



## Hydrogeological Applications of Stable Isotopes of Water: Examples from Central New York State By Dr. Bruce Selleck, Colgate University

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The stable isotope composition of meteoric water ( $\delta D$  and  $\delta^{18}O$ ) varies systematically with mean annual temperature, but spatial variations related to regional-scale geography and climate are significant. For example, in central New York State the Great Lakes provide a source of isotopically light water that enters surface and groundwater systems via 'lake effect' precipitation. Locally, evaporation from lakes, streams and soil waters may result in somewhat heavier isotopic signatures. These processes are climate-driven so we anticipate that the isotopic character of local waters will change with global warming, and that ancient meteoric waters differed from those of today.

The range of variation in  $\delta D$  and  $\delta^{18}O$  in central New York meteoric waters has been under study by students and faculty at Colgate University. Projects include:

1. Sampling of precipitation through the year to determine the range of variation in stable isotopes as controlled by temperature and storm tracks,
2. Analysis of municipal groundwater supplies throughout central and northern New York to assess the impact of lake effect precipitation on groundwater,
3. Study of local domestic well water in a nitrate 'hot spot' to determine recharge sources, and
4. Assessment of evaporation on the stable isotope system in a local marl lake and relationship of water isotopes to mollusk shell isotopes.

Dr. Bruce Selleck (PhD University of Rochester) is Thomas A. Barlett Professor of Geology at Colgate University. He has served as department chair and Provost of the University. His teaching specialties include sedimentology, stratigraphy, surficial geology and hydrogeology. His present research includes analysis of ancient sedimentary and hydrogeology systems in late Cenozoic basins in Alaska, late-stage hydrothermal processes and ore deposits in the Adirondack Orogen and late Pleistocene-Holocene sedimentary processes and hydrologic systems in central New York State.

The meeting will take place on **Thursday, December 13** at the Genesee Inn, 1060 East Genesee Street, Syracuse, NY. There will be a cocktail hour from 5:30 p.m. to 6:30 p.m. Dinner will be at 6:30 p.m. and our featured speaker, Dr. Selleck, will begin his talk at 7:30 p.m. The cost of dinner is \$17 for members, \$20 for non-members and \$15 for student members. Please RSVP by Monday, December 10 to Bonnie at Parratt-Wolff via e-mail at [bolney@pwinc.com](mailto:bolney@pwinc.com) or 437-1429.

**Directions to Genesee Inn:** To get to the Genesee Inn, take the Teal Avenue exit south from Route 690. Go approximately 1 mile (crossing Erie Boulevard) and turn west onto Genesee Street. The inn is on the south side of the street, between Crouse and University Avenues. The phone number of the inn is 476-4212.

## OUR PRESIDENT'S VOICE

By  
Bill Morrow

Dear Members,

When is the last time you got out to a CNYAPG meeting? If your answer is "not recently" then you are really missing out. Last month was the third consecutive meeting where our attendance topped 50! November's program on Chemical and Biological Terrorism was a stretch of our organizations stated purpose. Having said that, I don't think anyone at our November meeting would argue that the program was well worth their time. Mr. Buzz Melton used numerous examples to drive home his point that our Country needs to use rational, scientific-based assessments to determine where our risks are when it comes to chemical and biological terrorism. As an aside, Mr. Melton is currently receiving a speaking fee of several thousand dollars for this program – we paid only his expenses. Here was an opportunity to learn from an expert who has testified on Capital Hill on these issues for the cost of only a dinner.

Although the last three technical programs have been super, to me the most satisfying part of each meeting is providing a networking forum to our members. Its is great to see geologists from various companies, lines of work, students, etc. meeting one another and establishing friends beyond the bounds of the typical work day.

Our December meeting should be another great opportunity to see how a local researcher has applied stable isotopes to central New York surface and groundwater flow systems. How many of you have used isotopes in your site investigations? Isotopes are readily available, relatively inexpensive and maybe a tool you want to put in your toolbox going into the year 2002!

### Invitation to Serve

Want to expand your local network? Want to meet some great people? Want to be a giver and not just a taker? Consider serving on the Board of Directors for CNYAPG. Shortly, the CNYAPG nominating committee will be approaching our membership with opportunities to serve during the 2002-2003 programming year. Please give this opportunity careful consideration.

### Opportunity for a Free Membership Renewal

Currently, CNYAPG has 120 members. We are pleased with the steady membership growth over the last few years. However, this number only represents a small portion of the practicing geologists in our area. It represents even a much smaller number of geoscience students! As an incentive to expand our membership base, anyone that signs up two new members, will have their membership renewed for an additional year free. With a little effort on our membership, we should be able to top 140 members for the year.

Bill Morrow  
CNYAPG President

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## TREASURER'S REPORT

By Jim Mickam

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As of November 30, 2001, our total assets are \$6,543.15. Some financial management issues for consideration in 2002 include:

- Reviewing CNYAPG's liability insurance;
- Funding an undergraduate scholarship; and
- Establishing an independent internet domain.

## Geologists' License Update

By Samuel Gowan,  
Secretary, NYSCPG

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## New Environmental Technology Degree Programs at OCC

By Meg Harris

## Geologists' Licensure Bill in New York State

The licensing effort for geologists in New York made significant progress in 2001. The New York State Council of Professional Geologists (NYSCPG), with support from the lobbyist (McNamee, Lochner, Titus & Williams, P.C.), obtained memoranda of support from several key organizations. Some of these organizations, such as the New York State Society of Professional Engineers, the New York State Association of Professional Land Surveyors and the New York State Association of Consulting Engineers, took an active interest in the development of the bill. The support from these and several other organizations has been instrumental in moving the bill forward in the legislative process.

The bill (Bill No. S02383) moved quickly through the Senate Committees after sponsorships were gained from nine Senators. A "C" version was passed by the Senate on June 21<sup>st</sup>. The progress has been much slower in the Assembly where significant gains were made in May when 14 Assemblymen agreed to sponsor/co-sponsor Assembly Bill No. A05262. The bill was subsequently stalled in the Assembly Higher Education Committee, despite the fact that 7 sponsors/co-sponsors are on that committee. NYSCPG is currently negotiating the bill language with Stephanie Sorentino who is on the staff of the Assemblyman Ed Sullivan. Assemblyman Sullivan is the Chairman of the Assembly Higher Education Committee. Chairman Sullivan has indicated that the legislation will get moved through early in the next session.

As always, financial and membership support are essential for the success of the licensing effort. Please check out the NYSCPG web page ([www.nyscpg.org](http://www.nyscpg.org)) for more details about legislative activities and how you can participate.

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## New Environmental Technology Degree Programs , Onondaga Community College

Four new degree programs are being offered by OCC this year. They include concentrations in Geoscience, Chemistry, Emissions Testing, and Biological Monitoring. The programs are designed to prepare students for entry-level positions as field or laboratory technicians. In addition, on completion of this degree, students will be qualified to transfer to a four-year program in environmental science.

The Geoscience Degree is designed to provide a student with skills in statistics, graphical and mathematical analysis and technical writing necessary for the analysis and preparation of scientific reports. They will be using the latest soil and water testing/monitoring technology to practice proper sampling procedures and documentation methods. They will learn to apply basic computer skills to report writing, to the use of instrumental software, and to mapping and GIS applications. In addition, they will complete the 30-hour OSHA Certification Program and the 10-hour Safety Management Training offered through the National Safety Council.

New courses being offered by the college in support of this degree program this spring semester include a four-credit Hydrology course with lab, an Introduction to Arcview GIS and the OSHA Training course. The classes are open to anyone from the community with an interest in these subjects and the college would like to encourage those interested to enroll. For more information on the degree programs or individual courses being offered, contact Meg Harris at 498-2477 or [harrism@sunyocc.edu](mailto:harrism@sunyocc.edu).

Those involved in the program would like to acknowledge the assistance of many members of the CNYAPG for their input on curriculum development and equipment selection. Members have given their advice, offered internships, and agreed to sit on our Program Advisory Board. In particular, we would like to thank Parratt-Wolff, Inc. They were kind enough to donate their services, installing a monitoring well across the road from campus, on land provided by the Technology Club of Syracuse.

## That Old House

By Ray Smith

### THAT OLD HOUSE

Everyday as I travel to and from work I pass an interesting old house. It's an old cobblestone house located east of Bridgeport at the intersection of Route 31 and Smith Ridge Road south of Oneida Lake. Thumbing through a coworker's copy of "Roadside Geology of New York" I've discovered a little background into this style of architecture.

As you travel west from Rochester on Ridge Road (Route 104) you encounter many lovely, old cobblestone homes, churches, schoolhouses, and other buildings. While there are a number of patterns nearly all of them have one distinguishing characteristic: the stones are arranged in neat horizontal rows. Practically all of the structures were built in the period from 1825-1860, after completion of the Erie Canal, which lies a few miles to the south. Completion of the canal left many unskilled masons unemployed in this region at about the same time the early settlers were clearing the land. In search of work, the masons offered to build permanent homes for the farmers out of the abundant gravels from the surrounding fields. It became a highly competitive business, with the skills of the many masons pitted against each other. The net result is a variety of patterns and an unusually high level of craftsmanship.

The lake plain along Ridge Road and around Oneida Lake developed during the late stages of Wisconsin glaciation, when glacial Lake Iroquois extended a arm eastward to what is now Oneida Lake. Ridge Road lies atop the beach ridge that delineates the shoreline of former Lake Iroquois. The ridge is made up of sandy, gravelly deposits derived largely from glacial debris reworked by wave action along the Iroquois shore the same way that Lake Ontario waves do today. These deposits provided the masons with their building materials. When the St. Lawrence valley was free of ice, allowing Lake Iroquois to drain through it, the lake shrank rather quickly, leaving the ridge high and dry.

# Calendar

November 30 to December 2, 2001	<a href="#">NYSGA 73<sup>rd</sup> Annual Meeting</a> , Lamont Doherty, Palisades, NY. Contact <a href="#">Dr. Paul E. Olsen</a> at (845)365-8491 or via e-mail at <a href="mailto:polсен@ldeo.edu?subject=NYSGAMeeting">polсен@ldeo.edu?subject=NYSGAMeeting</a> .
Thursday, December 13, 2001	CNYAPG Monthly Dinner Meeting, Genesee Inn, Syracuse. Dr. Bruce Selleck, Colgate University, " <i>Hydrogeological Applications of Stable Isotopes of Water: Examples from Central New York State.</i> " Cocktails at 5:30 p.m. Dinner at 6:30 p.m. Speaker at 7:30 p.m.
Wednesday, January 09, 2002	HMPGA Monthly Dinner Meeting, Holiday Inn Turf, Colonie, NY. " <i>Geophysical Applications to Environmental Problems</i> ", Contact <a href="#">Dianne Trianni</a> (e-mail <a href="mailto:AlphaGeo@aol.com">AlphaGeo@aol.com</a> or call 518-783-1805).
Thursday, January 10, 2002	CNYAPG Monthly Dinner Meeting, Genesee Inn, Syracuse. Dr. David R. Lee, AECL, " <i>Wall-and-Curtain Treatment of Contaminated Groundwater.</i> " Cocktails at 5:30 p.m. Dinner at 6:30 p.m. Speaker at 7:30 p.m.
Tuesday, February 12, 2002 (tentative)	CNYAPG Monthly Dinner Meeting, Genesee Inn, Syracuse. Dr. Amy Leventer, " <i>Adventures in the Antarctic,</i> " additional details TBA.
Saturday, April 6, 2001 <b>SPECIAL EVENT! MARK YOUR CALENDARS!</b>	<b>LACKAWANNA COAL MINE TOUR &amp; ANTHRACITE HERITAGE MUSEUM.</b> CNYAPG will lead a field trip to the Lackawanna Coal Mine. A coach bus will leave Syracuse at 9:00 a.m. and arrive in Scranton in time for a picnic lunch (provided). After lunch we will spend an hour touring the Coal Mine followed by another tour at the adjacent Anthracite Heritage Museum. Children and spouses are welcomed and encouraged to come too!!! It is anticipated that the bus will arrive back in Syracuse around 6:30 p.m. Signup details and trip information will be contained in future newsletters and on our web page. Call Sarah McCulloch at 607-836-4400 or e-mail <a href="mailto:sarah@geologic.net">sarah@geologic.net</a> with any questions.

## CNYAPG MEMBERSHIP

In case you were wondering who our CNYAPG members are, here is a list of current members. Check your mailing label to see when your membership expires. Most memberships will be expiring at the end of this year, so please make sure to fill out the enclosed application form and keep your membership current. (Note: for renewals, you do not have to fill out the background information unless there have been changes).

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Bastedo, Jerold  
Beinkafner, Katherine  
Bernstein, Kevin  
Bill, Richard  
Bishuk, Jr., Daniel  
Blas, Stanley  
Boehm, David  
Bradford, Nevin  
Brickwedde, Richard  
Brink, Ron  
Bugh, James  
Burns, Chris  
Byrnes, Tom  
Chauvin, Mark  
Cirimo, Christopher  
Clemence, Samuel  
Coffey, Lisa  
Craft, Nancy  
Creighton, Roger  
Darling, Robert  
DeMarchi, Vita  
DeMatteo, Joe  
Drabot, Robert  
Fakundiny, Robert  
Flick, Greg  
Forrester, Lori  
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Hand, Bryce  
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Hinchey, Edward  
Hluchy, Michele  
Hoskins, Susan  
Hudson, Derk  
Jaquin, Fred  
Johnson, Donald  
Johnson, Tim  
Johnson, William  
Kappel, Bill  
Karboski, Frank  
Kelley, George  
Kiggins, Jeff  
Koslosky, Robert  
Kueper, Bernard  
Lay, David  
Leclerc, G. Brent  
Lee, George  
Lilley, Bill  
Loney, Jeffrey  
Macrae, Brian H.  
McAninich, Brian  
McCulloch, Sarah  
McCune, Bill  
Menzel, Joseph  
Mickam, James  
Mokry, Lynette  
Morrow, Bill  
Mowson, Doris  
Muller, Ernest  
Murray, Katherine  
Nelson, Nanette

Nothnagle, Timothy  
O'Dell, Chawn  
O'Sullivan, Paul  
Parratt, Joel  
Pepling, Sean  
Powers, Susan  
Pratt, Nathan  
Preyer, Robert  
Prucha, John  
Randall, John  
Rossello, Stephen  
Ruppel, David  
Samson, Kristin  
Sandorf, Jennifer  
Siegel, Donald  
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Smith, Nicholas  
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Stoner, David  
Stucker, Steven  
Sturick, Christian  
Swenson, Guy  
Taylor, Carolyn  
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Warner, Michael  
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Weisse, Patricia  
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Whitbeck, Luanne  
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Wohlabaugh, Norman  
Woodrow, Don  
Wright, Deborah  
Zamelis, Esq., Douglas

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## **CNYAPG MISSION STATEMENT**

The CNYAPG was founded in 1993 to strengthen and advance the geologic sciences as a profession and to provide an open forum for the exchange of ideas; to promote the protection of public welfare through the professional practice of geologic sciences; to inspire and maintain the highest standards of professional conduct, business ethics, and personal honor of the membership; to foster the spirit of scientific research throughout the membership; to publish and otherwise disseminate information related to the geologic sciences and associated technologies; to maintain and encourage intra- and inter-association activities, to enhance the association's programs, and to encourage the affiliation of individual members with other scientific and technical organizations



Visit the CNYAPG Web Site for Updates  
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