

GeoConnections[©]

5th ANNUAL FALL MEETING ANNOUNCEMENT

Location: Trinity College

Date: Friday November 15

Theme: The bedrock Geology of western Connecticut

Keynote Speaker: Greg Walsh, USGS

Continuing our theme of exploring the four corners and central valley of the state, this November we will turn our attention to the fascinating bedrock geology of western Connecticut. Having studied this region for more than a decade, Greg Walsh of the USGS will present the “insiders view” of the diverse structures and economically important formations in the western highlands. For more information and registration, visit the GSC on-line at: geologicalsocietyofconnecticut.org

Mr. Walsh has worked as a Research Geologist with the USGS since 1992. Currently, he is a Project Chief in charge of bedrock geologic mapping activities in the northeastern United States. He managed two international mapping projects in Morocco and conducted mapping in Madagascar. Greg specializes in the structure and tectonics of complexly deformed rocks, the integration of geologic data with hydrogeologic studies, and the use of GIS as a mapping and analysis tool. He also trains geologists in geologic mapping, GIS, GPS, digital mapping, and U-Pb geochronology by SHRIMP.



Greg Walsh, USGS



Greg in a marble quarry, western Conn.

References pertinent to Greg's presentation:

Walsh, G.J., 2003, *Bedrock geologic map of the New Milford quadrangle, Litchfield and Fairfield Counties Connecticut*. U.S. Geological Survey Open-File Report 03-487, 49 p., scale 1:24,000, <http://pubs.usgs.gov/of/2003/of03-487/>.

Walsh, G.J., Aleinikoff, J.N., and Fanning, C.M., 2004, *U-Pb geochronology and evolution of Mesoproterozoic basement rocks, western Connecticut, in Proterozoic Tectonic Evolution of the Grenville Orogen in North America*: GSA Memoir No.197, p. 729-753, doi: 10.1130/0-8137-1197-5.729.

From the... President's Desk

I am happy to report that the “new” Board members that you elected last November have enthusiastically stepped in to their roles. Drew Hyatt and Harold “Fritz” Moritz are making much appreciated contributions to our committees and have provided some fresh insights that have proven quite helpful. Thanks to the cooperative efforts of several board members, we have enhanced our communication capabilities, and we have designed and adopted a “distinctly Connecticut” logo.

Our April 2013 field trip, led by Janet Stone, featured an insightful tour of the Glacial Geology of Central Connecticut, followed by a post-trip BBQ hosted by Meg Enkler at Dinosaur State Park. More than 75 participants, including many students from Eastern and Central Connecticut State Universities, joined us in the field, and 30 intrepid folks stayed for the good food and conversation in the nice outdoor pavilion at Dinosaur State Park.

We have heard the call to “go west” so our 5th Annual Fall Meeting will concentrate on the geology of western Connecticut. Our speaker, Greg Walsh of the USGS, will present the results of his field mapping and other insights. The date is Friday, November 15, 2013 at Trinity College in Hartford. Online registration will open in early October.

Greg has also agreed to consider a companion spring field trip out west. We will keep you informed as those plans come together.

As always, I would like to thank you for your interest in the Society and your participation in our events.

~Ralph Lewis (President)

COMMITTEE REPORTS

From the Treasury:

The Geological Society of Connecticut, Inc., is a non-profit IRS 501(c)(3) tax exempt organization. The Society submits annual Federal tax returns (form 990) and annual reports of Incorporation to the Connecticut Secretary of State's Office.

The Tax Filing is available on the Society's website www.geologicalsocietyofconnecticut.org in the "Business" area, along with the Society organizational documents. The Society Incorporation report is available on this web site: www.concord.sots.ct.gov. Our most recent Fiscal Year is 07/01/2012-6/30/2013, so we are in the process of preparing our annual taxes and reports to the State and Federal governments. Web documents will be available upon acceptance by the authorities.

Income includes: membership fees, annual meeting revenue, fieldtrip revenue, guidebook sales, and donations. Expenses include: PayPal fees, annual meeting overruns, fieldtrip overruns, guidebook library circulations, web domain and hosting services, annual incorporation fees, awards, and post office. Income is utilized to support Society events and publications, including meetings and fieldtrips.

A Geological Society of Connecticut Scholarship Program has been discussed by the Education and Communication Committee of the Board of Directors. These scholarships will be consistent with the mission of the Society and will utilize specifically identified funds of the treasury. Additional information will become available as this new program is formalized.

*Tax deductible donations to the new scholarship fund are welcome!
Go to the GSC website to donate to this important fund!*

Status of the Treasury on 1 August 2013:

Total Assets = \$6,664.84.

~Margaret Thomas, Treasurer

MEET THE BOARD OF DIRECTORS**Officers (2013)**

President	Ralph Lewis
Vice President	Peter Letourneau
Secretary	Camille Fontanella, Drew Hyatt
Treasurer	Margaret Thomas

Members-at-Large

Margaret Enkler	Mark Lewis
Harold "Fritz" Moritz	Janet Stone
Mike Wizevich	

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**We are almost there!**

Our 2013 membership goal is in sight!
Help us "put one through the goal post"!

Join or renew today!

Your support is essential for our
exciting meetings and field trips!

It only takes a minute. . .

using Paypal on the GSC website...

...you do not have to be a Paypal member
to pay by credit card!

~ Ed.

**This Just In...From the Communications Committee****Going Digital: Google Drive and Gmail:**

Since May 2013, GSC has been using *Gmail* as our new e-mail platform. Please direct your correspondence to geosocietyct@gmail.com. The decision to use *Gmail* was based on the numerous functions available through having a *Gmail* account. In addition, this account costs the Society nothing, has a large storage capacity, and will not change if we change our web host. The *Gmail* functions include the following:

- contacts for the membership can be maintained and stored, group contact lists can be created, and mass mailings can easily be sent to the Society membership;
- Google Drive allows for the creation, storage, editing, and sharing of documents pertaining to the Society's function; and
- Gchat can be used to communicate in real time with any Society members who also have Gmail.
- All members of the Board have access to administrate the Gmail account. GSC Co-Secretaries, Drew Hyatt and myself, maintain and check the GSC Gmail regularly.

~ Camille Fontanella

Newsletter:

Send us your articles or ideas for *GeoConnections: News and Views from the Geological Society of Connecticut*. Just as the GSC is your professional geological society, *GeoConnections* is your outlet for geological news, views, opinion, pictures, and humor!

Any cartoonists out there? Send us your material!
Thinking of a regular column? Share your idea with us!

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GeoConnections is available online at:

<http://www.geologicalsocietyofconnecticut.org/publications>

Be sure to visit the GSC web page at:

<http://www.geologicalsocietyofconnecticut.org>

~Ed.

Events Report

2013 Spring Field Trip Report: The Geological Society of Connecticut Saturday April 20, 2013

The weather was amazing, the attendance huge, and the field stops spectacular. Enjoying a fine early spring day in central Connecticut, about 75 members, students, and friends toured the best glacial geology exposures in the area. From the “ginormous” boulder cross-beds near Old Maid’s Lane in Glastonbury to permafrost pingo kettles in Middletown, our expert leader Janet Stone of the USGS showed us the “best of the best.” glacial features. Armed with detailed large scale maps and actual core samples, Janet, ably assisted by Byron Stone and Ralph Lewis, shared their incomparable knowledge of Connecticut’s first-class Pleistocene geology.

It was great to see a fine turn out of students from Eastern and Central Connecticut State Universities, Trinity College, and Middlesex Community College. The rising generation of Connecticut geologists were engaged all day, asking questions, taking notes and pictures, and meeting professors and students from other schools, and talking to professional geologists.

Of course, the field trip was followed by the famous GSC “burgers and beer” at Dinosaur State Park. More than 30 stayed past sunset chatting and having a grand old time with colleagues. The hungry crowd kept the grill roaring and the ice cold refreshments flowing!

Janet prepared a top-notch guidebook --required reading for geology students, teachers, and professionals. If you were not on the trip, or need additional copies of this essential guidebook, visit the GSC web site to order your copies now!
-Ed.

Quaternary Geology of Connecticut



Illustrated by a fieldtrip in the central Connecticut Valley

Geological Society of Connecticut

Fieldtrip Guidebook No. 4

Pics from the field trip.... are you in the GSC picture...join today!



Focus on: Geoscience Education at Eastern Connecticut State University

It is an exciting time for EES students at Eastern. We are in a growth phase having nearly doubled the number of EES majors over the past 6 years. We now have between 100 and 120 majors. With the completion of several successful searches, the department now has 7 tenure/tenure-track faculty, with an 8th position being advertised in the fall. Also, following a recent external evaluation, we have been awarded additional resources to support summer undergraduate research for our students. In short, Earth Science at Eastern is strong and growing.



Figure 1: Environmental Earth Science students conduct faculty-mentored undergraduate research during summer months. Samantha Schwarz, Jacqueline Lorange and Brian Wicks (left to right) collect ground penetrating radar data at Dinosaur State Park. These students are using radar to image subsurface tracks as well as to estimate the amount of fill covering a buried trackway outside the park building.

Eastern offers a Bachelor of Science in Environmental Earth Science along with minors in Earth Science (for non-majors), Geographic Information Systems, Geomorphology, Hydrogeology, or Sustainable Energy Studies. Required classes are taught by professors Catherine Carlson (hydrology), Dickson Cunningham (Structural Geology and Mineralogy/Petrology), Peter Drzewiecki (Sedimentology/Stratigraphy and incoming chairperson), Meredith Metcalf (Geographic Information Systems), Steve Nathan (Energy Geoscience), Bryan Oakley (Environmental/Coastal Geology), and myself (Geomorphology, and outgoing chairperson). In addition, we are lucky to have an experienced cadre of adjunct professors who, along with several of the full-time folks, teach a variety of environmentally oriented classes that fulfill liberal arts curriculum (LAC) requirements, and in some cases, serve as gateways into the EES major.

Students majoring in EES select one of three tracks taking twelve EES classes, supporting cognate courses in calculus, chemistry and physics, and completing Eastern's LAC. Communications with former students together with records from the office alumni affairs indicate that EES graduates have gone on to graduate schools at UCONN, the University of Rhode Island, University of Wyoming, University of Alaska, and the University of Arizona, to name a few. Other graduates have worked for environmental consulting firms, DEEP, State Parks, and the USGS both inside and outside of Connecticut. A sizable number of EES graduates teach in K-12 schools, while some alumni have gone on to pursue other interests.



Figure 2: EES seniors Jeff Olandt and Laura Markley in front of nearly vertical rudist reef beds from the Serra de Sant Coreneli in the Pyrenees Mountains of Spain. Jeff and Laura are assisting Professor Peter Drzewiecki with investigations of carbonate rocks that will be the subject of a future petroleum geology field course funded by Statoil, ASA.

The Environmental Earth Science (EES) track is designed for those students pursuing graduate studies or work in environmental/geoscience fields. The General Earth Science (GES) track prepares students to become K-12 science teachers, and often this track can be coordinated with an early-entry master's program offered by the Education Department. Finally, students may also choose a Sustainable Energy Science (SES) track which supports study at the intersection of geoscience and energy. Students in this track typically pursue employment or advanced study in the energy/environmental sector.

All three tracks are grounded in geoscience, sharing seven common courses that include Physical Geology (called Dynamic Earth), Historical Geology (called Ancient Environments), Geomorphology (called Landform Analysis), Rock and Mineral Analysis, Hydrology,

Focus on Geoscience Education, continued . . . Eastern Connecticut State University

Geographic Information Systems, and Sedimentology/Stratigraphy. As well, all tracks require additional advanced EES classes which differ for each track. The EES track also requires Structural Geology, Field Methods in Earth Science, and three advanced EES elective courses. The GES track similarly requires Structural Geology, Field Methods, and an advanced EES elective, but the remaining 2 courses are chosen from meteorology, astronomy and oceanography. Finally, students in the SES track also take an introductory Sustainable Energy and the Environment class with lab, an intermediate Sustainable Energy Resources, and advanced Energy Issues in Geoscience, plus 2 EES electives. Typically, advanced EES electives offer the greatest depth of content. Examples of these courses include Advanced GIS, GIS Applications (*i.e.*, Remote Sensing), Green Buildings, Glacial and Quaternary Geology, Hydrologic Research Methods, Process Geomorphology, Special Topics in Earth Science, and Sustainable Energy Analysis.

In addition to conventional classes identified above, EES faculty take great pride in offering undergraduate research opportunities for strong students, as well as working with state and private agencies to offer a variety of internships. These experiences tend to be competitive, often arising for students who demonstrate a serious approach to their studies. In fact, many students have subsequently presented their research at Geological Society of America meetings. During the summer of 2013, twenty-one faculty-mentored undergraduate research and experiential learning experiences have been initiated. This includes projects that examine the aftermath of super storm Sandy at Block Island and in Rhode Island, pegmatite and structural geology projects at sites in Eastern Connecticut, and geothermal work sampling near-surface geological materials to characterize their thermal properties. Others are conducting GIS studies of groundwater and pesticides in fractured bedrock in Stamford, as well as developing GIS data sets related to public health policy. Also within Connecticut, students are examining water quality at springs in Mansfield and conducting ground penetrating radar and terrestrial laser scanning research at Dinosaur State Park. In addition, several EES majors are travelling with EES faculty to examine volcanic rocks in Idaho and carbonates in the Pyrenees Mountains in Spain.

As some of you may know from tours of the department when Eastern hosted the Geological Society of Connecticut Annual Fall Meeting last November. EES facilities are housed in a recently constructed science building (*ca.* 2008). We have space on four of the five floors of this building, including dedicated class/lab/research rooms for all of the sub disciplines within our program. This includes basement cold room storage and field equipment space, energy suites on the first floor, smart rooms and labs for geoscience classes on the second floor (including our own GIS lab), as well as research and teaching space on the 4th floor for sustainable energy.

All told, students majoring in EES at Eastern benefit from a focused major in geoscience that sits within a broad liberal arts educational framework. We have great facilities and we are energized by our students. So ... if you know of a prospective student with interest in geoscience; if you have student internship opportunities; if you are interested in hiring a strong entry level geology or energy specialist ... give us a call.

All the best, and . . . *Rock on Connecticut!*

Professor Drew Hyatt
Eastern Connecticut State University



Figure 3: Eastern's newest tenure track faculty member, Assistant Professor Bryan Oakley, provides direction to EES Sophomore Joshua Bartosiewicz on the use of GPS equipment. Joshua is assisted Bryan with survey monument installations for use on coastal change studies.

Exciting new exhibit...

Connecticut Minerals at Dinosaur State Park

by Harold "Fritz" Moritz

A new, large and brightly lit mineral exhibit has been created as part of a total redesign and remodeling of the Dinosaur State Park Discovery Room (now open). The approximately 3.5x4.5-foot exhibit displays 37 large specimens from classic mineral occurrences in Connecticut. Under the direction of DSP manager Meg Enkler, the display was populated by DSP staff member Teresa Gagnon and Friends of DSP volunteer Harold Moritz. The theme was to display showy examples of a cross-section of classic and/or important minerals from throughout the state. The pieces were chosen from the DSP collection, formed from many donations and purchases, but also including many pieces on loan from the collection of Ron Gyllenhammer.



*Above: The new main mineral display at Dinosaur State Park.
Photo: Harold "Fritz" Moritz.*

Like any compilation, it was easy to find things to include, but difficult to leave things out due to space constraints. To show well in such a large exhibit, each piece needed to be large, with either plentiful and easily visible crystals or lots of color, if massive, as each piece has its own little shelf and is individually lit from above. Many pieces were considered. Some were actually rejected as too large, and others were redundant (too many quartz specimens!). Finalists were carefully cleaned and trimmed a bit if necessary. The spacing between the shelves varies, so the final placement of each piece depended on how well they fit and could be oriented, the way the light fell on them, and the perspective of the viewer. The result is quite stunning and really brings home how diverse and beautiful the mineralogy of our little state is.

Incorporated within are such classics as quartz crystals from Moosup, New Britain and Haddam, amethyst from Woodbury, and really black smoky quartz from East Haven and Cheshire. Ore minerals like goethite from Salisbury, siderite from Roxbury and a freshly cleaned, lustrous group of chalcocite from Bristol are included.

On display are many economically important minerals derived from pegmatites, such as muscovite, microcline, beryl, schorl, lepidolite, spodumene, and columbite-(Fe). Trap rock minerals such as calcite, datolite and, of course, prehnite are required, as are the showy hydrothermal vein minerals stilbite and fluorite from Thomaston Dam and a big, beautiful Cheshire barite at center stage. The marble belt of northwest Connecticut is represented by grossular, tremolite, pyrite and calcite specimens. Finally, metamorphic minerals from the state's abundant schists and gneisses are well represented. A big mass of kyanite from Campville and garnets from Green's Farm share the center stage, along with gedrite from Haddam, dravite from Bethel and a rare chrysoberyl from a strange rock in Haddam. The chrysoberyl may be the smallest piece in the exhibit, but it proudly represents the little site where it was first found in 1810, in rock anywhere in the world.



Above: Close-up of DSP's freshly-cleaned Bristol chalcocite specimen, field of view is 3.0 cm. Photo: Harold "Fritz" Moritz.

Though the main display is flashy, its arrangement was dictated by the space available and the size of each piece. It gives an overview rather than a systematic or educational organization. To complement it, below it are a series of drawers with additional specimens organized by themes, mostly displaying minerals that occur together in the varied geological environments found in Connecticut. Here many smaller, but still excellent pieces can be found. The themes include minerals of trap rock, minerals of hydrothermal veins, minerals of pegmatites (2 drawers!), minerals of schist and gneiss, and minerals of the marble belt. Two deep drawers at the bottom hold oversize pieces that were too big for the upper drawers or even the main display! To the left of these is a drawer containing various garnet specimens (garnet being the state mineral) and another drawer with samples of ore minerals mined in Connecticut, which gives the visitor an idea of their economic importance.



Right: Pyromorphite crystals on quartz from Canton, FOV 4.42 mm. This piece is displayed in the drawer of hydrothermal minerals. Photo: Harold "Fritz" Moritz.

There are more empty drawers awaiting further ideas, feel free to mention any to the DSP staff, and they are, of course, always happy to receive donations of Connecticut minerals. To the left of the mineral display is a large 80-inch flat-screen monitor that displays the bedrock geologic map and answers questions about the state's geology and mining history. To its left is a lighted display, similar to the mineral display, with samples of some of the widespread and/or important rock types. This 20-inch x 4.5-foot display was organized by state geologist Margaret Thomas. Together these exhibits, which were built by Experience Design of Pawtucket, R.I. and Boston, Mass., fill a wall with color, light, and beauty but also inform and greatly complement the dinosaur tracks, Connecticut fossils, and outdoor arboretum this unique park offers.

Rock, mineral, animal and vegetable – they are all there, so stop in and check them out!

Our new logo!

We are pleased to introduce the new GSC logo!

After much consideration and input by the GSC board, Michael Wizevich scribed the final version. Featuring the Connecticut state fossil (Eubrontes track) and state mineral (garnet), along with a state map showing the three main geologic provinces, and a wistful nod to a legend of Connecticut geology.

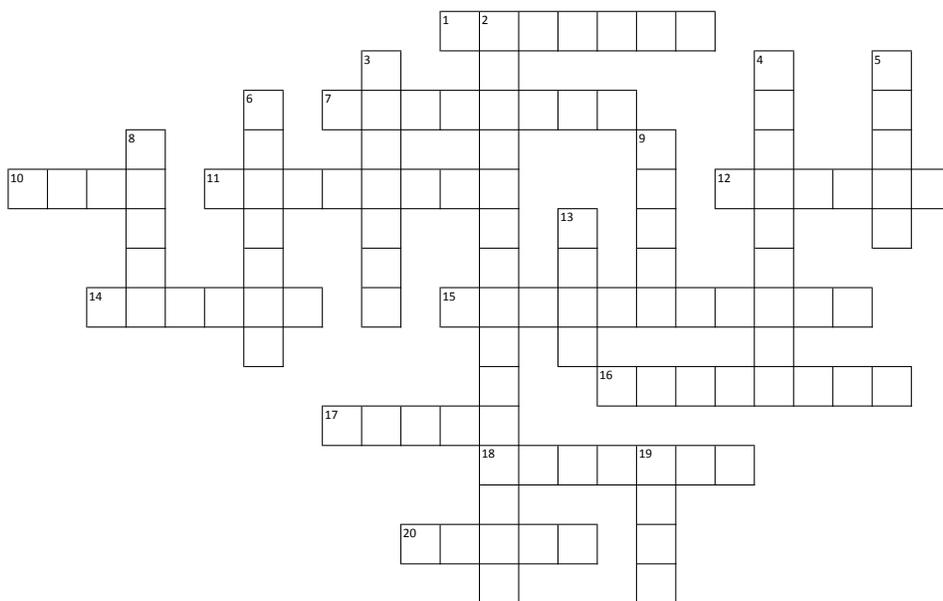
Look for a feature on the GSC logos (there is an in-line version as well) in the next issue of GeoConnections!

Thanks to Mike, Fritz, Janet, Matte and all the board members that provided valuable input on the design and content of the new GSC logo!

~ Ed.



**GSC GEOPUZZLE:
THE ICE IS RIGHT**



Note: The management is not responsible if you don't have any "pun" with these clues. ~ed.

Across:

- 1 If you are not careful you might be "drummed" out of your professor's geology class for not knowing this classic New England glacial deposit.
- 7 Making the scene for the past 10k years.
- 10 What the GSC geologists did on the spring field trip --"they _____, they saw, and they conquered!"
- 11 These are a real "pain in the..." if you are hiking on a glacier.
- 12 Like the leaders of the glacial trip!
- 14 Inch by inch, row by row, that's how this glacial lake bottom grows.
- 15 A glacial epoch.
- 16 Not your morning rituals, the down-glacier process.
- 17 Not what you shout when you win the game, the periglacial feature.
- 18 Not the Inuit foul-weather parka, a rocky promontory rising above the glacier.
- 20 These aeolian sand grains are "on the loose".

Down:

- 2 Glacial "sheep".
- 3 Moe of 3 Stooges fame might call you this, nyuk, nyuk!
- 4 If you check your "facts", you will find these are created by strong wind in the periglacial environment.
- 5 Not _____ Williams the famous swimmer, the sinuous embankment.
- 6 You'll rise to the "fore" of the class if you can identify these sedimentary structures!
- 8 These glacial features won't give you the blues.
- 9 The Neanderthal police said: "Halt! You're under _____!"
- 13 Not the Pteridophyte, compact glacial ice.
- 19 The unprepared student thought this glacial bank contained money.

Answers in the next issue of

GeoConnections

Calendar

November 15, 2013

GSC 5th Annual Fall Meeting

*The bedrock geology
of western Connecticut,
Greg Walsh, USGS*

*Please visit our web page
for details and registration.*

GeoConnections

**News and Views
from the
Geological Society of
Connecticut**

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