

FOUNDATIONS

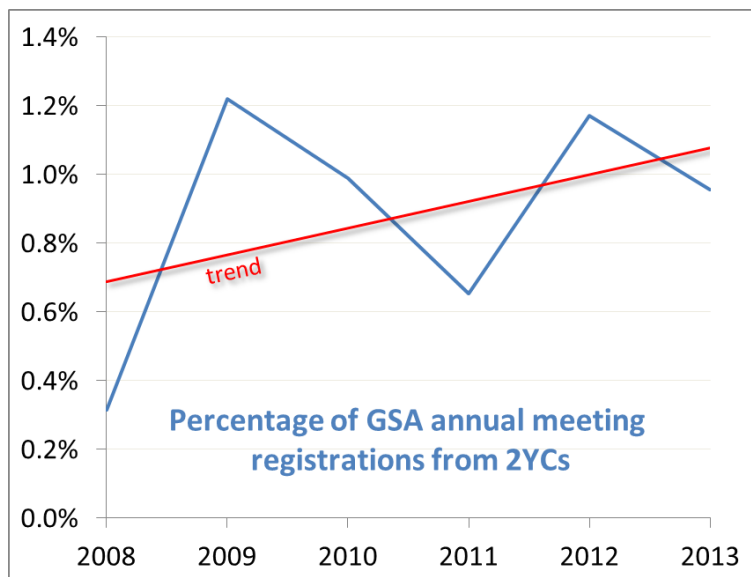
Newsletter of the Geo2YC division of the National Association of Geoscience Teachers
 Volume III, Issue 2: April 2014

A look at 2YC faculty registration at GSA annual meetings

by **Callan Bentley**

Northern Virginia Community College

In the previous issue of *Geo2YC Foundations*, I reported on two-year college student registrations at annual meetings of the Geological Society of America (Vol. III, Issue 1, page 4). As a follow-up to that report, let's now take a look at professionals (faculty) who attended these same meetings. GSA shared the past six years of professional annual meeting registrations with me, and I tallied up the number of 2YC registrants. This was a challenging task, because (a) there is no commonality of language among the institutional names of 2YCs, and (b) some people didn't state their affiliation when they registered for the meeting. A brief discussion of these two variables: First, our institutions vary widely in what they call themselves. Some are *community* colleges and some



are *junior* colleges, and some are *city* colleges and some are *technical* colleges. Some colleges, like Montgomery College and Georgia Perimeter College, I knew to be 2YCs, though there's nothing in their name that makes that explicit. Some faculty registered with a full formal institution name, while others used an abbreviation, such as MCC or RPCC. Then there is the fact that 2491 of the 20161 registrants (~12.4%) did not state an institutional affiliation at all when they registered. Among these, I recognized at least three names that I knew to be 2YC faculty (and in one case, staff). It took me about an hour to tally them all, but doubtless my lack of familiarity with every possible permutation led to a few slipping through the cracks. Regardless, the trend is fairly clear.

Year of meeting	Total professional registrants	2YC registrants	Percentage of registrants from 2YCs
2008	4443	14	0.3%
2009	3277	40	1.2%
2010	3133	31	1.0%
2011	4441	29	0.7%
2012	2560	30	1.2%
2013	3769	36	0.9%
All 6 years	20161	179	0.9%

Overall, there has been a trend towards an increasing proportion of GSA meeting attendees from 2YCs, but our proportion of the population is still quite small, averaging about 1% of the total professional meeting registrants. I hope that more of our 2YC colleagues join the larger community in attending future GSA meetings.



Two Year College Faculty Stipend 2014

GSA is offering 23, \$200 stipends for 2YC faculty who attend the 2014 Annual Meeting and attend a short course. Stipends will be given after the annual meeting; however, faculty members will be notified prior to the Annual Meeting that they have received the stipend. Stipends are available at a first come, first served basis.

To qualify for a \$200 stipend for the 2014 Geological Society of America's Annual Meeting, the following requirements must be met:

- Register for the Annual Meeting
- Provide proof that you teach half- time at a two year college (Proof is signature of dean, HR personnel or supervisor)
- Attend at least one short course (Short course leader will verify attendance before checks are mailed)
- Complete and return the form at the end of this newsletter to Davida Buehler at dbuehler@geosociety.org (Note: Subject line must read "2 year college reimbursement")

Forms will be accepted from July 1 and October 1, 2014. The first 23 forms that are submitted will qualify for the reimbursement.

Please note, there is a limited amount of funds and we are only able to provide this for the first 23 completed forms.

The Onset raffle prize will be used by Woodall's students to monitor changes in water levels.



Yes, I Won the Great Onset Raffle— But it's Not About Me!

by Debra W. Woodall
Daytona State College

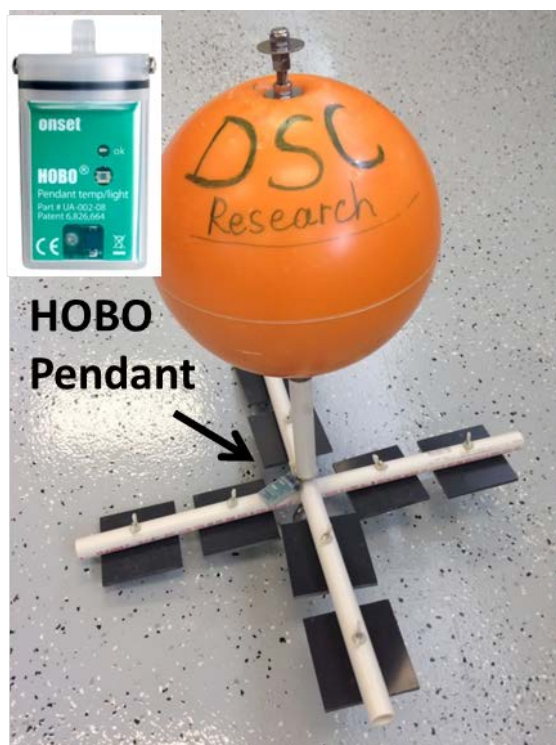
I was recently given the great opportunity to attend the 2014 Ocean Sciences Meeting (OSM) held in Honolulu, Hawaii. While there, I browsed the many wonderful vendors and came upon the booth sponsored by Onset—home of HOBO Data Loggers. I was already familiar with their products because I had been given one of their HOBO Pendants during one of Dr. Jan Hodder's outstanding COSEE Pacific Partnership workshops held at the Oregon Institute of Marine Biology (OIMB); but more on that later.

Because of my familiarity with this product, I very eagerly signed up for their great raffle prize. The prize included a handy carrying case loaded with Onset data-logging products; two U22 water temperature loggers, U20L water level loggers, a HOBO Waterproof Shuttle and HOBOWare Pro software. As the story goes...after returning from the conference and busily working in my office doing those things that a professor must do, I received a phone call from a young lady who greeted me with... "Congratulations! You have won the Onset raffle held at the 2014 OSM meeting and we will soon be sending you a carrying case filled with Onset products!" Wow—what a great way to start a day! My joy at receiving the phone call and most certainly the raffle prize was expressed all the way up to our college Dean.

But again, this is not about me. It's about enhancing student learning and transforming the marine and environmental sciences at Daytona State College. This transformation not only came as a result of being given these Onset products but because I was also given the great occasion to learn how to couple



Calibrating the HOBO accelerometer with a current meter in the Lazy River.



A “clean” BOB with attached HOBO and settling plates is later retrieved by oceanography students to study the effects of changing water temperatures on marine invertebrates.

these products with wonderful project ideas; ideas developed during an NSF-funded COSEE Pacific Partnership Workshop held at OIMB.

As an example, one Onset product given to workshop attendees was a UA-002-64 HOBO Pendant with integrated temperature and light sensors (model UA-002-64). The data logger was to be used as an attachment on a Basic Observational Buoy (BOB) that we built during the workshop under the direction of Mr. Kevin Joy, Technical Director of NURTEC at the University of Connecticut (UConn). Also attached to the BOB were settling plates used to attract invertebrates, a.k.a., fouling communities. Workshop attendees were given the BOBs with attached HOBOs so that our 2-YC students could carry out marine invertebrate investigations. My students are now studying marine invertebrates and how species types and numbers vary due to changing water temperatures.

An additional project that has been undertaken by a couple of my students involves the use of an Onset HOBO Pendant accelerometer-based data logger (UA-004-64). Again, this project idea was brought to the attention of COSEE Workshop attendees by Mr. Ivar Babb, Director of NURTEC at UConn. To explain, the

accelerometer is used to measure 3-dimensional motion (angular displacement) but can be reduced to the 2-dimension to measure the angular displacement resulting from changing current velocities. The HOBO is housed in a pivoting arm attached to a PVC pipe frame that was created by the students—they've named it the Current Measuring Device or CMD. Initially, the HOBO-containing CMD was calibrated with a current velocity meter to determine the relationship between angular displacement and current velocity. This initial calibration was completed in the 'Lazy River' at the Wyndham Ocean Walk Hotel in Daytona Beach. The ultimate goal is to deploy the CMD within a tidally-influenced water body, record and analyze the temporal data, and identify locations capable of producing renewable energy sources.



A student examines a settling plate. The inset is a microscope view of marine invertebrates.

As a professor at a 2YC who continuously struggles with tight or non-existent budgets, being 'gifted' these products and ideas have greatly increased opportunities for student learning and expanded program capabilities. And now, with my recently-acquired raffle prize, my students and I will be able to monitor sea-level changes and any number of other spin-off research ideas that my students will likely want to explore. For this, my students and I will forever be grateful!! 🏔️

**Nominate your Outstanding
Teaching Assistants**

<http://naqt.org/naqt/students/ta.html>

Deadline is June 15th!

Out of this world: Using planetary science in the geology classroom

by Michelle Selvans

*Smithsonian Institution and Northern Virginia
Community College (adjunct faculty)*

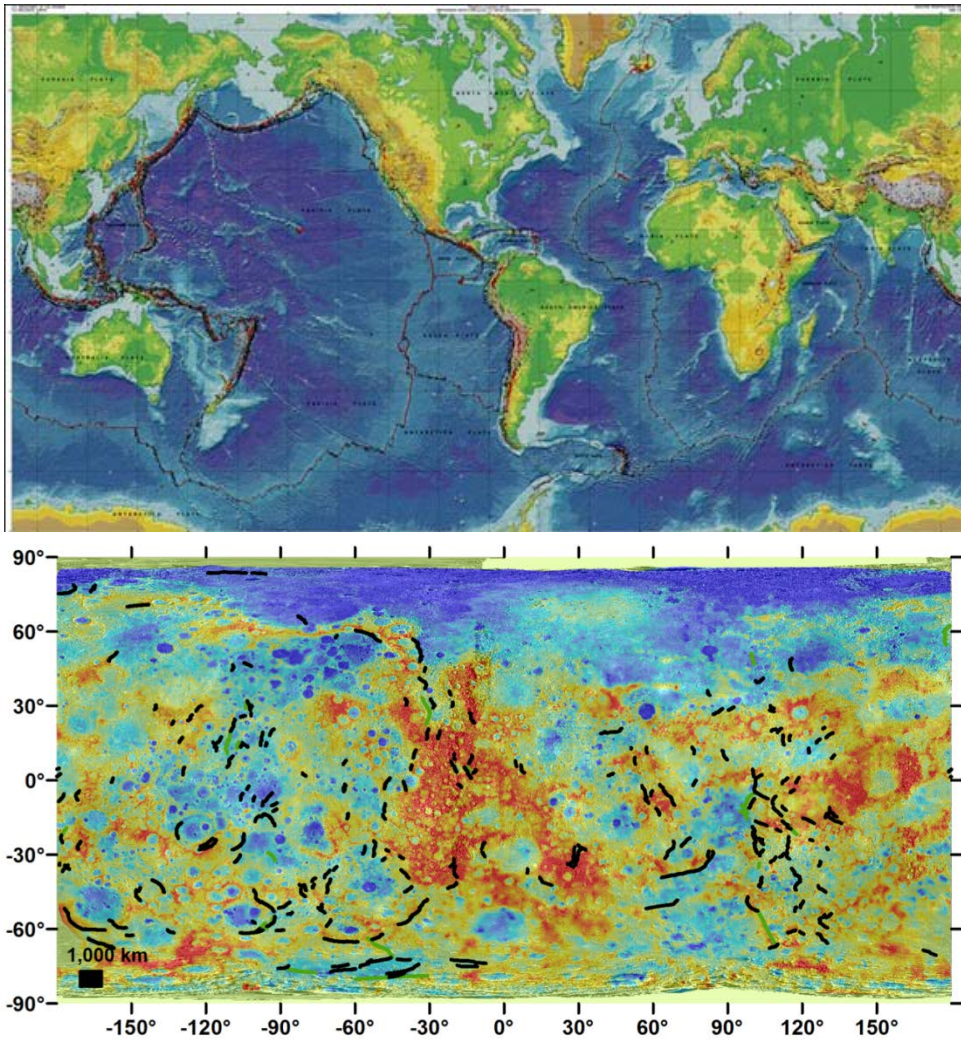
Who wasn't fascinated by "outer space" as a kid? Introducing and assessing basic concepts in geology using extraterrestrial locations gives students an opportunity to think critically about the material, and gets them excited about the topic. In some cases planetary geology is even essential for teaching a topic, such as the effect of the Late Heavy Bombardment on Hadean Earth.

I have recently incorporated planetary science material in Physical and Historical Geology courses at Northern Virginia Community College (NOVA; 8 – 18 students per course), inspired by both professional development opportunities specific to teaching planetary science and my own research. The in-class activities, exam problems, and labs in which I have incorporated planetary material have been effective at encouraging critical thinking and enthusiasm for the topic, whether it is volcanism, tectonics, impact cratering, or weathering/erosion. Teaching assessments by my students and Assistant Dean state this explicitly.

Exchanging planetary geology activities and labs with colleagues at multiple institution types has given me the opportunity to test their effectiveness in the community college setting, and to experiment with adaptations and new materials that are uniquely suited to my classroom. Here I provide examples and insights into the benefits of using planetary material in introductory geology courses, pursuing teaching professional development in one's own field of expertise, and collaborating across institution types in order to develop best practices in a 2YC setting.

First, and most generally, why would anyone introduce planetary science content in an introductory geology course? There are several good reasons. One of the most important reasons is that it encourages students to think critically. When I introduced some of the basic features of plate tectonics on Earth (such as the patterns of seismic and volcanic activity along plate boundaries) in my Physical Geology course, I used a map of volcanism on Venus to assess understanding through a think-pair-share activity. Students readily pointed out the lack of linear chains of volcanoes, inferred a lack of subduction, and concluded that Venus does not have plate tectonics. One student additionally pointed out that the map of Venusian volcanoes looked similar to the map of hot spot locations on Earth, which provided a natural segue into the topics of hot spot activity on Earth and mechanisms of heat loss. Observing this class, the Assistant Dean commented that “the activity...got [students] thinking about larger concepts.”

Other reasons to use planetary science material in introductory geology courses are that it is exciting, and that it encourages students to express their initial ignorance and confusion about a topic (such as delta morphology, which is found in several places on Mars), since they don’t feel like they should know as much about another planet besides Earth. There is less of a concern over having “the right answer” and more creative exploration of the subject. I have found this to be particularly true in my Historical Geology course, which does not have a prerequisite but is commonly taken after Physical Geology. The initial variation in student understanding of basic geologic processes, including weathering/erosion and deposition of sediment, means that students had different senses of how well they understood delta formation, but regardless the discussion of deltas on Mars and what they can tell us about past climate met with full class participation.



Finally, planetary geology is directly relevant to teaching introductory geology. Understanding Hadean Earth requires understanding the timing of the Late Heavy Bombardment, something we know from studying the Moon, and makes even more sense if discussed in the context of orbital dynamics, the effect of massive Jupiter on small bodies, and the current population of near-Earth asteroids. Another example is hot spot volcanism and plate motions on Earth. I have students investigate details of the Hawaii-Emperor seamount chain to understand plate motions and their changes through time, and then ask them what would happen if the plates didn’t move, but the hot spot remained active. Multiple groups will usually come to the same conclusion, that Hawaii would be much larger. A perfect follow-up is a to-scale comparison of Hawaii and Olympus Mons (on Mars) and discussion of differences (tectonic styles) and similarities (persistent volcanic activity) on the two planets.

Figure 1: A think-pair-share activity with *This Dynamic Planet* maps (top) gets students thinking about the forces that form different plate boundaries and fault types. A map of large thrust faults and topography on Mercury (bottom) [2] lets students apply what they know to infer the planet’s past contraction.


I have developed in-class activities and exam questions for Physical and Historical geology courses using planetary examples of impact cratering, volcanism, tectonics, and weathering/erosion, and have borrowed labs and activities from colleagues. As an adjunct who also works as a postdoctoral fellow on tectonics and climate history in the solar system, I had the opportunity to attend the FORWARD workshop at the 2013 Lunar and Planetary Science Conference, which specifically addressed teaching planetary science. One interesting discussion we had in the workshop was how to bring our expertise (and excitement about it!) into the introductory geology courses we teach, in some cases much more frequently than courses specifically about planetary science. Not only did two workshop leaders, Tracy Gregg (University of New York at Buffalo) and Erin Kraal (Kutztown University) share materials that I have since used in my classes, but the three of us have subsequently had useful conversations about how the materials worked in our classrooms, how to adjust activities for different classroom sizes and course levels, and the response of our students to planetary material in our introductory geology courses.

I shared some of the feedback I received from students at the 2013 Geological Society of America Annual Meeting, in particular their interest in understanding geology by considering planetary surfaces other than the Earth. One student pointed out that for our impact cratering lab it “would have helped even more to compare velocity and angle [of impact] by looking at actual craters on the Moon, Mars, etc.” (the lab began with questions about impact craters through the solar system). Another student, who took Physical Geology as post-BA preparation for geophysics graduate school, commented more generally that the course “rekindled [her] childhood fascination with space” and that she had been “recently spending way too much of [her] free time searching for articles on exoplanets...and the like. :-)” Planetary examples of geologic processes helped students feel more confident in their understanding of basic concepts and kept their interest during the course. It also inspired at least one student to pursue her own related interests outside the classroom.

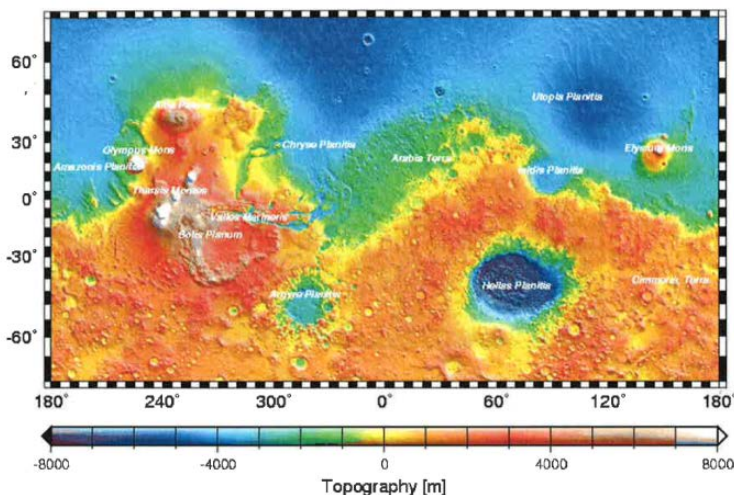
To develop more planetary science materials for use in introductory geology courses, and to test their teaching effectiveness in terms of student

comprehension of basic concepts, I continue to collect feedback from students in my own class evaluations. I am also developing parallel Earth-based and planetary-based materials and labs for teaching introductory geology concepts, and will be assessing the relative effectiveness of the two approaches in terms of student learning. I am collaborating with colleagues in 4YC settings (Gregg and Kraal) on this project, which allows us to collect large amounts of data in their classrooms, as well as the in-depth essay assessment and student feedback possible in my smaller courses at NOVA.

Look for an *In the Trenches* issue this summer that will focus on teaching planetary science to hear more about this project. Please contact me for planetary science materials you can use in your

introductory geology courses, or to let me know of similar materials and experiences you’ve had in your classroom. Here’s to teaching geology that is out of this world! 

8. How does the global pattern of elevation on Mars differ from the Earth, and what does this say about the possibility of plate tectonics on Mars?



The elevation pattern does not indicate any ridges or trenches which would be bound when plates are moving. This indicates Mars does not have plate tectonics. The mountain peaks and relatively smooth flat northern hemisphere does indicate volcanic activity, however.

Figure 2: Exams can introduce data from another planet to assess student understanding of an essential concept like plate tectonics.

NOVA students travel through West Texas with EPCC peers on first-ever “Border to Beltway” field exchange

by **Callan Bentley and Joshua Villalobos**
Northern Virginia Community College and El Paso Community College

Over spring break, 13 NOVA students and one instructor (Callan) traveled to El Paso, Texas, for a week of field geology with counterparts (11 students and two instructors) at El Paso Community College. The program, called “Border to Beltway,” was the first half of a two-part novel “field exchange program” that we initiated a year ago, and then jointly developed a proposal to the National Science Foundation. We piggy-backed on a pre-existing grant (NSF-GEO 1107418) that Joshua had for his SOLARIS program, and asked for supplemental funding for the “Border to Beltway” initiative, since its goals were similar to the goals of the original grant. We were motivated by the persistent lack of diversity in the geosciences. We suggested to NSF that perhaps a field exchange between community college students could act as a pipeline for recruiting and retaining geoscience majors, in particular students from under-represented racial and ethnic backgrounds, and women. The proposal was submitted late in the summer of 2013. Last fall, NSF funded the program with about \$35,000.

Credit-bearing lab courses were put into the spring schedules at both of our schools, and the logistical

planning (led mainly by EPCC adjunct faculty member Rob Rohrbaugh) began. Students were recruited at both schools, and admission was by competitive application. All the planning came to beautiful fruition during spring break. The NOVA team flew to El Paso and met their counterparts, and then embarked on a week of spectacular field geology. Armed with a comprehensive field guide authored by Joshua, the students and three professors visited the site of ancient granitic intrusions in the Franklin Mountains, young volcanoes along the Rio Grande rift system, and a 250-million-year-old reef complex which is at the heart of Texas’ extraordinary endowment of petroleum. Students from both schools made presentations on pre-trip research projects, and slowly mastered the art of taking good field notes.

The team rode an aerial tramway up the Franklin Mountains, collected fossils of ancient sea creatures, walked in dinosaur footprints, and even descended into the depths of Carlsbad Caverns.

Students learned both advanced concepts in structural geology and paleontology and stratigraphy, as well as reiterated foundational concepts in geology. Accommodation included a hotel adjacent to the campus of the University of Texas at El Paso, the house of one of the faculty in a remote part of the Hueco Basin, and camping in state parks and commercial campgrounds.

The EPCC students and NOVA students integrated well with one another. Many conversations took place comparing cultures, geology, and academics. The students bonded with one another in a way that was completely gratifying to the instructors. On the flight back to Virginia, the NOVA students reported to Callan that they were really excited to show off Appalachian geology to their new friends during the program’s second half. In May, the EPCC crew will fly to Virginia, and a second week of field work will begin.

On the following pages, you can see some images from the Texas phase of the field exchange.





On the southern tip of the Franklin Mountains, the “Border to Beltway” team looked over the Rio Grande into Mexico.



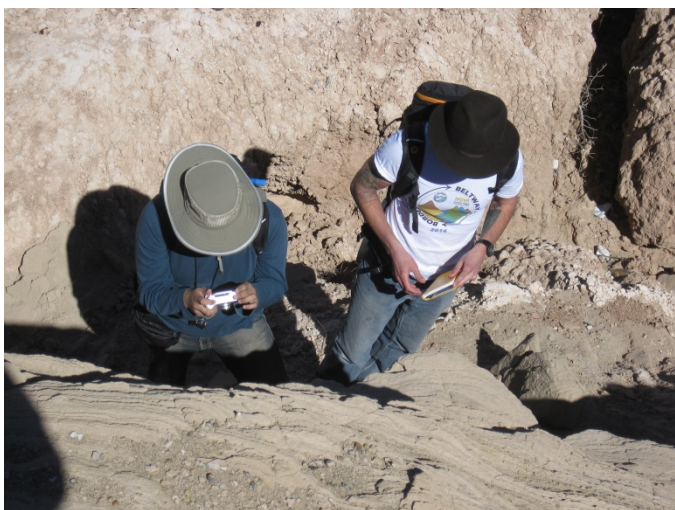
NOVA and EPCC students search for mantle xenoliths at Kilbourne Hole maar crater.



Joshua Villalobos demystifies the complicated geology of “Confusion Hill.”



Some of the team pose near the spatter cone at Aden’s Crater shield volcano.



NOVA & EPCC students examine surge deposits at the Hunt’s Hole maar crater.



The entire team at El Capitan Peak, Guadalupe Mountains.



A NOVA student models a gorgeous slab of Castile Formation rock gypsum with 2,573 intrabed folds, collected at the famous “State Line” outcrop south of the Guadalupe Mountains.




The Border to Beltway crew waves from atop a dinosaur-footprint-covered bedding plane of the Cretaceous Anapra Sandstone at Mt. Cristo Rey, on the Texas / New Mexico border.



A well-integrated group of students sketch submarine mass transport deposits in the Permian basin of west Texas.



Near Carlsbad Caverns, Callan reviews the anatomy of a reef complex and associated structures. 

Secrets to Conducting a Successful 2YC Field Course

by **Amanda Colosimo and Jessica Barone**
Monroe Community College

In the summer of 2010 we found ourselves in a familiar spot: driving in a 12-passenger van with a group of students. We had co-advised the student Geology Club at Monroe Community College (MCC) for several years and had traveled up and down the east coast in search of good rocks, but 2010 marked our most ambitious adventure to date. For 10 days, we drove from Rochester, NY, to Yellowstone National Park, WY, and back, hammering on rocks across much of the country.

Advising a club at a community college had its challenges. Often, by the time we had identified potential geology majors, they were in their last year at the college and we had little time to advise or train them. There were years with fabulous, excited groups of students, and then there were years with more lackluster groups when it seemed we, as advisors, contributed more to club activities than the students. It was occasionally frustrating when we would spend time identifying appropriate field stops because there was no assessment piece to a club field trip, and students could choose to pay attention or pick daisies if they so desired.

On that lengthy drive back to Rochester, we began to examine the idea of developing a field studies course. While it limited access to many students due to cost, it allowed them to earn credit and develop tangible skills to carry with them to four-year institutions. We had the flexibility of teaching the course locally, nationally or internationally, depending on faculty or student interest.

So we embarked on this experiment, optimistic that we would be able to find enough students to make a course run, but with no guarantees. We spent several months collaborating with colleagues at MCC. We wrote course curriculum and had it approved by both MCC and SUNY for statewide approval. The curriculum process was lengthy and

somewhat tedious. Additionally, for our specific circumstances, we chose to submit a proposal that was general enough to apply to the varied interests and experiences of the faculty who would be teaching the course during future semesters. Following the curriculum process, we met with our school contract specialist and learned the college required us to plan the field component with a travel agent.

Working with a travel agent has been an unexpected pleasure. While we were prepared to make any required reservations, having another person focus on hotel deposits, recommended insurance, and collect trip deposits resulted in better uses of our time. We did provide the travel agent with our anticipated daily itinerary including field sites, lodging, meal plan, etc., which she used to establish contracts and agreements. One of her unexpected suggestions was for us to employ a driver and a small bus, which did not end up increasing trip costs significantly. This allowed us the ability to meet one-on-one with students during travel times, discuss issues with each other, or occasionally even rest between stops.

As we were recruiting for the course, we were also developing the specific curriculum for both the lecture component as well as the field component of the class. So far, the course at MCC has included ten weeks of evening lectures combined with laboratory exercises during the spring semester, followed by a ten-day field component during either the summer session or spring break. We have had success offering the course as a late start, which allowed additional time for recruitment of students several weeks after the semester had begun.

Possibly one of the most challenging aspects of running a successful field course at a 2-year college has been recruiting enough students to allow the course to happen and not be cancelled due to low enrollment. One of our primary sources for students during our initial offering of the field course was the Geology Club at MCC. Very few, if any, of our students start at MCC planning to major in geology. Unfortunately, during the following iterations of the course, the Geology Club was on hiatus. This forced us to seek other options to meet enrollment requirements including 1) holding multiple informational meetings that we advertised throughout the campus, 2) visiting multiple

departmental geology classes, 3) presenting in our individual classes, 4) submitting announcements in both faculty and student daily email “newspapers”, 5) distributing flyers and hanging posters around campus, 6) providing course description and information on the Geosciences link on the MCC website and 7) promoting the course simply via word of mouth! After 4 consecutive years of successfully running this course,

however, our main pool of students routinely comes from our introductory Physical Geology courses, which we both teach each semester. Apparently hearing about our field adventures in the classroom does not deter students from wanting to join us on some of their own!

While easily 75% of our field studies students were originally our Physical Geology students, the remaining 25% include random students who see our advertising, are referred to us by other faculty members, or in some cases are our colleagues. We frequently present at college-wide professional development days about the challenges and opportunities related to on-location courses, which may be why we routinely meet faculty members interested in joining us. We have had three students in the past four years take multiple iterations of our courses, as we have traveled to three different regions (Greater Yellowstone Region, the Grand Canyon, and the Colorado Plateau), and each course has had at least one student auditing the course for various reasons.


Another consideration for those thinking about developing a field course is not only the significant amounts of resources but also the significant



sacrifices of time by the professor or professors teaching the course. Faculty must be willing to take students into the field during one of the semester breaks or over the summer. Additionally, these courses are generally overloads for faculty because of their uncertainty in enrollment and possibility of cancellation, though we have been fortunate to have never been in that position.

As is obvious by this article, running a successful field course at a two-year college is quite an undertaking, but also obvious by the repeated use of the word “we”, the challenge is made less difficult by working with a colleague. Co-developing and co-teaching a field course allows the division of duties and better facilitation in the field. Two faculty members can more easily manage up to 20 students, can provide individualized feedback on field notebooks and assignments, and can also be more responsive in the event of an emerging safety issue at field sites. In what is often an isolating profession, collaborating with a colleague can spur the creativity of both faculty members in the areas of course design and implementation. In designing our courses, we have been able to tailor field stops and projects based on our diverse backgrounds from

our undergraduate, graduate, and post-graduate experiences.

As a pedagogical approach, project-based learning is considered by the American Association of Colleges and Universities (AACU) to be a “high impact practice,” and the immersion of our students in field settings provides opportunities for student-student and faculty-student engagement that is largely unparalleled in a college setting. Over 70% of the students who have enrolled in our field courses are currently enrolled in or have completed bachelor’s degrees in geology or a closely related field. This data has helped to garner continuing support from our administration as we navigate an economic climate where faculty contact hours are expensive, and often a field setting seen as a liability. Despite the substantial efforts and resources required, this course has been rewarding and worthwhile for both students and faculty alike. 

Eyes to the Future

by **Merry Wilson**

Scottsdale Community College

I’m always working a semester ahead. Now, don’t get me wrong, I’m not saying that I’m actually prepared for the classes I’m teaching next week. But, I’ve already set my teaching schedule for Spring 2015, so I have my sights set on Fall 2014 before I’ve entered Spring 2014 grades. These types of temporal disruptions are well suited for a



Merry

geologist. We are always looking through a lens of the finite to the infinite, throughout all of time. So, thinking about next week, next semester, next year – no problem. Just don’t ask me what

we’re having for dinner – no clue.


Now is the time to think about Vancouver GSA in October. The 2YC has worked to sponsor several

sessions, and there are many others of interest to our community.

Here is a sampling:

- *T56: Ushering in a New Era in K-16 Geoscience Education*
- *T57: Digital Geology Sandpit*
- *T61: Spatial Thinking in Geoscience Teaching, Learning, and Professional Practice*
- *T62: Supporting Student Success in Colleges and Universities*
- *T63: International Field Experiences in the Geological Sciences*
- *T64: Transdisciplinary Thinking in Geoscience Education at Two-Year and Four-Year Colleges: Innovations in Curriculum, Pedagogy, and Assessment in Introductory Geoscience Courses*
- *T65: Successful Models of Blended/Hybrid Learning Environments in the Geosciences*
- *T66: Transformative Innovations in Undergraduate Geoscience Education Supported by NSF Funding Programs: Accomplishments and Future Directions*
- *T67: Supporting Successful Student Transfer between Two-Year Colleges and Four-year Colleges and Universities*

We all have our passions and our projects, and I hope that you will find a venue in one of our sessions at GSA. Please help us to make this year our best by showcasing your work and enthusiastically supporting our friends and colleagues in the community.

I hope the rest of your semester goes smoothly, and you have many adventures in the summer months. I’m planning on attending a joint sectional meeting (Southwest and Far West) at the end of May, and hope I will see some of you there. If you are planning to attend any regional or sectional meetings, we’d love to hear about it! As always, please let me know how I can support you. 

FOUNDATIONS is edited by Callan Bentley, Northern Virginia Community College. Please get in touch with your feedback: cbentley@nvcc.edu

Outstanding Adjunct Faculty Award Winner: Dr. Michelle Selvans

by Kaatje Kraft
Mesa Community College

We are proud to announce the current Outstanding Adjunct Faculty awardee for the Geo2YC Division of NAGT. The Oafa committee has awarded Michelle Selvans the award due to her continued commitment to her students, her institution and the geoscience education community at large. Michelle self-nominated and teaches at Northern Virginia Community College.

Dr. Michelle Selvans has been a valued member of the Geology Adjunct Faculty at Northern Virginia Community College (NOVA) since 2012. Her instructional style is engaging and relevant to the diverse student body, and has received praise from students and observers of her Physical Geology, Field Study (Geology on the National Mall), and Historical Geology courses. She has fostered connections with colleagues within NOVA to develop her understanding of local field sites and specialized lab equipment, and has participated in training sessions and successfully implemented relevant technology in her classroom. Michelle has also developed her teaching skills through workshops offered through On the Cutting Edge, professional conference settings, the Virginia Community College System, and NOVA, during her time at NOVA. She has also shared insights into encouraging critical thinking in introductory Geology courses with the geoscience education community, based on her experience at NOVA and in collaboration with colleagues at four-year universities, at the 2013 Geological Society of America Annual Meeting.

In addition, when the committee inquired about Michelle, she was described by a colleague (who also happens to be the editor of this newsletter) as

“top notch.” Lastly, after the committee made their decision, we were notified that she was submitting to the newsletter for this month. Yet one more indicator of the strong commitment she has for our community.

Congratulations to Michelle from all of us at the



executive council of Geo2YC. Our programs wouldn't be what they are without our part-time faculty and we're glad to be able to recognize Michelle in the amazing efforts she has contributed toward her department. She truly represents what makes the job of an adjunct faculty such a challenge, and why we are so fortunate to have such

great colleagues in our community. We are pleased to award Michelle with an honorary membership to the Geo2YC division of NAGT for 2014 and she will be in the pool to be our annual outstanding adjunct faculty awardee to be announced at GSA 2014. If you know of one of your adjunct faculty who deserves recognition, please nominate them at: http://nagt.org/nagt/divisions/2yc/oafa_nomination.html.

As part of the executive committee and the Oafa subcommittee, Allison Beauregard & I would like to personally thank the valuable contributions that our colleagues Brett Dooley (Patrick Henry Community College) and Karen Layou (Reynolds Community College) have provided to our Outstanding Adjunct Faculty Award Committee. They have provided thoughtful and helpful feedback throughout the process of us developing this award and continue to support the ongoing development of this process and are an important reason for the ongoing success of this award. 🏔️

**Consider applying for one of the
Dottie Stout Awards**

<http://nagt.org/nagt/awards/stout.html>

Available to 2YC faculty and students

Integrating perspectives: Bringing geoscience instructors and students with disabilities together in a field-based workshop focused on accessibility



by Christopher Atchison
Georgia State University

Field studies are widely considered to be the most effective ways of learning in the geosciences (Ernst, 2006; Nyman, et al., 2008). At its most fundamental, these experiences allow learners to contextualize knowledge through direct interaction with the physical environment, and to develop the skills and expertise characteristic of geoscience practice (Butler, 2008; Whitmeyer et al., 2009). Field studies also play a vital role in developing a learner's personal identity as a geoscientist by immersing them in an environment where they can actively collaborate with both experts and peers, and "learn to do what geoscientists do" (Stokes & Boyle, 2009). It is therefore unfortunate that students with disabilities, and particularly those with limited mobility, may choose to avoid programs with a component of fieldwork due to the perceived inaccessibility of participating in the often rigorous learning experiences (Cooke et al., 1997; Hall et al., 2004).

To raise awareness of the geosciences being an accessible field of study and a viable career option for all students, regardless of physical ability, and to increase the diverse talent in the geoscientific

workforce, more inclusive learning experiences must be developed that will enable all students to complete the requirements in undergraduate degree programs. Therefore, a fully inclusive and accessible field trip will be offered at the 2014 Geological Society of America Annual Meeting in Vancouver, British Columbia. Led by members of the International Association for Geoscience Diversity (www.TheIAGD.org), this field-based workshop will provide an innovative, hands-on perspective into accessible field learning around the picturesque Howe Sound fjord between Metro Vancouver and Whistler, along the sea-to-sky highway (HWY 99), focusing specifically on a variety of natural hazards as a result of the steep, glacially carved slopes, discussing the potential for landslides and related events.

This field-based workshop has two primary objectives: to be a completely inclusive field-based learning experience for students with diverse physical abilities, and to provide a unique opportunity for current geoscience faculty learning how to develop field courses that accommodate students with diverse abilities. Students and faculty will be paired during this field course, actively learning from each other's perspectives on the barriers to learning in the field and to discuss

methods and techniques for overcoming them. At each stop students and faculty should expect to share the perspectives and observations of their surroundings as they make inferences about the processes which shaped, and continue to shape the geology of Vancouver.

This workshop will provide students with diverse physical abilities an opportunity to learn about the earth in the natural setting, and to serve as mentors to current geoscience instructors learning how to universally design their field courses to be fully inclusive of all students. At the most basic level, participants will learn about a variety of natural hazards and how they affect the Sea to Sky region of Vancouver as well as introductory geology concepts in the natural world. However the primary purpose of this field-based workshop will be to establish accessibility guidelines for inclusive instructional practices in a field-based environment through the perspectives of both students and instructors. Student participants will discover that they can accomplish geoscience fieldwork and that they can have an impact in how future courses are developed; faculty participants will discover the most important aspects for developing an accessible field course, while gaining skills and confidence in accommodating students with disabilities in geoscience field courses. Results of this field-based workshop will help inform the current *Instructional Approaches to Access, Accommodation, and Inclusion in the Geosciences* workshop also led by members of the IAGD, as well as future faculty development opportunities focused on accessibility in geoscience classrooms, laboratories, and field-based learning experiences.

Field Locations:

- Stop 1: Third Beach
Stanley Park –
Wave and storm
hazards; beach
environment and
coastal processes
- Stop 2: Cypress Bowl
Road
Viewpoint–
How
Vancouver's
natural history
and
geomorphology



affect natural disasters

- Stop 3: Stawmus Chief – Glacial processes and granite intrusions.
- Stop 4: Garibaldi Region– Volcanic processes, columnar jointing and landslides.
- Stop 5: Porteau Cove –landslides, glaciers and tsunami impacts.


This accessible field workshop will occur on Saturday, October 18, allowing for all participants to stay in Vancouver and attend the GSA meeting afterwards and participate in the GSA Diversity Committee's *On To the Future* program events at the meeting.

<http://community.geosociety.org/OTF/home/>

Interested in participating? We are seeking 15 students and 15 Earth Science faculty interested in working together during this one-day field course. High school students, non-declared college students with diverse physical abilities, and veterans with acquired disabilities interested in the Earth Sciences are particularly encouraged to apply. Please help us spread the word!

Travel support is available for participants with limited resources. Additionally, all students attending GSA for the first time will be awarded with full conference registration and a one-year GSA membership. For more information and to apply, please visit:

www.TheIAGD.org/2014-field-course.

For more information, please contact Dr. Chris Atchison at info@theiagd.org. 

Full Access to the Geology of the Sea-to-Sky Highway

A unique collaboration of geoscience researchers from the US, UK, and Canada with relevant knowledge and expertise in accessible geoscience courses and accommodating the personal needs of the participants.

Now accepting applicants.



THE GEOLOGICAL SOCIETY
OF AMERICA
Vancouver, 2014

15
Students
15
Teachers
2 groups of
co-learners

6
stops

124 km
(77 miles)

Vancouver,
British Columbia,
Canada



EarthEd2YC Seeks Presenters for Summer Webinars

Earth Education Resources for Two-Year College Faculty (EarthEd2YC) launched in March 2014 with a monthly webinar series that draws participants from across the country. Each webinar includes 30 minutes of professional development for full-time and part-time faculty seeking educational resources and other guidance from NASA's Science Mission Directorate (SMD) Earth Science Education and Public Outreach Forum (SMD E/PO) and NAGT's Geosciences for Two-Year Colleges (Geo2YC) professional division.

<https://www.youtube.com/watch?v=8cMzpbrxP80>.

The initial series will run through August with possible renewal for Fall 2014.

Presenters are especially needed for the summer months. If you have resources designed for 2YC audiences and would like to host a webinar in the series, please contact Rusty Low, Higher Education Working Group Lead, Earth Science at rusty_low@strategies.org

To participate:

Join the Zoom.us session at

<https://zoom.us/j/752257876>

Or go to <https://zoom.us/join> and enter meeting ID: 752 257 876



EarthEd2YC Webinar participants on 4 April 2014: Amber Kumpf (Muskegon Community College), Gerald Pollack (Georgia Perimeter College), Suzanne Metlay (Western Governors University), Cassie Soeffing (Institute for Global Environmental Studies).

Live webinars are the first Friday of each month at 1:00pm Eastern Time (10:00am Pacific Time). Each live 20 minute presentation is followed by 10 minutes of discussion, with real time chat throughout. All resources discussed in the webinars are made available online. The webinars are recorded and made available for later viewing. For example, the April webinar can be viewed at:

Join from dial-in phone line:

Dial: +1 (424) 203-8450 or +1 (209) 255-1200

Meeting ID: 752 257 876

Participant ID: Shown after joining the meeting

International numbers available:

<https://zoom.us/teleconference>

