

Geological Society of America Annual Meeting 2018

By

James C. Adamski, PG

The Geological Society of America (GSA) held its 2018 Annual Meeting from November 4 – 7 in Indianapolis, Indiana. The GSA Annual Meeting is one of the largest Earth Science conferences in the world. The meeting attracted an international group of about 10,000 geologists, climatologists, paleontologists, and other research scientists. The meeting also had workshops and exhibits from vendors, publishers, universities, and government agencies including NASA. Thanks to East Campus Academic Division (ECAD) Travel Funds, I was able to attend all three days of the conference, and give a presentation on Wednesday, November 7. The following includes highlights of the trip.

- Mary Beck, Professor of Geology on West Campus (retired) gave a presentation about project and problem-learning in physical geology class.
- Met with Dr. Jon Arthur and Guy Means, Director and Assistant Director, respectively, of Florida Geological Survey. Mr. Means has offered to visit East Campus and give a presentation on Florida geology.
- Attended numerous presentations on geoscience education, climate change, and paleoclimatology (study of ancient climates). The information in these presentations has been helpful in my Earth science and meteorology courses.
- Attended poster sessions and visited with numerous students.
- Attended a workshop on virtual reality and 360-imagery in geoscience education. The University of Indiana is doing some great work in this field. I hope to begin work on my own virtual field trips during my sabbatical.
- Saw a demonstration on 3D printing of fossils by the Indiana Geological Survey.
- Toured the Indiana State Museum, which has some outstanding natural history exhibits showing life in Indiana from the Cambrian Period (540 million years ago) to the present.
- Met and visited with one of my favorite science authors, Dr. David R. Montgomery. He is a MacArthur Fellow and Geology Professor at University of Washington. He autographed his latest book for me: *Growing a Revolution—Bringing Our Soil Back to Life*.

The following abstract is from my presentation:

Creating Earth-Science Learning Experiences Outside the Classroom at a 2- and 4-Year College

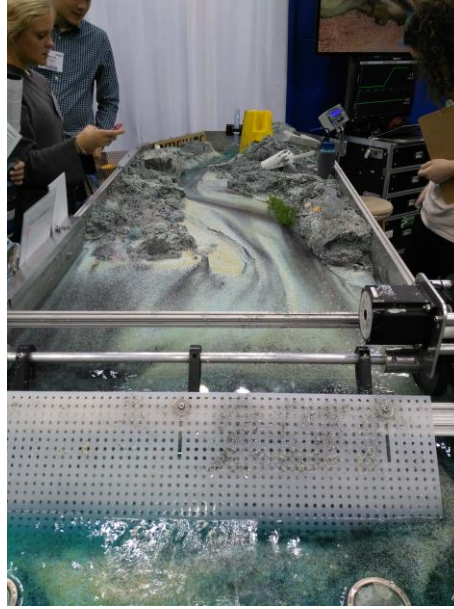
Students enrolled in non-science majors at most 2-year and 4-year colleges have limited exposure to Earth science. In Florida, non-science majors are only required to take 6 credit hours of general-education science (non-lab) courses to meet graduation requirements for a 4-year degree. However, addressing issues such as climate change, water-resources depletion and degradation, and habitat loss due to development increasingly requires that our graduates are scientifically literate members of society.

The East Campus Science Department at Valencia College has created a multi-prong approach to increasing student learning of Earth science outside the classroom. First, our annual Earth Day event attracts more than 400 students, staff, and faculty. The outdoor tabling event, which hosts numerous environmental organizations from amateur fossil-hunting clubs to wildlife rehabilitators, allows students to learn about local, national, and global environmental issues. The event is also an excellent opportunity for community outreach and partnerships. Second, a natural-history museum features displays of rocks, minerals, Florida fossils, and modern terrestrial and marine organisms along with numerous framed geologic maps, and an interactive kiosk. As with most colleges, space is limited at Valencia; hence, the museum is distributed throughout hallways and lobbies in two buildings on campus. The distributed location of the museum in public areas attracts more students than would a dedicated room or building. Third, wildlife habitat and pollinator gardens are being created around a pond and nearby stream using native plants. This native-plant garden also provides aesthetics, and has the potential for student research, such as documenting changes in water quality and biodiversity on campus. Finally, geologic field trips are available to students in any major. These popular trips range from 1-day kayaking trips to week-long excursions at national parks.

These projects have been funded with a combination of private grants, donations, and student activity fees. Student, staff, and faculty volunteers installed the native plants, which increases the sense of pride on campus.



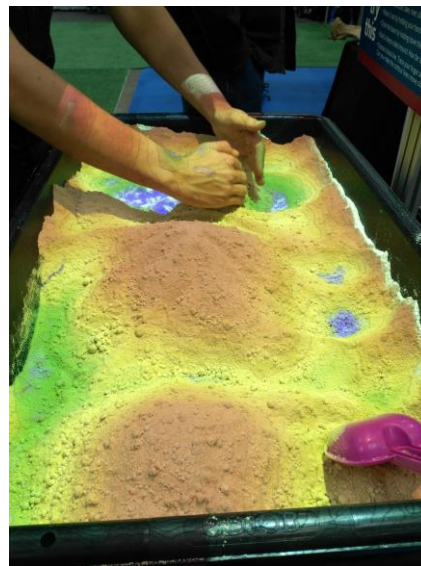
I'm in front of a replica T. rex skeleton that normally resides at the Indiana State Museum.



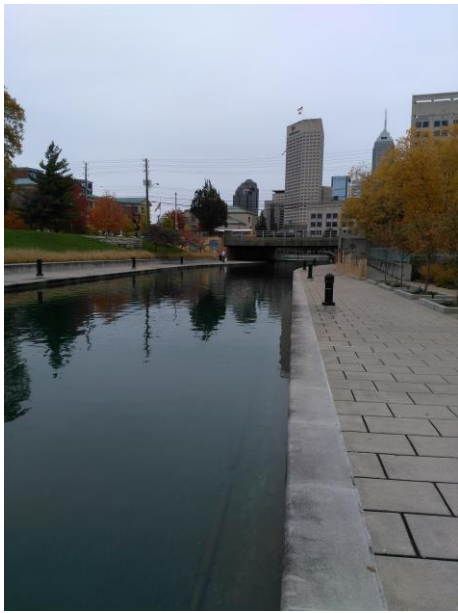
A cool flume that simulates stream processes. This flume, which was one of many demonstrations in the exhibit hall, would be a great teaching tool.



These replica fossils, which include a mastodon jaw and tooth, were created using a 3D printer. These replicas are much lighter and cheaper than authentic fossils.



This play sand table had an LED projector that shined topographic images onto the sand. The topo images changed as the sand was sculpted—depressions filled with water and mounds became mountain peaks.



The Riverwalk in downtown Indianapolis was very pretty.



Mastodon sculptures were on the backside of the Indiana State Museum, which is located next to the Riverwalk.



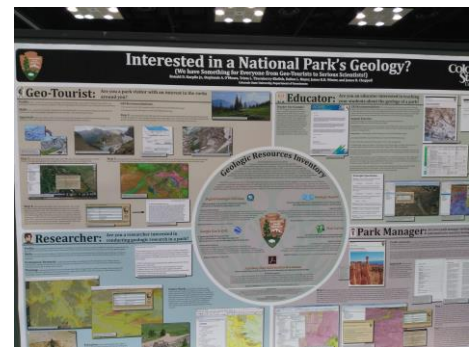
An embedded carving on the outside wall of the Indiana State Museum. Each carving represents one of the counties in Indiana. The building facade is made of limestone quarried in Indiana.



A fossil bison skeleton was one of many prehistoric-life exhibits in the Indiana State Museum.



Mastodons were relatives of elephants that lived over most of North America. They went extinct about 11,000 years ago, probably from a combination of climate change and human hunting.



I met a lot of scientists, including some from the National Park Service, which hopefully will lead to future partnerships.



We had a great time, and were sorry to see the conference end.



Downtown Indianapolis was a very pretty city with beautiful architecture, such as this old church.