

Florida Geology Forum

A Newsletter from the Florida Geological Survey, Vol. 22, No. 2, December 2008

DEPARTMENT OF ENVIRONMENTAL PROTECTION

A 35-year FGS Retrospective – Wow!!

Tom Scott, Assistant State Geologist

When Tom Scott (shown at Langston Quarry in the photo above) joined the FGS it was part of the Department of Natural Resources. The Department of Environmental Regulation was created a year later in 1975 when the legislature enacted the Florida Environmental Reorganization Act. The current Department of Environmental Protection came much later in 1993 with the merger of the Department of Environmental Regulation and the Department of Natural Resources.

Nearly 35 years ago, on January 7, 1974, I reported for work at the FGS (then called the Bureau of Geology – BOG). I interviewed with Steve Windham, the Assistant State Geologist, in December 1973. Bud Hendry, the State Geologist, decided to hire me. Pete MacGill, my geologist friend from undergrad days at USF and grad school at Eastern Kentucky University called me to make the job offer. He had been working at the FGS for six months. I had just received an offer from Amoco to be a petroleum geologist in Houston and needed to decide between the two offers. Luckily, the salaries were only slightly different, a far cry from salaries five years later. I decided on the FGS job because it would provide me with a much wider range of geologic experience. As it turned out, that was one of the best decisions of my life! I thought I'd be at the Survey for five or six years and move on but each time a chance to change jobs presented itself, something happened at the FGS that made me decide to stay a bit longer. Among these was an opportunity to return to school to pursue a PhD in 1980 and the investigation of the Hawthorn Group which became my dissertation. Another opportunity came when Walt Schmidt became the State geologist in 1985 and he offered me the job of the Assistant State Geologist. I decided to take the position telling Walt I'd give it five years and if I was still having fun, I'd stick around. That was 23 years ago! (Photo shows Walt (R) and Tom (L) circa 2003). The FGS has been extremely good to me and I can't imagine a better place to spend much of my geological career. What follows is a retrospective of the FGS for the last 35 years – the changes, the people, field trips, drilling and projects.

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For many years personnel turnover at the FGS has been low. In 1974, there were only a few young geologists at the FGS. The Survey was beginning a transition that wouldn't end for more than a decade. One day I was talking with Steve Windham about a Kentucky Geological Survey program that hired geology grad students to describe cores and cuttings. To my surprise, Steve said we had some money to start such a program and directed me to get it going. I did not have a good grasp of the state's geology so how was I going to help train the students??!! Among the first group of students hired was Walt Schmidt who had been flipping burgers at Burger King. We hired five students, one to work with each district geologist. Walt worked for Jim May in the Northwest District for about six months before Jim left the FGS. Walt was hired to fill the position and the rest is history! Today, a lot of us who were the "young" geologists in the 70s and 80s suddenly find ourselves being the "older" geologists!

By 1976, the FGS had hired several more young geologists. The photo shown here is of some of the FGS geologists at this time. The people in the photo are, from front left to right, Pete MacGill (with the globe), Mac McClellen, Mike Knapp, me and Ernie Bishop, our supervisor (all but Ernie were under 30). Walt and Ed Lane are missing from the picture. Pete was working on the Hawthorn "Formation" while I was learning about the carbonates of the Floridan aquifer system. Pete left the FGS around 1978 to work for the Department of Environmental Regulation. By that time, I wanted to look at something other than white limestone and brown dolostone so I picked up the Hawthorn investigation. What followed included descriptions of 100+ cores and numerous sets of well cuttings, completion of a dissertation on the Hawthorn Group in 1986 and publication of Bulletin 59 in 1988.

The Hawthorn Formation, as it was known prior to Tom's work, is a complicated three-dimensional mosaic of clay, sand, dolostone and limestone. It also contains Florida's phosphate deposits. Tom's research, which established the Hawthorn Group, made sense of the complicated configuration of those sediments and greatly enhanced our understanding of their geographic distribution. The environmental implications of that work are enormous. The Hawthorn Group generally serves as the upper confining unit of the Floridan aquifer system, locally serves as public water supply, and it is the main source of naturally occurring radioactivity in the state.

State Geologist Bud Hendry encouraged his geologists to make use of the State's waiver of tuition for job-related classes and pursue advanced degrees. A number of staff members took advantage of the program enrolling in the FSU Geology Department. Two of us completed Doctorates in Geology at FSU – Walt's dissertation was "Neogene stratigraphy and geologic history of the Apalachicola Embayment" and mine was "The lithostratigraphy of the Hawthorn Group (Miocene) of Florida." Both were published by the FGS. FGS staff geologists Jon Arthur



Tom Scott (L) and Walt Schmidt (R) in the field, circa 2003.



The 1976 FGS Crew, Pete MacGill (holding globe) Mac Mc Clellen, Mike Knapp, Tom Scott and Ernie Bishop.

and Ron Hoenstine also completed Ph.D. degrees at FSU while working at the FGS but did not use the tuition-waiver program. Bud Hendry stepped down as Florida's State Geologist in 1985.

Walt Schmidt was appointed as the fifth State Geologist of Florida since the FGS was permanently established in 1907. In 2007, Walt became the longest serving State Geologist in the country and has now served in the post for 23 years. During Walt's tenure many positive changes have occurred at the FGS. Staff geologists have obtained numerous grants and contracts from federal, state and local governments. Grants and contracts now bring more than \$1 million annually to the Survey. New and bigger drill rigs were purchased allowing for increased operator safety and deeper drilling and coring. Data gathered from these drilling projects is necessary to understand the State's hydrogeology and lithostratigraphy and has also contributed greatly to our knowledge of Florida's geologic history.

Like many others, I started into my geological training and, subsequently into the profession, because of a love of the outdoors. One of the most fortunate things about working at the FGS has been the ability to get in the field, drilling, visiting pits, checking outcrops and attending field trips. The twists and turns of a geological career make life interesting. There have been many memorable field trips, field excursions and projects so here are a few!

Tom's research and extensive field experience have led to his encyclopedic knowledge of Florida's geology. He has shared this knowledge generously with FGS colleagues, professionals inside and out of government, students and the general public.

Pete, Walt, Mike and I served as officers in the Southeastern Geological Society (SEGS), in the 1970s and 80s. Other FGS geologists including Harley Means, Rick Copeland and Tom Greenhalgh have kept up the tradition, serving as officers in the 2000s. Some of the best field trips I have ever been on occurred with the SEGS. The reasons that these trips were great can't be discussed here – to protect the innocent of course! However, two trips stand out. The first is a karst field trip in 1981 put on by Ron Ceryak from Suwannee River Water Management District. Ron set up lodging at the Telford House, an ancient hotel in White Springs that had recently been somewhat renovated. The Friday night meeting included a big country dinner catered by local church women -- fantastic!!!! The open bar was well stocked and there was a wonderful Blue Grass band playing. For some reason I don't recall if there were any presentations that night – surprise! My favorite memory was seeing a former professor of mine (who shall remain nameless) at 2 a.m., clogging down the street following the Blue Grass band as they left for the night. He had an instrument, banjo I think, in one hand and a bottle of his favorite beverage in the other. It was the best pre-field trip meeting in SEGS history. For the record, the field trip was excellent!!



A Most Memorable Fieldtrip, Tom Sott (left), Trudy Phelps with the USGS (center) Paulette Bond (right).

The second memorable field trip was to the phosphate district in 1983. We had some great lectures before visiting the pits, riding on the drag line and collecting fossils. The outstanding non-geological feature of this trip was that the hosting phosphate company sponsored the lunch of BBQ ribs, from the best BBQ place in central Florida, accompanied by numerous bottles of chilled champagne (see accompanying photo with Tom Scott (L), Trudy Phelps (USGS) (Center) and Paulette Bond (R). As it turned out, one of their affiliated companies produced champagne in France! There have been many other memorable field trips across peninsular Florida from Palm Beach to Ft. Myers, to the Keys, Alum Bluff, Cape Canaveral, coastal Pinellas County and others. The two mentioned above just stand out.

The SEGGS is an organization of mainly Florida geologists. Their annual field trips traditionally begin with a Friday night dinner meeting and talk followed by a field trip that lasts one or both days of the weekend. Field trips are one of the most valuable educational experiences available to geologists. Scientists who have worked extensively in an area share the fruits of months or even years of research in the context of the natural features that led to their conclusions. Field trips in part sponsored by the mining industry were invaluable as they allowed geologists (the FGS Geologic Investigations Group has never had regulatory duties or responsibilities) to see exposures of stratigraphy that would have been disallowed under normal circumstances.

Interest in the thickness and distribution of the Hawthorn Group, Ocala Limestone and the Avon Park Formation sparked a nine-month project in the late 70s that included drilling cores and logging flowing wells on the large to mega ranches of Osceola, Brevard and Indian River counties. Rich Duerling, Jeff Rooke and I never spent a night in a motel during the project; we were able to camp out in wild parts of the ranches seeing unspoiled Florida. Foxes wandered into our camp in the evening unfazed by our presence. The excitement also included being buzzed by a DC-3 at dusk one evening. We found out later that it was one of the drug-running planes that frequently landed on the desolate portions of the ranches. We also ate once a week at the Lake Marion Restaurant and Gas Station where all the fresh fried catfish, swamp cabbage salad, dessert and iced tea you wanted cost \$3.95!

In 1981, water levels on the Suwannee River were very low. A number of FGS geologists took the opportunity to visit the outcrops of Suwannee Limestone and Hawthorn Group sediments along the river from near the Georgia/Florida border downstream to the Suwannee River State Park. Through a series of canoe trips, we examined, described and photographed numerous exposures and saw beautiful northern Florida river scenery. Many of the

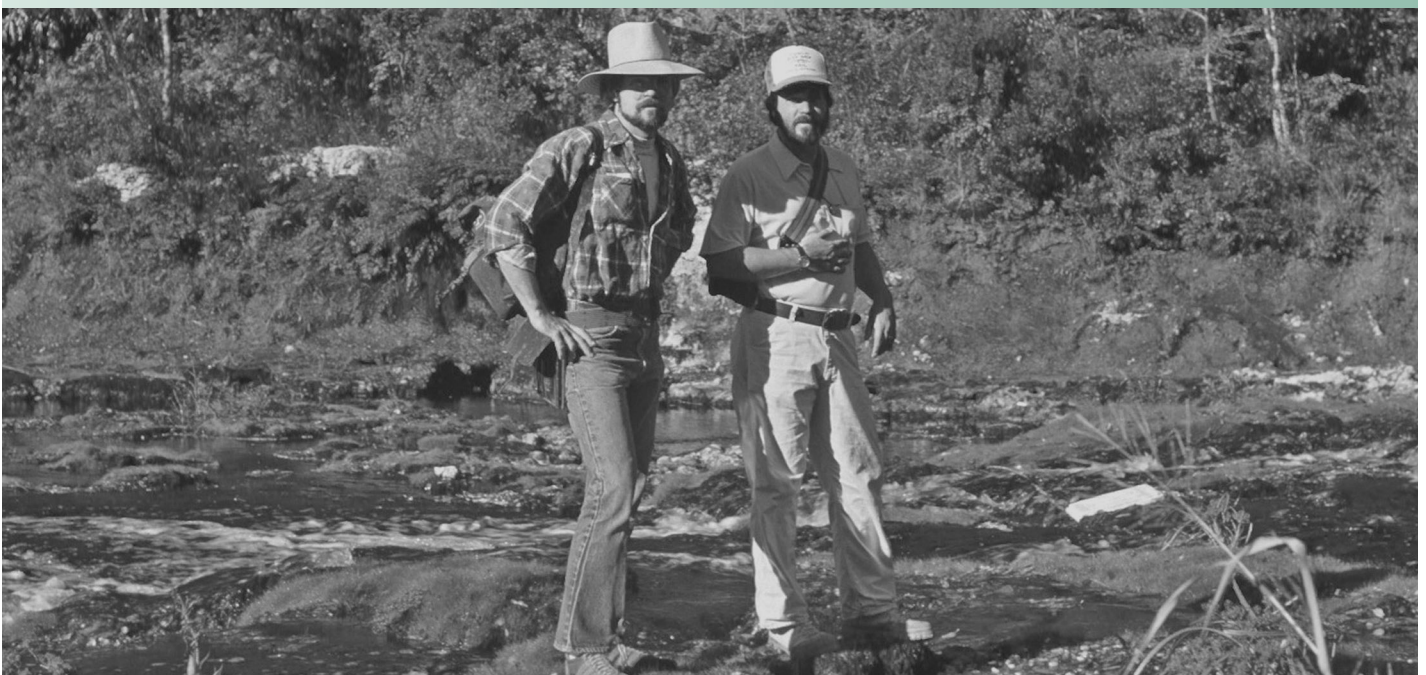
evenings were spent at the home of Ron and Barb Ceryak in White Springs enjoying their hospitality and the local pool hall. The days on the river ranged from virtually no flow to shooting rapids and walking on the exposed limestone (Ken Campbell (R) and Tom (L). at Big Shoals). We branched out to the nearby Alapaha River and found similar conditions (FSU's Bill Parker (L) and Tom (R)- shooting the rapids). In 2000, drought conditions again lowered the Suwannee River offering the chance to take some of our younger geologists, including Harley Means and Rick Green, on a similar trip.

When water levels in Florida are very low in response to drought conditions, geologists are provided with an unparalleled opportunity to examine large exposures of rock units that are usually seen only in cores and cuttings. The lithologic characteristics of most formations vary vertically and laterally and information from outcrops is invaluable in interpreting variations seen in cores and cuttings from wells.

Lake Jackson disappeared down Porter Hole sink in September 1999 with FGS geologists watching the final draining. The opening of Porter Hole and the subsequent loss of the lake became one of the most interesting projects of my career. Thousands of people showed up to watch the lake disappearing into the subsurface. FGS, USGS and Water Management District geologists fielded numerous questions from the public. Interviews with newspaper, radio and television reporters became a common occurrence. CNN even sent a film crew! Once the water stopped flowing into the hole, Harley Means and I went down to examine a small cave we could see from the surface. The small caves we found became so popular; we placed lamps in them so people could see them without wearing headlamps. I even took a Japanese film crew and a team of reporters and videographers from WFSU-TV underground for a couple of hours of filming! So many people from the FGS, DEP (including Deputy Secretary Bob Ballard), geologic societies and even staff from the Governor's Office visited the caves. We decided it was a form of ecotourism! The lake has only periodically had water in it since 1999. However, in late 2008, it appears that Porter Hole may have finally plugged.

Growing up in central Florida, springs were a part of life. During the summers, family outings to the springs were common place. However, during my childhood, Florida had a population of only four million people. Florida now has more than 17 million people and our groundwater resources have been impacted. In 1999, Jim Stevenson and DEP organized the Springs Task Force to investigate the status of our springs and what could be done to protect them. The FGS was very involved in the task force and various projects it funded. The FGS was tasked with

Tom Scott (left) and Ken Campbell (right) walk limestone exposed by drought at Big Shoals.



investigating the springs of Florida and publishing a new “Springs of Florida” bulletin to update earlier editions published in 1947 and 1977. What a project!! Our teams visited more than 400 springs; seeing some of Florida’s most beautiful places. It was a great opportunity for Harley Means and I (among others on the field teams) to photograph some of these exquisite places and I only hope that the efforts of the Springs Initiative will ultimately preserve these gems for future generations! I feel very extremely fortunate to have enjoyed so many of them over my five decades living in Florida.

Over the years survey geologists have conducted numerous investigations, presented lectures and published research results both through the FGS and other outlets. These include the “Geologic Map of the State of Florida” (2001), “Florida spring classification system and spring glossary” (2003), “Springs of Florida” (2004), “Geological and geotechnical procedures for evaluation of the causes of subsidence damage in Florida” (2005), “Florida aquifer vulnerability assessment (FAVA): Contamination potential of Florida’s principal aquifer systems” (online, 2005) and “Hydrogeologic framework of the Southwest Florida Water Management District” (in press). *For a more complete listing of FGS publications go to our website www.dep.state.fl.us/geology/ and click on List of Publications under Quick Links.*

In 1985, three sections and an administrative group made up the FGS. These were: Geological Investigations, Mineral Resources and Environmental Geology, and Oil and Gas. Walt, as State Geologist, was chief of the Survey and head of the administration group. I was in charge of the Geological Investigations Section, Bill Yon lead the Mineral Resources and Environmental Geology Section and Dave Curry ran the Oil and Gas Section. When Bill retired, Jackie Lloyd assumed the leadership of the Mineral Resources and Environmental Geology Section.

The Coastal Research Program (CRP) was created in 1991 with the mandate to investigate Florida’s coastal ecosystems. The CRP, part of the Mineral Resources and Environmental Geology Section under Ron Hoenstine, has conducted a number of sedimentology projects including Minerals Management Service-funded beach renourishment sand source studies and a USGS-funded sedimentation elevation table project to name a few. The FGS “Navy” was born and grew into a multi-vessel fleet. The CRP has brought a total of more than \$1 million in grants. *For a more complete list of the CRP’s boats and other equipment go to www.dep.state.fl.us/geology/ and click on Coastal under Programs.*

The National Geologic Mapping Act of 1992 initiated the National Cooperative Geologic Mapping Program (NCGMP) funded by the U.S. Congress through the USGS. The FGS began mapping under the State portion of the NCGMP (STATEMAP) in 1993. The FGS has received continuous funding since 1993 receiving a total of more than \$1.5 million. The project, under Rick Green, maps half of a USGS 1:100,000 scale quadrangle each year. Mapping experiences range from using helicopters to map in the Everglades to requiring unexploded ordinance training for mapping on Eglin Air Force Base. To date, seven USGS 1:100,000 scale quadrangles have been mapped. *For more information on the STATEMAP Program go to www.dep.state.fl.us/geology/ and click on STATEMAP under Programs.*

Bill Parker (left) of FSU and Tom Scott (right) shoot the rapids on the Alapaha River.circa 1981.





The FGS Brooks Cave Team, Harley Means (left) Tom Scott (center) and Rick Green (right).

The FGS initiated the Hydrogeology Program within the Geological Investigations Section in 2000. Subsequently, in 2004, the program was upgraded to a Section headed by Jon Arthur. The creation of a hydrogeology group within the FGS was an important step forward in affirming the Survey's interest in and commitment to help with the understanding of the State's complex hydrogeology and hydrochemical problems. With Florida facing increasingly important water problems, the section's geologists have been investigating aquifer storage and recovery (ASR), aquifer vulnerability and springs-related issues among others. *The Hydrogeology Section is described more completely on our website www.dep.state.fl.us/geology/; click on Hydrogeology under Programs.*

The FGS was reorganized in 2001 creating the Administrative and Geological Data Management Section which includes the Education and Outreach program under Jackie Lloyd. The mineral resource and environmental geology functions, including the CRP, were placed within the Geological Investigations Section.

Education and public outreach has become an important aspect of the FGS mandate during the last three decades. Under the guidance of Paulette Bond and Frank Rupert, the Survey's education and outreach program has flourished. Earth Science Week activities and participation in the Wakulla Springs Wildlife Festival, DEP's Earth Day at the Capital and Oceans Day are among the many activities carried out by this program with the able cooperation of FGS staff geologists. The program also coordinates school lectures and science fair participation. Educational posters and leaflets have been a hit with students, teachers, geologists and the public. These include Florida Minerals, Florida's Fossil Mammals, Florida's Hydrogeologic Environment, Earth Systems: The Foundation of Florida's Ecosystems, Florida's Sinkholes, Florida's First Magnitude Springsheds and more. The Education and Outreach Program has brought the work of the FGS and geology and the environment into the general public's view. *The FGS Education and Outreach Program is described on our website at www.dep.state.fl.us/geology/; click on Education under Programs. For information on specific products click List of Publications under Quick Links.*

Much more could be recounted in this retrospective but I do not wish to write a book for Paulette to edit and fit in the Forum. There were many students hired by the FGS to describe samples and gain experience through involvement in geological research. A number of the students are currently professional geologists at the FGS and integral in the growth and development of the Survey. These include Walt Schmidt (State Geologist), Jon Arthur (Acting Director of the FGS), Ken Campbell (head of Drilling Operations), Rick Green (STATEMAP), Ron Hoenstine (CRP), Harley Means (Springs Initiative) and Frank Rupert (Education and Outreach). What I wish to close with is a heartfelt thank you to all the folks I have had the good fortune to work with over the past 35 years! The FGS has been a truly wonderful place to work! I particularly want to thank the FGS geologists with whom I have had the opportunity to share the love of geology! I have learned much as a result!



An Example of Beach Erosion and its Effects from South Brevard County.

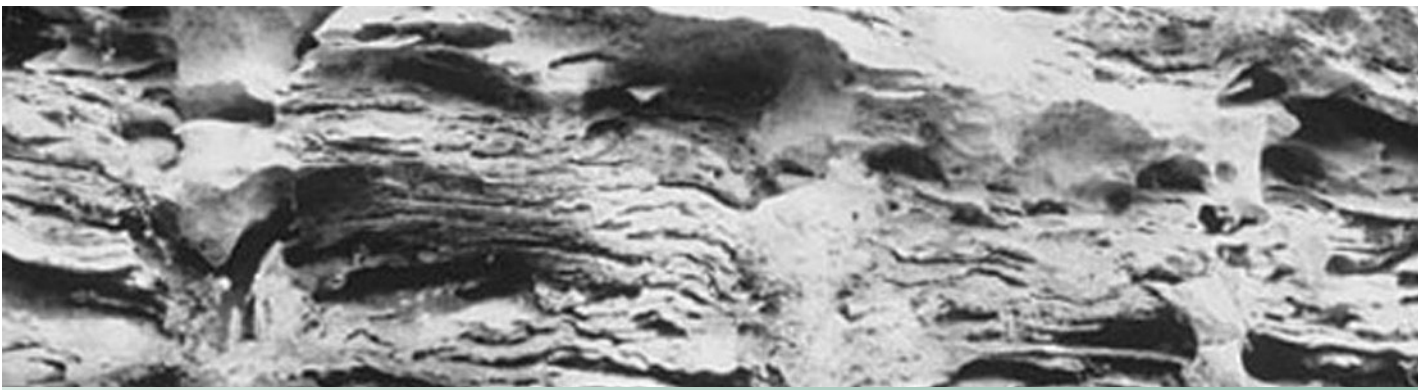
Beach Sediment Atlas

Beach erosion is a constant concern in Florida. Shore protection options, in substantial portions of the region, are limited by extensive urbanization along the coast, which is accompanied by commercial and residential development close to the beach. The shore protection measure of choice is the periodic replacement of sand along the beach. Sediments placed on these beaches must match those found in situ based on aesthetic and ecological considerations. In response to this need, the Coastal Research Program is developing a “Beach Sediment Atlas of Florida” with funding provided by the Florida Coastal Management Program (FCMP). The FGS has both the equipment and professional expertise to gather this information, interpret it and make it available to the FCMP in this cooperative effort. The initial study area encompasses the east coast of Florida. Year two will encompass the Keys and the west coast of Florida through Pasco County while Year 3 will include the Big Bend and Panhandle of Florida depending on available funding.

Samples are being collected at a spacing of approximately one mile, which included every fifth beach monument survey point where practicable. It is intended that at each location, surface samples will be collected from the swash zone, the beach berm, mid-beach and back beach. Experience has shown that, along very narrow beaches, often only swash zone and back beach samples can be collected and at some locations, only a swash zone sample can be taken. At locations where the sea beats against the sea wall, it is not possible to sample. GPS readings are obtained for each of the sampling points. Samples are being processed and cumulative grain size distribution (GSD) curves created. Separate GSDs are being made for the carbonate and non-carbonate fractions of each sample obtained by the FGS along with a combined GSD of the entire sample. Analysis of this data set will show trends in lateral changes north/south and across the beach profile from east to west and allow quantification of the rate of change from location to location within a given length of beach. These changes relate to grain size of the total sample, the carbonate and non-carbonate fraction and the percentage of fines present. This study will also allow comparisons of replenished and non-replenished beaches.

FGS Staff Publications for 2008

- Arthur, J.D., 2008, Applications of Aquifer Vulnerability Assessments in Florida: Geological Society of America Abstracts with Programs, Vol. 40, No. 6, p. 209.
- Arthur, J.D., 2008, Importance of Hydrogeochemical Bench Studies for Assessment of Potential Water-Quality Issues Related to Managed Underground Storage: Geological Society of America Abstracts with Programs, Vol. 40, No. 6, p. 212.
- Bond, P.A., 2008, Earth Science Education and Technology: A view from a state geological survey: Geological Society of America Abstracts with Programs, Vol. 40, No. 4, p.7.
- Bryan, J.R., Scott, T.M., and Means, G.H., 2008, Roadside Geology of Florida: Mountain Press Publishing Co., Missoula, MT, 376 p.
- Green, R.C., Paul, D.T., Wagner, D.J., Kromhout, C., and Scott, T.M., 2008, Geologic map of the western portion of the USGS Perry 30 x 60 minute quadrangle, northern Florida: Florida Geological Survey Open-File Map Series 99, 3 plates
- Green, R.C., Paul, D.T., and Scott, T.M., 2008, Text to accompany Geologic map of the western portion of the Perry 30 x 60 minute quadrangle, northern Florida (Florida Geological Survey Open-File Map Series 99): Florida Geological Survey Open-File Report 92, 35 p.
- National Research Council (J. Arthur contributing author), 2008, Prospects for Managed Underground Storage of Recoverable Water: The National Academies Press, Washington, D.C., 337 p.
- Scott, T.M., 2008, The need for hydrostratigraphic nomenclature – The Florida experience (abstract): Geological Society of America Abstracts with Programs, Vol. 40, No. 6, p. 500-501.



Hawthorn Group Dolostone Exposed on the Suwannee River

STATEMAP Update

This Program is a cooperative project funded jointly by the FDEP/FGS and the National Cooperative Geologic Mapping Program under the State Geologic Mapping Component (STATEMAP). For each of the last fourteen years, staff members from the FDEP/FGS have performed detailed geologic mapping of 1:100,000 scale USGS quadrangles and published the results as part of the Open-File Map Series (OFMS). To date, we have completed geologic mapping of the following USGS 1:100,000 scale quadrangles: Homestead, Sarasota, Arcadia, Crestview, Marianna, Gainesville and Perry. A geologic map of the western portion of the Lake City USGS 1:100,000 scale quadrangle has also been completed.

In 2007-2008, FDEP/FGS staff geologists Richard Green, Dave Paul, David Wagner, Clinton Kromhout, and Tom Scott produced a geologic map for the western portion of the 1:100,000 scale Perry Quadrangle. The project was completed in August of 2008 and is available as part of the Florida Geological Survey Open-File Map Series (OFMS 99). The project included a bedrock geologic map, several geologic cross sections and explanatory text published as

In support of the STATEMAP project (western portion of the 1:100,000 scale Perry Quadrangle) FGS drilling operations staff put in six core holes in Jefferson, Madison and Taylor counties. Depths ranged from 110 to 439.5 feet, with a total of 1,248.5 feet cored. All of the cores reach the Ocala Limestone; however two completely penetrate the Ocala and enter the top of the Avon Park Formation. The Foley #5 core (W#18832) drilled to a total depth (TD) of 330.25', located in northeastern Taylor County and the Gilman #1 core (W# 18841) drilled to 439.5' TD, located in southwestern Madison County are the only two continuous cores in their respective counties which reach the Avon Park Formation (see FGS OFMS 99 and OFR 92 for more details).

In September of 2008, the FGS began working on production of a bedrock geologic map and several geologic cross sections for the eastern portion of the 1:100,000 scale Ocala Quadrangle utilizing \$109,044 in STATEMAP funding. Field mapping will begin in October, with a completion date of August 31, 2009. The maps and cross sections for this area will be available through the FDEP/FGS Open File Map Series (OFMS 100) beginning in September of 2009.

After input and a September meeting of the State Geological Mapping Advisory Committee (SMAC), the western portion of the USGS 1:100,000 Ocala Quadrangle and the eastern portion of the USGS 1:100,000 Cedar Keys quadrangles in central Florida were selected for the next area to be proposed for mapping under the STATEMAP program. If funded by the USGS, this mapping project will begin September 1, 2009 and end August 31st, 2010.

New Cool Stuff! Meetings, Web Resources Etc

The United States Geological Survey has posted a great new resource on their website at <http://tin.er.usgs.gov/geology/state/>. The site contains digital geologic maps of the states, with consistent lithology, age, GIS database and format.

The Florida Association of Professional Geologists (FAPG) -- the Florida Section of the American Institute of Professional Geologists (AIPG) will be meeting April 30-May 2, 2009 in St. Augustine. The theme is "Emerging Issues in Water Resources in Florida and the Southeast Region" Visit http://www.aipg.org/Seminars/water_conf.htm for more details.

Education and Outreach

Earth Science Literacy Initiative Online Workshop

FGS staff geologist Paulette Bond participated in a National Science Foundation (NSF) funded online workshop, May 12-24. The goal was to gather input from the research community for a document outlining the knowledge essential for a geosciences literate society.

Marion County Springs Festival

FGS staff geologists Tom Scott and Harley Means attended the 7th Annual Marion County Springs Festival held September 20th at Silver Springs in Ocala. On Friday, September 19th, they attended a Question and Answer session for elected officials. On Saturday Tom presented a talk on the History of the FGS and Harley presented a talk on the FGS's Role in Florida Springs Research. Harley also staffed an FGS display booth.

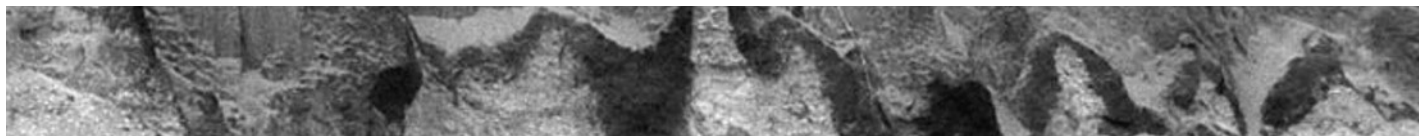
Scouts, Leaders, and Parents join FGS Staff in the library for Scout Night.



Earth Science Week

The FGS celebrated Earth Science Week (ESW) with its annual Open House at the Gunter Building on the Florida State University campus with guided walks at a local notable geologic site and Scout Night. During Open House students were able to see one of the FGS drill rigs and talk to Drilling Operations geologist Brie Coane, look at various rock samples using binocular microscopes with the assistance of staff geologists and draw cartoons showing the geology that leads to sinkhole collapse. Staff geologists Frank Rupert, Jackie Lloyd, Paulette Bond and Dan Phelps were joined by Koren Taylor, a geologist with the city of Tallahassee and Traci Billingsley, FGS Business Manager, in welcoming guests and assisting them with various activities. In line with the national theme for ESW *Leave No Child Inside*, FGS staff geologists Tom Greenhalgh, Harley Means and Christopher Williams led guided walks through Leon Sinks Geological Area on October 13th. At the annual Scout Night on the evening of October 13th FGS conducted tours and interactive exercises to assist Webelos scouts in obtaining their geology badges. FGS staff Jon Arthur, Doug Calman, Brie Coane, Tom Greenhalgh, Clint Kromhout, Tom Scott and Christopher Williams led facility tours and activities designed to meet badge requirements and were joined by interested scouts along with their leaders and parents.

The Department of Environmental Protection (DEP), umbrella agency of the FGS, celebrated ESW by highlighting state parks with significant geological features. A press release encouraged residents and visitors to take advantage of the year-round opportunities to learn about the geosciences by getting away from the television, turning off the computer and heading to a state park with families or friends. Florida State Park Director Mike Bullock noted “Many of Florida’s state parks were added based on their geological values, including the sand dunes at Grayton Beach, the springs of Wakulla, Troy and Ichetucknee, the coastal features of St. Joseph and Little Talbot, and the sinkholes found within Falling Waters and Goldhead Branch state parks.” In keeping with the national theme for Earth Science Week, The DEP worked to ensure that no student was “left inside” by immersing about 165 Columbia County children in science and nature with a LIFE (Learning in Florida’s Environment) lesson. “The LIFE program’s mission coincides with Earth Science Week in that they both aim to engage students in outdoor activities that promote mental and physical well-being while also strengthening environmental stewardship,” said DEP’s LIFE Director Greg Ira.



Exposure of the Anastasia Formation at the Ormond Beach Landfill.

Personnel Changes

Farewell

Craig Berninger resigned in September after 7 1/2 years as the FGS core driller and a previous 2 1/2 years as an OPS geologist/driller with the FGS. Craig is pursuing his professional goals as a hydrologist with the St Johns River Water Management District. The FGS wishes him well in his new endeavors.

New Employees

Bob Cleveland joined the FGS in November as the new core driller. Bob is a licensed Florida Water Well Contractor with more than 30 years of drilling experience in Florida. Bob has drilled for several companies and comes to the FGS with excellent experience and top-notch recommendations.

Drew Butler joined the FGS in November as a part-time Lab Technician IV working in the FGS geologic sample repository and sample preparation lab. Drew is a student at Florida State working on a geology degree after retiring from the U.S. Air Force. His geology background and proven organizational skills will make him a valuable addition to the FGS.



State of Florida
Department of Environmental Protection

CHARLIE CRIST, Governor
MICHAEL W. SOLE, Secretary



Florida Geological Survey
WALTER SCHMIDT, State Geologist

Designed by Paulette Bond. Editing by Jon Arthur, Paulette Bond, Jackie Lloyd and Frank Rupert.

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