

Georgia District Overview

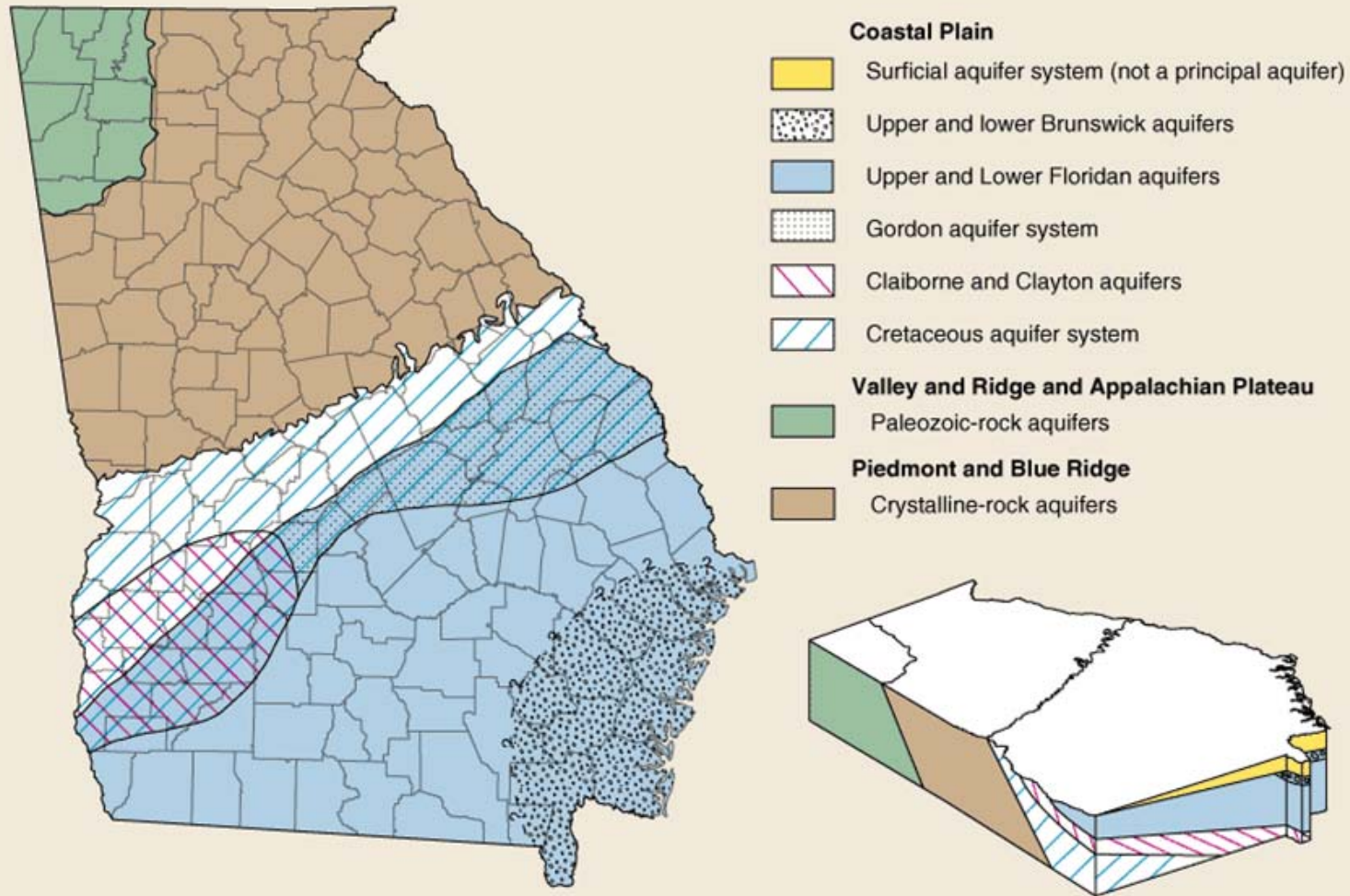
ITAC

Feb. 8, 2005

Atlanta Georgia



Physical Setting

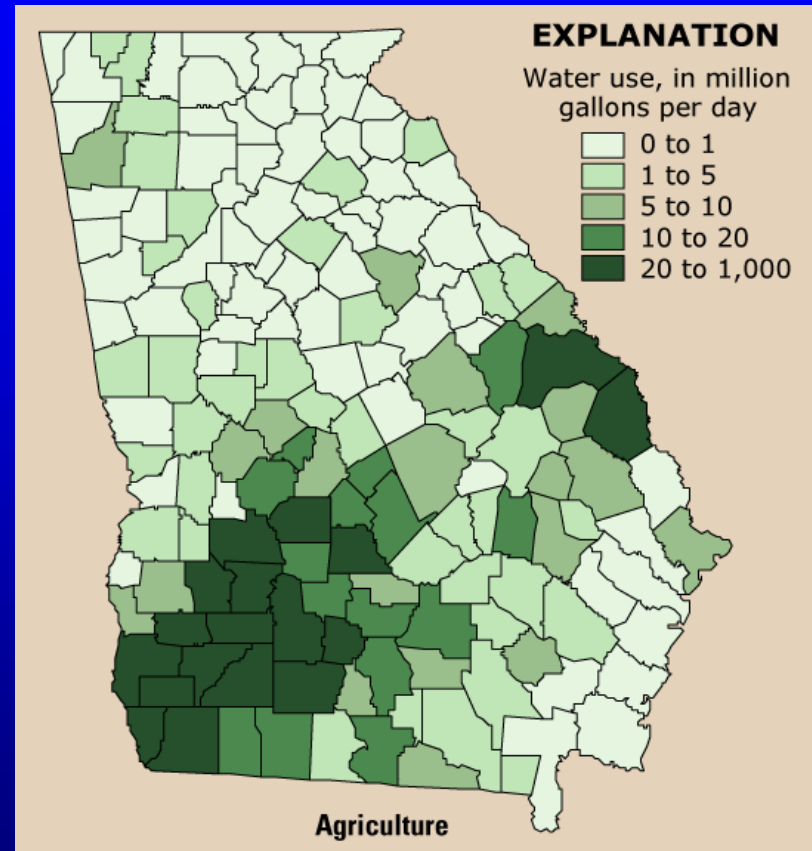
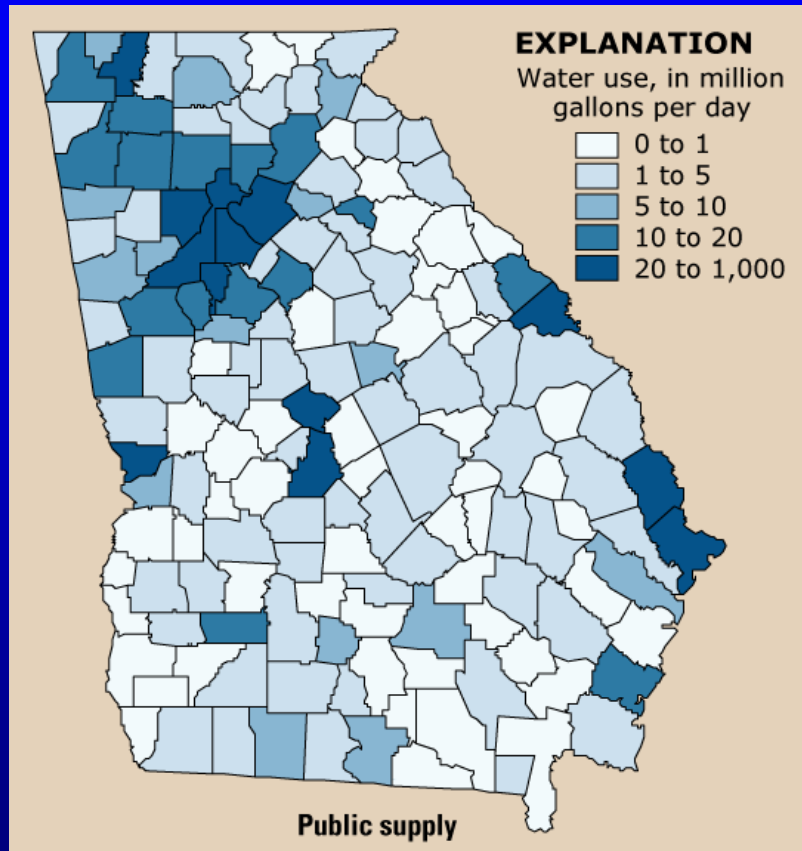


Physical Setting

- Coastal plain, ground- water supplies predominate
- Piedmont, Blue Ridge, Valley and Ridge, surface- water supplies

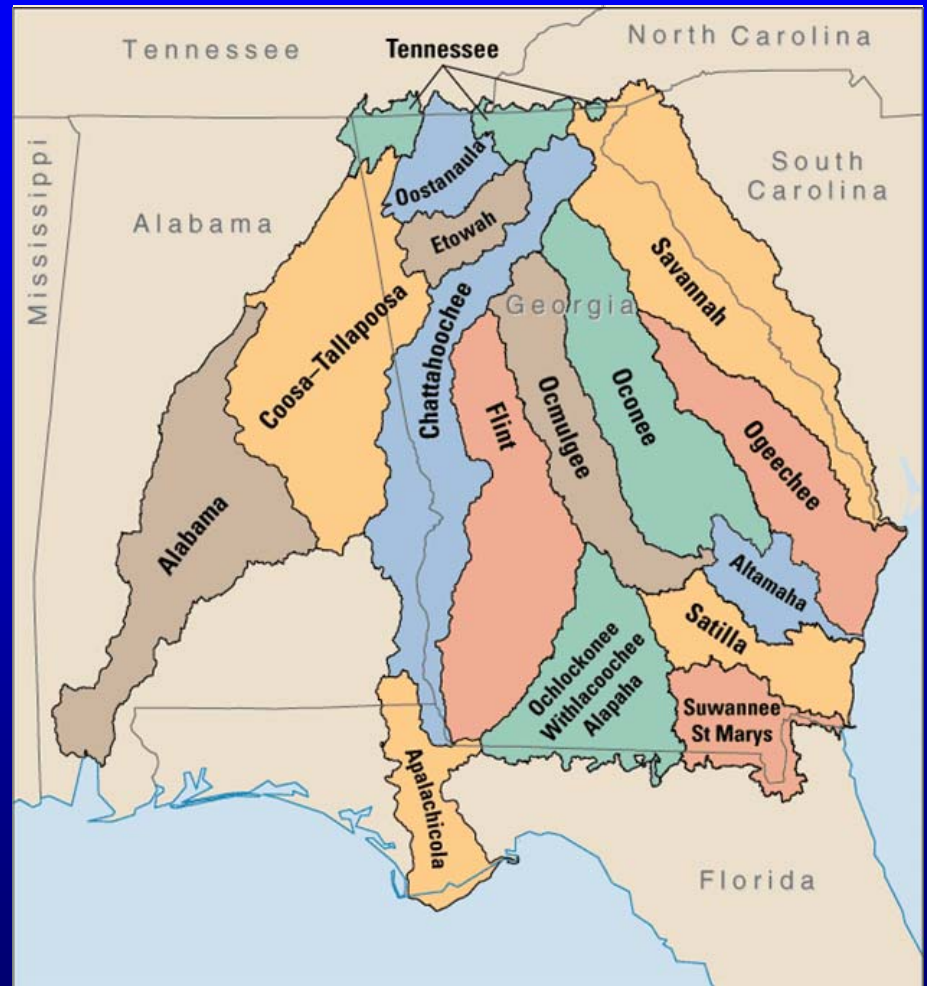


Water in Georgia:



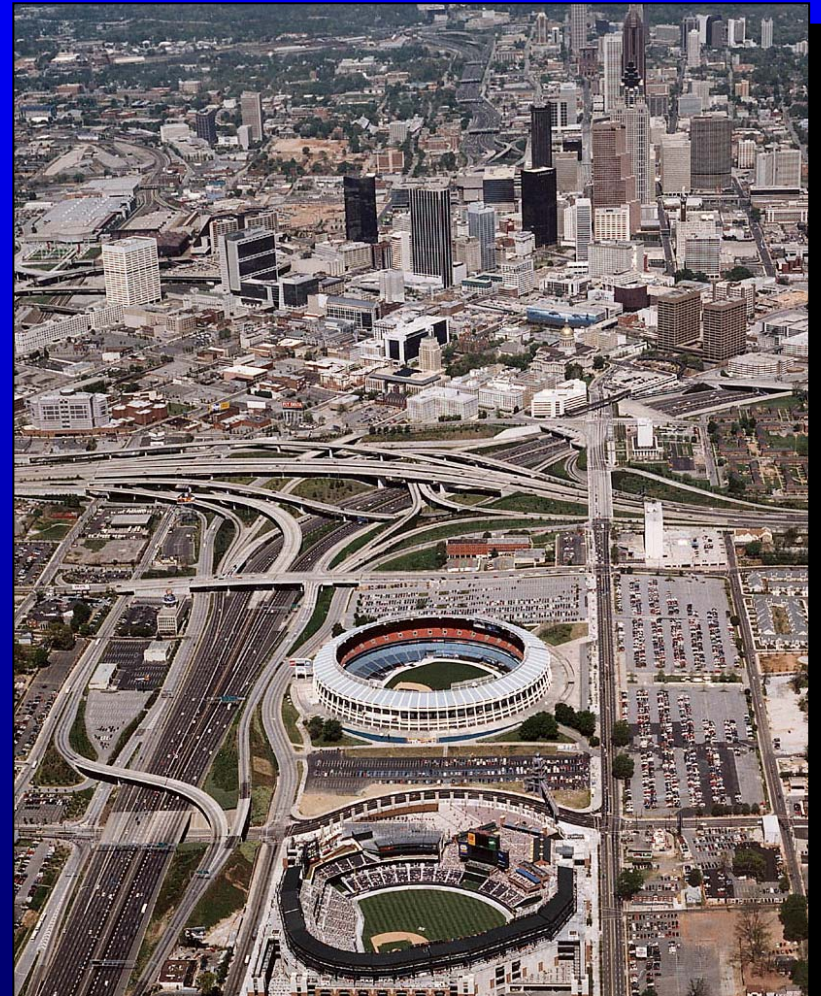
Physical Setting

- Headwater State, receives very little inflow, much runoff shared with other states



Setting : Metro Atlanta

- The dominate political, economic, and cultural force in Georgia
- Population: 4 million and rising
- Effects of landscape changes on natural processes major concern, habitat loss and change, nonpoint source
- Surface water primary source for public and industry

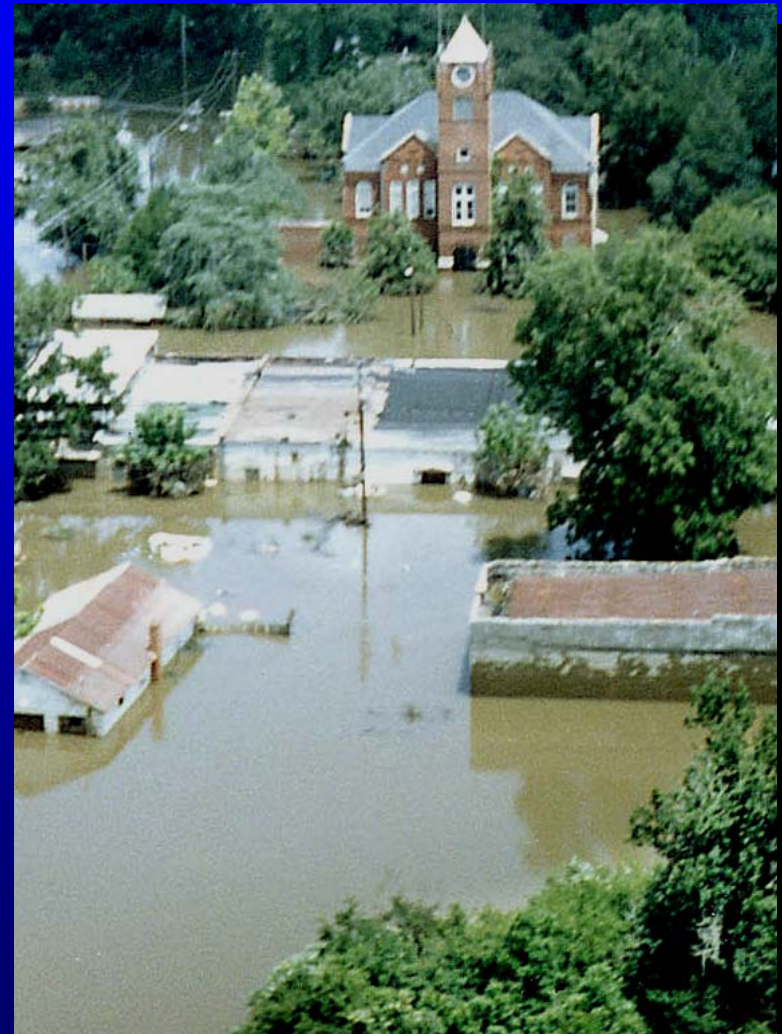


Setting: Coastal Georgia

- Extensive development
- Two major sea ports
- Biologically rich, diverse , and fragile ecosystem
- Area currently dependent upon upper Floridan aquifer

Setting: Hydrologic Hazards

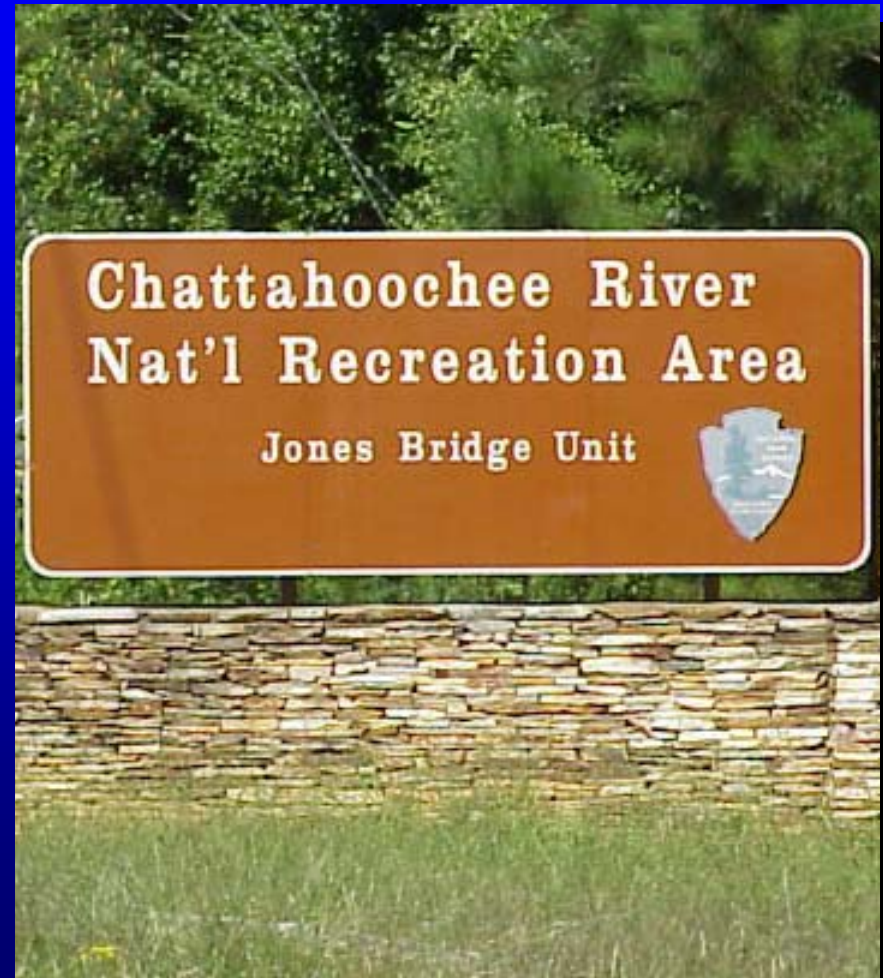
- Hurricanes from Atlantic and Gulf
- Spring time floods from continental fronts
- Development in flood plain
- Droughts impact public supplies in north and agriculture in south



Setting: Federal Lands

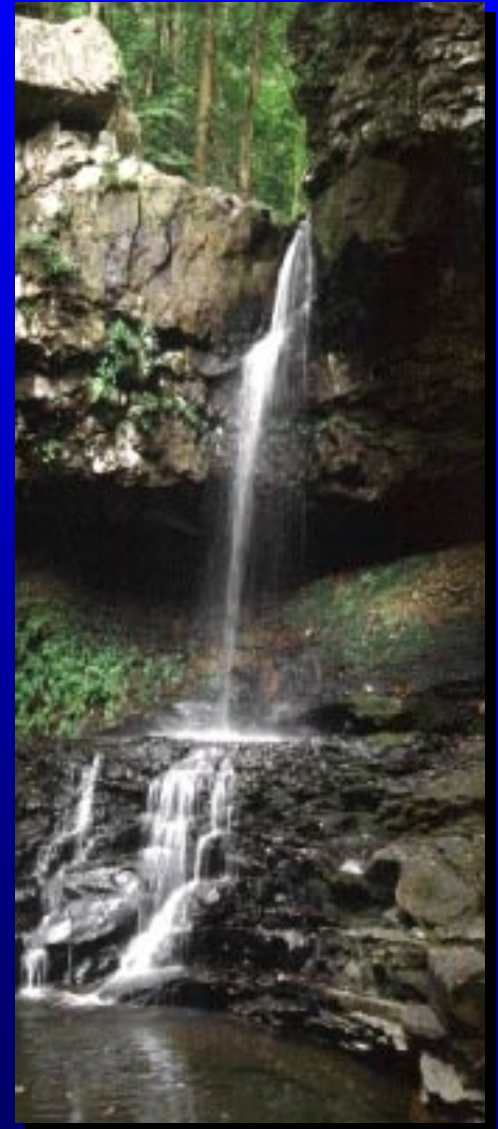
DOI and DOD Presence

- DOI -NPS
 - Chattahoochee River NRA
 - Cumberland Island National Sea Shore
- DOI – FWS refuges
 - Okefenokee NWR
- DOE - Savannah River Site
- DOD
 - USAF Plant 6
 - US Navy Submarine Base
 - USMC Logistics Base
 - USAF Robins Air Force Base
 - USAF Moody Air Force Base
 - US Army Fort:
 - Gordon
 - McPherson
 - Gillem
 - Benning
 - Stewart



Resulting Water Resources Issues

- **Water Availability**
- **Water Resources Development in Coastal Georgia**
- **Water Quality impacts from nonpoint sources**
- **Hydrologic Hazards**
- **Federal Lands and Interest**



HYDROLOGIC MONITORING AND ANALYSIS SECTION (38)	
Brian E. McCallum, SHyd / ADC (P-1)	14
Anthony J. Gotvald, Hyd (P-1)	12
Daniel V. Alhadeff, STEP (NP-.25)	5
<u>Statewide Water Quality Sampling Unit</u>	
Susan C. Grams, SHyd (P-1)	12
Robert NMI Coffin, HydT (P-1)	11
Craig E. Oberst, HydT (P-1)	11
James D. Everett, HydT (P-1)	7
Fred C. Gozzi, HydT (P-1)	7
Kevin M. Cralehy, HydT (P-1)	7
Bradley J. Beckman, SCEP (NP-.50)	4
Kelly P. Carroll, SCEP (NP-.25)	4
<u>Surface Water Unit</u>	
Christopher A. Smith, SHydT (P-1)	11
John T. Fisher, HydT (P-1)	11
W. Paul Bennett, HydT (P-1)	9
A. Cal Day, Hydr (P-1)	9
Charles G. Somerindyke, HydT (P-1)	8
S. Reece Stafford, HydT (P-1)	7
T. Jack Neighbors, HydT (P-1)	8
Jerrell O. Knight, STEP (NP-.25)	4
<u>Urban Hydrology Unit</u>	
W. Brian Hughes, SHyd (P-1)	13
Timothy K. Pojunas, Hyd (P-1)	9
<u>City of Atlanta Project</u>	
Andrew C. Hickey, HydT/Acting Chf (P-1)	12
Jacob H. LaFontaine, CEng (P-1)	9
Susan L. Hartley, HydT (P-1)	8
Ryan M. Scott, HydT (P-1)	6
Christopher B. Walls, HydT (P-1)	5
Claudia B. Russell, SCEP (NP-.40)	4
Prince O. Kwarteng, STEP (NP-.25)	4
Jennifer Steinmueller, SCEP (NP-1)	4
<u>Gwinnett County Project</u>	
Paul D. Ankcorn, Hyd / Project Chf (P-1)	12
Andrew E. Knaak, EEng (P-1)	9
Stephanie A. Gillain, HydT (P-1)	7
Donald G. Dowling, HydT (NP-1)	5
<u>Rockdale County Project</u>	
John K. Joiner, CEng / Project Chf (P-1)	11
Daniel Stephens, HydT (P-1)	7
Jolene J. Jones, HydT (P-1)	6
Joshua S. Fulson, SCEP (NP-.40)	4
Jessica D. Richardson, STEP (NP-.25)	4
USGS Geologic Discipline Personnel Physically Located In Georgia District Office (not included in employee count):	
David C. Prowell, Geologist	
Helaine W. Markewich, Geologist	

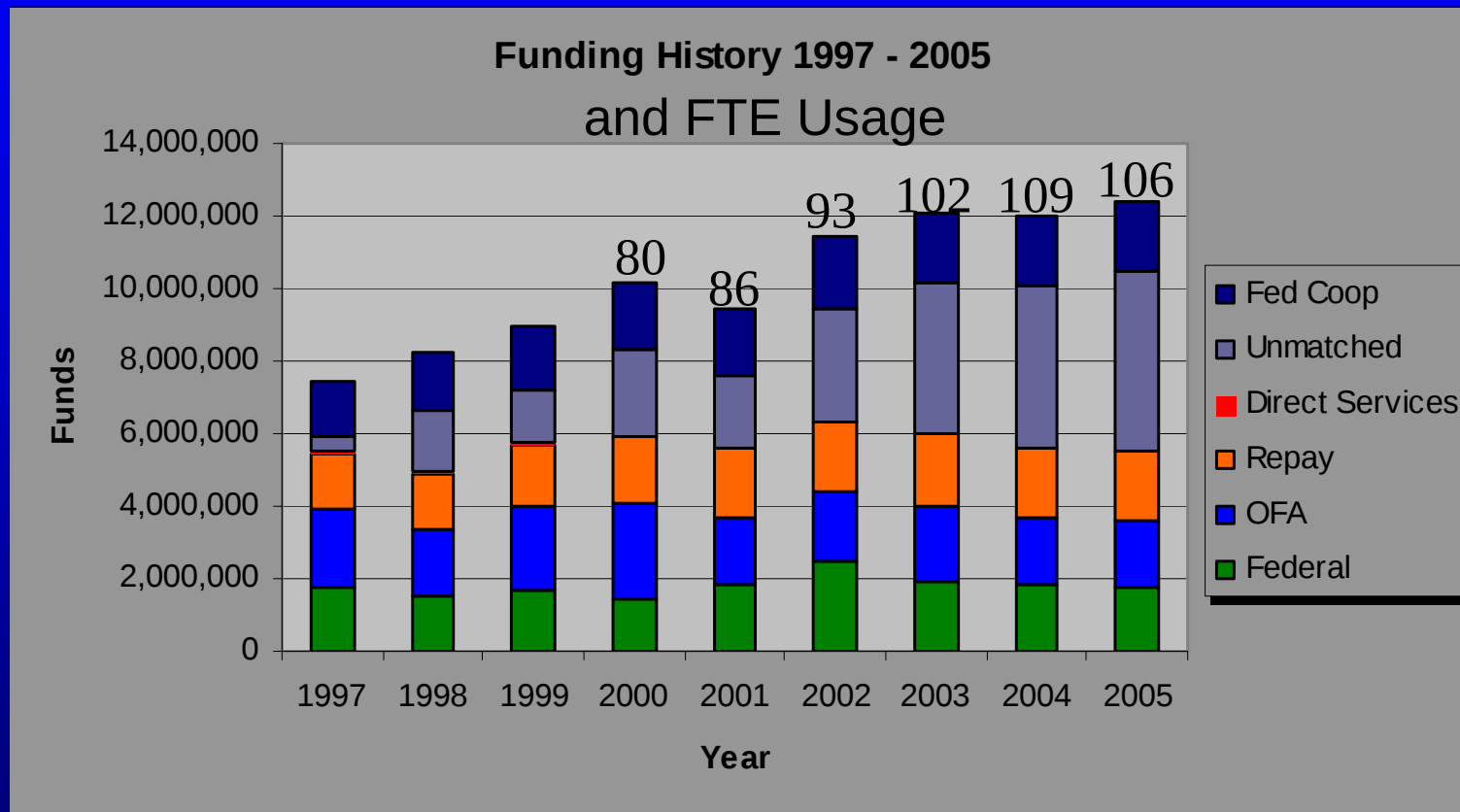
OFFICE OF THE DISTRICT CHIEF (6)	
Edward H. Martin, District Chief (P-1)	15
John S. Clarke, SrDS/ADC (P-1)	14
Warren D. Genett, AOAs (P-1)	7
<u>District Specialists</u>	
L. Elliott Jones, GWSp (P-1)	13
Mark N. Landers, SWSp (P-1)	13
Stephen J. Lawrence, WQSp (P-1)	13
REPORTS SECTION (4)	
Steven D. Craig, Reports Spec (P-1)	13
Caryl J. Wipperfurth, Cart (P-1)	12
Patricia L. Nobles, WrEdi (P-1)	11
Bonnie J. Turcott, PubGraSpec (P-1)	9
ALBANY FIELD OFFICE (5)	
Mark S. Reynolds, HydT (P-1)	11
John M. McCranie, HydT (P-1)	11
Lacy F. Jackson, SCEP (NP-.25)	5
Charles D. Curbow, SCEP (NP-1)	4
Mark A. Pederson, SCEP (NP-.25)	4
SAVANNAH FIELD OFFICE (4)	
Welby L. Stayton, HydT (P-1)	11
Lance J. Wilhelm, HydT (P-1)	11
Mark V. Truhlar, HydT (P-1)	9
Christina E. Cloran, HydT (P-1)	7
TIFTON FIELD OFFICE (3)	
R. Terry Nichols, HydT (P-1)	11
Gregory B. Donley, HydT (P-1)	11
Jonathan J. Graham, HydT (P-1)	6
USGS GEORGIA DISTRICT ORGANIZATION CHART	
Updated January 7, 2004	
116 Total Employees	
Approved 09/29/2003	
By Dist Chf, EHMartin 09/16/2003	
By Regl Hydr, TWHale 09/25/2003	
By Prsl Offr, KWSScott 09/29/2003	
Security Officer - C.M. Hacke	
Records Liaison Officer - D.C. Leeth	
Safety Officer - D.C. Leeth	
Asst Safety Officer - J.L. Fanning	
Equal Opportunity Coordinator - J.L. Fanning	
(Mavord) / geoOffice/sec/admin/personnel/orgchart120104	

ADMINISTRATIVE SERVICES SECTION (5)	
Debra C. Tracey, Acting AdmO (P-1)	12
Tonja R. Clark, AOsp (P-1)	9
Vacant, AOAs (P-1)	6/7
Hazel D. Gaston, AOAs (P-1)	7
Vacant, OACL, (P-1)	4/5
Crystal A. Benjamin, AOCL, STEP (NP-.40)	5
Ann-Marie Gumbs, AOCL, SCEP (NP-.50)	5
HYDROLOGIC INFORMATION MANAGEMENT AND DELIVERY SECTION (9)	
Timothy C. Stamey, SHyd / ADC (P-1)	13
Nancy L. Barber, Hyd (P-.80)	12
Keith W. McFadden, ITSp (P-1)	12
Howard A. Perlman, Hyd (P-1)	12
C. Michael Hacke, Hyd (P-1)	11
<u>Computer Services Unit</u>	
Michelle A. Wilkinson, ITSp (P-1)	12
Lavetra D. Sloan, ITSp (P-1)	11
Jason M. Root, ITSp (P-1)	9
JaNae G. Williams, SCEP (NP-1)	9
DoD ENVIRONMENTAL RESTORATION SECTION (5)	
Gregory C. Mayer, SHyd (P-1)	13
Gerard J. Gonthier, Hyd (P-1)	12
Lisa M. Stewart, Hyd (P-1)	12
O. Gary Holloway, HydT (P-1)	11
Jonathan P. Waddell, SCEP (NP-.50)	7
RIVER BASIN WATER-QUALITY ASSESSMENT SECTION (6)	
W. Brian Hughes, SHyd / Acting Chief (P-1)	13
Gary R. Buell, Hyr (P-1)	12
Elizabeth A. "Betsy" Frick, Hyd (P-.50)	12
Daniel L. Calhoun, Hyd (P-1)	11
M. Brian Gregory, Ecol (P-1)	11
Melinda S. "Mindy" Dalton, Hyd (P-1)	11
Deidre D. Black, SCEP (NP-.10)	7
State of Georgia Employee Physically Located in USGS Georgia District (not included in employee count):	
Vicki P. Trent, Senior Geologist	

HYDROLOGIC INVESTIGATIONS AND RESEARCH SECTION (31)	
Chief, Vacant GS-14	
Acting Chief is SrDS/ADC	
David J. Wangness, Hyd (P-1)	15
Lynn J. Torak, Hyd (P-1)	13
Dorothy F. Payne, Hyd (P-1)	12
DaVette A. Taylor-Harris, Geog (NP-1)	9
Trashawn T. Cook, STEP (NP-.50)	5
<u>Areal Investigations</u>	
D. Chris Leeth, SHyd / Safety Offr. (P-1)	13
Lester J. Williams, Hyd (P-1)	12
Greg S. Cherry, Hyd (P-1)	12
Julia L. Fanning, Hyd (P-1)	12
Debbie NMI Warner, Hyd (P-1)	11
Sherlyn NMI Priest, Hyd (P-1)	11
Phillip N. Albertson, Hyd (P-1)	9
Jaime A. Painter, Geog (P-1)	9
<u>Spatial Analysis Technologies</u>	
T.R. "Bob" Dyar, SHyd (P-1)	13
S. Jack Alhadeff, Hyd (P-1)	13
Jonathan W. Musser, Hyd (P-1)	12
<u>Panola Mountain Watershed</u>	
N.E. "Jake" Peters, Hyd (P-1) RGE	15
Brent T. Aulenbach, Hyd (P-1) RGE	12
Jacqueline R. Avery, SCEP (NP-1)	9
Sara K. Jones, SCEP (NP-.25)	3
<u>Project Support</u>	
Supervised by Areal Investigations	
Michael F. Peck, HydT / Acting Ch (P-1)	11
Alan M. Cressler, HydT (P-1)	11
Robert J. Allen, HydT (P-1)	6
Michael D. Hamrick, HydT (P-1)	7
Donna D. Khalouf, SCEP (NP-.40)	5
Lauren L. Bissey, SCEP (P-0)	4
<u>Sediment Chemistry</u>	
Arthur J. Horowitz, Chem (P-1) RGE	15
Kent A. Elrick, Chem (P-1)	12
James J. Smith, Chem (P-1)	11
J. Alex Mundo, SCEP (NP-.25)	4
Jonathan M. Freitag, SCEP (NP-.50)	4
Volunteer-For-Science Participants (not included in employee count):	
Chloe F. Johnson / A.C. Hickey	
Emily Russell / A.C. Hickey	
Abigail Stone / A.C. Hickey	

Management Issues:

Total Program Funding



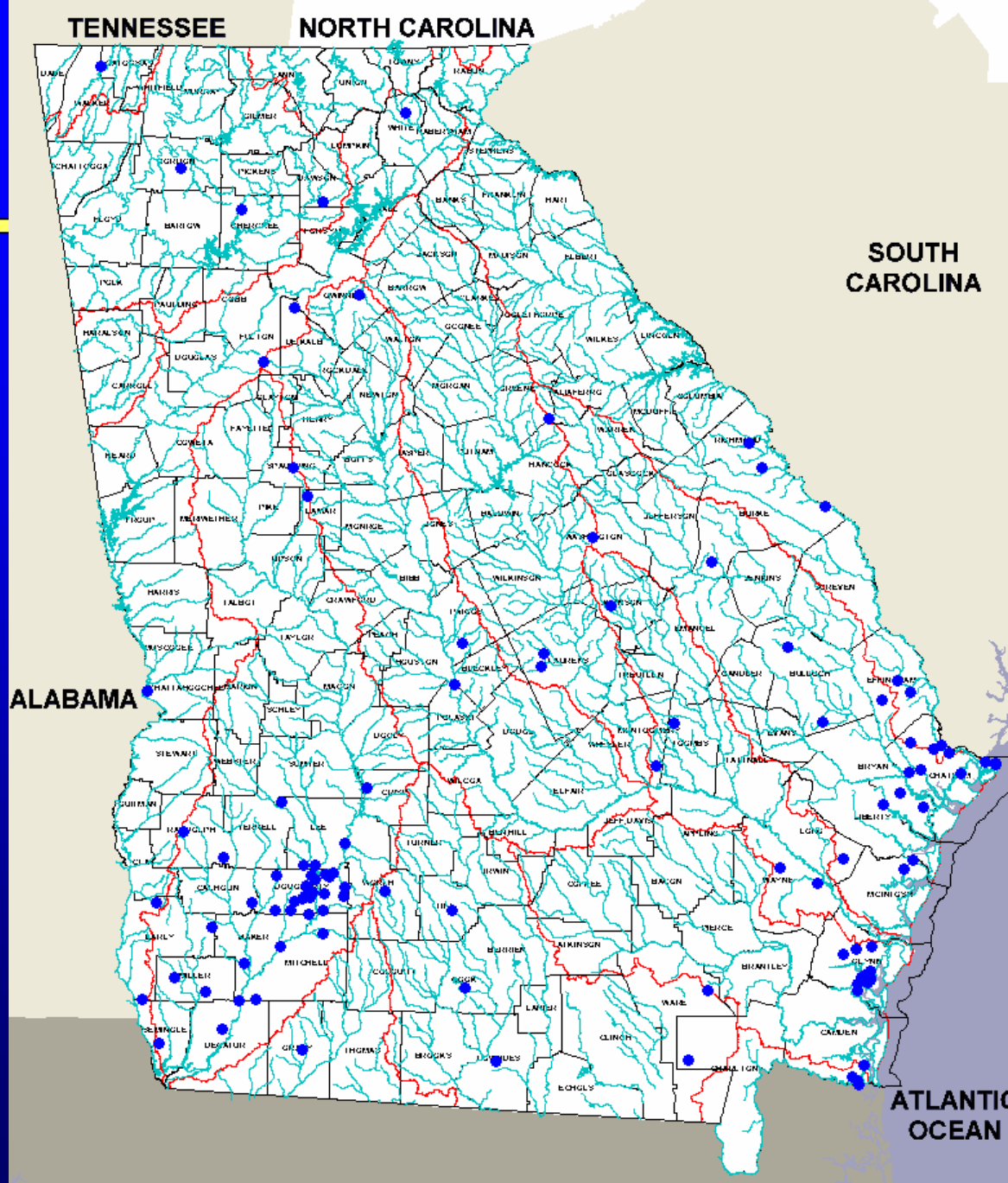
SW Network

- 205 Sites
- 200 Real time



GW Network

- 183 Continuous recorder sites
- 22 Real-time
- Changing over to HP iPAQ for servicing stations



State-wide QW Network

Each year, the USGS collects water-quality and streamflow data at

- 50 statewide sampling locations, which are fixed, long-term trend monitoring stations; and at**
- 75-100 stations in a focus basin collects water-quality and streamflow data**
- In the last 5 years Collected 15,500 water-quality samples at 509 surface-water stations across Georgia**

Coastal Georgia Sound Science Initiative

- Offshore drilling
- Alternative water sources
 - Lower Floridan
 - Seepage Ponds
 - Brunswick (Miocene) aquifers
- Monitoring network and database
- Ground-water flow and solute-transport modeling



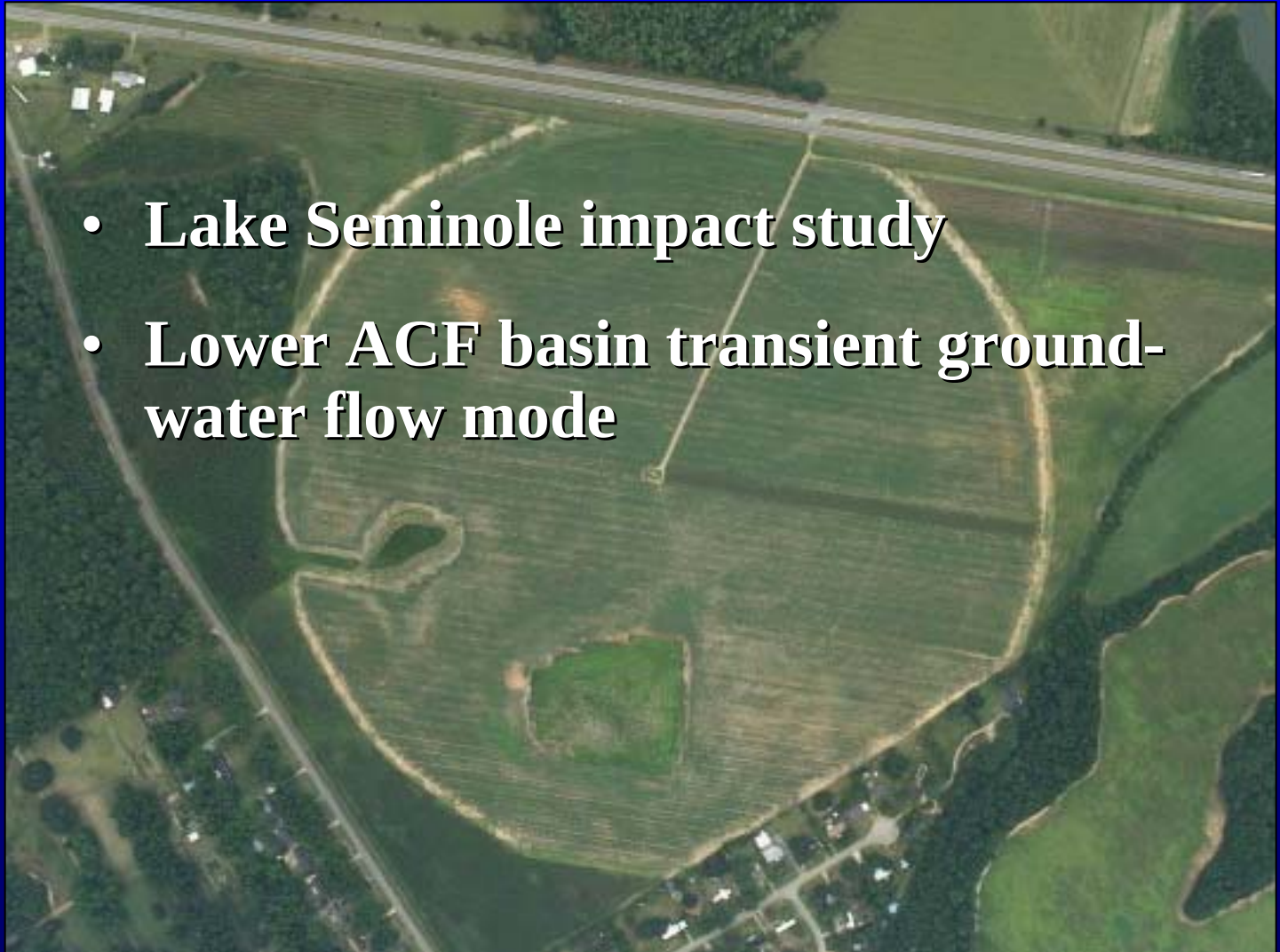
Program Highlights: Georgia Coastal Sound Science Initiative

- Coordinated, multi-agency, multi-district effort
 - 7+ years, ends Dec 2005
 - Seven formal reports (3 published, 1 in review, 3 next year)
 - Several abstracts and conf. papers
- Results are and will be used to set state policy on future groundwater development in the coastal region
- Interest in coordinated data collection and analysis across GA-FL border



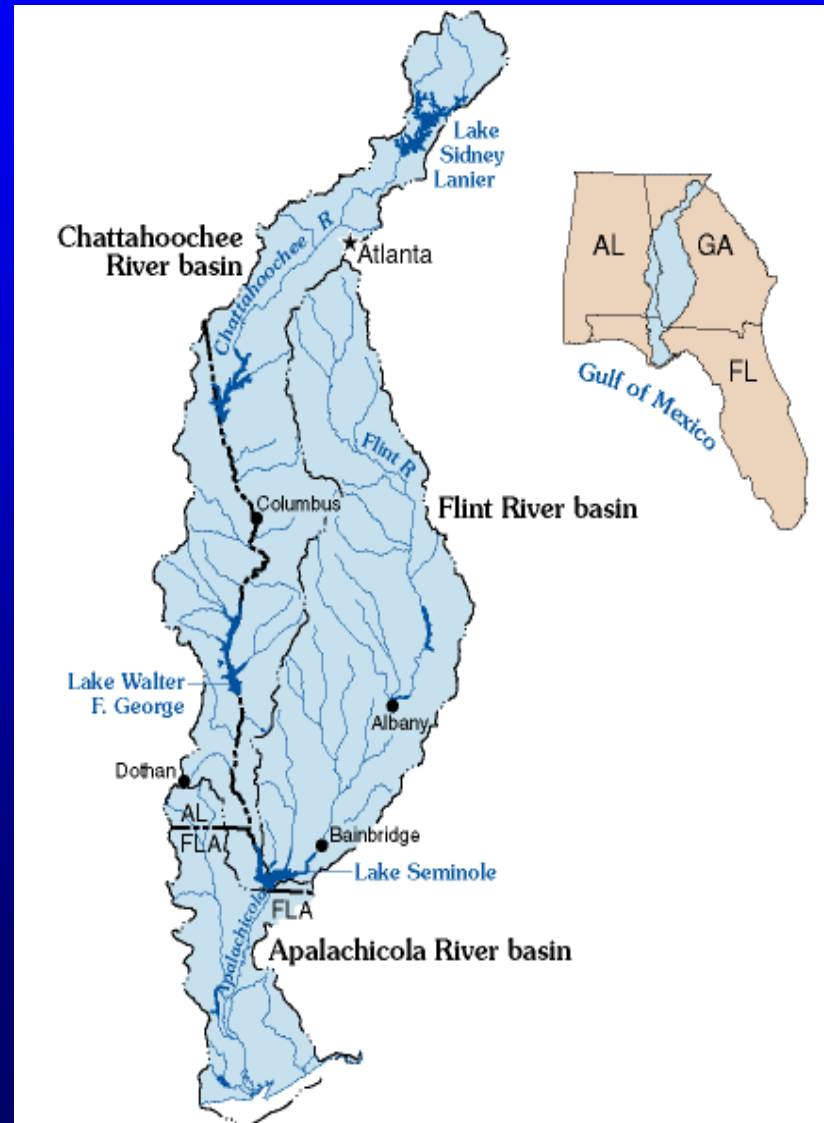
Issue: Water Availability—Southwestern Georgia

- Lake Seminole impact study
- Lower ACF basin transient groundwater flow mode



Program Highlights: Lower Flint River Basin, SW Georgia

- Rich history of USGS science in the region, 3 modeling reports in the 90's
- Lake Seminole project completed, series of three reports, 2 through review and at Region, one in review
- Transient flow FE model in preparation, due June 05.
- Results of last model used to set moratorium on new well permits, likely results of the transient flow model will be used to modify this state policy



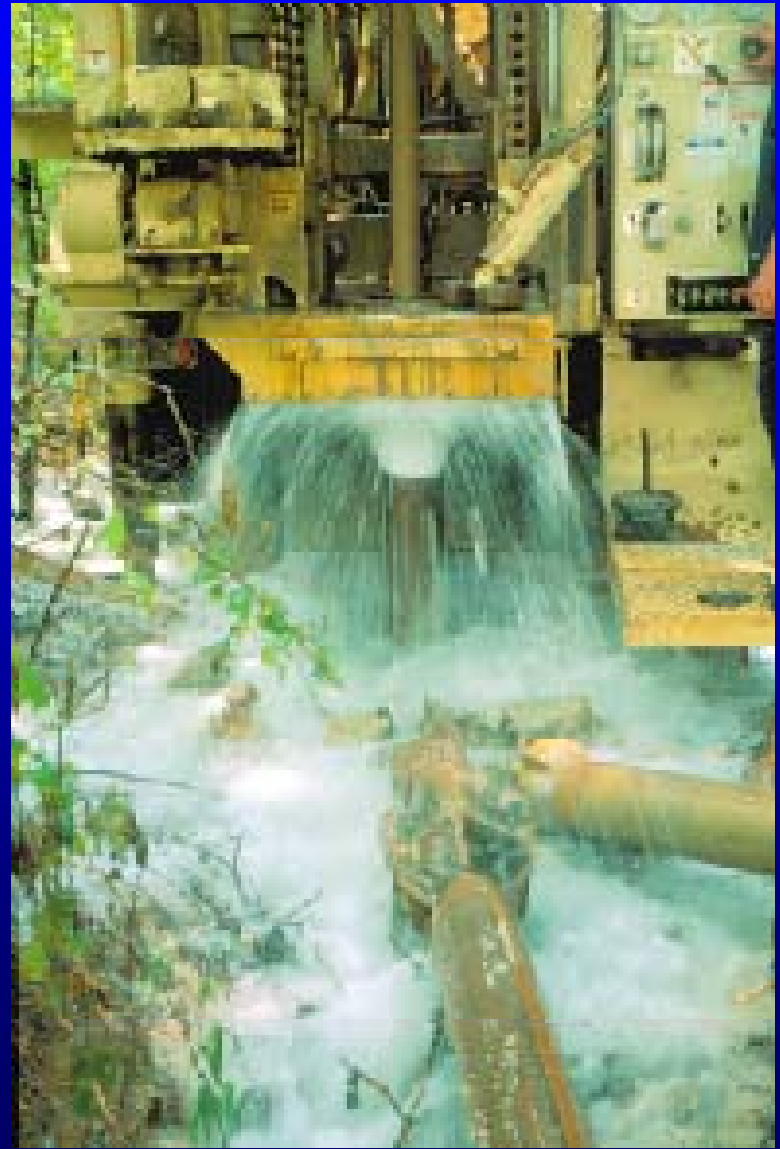
Program Highlights: Urban Hydrology Program

- Gwinnett County
 - WRIR Report: showed buffers work
- Rockdale County
 - Testing sediment surrogates
- City of Atlanta
 - One of the largest urban programs in country



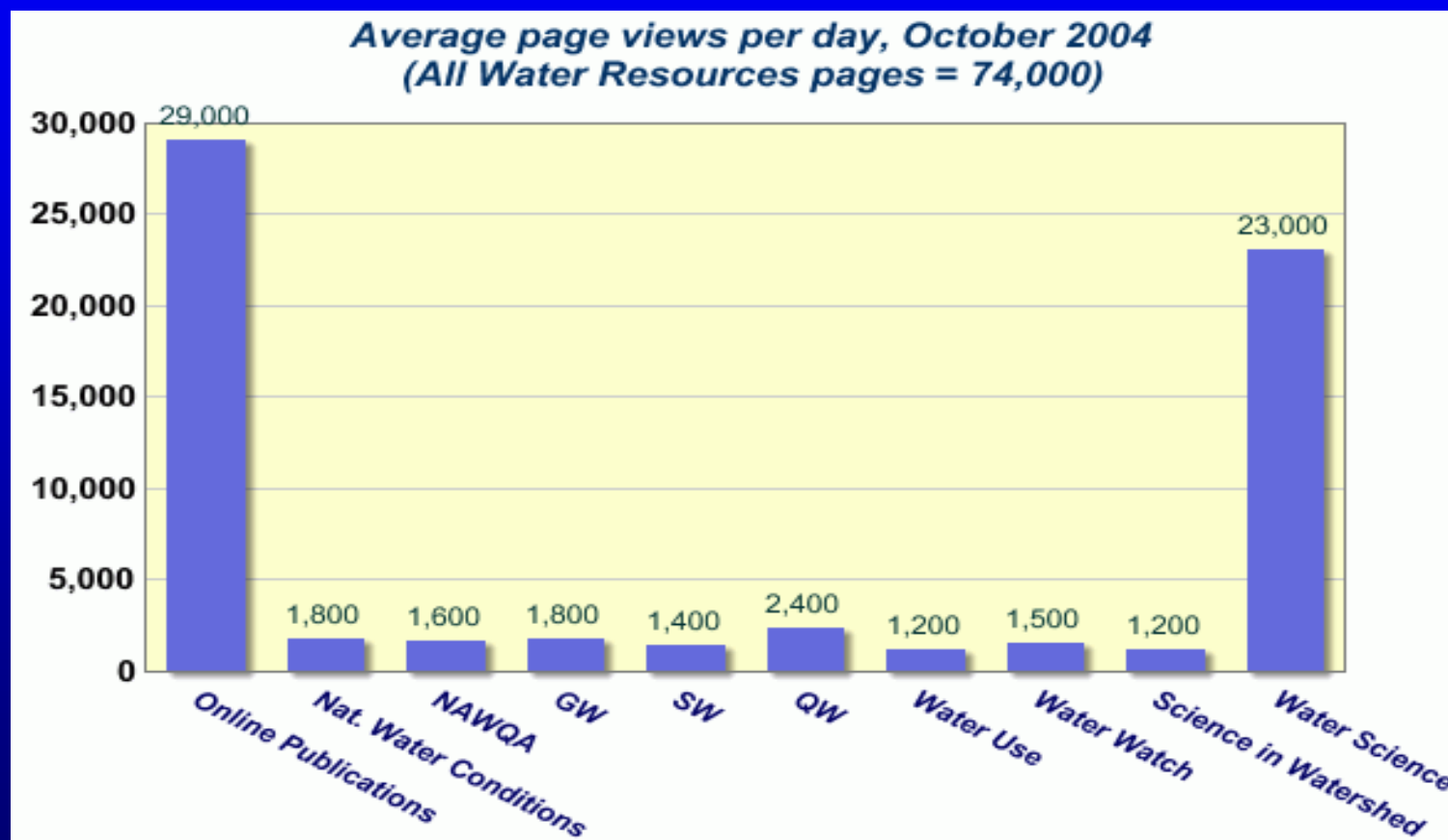
Water Availability in North Georgia

- City of Lawrenceville program
- Rockdale County program



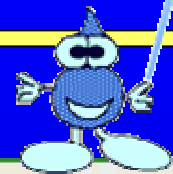
Why does Water Science deserve support?

- It is used and used and used ...



Why does Water Science deserve support?

We're
#1



- Popularity ...

The screenshot shows a web browser window with the Google search engine. The address bar displays the URL: <http://www.google.com/search?hl=en&lr=&safe=off&q=%22water%22>. The search bar contains the text "water". The search results are displayed under the heading "Web". The first result is highlighted in yellow and reads: "Water Science for Schools (USGS): All about **water**! All about **water** - the US Geological Survey's **Water** Science for Schools information site. USGS home page. Welcome to the US Geological ... ga.water.usgs.gov/edu/ - 14k - [Cached](#) - [Similar pages](#)". Below this, there is a link "EPA > Water" followed by the text: "Water, ... 2002: The Year of Clean **Water** - Celebration and Recommitment Acting Assistant Administrator Speeches & Testimonies. Current Information. www.epa.gov/water/ - 21k - Oct 24, 2004 - [Cached](#) - [Similar pages](#)".

Science Communication

Annual Data CD-report

- Should meet April 1st deadline
- Added ecological data
- 640 more pages than 2002WY



science for a changing world

Water Resources Data—Georgia, 2003

Volume 1: Continuous water-level, streamflow, water-quality data, and periodic water-quality data, Water Year 2003
Water-Data Report GA-03-1 *Authors: Andrew C. Hickey, John F. Kerestes, and Brian E. McCallum*

Volume 2: Continuous ground-water-level data, and periodic surface-water- and ground-water-quality data, Calendar Year 2003
Water-Data Report GA-03-2 *Authors: Robert Coffin, Susan C. Grams, David C. Leeth, and Michael F. Peck*

Compiled by: S. Jack Alhadeff and Brian E. McCallum



U.S. Department of the Interior
U.S. Geological Survey

Prepared in cooperation
with the State of Georgia
and other agencies



Science Communication

USGS - Georgia Water Information Network - Microsoft Internet Explorer

File Edit View Favorites Tools Help

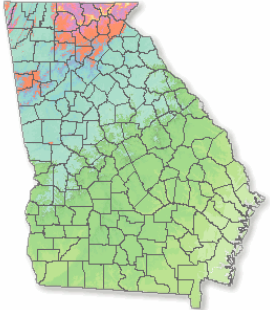
Address <http://ga2.er.usgs.gov/gawater/>

USGS
science for a changing world

Georgia Water Information Network (GWIN)

Georgia Counties

The U.S. Geological Survey (USGS) provides current ("real-time") water information for over 200 sites in Georgia and historical information for thousands of more sites. Select a county from the map or from the links below.



Related Links

Water Use in Georgia

Water Resources of Georgia
Home page of Georgia Water Resources

Georgia Hydro Watch
Your portal to Georgia's hydrologic data and information

Links
Links to other sources of water information

Water Resources of the United States
USGS's National Water Information System

Select a county:

Appling	Dade	Jefferson	Richmond
Atkinson	Dawson	Jenkins	Rockdale
Bacon	Decatur	Johnson	Schley
Baker	DeKalb	Jones	Screven
Baldwin	Dodge	Lamar	Seminole
Banks	Dooly	Lanier	Spalding
Barrow	Dougherty	Laurens	Stephens
Bartow	Douglas	Lee	Stewart
Ben Hill	Early	Liberty	Sumter
Berrien	Echols	Lincoln	Talbot
Bibb	Effingham	Long	Taliaferro
Bleckley	Elbert	Lowndes	Tattnall
Brantley	Emanuel	Lumpkin	Taylor
Brooks	Evans	McDuffie	Telfair
Bryan	Fannin	McIntosh	Terrell
Bullock	Fayette	Macon	Thomas

Georgia Water Information Network - Water information for Georgia counties - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://ga2.er.usgs.gov/gawater/countysites.cfm?code=135>

USGS
science for a changing world

Georgia Water Information Network (GWIN)

Gwinnett County

Gwinnett County real-time water information

Stage and streamflow

- Alcovy River at New Hope Road, near Grayson, Ga (02208150)
- Apalachee River at Fence Road, near Dacula, Ga (02218565)
- Big Haynes Creek at Lenora Road, near Snellville, Ga (02207385)
- Brushy Fork Creek at Beaver Road, near Loganville, Ga (02207400)
- Chattahoochee River at Buford Dam, near Buford, Ga (02234430)
- Chattahoochee River near Norcross, Ga (022335000)
- Crooked Creek near Norcross, Ga (022335350)
- Level Creek at Suwanee Dam Road, near Suwanee, Ga (02234578)
- N.F. Peachtree Creek at Graves Rd, N. Doraville, Ga (02236030)
- No Business Creek at Lee Road, Below Snellville, Ga (02207185)
- Richland Creek at Suwanee Dam Road, near Buford, Ga (02234480)
- Suwanee Creek at Suwanee, Ga (02234885)
- Wheeler Creek at Bill Cheek Road, near Auburn, Ga (02217274)
- Wildcat Creek near Lawrenceville, Ga (02205000)
- Yellow River at Ga 124, near Lithonia, Ga (02207120)

County facts

2000 population: 588,448
Land area: 445 square miles
County seat: Lawrenceville

Water use

In 2000, total freshwater use was 93.62 million gallons per day (Mgal/d), of which 93.14 Mgal/d (99%) was from surface-water sources and 0.48 Mgal/d (1%) came from ground water.

[Data tables and charts](#)

[Water use for Georgia](#)

Land use

University of Georgia land-cover maps (1 Megabyte PDF):
[1974](#) | [1998](#)

Links

[Links to other sources of water information.](#)

Water quality

- Apalachee River at Fence Road, near Dacula, Ga (02218565)
- Big Haynes Creek at Lenora Road, near Snellville, Ga (02207385)
- Brushy Fork Creek at Beaver Road, near Loganville, Ga (02207400)
- Chattahoochee River near Norcross, Ga (022335000)
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- Wheeler Creek at Bill Cheek Road, near Auburn, Ga (02217274)
- Wildcat Creek near Lawrenceville, Ga (02205000)
- Yellow River at Ga 124, near Lithonia, Ga (02207120)

Ground water

There are no real-time ground-water sites in Gwinnett County.

[Map of real-time sites in Gwinnett County](#)

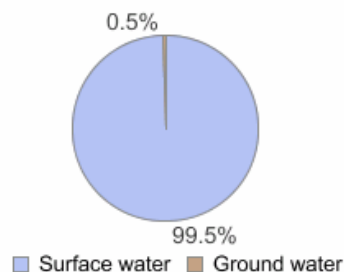


Georgia Water Information Network (GWIN) webpage

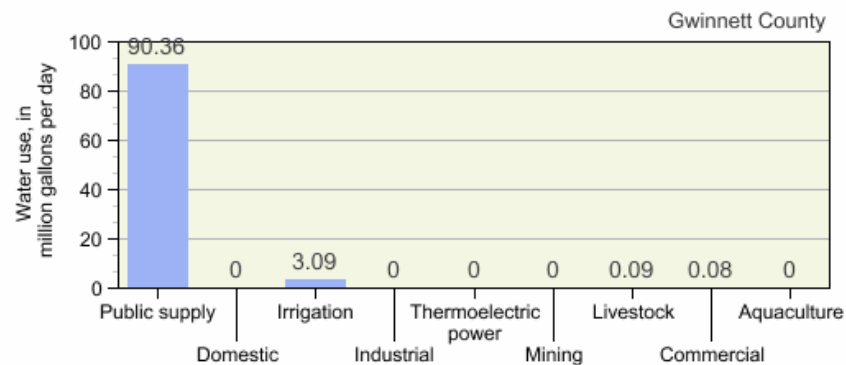
County Water Use

Total fresh-water use and source of water, Gwinnett County, 2000

Source	Water use, in million gallons per day	Percent of total use
Surface water	93.14	99.5%
Ground water	0.48	0.5%
Total	93.62	100.0%



Total fresh-water use by category of use for Gwinnett County, 2000



Water use by category of use for Gwinnett County, 2000

	Public supply	Domestic	Irrigation	Industrial	Thermo-electric power	Live-stock	Mining	Com-mercial	Aqua-culture	Total
Surface water	89.97	0.00	3.09	0.00	0.00	0.08	0.00	0.00	0.00	93.14
Ground water	0.39	0.00	0.00	0.00	0.00	0.01	0.00	0.08	0.00	0.48
Total	90.36	0.00	3.09	0.00	0.00	0.09	0.00	0.08	0.00	93.62

Major water users and water-withdrawal trends for Gwinnett County

Withdrawals by Major Public Suppliers (Mgal/d):

NAME	GW	SW
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Withdrawals by Major Industrial Groups (Mgal/d):

SIC	GW	SW
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Forms/Document Management

- Utilize digital signature
- Store form, data in data base
- Use data base for queries, status, and updates