



Undergrad Goes Underground

A personal account by ENVS Geoscience student Liana Boop. Excerpts taken from her class paper.

During the summer of 2007, I accepted an Internship through the Student Conservation Association (SCA) where I worked with the United States Forest Service giving guided tours of El Capitan Cave. Located in the Tongass National Forest on Prince of Wales Island, Southeast Alaska, El Capitan Cave is Alaska's largest and only show cave, with over two miles of mapped passage.

One of the most challenging parts of the tour was explaining the history of El Capitan to our visitors. At the start of the tour, I held a shell, and asked if anyone had ever been in a cave before. Some people, when asked, knew

that caves are made of limestone (or marble). Limestone and marble are both carbonate rocks, I explained, which is why I was holding the shell. People have a hard time grasping that something that was once a tropical reef is now 360 feet above sea level, in Alaska.

Although karst landscapes exist throughout the United States, my passion (and perhaps a bit of luck) brought me to El Capitan Cave. The Cave is unique because of the history contained within its rooms. Many distinctive formations decorate its walls, and there is a plethora of research pertaining to El Capitan Cave.

In the field of geology, some things cannot be directly dated. For example, it is not known when the passages in

El Capitan Cave started forming, and some have stopped forming. Fortunately, secondary deposits, such as sediment deposits and speleothems, are datable. This is due to organic particles within the deposits that can be dated. The flowstone in one room of El Capitan Cave is 100,000 years old. The flowstone contains pollen grains that correspond to biota outside the cave at a given time, as well as oxygen isotope ratios, which imply glacial periods.

Many of the formations along the tour route have been destroyed either by carelessness or vandalism. However, the deeper into the cave one ventures, the more exquisite the formations become.

Farewell to Dr. Zoe Cardon

After three years of deep involvement with Geosciences matters, Zoe Cardon is leaving the University to take a position as senior scientist at the Marine Biology Laboratory in Woods Hole, MA. At the MBL's Ecosystem Center, she will undoubtedly continue her work in the "swoosh and ooze" of the rhizome. As a plant ecophysiologicalist, Zoe has been a strong advocate of interdisciplinary activities in geosciences at UConn. In the summer of 2004, she was appointed to the Geosciences Plan-

ning Committee, which laid the foundation for the Center as we know it today. She joined the Faculty Advisory Board of the Center and as Graduate Program Director, Zoe was instrumental in the design of the graduate program with a truly interdisciplinary character. She developed and taught the core course, initially with Dr. Ari Epstein from the MIT Terrascope Program. In this successful course, students are trained in communication, problem-solving and proposal writing in interdisciplinary

teams. Zoe was also a key player in NSF IGERT proposals that the Center submitted and about a year ago, she took on the job of associate director in the Center.

Without doubt, Zoe's eternal enthusiasm has been instrumental in the Center's day-to-day operation during the past years and she will sadly be missed. We wish Zoe good luck in her new position, and hope that she will visit us regularly! PV



Inside this issue:

Faculty News etc.	2
Upcoming Events	3
Websites of Interest	3
Earth Science Picture of the Day	4
Underground continued	6

In the News for Geosciences:

- *The long-held secrets of one of the world's most infamous active fault zones are, at last, being revealed. On Sept. 7, scientists recovered a core of rock from a 3.2-kilometer-deep borehole that passes right through part of the San Andreas Fault Zone. The traces of the fault zone displayed in the core can tell fascinating stories about the fault's history and behavior, scientists think — and may get them closer to understanding exactly why and how earthquakes occur around the world.*

Announcements, Awards, Publications, etc.

Graduate Student David Hoover was featured in the most recent UConn Advance! Read about his research awarded through CESE here:

<http://advance.uconn.edu/2007/071210/07121006.htm>

Grad Student Announcements:

~AAPG Grants-In-Aid program! The 2008 AAPG Foundation Grants-in-Aid Program is available to geoscience graduate students who may require funding for their research project.

Grants are based on merit, and in part, on the financial needs of the applicant. The program focuses on support of qualified candidates for masters or equivalent degrees. Qualified doctoral candidates are also encouraged to apply. Monetary awards up to a maximum amount of \$2000. Grants are to be applied to expenses directly related to the student's thesis work, such as fieldwork, laboratory analyses, etc. Applicants are required to submit official academic transcripts by mail before the deadline. **The deadline for the 2008 program closes on January 31, 2008. Applications are available online through**

<http://foundation.aapg.org/gia/index.cfm>

~CLAS Graduate Summer Fellowships: Looking for some summer money, check out the CLAS site for summer fellowships! The Covenant Ins. Co. scholarship is specifically for grads in CLAS:

http://clas.uconn.edu/studentresources/clas_scholarships.html

~Apply for a GSA graduate student research grant today! Applications and advisor appraisals are due 1 February 2008.

http://www.geosociety.org/GSA_Connection/0712/stuResGrants.asp

~Geosciences now has a WIKI page!

<http://uconn.collegewikis.com/index.php?title=Geosciences> Thanks to Januka for setting this up—visit and feel free to add to it!

GSA GeoCorps Positions Now Open! GSA, in partnership with the **US Forest Service, BLM, & National Park Service**, offers paid geoscience short-term positions & internships in some of the most beautiful natural areas in the World. **Read the experiences** of those who have participated in the past. For additional program information, visit <http://www.geosociety.org/geocorps/>

Tim Byrne podcasts of life onboard the Chikyu ship this semester are available to listen to through the **C L A S website!** http://www.clas.uconn.edu/news/news_2007_10_29.htm

Summer Undergrad Course—Cycle the Rockies! Learn about Energy and Climate Change in Montana through this unique summer course. Application Deadline is March 15! Find out more here:

<http://www.wrfi.net/courses/cyclemontana.html>

Free Water Career Seminar: CT Department of Public Health Drinking Water Section presents “Careers in Drinking Water” A 1/2 day forum. April 23rd, 2008. 9:00am-1:15pm at the Farmington Club, Farmington CT. Panel discussions and hands on demos! Questions can be directed to Vicky Carrier of the Connecticut Department of Public Health, Drinking Water Section at

vicky.carrier@ct.gov



Geoscience ‘Currents’ Launched

The American Geological Institute (AGI) Workforce Program has initiated Geoscience Currents, a new series covering geosciences workforce and educational data snapshots, that are expected to be released on a near-weekly basis.

Geoscience Currents are delivered via email weekly. These data snapshots and short reports shed light into the issue of the overall health of the geoscience fields. From scholarships to employment

opportunities, the effect of retirements, to university enrollment trends, Geoscience Currents provides up-to-the-minute glimpses into all areas of the geoscience fields, from academia, government, and industry to educational opportunities and university demographics.

To subscribe to these free data snapshots, go to <http://www.agiweb.org/workforce/> and click “Register.” Also available as part of this website, you will be able to

view past Geoscience Current issues, read other reports completed by the Workforce Program, and access other resources pertaining to geoscience careers.

From the latest edition: *The number of NSF Graduate Fellowships awarded to geoscience students has fallen 22% between 2005 and 2007 while the total budget has remained stable at \$40.5 million. However, geoscience students continue to earn over 3% of the total awards.*

Geoscience Websites of Interest

For each newsletter that comes out, we will try to feature a few great sites related to geosciences that may be of interest to students and faculty associated with the Center. Please feel free to send any sites you find along to Abi, to be included in this section in future editions!



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

- **USDA FOREST SERVICE MT. ST. HELENS VOLCANO CAM**—These are near real-time images of Mount St. Helens, taken from the Johnston Ridge Observatory (JRO) . Updated every 5 minutes

<http://www.fs.fed.us/gprnf/volcanocams/msh/>

- **ENCYCLOPEIDA OF THE EARTH** — Check out The Encyclopedia of Earth, a modern online resource that has a wealth of information about our beautiful planet and its diverse environments.

- **USGS REPEAT GLACIER PHOTOGRAPHY**—USGS, scientists with the Global Change Research Project are unveiling a new website featuring a collection of repeat photographs of glaciers in and around Glacier National Park, Montana. The striking images created by pairing historical photographs with contemporary photographs reveal significant glacial recession.

<http://nrmssc.usgs.gov/repeatphoto/>

More to come in the next edition!



Upcoming Events

- **Next semester highlights:**
- **Tuesday February 5th—Geoscience Seminar Series along with EEB** Presents Dr. Robert Naiman, University of Washington. Title TBA **3:30pm BSP 130**. Refreshments served!
- **Thursday February 7th—Teale Lecture Series** presents Ivette Perfecto, UMI, “*Brewing biodiversity: the ecology of coffee farms in Chiapas, Mexico*” **4:00pm Dodd Center**.
- **Tuesday February 19th—Geoscience Seminar Series** Presents Dr. Daniel Civco, UConn NRME. Title TBA. **3:30pm Beach Hall 233**. Refreshments served!
- **Tuesday March 4th—Geosciences Seminar Series** Presents Dr. Dana Royer, Wesleyan University. Title TBA. **3:30pm Beach Hall 233**. Refreshments served!
- **Thursday March 20th—Teale Lecture Series** presents Dr. Roger Gottlieb, WPI, “*Hope in a Dark Time: The Promises of Religious Environmentalism*” **4:00pm Dodd Center**.
- **Tuesday April 1st—Geoscience Seminar Series** presents Dr. Peter Schultz, Brown University. Title TBA. **3:30pm Beach Hall 233**. Refreshments served!
- **Thursday April 10th—Teale Lecture Series** Presents Joseph Bruchac, Story-

teller, “*This Earth, Our Mother*” **4:00pm Dodd Center**.



Earth Science Picture of the Day



EPOD from 11/12/2007— This intriguing, curlicue Kelvin-Helmholtz formation was spotted as I was driving through the Colorado town of Monument. Noting that their shape was quickly changing, I pulled over to the side of the road to better observe them. They persisted for only a few minutes, but I was able to take several photos, including the one above. Altocumulus lenticularis clouds often seem to favor Kelvin-Helmholtz development. Their formation is governed by the presence of a significant wind shear or velocity difference between adjacent cloud layers. Photo taken in January of 1994.

Photo taken by Terry Robinson

CESE Graduate Research Awards

As part of its mission to enhance multidisciplinary research, the Center for Environmental Sciences and Engineering (CESE) is funding projects to support multidisciplinary environmental research by graduate students. These awards provide support during the summer to encourage multidisciplinary collaborative research related to environmental sciences and engineering by graduate students (either Masters or Doctoral) and faculty at UConn.

These awards are intended to provide supplemental support for new

collaborations and activities that are *not* being supported by current funding. Allowable expenses include summer stipend for student, travel for field research, and supplies and equipment to conduct the research. Funds may not be used for indirect costs, salaries, publication costs, page charges, text books, or attendance at meetings.

20-25 awards are available for up to \$5,000 each for summer research.

For more details and application materials go to:

<http://www.cese.uconn.edu/funding.html>

Electronic receipt of complete application by **5:00 PM on 1 February 2008** (submit to environment@uconn.edu); you may verify receipt with Kathy Allard (6- 2798).

Did You Know?

A feature for our Geoscience Newsletter that reminds us of past Earth events and milestones that occurred around the time our newsletter comes out!

- ⇒ **Dec. 2nd 1980**—Aniakchak National Monument established. One of the world's finest examples of a dry caldera.
- ⇒ **Dec 16, 1811**—The first of 3 earthquakes hits New Madrid, Missouri at estimated magnitude 8.0. The quakes caused the Mississippi River to change course.

⇒ **Dec. 26, 2004**—Earthquake off the coast of Northern Sumatra, magnitude 9.0, sets off a massive tsunami.

⇒ **January 8, 1971**—Voyageurs National Park established. The park contains some of the oldest rocks in North America.



Caldera at Aniakchak National Monument.

GeoTrivia!

Fun with Geoscience Trivia

1. What is the most common tin ore mineral?
2. What term is given for the alteration of aragonite to calcite?
3. What general term is given to a waterfall that is so high and with

such small volume of water that the falling stream is dissipated into a spray before it hits the bottom?

Check your answers:

http://www.geosociety.org/GSA_Connection/0712/trivia.htm



Hint for question 1: most common in ore mineral.



UNIVERSITY OF CONNECTICUT

Center for Integrative Geosciences
354 Mansfield Road, U-2045
Storrs, CT 06269-2045

Phone: 860-486-4435

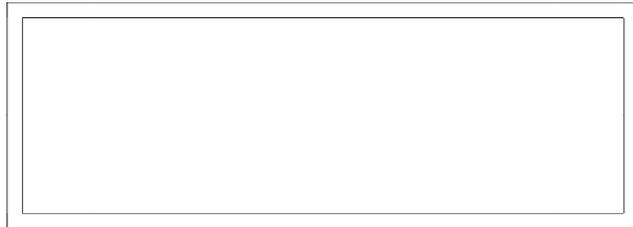
Fax: 860-486-1383

E-mail: geology@uconn.edu

<http://www.geosciences.uconn.edu>

The Center for Integrative Geosciences mission is to offer transdisciplinary programs of instruction and research that advance understanding of the interaction of biological, chemical, geological, and physical processes, including feedback mechanisms, at all spatial and temporal scales that have shaped Earth through geologic time, continue to shape the environment today, and which provide the basis for understanding the present and future impact of human activity on this planet.

We will be issuing these newsletters monthly throughout the academic year to keep associated students, staff, alumni, and faculty up-to-date on the Center's activities!



Underground, cont.

Guiding tours through El Capitan Cave was not the highlight of my summer—it was *learning* all about the Cave that made my summer outstanding. I arrived with an appreciation for karst; I left with a passion. El Capitan Cave is an incredible resource, protecting paleontological, archaeological, and geological treasures for generations to come. Sharing a part in peoples' summers—many vacationers—allowed me to educate them about karst as a resource that must be respected and properly managed. Adults approached me in the grocery store, asking me to explain something they had been thinking about since the tour, and I knew I instilled in them importance of karst. I was even told by children, weeks after they took the tour, that they were making dioramas of caves. Could anything be more honoring?

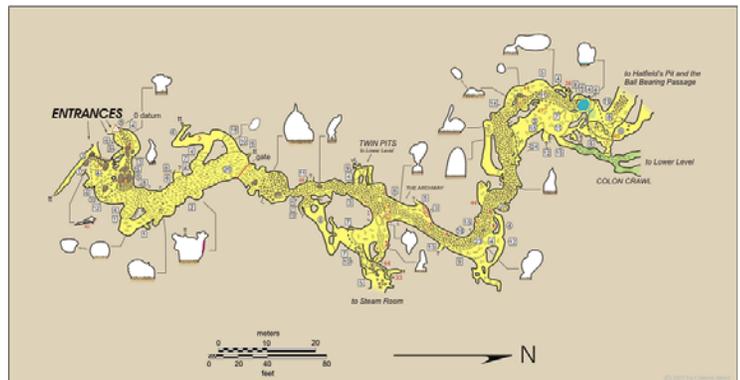


Cave entrance



Stalactites in the cave.

Cave map



Thank you to Lee for submitting this piece for our newsletter!