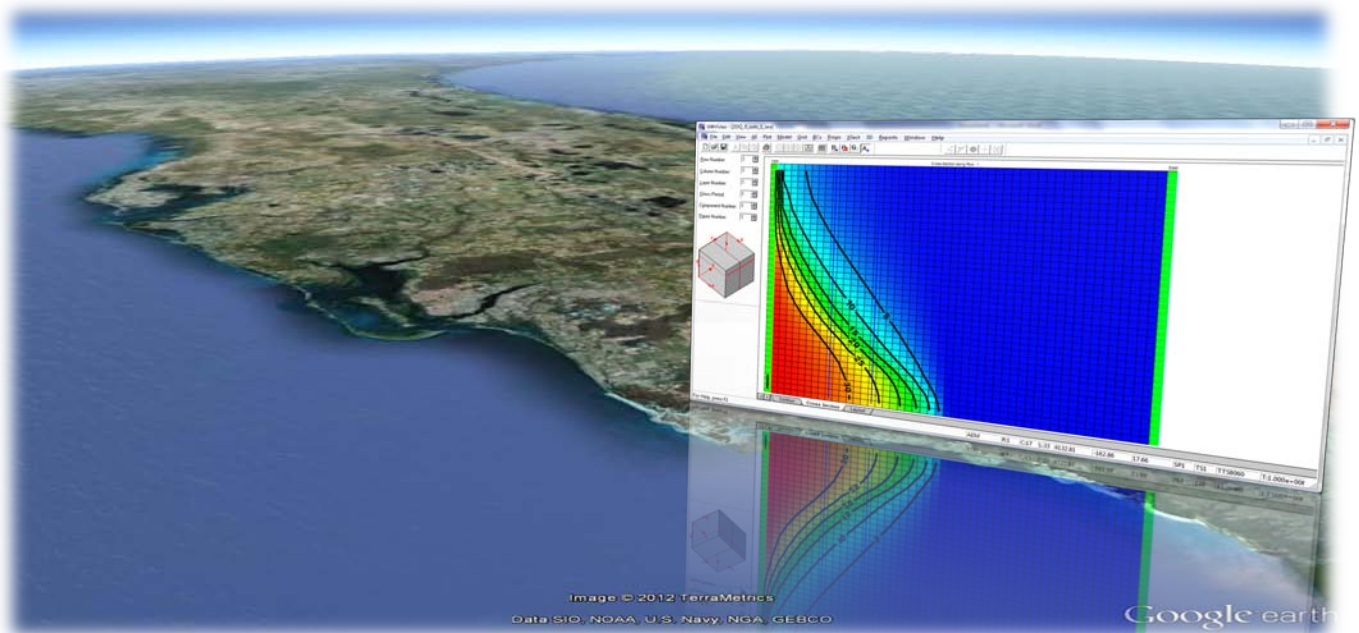


Everglades Geological Society

BULLETIN



Volume 18, Number 4

March 2012

Meeting This Month: Tuesday, March 20, 2012

Speaker: Louis H. Motz, Ph.D., P.E., D.WRE

Topic:

***Representing the Coastal Boundary Condition
in Regional Groundwater Flow Models***

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Everglades Geological Society
P. O. Box 61684
Fort Myers, FL 33906

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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Schlumberger Water Services
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Pierre.Bruno@dep.state.fl.us

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Meeting This Month:
TUESDAY March 20, 2012
6 pm (Social hour starts at 5 pm)

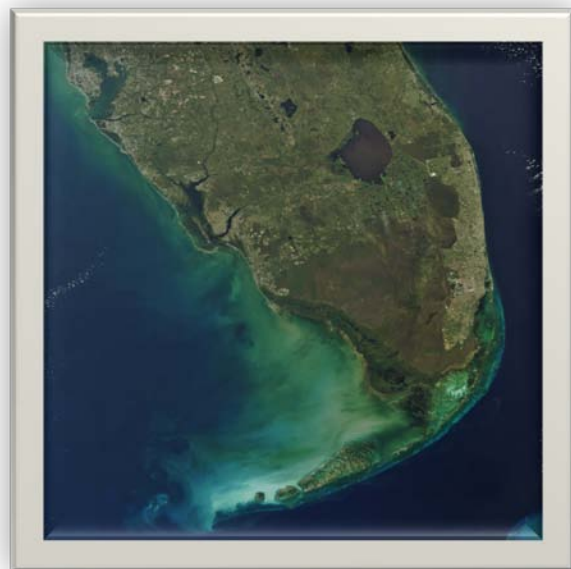
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Thank you to our Sponsors!
Please check them out on pages 6 & 7!!

Would you like to advertise in our bulletin? Please contact one of the EGS officers.

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

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President's Address

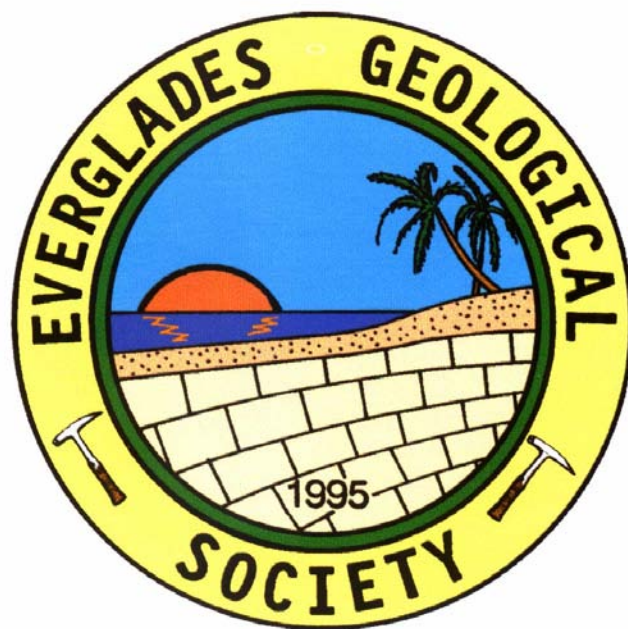
Kim Arnold, P.G.

Hydrogeologist, JOHNSON ENGINEERING, INC.

I hope everyone is enjoying spring in southwest Florida: basking in the gorgeous weather (there must be some field work that needs to be done, right?), managing to keep the cursing at incompetent drivers to a minimum, and maybe even fighting past the throngs of “snow birds” to take in a Spring Training game or day at the beach.

As for EGS, we'd like to provide y'all with opportunities to remember some of the benefits to living in Florida, namely field trips and picnics. It's been a year or two since we've had an EGS field trip or picnic, but it's high time that changed. We've been coordinating with potential field trip hosts and other professional organizations to make this happen. Once the details come together, we will let you know. In addition to field trips, a good old fashioned EGS picnic also seems in order. I'm thinking we keep it simple: a nice afternoon at a local park or beach (before it gets too blazing hot/rainy) where we can throw goodies on the grill and enjoy some time with friends and family. Please let one of the board members know if you have recommendations for a venue or would like to get really crazy and maybe volunteer a location.

This month we're very pleased to have Dr. Louis Motz from the University of Florida present a talk on representing coastal boundary conditions in regional groundwater flow models. Dr. Motz is a well respected expert in his field, and we're always honored when a speaker is willing to make such a trip to join us. Hope to see everyone at the Edison on March 20th for what's sure to be a great presentation.



This Month's Topic

Representing the Coastal Boundary Condition in Regional Groundwater Flow Models

Dr. Louis H. Motz, P.E.

Abstract

Numerical experiments were performed to investigate how the coastal boundary condition should be approximated in a groundwater flow model to yield accurate values for hydraulic heads and fluxes in the freshwater part of a coastal aquifer. These experiments consisted of obtaining steady-state solutions for hydraulic heads in a vertical cross-section using the groundwater flow code MODFLOW and comparing the results to a steady-state solution in a similar cross-section for equivalent freshwater heads obtained using the variable-density flow and transport code SEAWAT, which was considered to be the accurate solution to the problem. Six different boundary conditions that have been used to approximate the coastal boundary in groundwater flow models were tested, and simulations were run for both specified-flux and specified-head boundary conditions at the upstream freshwater boundary. For both upstream boundary conditions, the MODFLOW solution that best matches the SEAWAT solution for hydraulic heads and fluxes in the freshwater part of the aquifer is the solution in which equivalent freshwater heads are specified over the full thickness of the aquifer at the coastal boundary.

PROFESSIONAL SUMMARY

Louis H. Motz, Ph.D., P.E., D.WRE

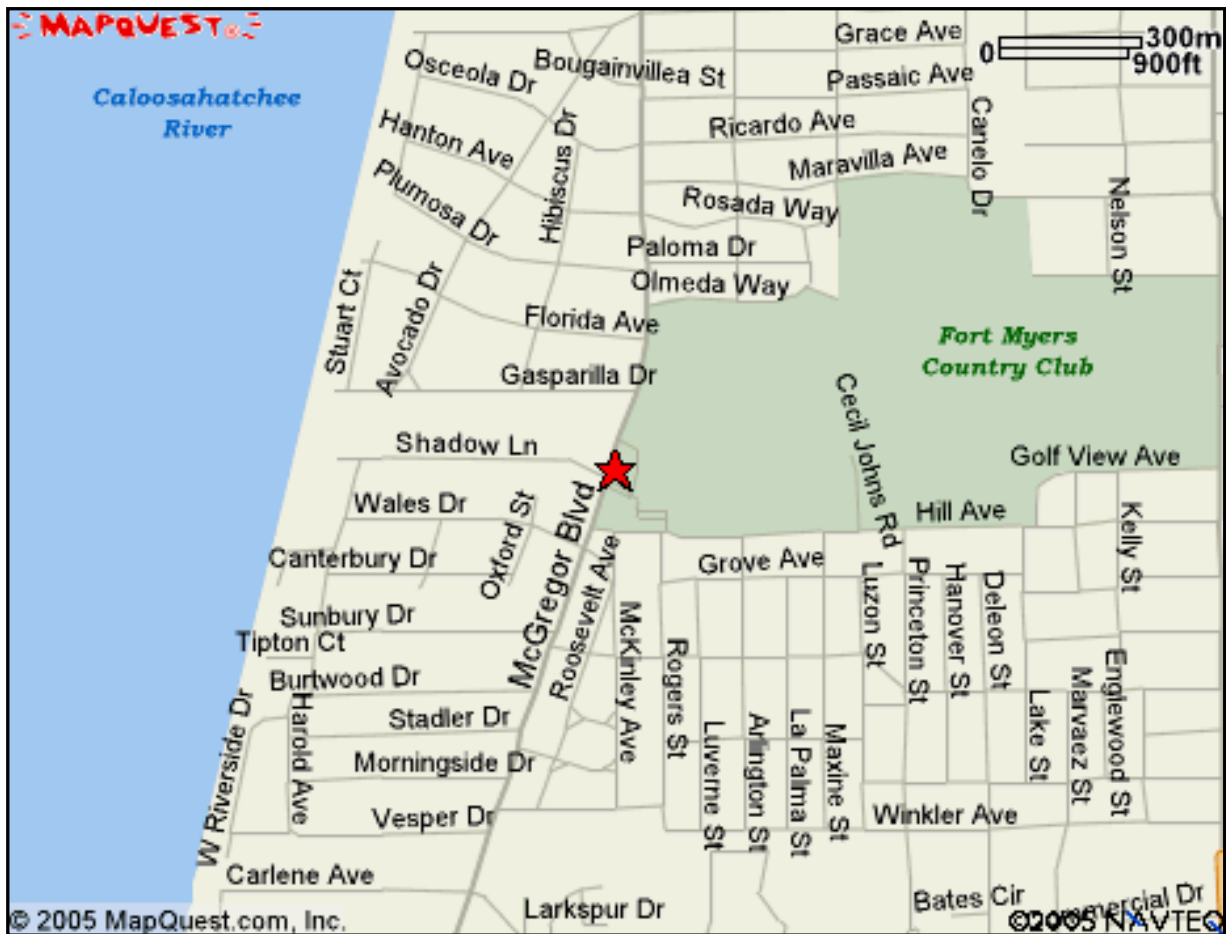
***Associate Professor of Civil Engineering
University of Florida –Gainesville***



Louis H. Motz is Associate Professor of Civil Engineering (Department of Civil and Coastal Engineering, Engineering School of Sustainable Infrastructure and Environment) at the University of Florida in Gainesville. He teaches and conducts research in groundwater hydraulics, groundwater modeling, and water resources. Dr. Motz received his B.E. degree in Civil Engineering and his M.S. and Ph.D. degrees in Water Resources Engineering from Vanderbilt University. He is a registered Professional Engineer in Florida and is certified as a Diplomate, Water Resources Engineer (D.WRE), by the American Academy of Water Resources Engineers. He can be contacted at lmotz@ce.ufl.edu.

Everglades Geological Society

Meets on the Third Tuesday every other month 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. No meetings are held in July or August.



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

Charles T. Ferber, P.A.

CHARLES T. FERBER
Attorney At Law

Attorney and Professional Geologist
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www.charlesferberlaw.com

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and

Open House

Thursday, April 26th, 10 a.m.-7 p.m.
Geotech Fort Myers, Florida Service Center



Feast on...

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-  Chicken & Pulled Pork
-  Salads & Sides
-  Chips & Dips
-  Desserts
-  Water, Soda, Tea, Wine & Beer



Geotech Open House Training/Demo Schedule

Geotech will be offering complimentary training on cleaning and calibrating various types of air and water quality meters. See times below for complete scheduling. Contact Chris Kartel at Chrisk@geotechenv.com if special times are needed for your group.

10:00 AM	Electric Sampling Pumps (Geotech SS Geosub , Grundfos Redi-Flo2)
11:00 AM	Water Quality Meters (YSI 556 , WTW , Lamotte , Hach)
1:00 PM	INW Dataloggers (Pressure , Temp , Conductivity , pH , Bromide , Nitrate , Chloride)
2:00 PM	Air Quality Monitoring (FID's , PID's , GEM 2000 , Multi-Gas Meters)
3:00 PM	Remediation Equipment (Passive , Electric & Pneumatic Recovery, SVE)
4:00 PM	Low Flow Sampling (Geotech Geopump 2 Peristaltic Pump , Geotech Bladder Pumps)

Please RSVP by April 22 to Chris Kartel: chrisk@geotechenv.com

EVERYONE IS WELCOME!

Geotech is located at:

12165 Metro Parkway, Unit 25B

Fort Myers, Florida 33966

Phone: 1-800-304-5325

[Directions](#)