



SJRWMD.com

Using technology to benefit people,
nature, and our water resources

Our Geographic Information System

- Supporting the agency's core missions
- Permeates almost every aspect of the agency
- Places useful technology in the hands of the agency's professionals



Our GIS Community



Legislative Support



Planning



Our GIS Community

Engineering



Decision Support



Our GIS Community

Photo Library



Time-series Analysis



Our GIS Community

Issue Identification



Environmental
Analysis

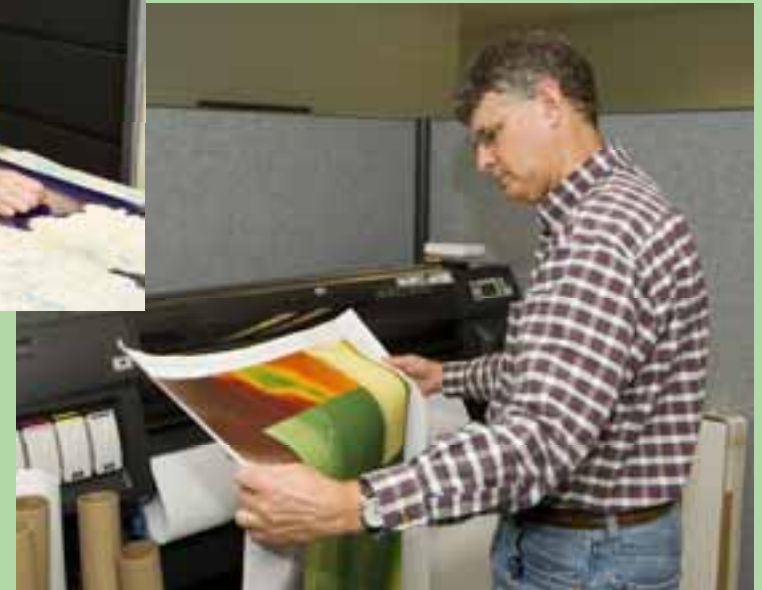


Our GIS Community

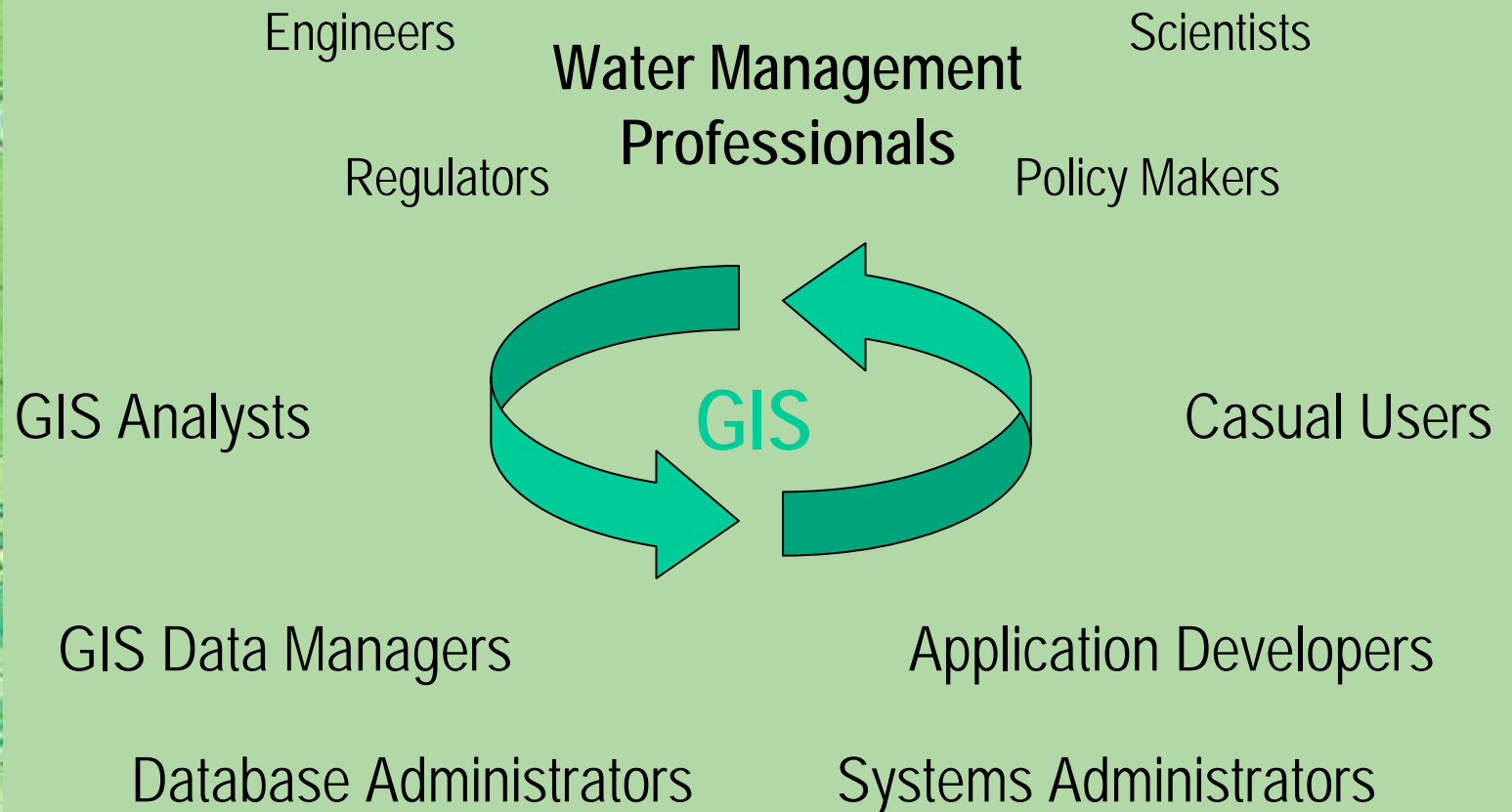


Data Modeling

Project
Support



Collaboration



Coordination

- More than 200 regular GIS users
- GIS and interdisciplinary professionals are everywhere
- Communication is key to maintaining community
 - GIS Users Group
 - Liaisons and the GIS Coordinating Committee
 - Inter-district GIS Managers' Meetings



Service

- Facilitate training
- Develop productivity tools
- Provide reliable data and metadata
- Find out what our community needs
- Include our users in project planning
- Ask our users how we are doing



How are we doing?

- Users rating the SJRWMD GIS as 8 or above on a scale of 1 to 10.
 - 75% in 2005
 - 77% in 2006



Outcomes

- Survey Benchmark Site
- Radar Rainfall Site
- Hydrologic Data Site
- Data library expansion
 - Parcels from counties
 - Local imagery
 - FWC eagle nests
- Statewide Permitting Portal





Serving the Greater Community

Connecting our constituency and
aligning the agency's technology and
processes



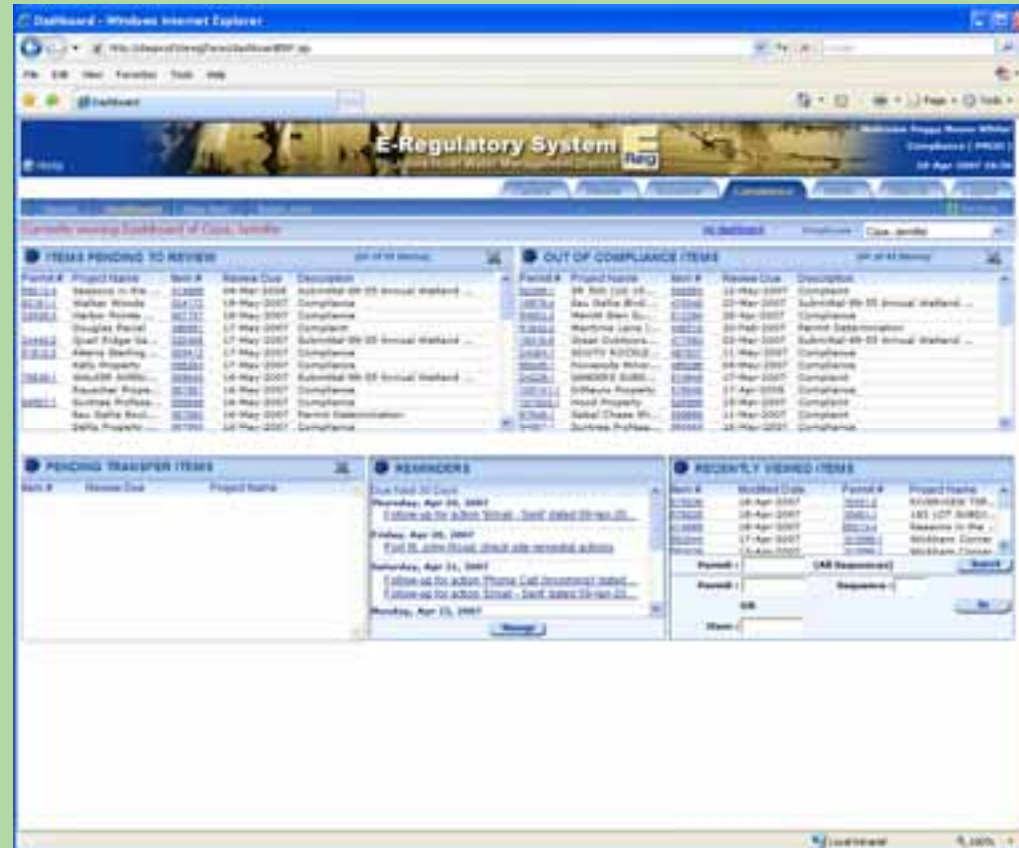
SJRWMD Project Management

- Established methodology
 - Project Delivery System
- Partnering for success
 - Business analyst
 - Project manager
 - Project team

Regulatory Business Process Integration



Aligning the staff and processes



E-Permitting

Connecting the public to the agency

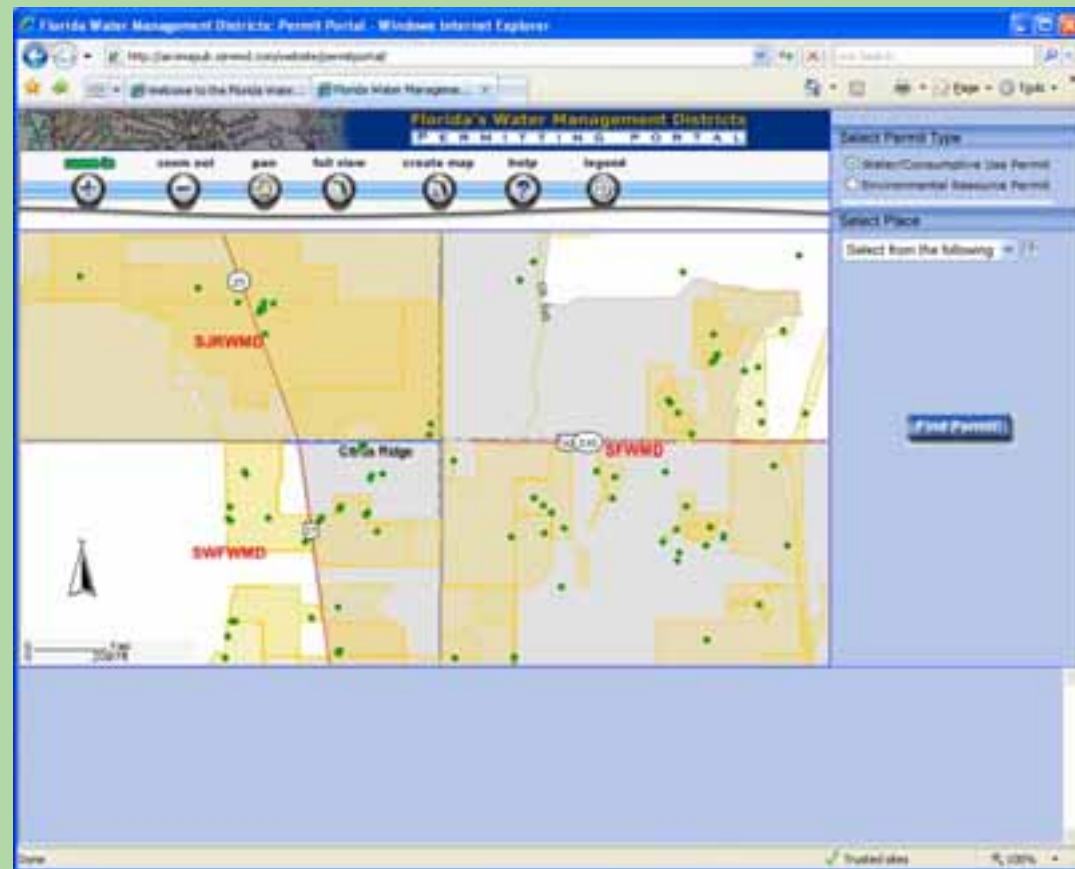


Inter-district Portal

A single point of access for five districts



Permit Data is displayed in a Spatial Context



Statewide Spatial Query Tools



Florida Water Management Districts: Permit Portal - Windows Internet Explorer

http://landmap.sfwmd.com/webdata/permitportal/

welcome to the Florida Water Management Districts Permit Portal

Florida's Water Management Districts
PERMITTING PORTAL

zoom out pan full view create map help legend

Select Permit Type

- ☐ Water/Consumptive Use Permit
- ☐ Environmental Resource Permit

Select Place

Box

Click "Find Permit", then draw a box on the map.

Find Permit

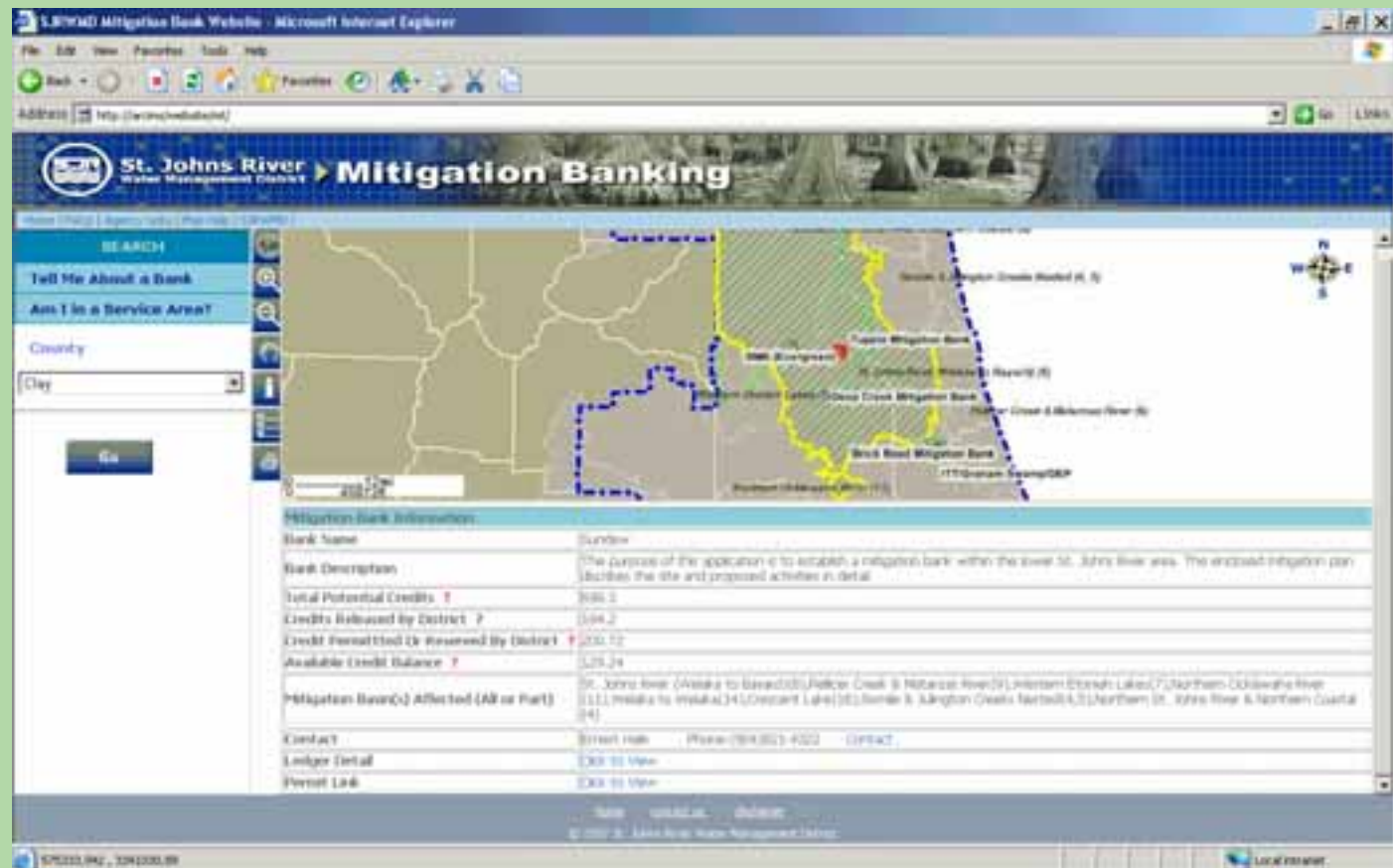
Permit Information: There are 41 matching records

Permit ID	Sequence	District	Document	Project Name	Applicant Name	Mailing address	City	State	Zip	Receive Date	Issue Date	Expire Date	Permit Status	Project Acreages
411	3	St. Johns River Water Management District (Southwest)	Doc 411	WERNER BOULEVARD CHURCH SITE	Principal Diocese of Florida	135 Market St.	Jacksonville	FL	32202	1/7/2004	11/9/2004	11/9/2008	Approval	8

Done

Trusted site 100%

A map of the St. Johns River Water Management District. The map shows the St. Johns River flowing through a landscape with green fields and some wooded areas. A compass rose is located in the upper left quadrant, indicating North (N), South (S), East (E), and West (W). The river is depicted with blue lines and is surrounded by green land. There are some red dashed lines and a red line with a cross-tick symbol on the map. The text "ST. JOHNS RIVER WATER MANAGEMENT DISTRICT" is printed in bold, black, capital letters at the bottom of the map.



Mitigation Bank Website



MIT - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address http://artemis10acweb/Artemis/Output/Response/ViewDefault

Weather Links Power Windows Home Page 1 of 1 100% Search Download Print Help

Mitigation Bank Ledger

Mitigation Bank ID: 7 Project: Shadow (88123-0)

BSN NO: 8 Quantity Balance 11192

Time Date	Description	Credit	Debit	Balance
1/13/2002	Credits for CE Phases 1 & 2	70.7	0	70.70
11/6/2006		121.1	0	191.80
	Backyard Mtn Warehouse & Retail Center (31152-2)	0	0.42	191.39
	Capital City Bank (51454-1)	0	0.21	191.18
	Carlin Road - Phase 2 (93925-5)	0	0.13	191.05
	Crescent Road 221 (99177-1)	0	2.9	188.15
	Eagle Creek Spring Creek, and Cypress Creek at Eagle Heights	0	1.91	186.24
	FDIA- 122.17 (33495-1)	0	2.89	183.35
	OCS MORRIS GALLERY (35316-1)	0	0.10	183.25
	Osborne Auto Mall North (36313-1)	0	1.75	181.50
	Rome Depot - Parking (90413-1)	0	1	178.51
	Lover's off Potholes (37925-2)	0	36.21	142.30
	Fordham Mortgage Credit and Best Ramp Mod (31156-2)	0	0.79	141.51
	Filing Products (37215-1)	0	2.14	139.37
	Pine Eagle Estates (37311-1)	0	1.3	138.07
	RDW Parcel / Hwy 17 (37779-1)	0	3.86	134.21
	Romean Forest (36330-2)	0	0.62	133.59
	Romean Forest (36330-1)	0	1.08	132.51
	San Mateo (7-275) (34624-1)	0	0.12	132.39
	Wahneey Avenue Improvements (88285-1)	0	0.23	132.16
	West Town Road Paving and Drainage Improvements (102142-2)	0	1.33	130.83
		130.83	0	130.83

Done Local intranet



SJRWMD GIS Projects and Data

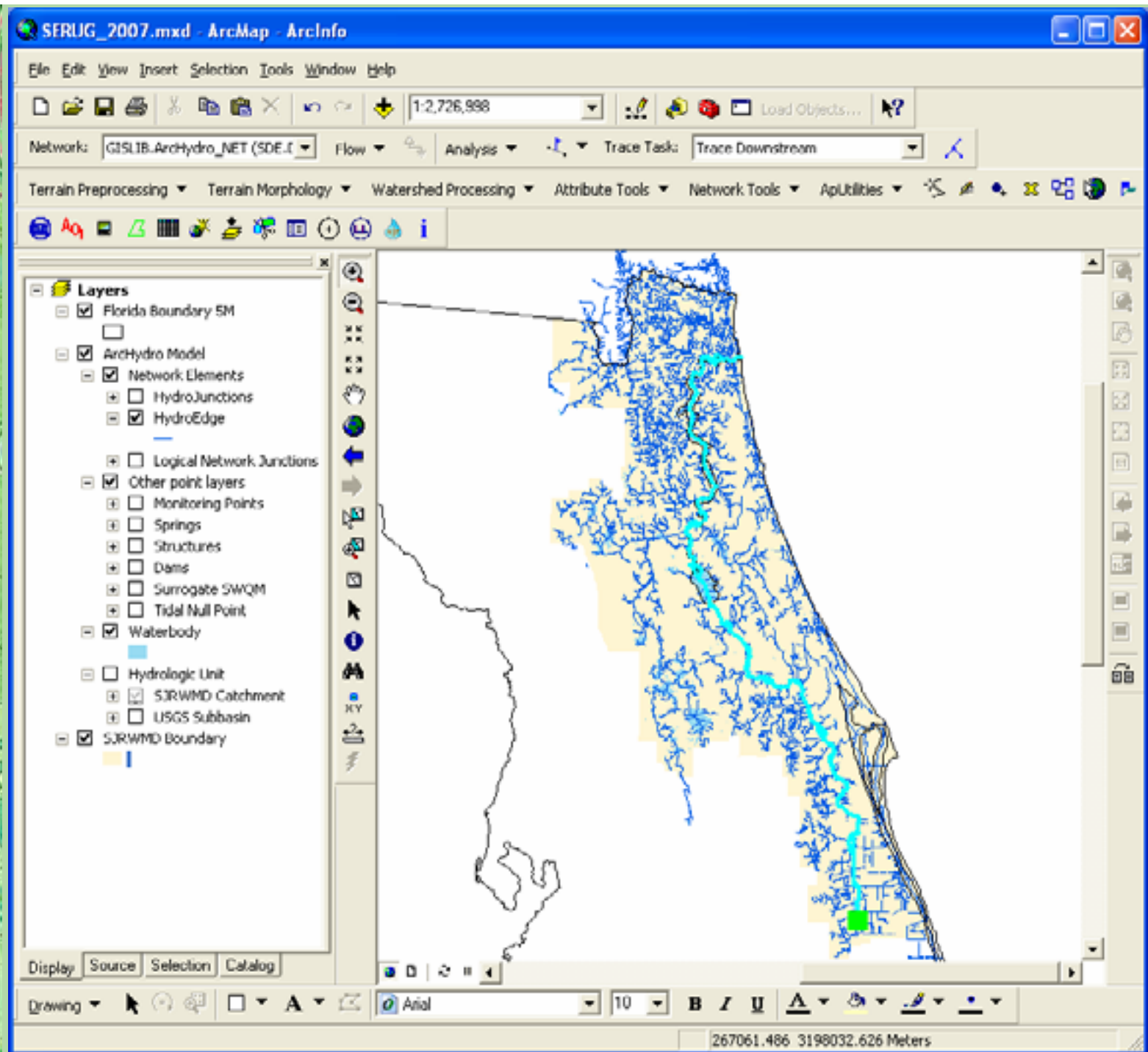
Projects

- Arc Hydro geodatabase,
Surface water

Medium resolution - complete

High resolution - ongoing

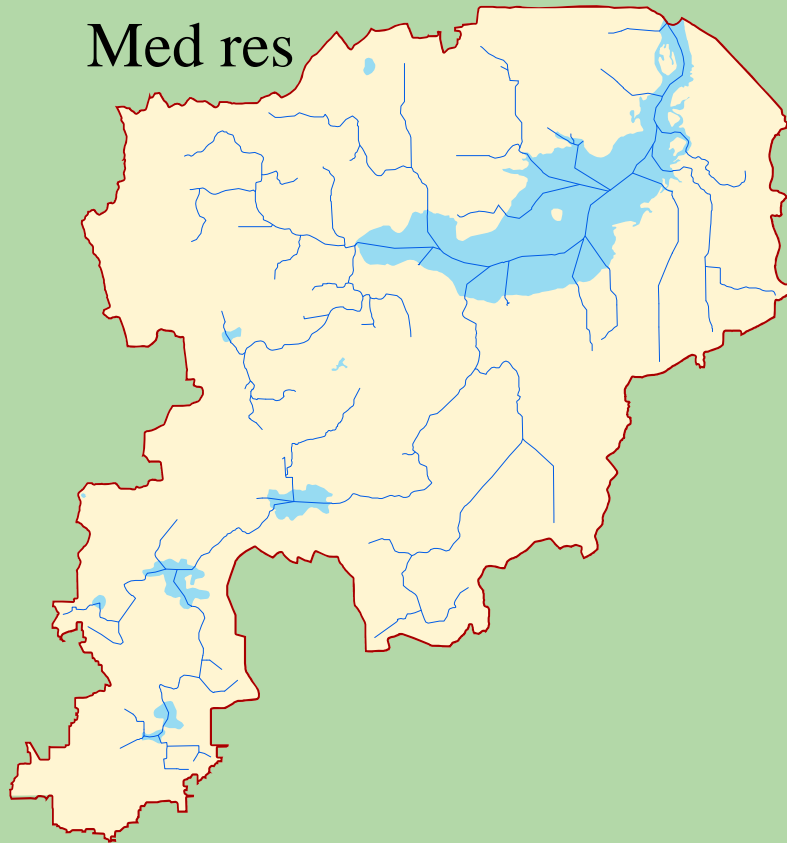




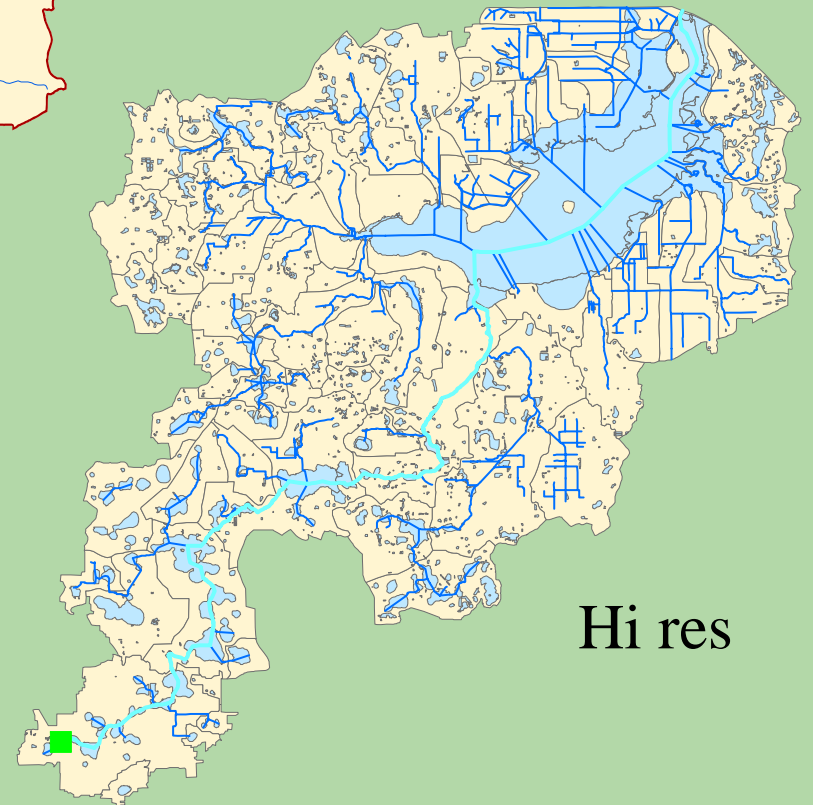
Projects

Arc Hydro geodatabase, Surface water

Med res



Hi res



Projects

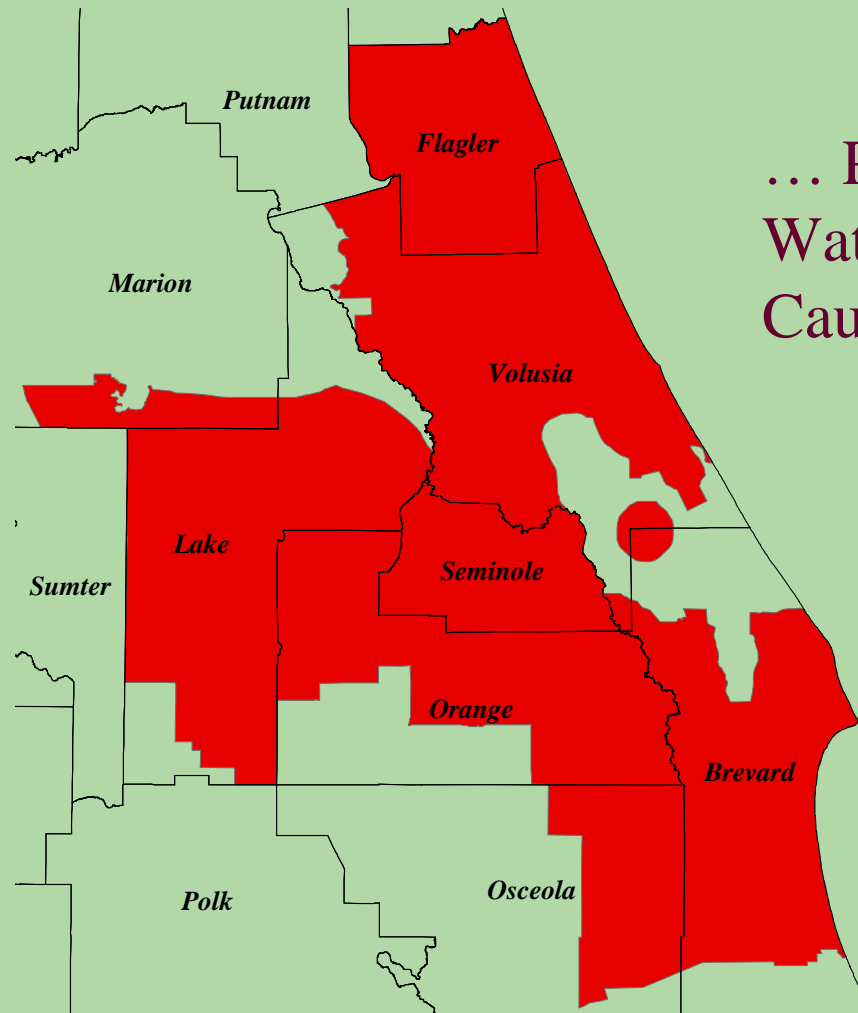
- Arc Hydro geodatabase
Groundwater – prototyping
Future:
 - Continue GW development
 - Links between surface water and groundwater
(springs and sinks?)



Projects

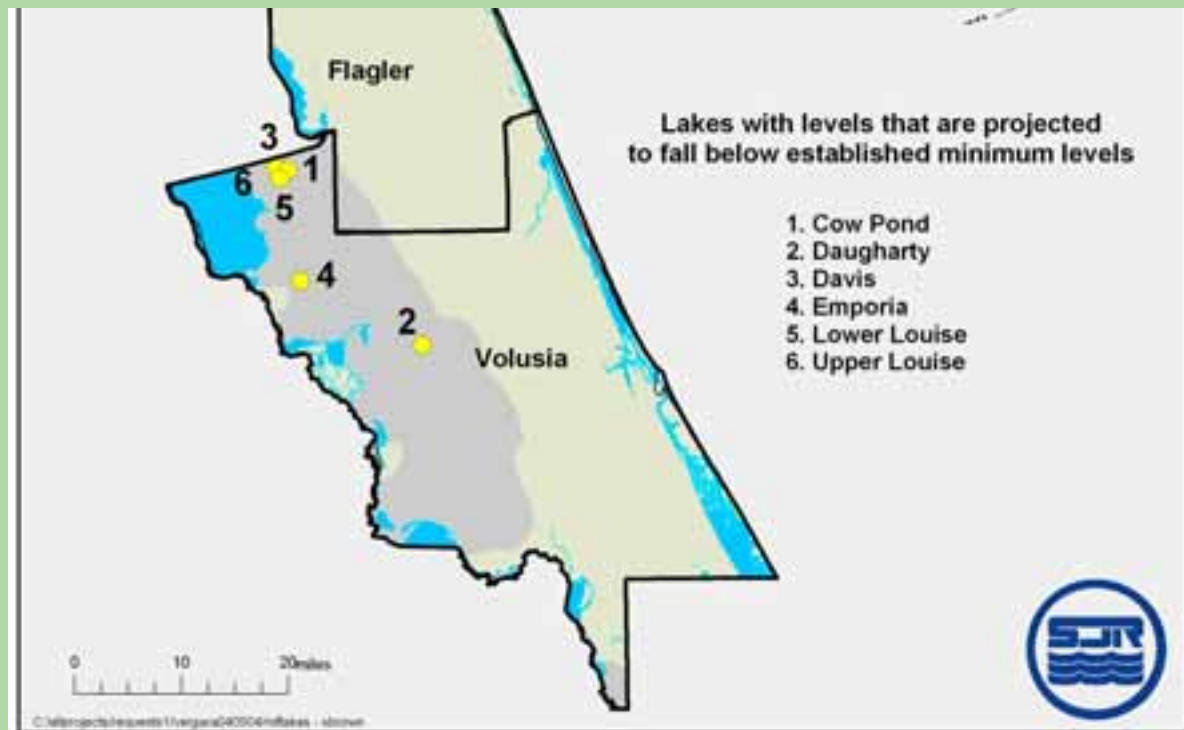
Water Supply Planning

... Priority
Water Resource
Caution Areas

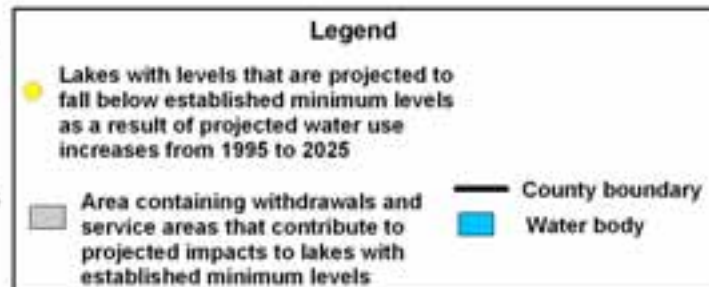


Projects

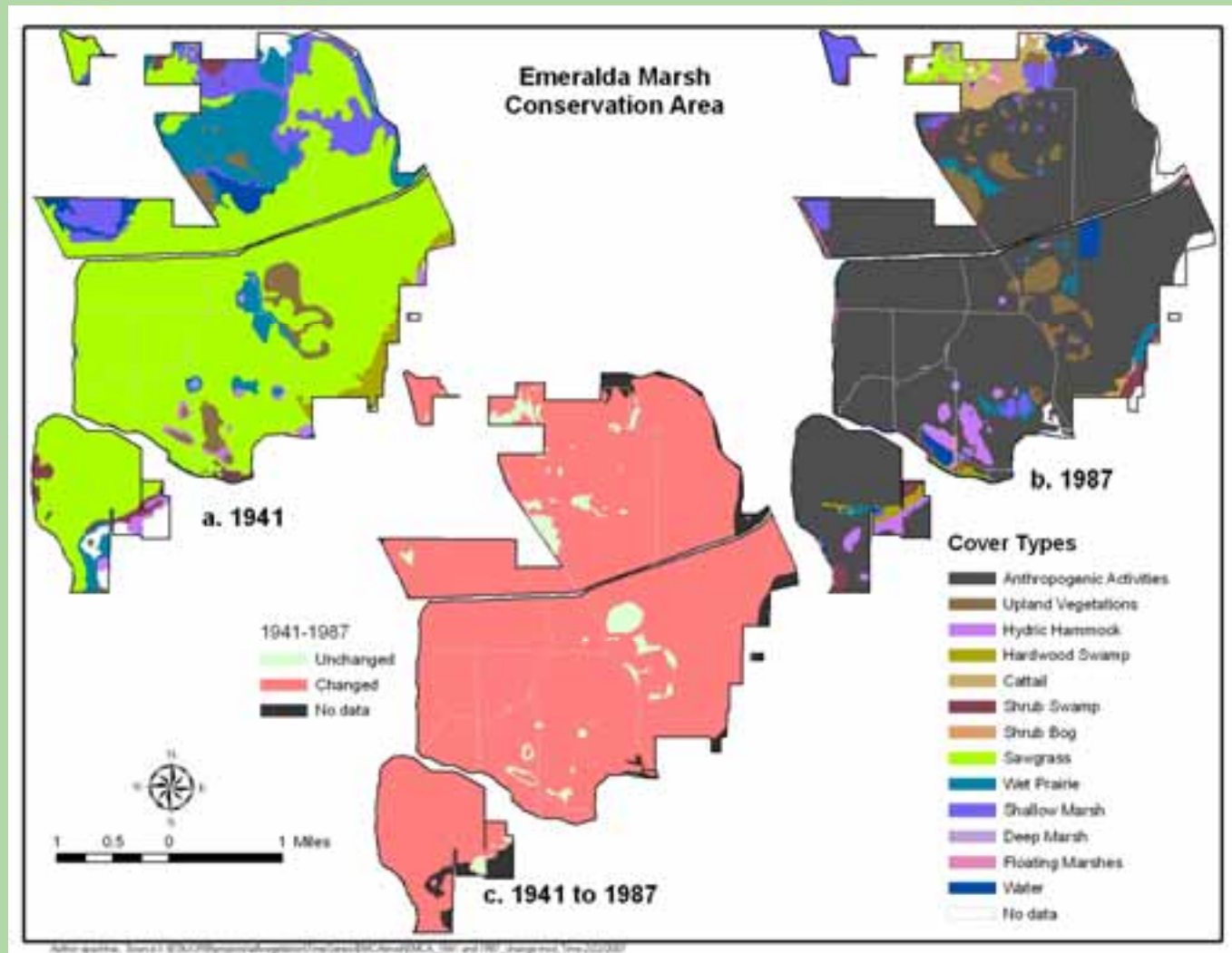
Water Supply Planning



General areas within which anticipated water sources are not adequate to supply projected 2025 demands based on projected impacts to lakes with established minimum levels



**ST. JOHNS RIVER
WATER MANAGEMENT
DISTRICT**



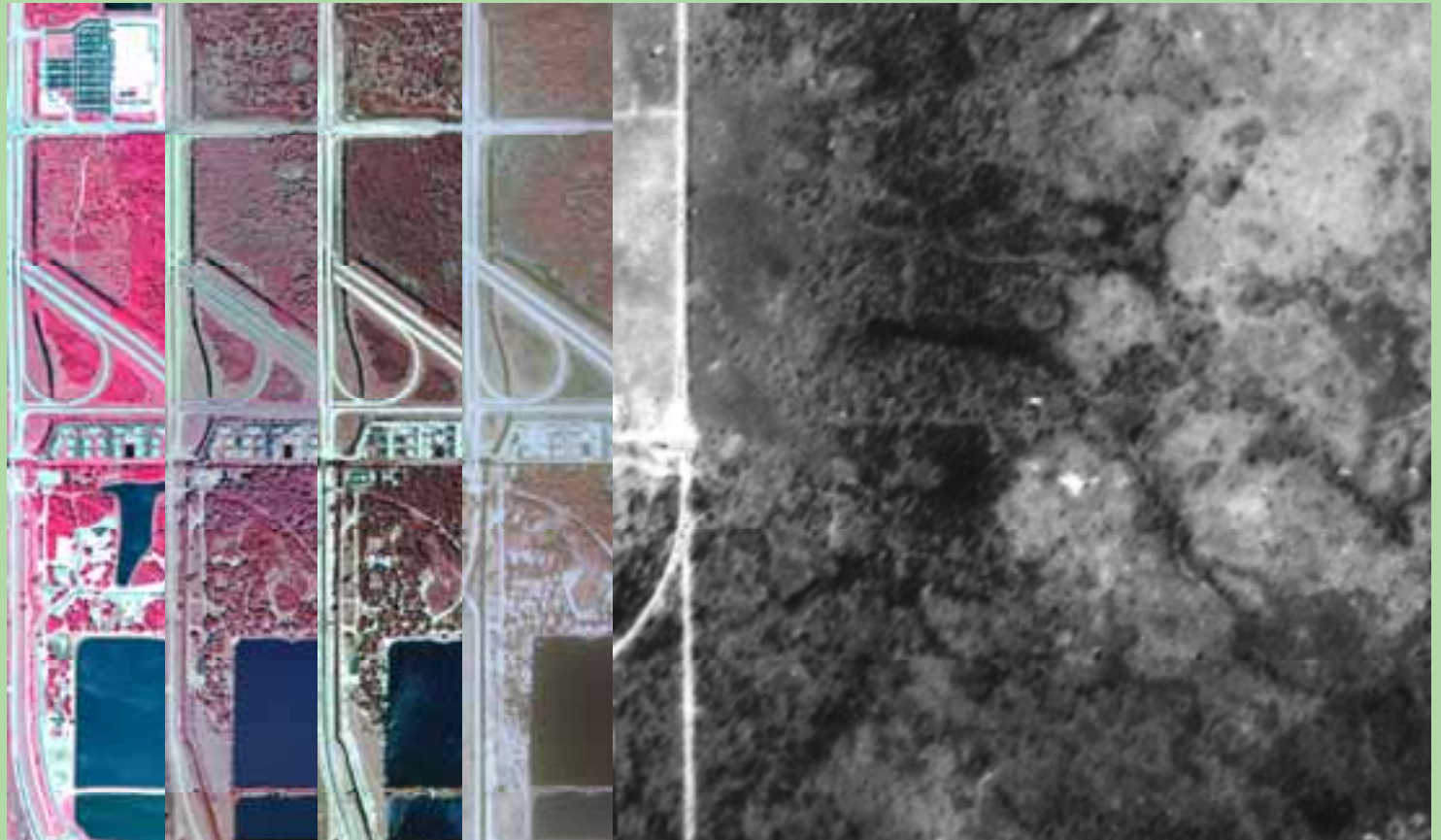
Projects

Wetland restoration

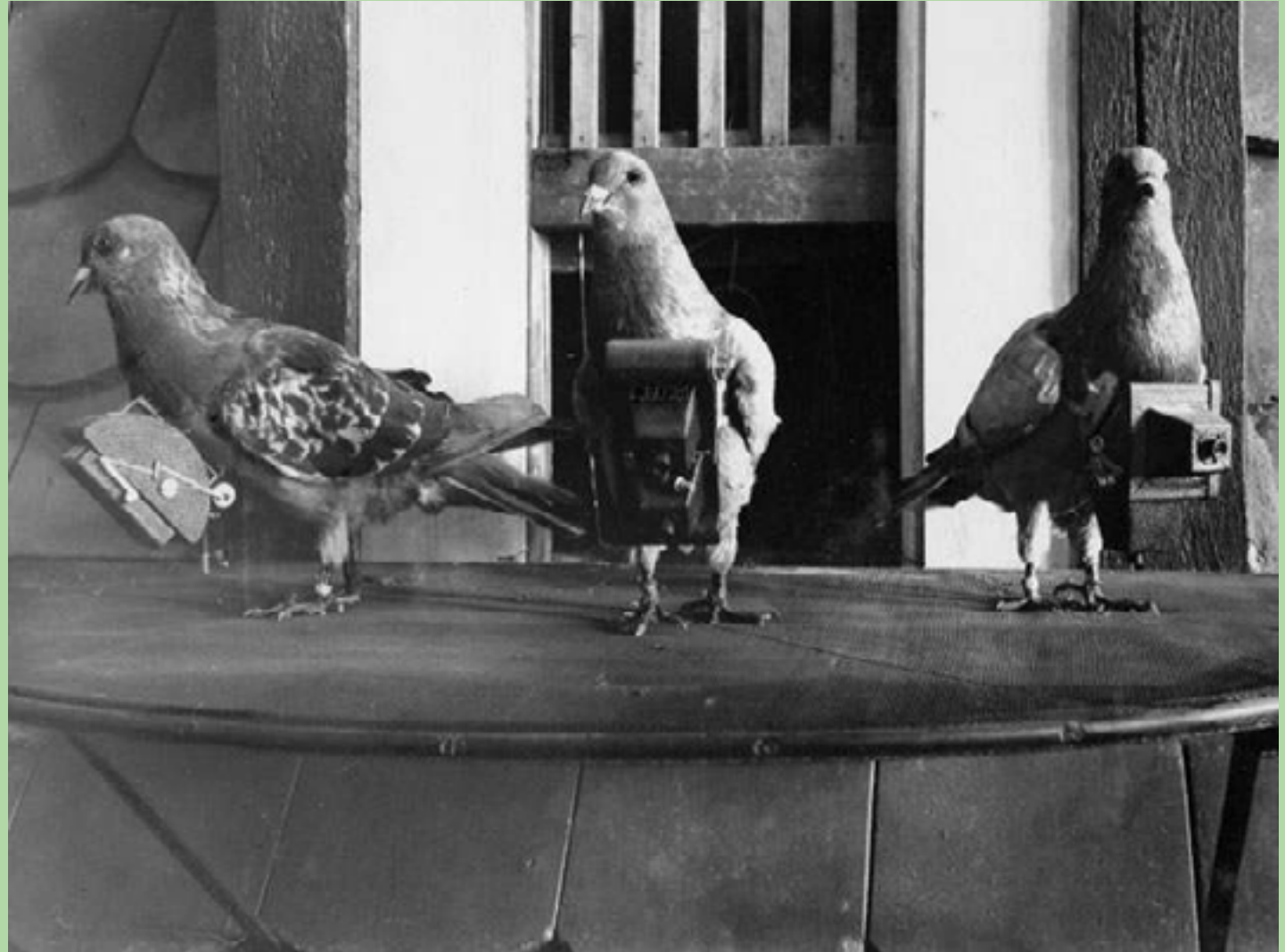


Data Highlights

Imagery:



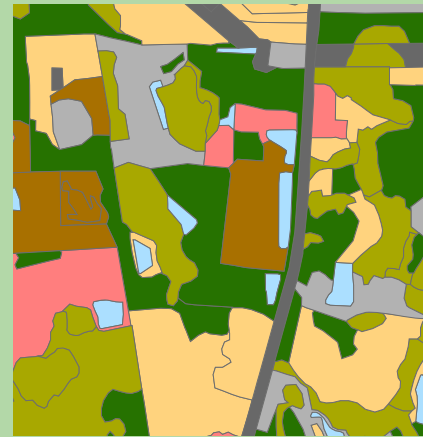
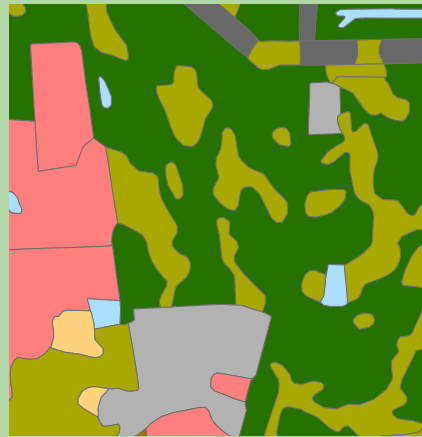
Data Highlights



- Future: WMD/FDOR/FDOT coordination

Data Highlights

- Land use / land cover:
1989, 1994, 1999, 2004



- Regulatory layers
- Property boundaries
District lands, Easements

Data Highlights

Metadata!



Data (and metadata) available on
www.sjrwmd.com



SJRWMD GIS

Application Development



GIS Application Development

What do we do?

- Desktop
- Web
- Application Integration
- Content Management
- Server Technology



GIS Application Development

Who are our customers?

- Internal
 - GIS Users
 - GIS Analysts
 - Decision Makers
- External
 - Public
 - Other government agencies
 - Contractors



The "SJR Toolbar"



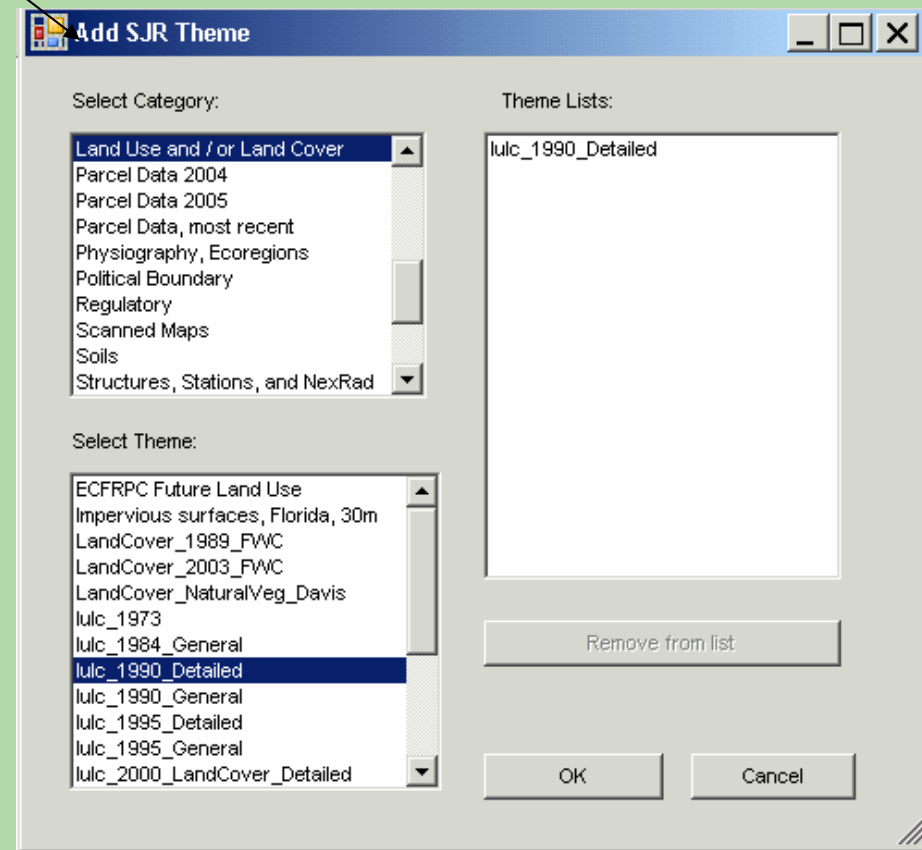
- Has been a catalyst for enabling GIS to be an integrated and pervasive part of District Business
- Initially developed for ArcView 3.x – now used in ArcGIS 9.2
- Allows users to perform basic and advanced functions without having to understand things such as database schema or complex tool execution
- Packaged and deployed as a part of the enterprise SJR GIS implementation



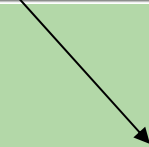
The "SJR Toolbar" – SJR layer tool



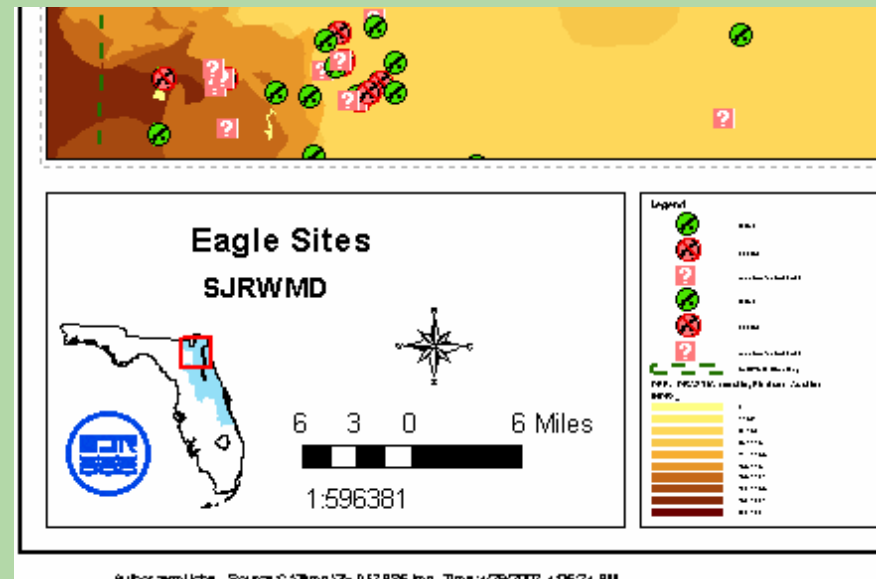
A categorized menu of data layers that can be selected and added to the map without the user needing to understand the database schema or file system



A map of the St. Johns River Water Management District. The map shows the St. Johns River flowing through a green, hilly landscape. A compass rose is located in the upper left quadrant, indicating North (N), South (S), East (E), and West (W). The river is depicted with blue lines and is surrounded by green areas representing land. A dashed line runs horizontally across the middle of the map. The text "ST. JOHNS RIVER WATER MANAGEMENT DISTRICT" is printed in bold, black, capital letters at the bottom of the map.



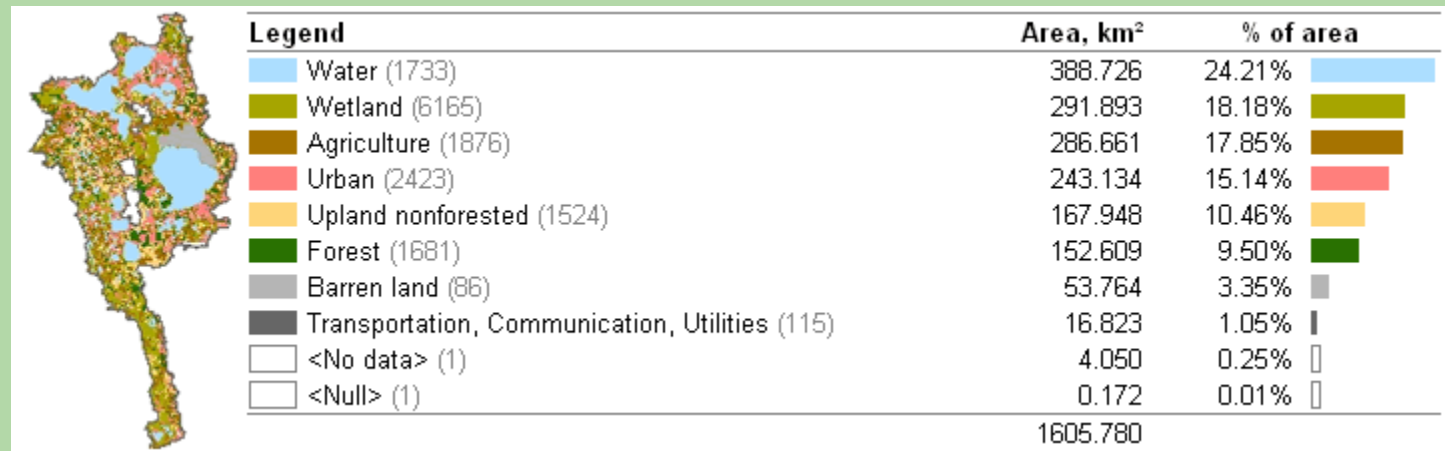
Allows the user to create a standard SJR map layout with common elements, based on input from the user such as orientation, size, and title.



The "SJR Toolbar" – Spatial Summary

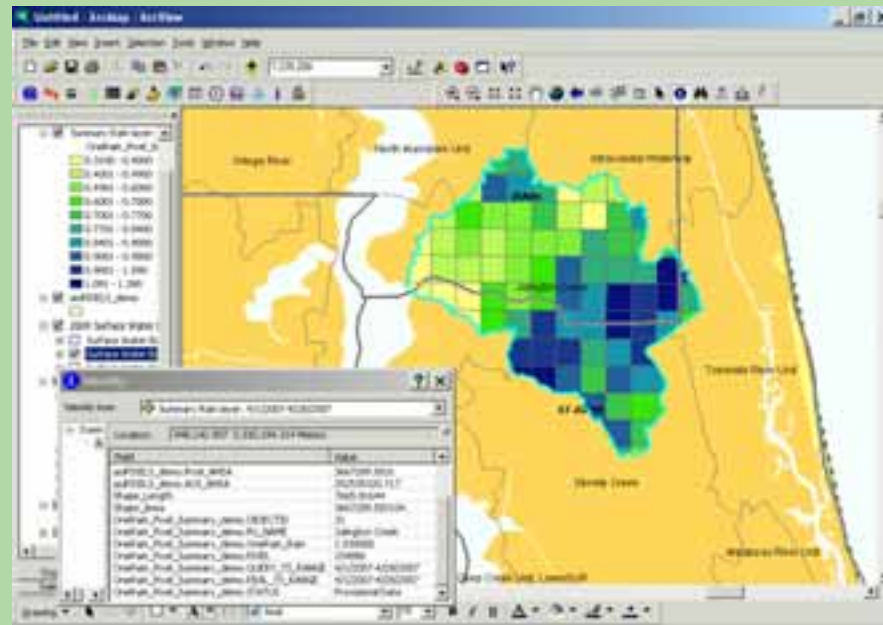
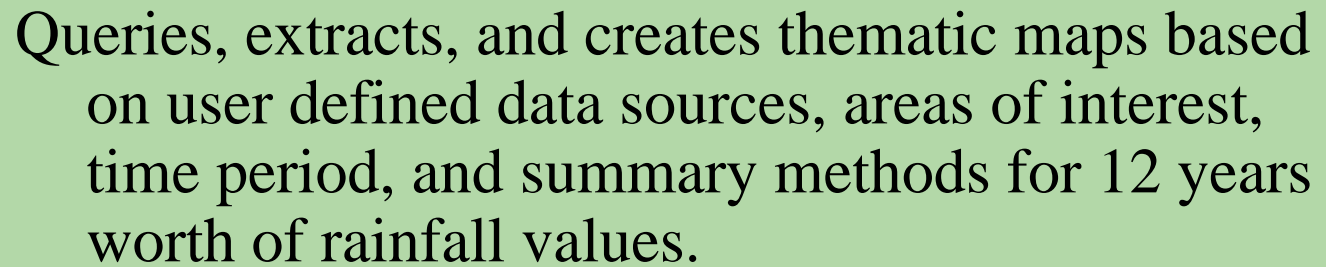


Creates a summarized spatial report, layer, and data file for a user-defined area



A map of the St. Johns River Water Management District. The map shows the St. Johns River flowing through a landscape with green fields and some buildings. A compass rose is located in the upper left quadrant, indicating North (N), South (S), East (E), and West (W). The river is depicted with blue lines and is surrounded by green areas. There are some red dashed lines and numbers (10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100) scattered across the map, possibly indicating land parcels or survey points.

**ST. JOHNS RIVER
WATER MANAGEMENT
DISTRICT**



Web development

- Multiple websites including query, data download and extraction, data analysis, and editing functionality
- Specific and general applications with content ranging from permitting, imagery, and contours to hydrologic data conditions and rainfall.

@ www.sjrwmd.com



Radar Rainfall @ sjrwmd.com

Purpose:

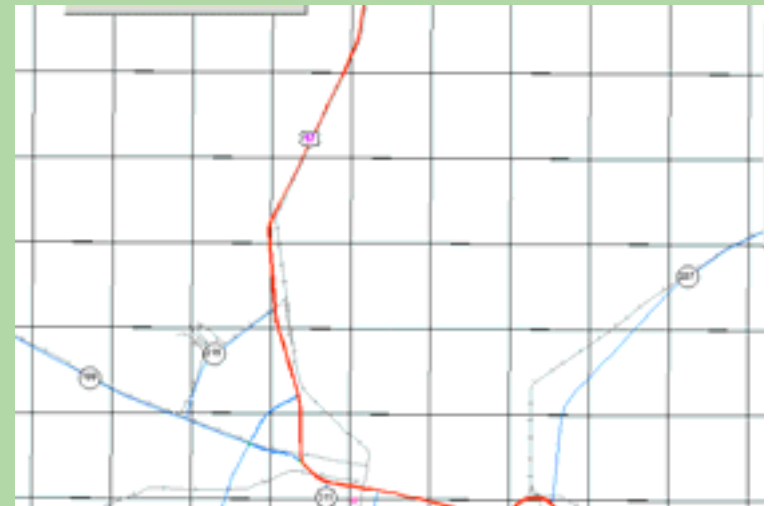
- To provide Radar Rainfall data to the Public, Consultants, and Internal Staff via a simple interface.
- To provide thematic map display, map creation capability, tabular data extraction.



What is Radar Rainfall?

- Average of Rainfall values over an area
- Approx. 2km sq grid cells
- Interpreted from radar data and adjusted to values from rain gauge data.

<http://arcimspub.sjrwmd.com/website/sjrwmdrain>



Hydrologic Data Conditions @ sjrwmd.com

- Integrates GIS with time series optimized data (Hydron)
- Real time trending and analysis for internal and external users





Server Technology Implementation

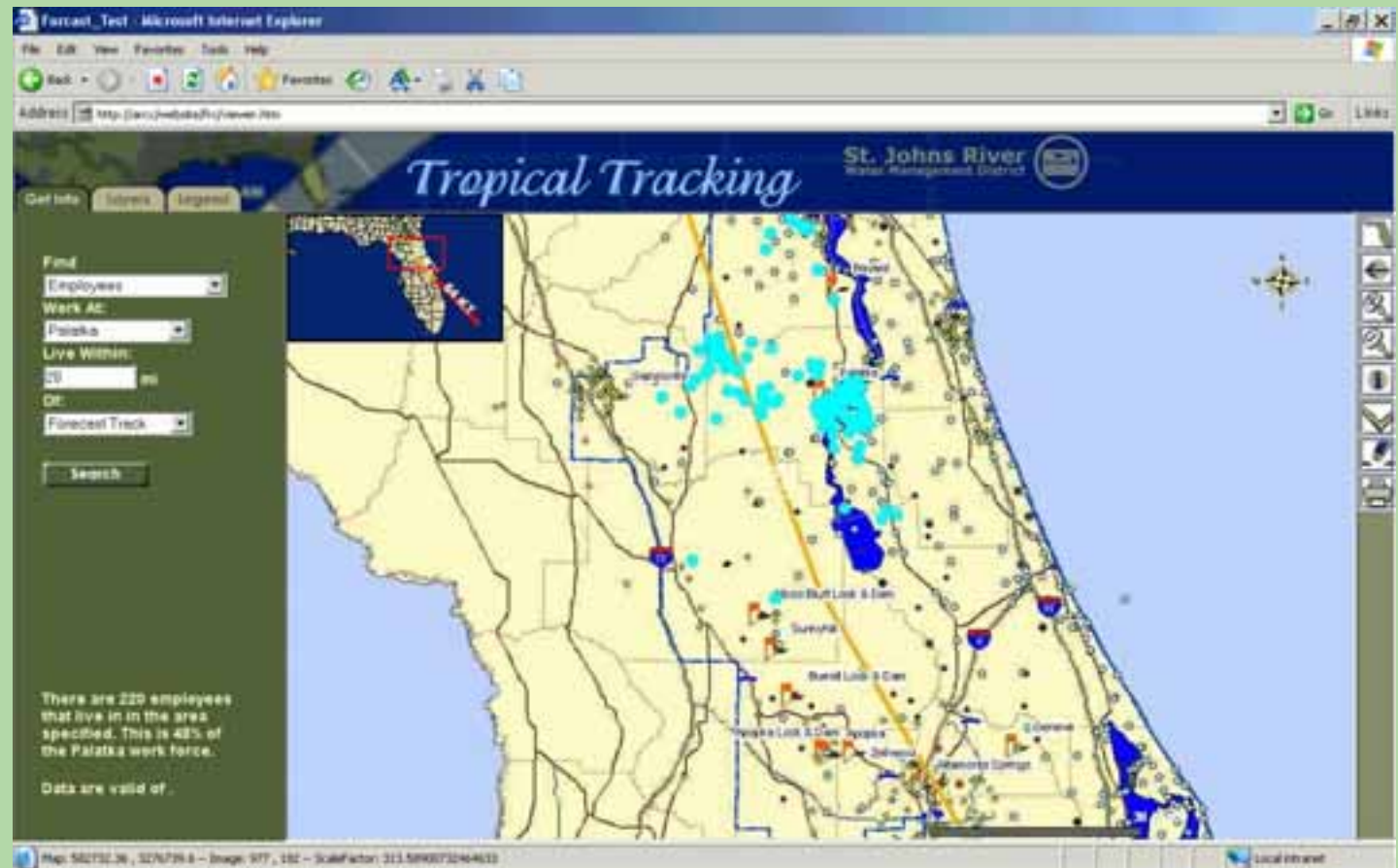
- To enable our data and processes to be consumed and used by multiple applications – not just pre-defined web browser or complex GIS desktop applications
- Integration of external and internal information and processes to produce better answers

Tropical Tracking

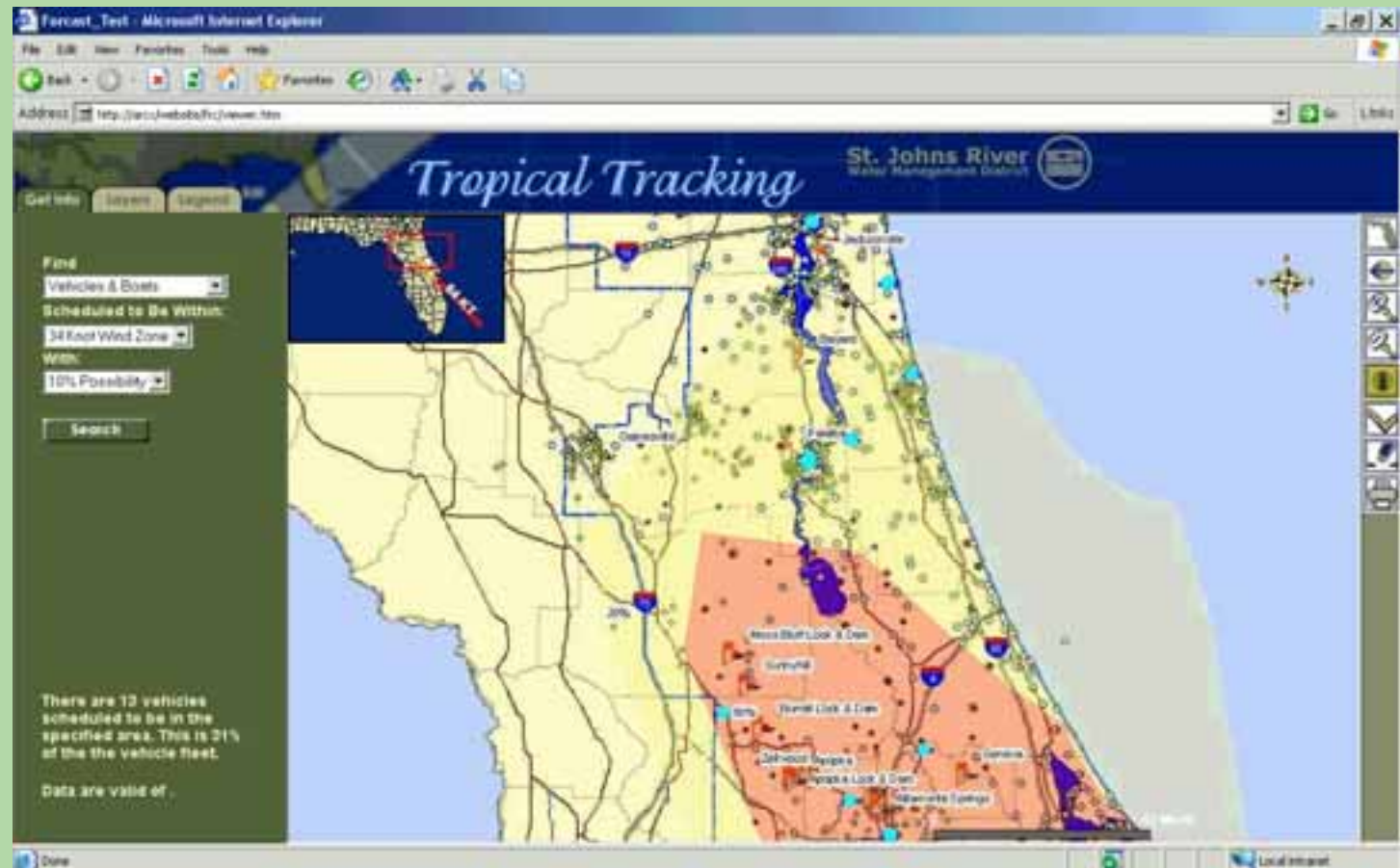
- Integration of data from NOAA, internal GIS, HR databases, and proprietary applications.
- Helps to answer questions such as who and what will an approaching tropical event affect and when.



Tropical Tracking



Tropical Tracking

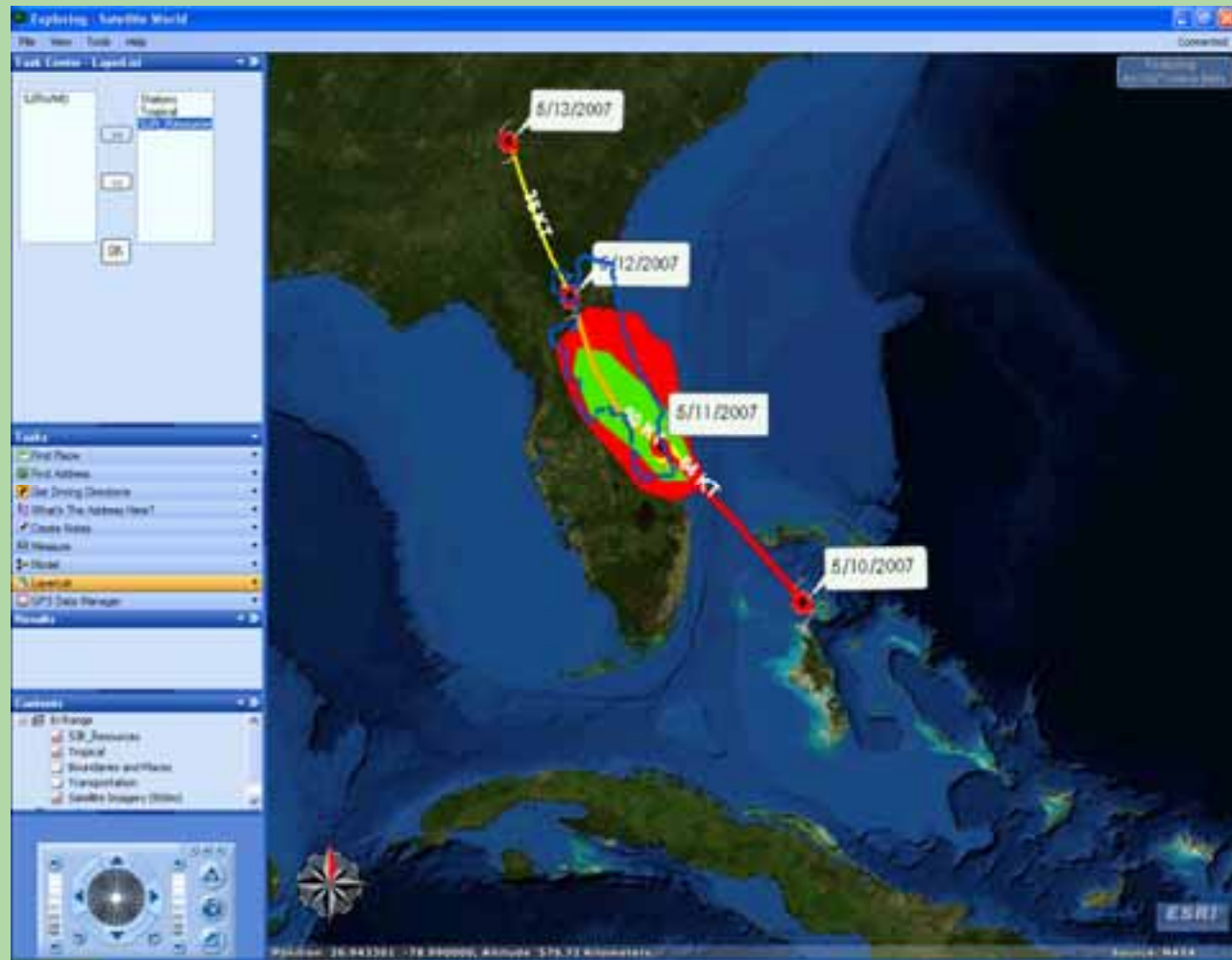


Tropical Tracking – ArcGIS Explorer

- Extending the web application by implementing the web, map, and geo-processing services into a format that is distributable and more flexible.
- Customizable by the user – additional information can be added and other tasks and queries can be performed



Tropical Tracking – ArcGIS Explorer



ArcGIS Explorer

- The need –
 - To provide a lightweight application to users who require basic viewing and pre-defined geoprocessing tasks in an “easy to use” format
- The goal –
 - To increase GIS use and integration/alignment with business processes



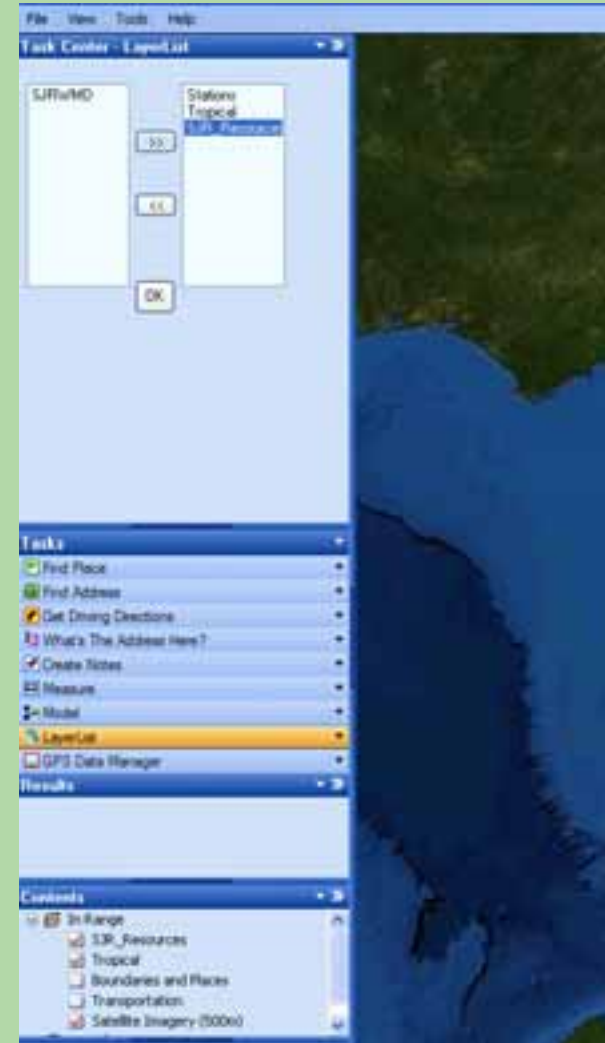
ArcGIS Explorer

- Current status
 - In development & collaboration w/ESRI
- Development Plans
 - Inclusion of internal data including high resolution imagery
 - Custom geoprocessing tasks
 - Advanced integration with external data sources



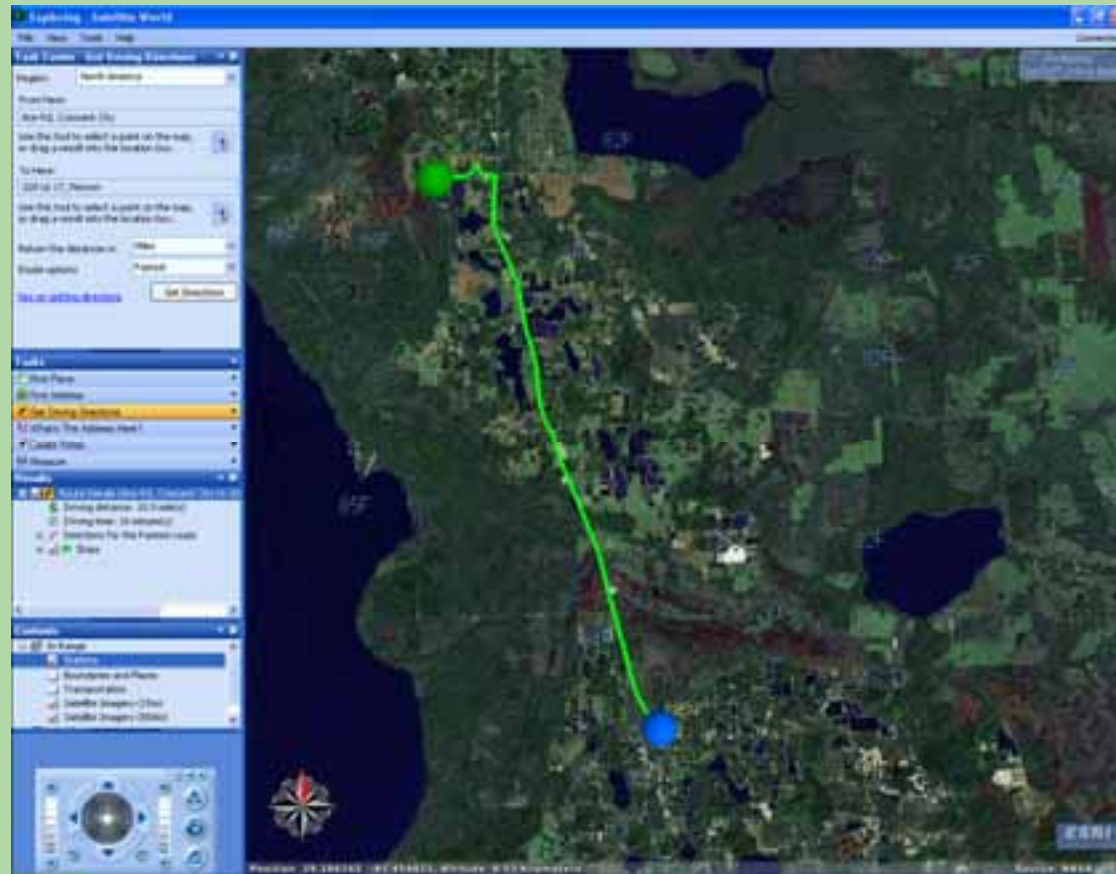
ArcGIS Explorer – current development

Custom layer task



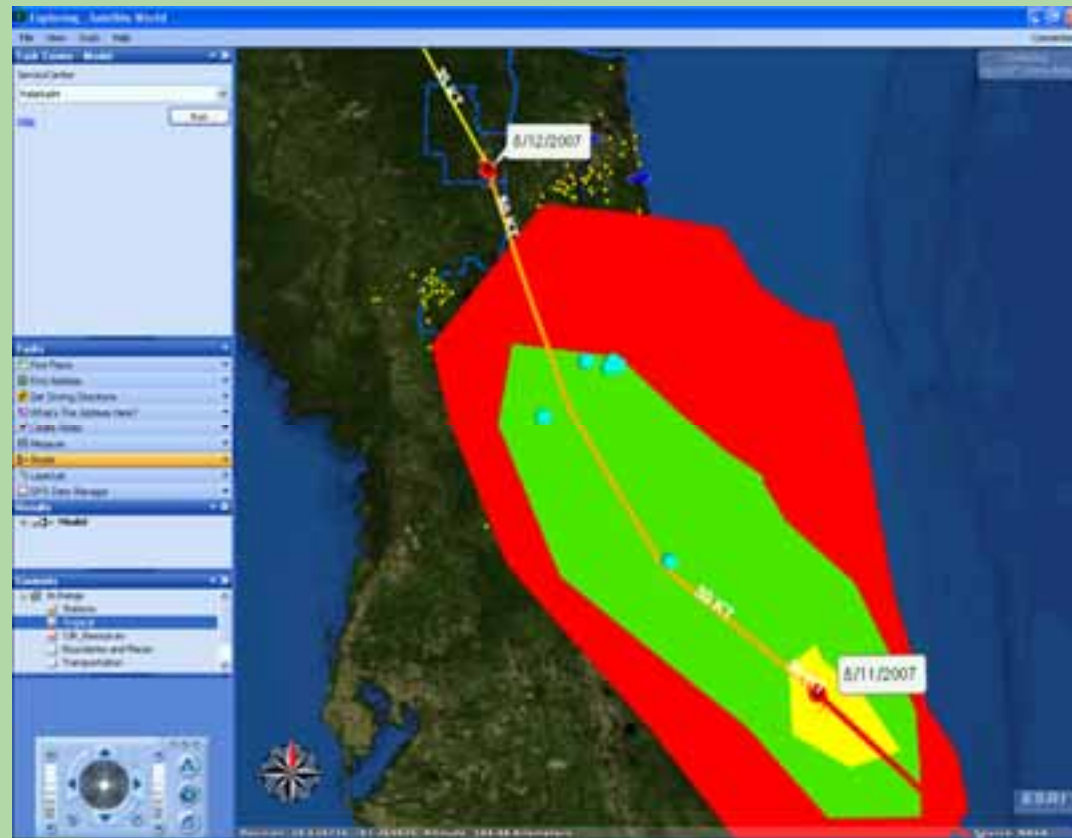
ArcGIS Explorer – current development

Trip planning – routing with weather and traffic conditions



ArcGIS Explorer – current development

Tropical tracking tasks



Our Future

- Higher resolution data
- Integrated data models
 - Arc Hydro
- Predictive GIS
 - Models
 - Decisions support tools



A vertical strip on the left side of the slide shows a topographic map. It features a compass rose with 'N', 'S', 'E', and 'W' markers. Below the compass rose is a blue circular logo with a stylized 'W' and 'M' inside. At the bottom of the strip, the text 'ST. JOHNS RIVER WATER MANAGEMENT DISTRICT' is printed in white capital letters.

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Please come by and visit booth 113