Using the ESRI Web Framework to bring Coastal Louisiana Data Alive

Coastal Information Management System (CIMS)

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Background

Coastal Louisiana is losing 1 football field per day

Government Programs: CWPPRA, LCA, CIAP, GCERC

- Coastal Wetlands Planning, Protection and Restoration Act
- Louisiana Coastal Area
- Coastal Impact Assistance Program
- Gulf Coast Ecosystem Restoration Council

Monitoring and Adaptive Management

Keys to success

Data driven
Background

Hundreds of Projects Span the Coast

Thousands of observations made daily
Background

USGS / CPRA +20 Year Cooperative Relationship
- Data collection, management and visualization
- Geospatial Services
- Joint Coastal Science Endeavors
CIMS: Coastal Information Management System

Suite of Applications
- Biological Observational Data
- Document Management System
- Spatial Data Viewer (several)
CIMS Spatial - Who are the users?

Users needs and experience levels vary greatly…

- Natural Resource Managers
- Scientists
- General Public
CIMS Spatial - Who are the users?

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Computer Applications need maps TOO!
CIMS Spatial - Who are the users?

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Computer Applications need maps TOO!

CIMS uses the ESRI framework to tackle the problem in various ways...
CIMS Spatial: Multiple Interfaces

Human as the Consumer

Main Spatial Viewer:

Light-weight Viewer:

Highly Customized Viewer:

Application as the Consumer

Reporting Services:
CIMS: Multiple Viewer Interfaces

Spatial Landing Page

Pre-configured Maps
- Allow for strategic starting points for users to enter the system.
- URL based - great for sharing
CIMS: Multiple Viewer Interfaces

Data Catalogue

- Uses map chips for quick data recognition
- Searchable
- Category Driven
- Quick access to metadata and downloads
CIMS: Multiple Viewer Interfaces

Advanced Layer Control

- Active vs. View Only
- Drag and drop, user controlled drawing order
CIMS: Multiple Viewer Interfaces

Identify Across Layers

Select and Highlight…

- CRMS Point

AND

- CPRA Project Polygon

Attribution is presented in two layers with the most critical information being presented first.
CIMS: Multiple Viewer Interfaces

Identify Multiple within a Single Layer

User can scroll through features in primary attribute window.

Geometry is highlighted to match attribute record.
CIMS: Multiple Viewer Interfaces

Identify Multiple within a Single Layer

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CIMS: Multiple Viewer Interfaces

Focus on Outreach Needs

Clean/Simple Interface

Few Tools
CIMS: Multiple Viewer Interfaces

Filtering
i.e. Project Type:
Freshwater Diversion

Click Event
Highlight Project Polygon
Provide Project Statistics
Floodrisk Viewer

- Based on CPRA 2012 Master Plan 50 year modeling simulations

- Extensively customized user experience

- Includes hundreds of data layers with minimal user actions
Impact on Communities (modeled flood events)

Moderate Scenario
Without any Master Plan Projects
100 Year Flood
Year 0 of simulation

- Facilities affected
- Areas most impacted
- Flooding Depths

NOTE: Number of Communities Affected and Flooding
Impact on Communities (modeled flood events)

LESS OPTIMISTIC Scenario
Without any Master Plan Projects
500 Year Flood
Year 50 of simulation

- Facilities affected
- Areas most impacted
- Flooding Depths

NOTE: Significant increase in areas impacted by flooding and 16+ flooding depths.
CIMS: Multiple Viewer Interfaces

- Community Impacts
  - Infrastructure
  - Transportation
  - Repetitive loss

- Land Change
  - Land change only
  - Land vs water change

- Flood Risk
  - Economic damages
  - Community assets at risk

- Master Plan Modeling Data
  - Non-structural projects
  - Structural projects
  - Restoration projects
- Thank You for your time!
- Questions?
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