

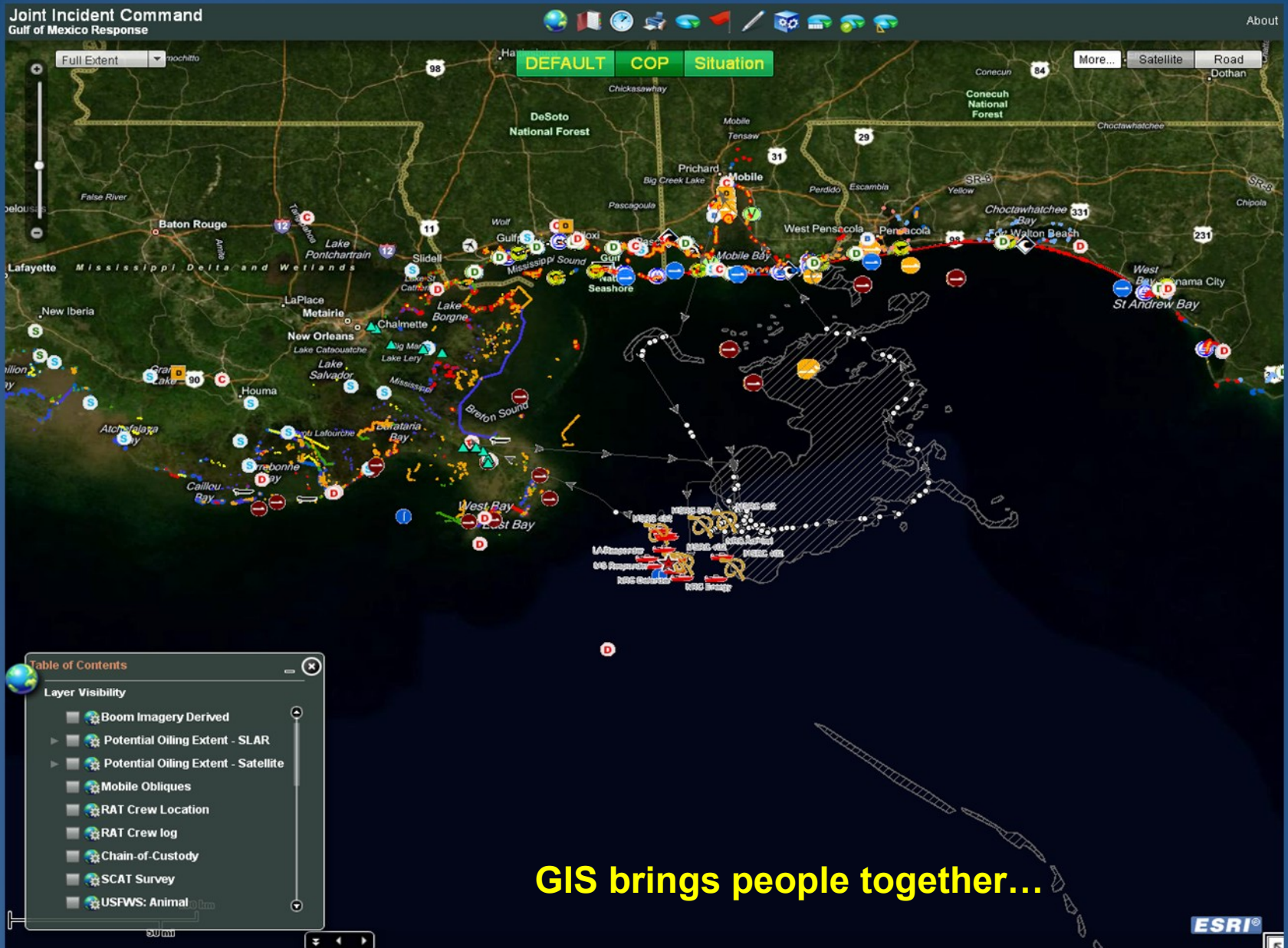
**World Reconstruction Conference  
« Innovation in Reconstruction »  
Geneva 2011**

**Preparedness for  
Reconstruction**  
using the gulf of Mexico Oil Spill example

**Emanuele Gennai**  
**Global Affairs account Executive**  
**[egennai@esri.com](mailto:egennai@esri.com)**



# Common Operating View – Situational Awareness



GIS brings people together...

# Damage Assessment

Joint Incident Command  
Gulf of Mexico Response

Full Extent

Situation

More... Satellite Road

MC252

SiteID: MC252  
ProjectNumber: Forensic Rapid Assessment  
Program: Team Entrix  
SamplingOrganization: jennifer grady Environmental Monitoring  
SamplerName: OL - Mousse (Emulsified oil occurring over broad areas)  
SamplePurpose: Normal Field Sample  
MatrixSubCategory: MS-  
SampleID: N-29.19926\_-90.04098-001  
StartDepth:  
EndDepth:  
SampleDate: 1275661261999  
NumberOfContainers: 3  
Sequence: 001  
CommandCenter: Houma  
CollectionMethod: GRAB  
Unit: Feet  
SampleTime:  
Comments: 1% coverage of mouse oil on beach. storm just passed.

Get Directions Zoom here

Table of Contents

Layer Visibility

- Potential Oiling Extent - Satellite
- Mobile Obliques
- RAT Crew Location
- RAT Crew log
- Chain-of-Custody
- SCAT Survey
- USFWS: Animal
- USFWS: Landmark
- USFWS: Landscape

ESRI®

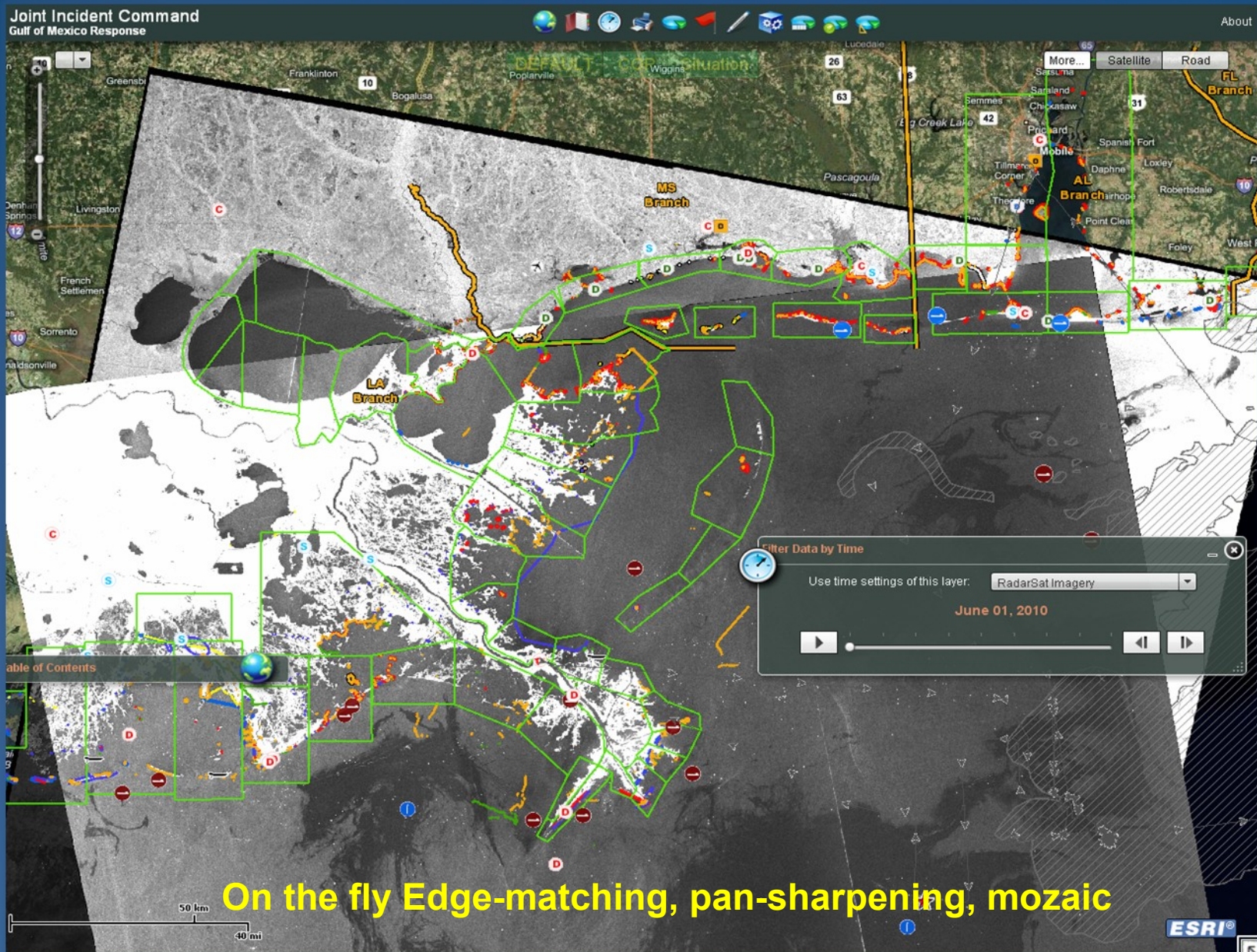
- Buoys Placements
- Shore Clean-up
- Rapid Assessment
- Fish and Wildlife Survey

GIS mashes different data types...

# Resource Allocation



# Integration of real-time imagery



On the fly Edge-matching, pan-sharpening, mozaic

# Briefings...

## Elected Officials

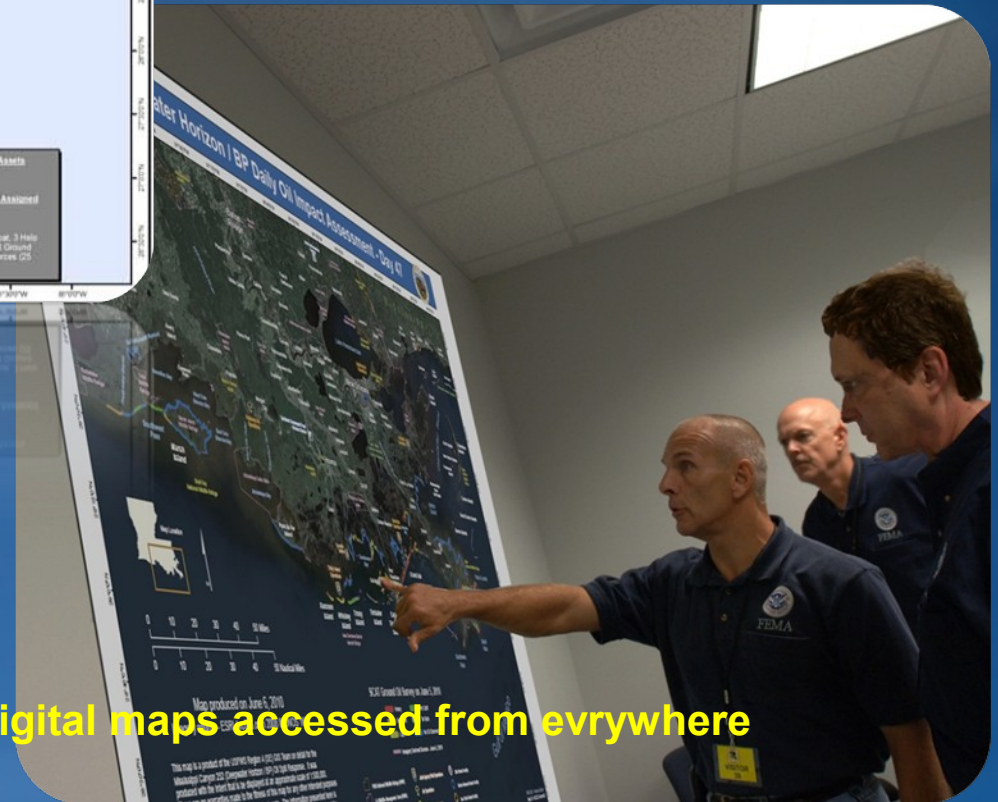
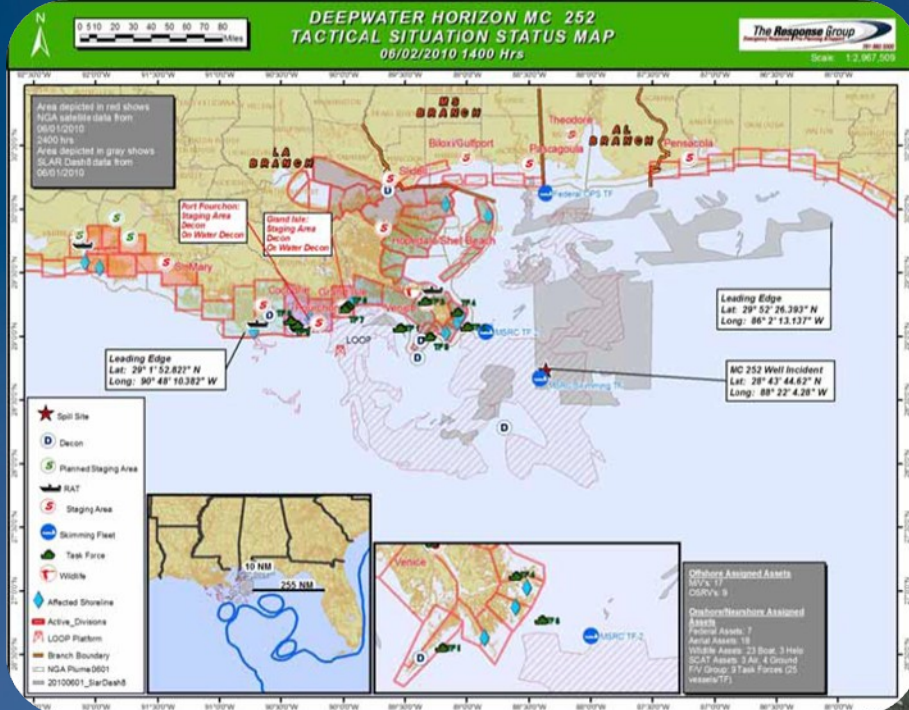


## Community Briefings



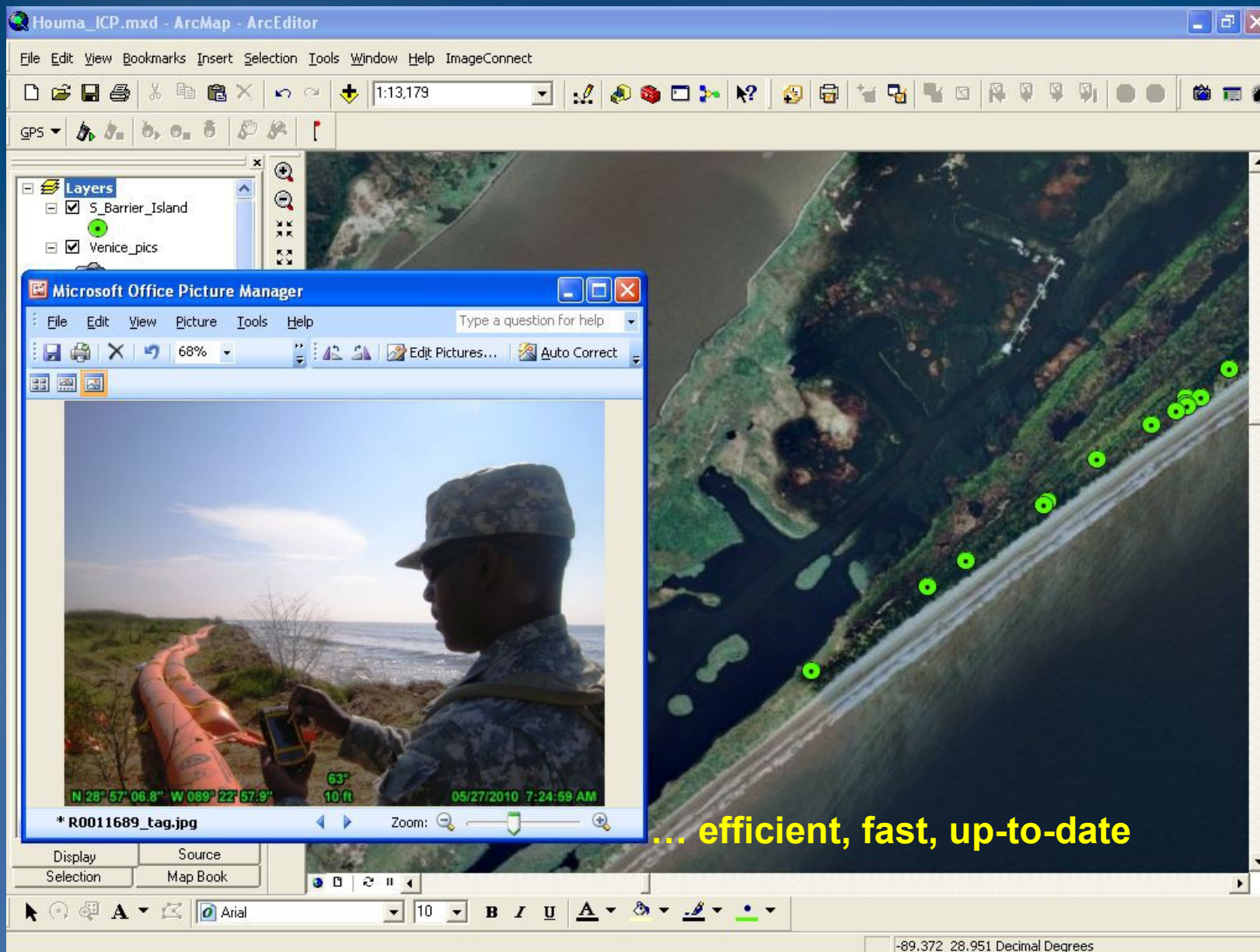
... everyone can connect to...

# Tactical Briefings



Using real time digital maps accessed from evrywhere

# Field Impact Reporting



... efficient, fast, up-to-date



# Damage Assessment – Clean up Status

Joint Incident Command  
Gulf of Mexico Response

**Map View** No Fix

350 km

Little Rock, Memphis, Atlanta, Birmingham, Dallas, Houston, Jackson, Mississippi, Alabama, Georgia, Louisiana, Florida, Texas, Arkansas, Louisiana, Florida, Mexico, Veracruz, Merida, Cancún, Havana, Dallas, Houston, Jackson, Mississippi, Alabama, Georgia, Louisiana, Florida, Texas, Arkansas, Louisiana, Florida, Mexico, Veracruz, Merida, Cancún, Havana

Tasks Menu

Table of Contents

Layer Visibility

- USFWS: Animal
- USFWS: Landmark
- USFWS: Landscape
- USFWS: Crew
- Mobile: Real Time Tracking
- Boom Field Crew Members
- Boom Field Crew Log
- Boom Survey Info
- Mobile: Engineering Obstacle

OBJECTID: 435  
Data Type: 0  
Oil Condition: Oil Present  
Vessel: B  
Captured: Yes  
Device Number.Quantity:  
Mortality: 0  
Waypoint: 1  
Photo:

Click for larger Image


Get Directions Zoom here

**Data captured and made available for immediate analysis**

ESRI

# Work Status

The screenshot shows a web browser window displaying the 'Joint Incident Command Gulf of Mexico Response' application. The browser's address bar shows the URL 'http://gomflexview.bpweb.bp.com/'. The application interface includes a top navigation bar with various icons and a main map area. The map displays a satellite view of the Gulf of Mexico coastline with numerous green icons representing data points. A popup window is open over one of these icons, providing detailed information:

OBJECTID:	99
Personnel:	
Species:	287
OilCondition:	
Vessel:	No
Captured:	No
DeviceNumber.Q	
uantity:	
Mortality:	0
Waypoint:	
Comments:	white pelican bad wing light oil
Photo:	

Below the photo, there are buttons for 'Get Directions' and 'Zoom here'. The map also features a scale bar at the bottom left and an ESRI logo at the bottom right. The text 'Prioritizing interventions...' is overlaid in yellow at the bottom of the map area.

# Bringing different data types in the picture

**Gulf of Mexico Oil Spill**

On April 20, 2010, Transocean Ltd. reported an explosion and subsequent fire on board the semi-submersible drilling rig Deepwater Horizon leased and operated by BP. The incident has resulted in a massive oil spill and has been declared an Incident of National Significance by President Obama.

This application allows you to add points with links to websites, and YouTube videos. Please feel free to add information to the map and increase everyone's awareness related to this tragic event.

**Red Sheen Santa Rosa Sound**

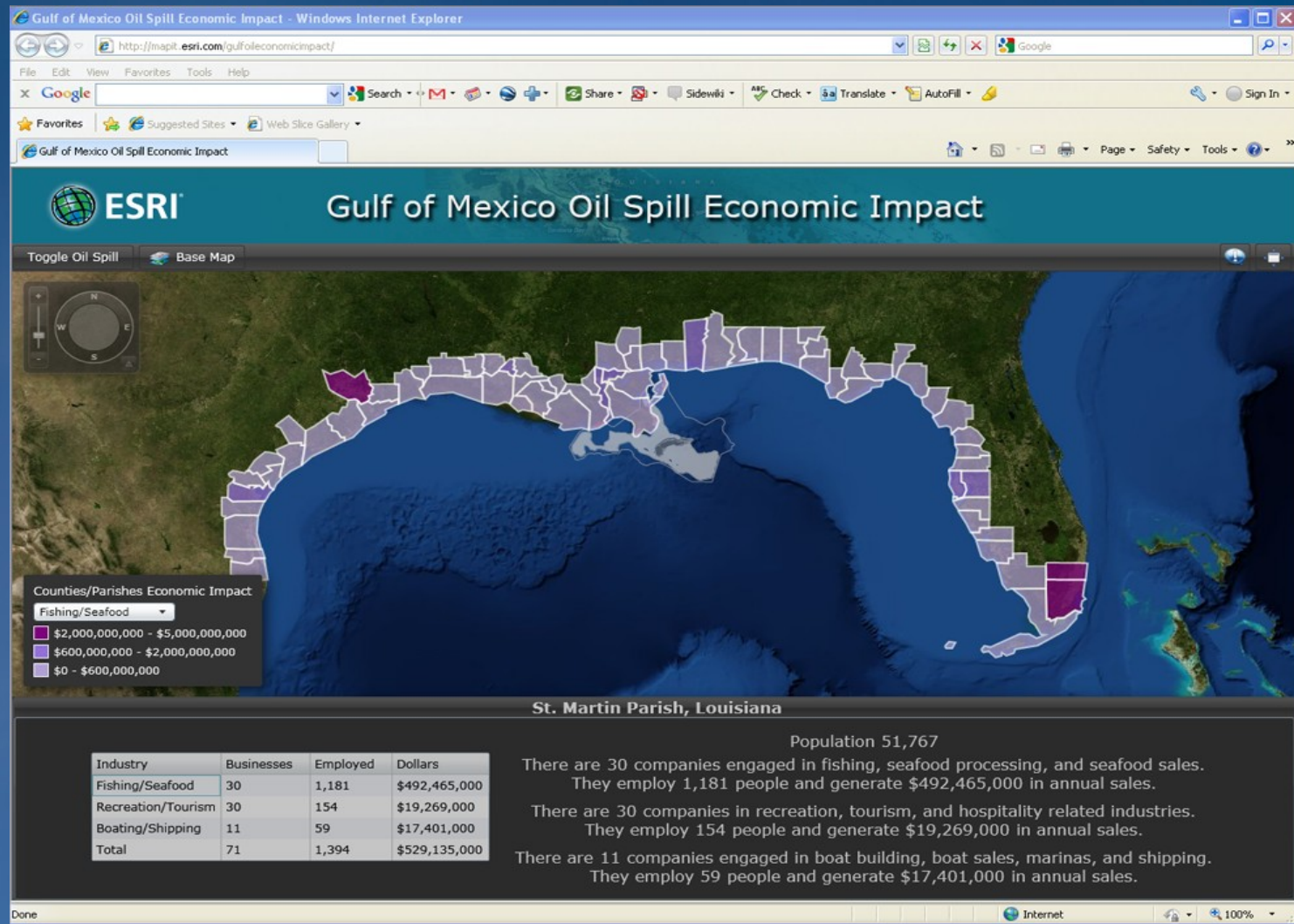
Red shiny surface in sunlight in Santa Rosa Sound near shore (more visible with polarized lenses in sunlight, previously not present until yesterday), water generally appears darker, sediment present.

Date Published: Tue, 11 May 2010 20:23:00 GMT

**ELEVEN MISSING IN OIL RIG INFERNO AFTER EXPLOSION IN GULF OF MEXICO**

The map as the central place to access information...

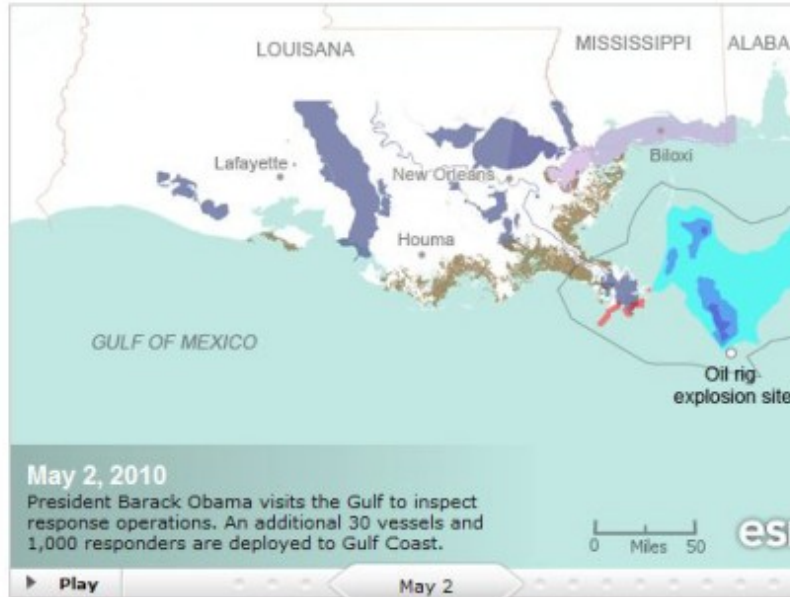
# Economic Impacts



**Loans and microcredit for reconstruction..**

# Information made available through the media

## Oil Spill Timeline



Sources: Louisiana Oil Spill Coordinator's Office; U.S. Fish and Wildlife Service; National Oceanic and

## ABC Preview

esri GIS Software that Gives You THE GEOGRAPHIC ADVANTAGE

Home Industries Products Training Support Services Events News About

Disaster Response

### Gulf of Mexico Oil Spill

Social Media Map Timeline Map Economic Impact Map Request Assistance Resources

#### Timeline Map - Advanced Version

Fullscreen

Map showing the Gulf of Mexico coastline with an oil spill timeline. The map includes labels for Louisiana, Mississippi, Alabama, Georgia, and Florida, and cities like Dallas, Houston, Lake Charles, Lafayette, Biloxi, Jackson, Montgomery, Tallahassee, and Miami. A timeline for May 27, 2010, is displayed below the map.

**May 27, 2010**  
Top kill procedure continues. National Incident Command's Flow & Ops Technical Group says flow rates of oil are in the range of 12,000 and 19,000 barrels per day. Controlled burn conducted.

400 km  
200 mi

May 27, 2010

PLAY LAYERS

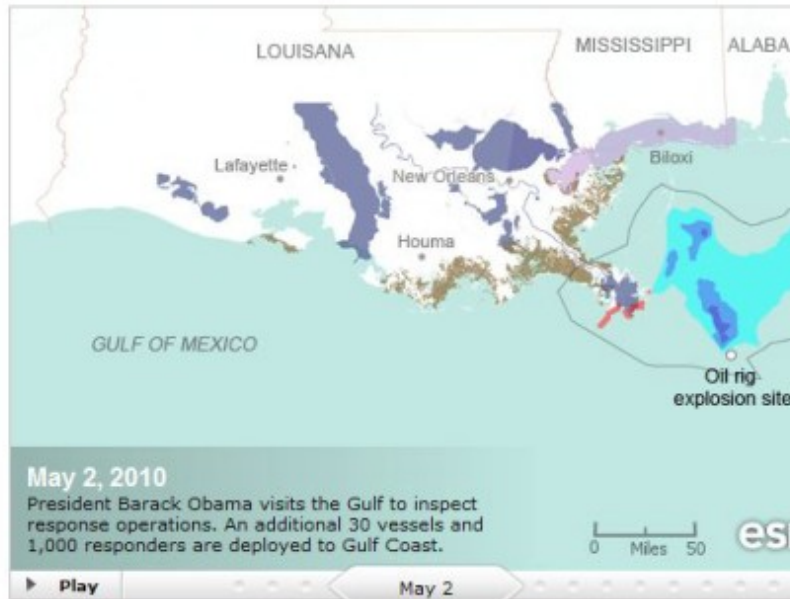
Like 52 people like this.

About this application.

Strengthening citizen involvement

# Information made available to everyone

## Oil Spill Timeline



Sources: Louisiana Oil Spill Coordinator's Office; U.S. Fish and Wildlife Service; National Oceanic and

## ABC Preview

The screenshot shows the Esri website interface. At the top, the Esri logo and tagline "GIS Software that Gives You THE GEOGRAPHIC ADVANTAGE" are visible. Below the navigation bar, the main heading is "Gulf of Mexico Oil Spill". Underneath, there are links for "Social Media Map", "Timeline Map", "Economic Impact Map", "Request Assistance", and "Resources". The "Timeline Map - Advanced Version" is selected, showing a map of the Gulf of Mexico with a play button and a "May 27, 2010" date. A text box on the map provides details for that date: "Top kill procedure continues. National Incident Command's Flow & Dis Technical Group says flow rates of oil are in the range of 12,000 and 19,000 barrels per day. Controlled burn conducted." The map also shows various map controls like "Street Map", "Topographic Map", and "Satellite Imagery".

**May 27, 2010**  
Top kill procedure continues. National Incident Command's Flow & Dis Technical Group says flow rates of oil are in the range of 12,000 and 19,000 barrels per day. Controlled burn conducted.

Localization as a human right...

# Social media

The screenshot shows a Windows Internet Explorer browser window displaying a GIS application titled "Gulf of Mexico Oil Spill - Maps & Satellite Images | Disaster Relief & Support". The address bar shows the URL: <http://www.esri.com/services/disaster-response/gulf-oil-spill-2010/index.html>. The browser's address bar includes "Find: GIS" and navigation buttons like "Previous", "Next", and "Options".

The main content area features a map of the Gulf of Mexico region, showing states like Louisiana, Alabama, and Georgia. The map is overlaid with various data layers, including a "Streetmap", "Satellite Imagery", and "Topographic Map". A "Locate" button is visible in the top left. On the left side, there are two panels: "Explore" and "Shared Content".

The "Explore" panel includes the following options:

- News
- Threatened Sites
- Nautical Chart
- Sensitive Habitat
- Precipitation

The "Shared Content" panel includes the following options:

- Show All
- Show Last 24hrs
- Ushahidi
- YouTube Videos
- Tweets
- Flickr
- Shared Content

Below the "Shared Content" panel, there is an "Add" button, a "Search" button, and a text prompt: "Select a feature type and place it." There are also social media icons for Facebook and Twitter.

A popup window is displayed over the map, containing the following text:

**ALL NINE Florida shrimp samples show @ 28 to 31 ppm PAHs, about 30 TIMES more than samples from other from Gulf – FDA officials – "NOT concerned"**

A Press-Register examination of the process used to reopen state waters around the Gulf to commercial fishing suggests that the Food and Drug Administration used an imprecise testing method, less protective standards than after past oil spills, and seafood consumption estimates that may not account for the dietary habits of Gulf Coast residents. FDA officials defended the agency's method, saying that its tests showed unequivocally that seafood from the Gulf was safe to eat and should be returned to the market place. A primary factor in the limit the FDA set on cancer-causing PAHs – polycyclic aromatic hydrocarbons – in Gulf seafood was the agency's estimate of how much seafood people eat. For the Gulf spill, the FDA assumed an adult eats about 3 pounds of

The bottom of the browser window shows the "Done" bar with "Internet | Protected Mode: On" and a 100% zoom level. The Windows taskbar at the bottom displays the system tray with the date and time: 11:05 15.09.2010.

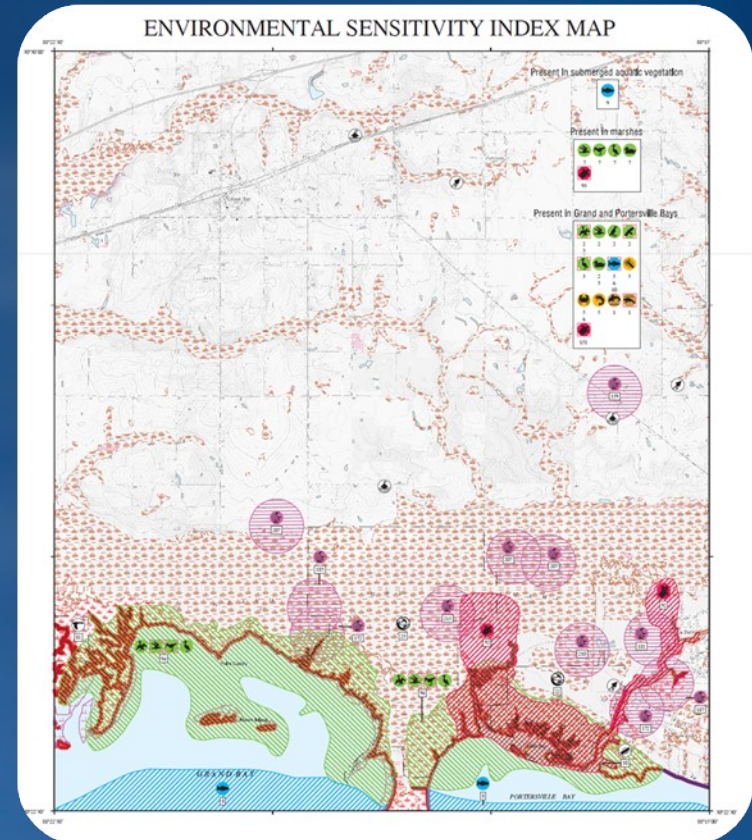
The citizen as a sensor...

# Environmental Sensitivity

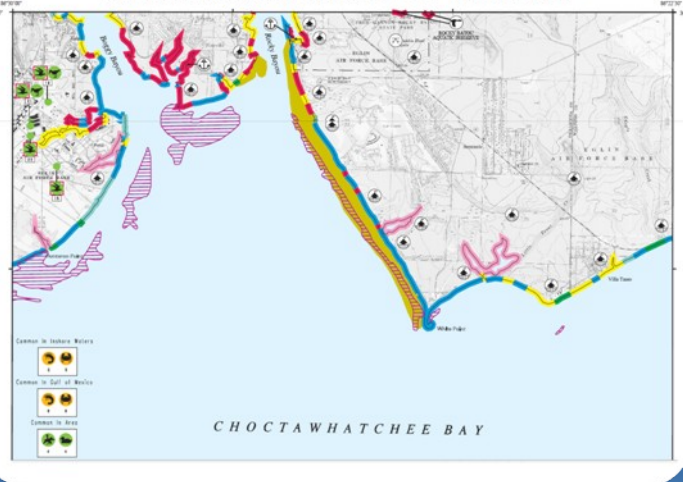
## Plants



## Habitat



## ENVIRONMENTAL SENSITIVITY INDEX MAP

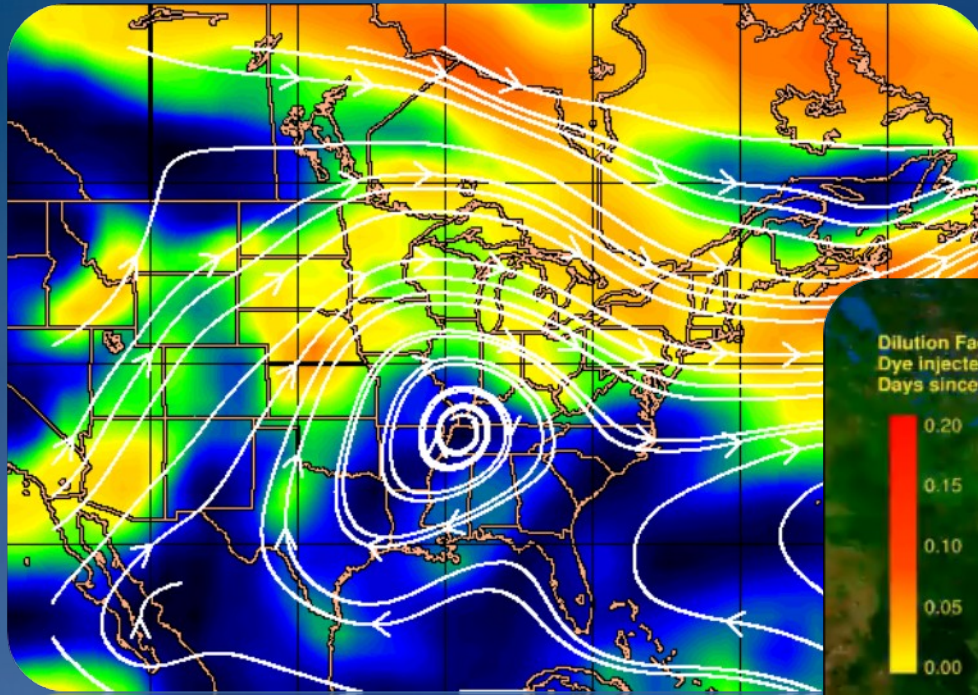


## Spawning areas

Geographic Analysis for a better understanding...



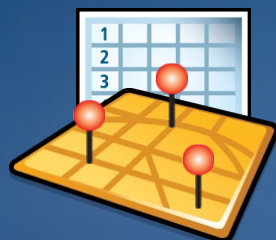
# Science or technology?



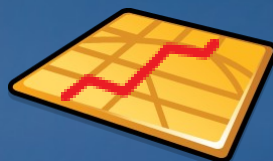
models to predict and better prepare the next...

# Esri builds foundation resources

## Tasks



Geocoding

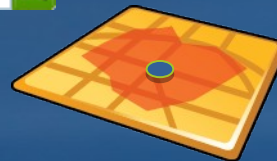


Routing

Palm Springs Convention Center



Place Finder

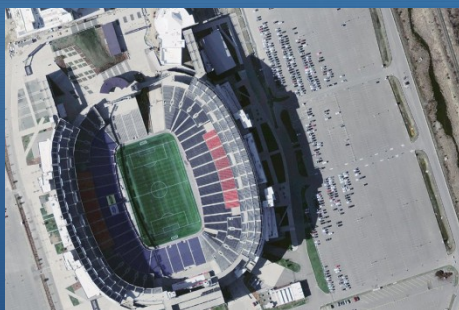


Drive Time



Geometry

## Basemaps



*Esri basemaps are free for internal and external use*

# Summary

GIS is used to support many aspects of the disaster management including:

- Situational Awareness
- Public Information
- Briefings
- Supporting the emergency management work flow
- Response
- Recovery – mitigation
- **Reconstruction**

... money in the disaster loop

**World Reconstruction Conference  
« Innovation in Reconstruction »  
Geneva 2011**

**Merci!**

**Emanuele Gennai  
Global Affairs account Executive  
[egennai@esri.com](mailto:egennai@esri.com)**

