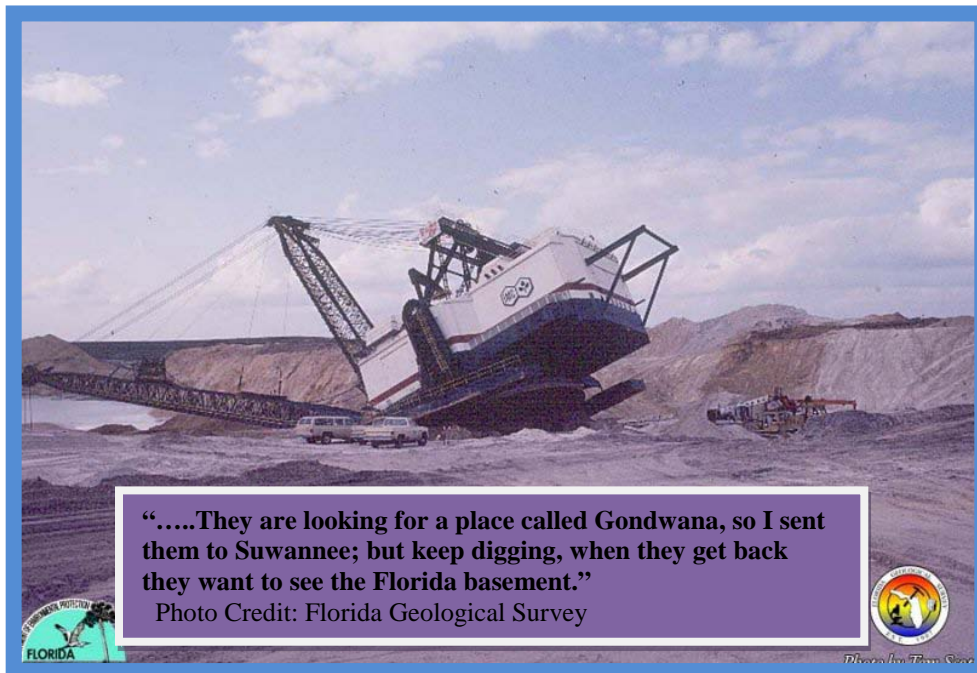


*Everglades Geological Society*

# ***BULLETIN***



**“.....They are looking for a place called Gondwana, so I sent them to Suwannee; but keep digging, when they get back they want to see the Florida basement.”**

Photo Credit: Florida Geological Survey



Volume 19, Number 4

May 2013

**Meeting This Month: Tuesday, May 21, 2013**

**Speaker: *Dr. James H. MacDonald, FGCU***

Topic:

**TECTONIC DEVELOPMENT OF THE FLORIDA BASEMENT**

**INSIDE THIS ISSUE**

**2**

**Announcements/News**

**3**

**Topic, Abstract, Biography of Speaker**

**4**

**Map, and Application Locations**

**5**

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**Meeting This Month:**  
**TUESDAY May 21, 2013**  
**6 pm (Social hour starts at 5 pm)**

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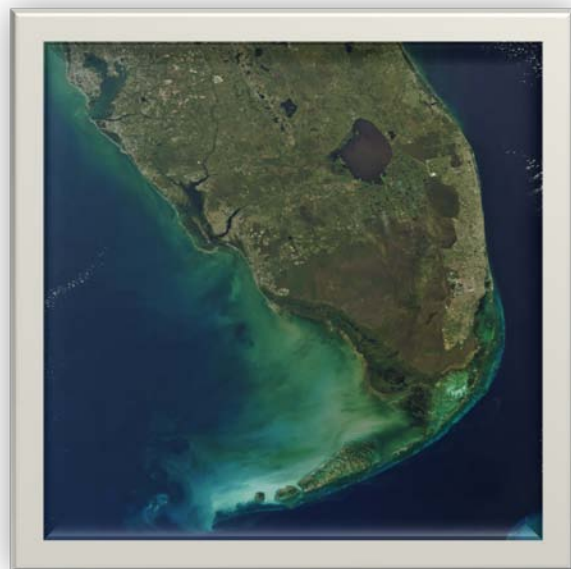
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*Do you know someone that would like speak at one our meetings? Please let us know.*

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## **THIS MONTH'S TOPIC**

### ***TECTONIC DEVELOPMENT OF THE FLORIDA BASEMENT***

*presented by*

***DR. JAMES H. MACDONALD, FGCU***

#### ***ABSTRACT***

This talk is a review of other researcher's work. The knowledge of the basement rocks below the Florida carbonate platform is limited to drill holes and seismological data. However, even with limited data a complex story has been established. The oldest unit is the Neoproterozoic Osceola Volcanic complex. The chemistry of this complex suggests it originated as a volcanic arc. The Cambrian Osceola Granite has been correlated with the Coyah Granite, Guinea, Africa, based on petrography and Ar isotope ages. The Ordovician-Devonian sandstone and shale of the Suwannee Basin sequence has yielded a large amount of invertebrate fossils that do not have North American affinities. This assemblage, including the tribute *Plaesiacomia exsul*, has been correlated with Europe, Africa, and South America assemblages. Paleomagnetic data from the Suwannee Basin sequence has given a paleolatitude adjacent to Gondwana -- far removed from the North American craton. This data, along with other lines of evidence, have linked the pre-Mesozoic basement of Florida to northern South America and Africa. These units were sutured to the North American craton along the Wiggins-Suwannee suture during the Alleghanian orogeny. The Florida basement also records the Mesozoic rifting of Pangea with a series of non-marine clastic and igneous rocks.

#### **PROFESSIONAL SUMMARY**

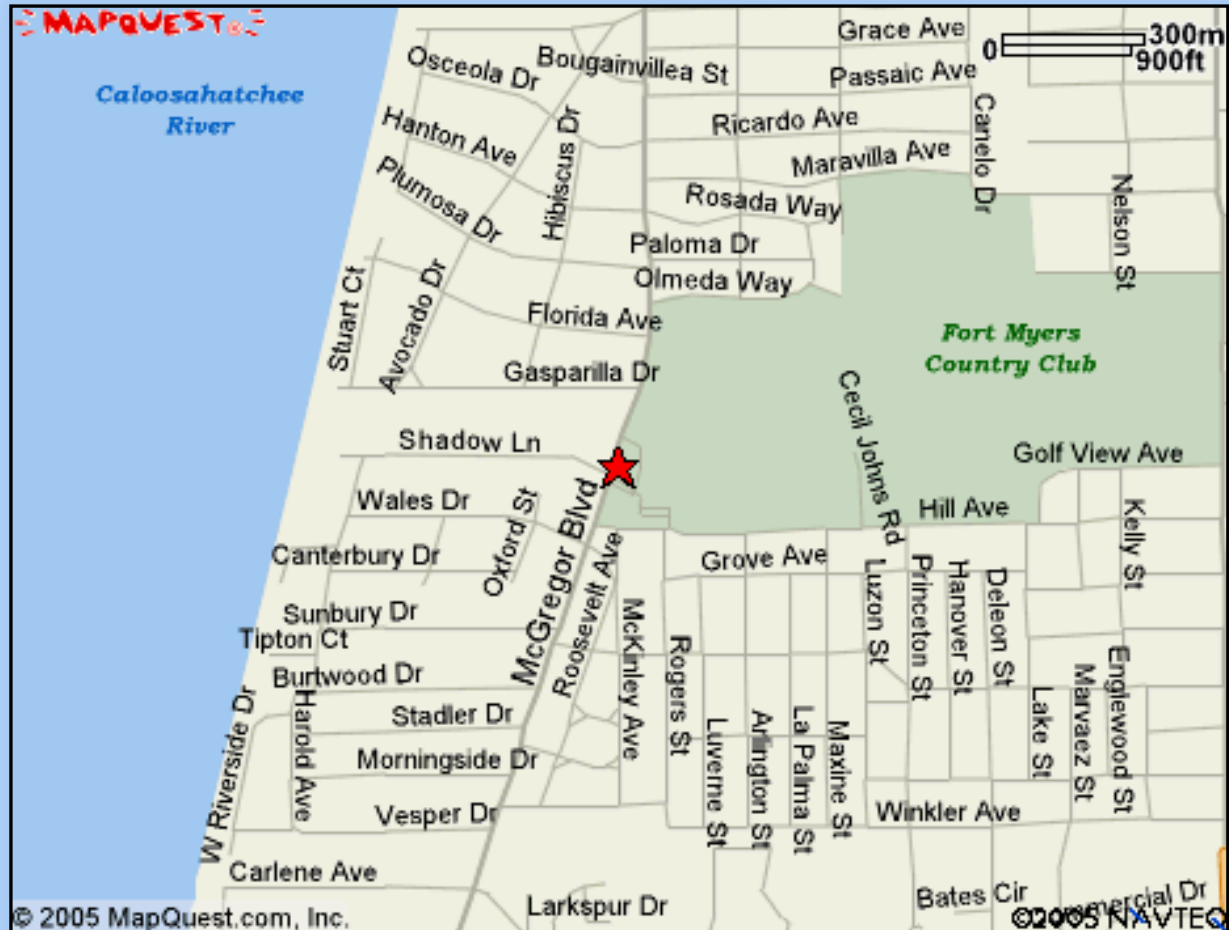
James H. MacDonald, PhD  
Associate Professor of Geology

Florida Gulf Coast University

Dr. MacDonald earned his PhD in petrology, tectonics, and geochemistry in 2006 at the University of Albany, State University of New York. His dissertation involved the "Petrology, Petrogenesis, and Tectonic setting of Jurassic rocks of the Central Cascades, Washington, and Western Klamath Mountains, California-Oregon." He taught at Wright State University before coming to FGCU in the autumn of 2007, where he currently is Associate Professor of Geology. His interests involve the geochemistry of rocks and sediments, continental rifting, and CO<sub>2</sub> sequestration using geologic materials. Dr. MacDonald was nominated for the FGCU Junior Faculty Teaching Excellence Award, has authored and co-authored numerous papers, and has published a 108-page Physical and Historical Geology Manual (2008), ISBN978-0-7380-2885-9.

## Everglades Geological Society

The Everglades Geological Society meets on the Third Tuesday of January, March, May, September, and November. Meetings are currently held at The Edison on McGregor Blvd at the Fort Myers Country Club in Fort Myers, Florida. Social hour starts at 5:00 PM. The meeting begins at 6:00 PM. Join us if you are a geologist or just interested in earth science. Knowledge is free, membership is almost free.



## Join Everglades Geological Society

*Application forms are available:  
at meetings, by mail and on our web site.  
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