

Environmental Response Management Application (ERMA[®]) Regional Response Team II (May)

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Office of Response & Restoration
NOAA's Ocean Service

PRESENTATION OVERVIEW

- What is ERMA?
 - ERMA's Role Within NOAA
- 2014 Accomplishments
- 2015 Goals
 - Data management plan
 - Region II priorities
 - Geographic Response Plans
 - New Data Layers

WHAT IS ERMA?

- Customizable web based mapping application that provides centralized access and visualization of integrated data.
 - Creating and building upon relationships, partners, and data standards
 - Tiered system security that protects data.
 - Progressive disclosure
 - Scalability
 - Distributed contributions
 - Standardized user interface
 - Access via any Web browser.

ERMA WITHIN NOAA

- ERMA is NOAA's Common Operational Picture.
 - Visualization of all NOAA assets responding to an incident as required by the National Response Framework.
- Developed by the Office of Response and Restoration (OR&R), University of New Hampshire, EPA.
 - For NOAA: Supports ERD, ARD, Marine Debris, and Restoration activities.

WHERE IS ERMA?



ERMA LAYOUT

ERMA | Environmental Response Management Application
Gulf of Mexico

Information | Help | Recent Data | Admin | Upload

Find **Find Box**

Map Toolbar

Map Controls

Map Key

Scale: 1:3M Zoom Level: 7 Location: 29.41089°,-84.81445°

Tool Tabs

Login/Logout

Layers Legend Query Tools AOI Labels Zoom Download Print

Table of Contents

- Background
- Admin Boundaries & Reference Features
- Bathymetry & Hydrology
- Environmental Quality & Monitoring
- Imagery & Remote Sensing
- Marine Debris
- Natural Resources, Habitats, & Managed Areas
 - Habitat Areas
 - Critical Habitat Areas
 - Essential Fish Habitat (EFH)
 - Essential Fish Habitat - Areas Protected from Fishing
 - EFH Coastal Migratory Pelagics (Gulf of Mexico)
 - EFH Coral and Coral Reefs
 - EFH Red Drum (Gulf of Mexico)
 - EFH Reef Fish (Gulf of Mexico)
 - EFH Shrimp (Gulf of Mexico)
 - EFH Spiny Lobster (Gulf of Mexico)
 - EFH Stone Crab (Gulf of Mexico)
 - Habitat Areas of Particular Concern (HAPC)
 - Managed Areas
 - Environmental Sensitivity Index (NOAA ESI)
 - Cultural Resources & Human Use
 - Navigation & Marine Infrastructure
 - Public Safety & Infrastructure
 - Response Planning
 - Restoration
 - Weather, Oceanography, & Natural Hazards
 - ERMA Tools
 - Historic Incidents & Drills

Shortcut Menu

view metadata
zoom to extent
bring to front
send to back
view data

Bookmark Views Panel

Bookmark Views: new Expand

Display Controls

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INTERACTIVE TOOLS

- **Zoom To**
 - § Lat/Long
 - § Place name or Address
 - § Ship – MMSI Find
- **Areas of Interest (AOI)**
 - § User-made map features
 - § Draw function
- **Map Labels**
 - § Customize with user-made feature labels
- **Measurement Tools**
 - § Length/Area
- **Animations**
 - § Show key layers across time
- **Lite/Full Metadata Access**
 - § FGDC/ISO
- **Bookmark Views**
 - § Saves layers and location
 - § Customizable slideshow
- **Attachments**
 - § .jpg, .png, .tiff, .zip
 - § PDF, Excel, Word
- **Find tool**
 - § Automated search of all layers
- **Print Tools**
 - § Timestamp
 - § Various page sizes
- **Interactive Query Tools**
 - § Environmental Sensitivity Index
 - § US Fish and Wildlife IPAC
 - § Layer Query by Polygon

Standard ERMA Data Sets

- **Base Mapping**
 - Google aerial, terrain, roads
 - Nautical charts
 - ESRI Basemaps
- **Incident Information**
 - Trajectories
 - Real time resource tracking
 - Shoreline oiling
 - Sampling data
- **Weather & Buoys**
 - Hurricane/Storms
 - Remote-sensing imagery
- **Resources at Risk**
 - NOAA ESI data layers
 - Local habitat and species
 - Seafood safety
- **Documents & Photo Links**
 - ESI and GRP .pdfs
 - Attached to layers
 - Field photos

SOME NUMBERS

- Regional ERMAs:
 - ~950 External ArcGIS REST Services
 - ~2100 External WMS Services (~350 of which are from ESRI products)
 - ~100 external KML, GeoRSS, XYZ
 - ~8000 Internally hosted data layers (mostly WMS)
- DWH ERMA:
 - ~127 External ArcGIS REST Services
 - ~800 External WMS Services (~400 of which are from ESRI products)
 - ~120 external KML, GeoRSS, XYZ
 - ~17,000 internally hosted data layers (mostly WMS)

WHERE WERE WE IN 2014?

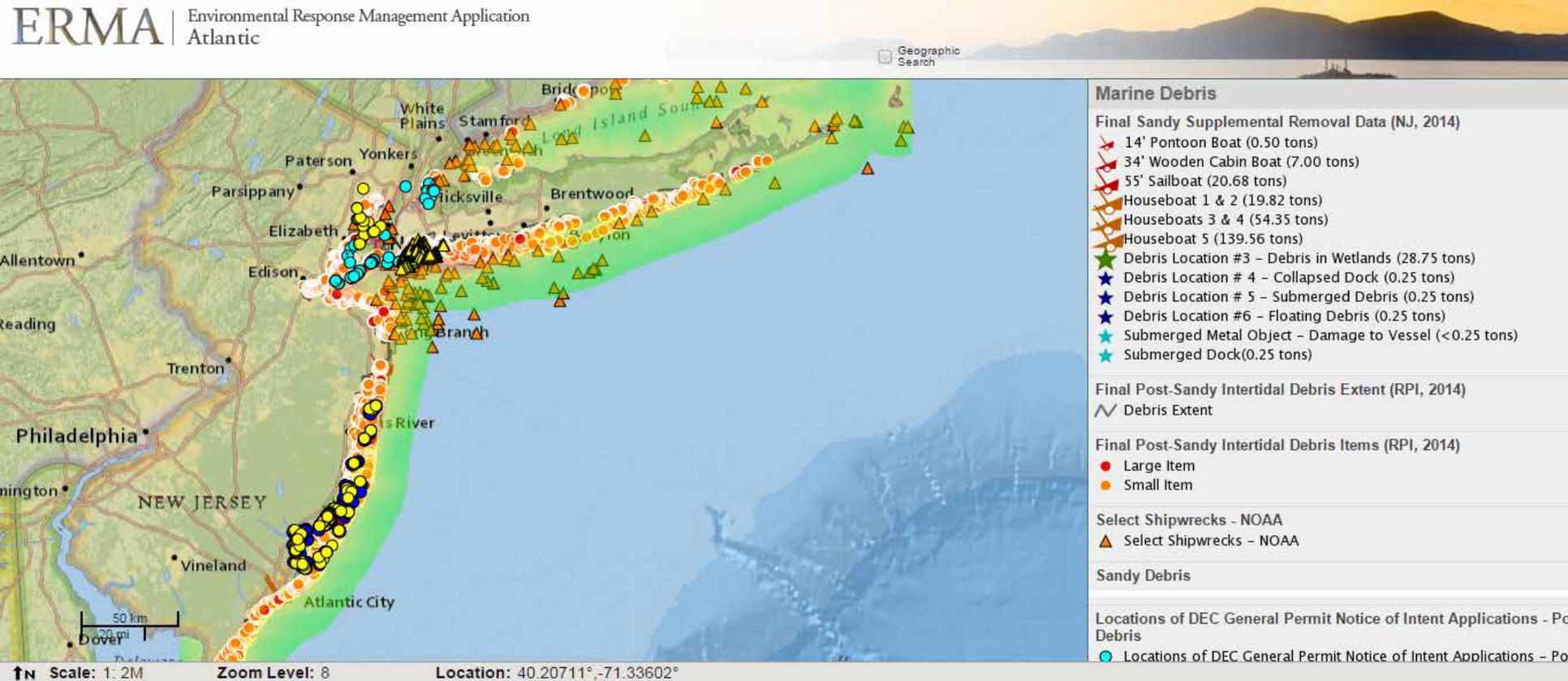
- Trainings and presentations to over 200 people
 - USCG Sectors, USCGA, Regional Response Teams
- Participated in ~10 drills
 - Arctic Shield
 - Phillips 66 Ferndale refinery (Washington State)
 - Tampa Shell Drill
 - Sector San Diego PREP exercise
 - IOSC (Savannah, GA)
- Texas City Y incident
 - On scene COP support for both Response and NRDA efforts. Data sharing agreement was signed.

2014 HIGHLIGHTS CONTINUED

- Sandy Marine Debris
 - Debris removal work displayed in ERMA. ~300 tons removed.
 - New Jersey data available to the public.
- Unmanned Aircraft Systems (UAS)
 - Continued testing systems and near real time display in ERMA.
 - UAS exercise near Santa Barbara & Vandenberg AFB
- EPA's Response Manager integration.
- Continued NOAA Information Management and Data Sharing Plans

SANDY MARINE DEBRIS EFFORTS

ERMA | Environmental Response Management Application
Atlantic



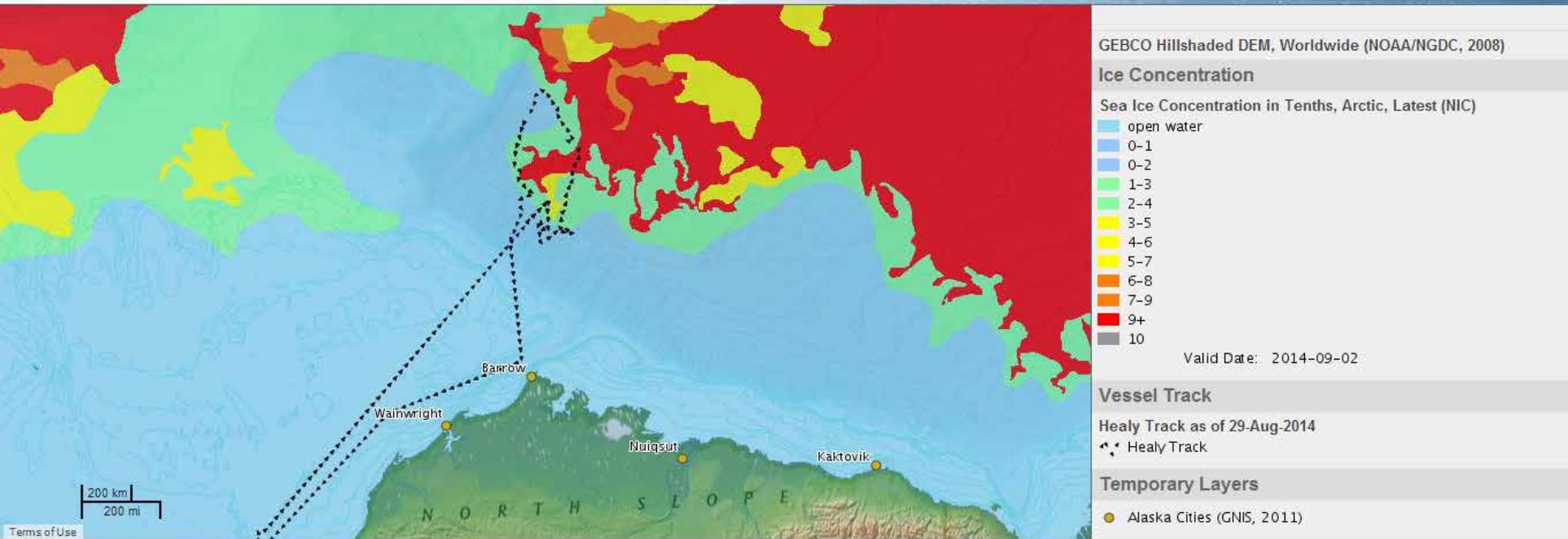
ARCTIC SHIELD 2014

- Demonstrated ERMA stand alone functionality (Phone Home).
 - 1,000 + regional specific layers
- Data from 8 different partners.
- ~50 Data sets loaded specific to drill.
- Live tracking of assets.
- Unmanned Aircraft System testing.



DRILLS (ARCTIC SHIELD)

ERMA | Environmental Response Management Application
Arctic



200 km
200 mi

Terms of Use

Scale: 1: 14M Zoom Level: 5 Location: 69.97641°, -137.17563°

PUMA FLIGHT TRACKS & GEOTIFF IN ERMA

ERMA | Environmental Response Management Application
Southwest



UAS Exercise Aug 4-8, 2014 (THIS IS A DRILL)
VAFB PUMA UAS Mosaic (NOAA/2d3)
Day 2 - Vandenberg Air Force Base Photos
Flight 1: PUMA Flight Path 08-05-2014 (NOAA)
UAS Exercise Day 2 - Flight Path 1 08-05-2014 (NOAA)



Scale: 1: 846 Zoom Level: 19 Location: 34 55571', -120 61156"

ERMA 2014 DEVELOPMENT

- Migration to Amazon Cloud environment.
 - Scalability
 - One ERMA database.
 - No logging in between sites now
 - First NOAA application to be hosted on a federally approved external cloud service.
- Increased Security
 - Password requirements and log in attempts
 - Inactivity on accounts

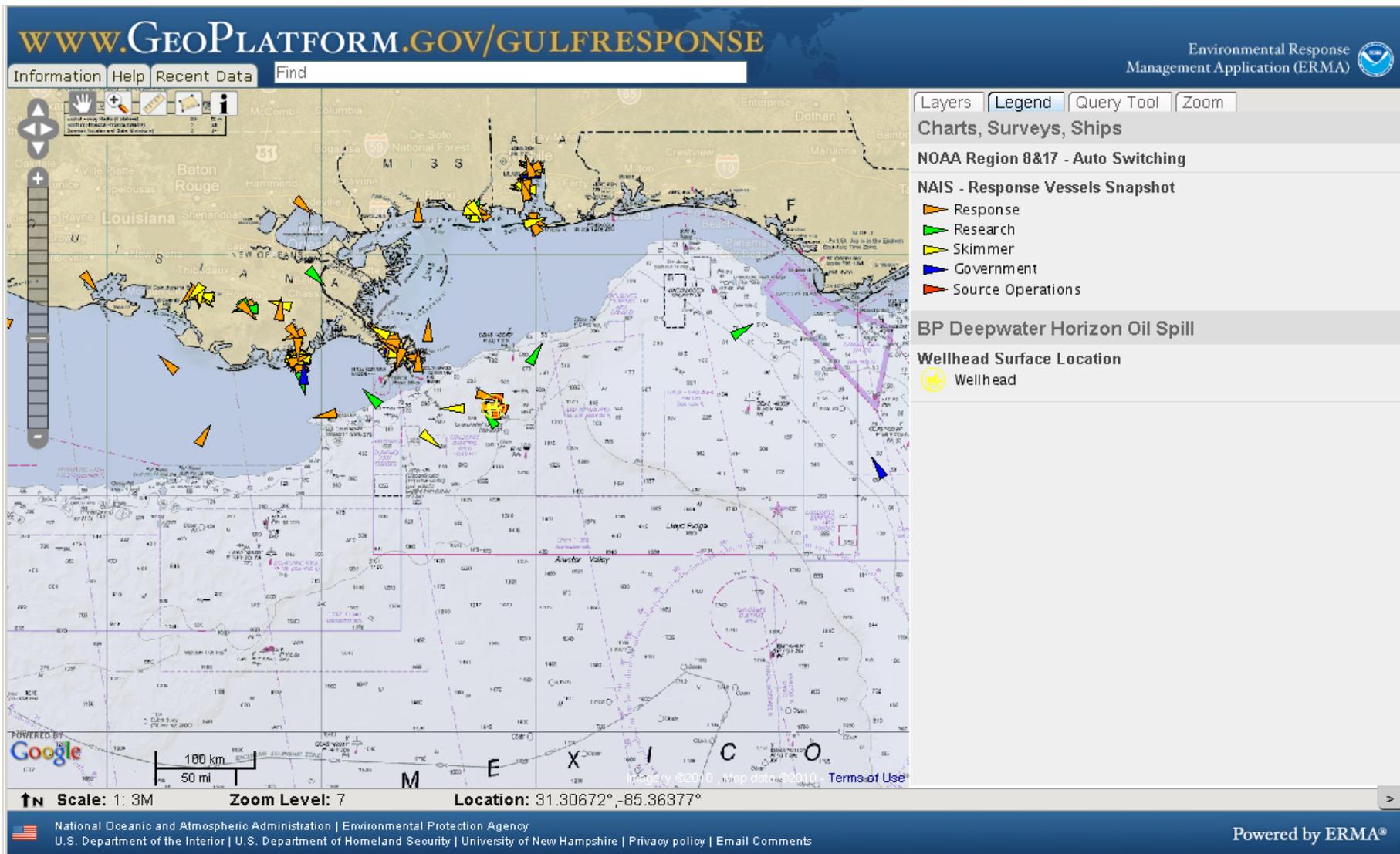
2015 PRIORITIES (A FEW)

- Recently migrated to FISMA Amazon Cloud
 - Full redundancy and scalability
 - Continue to improve architecture
- New enhancements
- Increase interoperability (Data sharing)
- Atlantic ERMA regional interests
- National review and standardization of GRPs
- Electronic data collection
- Continue Information Management and Data Sharing Plans

NEW DATA LAYERS

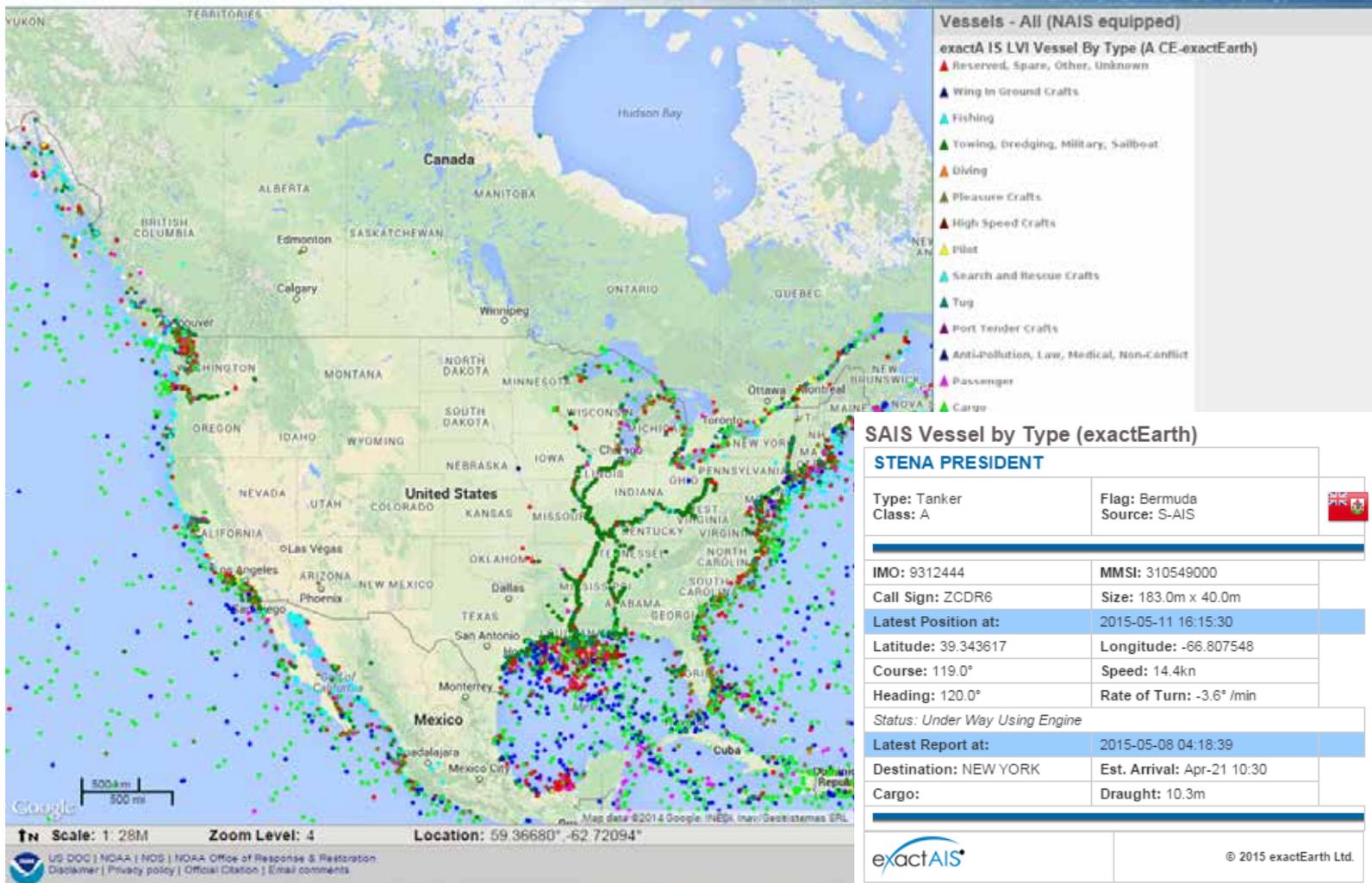
- AIS Feeds
- Environmental Sensitivity Index (ESI)
 - Sandy Supplemental (SC to ME)
- Region II
 - Inland focus for New York/New Jersey.

RESPONSE AND RESEARCH SHIP TRACKING



AIS – SATELLITE TRACKING

ERMA | Environmental Response Management Application
Arctic



REGION II INLAND FOCUS

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Atlantic

Geographic Search



Railroad

U. S. Railroad Network (FRA 2013)

- Unknown
- < 5 Million Gross Tons Per Year
- 5 - 10 Million Gross Tons Per Year
- 10 - 50 Million Gross Tons Per Year
- 50 - 100 Million Gross Tons Per Year
- > 100 Million Gross Tons Per Year

Crude Oil Terminals (Oil Change International (OCI), 2014)

- Status: Operating & Facility Type: Upstream
- Status: Operating & Facility Type: Midstream
- Status: Operating & Facility Type: Downstream
- Status: Operating and Expanding & Facility Type: Upstream
- Status: Operating and Expanding & Facility Type: Downstream
- Status: Under construction & Facility Type: Upstream
- Status: Under construction & Facility Type: Midstream
- Status: Under construction & Facility Type: Downstream
- Status: Planned & Facility Type: Upstream
- Status: Planned & Facility Type: Midstream
- Status: Planned & Facility Type: Downstream

Shale Gas

Shale Gas Basins (Energy Information Agency, 2011)

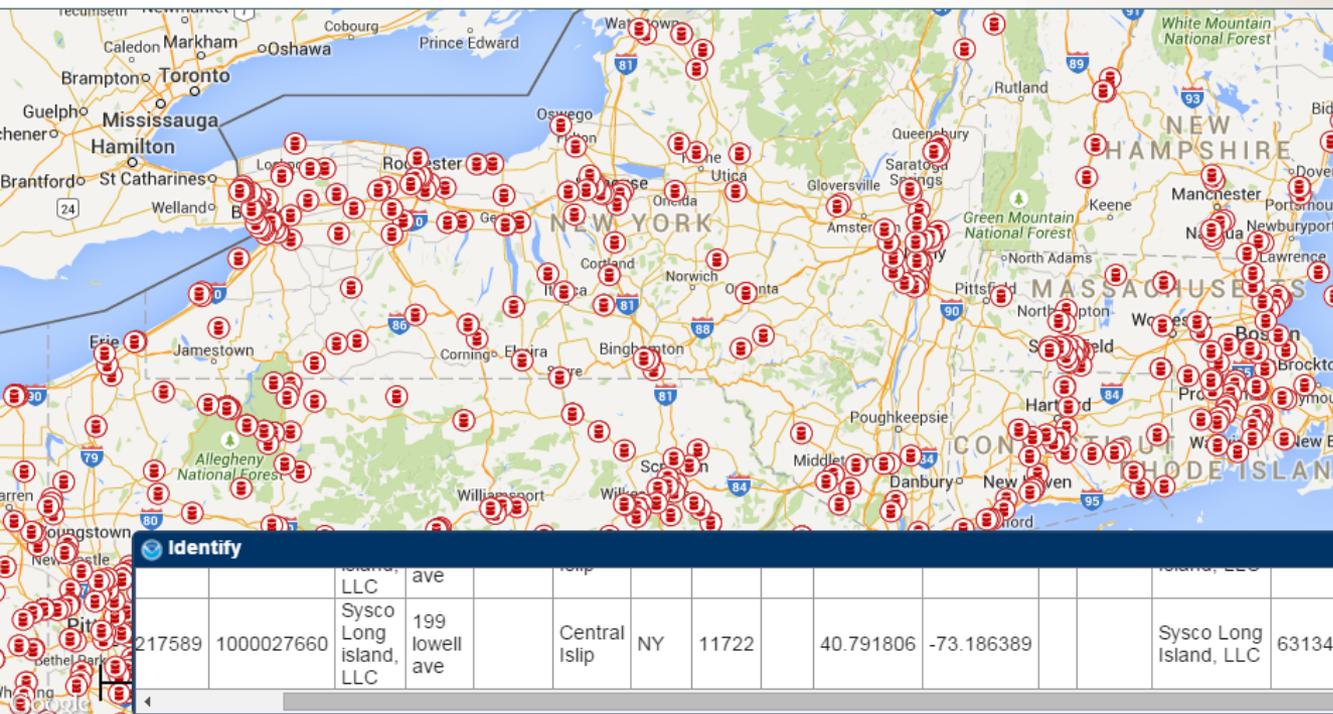
- Shale Gas Basins

Scale: 1: 3M Zoom Level: 7 Location: 40.60163°, -76.76184°

RMP FACILITY DATA

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Atlantic

Geographic Search



Regulated Facilities

Risk Management Plan Facilities (EPA) (RMP as of 04-01-2015)
 EPA Risk Management Plan (RMP) Chemical Facilities as of (040112)

Identify														
217589	1000027660	Sysco Long Island, LLC	199 lowell ave	Central Islip	NY	11722	40.791806	-73.186389			Sysco Long Island, LLC	6313427400	6314877615	Ammonia (anhydrous) 20000

Scale: 1: 3M Zoom Level: 7 Location: 41.79762°, -72.99105°

NATIONAL GEOGRAPHIC RESPONSE PLAN EFFORT

- Working with BSEE, U.S Coast Guard HQ and regional partners.
 - Inventory of current GRPs
 - Create methodology for capturing digital GRPs.
 - Load in ERMA (Tool for access)
 - Available to public as well to partners via data feeds.
 - Consistent symbology, naming conventions, metadata, and standard data layers
 - Start with a case study and expand out ward.
- Work groups

CURRENT INVENTORY OF DATA IN ERMA.

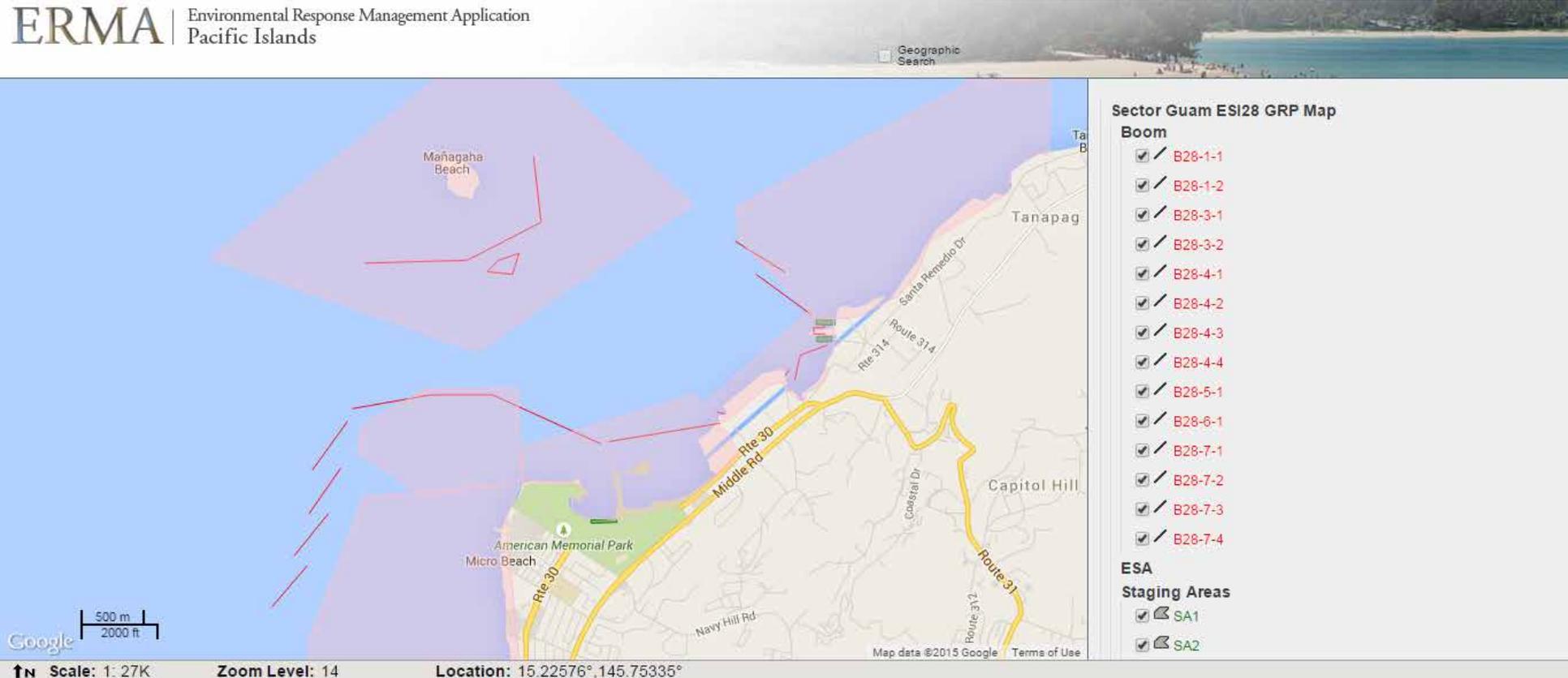
USCG District	Sector	ACP Date	GRP Date	Format (PDF/GIS)	Number of GRP Layers	Linked PDF GRP	Continous or by Location	Complete/Partial	In ERMA
1	Sector Northern New England		2014	GIS	15	yes	by location	Complete	yes
State	New Hamshire Response Assets		2014	GIS	12	no	by location	Partial	yes
1	Sector Boston		2009	GIS	5	yes	by location	Partial	yes
1	Sector Southeastern New England		2009	GIS			by location	Partial	yes
State	Massachusetts		2009	GIS	5	yes	by location		
State	Rhode Island		2009	GIS	1	no	by location	Partial	yes
1	Sector New York	2011		GIS	1	no	by location	Partial	yes
1	Sector Long Island Sound							Partial	
1	Sector Field Office Moriches								
1	Sector Field Office Southwest Harbor								
5	Sector Baltimore								
5	Sector Delaware Bay	2009		GIS	5	yes*	by location	Partial	yes
5	Sector Hampton Roads								
5	Sector North Carolina								
7	Sector Charleston		2011	GIS	11	yes	continous	Complete	yes
7	Sector Jacksonville		2011	GIS	11	yes	continous	Complete	yes
7	Sector Key West		2011	GIS	11	yes	continous	Complete	yes
7	Sector Miami		2011	GIS	11	yes	continous	Complete	yes

GRP STANDARDIZATION

- Organizing GRP Data
 - Sector, State, RRT, etc
- Standard data sets
- Creating standard symbology
- Maintain updates
- Regional partnerships are key to accomplishing objective

DRAW TAB ENHANCEMENT

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Pacific Islands



AREA CONTINGENCY PLAN DATA

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Gulf of Mexico

Information Help Recent Data Admin Upload Find Logout

Layers **Legend** Query Tools AOI Labels Zoom Download Print

Sectors Corpus Christi | Houston/Galveston (TGLO)

Texas GRP Site Strategies (TGLO) (Zoom Dependent)
Geographic Response Plan

Texas (NOAA ESI 1995)

Shoreline Classification Detailed (line), TX (TGLO) (Zoom Dependent)

- 1A Exposed rocky shores
Exposed rocky banks
- 1B Exposed, solid man-made structures
- 1C Exposed rocky cliffs with boulder talus base
- 2A Exposed wave-cut platforms in bedrock, mud, or clay
Shelving bedrock shores
Rocky shoals; bedrock ledges
- 2B Exposed scarps and steep slopes in clay
- 3A Fine to medium-grained sand
- 3B Scarps & steep slopes in sand
Eroding scarps in unconsolidated sediments
Exposed, eroding banks in unconsolidated sediments
- 3C Tundra cliffs
- 4 Coarse-grained sand beaches
Sand beaches
Sandy bars & gently sloping banks
- 5 Mixed sand & gravel beaches
Mixed sand & gravel bars & gently sloping banks
- 6A Gravel beaches
Gravel beaches (granules & pebbles) - SE Alaska only

Scale: 1: 14K Zoom Level: 15 Location: 27.85940°, -97.05410° clean >

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AREA CONTINGENCY PLAN DATA

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Identify

Shoreline Classification Detailed (line), TX (TGLO) (Zoom Dependent)

ESI_ylr

OBJECTID	Shape	LENGTH	ESI	ESI2	ESICRIT	FNODE_	TNODE_	LPOLY_	RPOLY_	ESI_BEG	ESI_BEG_ID	Shape.len
11492	Polyline	7099.264335	10A	10A	10A	0	0	0	0	11506	11507	2452.960191

Texas GRP Site Strategies (TGLO) (Zoom Dependent)

Geographic Response Plan

OBJECTID	Name	link	URL	X_COORD	Y_COORD	SHA
508	48.15	portaran_48.15.pdf	http://gisweb.glo.texas.gov/atlas/atlas/siteplans/corpus/portaran_48.15.pdf	0	0	Polycr clay

- 2B Exposed scarps and steep slopes in clay
- 3A Fine to medium-grained sand
- 3B Scarps & steep slopes in sand
Eroding scarps in unconsolidated sediments
Exposed, eroding banks in unconsolidated sediments
- 3C Tundra cliffs
- 4 Coarse-grained sand beaches
Sand beaches
Sandy bars & gently sloping banks
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- 6A Gravel beaches
Gravel beaches (granules & pebbles) - SE Alaska only



Scale: 1: 14K Zoom Level: 15 Location: 27.85940°, -97.05410°

clean >



ERMA

Information Help Rec

Ident

Shorel

ESI_lyr

OBJEC 11492

Texas

Geograph

OBJEC 508

Scale: 1:14K

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1. Incident Name		2. Operational Period (Date/Time)		Assignment List ICS 204-OS	
3. Branch			4. Division/Group		
5. Operations Personnel		Name	Affiliation	Contact #(s)	
Operations Section Chief					
Branch Director					
Division/Group Supervisor					
6. Resources Assigned This Period *"X" indicates 204a attachment with special instructions					
Resource Identifier	Leader	Contact Info #	# or Persons	Reporting Info/Notes/Remarks	
7. Assignments					
Boom natural pass to prevent migration of oil from Lydia Ann Channel to the interior of Harbor Island Northeast. Provide daily boom maintenance during tide, wind and other climatological changes.					
Safety Note: Responders should note the adjacent Lydia Ann channel is highly trafficked. Often large shrimp boats, barges and other vessels throw high energy wakes in this area.					
8. Site #	9. Quad Name	10. NOAA Chart #	11. TGLO Atlas Page #	12. County	
48.15	Port Aransas	11312-11314	48, Port Aransas	Aransas	
13. Site Information			14. Latitude		
Location is on Harbor Island Northeast, on the west bank along Lydia Ann Channel. This is a natural pass/slough along and between Lydia Ann Channel and the interior of Harbor Island Northeast. Site encompasses fringe marsh including Smooth Cordgrass and Black Mangrove.			27°51'34.73"		
15. Longitude			97°03'24.74"		
16. Closest Boat Ramp		17. Distance From Ramp		18. Boat Type	
Port Aransas City Marina		0.9 NM		Shallow Draft work boats	
19. Directions From Sector Corpus Christi			20. Closest Airport		
Take Hwy 35 north through Gregory-south on Hwy 361 to Aransas Pass, east on 361 approx. 5 miles to Port Aransas, TX. Boat access only.			Mustang Beach Airport, Port A.		
22. Trustee/Contact Numbers			23. Resources at Risk		
USCG 361-888-3162			Atlas Priority:		
USCG Duty 361-533-7166			High - high quality seagrass, birds		
TGLO 361-825-3300			Environmental:		
TCEQ 361-825-3100			High - salt and brackish marshes		
RCC 361-242-3113			Economic:		
TPWD 281-842-8100 (24 hr)			High		
NRDA 512-426-7291					
USFWS 361-994-9005					
24. Width of Inlet					
360 ft.					
25. Water depth					
1-2 ft.					
26. Current					
27. # of Personnel					
2-4					
28. Booming Strategy Recommendation					
Exclusion booming of natural pass/slough are along and between the Lydia Ann Channel and the interior of Harbor Island Northeast. Pass/slough is approx. 360' in width.					
29. Prepared By:		30. Reviewed by (PSC):		31. Reviewed by (OSC):	
Assignment List		ICS 204 OS (Geographic Response Plan)		Project Updated:	

Response strategies may need to be modified to account for changes due to seasonality, weather conditions, spill characteristics, tides and any other pertinent considerations.

Logout

Labels Zoom Download Print

Shape.len
2452.960191

Zoom

ID	Y COORD	SHA
0		Polycr clay

slopes in clay
nd
nd
dated sediments
unconsolidated sediments

banks
s
gently sloping banks

pebbles) - SE Alaska only

clean >

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QUESTIONS?

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