

On the Cover - Zagros Mountains, Iran

The Zagros Mountains of Iran belong to a complex orogenic system that began in the early Cretaceous with the obduction of Neotethys oceanic plate, a continental arc collision in the Eocene, and Eurasian-Arabian continental plate collision from the Miocene until present. Below the deforming layers is a layer of salt, which acts as a ductile detachment surface for the overlying rocks. In the southwest where the salt layers are thickest, many salt domes can be found and some even pierce the surface. These formations are called namakier (or salt glacier) from the Farsi word for "salt." The cover photo is of a partially-eroded namakier.





Photo source

Brittany

From the Editor...

Greetings Everyone,

My name is Brittany George and I am excited to begin my tenure as NOGS Editor for the 2023-24 fiscal year! I am thankful to Dave Reiter, our previous NOGS Editor, and Christy Himel for their patience in helping with this transition.

I've been a member of NOGS since I was an undergraduate at UNO in 2015, and I feel incredibly honored to serve on the board of the organization that helped me get through university through several of its scholarship programs. My background is in petroleum and sedimentary geology, having studied both Gulf of Mexico and North Sea basins. I

currently work for the Louisiana Department of Natural Resources on a team of talented geologists who regulate underground storage caverns in the state's salt domes. I will be speaking at the Louisiana Pipeline Safety Conference on August 17th, so I hope to meet some of you there!

We have several new things planned for the coming year to expand NOGS Logs, including possible guest articles. Here's to an awesome year! If you have anything at all that you would like to share or contribute, please email me at editor@nogs.org.

Brittany George 2023/2024 NOGS LOG Editor



MARK WOJNA

A MESSAGE FROM THE 2023/2024 NOGS PRESIDENT

For those of you who don't know me, I would like to briefly share my background with you and describe my journey to becoming NOGS 2023-24 President. I'm originally from Michigan, a child of Polish immigrants. I took my first geology class at Michigan State University where I received my BS in Geology. I continued my education at the University of Southern Mississippi where I received my MS degree in Geology. I found myself in New Orleans in 1984 looking for work in the oil and gas industry during one of the various downturn cycles. I began my career in 1985 with Century Exploration, a privately owned, start-up independent exploration company. That led to a 30-year career exploring the OCS Louisiana shelf and later South Louisiana. I currently work for LLOX Onshore Exploration in Covington, still having fun and doing what I love.

NOGS was very instrumental in helping me initially find work, grow professionally, and develop lifelong friendships. I've attended monthly NOGS luncheon meetings, continued my education by attending NOGS sponsored short courses, attended the occasional NOGS field trip and participated in numerous NOGS sponsored social events. In 2010 I was able to contribute a paper summarizing Century's work at Breton Sound 53 Field in the NOGS "Oil & Gas Fields of South Louisiana, 2010" guidebook. In 2019 and 2020, I presented a talk entitled "Breton Sound - A Conventional Deep-Water Play in Shallow Louisiana State Waters" to the New Orleans, Baton Rouge, Lafayette and Shreveport Geological Societies. This talk was the culmination of work by numerous talented NOGS members that I had the privilege of working with over the years at Century Exploration.

As earth scientists, we all know to expect change, nothing remains static. New scientific concepts are developed and applied in our work. New technology continually changes our lives. I actually typed my Master's thesis on a typewriter back in 1984. NOGS and the New Orleans metro area have also changed. I pulled out my 154 page 1988 NOGS Photo Directory and was reminded as to how many geologists actually lived and worked in New Orleans when I moved here in 1984. NOGS had 1500 members, today we have about 200. I began my career on Poydras Street, where practically every office tower had an oil company or service company as a tenant. Today I work on the Northshore in Covington, where a handful of oil and gas companies still remain.

NOGS began in 1941 with its primary focus on the oil and gas industry. Earlier this year the NOGS Constitution was updated to reflect the changes that South Louisiana and NOGS are experiencing. I would like to acknowledge John Dribus, Edward Picou, David Reiter and the various NOGS board members from the past several years, who were instrumental and visionary in updating our constitution. A key takeaway for me is the last sentence of Article 1. It states, "As NOGS and the geoscience environment in the New Orleans area has evolved over the years, NOGS has expanded its scope to include environmental geosciences, energy and coastal issues." The current Board is working on some new ideas to build on these themes in moving NOGS forward.

My advice to the younger members in our society that are looking for work or already employed is to participate in NOGS and network, network, network, whether you're active in oil and gas, government, environmental work, regulatory, primary and higher education or any other field involving geoscience. Continuing education is also very important in our growth as geoscientists. Take advantage of the opportunities that NOGS provides.

After 38 years of participating in and developing my career through NOGS I felt it was time for me to contribute to and help with NOGS continued growth. In my younger days, the older NOGS members were always very supportive. I'm now one of those older members and here to help. Enjoy the rest of your summer. If you have any questions or suggestions feel free to reach out to me by email at markw@llox.com.

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August Meeting

MONDAY, AUGUST 28, 2023 11:30 AM -ZEA'S NORTHSHORE & ONLINE

PROFESSIONAL ETHICS FOR GEOSCIENTISTS AND ENGINEERS

William H. Schramm

George Losonsky

Ethics has many definitions; it is a study of the rules of human behavior, the standards of right and wrong, that part of science and philosophy dealing with moral conduct, duty, and judgment, the voluntary actions specifically taken by an individual with sufficient knowledge of the options available. The development of these "rules" depends on the formative influences on the individual. They derive from the social structure, ethnic culture, predominant religion, educational philosophies and personal life experiences.

Professional ethics incorporates and expands on these societal rules for a well-defined group of specialized, highly trained and educated persons in a specific career field. The ethics for professionals are particularly developed to address issues peculiar to that field. Examples are: medical, legal, police, military, science, and business, and in our case today, geoscience!

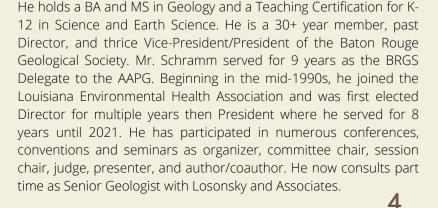
In our everyday lives we encounter many examples of ethical decisions, requiring us to establish a hierarchy or prioritization of decision making. We will investigate the conundrums of some of these situations, offer examples, and discuss the history and logic/science of ethical decision making.

George Losonsky, PhD, PG, Losonsky & Associates, Inc., Baton Rouge, LA

Dr. George Losonsky has practiced in the environmental and water resources fields for over 30 years as a hydrogeologist, groundwater modeler, and remediation design expert. He has worked on soil and groundwater remediation projects throughout the USA and worldwide. George completed his BS in Geology at Oberlin College and MS and PhD in Geology at the University of Cincinnati. He currently serves as President of the Baton Rouge Geological Society.

William H. Schramm is a 28-year retired veteran of the Louisiana Department of Environmental Quality. As a Geologist he worked closely with industry, consultants, regulators, and private citizens, to investigate and remediated over 3000 contaminated sites. As Geologist Supervisor, he managed a staff of 16 Geologists, Environmental Specialists, and support personnel in the Remediation Division. Beginning in 2005 he was an Adjunct Instructor on the staff of the Department of Geology at the University of Louisiana-Lafayette and served on numerous Graduate Thesis Committees. Mr. Schramm retired from the State of Louisiana in 2017. Governor John Bel Edwards appointed Mr. Schramm to the Louisiana Board of Professional Geoscientists in 2018 where he was elected Secretary. He was subsequently elected to Chair the board in late 2021.

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DRILL BITS



OFFSHORE GULF OF MEXICO SHELF AND DEEPWATER ACTIVITIES BY AL BAKER

During June 2023, the **Bureau of Safety and Environmental Enforcement (BSEE)** approved 92 Gulf of Mexico (GoM) drilling permits. Thirteen of the permits were for shelf wells, and the remaining 79 permits were for deepwater wells. There were 6 new well permits issued; 1 was on the shelf, and 5 were in deepwater.

The single shelf new well permit was for a development well. **Gulf Offshore** received the permit for their Vermilion 153 #A-2 well.

The 5 new deepwater well permits were for 4 exploration wells and 1 development well. **Shell Offshore** received 2 exploratory well permits for their Mississippi Canyon 392 #AW-2 well in Appomattox Field and their Mississippi Canyon 525 #RB-1 well. **BP Exploration & Production** obtained an exploratory well permit for their Green Canyon 436 #1 well. **Talos Energy Ventures** was given an exploratory well permit for their Green Canyon 78 #SS-2 well. **LLOG Exploration Offshore** was granted a development well permit for their Keathley Canyon 829 #4 well in Buckskin Field.

On June 30th, **S&P Global Petrodata** indicated that the GoM mobile offshore rig supply stood at 47, which is the same as last month. The marketed rig supply consisted of 34 rigs, of which 28 were under contract. The marketed rig supply is the same as last month, and the contracted rig supply number is 1 less than last month. The marketed contracted versus total rig supply utilization rate stood at 72.3%, and the marketed contracted versus marketed supply utilization rate stood at 82.4%. By comparison, the June 2022 total fleet utilization rate stood at 81.8% with 33 rigs under contract out of the 45 rigs in the fleet.

On June 30th, **Baker Hughes** reported that there are 18 active mobile offshore rigs in the GoM, which are two less than last month and 64.3% of the rigs under contract mentioned above. Currently, one rig is drilling on the shelf, and 17 rigs are drilling in deepwater. The 1 shelf rig is located in the Vermilion Area. The deepwater rigs include 7 rigs in the Mississippi Canyon Area, 3 rigs in the Walker Ridge Area, 2 in the Green Canyon Area, 2 in the Alaminos Canyon Area and 1 rig each in the Keathley Canyon, Garden Banks and Ewing Bank Areas.

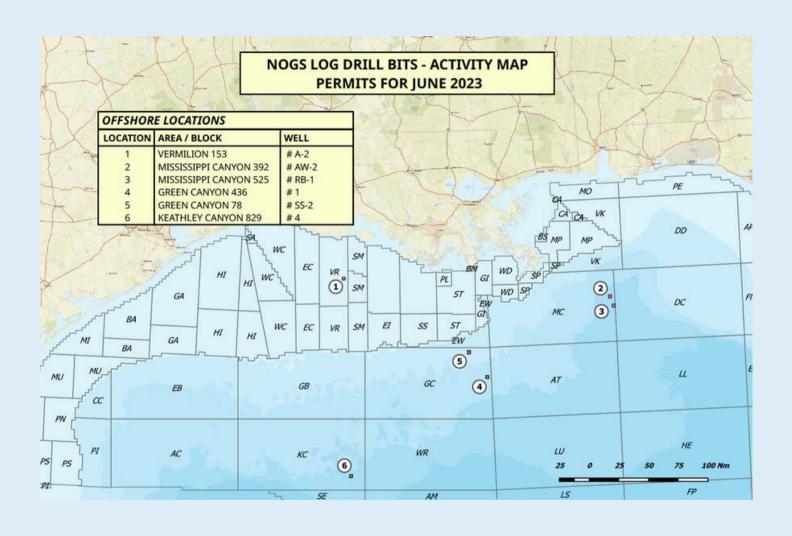
On June 30th, the **Baker Hughes** total U.S. rig count stood at 674 rigs, which is 37 less than reported at the end of April 2023. Of the 674 rigs, 545 (80.9%) are oil rigs and 124 (18.4%) are gas rigs. Fiver rigs are listed as miscellaneous. A year ago, there were 750 rigs working in the U.S. inferring that the current rig figure represents an 10.1% decrease in rigs year over year. Presently, Texas continues to have the largest number of rigs with 341, which is 50.6% of the total number of rigs in the U. S. Louisiana currently has a total of 43 rigs, which are 11 less than last month. Louisiana ranks third behind New Mexico, which has 108 rigs.

On June 22nd, the **Bureau of Ocean Energy Management (BOEM)** updated the Phase 2 acceptance of bids received at GoM OCS Sale 259 held on March 29, 2023. A total of 261 bids have been accepted leaving 52 bids remaining under evaluation. The BOEM has a 90-day evaluation period following the sale to determine bid sufficiency.

DRILL BITS



NEW WELL PERMITS OFFSHORE GULF OF MEXICO SHELF AND DEEPWATER ACTIVITIES MAP BY KEVIN TROSCLAIR





Have you renewed your NOGS Membership?

Thank you for your continued support as a member of NOGS! We greatly appreciate your dedication to our organization and the valuable contributions you have made to our community.

Your membership renewal plays a vital role in sustaining the work we do at NOGS. It enables us to organize events, provide educational resources, and promote the field of geology to a wider audience. By renewing your membership, you continue to be a part of our vibrant community and support our mission of advancing geological knowledge and fostering professional growth.

Alongside your membership renewal, we would like to invite you to consider making a donation to the NOGS Memorial Foundation. This foundation plays a crucial role in supporting the education of Geology and Earth Science students attending LSU, UNO, and Tulane Universities. Your generous donations directly contribute to the scholarships we provide to these students, helping them pursue their dreams and achieve academic success.

To make your donation, please click here

Every contribution, no matter the size, makes a meaningful difference and helps us continue this important work. Your support ensures that future generations of geologists and Earth scientists have the resources they need to succeed.

We deeply appreciate your commitment to NOGS and your dedication to the advancement of geology. Thank you for considering membership renewal and making a donation to the NOGS Memorial Foundation. Together, we can make a lasting impact on the geology community and the future of our field.

If you have any questions or require further assistance, please do not hesitate to reach out to us - admin@nogs.org

Thank you once again for your continued support and for being an invaluable part of NOGS.

Recent Energy Headlines

July 2023 Recap

7/18/2023 - Transocean Scores \$518M Contract for Ultra-Deepwater Drillship in Gulf of Mexico - Offshore drilling contractor Transocean has secured a 1,080-day contract for one of its high-specification, seventh-generation, ultra-deepwater drillships in the Gulf of Mexico, offshore Mexico. The contract will contribute approximately \$518 million in backlog, excluding revenue for mobilization and demobilization, and is expected to start between the fourth quarter of 2025 and the second quarter of 2026. Read Full Article

7/17/2023 - Prominence Energy awarded two high-potential blocks in the Gulf of Mexico - Prominence Energy, a public company based in Perth, Western Australia, has announced the award of two adjacent exploration blocks in the USA Outer Continental Shelf (OCS) - Leases OCS-G-37341 and OCS-G-37342 - following a period of extensive due diligence. PRM has been awarded two adjacent lease blocks located on the OCS off Texas in approximately 75m (250ft) of water. Together they cover an area of 11,520 acres (~46km2). The leases have an initial five-year exploration term, there is no minimum work program and the blocks can be held by production for 25 years. Read Full Article

7/13/2023 - Analysis: Over 75% of Gulf of Mexico oil, gas production has lower than average GHG emission intensity - More than three-fourths of all oil and gas production in the U.S. Gulf of Mexico has a lower greenhouse gas (GHG) intensity than the basin-wide average, a new S&P Global Commodity Insights analysis finds. The analysis is the latest in an ongoing series that utilizes a new comprehensive model that provides unprecedented granularity to understand variations in GHG intensity from one asset to the next. The average GHG intensity of production in the U.S. Gulf of Mexico was found to be 7 kilograms of carbon dioxide equivalent per barrel of oil equivalent (kgCO2e/boe) in 2022. However, about 78% of the total production was found to be beneath that average. Conversely, assets on the upper bound of carbon intensity—responsible for just 10% of total production—generated 35% of the basin's total GHG emissions. Overall, individual assets across the basin displayed a wide variability, ranging in GHG intensity from less than 2 kgCO2e/boe to nearly 50 kgCO2e/boe for most production. Read Full Article

7/13/2023 - ExxonMobil Announces Acquisition of Denbury - Exxon Mobil Corporation (NYSE: XOM) today announced it has entered into a definitive agreement to acquire Denbury Inc. (NYSE: DEN), an experienced developer of carbon capture, utilization and storage (CCS) solutions and enhanced oil recovery. The acquisition is an allstock transaction valued at \$4.9 billion, or \$89.45 per share based on ExxonMobil's closing price on July 12, 2023. Under the terms of the agreement, Denbury shareholders will receive 0.84 shares of ExxonMobil for each Denbury share. "Acquiring Denbury reflects our determination to profitably grow our Low Carbon Solutions business by serving a range of hard-to-decarbonize industries with a comprehensive carbon capture and sequestration offering," said Darren Woods, Chairman and CEO. "The breadth of Denbury's network, when added to ExxonMobil's decades of experience and capabilities in CCS, gives us the opportunity to play an even greater role in a thoughtful energy transition, as we continue to deliver on our commitment to provide the world with the vital energy and products it needs." Read Full Article







Calling for donations for the upcoming

AAPG Caughey-Zimmermann Energy Library

LSU AAPG is developing a library that will provide a **wealth of valuable resources** to students. Our goal is to foster a **collaborative environment** where students can **explore** topics in petroleum geology, **empowering** them to **pursue careers** in the energy sector... **BUT WE NEED YOUR** <u>HELP!</u>

How can you support us?

- ✓ Physical book donations
- ✓ Digital book donations
- ✓ Monetary donations

ALL donors will receive recognition in the library!

Donations over \$150 will receive an award!

Follow the link to learn how to donate!

https://bit.ly/3 WfLuGa



PICTURE FROM THE PAST

always smile!





Harrison L. Townes (right). AAPG President-Elect presents to Harluf C. "Pete" Petersen (center), NOGS third president (1943-44_), AAPG's Recognition of Acheivement Award to the Society on its 50th Anniversary at the June 1, 1992 Luncheon Meeting. President John C. "Jack" Langford is at left.

Submitted by Christy Himel, NOGS Administrator



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LAWATER 2023:

14TH ANNUAL LOUISIANA WATER CONFERENCE

August 2-3, 2023

LSU DALTON WOODS AUDITORIUM ENERGY, COAST & ENVIRONMENT BUILDING BATON ROUGE, LA

The Louisiana Water Conference aims to disseminate the latest water-related research and activities within and around Louisiana, promote education and public awareness of Louisiana's valuable freshwater resources, and promote engagement of water-use sectors.

The conference will offer certificates of Continuing Education Units (CEUs) and one PDH Ethics for Professional Geoscientists (PG) and Professional Engineers (PE).

Click here for more information

Hosted by:



Louisiana Geological Survey

Important Dates:

Abstracts due: *June 26th*Eary registration ends: *July 1st*

Fees before/after July 1st:

Students \$20/\$20 Faculty \$40/\$50 Professionals \$80/\$100



24th Annual API-Delta Joint Society Luncheon 2023

TOPICS:

GULF COAST ENERGY OUTLOOK

with

Dr. Greg Upton
LSU Center for Energy Studies,
Interim Director

HOW TO COMBAT AN INCREASE IN REGULATORY PUSHBACK IN PIPELINE DEVELOPMENT?

with

Cynthia Nicholson and Marianna Knister Downer with Gordon Arata



August 22, 2023



WW II Museum BB's Stage Door Canteen 945 Magazine St. New Orleans, LA



11:30 AM

Online: \$55 per person
Pay at the Door: \$65 per person

Advanced registration recommended to guarantee seating.

Table Sponsorship Options Available

Title | \$2,000 | Table for 8, 3-5 Minute Presentation, Welcome Slide Logo, and Program Listing
Gold | \$750 | Table for 8, Welcome Slide Logo, and Program Listing
Silver | \$500 | Table for 8 and Program Listing
Bronze | \$100 | One Ticket and Program Listing



NEW ORLEANS GEOLOGICAL SOCIETY MEMORIAL FOUNDATION INC.

Founded March 14, 1978, the mission of the New Orleans Geological Society Memorial Foundation is to promote earth-science related educational or scientific purpose by granting of scholarships to outstanding Geology students at the universities in Southeast Louisiana offering a degree in Geology. The Bill Craig Memorial Fund provides for any earth science related educational or scientific purpose that is a direct benefit to grades K-12 teacher or teachers within the Greater New Orleans Area. This area encompasses New Orleans, Jefferson, Plaquemines, St. Bernard and St. Tammany Parishes.

THE MEMORIAL FOUNDATION IS AN IRS TAX EXEMPT CODE #501(C)(3) ORGANIZATION. THE FEDERAL ID IS 72-1220999. PLEASE CONSIDER MAKING A DONATION TO THE FOUNDATION. YOUR INDIVIDUAL SUPPORT IN ANY AMOUNT WILL HELP MEET THE IRS **GUIDELINES FOR** OUR FOUNDATION. THANKS!

\$10,000

Gibbet Hill Foundation - In Memory of Steve & Marion Millendorf, William J. Prutzman, Roger G. Vincent, Ron Youngblood, Uno Numella and Dr. Robert T. Sellars, Jr.

\$250-\$999

Edward B. Picou - In Memory of
Robert "Bob" Branson, Thomas Klekamp,
Donald Andrews, William Furlong,
Duncan Goldthwaite, John D. Silvernail,
Beverly Christina, Carlo C. Christina, Paul C.
Perrett, Sr., Emmett C. Guderian, Jr, Anthony
Catalanotto, Sr., Joseph E. Boudreaux,
Jackie D. Stewart and Richard L. Meinert

Al Melillo

Charles & Trudy Corona - In Memory of Beverly Christina

Hilary Brook

Thomas Bergeon In Memory of Art Johnson

Paul Jurik In Memory of John Silvernail

William Whiting

\$1,000

Chevron Your Cause Shell Oil Company



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UP TO \$249

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Jeffrey Pollard - In Memory of Duncan Goldthwaite

Nancye Dawers - In Memory of Duncan Goldthwaite

Arthur Christensen- In Memory of Tom Klekamp

Fran Wiseman - In Memory of Steve Widdicombe, Bill Ward

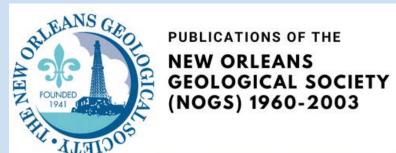
Scott Gilreath - In Memory of Al Gilreath

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NEW ORLEANS GEOLOGICAL SOCIETY

OIL & GAS FIELDS OF SOUTH LOUISIANA





To purchase these publications, Click here for the NOGS Store!

TOP 10 REASONS TO JOIN NOGS

Proclaim your professionalism

With an 80 year history and over 300 active members, NOGS is the premier professional organization for geologists in the Greater New Orleans area. Adding your name to the ranks declares your pride in the profession you have chosen.

Advance your career

NOGS members enjoy educational opportunities and top speakers designed to increase knowledge and keep up with the newest trends in geoscience, both on the national and local levels.

Advertise your integrity

NOGS has a reputation of over 75 years for upholding high standards. Align yourself with like-minded geologists and related fields.

Further your cause

NOGS was organized for the purpose of facilitating the development of the profession and science of Geology, at the time with a focus on production of oil and gas. Since Hurricane Katrina our objectives expanded to include the dissemination of the geological facts of flood control, engineering and environmental geoscience.

Network with others who do what you do

Making connections, between people and ideas, is an important part of any scientific endeavor. Meet others who can help you make those connections.

Advocate for your profession

Serious-minded professionals know that serving the profession means responding to calls for action from those who represent the profession. NOGS monitors trends in geoscience education, regulation, and practice standards and periodically advises members on required action.

Serve your profession and community

Opportunities for individuals to serve on NOGS committees that work on a variety of issues from building educational programs to sharing knowledge with others to providing scholarships to young geologists in our area.

- Don't reinvent the wheel ... use available resources NOGS members can provide you with the resources you need to do your job well. Long-time
- members remain active and are happy to share their knowledge and best practices.
- Play a part in elevating the status of geosciences. Your membership in NOGS and your dedication to geoscience elevates the entire profession.
- Do it for YOURSELF!

It's all about YOU! NOGS' educational, networking, and career planning programs will take you where you want to go!

