SEGS
Southeastern Geological Society
A member of the AAPG and GCAGS

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"The best geologist is one who has seen the most rocks."
H.H Read, FRS, 1940

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2016 Winter Newsletter

NEW BOARD MEMBERS ELECTED

The SEGS conducted an election of Board members in December. The new Board members are listed at the top of the page. Bryan Carrick moved up to the President position, and Clint Noble stepped into the role of Vice President. As Vice President, Clint will lead the field trip committee. Harley Means and Samantha Andrews remain in their positions as Treasurer and Secretary, respectively. Greg Mudd moves into the role as Past President, and will serve as the newsletter editor. John Herbert steps out of his role as Past-President. Please give the new board members your support as they conduct the organization's business during the upcoming year. Thanks to all of those that participated in the election.

John Herbert deserves the gratitude of the entire SEGS membership for his service as a Board member over the past three years. A reminder, too, that there are a number of positions open on our various committees. If you are interested in serving on one of these committees please contact one of the Board members.

PRESIDENTS MESSAGE

As we begin another year, I would like to wish all the members a Happy and Prosperous New Year. It seems as though the economy is improving, geological related work is picking up and folks are busy. I encourage all to participate in our field trips to enjoy geology in a field setting with no pressures. The Field Trip Committee is organizing possibly three more field trips this year so we have lots more opportunities to network with fellow geologists and spend a relaxing day in the field learning about geology. Don't forget the field trip to examine the Geology of the Everglades, Keys, and South Florida on February 13 and 14, 2016.

With regard to recent SEGS group activities, the field trip to Southern Ionics/Jekyll Island, and Western Georgia in the fall were all very well attended and Florida members had the opportunity to view the geology that is drastically different from what we see in Florida. Honeymoon Island offered insight into the challenging efforts to stabilize a state park shoreline in a high energy environment. I was pleasantly surprised, amazed and pleased at the amount of students that have participated in the trips. It makes the efforts of planning and execution of the field trips worthwhile and gratifying.

I want to thank the folks who supported me last year, particularly the Field Trip Committee members, who helped make the trips last year possible. I need to acknowledge the great job our newsletter editor, past

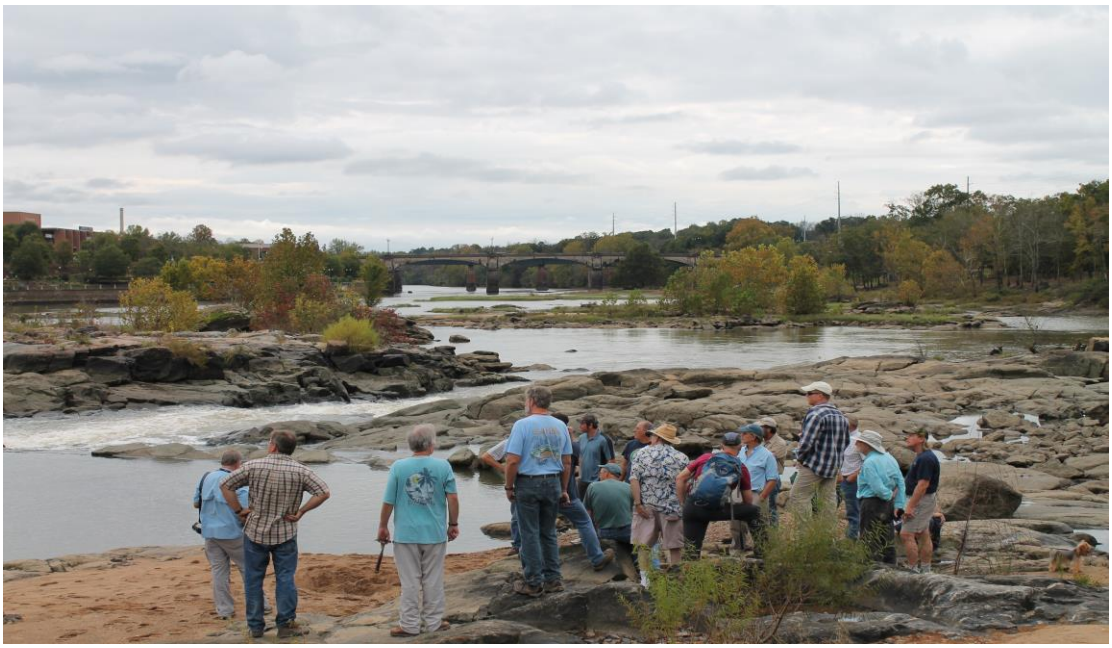
President and Board member, John Herbert, has done for the last four years. John still continues to offer his insight and support to the Society. Thank you John!

Finally, I would like to remind everyone about the importance of our annual dues. As with any professional organization, those dues are very important and allow us to thrive and pursue initiatives such as the college scholarship fund. If you are not aware of your current pay status then please contact our Treasurer, Harley Means, through the SEGS website. Let's all continue to promote geology, for our livelihood and our passion! We have set up a PayPal button on our website to make it easy to renew…so do it now please!

Thanks and see you in the field,
Bryan Carrick

RECAP OF FIELD TRIP TO PINE MOUNTAIN, GEORGIA

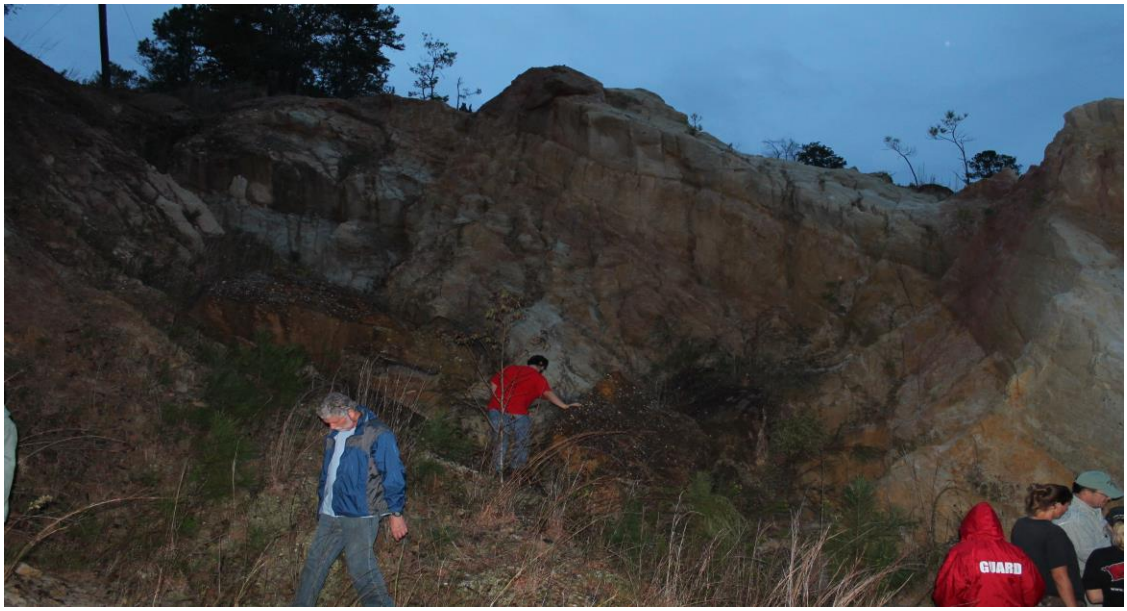
On November 6th and 7th, 2015, we gathered in Columbus, Georgia, for a meeting and field trip to view the Coastal Plain Unconformity (Fall Line) in southwestern Georgia and southeastern Alabama. The field trip, led by Dr. Clint Barineau, Associate Professor of Geology, Department of Earth and Space Sciences at Columbus State University, was very well attended with approximately 40 participants.



Group of SEGS members looking at the re-engineered portion of the Chattahoochee River at Columbus, Georgia. One of the stops on the trip.

For our Friday evening meeting, we met at the "11th and Bay Southern Table" restaurant. Dr. Clint Barineau provided an overview into what to expect during the field trip. Harley Means also received the SEGS fulgurite award for serving as SEGS Treasurer for many years.

On Saturday morning, we all met at the Columbus State University parking lot and headed out in vans. We travelled through parts of southwestern Georgia and southeastern Alabama to examine the coastal plain unconformity, separating the Georgia-Alabama Piedmont terranes from Coastal Plain strata that is exposed in the Columbus region and separates Precambrian to Paleozoic rocks of the Uchee belt, Pine Mountain belt, Dadeville Complex, and Opelika Complex in the Piedmont from Late Cretaceous rocks of the Tuscaloosa Group/Formation at the northern extent of the Gulf-Atlantic Coastal Plain. Some of the highlights included: paleochannels, Phoenix City Gneiss, Columbus Urban Whitewater Course, Mesozoic Diabase Dike, Hollis Quartzite, Camp Hill Granite, and the Wetumpka Impact Crater as it was getting dark. We all enjoyed a "build your own sandwich" lunch at Dowdell's Knob in FDR State Park.



SEGS members at the meteor impact site in Wetumpka, Alabama.

RECAP OF FIELD TRIP TO EVERGLADES NATIONAL PARK

On February 12th through 14th, 2016, we gathered in the Everglades and Islamorada, Florida, for a meeting and field trip to Everglades National Park (ENP) to examine the Geology of the Everglades, Keys, and South Florida. An additional trip on Sunday visited the Windley Key Fossil Reef Geological State Park. The Saturday field trip, led by Dr. Tom Scott and Dr. Sam Upchurch, was very well attended with approximately 40 participants.

For our Friday evening meeting, we met at the Longhorn Steakhouse in Miami. Dr. Harold R. Wanless, Ph.D gave a presentation titled *"The Geologic Evolution of the Everglades from Beginning to End, the Last 5,000 Years and the Next 100."*

On Saturday morning, we all met at the Visitor's Center and had some time to browse the exhibits. We then loaded up in vehicles and entered the park to begin our field trip which focused on the unique geological setting in south Florida that led to the development of one of the largest wetlands in the United States. Drs. Tom Scott (field trip leader), Sam Upchurch and Hal Wanless provided many discussions

during the trip. The first stop was the Pine Rockland region in the northern portion of ENP, where we discussed the development of the Atlantic Coastal Ridge, the Miami Limestone and the micro-karst that has developed since the deposition of the Miami Limestone approximately 125,000 years ago. The slightly higher elevation on the ridge created the foundation for the unique ecosystem that comprises the Pine Rocklands. We then headed south into the heart of ENP, reviewing the origin of Rock Reef Pass and other linear, slightly elevated features that occur in the Everglades. We stopped at Pa-Hay-Okee to observe and explore a hardwood hammock and look at the modern deposition of peat that is occurring in the sawgrass wetlands that surround the hardwood hammocks and discussed the development of the tree islands and their geologic origin.

Other stops included Paurotis Pond where modern freshwater marl (consisting of low-Mg calcite) is accumulating, West Lake where we saw a modern mangrove forest, and Flamingo-Florida Bay where we observed a coastal storm levee consisting of marine mud and discussed the modern carbonate environments. Lots of wildlife was also observed including many types of birds, tree snails, alligators, turtles, and fish. We all enjoyed a "build your own sandwich" lunch out in the park.

On Sunday morning, a guided hike/tour was held at Windley Key Geological State Park. Starting in the early 1900's, this quarry was active into the 1960s and today stands as a preserved geological treasure. The clean cuts of the quarry machinery revealed the preserved fossilized specimens of a variety of ancient coral animals. The limestone cuts also reveal the thin layer of soil that supports the abundant variety of botanical life that thrives in the subtropical environment of the Florida Keys. Formed of Key Largo limestone (fossilized coral), this land was sold to the Florida East Coast Railroad and was used to help build Henry Flagler's Overseas Railroad in the early 1900s. After the railroad was built, the quarry was used until the 1960s to produce exquisite pieces of decorative stone called Keystone. We walked within the eight foot-high quarry walls to see cross sections of the ancient coral reef formed nearly 125,000 years ago and learned about the quarry and its operation—an important part of Florida's 20th century history.

Water Resources Unplugged: A Multi-Dimensional Workshop
April 5 - 6, 2016 | Orlando, Florida

Program organized by AIPG National and FAPG the AIPG Florida Section

The American Institute of Professional Geologists is hosting the 2016 AIPG 'Water Resources Unplugged: A Multi-Dimensional Workshop this spring in Orlando. The panel discussion topics will include the latest approaches, practices, processes, techniques, case studies, modeling, research, regulatory and legislative development in all aspects of Water Resource Availability, Sustainability and Planning including the special topics of Springs Protection and Management Strategies and Oil and Gas Hydraulic Fracturing (Fracking) Practices and Potential Impacts.

Who Should Attend?
Geologists, hydrogeologists, engineers, water and land use managers and planners, modelers, regulators, government leaders, environmental specialists, utilities legislators, water attorneys, and interested citizens.

Location
This workshop will be held at the DoubleTree Orlando Airport, 5555 Hazeltine National Drive, Orlando, FL 32812, (407) 856-0100, at a rate of $115 per night in the AIPG room block. For hotel reservations call

(800) 222-TREE. Be sure to mention 'American Institute of Professional Geologists' for the room discount which will be honored until March 6, 2016. The hotel offers free transportation to/from the Orlando International Airport, free parking to guests, and complimentary WiFi. Attendees who are not guests at the hotel can park for free in the Convention Center parking lot.

Please refer to *http://fapg.org* for more information.

A DECADES-LONG QUEST TO DRILL INTO EARTH'S MANTLE MAY SOON HIT PAY DIRT

(Reprinted from American Institute of Professional Geologists (AIPG) eNews, January 26, 2016)

Early in the spring of 1961, a group of geologists started drilling a hole into the seafloor off the Pacific coast of Baja, California. The expedition, the first of its kind, was the initial phase of a project intended to punch through Earth's crust and reach the underlying mantle. Little did they know that their efforts would soon be overshadowed when John F. Kennedy launched the race to the moon in May of that year. By the end of 1972, after expending billions of dollars and via the collective effort of thousands of scientists and engineers, six Apollo missions landed on Earth's orbital companion and brought home more than 841 pounds of moon rocks and soil.

Meanwhile, the earthbound geologists who dreamt of getting a glimpse of Earth's inner workings were left empty-handed with the remnants of various programs thanks to budget cuts. Since the 1960s, researchers have attempted to drill into Earth's mantle but have not yet met with success. Some efforts failed due to technical problems; others have fallen prey to various sorts of bad luck—including, as discovered after the fact, picking inopportune spots to drill. Nevertheless, those efforts have shown that the technology and expertise to drill to the mantle exists. And now the first phase of the most recent attempt to reach this important part of our planet is boring through a thin section of ocean crust in the southwestern Indian Ocean.

Don't worry: When the drillers eventually pierce the mantle, hot molten rock won't surge up the hole and spill onto the seafloor in a volcanic eruption. Although mantle rocks do flow, they do so at a speed akin to the growth rate of a fingernail, says Holly Given, a geophysicist at Scripps Institution of Oceanography in San Diego.

The mantle is the largest part of this planet we call home, yet scientists know relatively little about it through direct analysis. The thin veneer of crust we live on makes up about one percent of Earth's volume. The inner and outer core—solid and liquid masses that are largely made of iron, nickel and other dense elements—occupies only 15 percent of the planet's volume. The mantle, which lies between the outer core and the crust, makes up an estimated 68 percent of the planet's mass and a whopping 85 percent of its volume.

Think of the mantle as a planet-sized lava lamp where material picks up heat at the core-mantle boundary, becomes less dense and rises in buoyant plumes to the lower edge of Earth's crust, and then flows along that ceiling until it cools and sinks back toward the core. Circulation in the mantle is exceptionally languid: According to one estimate, a round-trip from crust to core and back again might take as long as 2 billion years.

Obtaining a pristine chunk of the mantle is important because it would help planetary scientists better ascertain the raw materials from which Earth accreted when our solar system was young. “It would be ground-truth for what the world is made of,” says Given. Its composition would also provide clues about how Earth initially formed and how it evolved into the multi-layered orb we inhabit today, she says.

Scientists can infer a lot about the mantle, even without a sample. The speeds and paths of earthquake-generated seismic waves passing through the planet provide insight about the density, viscosity and overall characteristics of the mantle, as well as how those properties vary from place to place. So does the rate at which Earth’s crust springs upward after being weighed down by massive ice sheets that have recently (in geological terms) melted.

Measurements of our planet’s magnetic and gravitational fields impart even more information, narrowing down the types of minerals that may be found in the deep, says Walter Munk, a physical oceanographer at Scripps. The scientist, now 98, was part of a small group of researchers that first dreamed up the idea of drilling into the mantle in 1957. But these indirect methods can tell a scientist only so much, he notes. “There’s no substitute for having a chunk of what you want to analyze in your hands.”

Researchers *do* have samples of the mantle in hand, but they’re not pristine. Some of them are chunks of rock carried to the Earth’s surface by erupting volcanoes. Others were heaved upward by crumpling collisions between tectonic plates. Yet others have risen to the seafloor along slow-spreading mid-ocean ridges, say geologists Henry Dick and Chris MacLeod. Dick, of the Woods Hole Oceanographic Institution in Massachusetts, and MacLeod, of Cardiff University in Wales, are co-leaders of the deep-drilling expedition just now wrapping up in the southwestern Indian Ocean.

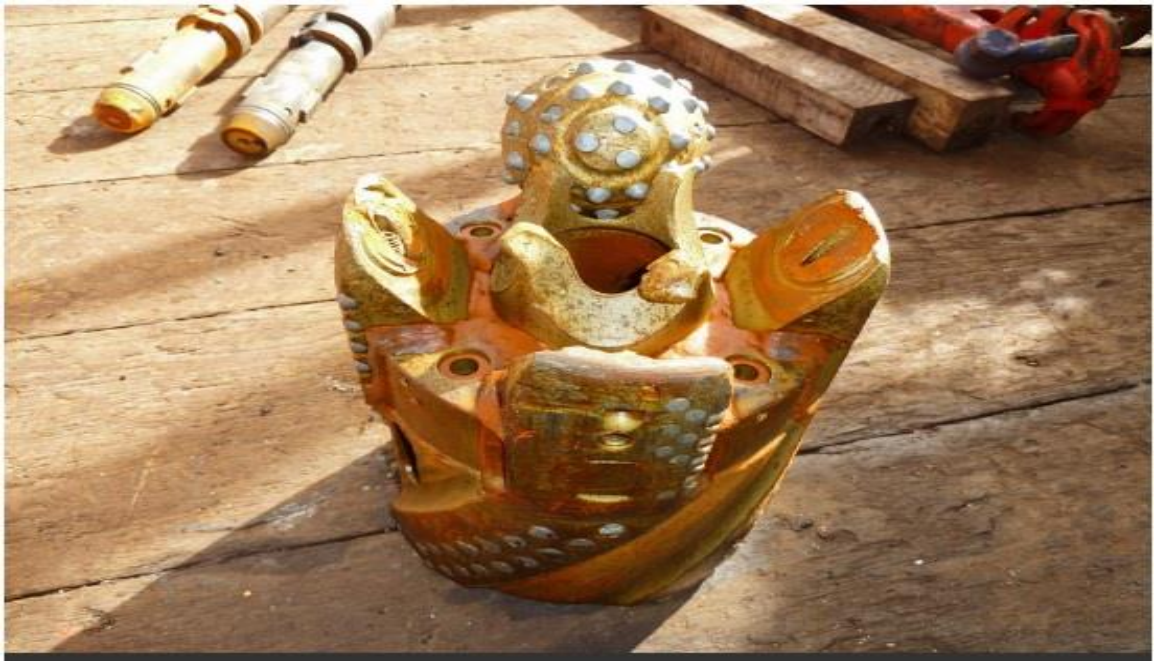
All of the current mantle samples have been altered by the processes that brought them to Earth’s surface, exposed to the atmosphere or submerged in seawater for extended periods of time—possibly all of the above. Those mantle samples exposed to air and water have probably lost some of their more easily dissolved original chemical elements.

Hence the great desire to obtain an unsullied chunk of mantle, says Dick. Once available, scientists could analyze a sample’s overall chemical composition as well as its mineralogy, assess the density of the rock and determine how easily it conducts heat and seismic waves. The results could be compared to the values inferred from indirect measurements, validating or disputing those techniques.

Drilling all the way to the mantle would also give geologists a look at what they call the Mohorovičić discontinuity, or Moho, for short. Above this mysterious zone, named for the Croatian seismologist who discovered it in 1909, seismic waves travel at around 4.3 miles per second, a rate consistent with those waves traveling through basalt, or cooled lava. Below the Moho, the waves rip along at around 5 miles per second, similar to the rate they travel through a silica-poor type of igneous rock called peridotite. The Moho typically lies between 3 to 6 miles below the ocean floor and anywhere between 12 to 56 miles beneath the continents.

This zone has long been considered the crust-mantle boundary, where material gradually cools and sticks to the overlying crust. But some lab studies suggest it’s possible that the Moho represents the zone where water seeping down from the overlying crust reacts with mantle peridotites to create a type of mineral called serpentine. This possibility is exciting, Dick and MacLeod suggest. The geochemical reactions that generate serpentine also produce hydrogen, which can then react with seawater to produce methane, a source of energy for some types of bacteria. Or, the researchers note, the Moho could be something else entirely unknown to science.

The key to unlocking the secrets of the mantle is to find the right location at which to drill. Mantle material rises to the ocean floor at mid-ocean ridges, where tectonic plates slowly push apart. But those samples just won't do. Working through a few miles of crust below the ocean floor changes the material considerably, rendering the mantle sample unrepresentative of what's deep within Earth. And drilling deeper at one of these ridges is also problematic, says Dick. “At an ocean ridge or its immediate flanks, the crust is too hot to drill more than about one or two kilometers.” So he and his colleagues are drilling at a spot in the southwestern Indian Ocean called Atlantis Bank, which lies about 808 miles southeast of Madagascar. Many factors make this locale an excellent place for the expedition to drill, says Dick.



The drill bit that the Atlantis Bank expedition broke near the start of operations. Three of the four "cones" used to dig the hole have snapped off. (Benoit Ildefonse)

The team’s target depth for this expedition was 4,265 feet into the crust, barely halfway to the mantle. Unfortunately, as of January 22, drilling had only reached a depth of 2,330 feet beneath the seafloor. By the time this article is published, drilling operations will be wrapping up at Atlantis Bank—for this leg of the project. A second, already-approved leg of the mission would hopefully complete the task and tap into the mantle. But that could be anywhere from two to five years from now. Competition for ship time from other teams who wish to drill elsewhere in the world is fierce, says Dick. The science team won't come away from the first phase of this project empty-handed though, says MacLeod. Recovering samples from throughout Earth's crust is also important. “We have no idea what the bulk composition of the ocean crust is at any place on the globe,” says Dick. Lower crust rocks previously recovered from other deep-drilling sites have been nothing like what researchers expected, he says.

The Atlantis Bank project would provide a look at the chemical composition of the lower crust. And a full profile through the entire layer would help scientists understand how magmas are chemically and physically transformed there—including how mantle rocks crystallize and become attached to the lower surface of the crust.

Once researchers eventually get their mantle sample, other teams can piggyback on the project with experiments of their own, says MacLeod. “Future expeditions may be dropping instruments down the

hole for years to come." For example, seismologists can send sensors down into the miles-deep hole and then directly measure the velocities of seismic waves pulsing through Earth's crust, rather than infer them via laboratory tests on small samples of rock. Researchers can also lower a string of temperature sensors into the hole to measure heat flow from our planet's interior.

Undoubtedly, the samples of ocean crust and mantle eventually retrieved from Atlantis Bank—as well as data gathered from the hole left behind—will keep geologists and geophysicists busy for decades to come. But patience is a virtue, and biding their time is what Dick, MacLeod and their geophysical brethren have been doing for decades.

Read more*: http://www.smithsonianmag.com/science-nature*

Study Zeros in on Plate Tectonics' Start Date

(Reprinted from AIPG eNews, January 26, 2016)

Earth has some special features that set it apart from its close cousins in the solar system, including large oceans of liquid water and a rich atmosphere with just the right ingredients to support life as we know it. Earth is also the only planet that has an active outer layer made of large tectonic plates that grind together and dip beneath each other, giving rise to mountains, volcanoes, earthquakes and large continents of land.

Geologists have long debated when these processes, collectively known as plate tectonics, first got underway. Some scientists propose that the process began as early as 4.5 billion years ago, shortly after Earth's formation. Others suggest a much more recent start within the last 800 million years. A study from the University of Maryland provides new geochemical evidence for a middle ground between these two extremes: An analysis of trace element ratios that correlate to magnesium content suggests that plate tectonics began about 3 billion years ago. The results appear in the January 22, 2016 issue of the journal Science.

"By linking crustal composition and plate tectonics, we have provided first-order geochemical evidence for the onset of plate tectonics, which is a fundamental Earth science question," said Ming Tang, a graduate student in geology at UMD and lead author of the study. "Because plate tectonics is necessary for the building of continents, this work also represents a further step in understanding when and how Earth's continents formed."

The study zeros in on one key characteristic of Earth's crust that sets it apart geochemically from other terrestrial planets in the solar system. Compared with Mars, Mercury, Venus and even our own moon, Earth's continental crust contains less magnesium. Early in its history, however, Earth's crust more closely resembled its cousins, with a higher proportion of magnesium.

At some point, Earth's crust evolved to contain more granite, a magnesium-poor rock that forms the basis of Earth's continents. Many geoscientists agree that the start of plate tectonics drove this transition by dragging water underneath the crust, which is a necessary step to make granite.

"You can't have continents without granite, and you can't have granite without taking water deep into the Earth," said Roberta Rudnick, former chair of the Department of Geology at UMD and senior author on the study. Rudnick, who is now a professor of earth sciences at the University of California, Santa

Barbara, conducted this research while at UMD. "So at some point plate tectonics began and started bringing lots of water down into the mantle. The big question is when did that happen?"

A logical approach would be to look at the magnesium content in ancient rocks formed across a wide span of time, to determine when this transition toward low-magnesium crustal rocks began. However, this has proven difficult because the direct evidence—magnesium—has a pesky habit of washing away into the ocean once rocks are exposed to the surface.

Tang, Rudnick and Kang Chen, a graduate student at China University of Geosciences on a one and a half-year research visit to UMD, sidestepped this problem by looking at trace elements that are not soluble in water. These elements—nickel, cobalt, chromium and zinc—stay behind long after most of the magnesium has washed away. The researchers found that the ratios of these elements hold the key: higher ratios of nickel to cobalt and chromium to zinc both correlate to higher magnesium content in the original rock.

"To our knowledge, we are the first to discover this correlation and use this approach," Tang said. "Because the ratios of these trace elements correlate to magnesium, they serve as a very reliable 'fingerprint' of past magnesium content."

Tang and his coauthors compiled trace element data taken from a variety of ancient rocks that formed in the Archean eon, a time period between 4 and 2.5 billion years ago, and used it to determine the magnesium content in the rocks when they were first formed. They used these data to construct a computer model of the early Earth's geochemical composition. This model accounted for how magnesium (specifically, magnesium oxide) content in the crust changed over time.

The results suggest that 3 billion years ago, the Earth's crust had roughly 11 percent magnesium oxide by weight. Within a half billion years, that number had dropped to about 4 percent, which is very close to the 2 or 3 percent magnesium oxide seen in today's crust. This suggested that plate tectonics began about 3 billion years ago, giving rise to the continents we see today.

"It's really kind of a radical idea, to suggest that continental crust in Archean had that much magnesium," said Rudnick, pointing out that Tang was the first to work out the correlation between trace element ratios and magnesium. "Ming's discovery is powerful because he found that trace insoluble elements correlate with a major element, allowing us to address a long-standing question in Earth history."

"Because the evolution of continental crust is linked to many major geological processes on Earth, this work may provide a basis for a variety of future studies of Earth history," Tang said. "For example, weathering of this magnesium-rich crust may have affected the chemistry of the ancient ocean, where life on Earth evolved. As for the onset of plate tectonics, I don't think this study will close the argument, but it certainly adds a compelling new dimension to the discussion."

AIPG Legislative Update

Provided by Philip L. Leary, AICP
Principal, Leary Governmental Affairs
(Reprinted from AIPG Newsletter, February 26, 2016)

Today is Day 42 of the 60-day legislative session, leaving only 18 days until the Legislature adjourns on Friday, March 11. There are three full weeks of business left before lawmakers return home and begin campaigning for what is shaping up to be a busy and important election season leading up to the November presidential election. This is the time when things start moving very fast at the Capitol and we continue to work to push our bills across the finish line. As the seventh week of the 2016 legislative session opens today, we are still waiting for budget allocation and conference conferees to be released. This is the next step in the budget process, as the House and Senate attempt to find common ground and close the $1 billion gap between their proposed budgets. From what I have heard at the Capitol, the House and Senate are still not close enough in their negotiations to release initial allocations at this point. There will be no budget conference this weekend, but we remain hopeful that allocations and conferees will be announced before the end of next week. Some of the main contentions between the House and Senate remain the same. The House is very supportive of the Governor's tax cuts, having passed a $1 billion tax cut package last week. However, the Senate is taking a different approach, supporting a tax cut worth about $250 million and supporting the Governor's request for $250 million in economic incentives to recruit new businesses to Florida and create more jobs – something the House did not include in their budget. Until those important details are ironed out, I do not expect the budget process to move forward

The following is an update on bill activity for Week 5 of the 2016 Regular Session:

2016 Legislation Week 5
SB 1052/HB1187 Regulated Professions and Occupations: Revises DBPR's responsibilities & duties; revises provisions relating to licensure, certification, & regulation of yacht & ship brokers, labor organizations & labor business agents, talent agencies, athlete agents, asbestos consultants & contractors; veterinary acupressure & veterinary massage, hair wrapping, body wrapping & nail polish applying, electrical & alarm system contractors; architects, interior designers, landscape architects, & professional geologists.

On Tuesday in the House, Rep. Grant presented his bill (HB 1187) in the Government Operations Appropriations Subcommittee, after significant discussion and debate by members both democratic and republican, he stated that prior to the bill going to the Regulatory Affairs Committee on Thursday February 25th, and he would make amendments to the bill to address all of the stakeholder's issues. As this was a fiscal committee, policy changes/amendments are not generally made. I will be meeting with Rep. Grant and again request Geologists be taken out of the bill, as was done in the Senate.

On Wednesday in the Senate General Government Appropriations Subcommittee Senator Brandes bill SB 1050 was heard and fortunately no amendment was filed to put Geologists back in the bill, which was a huge relief to me. I don't trust the department or Brandes to not make an attempt to put Geologists back in the bill. Both bills are moving through the committee process late in the session. The Senate bill is now going to the full Appropriations Committee where there are many bills waiting to be placed on the agenda for a hearing. This late in the session if the bills are not a leadership priority it will be a "heavy lift" to get them to a final vote on the House and Senate Floor. The Senate bill is now going to the full Appropriations Committee, the last committee stop in the Senate and the House bill is scheduled for the Regulatory

Affairs Committee next Thursday (25th) which is the last committee stop in the House. At this point, it is probably a better than 50-50 both bills make it through the process before session ends.

SB 100/HB 697 Petroleum Restoration Program (Sen. Wilton Simpson and Rep. Jamie grant) Revising the eligibility requirements of the Abandoned Tank Restoration Program; deleting provisions prohibiting the relief of liability for persons who acquired title after a certain date; revising the conditions for eligibility and methods for payment of costs for the low-risk site initiative; revising the eligibility requirements for receiving rehabilitation funding; reducing the number of sites that may be proposed for certain advanced cleanup applications, etc. **The Senate bill passed unanimously out of the full Senate on Thursday and is now in House messages. The House bill passed unanimously out of the State Affairs Committee and now goes to the House Floor.**

SB 92/HB 351 Contaminated Sites (Sen. Greg Evers/Rep. Brad Drake) Contaminated Sites; Defining the terms "background concentration" and "long-term natural attenuation"; requiring the Department of Environmental Protection to include protocols for the use of long-term natural attenuation where site conditions warrant; providing that institutional controls are not required under certain circumstances if alternative cleanup target levels are used; providing additional contamination cleanup criteria for brownfield sites and brownfield areas, etc. **The Senate bill was read a third time on Thursday, laid on the table and referred to CS/HB 351 which passed 40-0 and has been sent to the Governor for signing into law. – Now on Governor's desk.**

SB 166/HB 19 (Rep. Jenne/Sen. Soto) Well Stimulation Treatments: Prohibits well stimulation treatments for exploration or production of oil or natural Gas. Oil and Natural Gas Production or Recovery: Defining the terms "hydraulic fracturing" and "well stimulation treatment"; prohibiting a person from engaging in hydraulic fracturing or performing well stimulation treatments in this state or the waters adjacent to this state; prohibiting a person from disposing of related materials and byproducts of hydraulic fracturing or well stimulation treatments, etc. **Both bills have been referenced to Committee's in both the House and Senate but have not been agendaed for a hearing. – Both bills are dead for this session.**

HB 191/SB 318 Regulation of Oil & Gas Resources by Rep. Ray Rodrigues/ Rep. Cary Pigman and Sen. Garrett Richter **–** Regulation of Oil and Gas Resources; Preempts regulation of all matters relating to exploration, development, production, processing, storage, & transportation of oil & gas; declares existing ordinances & regulations relating thereto void; provides exception for certain zoning ordinances; revises DEP rulemaking authority; requires permits be obtained before performance of high-pressure well stimulation; deletes provisions requiring Division of Resource Management to get certain approval from municipal governing bodies; requires division to consider additional criteria when issuing permits; authorizes DEP to issue permits for performance of high-pressure well stimulation; requires DEP to conduct study; requires applicants & operators to provide surety; increases maximum amount for civil penalties; requires DEP to designate national chemical registry as state's registry; requires service providers, vendors, & well owners or operators to report certain information to DEP; requires DEP to report certain information to registry; provides that act preempts & supersedes certain regulations; **The Senate bill is in the Full Appropriations Committee waiting to be agendaed for a hearing, and the House bill is now in Senate Messages. - No Change**

SB 552/HB 7005 Environmental Resources; Provides for conservation lands database; provides assistance to self-suppliers of water; authorizes pilot projects for certain water management districts (WMDs); requires adoption of minimum flows & levels for Outstanding Florida Springs; requires concurrent adoption of recovery or prevention strategies & minimum flows & levels; provides for Central

Florida Water Initiative Area; authorizes allocation of water by SFWMD; requires monitoring of consumptive use permits; provides for certain preferred water supply sources; prohibits modification of permitted water allocations; provides priority consideration to certain public-private partnerships for water storage, groundwater recharge, & water quality improvements on private agricultural lands; revises Northern Everglades & Estuaries Protection Program; revises membership qualifications for Harris Chain of Lakes Restoration Council; requires certain funding plans in water resource development work program; authorizes private landowners to assist WMDs; requires promotion of certain cost-share criteria; creates the Florida Springs & Aquifer Protection Act; authorizes funding for nutrient & sediment reduction & conservation pilot projects; revises requirements for basin management action plans; provides treated potable water supply as designated use of surface waters; requires DEP & DACS to assess water resources & conservation lands. **HB 7005 passed out of the full House and Senate and was signed into law by the Governor.**

SB 400/HB 561: Organizational Structure of the Department of Environmental Protection GENERAL BILL by Sen. Alan Hays and Rep. Neil Combee **-** Organizational Structure of the Department of Environmental Protection; Authorizing the secretary of the Department of Environmental Protection to establish divisions as necessary to accomplish the missions and goals of the department, etc. **The Senate Bill is in the full Appropriations Committee. The House bill passed out of the State Affairs Committee and has been placed on the House Calendar.**

HB 589/SB 1052(Rep. Cary Pigman/Sen. Alan Hays) Environmental Control; Prohibiting water management districts from modifying or reducing consumptive use permit allocations if actual water use is less than permitted water use due to water conservation measures or specified circumstances; requiring the Department of Environmental Protection to adopt by rule a specific surface water classification to protect surface waters used for treated potable water supply, **The House bill passed unanimously out of the State Affairs Committee on Wednesday and the Senate is in the full Appropriations Committee.**

SEGS AFFILIATION WITH THE GCAGS

SEGS is affiliated with The Gulf Coast Association of Geological Societies (GCAGS) along with the following groups:

- Alabama Geological Society
- Asociacion Mexicana de Geologos
- Austin Geological Society
- Baton Rouge Geological Society
- Corpus Christie Geological Society
- East Texas Geological Society
- Houston Geological Society
- Lafayette Geological Society
- Mississippi Geological Society
- New Orleans Geological Society
- Shreveport Geological Society
- South Texas Geological Society

Some more facts about the GCAGS:

- The organization was formed in 1951, and serves as the Gulf Coast Section of the American Association of Petroleum Geologists (AAPG).
- GCAGS provides an organizational structure through which member societies may participate and be represented in the business of the AAPG.
- GCAGS serves as a forum for the discussion and publication of papers on subjects concerning the geological profession as they relate to Gulf Coast area geology. Papers presented at the annual GCAGS convention are published in the annual *Transactions* of the Association.
- GCAGS is a non-profit professional organization whose purposes are to foster education and the communication of ideas, and to provide financial support to geoscience students and faculty conducting research in the Gulf Coast region.
- GCAGS is served by a Board of Directors composed of its officers and one representative from each member society.
- The Vice-President, Secretary, and Treasurer are nominated by the Executive Committee of the local society hosting the year's annual meeting.
- GCAGS officers assume their office at the conclusion of the annual convention which is held in September/October each year.

The Southeastern Geological Society (SEGS) is a non-profit group of avocational and professional geologists dedicated to advancement of the geological sciences.