Upcoming Events and Activities

June 14 - NOGS Luncheon

*** At the Holiday Inn Downtown Superdome ***
$2.00 validated parking in hotel garage

Guest speaker Bryan P. Stephens, United States Department of the Interior, Minerals Management Service, New Orleans, will present “Basement Controls on Subsurface Geologic Patterns and Coastal Geomorphology across the Northern Gulf of Mexico: Implications for Subsidence Studies and Coastal Restoration.”

(See page 7 for Abstract and Biography)

**Admission:**
- with reservation ..................... $30.00
- without reservation .................. $35.00
- Student Member with reservation .... Free

Holiday Inn Downtown Superdome
Check with concierge or front desk for location
Lunch served at 11:30am

July 12 - NOGS Luncheon

Holiday Inn Downtown Superdome. Guest speaker Dwight "Clint" Moore, Ion Geophysical Corporation, will present "Pioneering the Global Subsalt/Presalt Play: The World Beyond Mahogany (USA) Field.

July 15 - 2010 Flood Protection Geological Symposium

In Jefferson (Elmwood shopping/business area). See call for abstracts on page 8.

October 10-15 - GCAGS 2010 Convention

In San Antonio, TX. See short courses and field trips information on pages 14-17.
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E-mail: info@nogs.org  Website: www.nogs.org
The office is located at Suite 300, 810 Union Street, New Orleans, LA 70112.
Correspondence and all luncheon reservations should be sent to the above address.

--- NOGS Staff continued on page 10 ---

--- NOGS Contact List continued on page 10 ---
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Serving NOGS has brought me a wealth of new friends and colleagues, from the young future geologists I met at the Super Science Saturday to the lone geologist who did field work on Earth's own satellite - the Moon. All of these people are bidden by the enormous puzzle of our Earth, and beyond.

I extend my thanks to all those who have helped me in the past year. To our Board of Directors, I owe a great deal of tribute; as a team we tackled a lot of issues. My thanks to the "friends of NOGS," who came through at critical times to maintain momentum on technical projects. I would cite them, however, the list is long, and my leaky memory risks omitting one person. Two people who have helped immeasurably deserve special thanks: Annette Hudson, our Administrative Secretary and Ed Picou, who long ago garnered the moniker, "Mr. NOGS."

The New Orleans Geological Auxiliary has been very supportive of NOGS and me personally over the past year. Time and again they come across as a well-organized group. To President Linda Peirce and the officers of NOGA, I say thank you. Finally, I thank my dear wife, Amber, who moderated and tolerated my brainstorming. A veteran English teacher and master of prose, she frequently proofed my columns with her Mongol #2, punctuating, distilling, and rearranging.

In past times the transition to a new set of NOGS officers and Board would have been seamless. However, within the past several weeks we learned that one of the key companies in New Orleans will be downsizing to Houston. Several of our Board members will be directly impacted by this consolidation and of course it isn't easy. They are colleagues I respect and upon whom I have relied over the past year. Poignant, in that some chose to return to New Orleans following Katrina.

AAPG had a successful convention here in New Orleans. Tom Hudson assembled a crew of dedicated and focused geoscientists to bring this to fruition. There were many local teleconference meetings. The registration was over 5,700, which, considering it fell only nine months after Denver was significant. Our NOGS World War II Museum social exceeded expectations. Likewise, NOGA’s Hospitality Suite at the Sheraton Hotel was a key to our success and top notch in every respect.

By the end of 2010, NOGS should have a new field studies volume both in print and CD-ROM. There may be as many as 30 fields in the final version. For uniformity, Geodraft is redrawing maps, cross-sections and other illustrations. Ramos Field has been completed and was shown at our NOGS Booth in the Exhibition Hall at the Convention. Sales of the future publication will be handled through the Texas BEG.

I have enjoyed writing these columns and occasional tangents, which come best at deadlines and bedevil my Editor and the Log staff. My hope is that the 2010-11 officers will continue to build NOGS, our profession and the City we have come to cherish.

Tom
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June 14 NOGS Luncheon Presentation
***At the Holiday Inn Downtown Superdome***

Basement Controls on Subsurface Geologic Patterns and Coastal Geomorphology across the Northern Gulf of Mexico: Implications for Subsidence Studies and Coastal Restoration

presented by

Bryan P. Stephens

ABSTRACT

Several causes of subsidence in the Gulf Coast in general, and Southeast Louisiana in particular, have been identified. These include sediment loading, compaction of Holocene sediments, subsurface faulting, salt withdrawal and fluid extraction. Recent geodetic leveling studies suggest much of the subsidence is tectonic in nature and related to movement along Tertiary fault systems. This paper suggests that an ordered basement structure has also exercised a profound level of control on all subsequent geological processes including recent coastal environments and ongoing subsidence.

The arrangement of structural elements across the northern Gulf of Mexico suggests the continental margin is segmented by northwest-southeast trending transfer fault zones related to Mesozoic rifting. Major transfer faults segment the continental margin into structural corridors approximately 25 to 40 miles in width, characterized by varying degrees of extension, crustal attenuation and tectonic subsidence. The corridors are more finely segmented by minor transfer fault trends which also exhibit regular and predictable lateral and vertical offsets that are reflected in overlying Tertiary cover. Mesozoic and Tertiary faults, salt systems and shelf margins are segmented along the same transfer-fault delimited corridors. Variations in sediment thickness suggest that the transfer faults have influenced deposition throughout the history of the basin. Modern seismicity demonstrates ongoing activity along these deep crustal boundaries.

Gulf Coast topographic and bathymetric trends appear to be sympathetic to the basement structure as reflected by stream courses, incised valleys and offshore sediment fairways. The shape of the coastline and distribution of coastal bars and spits also conform to lateral and vertical offsets along underlying transfer fault zones.

Recognition of the ordered arrangement of basement structures, faulting and salt systems can help coastal scientists better understand the emerging body of detailed subsidence measurements and guide future lines of inquiry. Identification of areas of relative geologic stability may influence coastal restoration efforts.

BIOGRAPHY

Bryan Stephens is a native of the New Orleans area. He holds Bachelor's and Master's degrees in Geology from the University of New Orleans and the University of Kansas, respectively. From 1985 to 1988 he worked in the Petroleum Research Section of the Kansas Geological Survey. From 1988 to 1999 he worked for Texaco in New Orleans on a variety of exploration and production assignments across the Gulf Coast and offshore Gulf of Mexico. He joined the Minerals Management Service in 1999, where his primary responsibilities include Fair Market Value Determination of lease sale tracts in the deepwater Gulf of Mexico. Bryan's geologic interests are centered around the interactions of basement tectonics, salt tectonics, and depositional systems. He is a member of AAPG and NOGS. He has served as NOGS School Information Committee Chairman and GCAGS Field Trip Committee Chairman.

THE LUNCHEON RESERVATION DEADLINE IS JUNE 9 - CONTACT THE NOGS OFFICE

“And Looking Ahead...”

The next NOGS Luncheon will be held on July 12. Guest speaker Dwight "Clint" Moore, Ion Geophysical Corporation, will present "Pioneering the Global Subsalt/Presalt Play: The World Beyond Mahogany (USA) Field. Contact the NOGS office to make your reservation.
CALL FOR ABSTRACTS

2010 Flood Protection Geological Symposium
Geologic Facts of Life for Flood Protection in Coastal Louisiana

Thursday, July 15, 2009
Jefferson Parish Council Chambers
Joseph Yenni Building
1221 Elmwood Park Blvd.,
Jefferson, LA 70123

Abstract Submission Protocol:
The unique purpose of this conference is to convene public agencies and provide decision makers, and the public, with the latest geological research affecting flood protection efforts along the Gulf of Mexico Coastal Zone. Again this year, the Flood Protection Geological Symposium Committee invites up to five PowerPoint lectures approximately 30 minutes in length representing diverse geoscience topics such as paleotempestology, subsidence and sea-level rise, geological considerations for coastal restoration and protection, geotechnical hazards, and other relevant topics.

Abstract Submission Deadline is June 15, 2010, 11:59 pm CST
Abstracts of no more than 400 words with up to 2 key figures must be submitted by this deadline for review by the Flood Protection Geological Symposium Committee to mminer@uno.edu.

Please note: All presenters customarily remain after their lecture and participate in a concluding panel discussion. Proceedings of the conference are to be published digitally. Upon abstract acceptance, presenters are asked provide a digital summary of key points and illustrations for sponsors to post in press releases beforehand and in the public domain on the sponsors’ web sites afterwards.

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Solicitation for Field Studies

The abstract below is from a presentation at the May 2003, NOGS South Louisiana Onshore Petroleum Exploration Symposium. A special NOGS Ad Hoc Committee is currently soliciting Field Studies from members for publication in the forthcoming Oil and Gas Fields Volume IV. Please consider contributing a field study. For details contact: Carlo Christina CarloCC398@cox.net or Charles Corona cjcorona@cox.net.

Patterson Field Re-development

R. Pete Dodge, Dominion Exploration and Production, New Orleans, LA, and Andy Bittson, Devon, Houston, TX

ABSTRACT

Sun Oil Company discovered Patterson Field with the drilling and completion of their Zenor #1 well in 1951. Drilling continued within the field through 1992 with wells targeting the prolific Miocene age Robulus “L” through Marginulina “A” sands. No wells were drilled in the field between 1993 through 1998, resulting in a decline in daily production down to 1.7 MMCFGPD and 22 BCPD. In 1997 CNG (now Dominion) entered into a joint exploration agreement with Pennzoil (now Devon) to acquire approximately 65 square miles of new 3-D seismic data over the field. GECO-Prakla completed the acquisition of the data in 1998.

The partnership drilled and completed their first well in 1999. To date we have drilled and completed 5 wells increasing the present daily production to over 20 MMCFGPD and 1,300 BCPD. The 3-D survey helped to define several buried down to the south growth faults located south of the younger Patterson fault. Upthrown closures at the Discorbis “B” and Marginulina “A” horizons were mapped which resulted in the drilling and completion of the Zenor A-15 (Discorbis “B”), Zenor A-16 (Marginulina “A”) and Pugh #1 (Marginulina “A”) wells. The Zenor A-17 well targeted deeper Planulina Sands upthrown to the Patterson fault. The Planulina Sands were wet. However, a shallower Operculinoides age sand was logged productive, reestablishing an interest in the further development of the field pay sands. The Zenor #1 was the most recent well drilled and completed. The Zenor #1 targeted both attic reserves in the Robulus L field pay sands and deeper potential reserves within the Discorbisorbis “B” and Marginulina “A” sands. The well was successful within the main field pay Robulus “L” sands, and discovered a new Robulus “L” oil sand, the “R3B”, which is on production at 300 BOPD.

Additional drilling is scheduled to take place this summer. We look forward to continued success with the Patterson re-development program.

FROM THE EDITOR

I would like to specially thank Ed Picou, Annette Hudson, and Jannette Sturm-Mexic for helping me edit and produce the NOGS LOG every month. Best wishes to the new board. Please welcome Fran Wiseman, your new editor.
Short Course #1 – Critical Elements of Gas Shale Evaluation  
**Instructor:** Randall S. “Randy” Miller, Core Laboratories  
**Date:** One Day Short Course, Saturday October 9, 2010

Short Course #2 – Evaluation of Shale Gas Reservoirs with Focus on the Eagleford  
**Instructor:** Rick Lewis, Schlumberger  
**Date:** One Day Short Course, Sunday, October 10, 2010

Short Course #3: Geology & Geophysics Applied in Industry  
**Instructor:** Fred W. Schroeder (ExxonMobil Retired)  
**Date:** One Day Short Course, Saturday, October 9, 2010

Short Course #4 - Multicomponent Seismic Stratigraphy & Technology for Evaluating Fracture Systems of Unconventional Reservoirs  
**Instructor:** Bob A. Hardage, Bureau of Economic Geology  
**Date:** One Day Short Course, Sunday, October 10, 2010

Short Course #5 – Basic Log Analysis  
**Instructor:** Tom Fett, Consulting Petrophysicist, San Antonio, Texas  
**Dates:** Half Day Short Course, Saturday Afternoon, October 9, 2010

Short Course #6 – Advanced Log Analysis of Shale Gas and Tight Gas Reservoirs  
**Instructor:** Tom Fett, Consulting Petrophysicist, San Antonio, Texas; Others TBA  
**Dates:** One Day Short Course, Sunday, October 10, 2010

Short Course #7 – Carbon Sequestration  
**Instructors:** Sue Hovorka, Ramon Trevino, J.P. Nicot, Bureau of Economic Geology, The University of Texas at Austin, Steven Bryant, Sanjay Srinivasan, Larry Lake, Carlos Torres-Verdin, Department of Petroleum and Geosystems Engineering, The University of Texas, Austin, Sandia Technologies Personnel, Houston, TX, Hilary Olson, Institute for Geophysics, The University of Texas at Austin  
**Dates:** One Day Short Course, Sunday October 10, 2010

Short Course #8 – Career Development, Adaptive Skills, Ethics, & Project Management  
**Instructor:** TBA  
**Dates:** One Day Short Course, Sunday, October 10, 2010

Complete course details can be found at:  

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Short Course #9 – Ethics I  
**Instructor:** Cary Barton (Barton, East & Caldwell, LLP)  
**Dates:** One Hour Short Course, Monday, October 11, 2010

Short Course #10 – Ethics II  
**Instructor:** Cary Barton (Barton, East & Caldwell, LLP)  
**Dates:** One Hour Short Course, Tuesday, October 12, 2010
— Field Trips —

Complete descriptions on pages 16-17

Trip 1: Day trip Sunday October 10, 2010:
**Stratigraphy and Structure of the Glen Rose Formation and Hidden Valley Fault, Canyon Lake Spillway Gorge, Comal County, Texas**

Leaders: David A Ferrill (Southwest Research Institute), William C. Ward (retired, University of New Orleans), and Ann Molineux (Texas Natural Science Center, University of Texas at Austin)

**Summary:** At Canyon Lake Gorge floodwaters exposed a 60-m-thick continuous section of the Lower Albian Glen Rose Formation with abundant fossils, trace fossils, and the Hidden Valley fault. We will explore a fault zone in carbonate strata like many other faults that influence the behavior of groundwater aquifers and hydrocarbon reservoirs in carbonate strata. We will see examples of spring discharge from faults, fractures, and beds with vuggy porosity, as well as contrasting impermeable fault zones. For those interested in groundwater reservoirs, the Upper Glen Rose Trinity Aquifer is exposed in the gorge.

Trip 2: Day trip Sunday, October 10, 2010:
**The Balcones Fault Zone Edwards Aquifer of South-Central Texas**

Leaders: Geary Schindel, Steve Johnson, John Hoyt (Edwards Aquifer Authority, San Antonio, Texas)

**Summary:** We will tour research and environmental monitoring sites in the contributing, recharge, and artesian zones of the Balcones Fault Zone segment of the Edwards Aquifer. We will visit Bear and Cub caves, discussing their hypogenic paleo springs to epigenic recharge feature transition, and Comal Springs, discussing recharge zone interaction, endangered species issues, and a nearby saline water well.

Trip 3: Day trip Sunday, October 10, 2010:
**Geology of the San Antonio Area**

Leader: Thomas E. Ewing, Frontera Exploration Consultants

**Summary:** On this field trip we ‘follow the water’ from caves and other recharge features north of San Antonio to the springs where Edwards Aquifer water issues, then downstream to discuss the five early Spanish mission complexes and their building stones and water supplies. We will also visit quarry sites which supplied building stone and cement, and which have been reclaimed as gardens and golf courses. Anyone interested in the interaction of geology, landscapes, and natural and human history would enjoy and learn from this trip. The trip is non-technical and open to all attendees, delegates and spouses.

Trip 4: Tuesday evening, October 12, 2010 through Thursday evening, October 14, 2010:
**Eagle Ford (Boquillas) Formation and Associated Strata in Val Verde County, Texas**

Leader: Brian Lock – University of Louisiana, Lafayette

**Summary:** If you are trying to decide where to buy Eagle Ford leases or in what interval to drill your lateral, here is a chance to see the environments of Eagle Ford shale deposition which may control the reservoir quality in the subsurface. Black, bituminous Boquillas shale, the local equivalent of the Eagle Ford, outcrops in Val Verde and Terrell counties, exposing the sequence from Albian through Coniacian. The basal member displays excellent examples of debris flows and slump structures, with possible contourites. We shall also visit and discuss the distinctive tepee structures in the Boquillas. The second morning will be spent looking at the Del Rio Formation, with exposures of tempestite sands with hummocky cross-stratification, gutter casts, sole marks and microbial mats. The significance of several unconformity surfaces will also provoke debate.
Trip #1 – Stratigraphy and Structure of the Glen Rose Formation and Hidden Valley Fault, Canyon Lake Spillway Gorge, Comal County, Texas

Leaders: David A Ferrill (Southwest Research Institute), William C. Ward (retired, University of New Orleans), and Ann Molineux (Texas Natural Science Center, University of Texas at Austin)

Date: Sunday, October 10, 2010
Depart: Grand Hyatt, Convention Center, 8 am
Return: Grand Hyatt, Convention Center, 3 pm
Tuition: $TBA per person; price includes transport, picnic lunch and guidebook.
Enrollment: Maximum 44 persons.
Who Should Attend?
This field trip will be of interest to paleontologists, geomorphologists, stratigraphers, and structural geologists. The hike will require walking and moderate climbing over uneven terrain for nearly 2 km (1.2 mi). Wear sturdy shoes or boots. Wear hat and bring water. No fossils or rock samples may be collected in Canyon Lake Gorge.

Summary:
Horrendous rains in the Guadalupe River watershed in late June and early July 2002 sent rapidly rising waters of Canyon Lake over the spillway for the first time. The creek valley below the spillway was transformed by floodwaters into a long gorge, excavated as much as 9 m below the former ground level. This new canyon exposes a 60-m-thick continuous section of the Lower Albian Glen Rose Formation. This stratigraphic section is deformed and offset by the Hidden Valley fault, which is exposed for an along-strike distance of 800 m (0.5 mi) in the gorge, providing the opportunity to explore a fault zone in carbonate strata like many other faults that influence the behavior of groundwater aquifers and hydrocarbon reservoirs in carbonate strata. During the field trip we will explore the stratigraphy, paleontology, and structure of Canyon Lake Gorge. For those interested in groundwater reservoirs, the Upper Glen Rose Trinity Aquifer is exposed in the gorge. We also will see examples of spring discharge from faults, fractures, and beds with vuggy porosity, as well as contrasting cases where the fault zone appears to be impermeable versus highly permeable.

Trip #2 – The Balcones Fault Zone Edwards Aquifer of South-Central Texas

Leaders: Geary Schindel, Steve Johnson, and John Hoyt – Edwards Aquifer Authority, San Antonio, Texas

Date: Sunday, October 10, 2010
Depart: Grand Hyatt, Convention Center, 8 am
Return: Grand Hyatt, Convention Center, 5 pm
Tuition: $TBA per person; price includes transport, one picnic lunch and guidebook.
Enrollment: Maximum 44 persons.
Who Should Attend?
This field trip will be of interest to geologists, hydrogeologists, and environmental scientists.

Summary:
The Balcones Fault Zone Segment of the Edwards Aquifer, located in south-central Texas, is one of the most permeable and productive aquifers in the United States. The aquifer extends more than 180 miles from Del Rio, east through San Antonio, and then north through Austin to Waco. The Edwards Aquifer is the primary water source for more than 1.7 million people in the region and provides most of the water for agriculture and industry. In addition, the aquifer discharges through a series of large springs that provide critical habitat for a number of threatened and endangered species.

The Edwards Aquifer Authority (Authority) was created in 1996 by the Texas Legislature to preserve and protect the Edwards Aquifer, a unique groundwater resource. The Authority has broad authority to implement programs to regulate water withdrawal and water quality in the aquifer. The Authority has a comprehensive research and data collection program to support regulatory and policy programs for the aquifer. This field trip will visit various research and environmental monitoring sites in the contributing, recharge, and artesian zones of the aquifer.
Trip #3 – Landscapes, Water and Man: Geology and History in the San Antonio Area

Leader: Thomas E. Ewing, Frontera Exploration Consultants
Dates: Sunday, October 10, 2010
Depart: Grand Hyatt, Convention Center, Sunday morning, 8 am
Return: Grand Hyatt, Convention Center, Sunday afternoon, 4 pm
Tuition: $TBA per person; price includes transport, lunch and guidebook.
Enrollment: Maximum 44 persons.

Who Should Attend?
Anyone interested in the interaction of geology, landscapes, and natural and human history would enjoy and learn from this trip. It is also an excellent introduction to the geology and history of the San Antonio area. The trip is non-technical and open to all attendees, delegates and spouses.

Summary:
San Antonio and the nearby Hill Country are the most historical part of Texas. The development of this area has been intimately shaped by the diverse landscapes, the abundant groundwater, and other earth resources. The diverse rocks that underlie the area control these resources and landscapes.

On this field trip we ‘follow the water’ from caves and other recharge features north of San Antonio to the springs where Edwards Aquifer water issues, then downstream to discuss the five early Spanish mission complexes and their building stones and water supplies. We will also visit quarry sites which supplied building stone and cement, and which have been reclaimed as gardens and golf courses.

Trip #4 – Eagle Ford (Boquillas) Formation and Associated Strata in Val Verde County, Texas

Leader: Brian Lock – University of Louisiana, Lafayette
Dates: October 12 through October 14, 2010
Depart: Grand Hyatt, Convention Center, Tuesday afternoon, 4 pm, October 12, 2010 (NOTE: last technical session ends at 3:55 pm, so plan to leave early and be on bus by 4 pm)
Return: Grand Hyatt, Convention Center, Thursday evening, 8 pm, October 14
Tuition: $TBA per person; price includes transport, two picnic lunches and guidebook. Breakfasts, dinners, and two nights in Del Rio Inn and Suites ($40 to $60 per night), to be paid directly by individual participants.
Enrollment: Maximum 44 persons.

Who Should Attend?
This field trip will be of interest to petroleum geologists, particularly those interested in shale plays, as well as stratigraphers and sedimentologists.

Summary:
If you are trying to decide where to buy Eagle Ford leases or in what interval to drill your lateral, here is a chance to see the environments of Eagle Ford shale deposition which may control the reservoir quality in the subsurface. Outstanding outcrops along U.S. Highway 90 in Val Verde and neighboring Terrell counties expose the sequence from Albian through Coniacian. Wednesday will be spent looking at outcrops of the Boquillas and Atco formations. The Boquillas is the local equivalent of the Eagle Ford and is attracting interest as a potential shale reservoir. Good outcrops of black, bituminous shale will be visited. The basal member displays excellent examples of debris flows and slump structures, with possible contourites.

Thursday morning will be devoted to the Del Rio Formation (Grayson equivalent), with outstanding tempestite sands (hummocky cross-stratification, gutter casts, sole marks and microbial mats).

We shall also visit and discuss the distinctive tepee structures in the Boquillas, interpreted to result from Cenozoic caliche formation, as well as several unconformity surfaces whose significance will also provoke debate.
Excerpts from External Affairs
Michael Fogarty
Chair – External Affairs Committee

Joint Committee on Reserves Evaluator Training: The Joint Committee on Reserves Evaluator Training has launched a Web site providing contact information and FAQs about JCORET. Training materials and instructions for creating training materials are also featured. http://www.jcoret.org/

SPE Membership reaches a record high: The Society of Petroleum Engineers membership reached a record high in 2009, totalling 92,100 members in 117 countries, a 4 percent increase over 2008. SPE membership has grown 33 percent since 2005. http://www.spe.org/about/media/pr_SPE_Worldwide_Membership_Grows_Record_92,100%20.php

AAPG: The AAPG has issued a new position statement on Geologic Carbon Storage that "urges the expansion of funding for scientific research on permanent carbon storage and for the scientific research related to reservoir performance." http://dpa.aapg.org/gac/statements/GeologicCarbonStorage.cfm

Please go to http://www.nogs.org/nogs_external_affairs.html for more events and information.

INFO TIDBITS

• Nantucket Sound will be the location of the nation's first offshore wind farm. The project will include 130 turbines and should provide 75 percent of the energy for the Cape and the islands of Martha's Vineyard and Nantucket. http://www.cnn.com/2010/TECH/04/28/cape.cod.wind.farm/index.html?hpt=Sbin

• The Don Juan Pond in the Dry Valleys of Antarctica never freezes. The super saline brine may prove to be a model for the existence of water on other planets. http://geology.com/press-release/don-juan-pond/

• Here come the replacements, enrollment in geoscience is on the rise. During the 2009-2010 academic year, a 7% increase was seen in undergraduates as compared to 2008-2009 numbers. Graduate geoscience enrollments increased as well with an almost 16% jump during the same period. http://www.agiweb.org/workforce/Currents/Currents-031-Enrollments2010.pdf

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