

# GIS technology and the water management districts

**Presented by David W. Fisk**

**Assistant Executive Director**

**St. Johns River Water Management District**



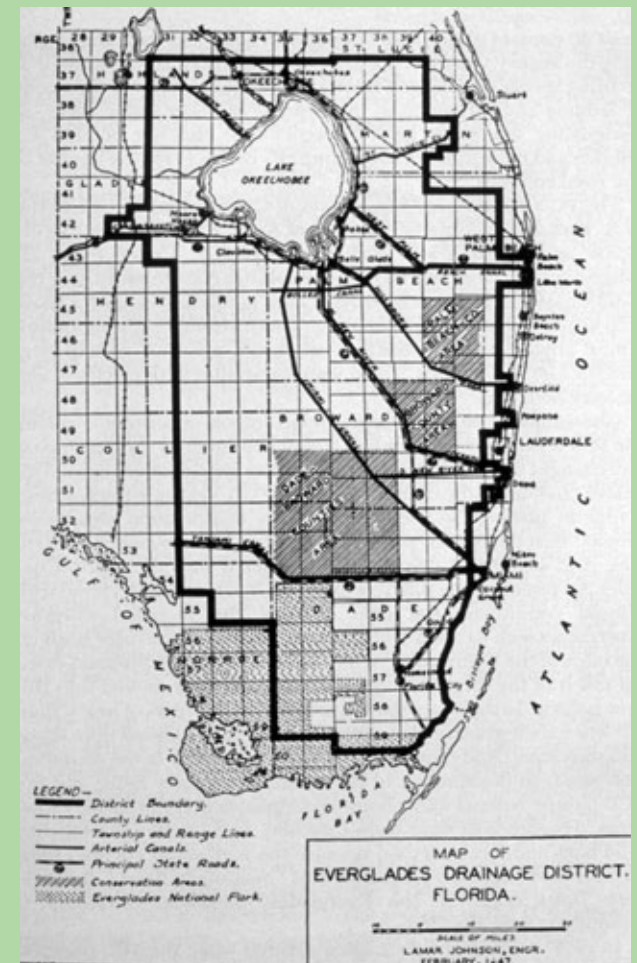
# Early water management in Florida





# History of water management districts

- 1949 – Creation of the Central and Southern Florida Flood Control District
- 1961 – Creation of the Southwest Florida Water Management District



# Florida Water Resources Act of 1972

- Renamed the Central and Southern Florida Flood Control District to the South Florida Water Management District
- Retained the Southwest Florida Water Management District
- Created the St. Johns River, Suwannee River and Northwest Florida water management districts



# Florida's water management districts





# Water management district governance

- Independent special districts with specific authority derived from the Florida Legislature
- Citizen Governing Board appointed by the Governor and confirmed by the Senate
- Specific constitutional and statutory authority to levy ad valorem taxes
- Employ an executive director and professional staff
- General supervisory oversight by the Secretary of the Department of Environmental Protection





# Water management district programs and areas of responsibility

- Manage and protect the state's water resources and related natural systems, water supply, water quality and flood protection
- Six major programs
  - Management and administration
  - Outreach
  - Regulation
  - Water resources planning and monitoring
  - Acquisition, restoration and public works
  - Operation and maintenance of lands and works

# Water management districts today

- Total budget for all five districts
  - \$2.2 billion
- Total staffing for all five districts
  - 3,340



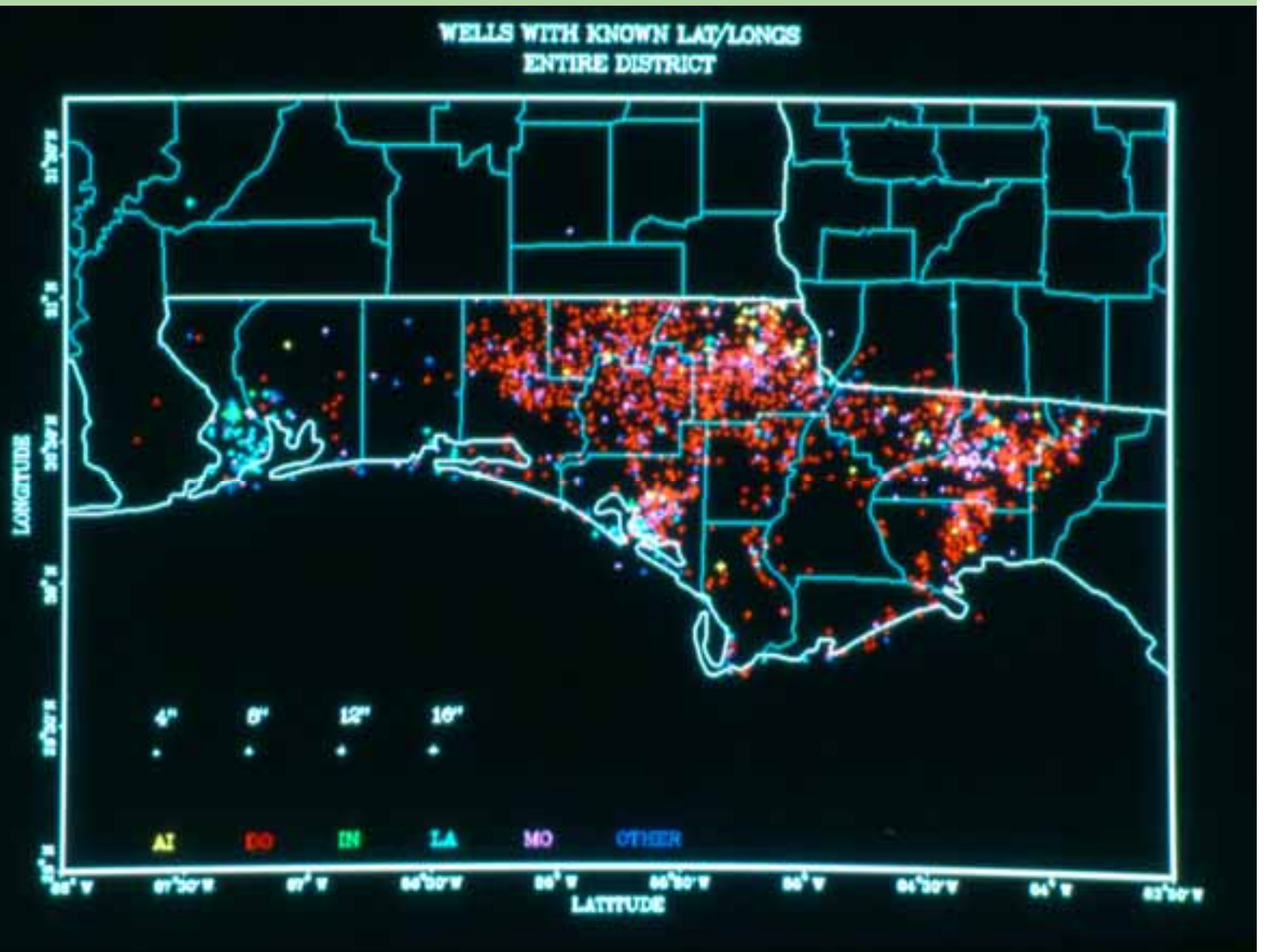


# Protecting water



- Blue Cypress Conservation Area

# Pre ARC/INFO technology







# Evolution of GIS technology at the water management districts

- As early as the mid-1970s, SFWMD began digitizing files using ComputerVision, performing area calculations and outputting maps
- SWFWMD had begun working with Intergraph to adapt its CAD packages to include geographic analysis tools



# First Florida ESRI license



# ARC/INFO revolutionizes GIS

- 1983 – St. Johns River Water Management District purchases ARC/INFO and embarks on a wetlands mapping project in Seminole County, Florida
- 1987 – The Southwest Florida Water Management District installs ARC/INFO and hires a GIS programmer
- 1988 – The Northwest Florida Water Management District purchases ARC/INFO
- 1989 – The Florida Department of Environmental Protection (FDEP) introduces ARC/INFO
- 1990 – The South Florida Water Management District converts to ESRI to take advantage of spatial analysis functions



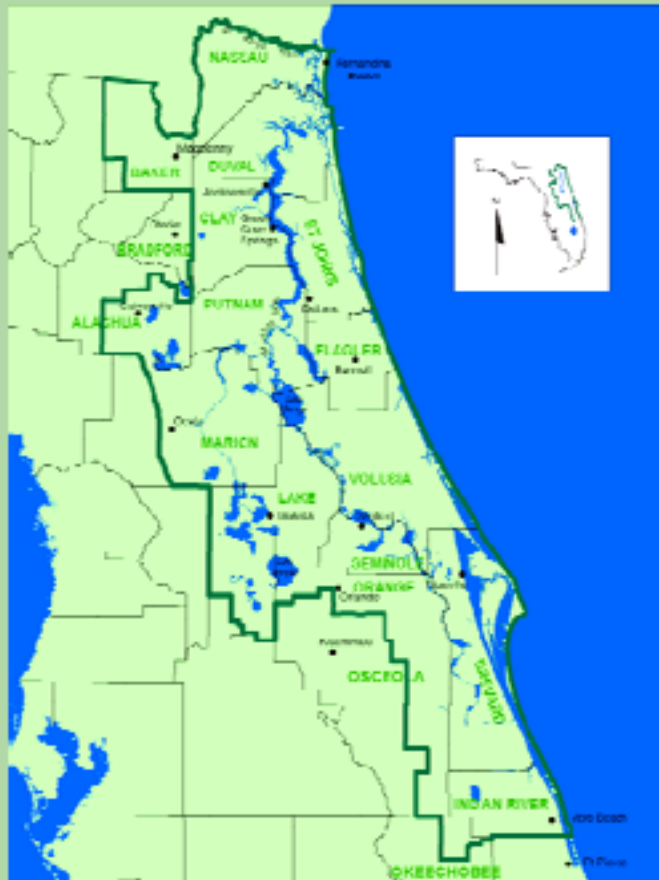


# Districts, state GIS managers' coordination meetings





# St. Johns River Water Management District



- **12,283 square miles**
- **Headquarters in Palatka**
- **18-county service area**
- **Service centers in Jacksonville, Altamonte Springs and Palm Bay**



# District mission

- “We will ensure the sustainable use and protection of water resources for the benefit of the people of the District and the state of Florida.”
- Core missions include water supply, surface water resource protection, flood protection and organizational effectiveness

# SJRWMD purchases ARC/INFO





# Digital orthophotography



1994



1999



2004



# Old technology



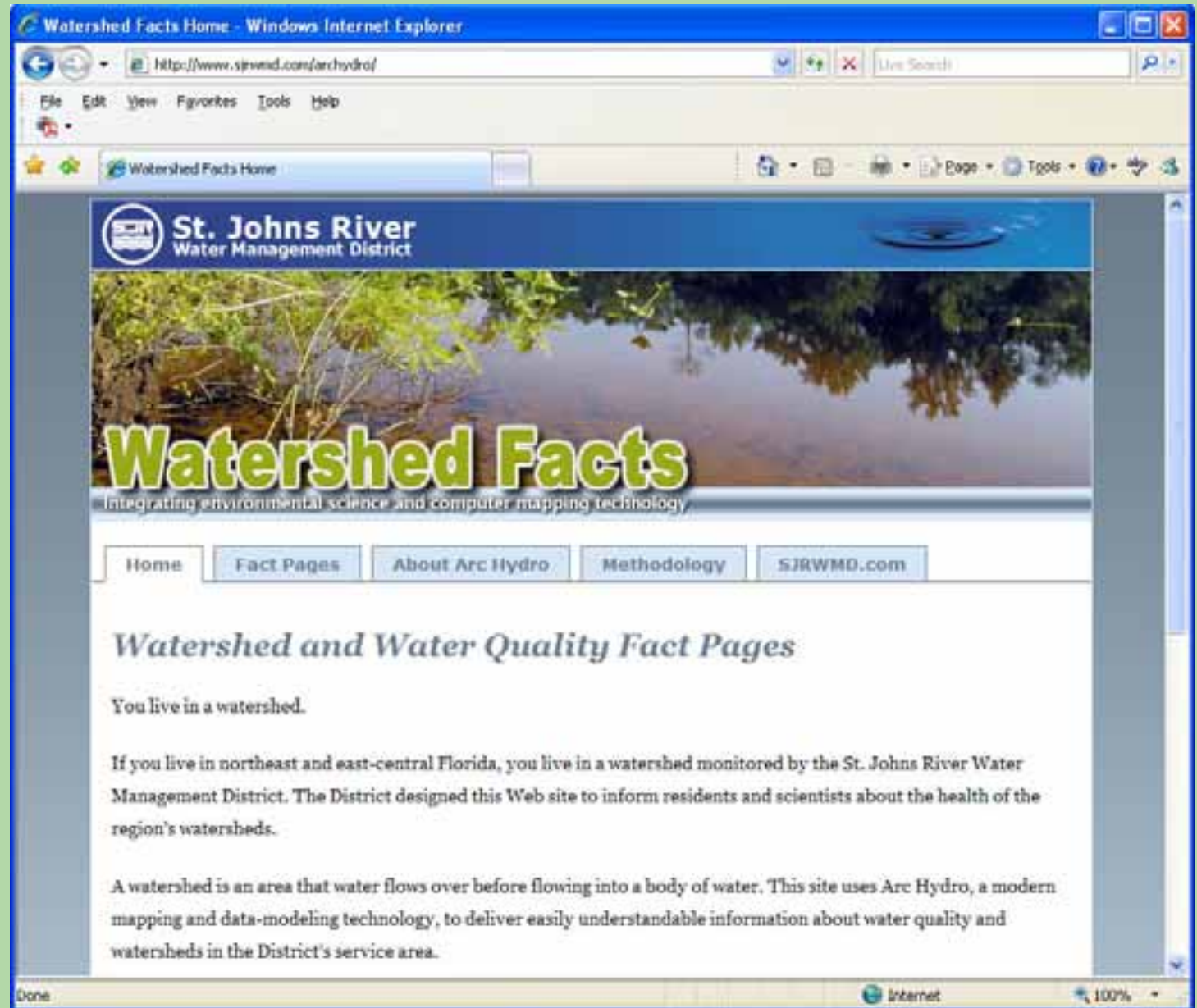


# Land coverage mapping



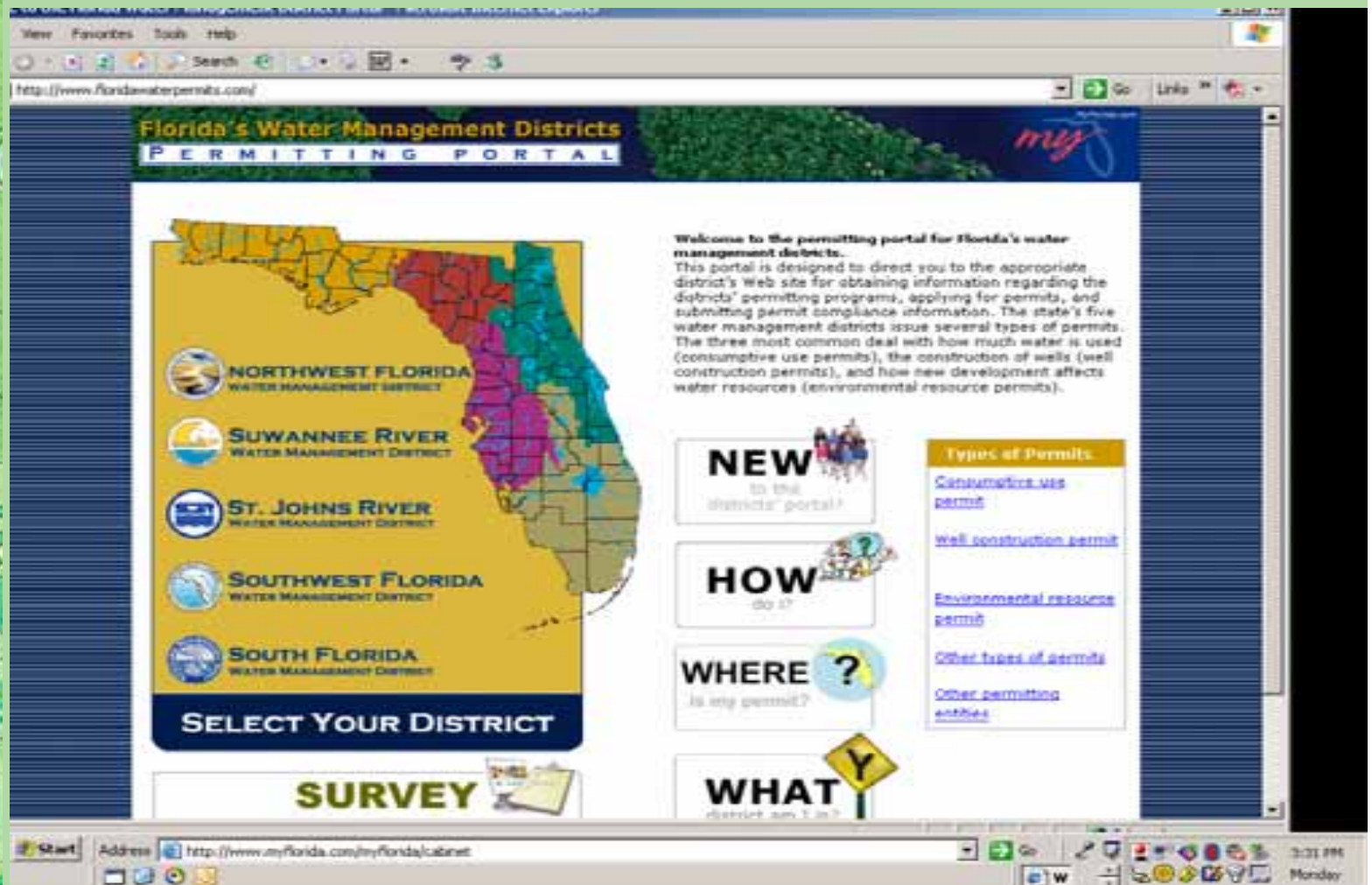


# GIS in Arc Hydro



# Floridawaterpermits.com

- A central hub for the public regarding permits





# New technology

- Regulatory Permit Search Tool



GIS Regulatory Permit Search Tool - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Print Mail Print Preview Print Setup

Address http://arcimpub.sjrwmd.com/website/oupwell/viewer.htm?Title=SJRWMD%20GIS-ROBMS%20Web-based%20Front-end%20Tool Go Links

CREATE MAP LEGEND LAYERS IDENTIFY LAST FULL IN OUT RECENTER OVERVIEW MAP

NORTH

WEST EAST

SOUTH

St. Johns River Water Management District  
Regulatory Permit Search Tool

☐ Consumptive Use Permit (CUP)  
☐ Environmental Resource Permit (ERP)

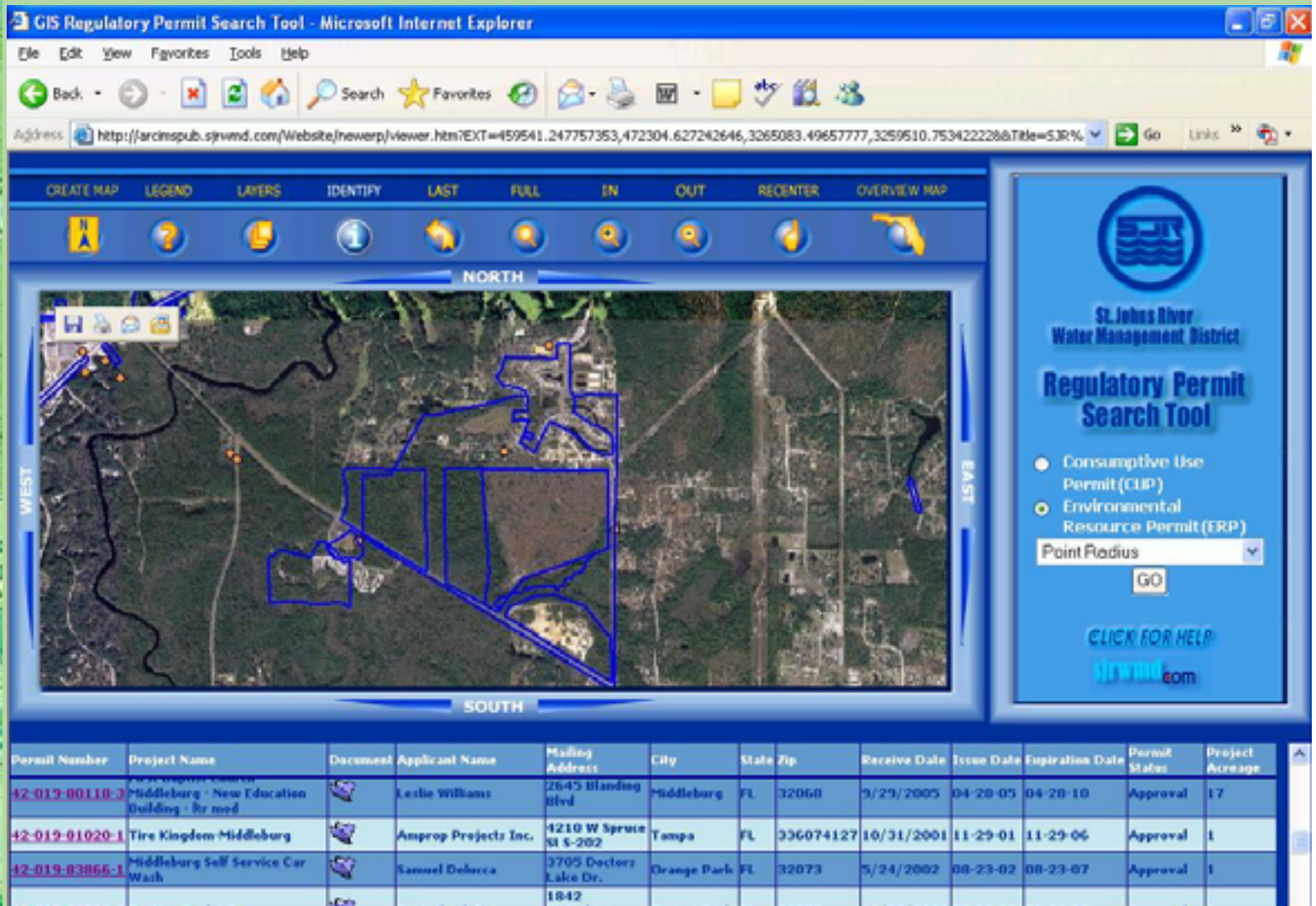
County  GO

[CLICK FOR HELP](#)  
sjrwmd.com

Year	Location	Owner	Address	City	State	Zip	Station ID	Station Name	Permit No.	Latitude	Longitude	Section	Township	Range	Diameter	Total Depth	Casing Depth	Water Source
1947	Palm Coast	City of Palm Coast	2 Commerce Blvd	Palm Coast	FL	32164	6582	A	1940	292923	812057	2	12S	29E	6	190	0	Floridan Aquifer
1947	Palm Coast	City of Palm Coast	2 Commerce Blvd	Palm Coast	FL	32164	6584	B	1948	292920	812048	2	12S	29E	6	190	0	Floridan Aquifer
1948	Samuel J Tilton Jr	Mr Samuel J Tilton Jr	RR 1 Box 75	Bunnell	FL	32110	6585	C	1940	292936	812105	2	12S	29E	6	190	0	Floridan Aquifer
1949	Timothy	Sirene Farm	3252 CR	Bunnell	FL	32110	6586	D	1948	292939	812048	2	12S	29E	8	220	0	Floridan Aquifer



- Regulatory Permit Search Tool





# Permit search

- Environmental resource permits



GIS Regulatory Permit Search Tool - Microsoft Internet Explorer

Address: [http://arcimspub.sjrwmd.com/Website/newerp/viewer.htm?EXT=459541.247757353,472304.627242646,3265083.49657777,3259510.753422228&Title=SJR%](http://arcimspub.sjrwmd.com/Website/newerp/viewer.htm?EXT=459541.247757353,472304.627242646,3265083.49657777,3259510.753422228&Title=SJR%20)

CREATE MAP LEGEND LAYERS IDENTIFY LAST FULL IN OUT RECENTER OVERVIEW MAP

NORTH

WEST EAST

SOUTH

ST. Johns River  
Water Management District  
**Regulatory Permit  
Search Tool**

- Consumptive Use Permit (CUP)
- Environmental Resource Permit (ERP)

Point Radius

GO

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[sjrwmd.com](http://sjrwmd.com)

Permit Number	Project Name	Document	Applicant Name	Mailing Address	City	State	Zip	Receive Date	Issue Date	Expiration Date	Permit Status	Project Acreage
42-019-35609-1	RAVINES REPLAT UNIT 4		Mr Stephen Monahan	2932 Ravines Rd	Middleburg	FL	32060	5/15/1995	00-03-95	00-03-00	Approval	4
42-019-35689-2	RAVINES REPLAT UNIT 4		David Greek	623 Oak Street	Green Cove Springs	FL	32043	8/13/2003	09-09-03	09-09-08	Approval	4
42-019-35735-1	FRIER'S SUPERCENTER OF MIDDLEBURG		Bobby Frier	Rt 13, Box 276	Lake City	FL	32055	10/25/1996	11-26-96	11-26-01	Approval	4
42-019-35798-1	DISCOUNT AUTO PARTS ETC		Discount Auto Parts	4900 South	Starke	FL	32014	6/24/1997	07-22-97	07-22-02	Approval	1



# Permit search

- Functionality allows numerous views



GIS Regulatory Permit Search Tool - Microsoft Internet Explorer

Address: <http://arcimspub.sjrwmd.com/website/cupwell/viewer.htm?Title=5JR.WMD%20GIS-RODM%20Web-based%20Front-end%20Tool>

CREATE MAP LEGEND LAYERS IDENTIFY LAST FULL IN OUT RECENTER OVERVIEW MAP

NORTH

WEST EAST

SOUTH

ST. JOHNS RIVER  
WATER MANAGEMENT  
DISTRICT

Regulatory Permit Search Tool

Consumptive Use Permit (CUP)  
Environmental Resource Permit (ERP)

County:

GO

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Permit ID	Project Name	Document	Applicant Name	Mailing Address	City	State	Zip	Station ID	Station Name	Permit No.	Latitude	Longitude	Section	Township	Range	Diameter	Total Depth	Casing Depth
22	City of Flagler Beach		City of Flagler Beach	PO Box 70	Flagler Beach	FL	32136	34525	10	59	292740	811156	17	125	31E	12	100	125
61	Castle Rock		Castle Rock Investments Inc	Po Box 331443	Atlantic Beach	FL	32233	34526	11	59	292559	811153	29	128	31E	12	180	125
								34527	12	59	292527	811205	32	125	31E	12	100	125
								39450	13	59	0	0	0			12	180	125



# Thank you

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*[www.sjrwmd.com](http://www.sjrwmd.com)*

