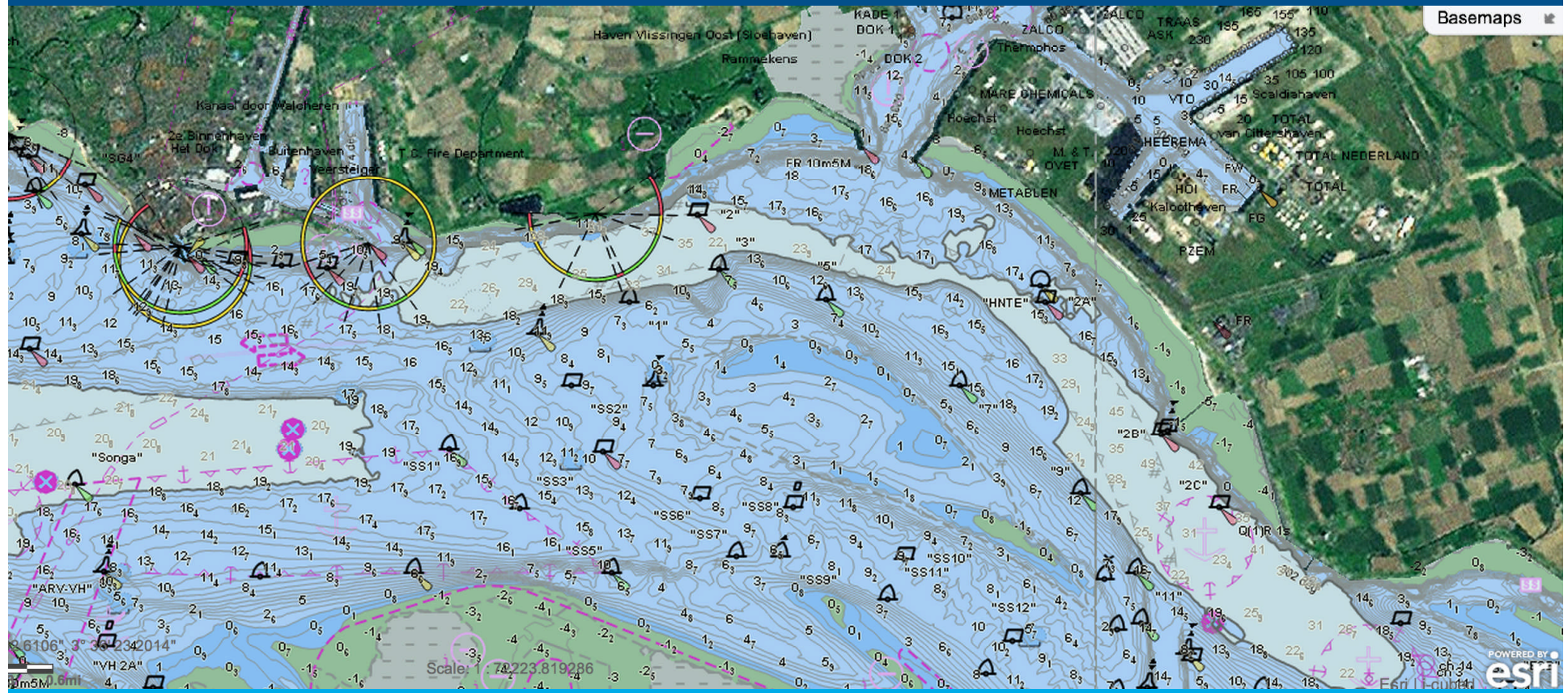
out of sight, out of mind

Marine Spatial Data Infrastructure

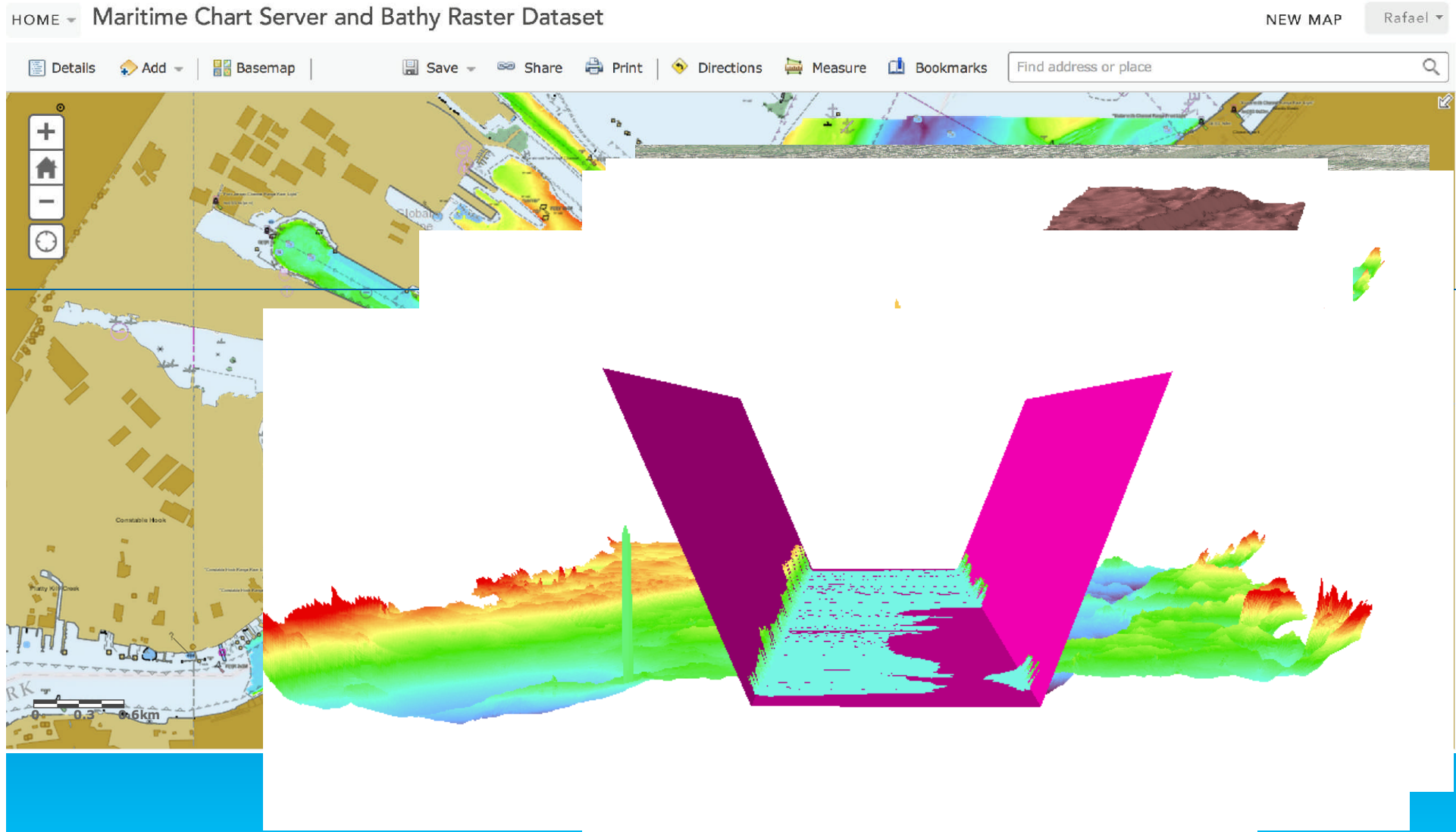
Hydrography is more than charts

Charts are more than safety of navigation

Combining hydrographic data for multiple purposes



Combining hydrographic data for multiple purposes





CyberGIS Software Integration for Sustained Geospatial Innovation

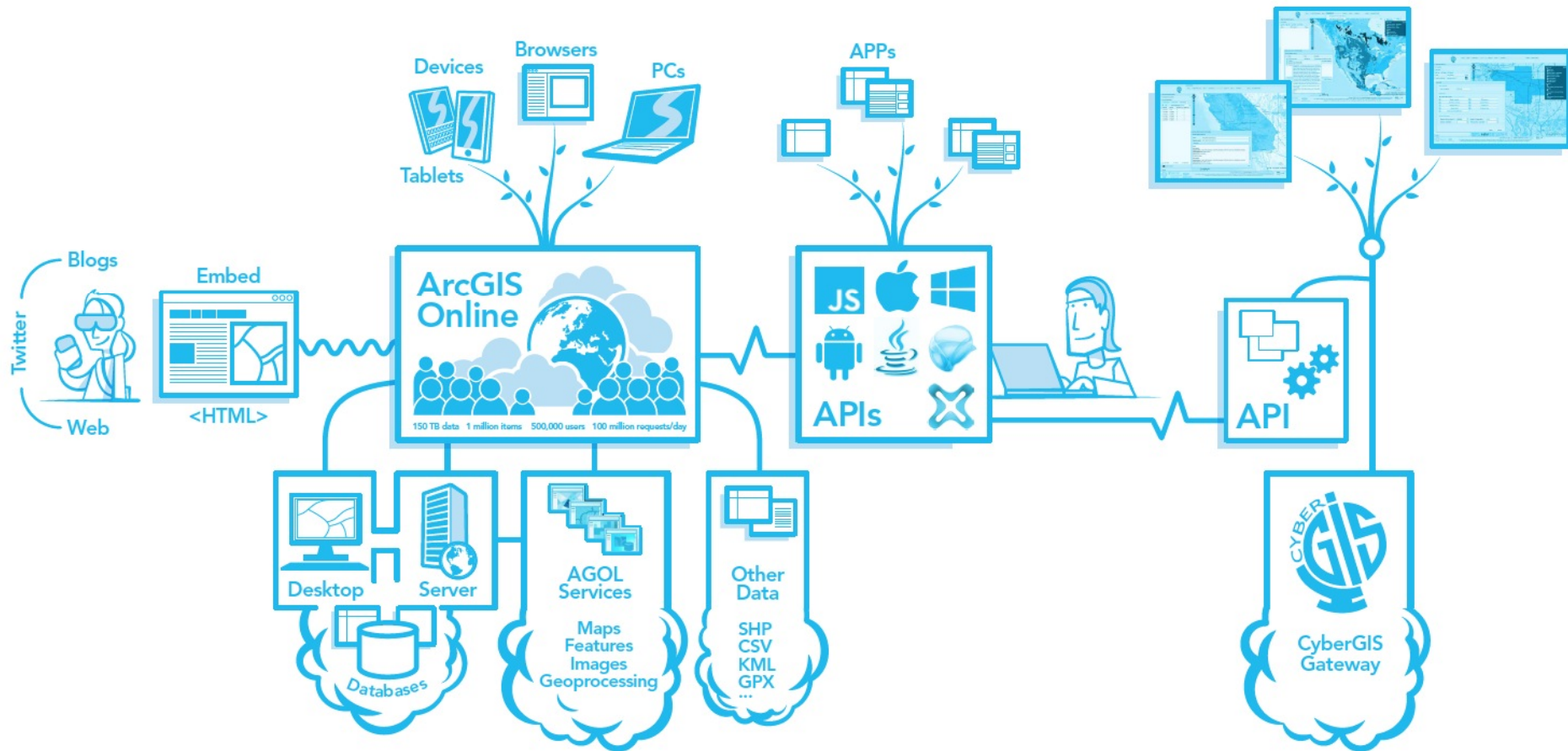
CyberGIS Project

- A National Science Foundation-funded project that aims to establish a fundamentally new software framework via seamless integration of cyberinfrastructure, GIS and spatial analysis/modeling capabilities.
- Lead by the University of Illinois, Urbana-Champaign and involving scientists from Arizona State, University of Washington, the San Diego Supercomputer Center, UCSB, the US Geological Survey (USGS) and the Department of Energy's Oak Ridge National Lab (ORNL)
- Esri is a project partner.



<http://cybergis.cgl.uiuc.edu/cyberGISwiki/doku.php>

CyberGIS Gateway and ArcGIS Online Integration



An Architectural evolution

The image shows a server room with rows of server racks. A person is standing in the aisle, looking at a device. The entire scene is overlaid with a blue grid pattern, and the text "An Architectural evolution" is centered in white.

Three Elements & Two Networks

① **Users**



Thin Connection

*User-to-App
Connectivity*

② **Applications**



High Bandwidth

*App-to-Data
Connectivity*

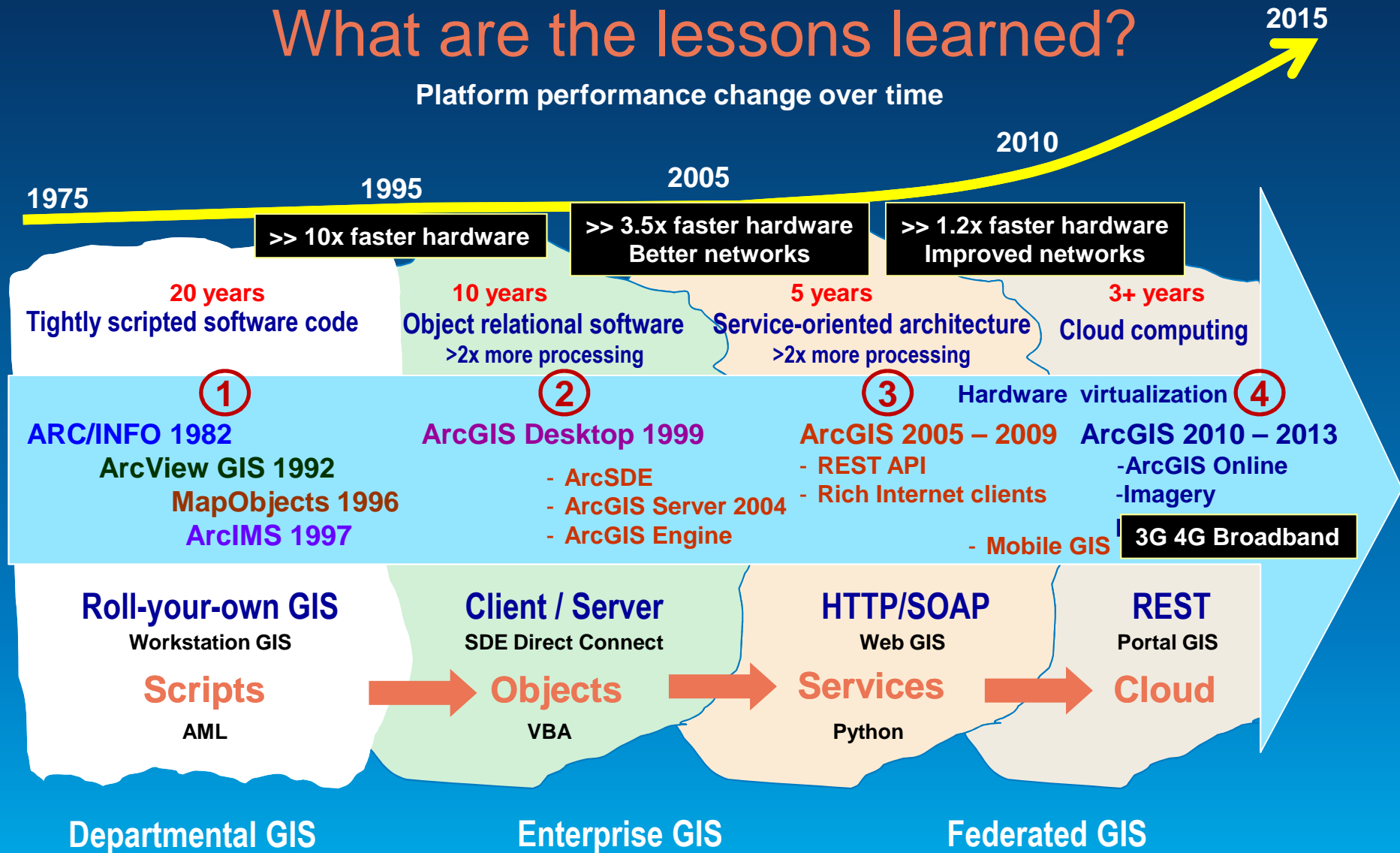
③ **Data**



GIS software evolution

What are the lessons learned?

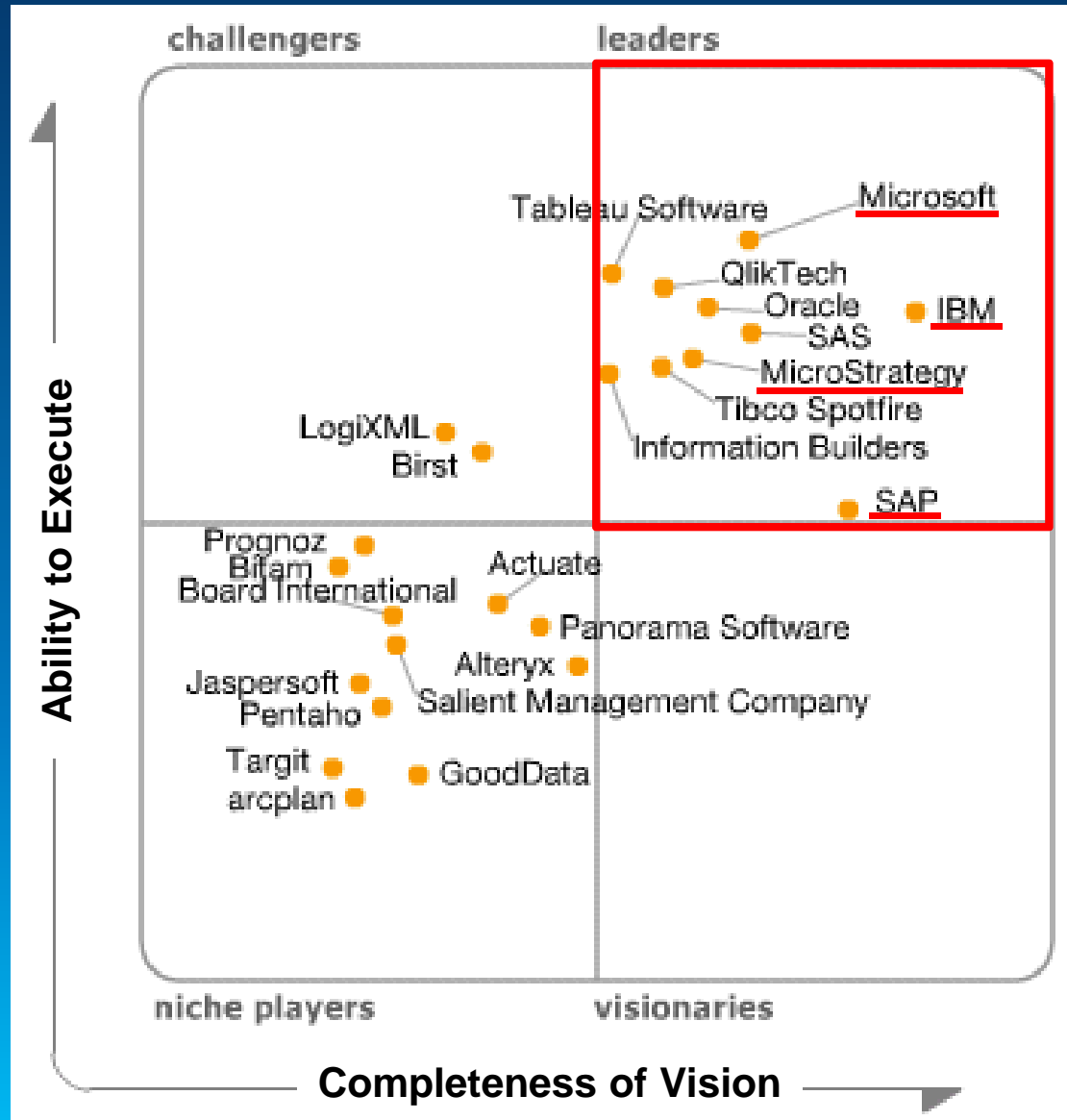
Platform performance change over time



...Technology drives innovation

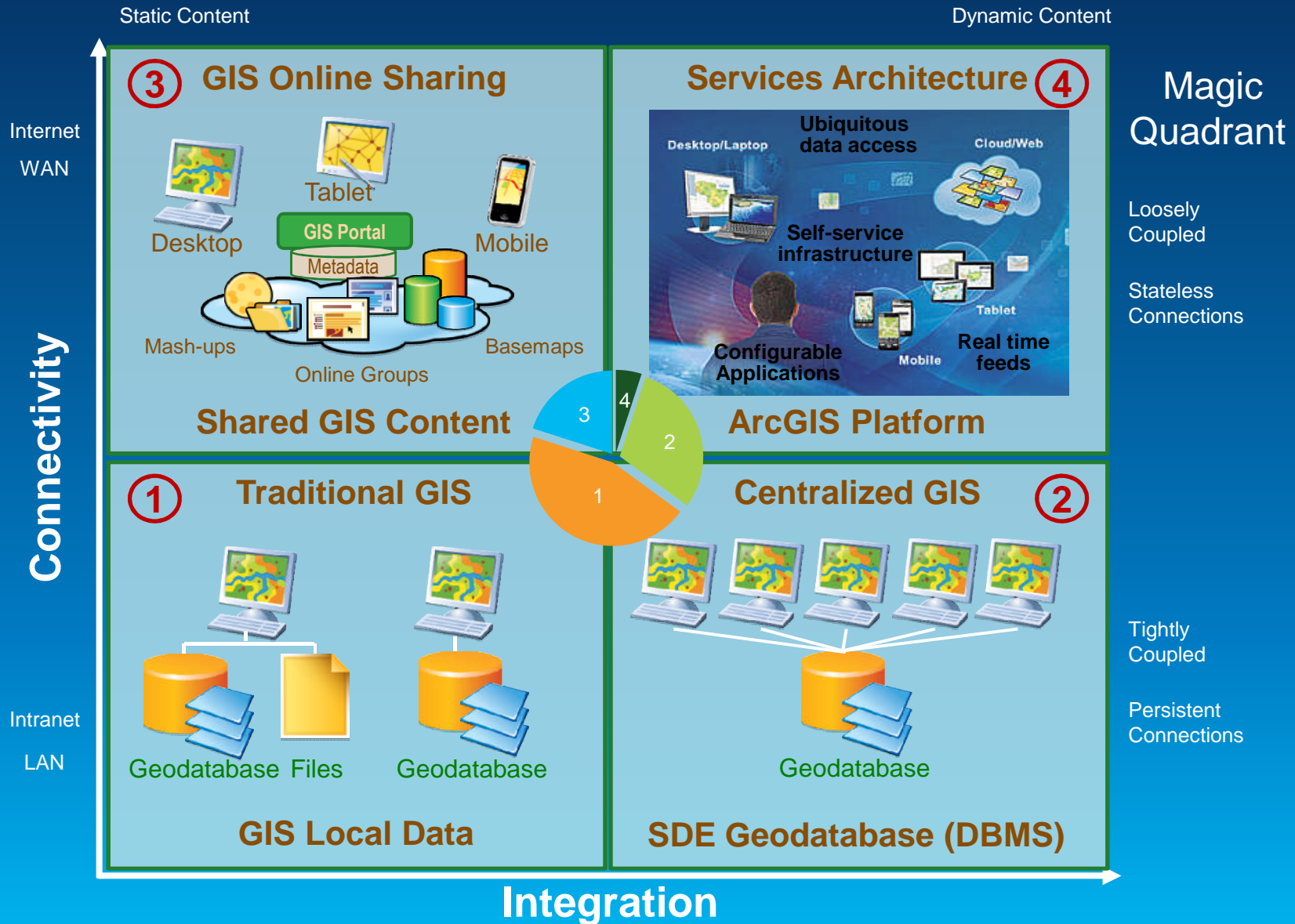
Gartner Magic Quadrant for Business Intelligence and Analytics Platforms

As of February 2013



Magic
Quadrant

Emerging Technology Trends in GIS



AGOL: Most Significant Innovation in 20 years

1992

ArcView

Desktop

① Shapefile



2013

ArcGIS Online

Web Map

④ Feature Service



Empowers any user to create their own Web Maps.....using only a browser!

ArcGIS Online for Hydrographic Offices

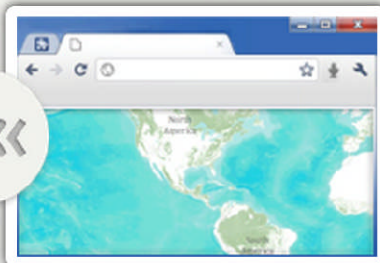
[HOME](#) [GALLERY](#) [MAP](#) [GROUPS](#) [MY CONTENT](#) [MY ORGANIZATION](#)

Rafael ▾

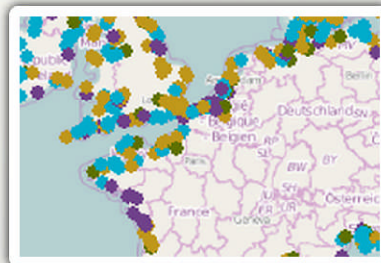


Esri Hydrographic Office

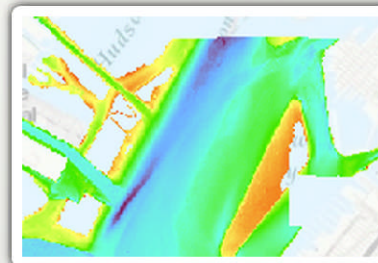
Maritime Office



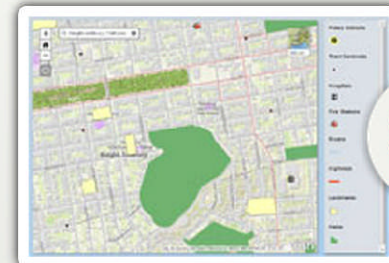
Maritime Chart Server



**NGA World Port Index (WPI)
2014-EsriHO copy**



**Maritime Chart Server and
Bathy Raster Dataset**



Panels

Welcome to the Maritime (Demo) Organizational Site.

This is a fictional organization designed to demonstrate the capabilities of ArcGIS for Maritime Organizations. ArcGIS Online allows you to create special interest groups, create and share maps, embed maps in websites and blogs, or share applications. ArcGIS Online provides a simple way to increase your organizations online presence.

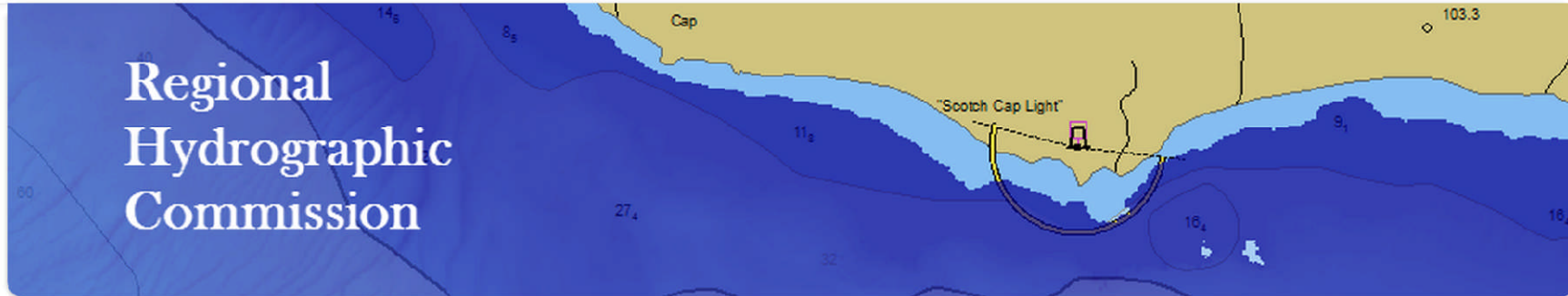
ArcGIS Online for RHCs

[HOME](#) [GALLERY](#) [MAP](#) [GROUPS](#) [MY CONTENT](#) [MY ORGANIZATION](#)

Rafael ▾



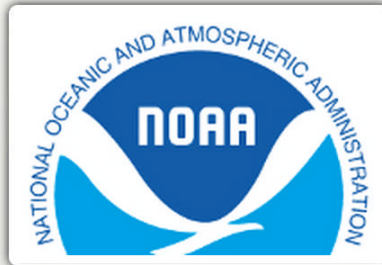
Regional Hydrographic Commission



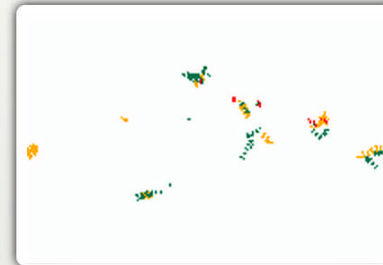
Hydrographic Commission Featured Content



USDOC NOAA Offshore Installations and Aids to



ENC Direct to GIS



Survey Areas



CATZOC

This is the Marine SDI of the Commission

ArcGIS Online: Enabling a live C-55 and more

HOME ▾ Global ENC Coverage

NEW MAP

Rafael ▾

Details

Add ▾

Edit

Basemap

Save ▾

Share

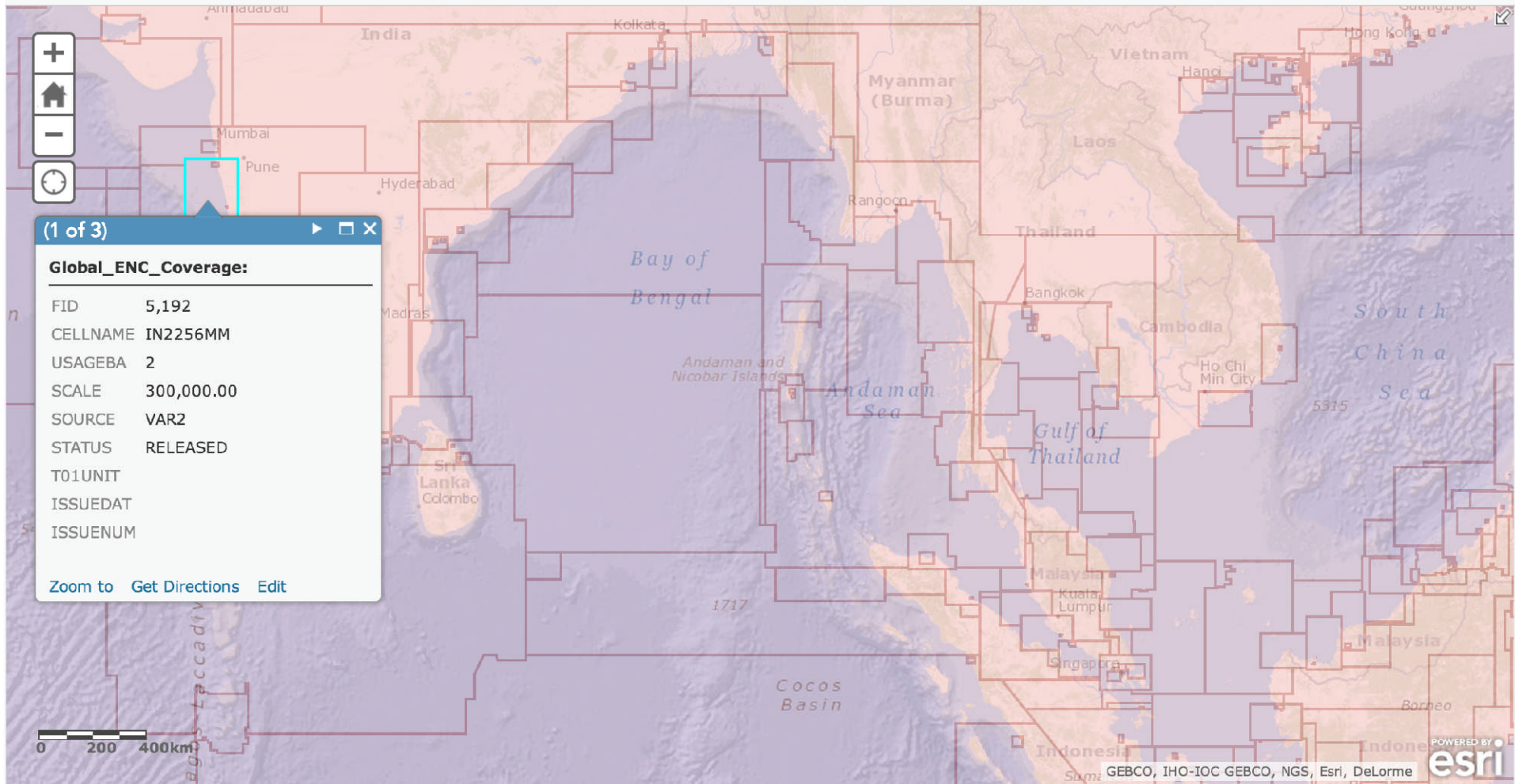
Print

Directions

Measure

Bookmarks

Find address or place



ArcGIS Online: Geo-processing analysis

HOME ▾ MACHC AIS Example Searches (Queries)

NEW MAP

Rafael ▾

Details

Add ▾

Basemap

Save ▾

Share

Print

Directions

Measure

Bookmarks

Find address or place



Legend

Survey_Extents

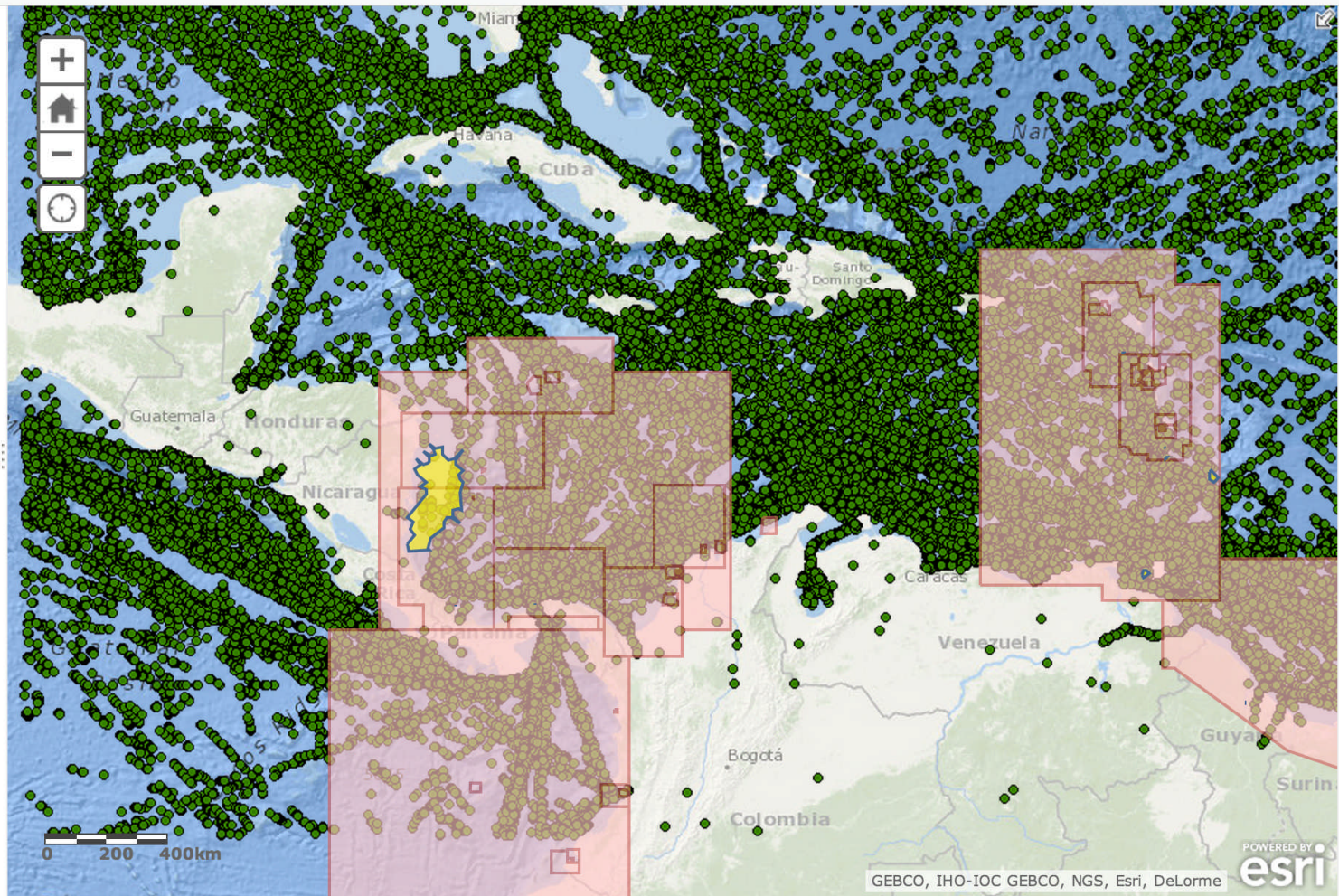


Global_ENC_Coverage



MACHC

MACHC_AOI



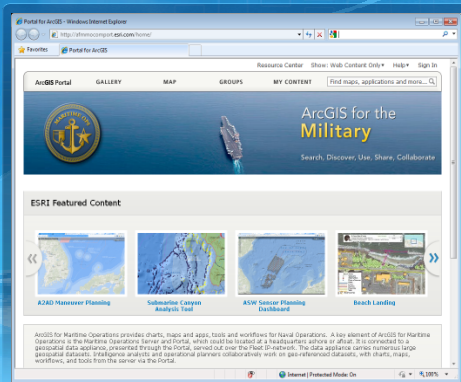
Hydrography in Action

Beyond safety of navigation



A New Geospatial User Community Is Emerging...

Based On An Intuitive Platform For Sharing, Discovery, Access and Use



...Serving Maritime Operations with Geospatial Capability

AND

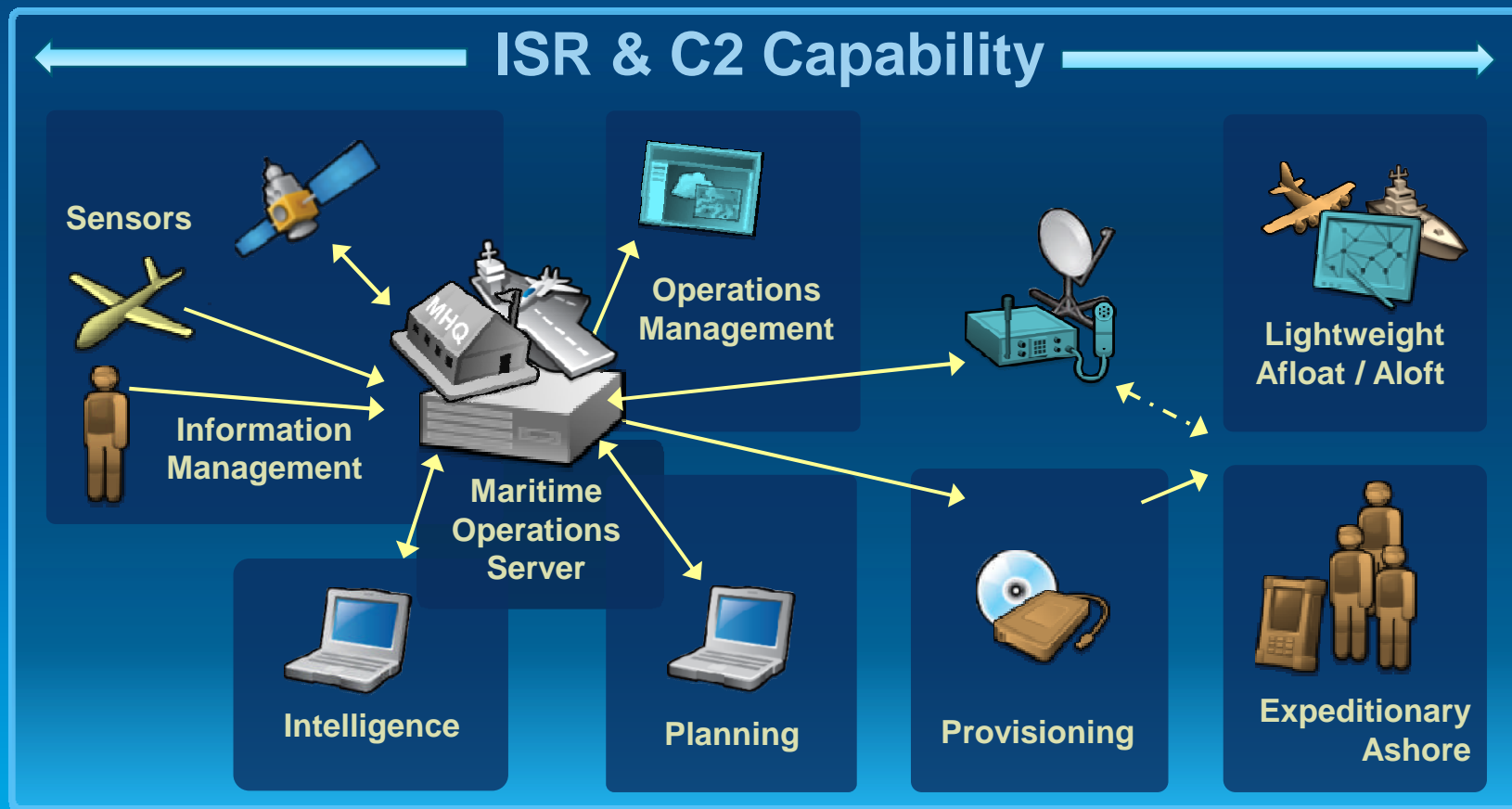
Geospatially-Enabled Capability in ArcGIS

The image displays several ArcGIS applications and data layers:

- Top Left:** A topographic map showing terrain elevation with a grid overlay.
- Top Right:** The 'Watch Officer - ArcGIS Operations Center' interface. It features a central map of a coastal area with various markers and symbols. Panels include:
 - Friendly Equipment:** Lists equipment such as ARCHER 1, 26A-015, Supply In 2b, 23B-019, 1A2-006, SupplyConvoy In 4C, and Wolfpack 1 D.
 - Current Operations:** A map view showing operational areas and markers.
 - Chemlights:** Lists events like HoneyBadger-Bravo, SGT WASHINGTON, and SSCT smith with timestamps.
 - AO (Area of Interest):** Lists items like Bravo, Charlie, Delta, Echo, Foxtrot, Golf, Hotel, and Tundra.
 - Reports:** Lists reports like IED H and Missile Launcher H.
- Bottom Left:** A detailed map view with a legend for features such as Obstruction, Right Flank, Wall, Fence, Obstruction/Hazard, Building, Water Inundation, Rect. Exp., Left Flank, Ditch, Rock Outcrop, Dense Vegetation, and Trees.
- Bottom Right:** The 'BSIMS v 2 Facilities Module' interface, showing a detailed map of a facility layout with a legend for features like Antenna, Backflow Preventer, Capped Line, Fire Hydrant, House Dio, Motor, Relief Valve, Water Tank, Freshwater Line Text, and Steam Utilities.

ArcGIS as a Platform

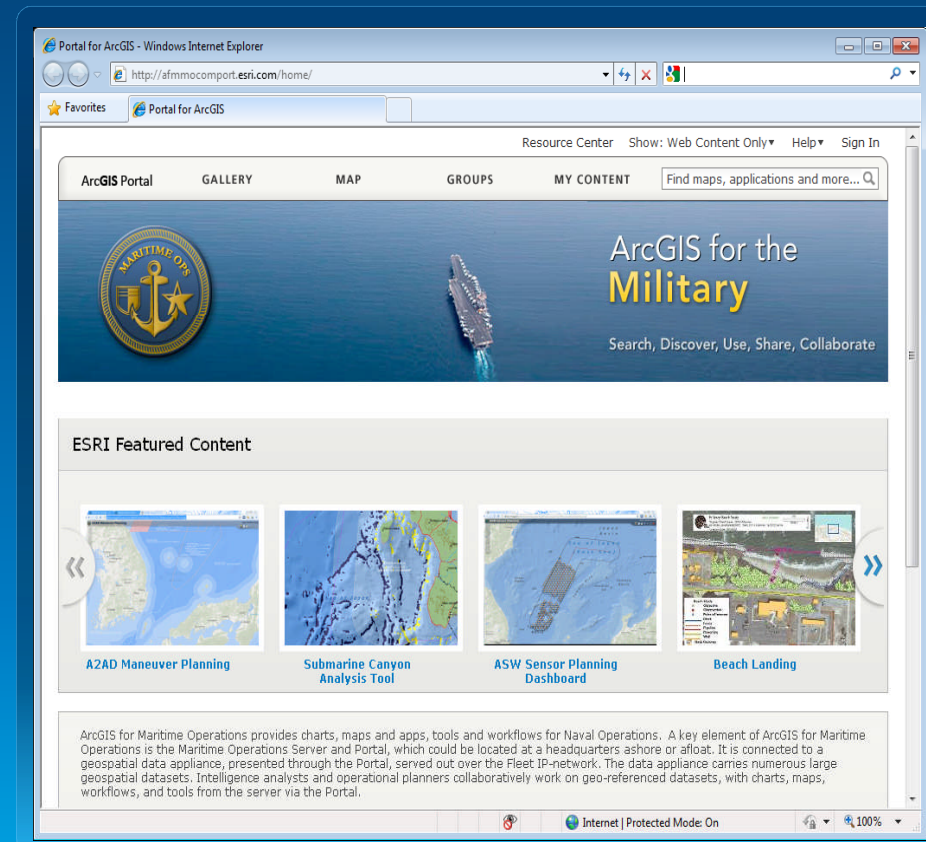
Across the Spectrum of Maritime Operations



Portal for ArcGIS

A Collaborative Environment Behind the Firewall

...to discover,
create and share
data, products, and
processes across a
private enterprise.



Portal for ArcGIS – Interface to Operations Server

Enabling Content for Collaboration and Sharing



ArcGIS Desktop – Strong Geospatial Analytics

Building Intelligence Preparation of the Operational Environment

← **ISR + C2 Capability** →



ArcGIS for Desktop – Strong Geospatial Analytics

Building Intelligence Preparation of the Operational Environment

← **ISR + C2 Capability** →



ArcGIS Server – Web-Based, Geo-Enabled

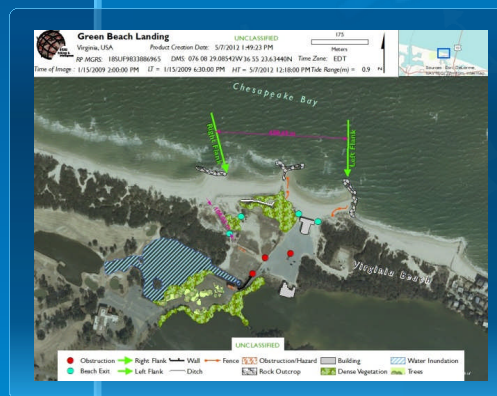
Assisting Planners in COA Selection



ArcGIS Runtime & APIs for Embedded Applications

Geospatially-enabling Existing Systems

← **ISR + C2 Capability** →



Maritime Operations Server



Provisioning

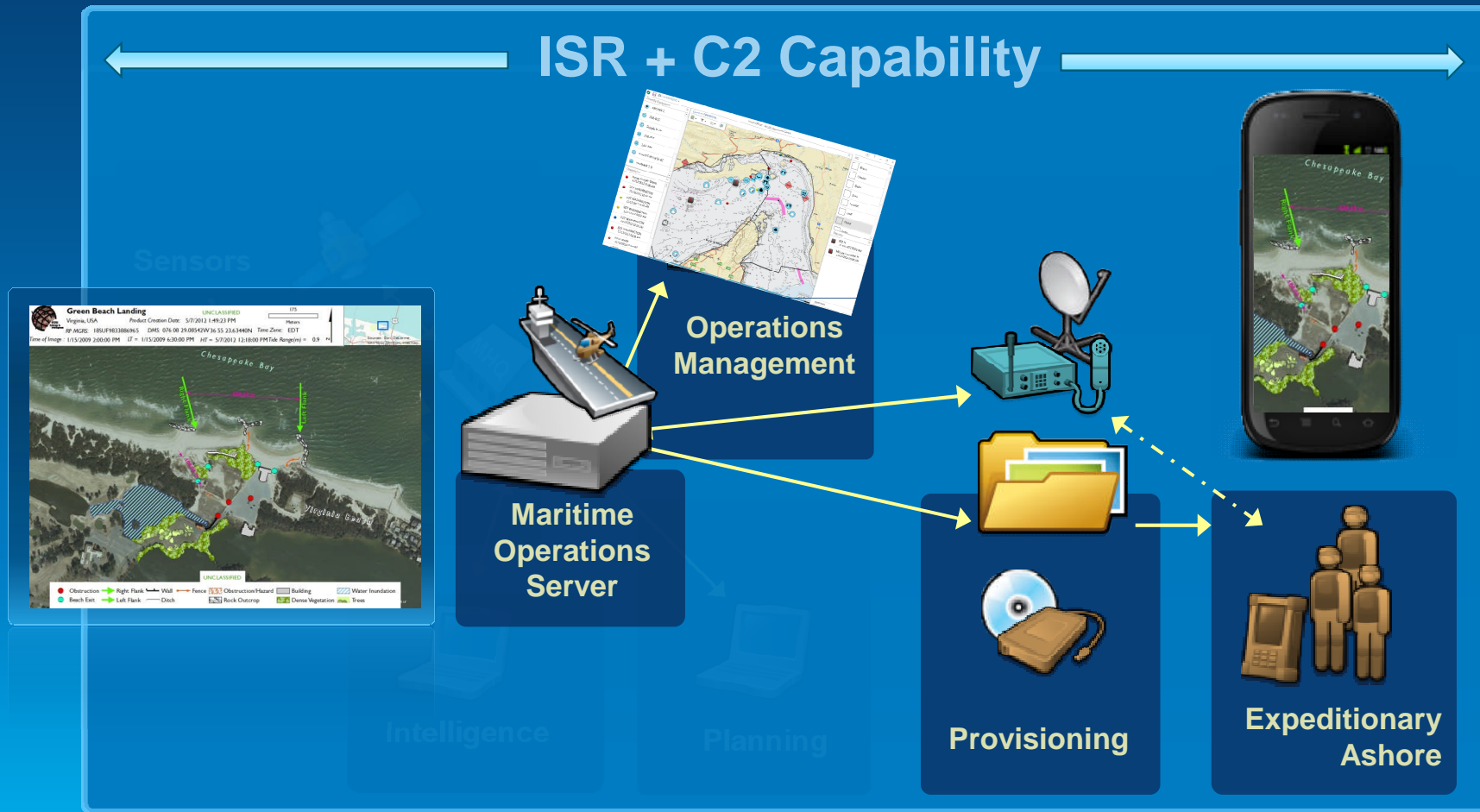


Intelligence

Planning

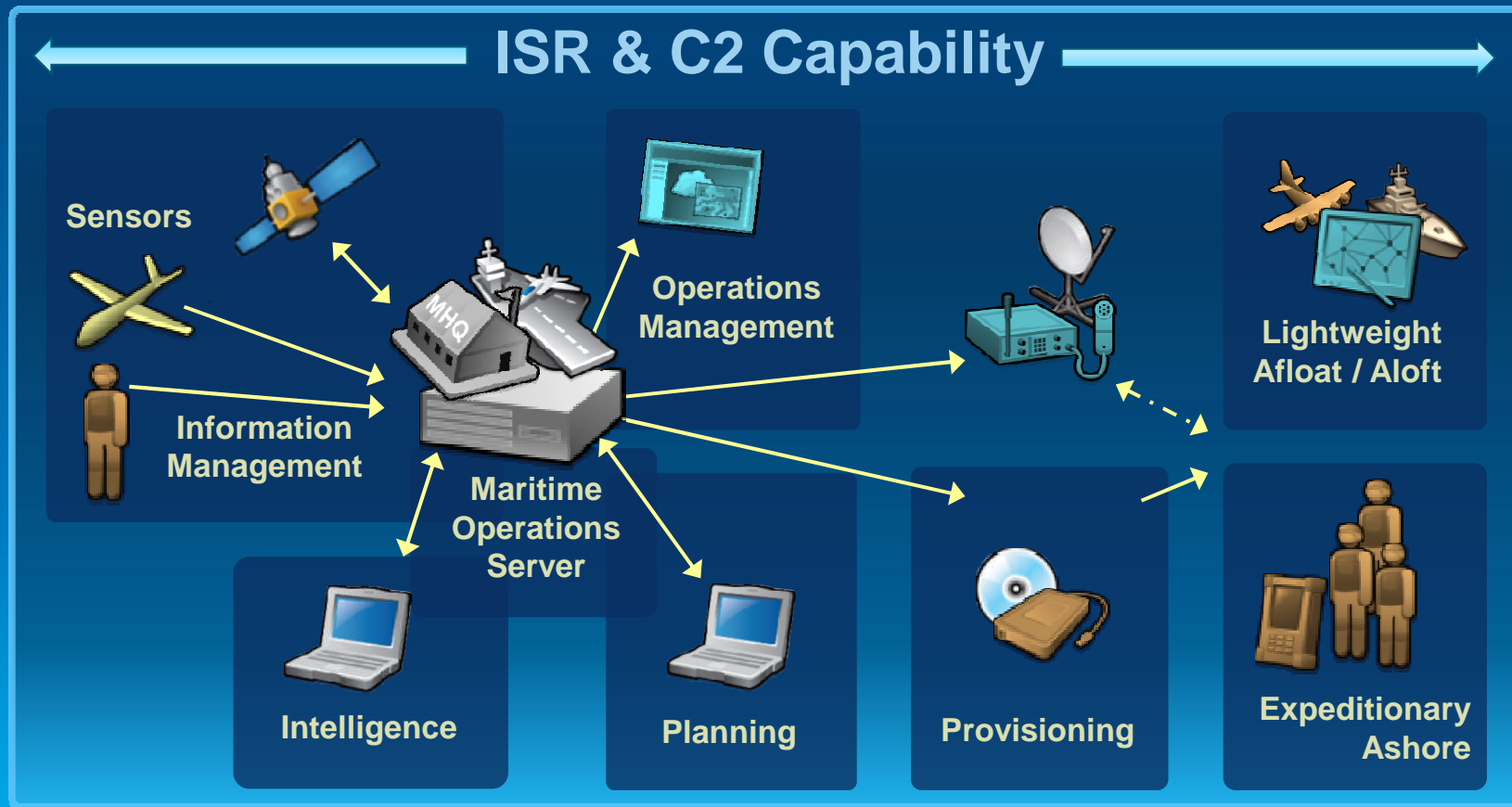
ArcGIS Viewers & SDKs for Mobile Applications

Extending Geospatial Capability to the Tactical Edge and Back



ArcGIS for the Military – Maritime Operations

A Geospatially-enabled Platform for an Enterprise



ArcGIS for Naval Operations

Resource Center Show: All Content▼ My Organization CDR/FIFE Notifications Help▼ Sign Out

ArcGIS **GALLERY** MAP GROUPS MY CONTENT Find maps, applications and more...



MARITIME OPS

ArcGIS for the Military

Search, Discover, Use, Share, Collaborate

Featured Maps and Apps



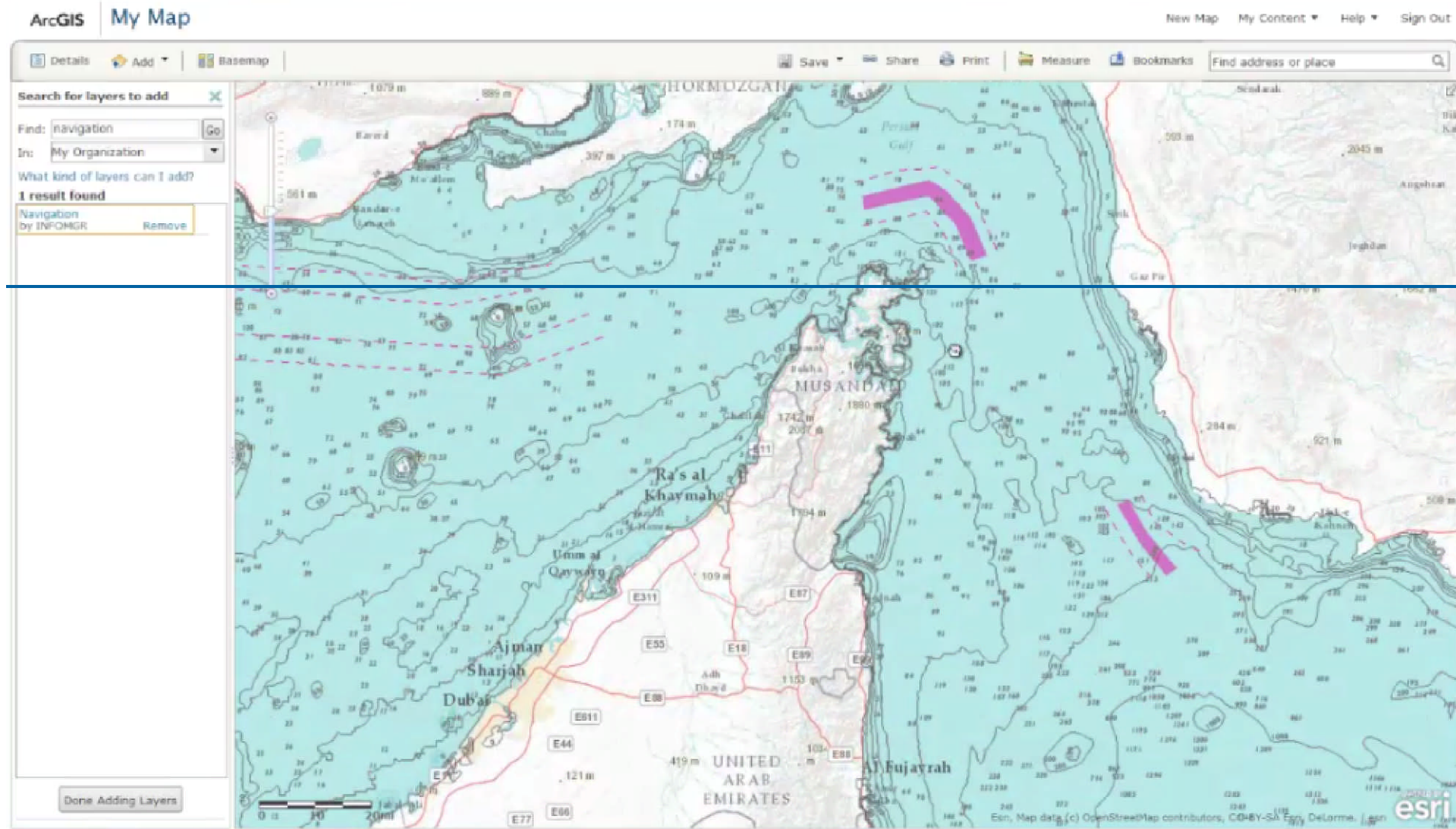
Imagery Mining Disposition - Depth Constraints Streets Shipping and Economic Security

ArcGIS for Maritime Operations provides charts, maps and apps, tools and workflows for Naval Operations. A key element of ArcGIS for Maritime Operations is the Maritime Operations Server and Portal, which could be located at a headquarters ashore or afloat. It is connected to a geospatial data appliance, presented through the Portal, served out over the Fleet IP-network. The data appliance carries numerous large geospatial datasets. Intelligence analysts and operational planners collaboratively work on geo-referenced datasets, with charts, maps, workflows, and tools from the server via the Portal. The command staff combines status reports and current intelligence in maps to make decisions and synchronize friendly force actions. Maps communicate progress and assist in developing situational understanding during daily briefings. Operators use maps on mobile devices to collect information about local infrastructure, enemy disposition, or key terrain. They make and view reports, navigate, and get information about nearby events or observations. Mobile apps allow Sailors and Marines the flexibility to effectively operate away from their units, aloft, afloat and ashore, and still share a common operational picture and exchange information. Operations templates allow you to view and add current positions and reports from blue forces. They also are used to display current red force intelligence and METOC weather alerts. These layers aid in the conduct of a military operation and are designed to be used in conjunction with basemaps, standard operational layer templates, and apps to complete successful operations.

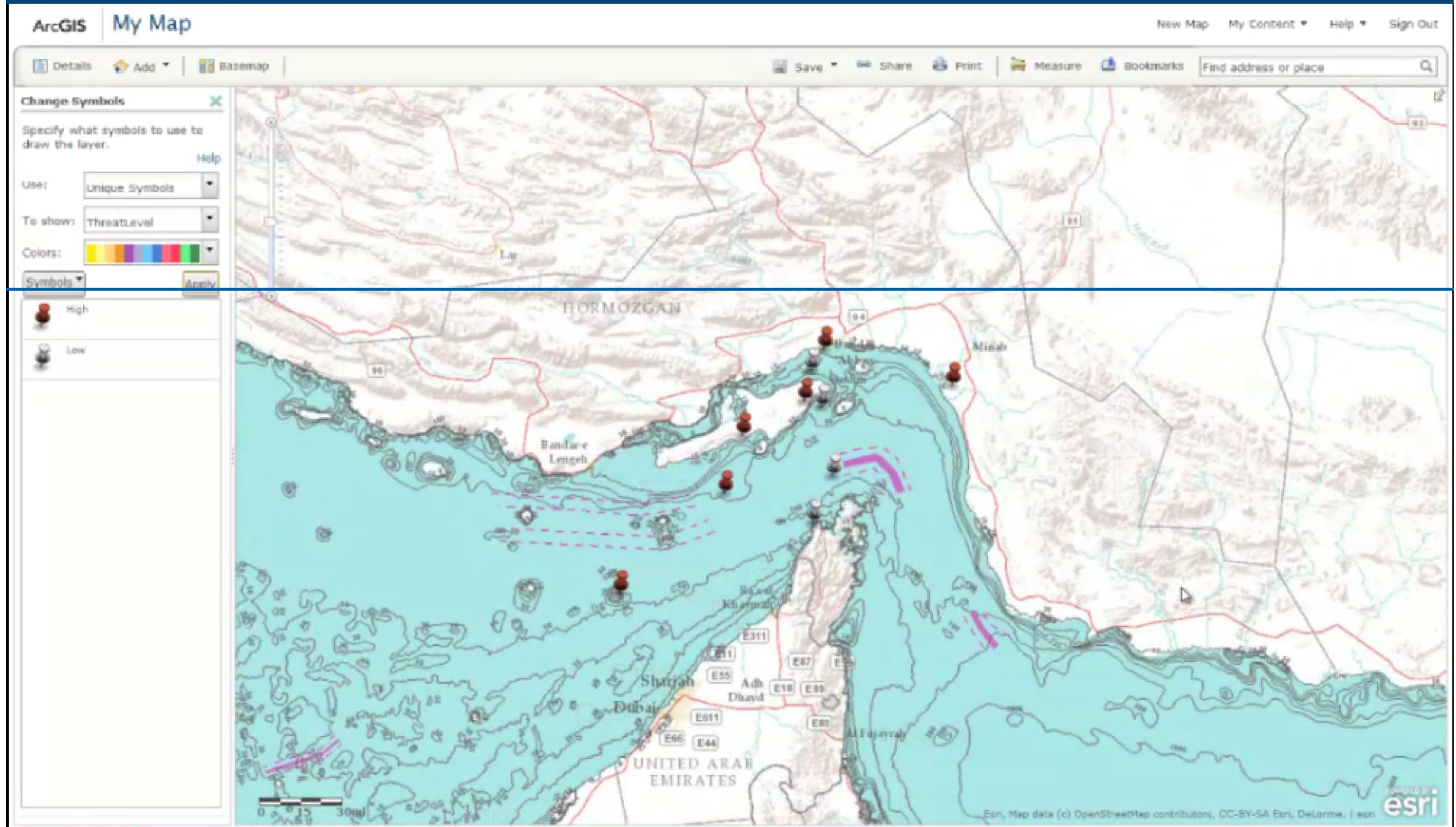
Make a Map »
Create a map that can be viewed in a browser, desktop or mobile device. Share it on a blog, via email, or embed it in a website.

Start ArcGIS Explorer Online »
Use this rich application for transforming your data into beautiful maps and presentations that tell powerful stories.

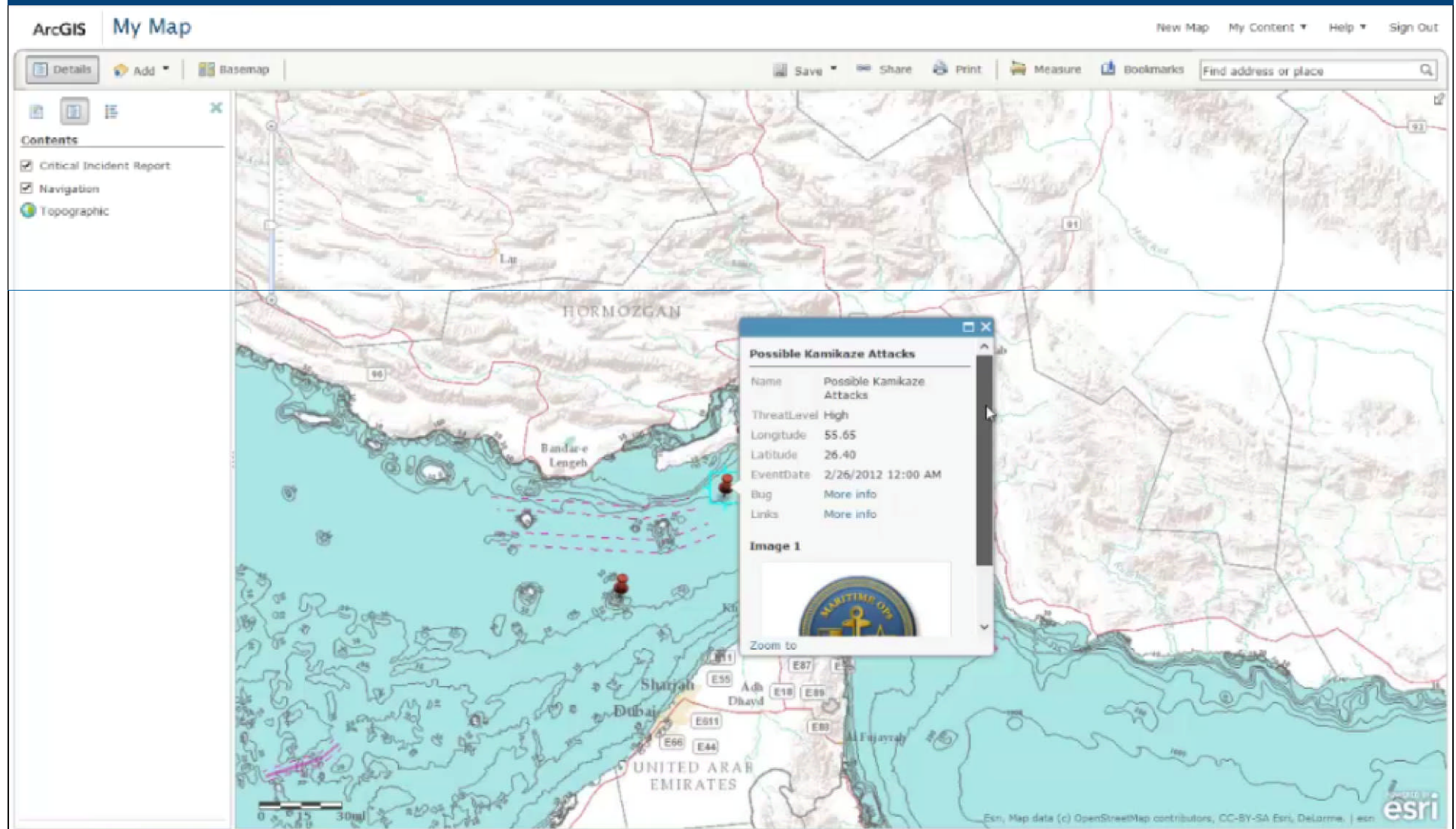
Strait of Hormuz Naval Ops



Location of main incidents



Location of main incidents



Links to detailed information of operations

Information Contained on This Page is UNCLASSIFIED



Fleet Maritime Operations Center

Historical Reports

[SIGACTS Past 9-30_Days](#)
[SIGACTS Past 30-90_Days](#)
[SIGACTS Past 180_Days](#)
[IIR Archives](#)

Community Sources

[NGA Online](#)
[DoQIS ActGIS Portal](#)
[Intelligence](#)
[JEDDO Homepage](#)

Agency Links

[CIA Homepage](#)
[DIA Homepage](#)
[NGA Homepage](#)

Staff Links

[Plans](#)
[Intel](#)
[Operations](#)
[Training](#)
[Logistics](#)

Center Links

[Maritime OPS Center Portal](#)
[Maritime ActGIS Server](#)
[Cyber Center](#)

Smuggling Operations

KHASAB, Oman (Reuters) - The fibre-glass skiffs hurtle across the water at break-neck speed, skirting the rocky cliffs on the last leg of the perilous journey from Iran to the sleepy backwaters of Oman's Musandam peninsula. At the helm are Iran's fast-boat smugglers, an army of mostly teenagers who shuttle back and forth across the narrow Strait of Hormuz, smuggling all manner of goods into Iran's southern ports and evading import duties in the process. Until recently the Iranian boats and their fearless young skippers escorted several cargoes a day - loaded with everything from soft drinks to mobile phones and cosmetics - bought in the flourishing trading centres of the United Arab Emirates and sold to merchants in Iran. The proximity of Iran to the UAE and Oman and their historic trade and finance links have supported thriving trade, which in recent years has undermined the impact of economic sanctions imposed by the United States and its allies on Tehran - until now. Iran's economy appears to be finally succumbing under the pressure of trade embargoes imposed over the country's nuclear activities, bringing this profiteering to a standstill. The Iranian rial has lost nearly two-thirds of its value to the dollar over the last year, causing a massive haemorrhaging in the spending power of most Iranians. "We're not picking much up today," shouted Ismael, a 17-year-old Iranian, over the sound of the 200 horsepower Yamaha outboard. The equipment costs thousands of dollars, an ostensible sign that this business has been well worth the risks posed by adverse weather, oil tankers and fierce Iranian patrols. "Before we used to come across three times a day. Now it's only once," he said, before wheeling his craft with a hard rev, looking for a place to dock in Khasab port on the Musandam peninsula on Oman's northern tip. Boxes of cleaning products, fabric and clothes stacked on the dock await transportation to Iran's Qeshm island just 30 miles across the Strait of Hormuz, the vital tanker route through which a third of the world's seaborne oil exports pass. But traders, none of whom wished to be identified, say the number of boxes is substantially less than volumes seen last year. In Oman, at least some of the exports are registered through official customs channels, businessmen say, but not all. "There are the storms," said Hossein, a 21-year-old Iranian, who has just made the journey from the Iranian port of Bandar Abbas in under two hours in a convoy of several boats. "And there are the Iranian police. They're so severe, so corrupt," he claimed as he stood in the middle of his boat, gesticulating towards the open sea. Smugglers tell stories of bribery, coming under fire and having to dump their wares into the sea but Iran's growing economic plight now threatens to wipe out their risky ventures for good. The stand-off between Tehran and the West has centred on the Strait of Hormuz. As tension over Tehran's nuclear programme has escalated this year, an increasing presence of U.S. naval ships in the strait has been matched by a corresponding build-up of Iranian military vessels monitoring their movements. The rial's losses have accelerated in the past week despite the government's attempts to stem the slide through establishing an "exchange centre" designed to supply dollars to importers of some basic goods at a special rate, slightly cheaper than the market rate. Instead of allaying fears about the availability of dollars, the centre seems to have intensified the race for hard currency which has resulted in the rial losing more than 30 percent of its value over the last week. "My boss can't sell stuff in Iran at these prices," said Nader, a 32-year-old Iranian boatman, sitting in the businessman's office in Khasab, his weather-beaten face making him look much older than his years. "I'm picking up


Map saved and shared daily with commanders in the area

Resource Center Show: All Content My Organization CDR/FFE Notifications Help Sign Out

ArcGIS GALLERY MAP GROUPS MY CONTENT Find maps, applications and more...

Title
Critical Incidents Report 2013 03 15

Summary
Critical Incidents Report 2013 03 15



Click thumbnail to change image.

Please wait...

Description

Font: Verdana Size: x-small

This is a map that allows further information to be passed to the organization on all Commanders Critical Incidents. UPDATED DAILY!!!!

Access and Use Constraints

Font: Verdana Size: x-small

Demo Use Only

Tags
Critical Incidents, CCIR
Choose from your tags

Comments (0)

Add a Comment

Publish Comment

Esri in International organizations



- **Open Geospatial Consortium (OGC)**
 - **Founded in 1994 in US, UK and Australia**
 - **Esri is a founder member since 1994**
 - **Esri* is a Principal member (Esri Canada* Technical and Esri France Associate)**
 - <http://www.opengeospatial.org/ogc/members>



Esri in International organizations

The logo for the Open Geospatial Consortium (OGC), featuring the letters 'OGC' in a large, white, serif font with a registered trademark symbol.

Making location count.

- Actively participates:
 - Technical Committee
 - Planning Committee
 - Board of Directors
 - All three OGC programs:
 - Interoperability Program
 - Standards program
 - Community Outreach and Adoption Program
 - Architecture Board
 - Chair Standards and Domain Working Groups

Basemaps



Esri in International organizations



ISO/TC 211

Geographic information/Geomatics

- **ISO/TC211**

- Esri support 16 different standards
- And is participating in the review, development and/or test implementation of seven Draft ISO Standards (DIS) and Final Draft ISO Standards (FDIS) being finalized.



Esri in International organizations



- International Hydrographic Organization (IHO)
 - Participation at HSSC
 - Participation at TSMAD
 - Participation at MSDI WG
 - Participation at CSPWG
 - Participation at GEBCO



Esri in Capacity Building



**East Asia Hydrographic Commission MSDI Workshop together with OceanWise
Participants from: Japan, China, Vietnam, Republic of Korea, Indonesia, Philippines, Malaysia,
Thailand, Brunei and Singapore**

Esri training programs

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Activate a course access code



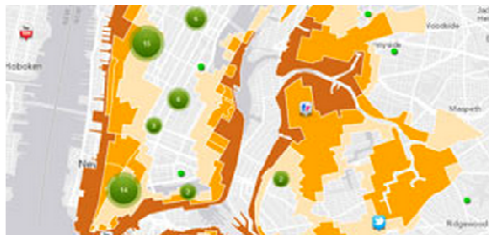
Attend instructor-led online classroom



Resume your e-learning



Find a training location



Featured Training

March 24-25, 2014
(Online, Pacific Time)

[ArcGIS 3: Performing Analysis](#)

Learn a standard workflow to get reliable GIS analysis results.



Live Training Seminars

Thursday, April 10, 2014
[Data Visualization with the ArcGIS API for JavaScript](#)

Present your data in the best light—learn API techniques to create compelling maps designed with end users in mind.

- [Future seminars](#)
- [Seminar archive](#)



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A platform to share (and sell) your data, products and apps

Data

New

By Esri
Popular
Free

Industries

All

Aid and Development
Business
Defense
Intelligence
Education

Health and Human Services
Mapping and Charting
Natural Resources
Public Safety
Transportation
Utilities and Communications

 **ArcGIS Ideas site**

Don't see the app or data you need? Post a suggestion or vote on existing ideas.

ideas.arcgis.com



Activity Dashboard for ArcGIS
Esri Labs
☆☆☆☆☆ (0)



InstantAtlas™ Profile Builder
InstantAtlas
☆☆☆☆☆ (0)



Landscape Planner
Esri Maps and Apps
☆☆☆☆☆ (0)



ClearTerra LocateXT
ClearTerra
☆☆☆☆☆ (0)



GEO-Job mapfolio
GEO-Job GIS Consulting
★★★★★ (6)



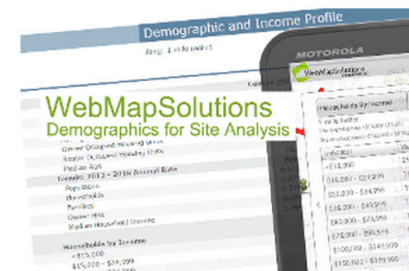
Search It Web Application Template
Patrick Engineering Inc
☆☆☆☆☆ (0)



Landscape Modeler

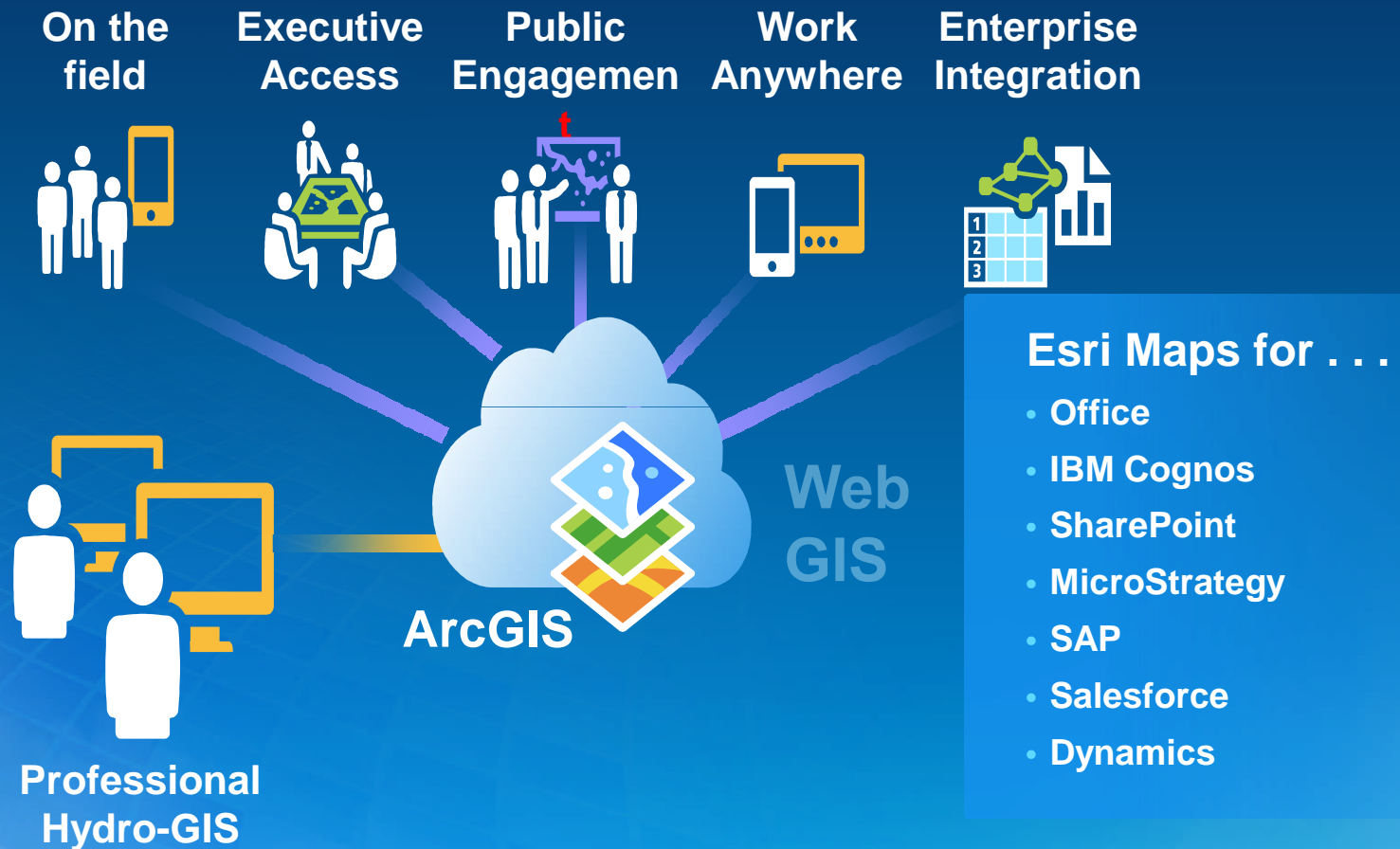


Loqate Verify for ArcGIS Online



Demographics for Site Analysis

ArcGIS Supports the Hydrographic Office Enterprise



Making Mapping and GIS Available Across Your Organization



Understanding our world.

THANK YOU

www.arcgis.com

Rafael Ponce rponce@esri.com