

Everglades Geological Society

BULLETIN

Volume 10, Number 1

September 2003

Meeting This Month: September 16, 2003
6:00 P.M. at the Calusa Nature Center
(social hour starts at approximately 5:00)

Speaker: Yale Yunsheng Zheng

Topic: Hydrogeology Review of Southwest Florida

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Everglades Geological Society
P.O. Box 61684
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www.evergladesgeologicalsociety.org

The Everglades Geological Society is an organization which seeks to promote interest in and understanding of Geology and the related Earth Sciences, and to provide a common organization for those individuals interested in geology and the related earth sciences. The Bulletin is a publication of the Everglades Geological Society, Inc.

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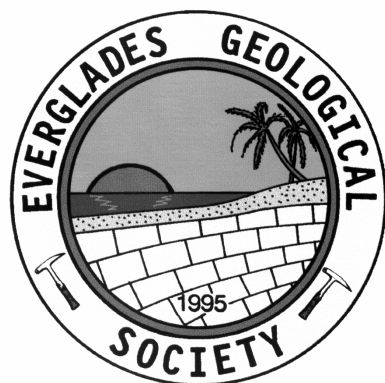
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EGS MEETING THIS MONTH
TUESDAY
September 16, 2003

Calusa Nature Center
 Classroom 208
 3450 Ortiz Avenue
 Fort Myers, Florida 33905
 (239) 275-3435

Welcome Back Members!

A lineup of guest speakers will be available in the next bulletin.

DATE	SPEAKER	TOPIC
9/16/03	Yale Yunsheng Zheng	Hydrogeology Review of SW Florida

Everglades Geological Society Board Meeting 8/28/03

The officers of the Everglades Geological Society met at 5:30 pm on Thursday 8/28/03 at the French Connection in Fort Myers. Officers present were President Terry Bengtsson, Vice-President Gordon Kennedy, Secretary/Treasurer Curtis Klug, and Director Karen Cheney. Topics discussed included the possibility of changing the general meeting frequency from monthly to bi-monthly. Curt was to check into whether a Constitution change was required for this. There was also discussion on the possibility of changing at least some the meetings to luncheon meetings rather than evening meetings. Karen has been investigating the possibility of catered meetings at the Diamonhead. The possibility of increasing the annual dues to \$25 was also discussed. No voting with respect to the above was carried out at this meeting. Two applicants were unanimously voted in as new Active Members: John Ireland and Michael Savarese. There was also brief discussion on a potential field trip. The meeting terminated at 8:05 pm.

President's Message

by

Terry Bengtsson
(tbengts@sfwmd.gov)

Dear EGS Members

Well, summer is almost finished and will go down as a wet one; even if Hurricane Isabel remains far offshore in the Atlantic. It is time to kick off a new season for EGS and have all of its members come to our September meeting on the 16th to meet and greet, have some snacks and refreshments, and listen to guest speaker, Yale Yunsheng Zheng. Your Board members have met this month, and have discussed potential changes to our schedule, meeting place, funding, and activities for this year. We would like to hear from you all on what the Society can do for its members, what topics are of interest for future presentation and what activities may be fun or meaningful. Come to the meeting and discuss what direction EGS should heading, or drop me an email, or call.

The end of the year EGS picnic was held on Saturday June 7th at Bowditch Park on Fort Myers Beach. It was a nice breezy day (no bugs), and a bunch of us enjoyed the day, ate hamburgers, hot dogs, chips and deserts, and discussed topics of the day over cold refreshments. Counting of the ballots was performed and beside me being elected as the new president, Gordon Kennedy was elected vice-president, Karen Cheney was chosen for a Director's position and Dave Hoffman was tapped for the editor's job. Clyde Dabbs remains as a Director and Curtis Klug is still the Secretary/Treasurer. Give them a nod the next time you see them. Any assistance or suggestions you all can give them, please do so, and we all will benefit. Gordon has the primary duty of lining up speakers for this year, and I'm sure any connections you all may have let him know. It's all about networking.

I had the good fortune of going to Colorado and Wyoming two weeks ago, and boy, the vistas, rock exposure and just natural beauty were quite spectacular.

The structure, the outcrops of steeply dipping beds, red rock cliffs, salt pans, glacial terrain, it's all out there. Geology clubs located out there have a little more to choose from when planning a field trip! Here in Florida we do have a problem of way too much green stuff obscuring descent exposure, but there features in our state that are not prevalent elsewhere and we should get out there to check them out. Perhaps limestone outcrops in the Keys and south Miami, or areas with unique coastal geomorphology (i.e., beaches) may work for us this year. Drop me a line for suggestions towards this year's EGS field trip. What about analogous Pleistocene reefs exposed in the Bahamas?

Cliff Harrison is a member of the Florida Association of Professional Geologists (FAPG) as well as EGS, and has asked me to mention an initiative that FAPG is pressing at the State legislature level. The FAPG is proposing changes to three Florida Statutes: Chapter 373.117, Water Resources Act, Chapter 287.055,

Consultants Competitive Negotiation Act, and Chapter 492.113, and Professional Geology Act. You can read summaries of the proposed changes on the website at www.fapg.org. They currently have a two-stage action plan: the first stage is fund-raising; the second stage is contingent upon the success of the first—the hope is to raise enough funds to hire a professional lobbyist to begin working on these issues during the next legislative session. The FAPG would like to be able to list the conceptual and philosophical support of all the Florida geoscience organizations as it solicits funds, and later as the lobbyist works with the legislature. They are asking permission to list the EGS as a supporter of its legislative initiative, and want to use the EGS logo on potential letters and/or brochures that are developed as part of this effort. Please let me know how you feel about this initiative. I personally think that the effort can only help professional geologists and is a good thing.

Meet you all at the Calusa Center Tuesday,

Terry Bengtsson

Hydrogeology Review of Southwest Florida

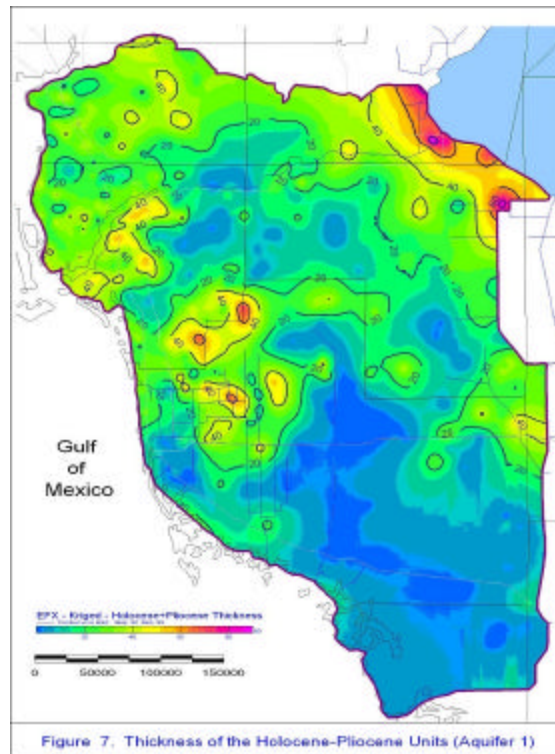
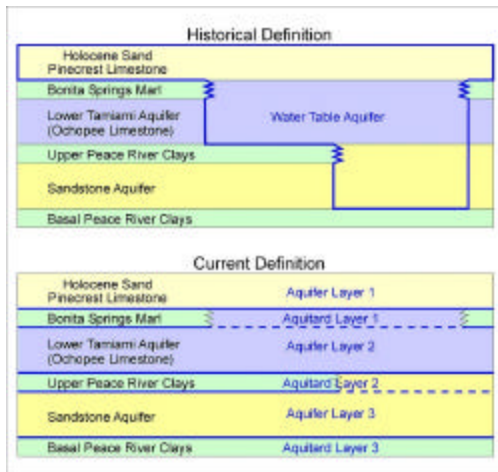
Yale Yunsheng Zheng

ABSTRACT

A geologic model of the area covered by the South West Florida Feasibility Study was developed in which surfaces represent the hydrostratigraphy of the region. Layers in the model represent

three major aquifers and three aquitards. The definition of the layers differs from the historical definition of aquifers in the study area, but was done to create hydrostratigraphic layers that would be more amenable to numerical modeling. To accomplish the task of building a geologic model, an extensive review of all available sources of information was conducted. The first step involved reformatting the data provided by WRS into a more useful relational database. QA/QC procedures and statistical analyses were carried out on the borehole data to eliminate obvious outliers from the data. We did not, however, re-pick any of the geologic units or add new picks at this time.

Kriging, a well-recognized geostatistical method, was used to interpolate the data to a single model grid with a uniform 750 x 750 m cell size. An analysis of variance was first conducted on the data using the geostatistics module in VIEWLOG to determine the best shapes and properties of variograms used in the interpolations. Surfaces were corrected to provide a minimum thickness for aquifer layers and zero thickness for aquitards where the units pinch out. The minimum aquifer thickness is a requirement of the numerical model. Figures showing the interpolated surfaces and cross sections have been provided in this report. Digital forms of the surfaces were provided as to the SFWMD as ARC/INFO grid files and as a VIEWLOG project file along with the database containing the geologic data used in this study.



The full report upon which Yunsheng Zheng's presentation "Hydrogeology Review of Southwest Florida" is available at www.evergladesgeologicalsociety.org as a 12.1 MB PDF file.

BIOGRAPHY

Yale is an environmental engineering graduate of the University of Toronto. He is interested in water resources/environmental processes modeling, including ground water modeling, hydrological modeling, open-channel flow modeling, and biological wastewater treatment processes modeling. He has worked for over six years at the following organizations: Atomic Energy Canada Limited (AECL) Research, Greenland International Engineering Inc., and The SoftAd Group, Inc. He has a Ph.D from the University of Toronto and a M.A.Sc. from the University of Regina. His doctoral thesis topic is "Mathematical Model of Anaerobic Processes Applied to the Anaerobic Sequencing Batch Reactor". Currently, he is a hydrologic modeler with BEM Systems, Inc. working on the Regional Simulation Model (RSM), which is part of the South West Florida Feasibility Study (SWFFS). He has recently moved to Fort Myers to work on the Comprehensive Everglades Reconstruction Project.

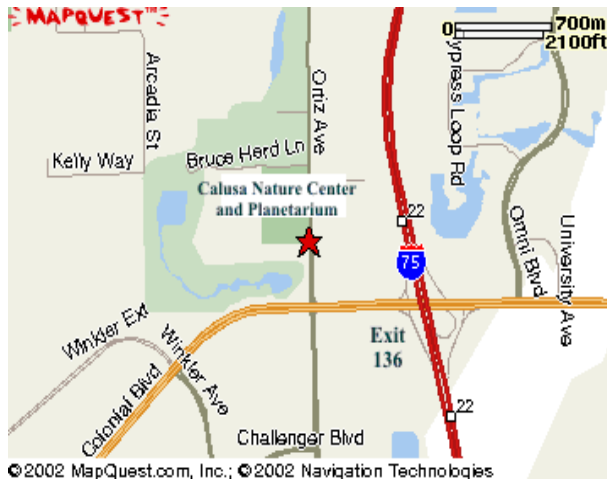
Everglades Geological Society

Meets on the third Tuesday of each month at the Calusa Nature Center on Ortiz Avenue in Fort Myers, Florida. Social hour starts at 5:00 PM. The meeting begins at 6:00 PM. No meetings are held in July or August.

Directions to the Calusa Nature Center (map provided below):

From north or south of Fort Myers take I-75 to Exit 136, west on Colonial Blvd to traffic light. Take a right on Ortiz Ave, The Calusa Nature Center entrance is 100 yards on the left.

From Sanibel or Fort Myers Beach take Summerlin Rd to Gladiolus Dr to 6-Mile Cypress Pkwy to Ortiz Ave. The Calusa Nature Center entrance is 100 yards past the light on Colonial on the left.



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EGS MEETING CALENDAR 2003-2004

September 16
October 21
November 18
December 16
January 20
February 17

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at meetings, by mail and on our web site.

<http://www.evergladesgeologicalsociety.org/>

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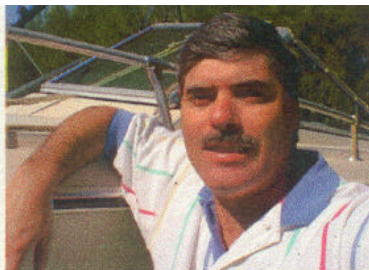
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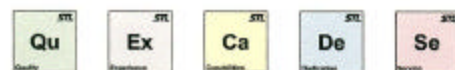
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