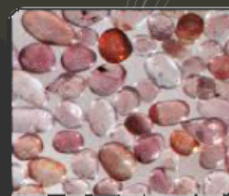
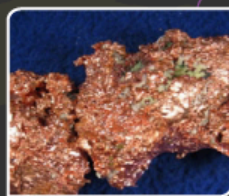


# NUGS LOG

January 2025  
Volume 65 No. 7





## What minerals produce the colors in fireworks?

Mineral elements provide the color in fireworks. Barium produces bright greens; strontium yields deep reds; copper produces blues; and sodium yields yellow. Other colors can be made by mixing elements: strontium and sodium produce brilliant orange; titanium, zirconium, and magnesium alloys make silvery white; copper and strontium make lavender. Gold sparks are produced by iron filings and small pieces of charcoal. Bright flashes and loud bangs come from aluminum powder.



### STRONTIUM\*

In addition to its use of making fireworks, Strontium is used in signaling, oil and gas production, and ceramic magnets.

\* Critical Mineral Commodity



### SODIUM

In addition to making our fireworks yellow, Sodium is used to make polyvinyl chloride (PVC) plastic made from chlorine and paper-pulping chemicals manufactured from caustic soda.



### BARIUM\* CHLORIDE

In addition to making fireworks green, Barium is also used in medicine and oil and gas production.

\* Critical Mineral Commodity



### COPPER

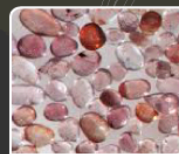
In addition to making fireworks blue and purple, Copper is one of the oldest metals used by humans, and today is mostly used in electronics and power generation.



### TITANIUM\*

Along with Zirconium and Magnesium to make fireworks grey and white, Titanium is overwhelmingly used as a white pigment and in metal alloys.

\* Critical Mineral Commodity



### ZIRCONIUM\*

Along with Titanium and Magnesium to make fireworks grey and white, Zirconium is used in the high-temperature ceramics industry.

\* Critical Mineral Commodity



### MAGNESIUM\*

Along with Titanium and Zirconium to make fireworks grey and white, Magnesium is used in furnace linings for manufacturing steel and ceramics.

\* Critical Mineral Commodity

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U.S. Geological Survey, 2020. Mineral commodity summaries 2020: U.S. Geological Survey, 200 p., <https://doi.org/10.3133/mcs2020>.



## *From the Editor*

"Hello again and Happy New Year!

The monthly luncheon and technical presentations will be held on Wednesday, January 22nd at Zea's Restaurant in Covington. This month Chris McLindon will present "An Overview of U.S Lithium Resources" Come join us for a delicious lunch and engaging conversation or join us virtually!

Virtual attendance of the monthly presentations is a work in progress. NOGS has invested in technology to facilitate and improve online presentations. There is also a learning curve to improve the online experience for those making and attending these presentations. Although NOGS has made progress improving the on-line experience, we recognize improvement is a continuous process and we appreciate feedback from on-line attendees to that end.

The New Orleans Geological Society proudly hosted and welcomed the Memorial Foundation 2024 scholarship recipients to the December luncheon and technical presentations at Drago's Restaurant in Metairie. Tulane University's Kyle Straub presented "Exploration of the Controls That Set the Shape of Submarine Fans and Their Stratigraphic Architecture". Pictures of this event are included in this issue of the LOG. Thank you Dr. Straub for your excellent presentation and, again, congratulations to the 2024 Scholarship award winners!

SPE Delta Section January 2025 Meeting: LSU's new Chair of the Craft & Hawkins Petroleum Engineering Department, David Schechter will speak on Thursday, January 23, 2025, on the Northshore. The location is still being finalized. A light lunch will be provided. It is free.

Registration to attend Geogulf 2025 will open this month! Nacogdoches, TX will host the 74th GCAGS/GCSSEPM Convention and Exposition April 6th through the 8th. Ticket prices are currently being set, but are expected to be \$400 for early bird, \$500 for regular registration, and \$100 for students. Registration includes admission to the technical program, admission to the Core Workshop, lunches on Monday and Tuesday, the Ice Breaker on Sunday, refreshment breaks, and more! It's not too early to make plans to attend!

The New Orleans Geological Society is still in need of an Editor Elect to serve on the Board of Directors. As I am the current Editor, this is somewhat of a self-serving request for volunteers. I have to admit I was extremely hesitant to volunteer. I was serving on the New Orleans Geological Society Memorial Foundation Board of Directors and found the Memorial Foundation's work engaging and satisfying. A friend and colleague suggested I take a crack at editing the NOGS Log and with some skepticism I volunteered. I must say, I have enjoyed both the technical and creative side of editing the NOGS Log. Over the years the NOGS organization has honed the process to facilitate a smooth transition of Board electors. The Editor Elect position facilitates a year of observation of the inner workings of the organization, event planning, as well as the



## ***From the Editor continued...***

editorial process and production of the NOGS Log. The Board is structured to focus each board member on a few required tasks, which minimizes and distributes the workload of the individual board member. The NOGS Log has a well- developed template and with staff support and input from the board and members, the LOG comes together in a few hours. We also have a group of volunteers to proofread for nasty typos and facilitate posting the document and notifying members. Please consider donating a little bit of you time to the continuation and health of our organization.

I encourage professionals, academics, and graduate students to grow your network and share your research. Become an active NOGS Member, consider writing a short article in the NOGS Log or, better yet, provide a short lunchtime presentation at a monthly meeting. Volunteer to work NOGS events or offer your services as a Board Member.

Until February....

*Brian Bothner*



**Brian Bothner**  
**2024/2025 NOGS Log Editor**





**JARED BULLOCK**

# **A MESSAGE FROM THE 2024/2025 NOGS PRESIDENT**

Greetings,

I hope everyone had an enjoyable holiday season and is off to a wonderful start in 2025. A new year always brings a sense of fresh air. You may be setting personal goals, planning trips for 2025, or just hitting the reset button on your normal routine. Wherever you are on your life journey, may 2025 bring you good luck and prosperity - at least for those of us who had a helping of black-eyed peas and cabbage on the 1st. Nevertheless, I want to wish everyone a Happy New Year!

I'd like to congratulate the 12 students from UNO, LSU, and Tulane who received a NOGS Memorial Foundation scholarship last month. These scholarships are awarded to undergraduate and graduate students who are nominated by faculty at their respective universities. The NOGS Memorial Foundation has a mission to support the education and advancement of earth science through academic scholarships to university students.

We have several upcoming events on the calendar as well as some important dates to mark down that are happening later in the spring. Our next luncheon is scheduled for Wednesday, January 22nd at Zea's in Covington. The speaker will be Chris McLindon presenting "Overview of U.S. Lithium Resources". As with all our luncheons, there will be time for networking at 11:30am and the meeting officially starts at 12pm with announcements followed by a presentation. Please check the NOGS website frequently for event announcements.

**SAVE THE DATE:** The Annual NOGS Golf Tournament will be held at Timberlane Golf & Recreation in Gretna on Friday, May 16. Please mark down the date and pull together a team to support NOGS. There will be hole sponsorship opportunities available for those interested. We look forward seeing all NOGS members there and having a competitive tournament!

Jared Bullock  
NOGS 2024-2025 President



# MONTHLY MEETING

## Overview of U.S Lithium Resources

### CHRIS MCLINDON

Lithium was designated as a critical mineral by the U.S. Department of Interior in 2018. Future demand for lithium will come mainly from electric vehicles and utility-scale energy storage. Global lithium production currently comes primarily from Australia, Chile, Argentina and China. The U.S. is a minor producer at present but has significant undeveloped resources.

An overview of the chemical properties and natural occurrence of lithium will provide a basis of the review of four of the major U.S. resources – King’s Mountain, North Carolina (pegmatite), Thacker Pass and Rhyolite Ridge, Nevada (volcanic-sourced clay), Silver Peak, Nevada (salar aquifer brine) and the Smackover Formation of East Texas and south Arkansas (deep reservoir brine). Recovery methods, processing and total potential for each resource area will be discussed. These four major resource types account for nearly all of the global lithium reserves.



**DATE**  
**WEDNESDAY, JANUARY 22, 2025**



**TIME**  
**AT 11:30 AM NETWORKING**  
**12:00 PM LUNCH &**  
**PRESENTATION**



**ZEA'S NORTHSORE**



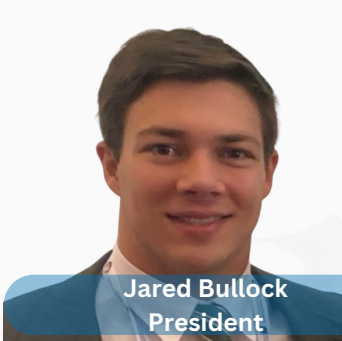
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# 2024 Scholarships



Md Asif Hasan



Crystal Luna

Sarah Bancroft



Emma Bourgeois

Dr. Mark Kulp

Yasmine Haddad

Katelyn Merrill

Wilke Coleman



# NOGS December Meeting

## Drago's Metairie



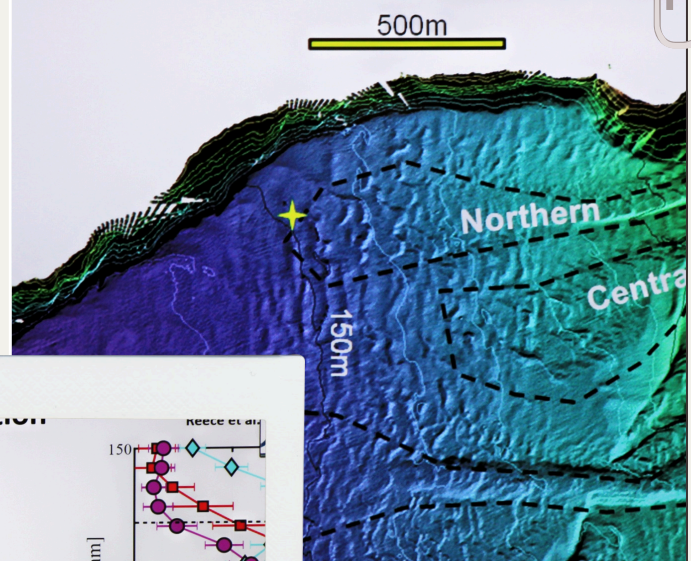
### EXPLORATION OF THE CONTROLS THAT SET THE SHAPE OF SUBMARINE FANS AND THEIR STRATIGRAPHIC ARCHITECTURE



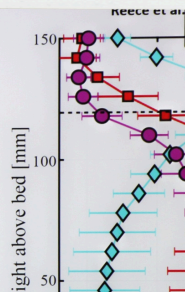
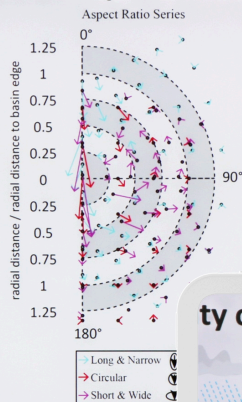
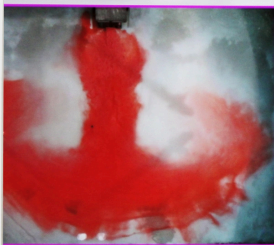
*Kyle Straub*

#### of modern submarine fans (high-gradient)

Hughes Clarke et al 2012 (a, b)



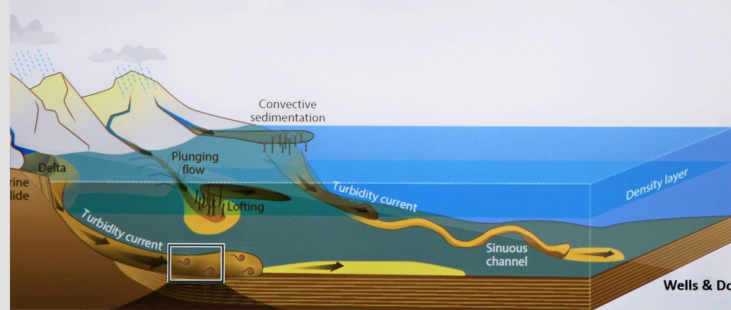
#### Effect of minibasin platform shape on circulation



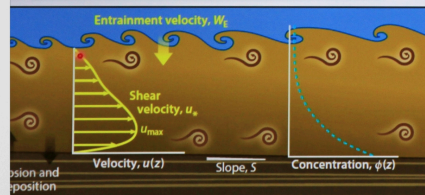
$$\Gamma = \sum_{i=0}^n \overline{\Omega_i} A$$

- Average
- Result

#### Turbidity currents vs. rivers



Wells & Dorrell 2020

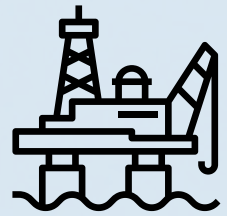


- Velocity max at about 1/3<sup>rd</sup> flow th (Rivers have velocity max at top of)
- Result of ambient fluid density being to current density (Ratio of current ambient fluid density is > 800 for ri



# DRILL BITS

## OFFSHORE GULF OF MEXICO SHELF AND DEEPWATER ACTIVITIES BY AL BAKER



During November 2024, the Bureau of Safety and Environmental Enforcement (BSEE) approved 58 Gulf of Mexico (GoM) drilling permits. Six of the permits were for shelf wells, and the remaining 52 permits were for deepwater wells. There were 2 new well permits issued in deepwater.

The deepwater new well permits were for 2 exploration wells. LLOG Exploration & Production obtained a permit for their Mississippi Canyon 629 #1. BP Exploration & Production received a permit for their Green Canyon 584 #1 well.

On November 29th, S&P Global Petrodata indicated that the GoM mobile offshore rig supply stood at 48, which is the same as last month. The marketed rig supply consisted of 35 rigs, of which 25 were under contract. The marketed rig supply was also the same as last month, and the contracted rig supply was 1 less than last month. The marketed contracted versus total rig supply utilization rate stood at 52.1%, and the marketed contracted versus marketed supply utilization rate stood at 71.4%. By comparison, the November 2023 total fleet utilization rate stood at 80.6% with 36 rigs in the marketed supply out of the 49 rigs in the fleet.

On November 27th, Baker Hughes reported that there are 12 active mobile offshore rigs in the GoM, which is 2 less than last month and 48% of the rigs under contract mentioned above. Currently, all 12 of the rigs are drilling in deepwater. The deepwater rigs include 5 rigs in the Mississippi Canyon Area, 2 rigs in the Green Canyon Area, 2 rigs in the Alaminos Canyon Area, and 1 rig each in the Walker Ridge, Keathley Canyon and Garden Banks Areas.

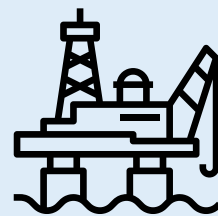
On November 27th, the Baker Hughes total U.S. rig count stood at 582 rigs, which is the 3 less than at the end of October 2024. Of the 582 rigs, 477 (82%) are oil rigs and 100 (17.2%) are gas rigs. Five rigs are listed as miscellaneous. Of the 582 wells being drilled, 521 (89.5%) are horizontal and 16 (2.7%) are vertical. A year ago, there were 625 rigs working in the U.S. inferring that the current 43 rig decline corresponds to an 6.9% decrease in rigs year over year. Nationally, Texas has the largest number of rigs with 281, which is 48.3% of the total number of rigs in the U. S. Louisiana currently has a total of 30 rigs, which is 6 less than last month. Louisiana ranks fourth behind New Mexico, which has 102 rigs and Oklahoma, which has 44 rigs.

On November 7th, Karoon Energy Ltd. confirmed a discovery in the Who Dat South exploration well operated by LLOG Exploration Company LLC. Karoon announced that there were several hydrocarbon-bearing sandstone intervals through the objective Miocene section. The well was directionally drilled from Mississippi Canyon Block 589 into Mississippi Canyon Block 545 in an approximate water depth of 2,500 feet. The well is located roughly 6.8 miles west of the Who Dat Floating Production System.



# DRILL BITS

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

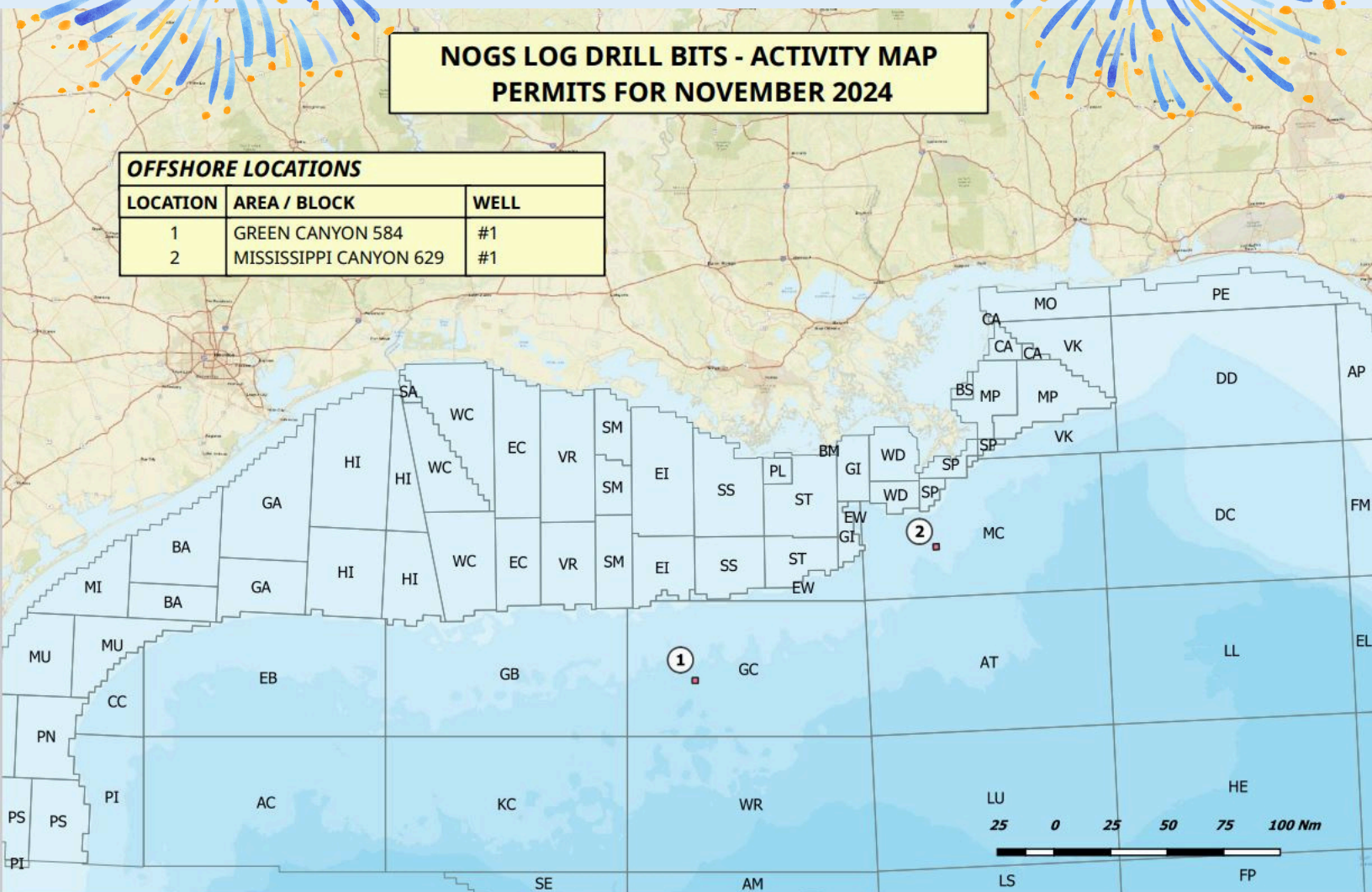


# 2025

## NOGS LOG DRILL BITS - ACTIVITY MAP PERMITS FOR NOVEMBER 2024

### OFFSHORE LOCATIONS

LOCATION	AREA / BLOCK	WELL
1	GREEN CANYON 584	#1
2	MISSISSIPPI CANYON 629	#1



# Happy New Year



# Recent Energy Headlines

## *January 2025 Recap*

**1/2/2025 - Biden to Ban More Offshore Oil Drilling Before Trump Arrives** - President Joe Biden is preparing to issue a decree permanently banning new offshore oil and gas development in some US coastal waters, locking in difficult-to-revoke protections during his final weeks in the White House. Biden is set within days to issue the executive order barring the sale of new drilling rights in portions of the country's outer continental shelf, according to people familiar with the effort who asked not to be named because the decision isn't public. [Read Full Article](#)

**1/3/2025 - AccuWeather Says Deep Freeze Could Impact Northeast Natural Gas Production** - AccuWeather expert meteorologists say several Arctic blasts will send waves of bitterly cold air across much of the eastern United States starting this weekend. That's what a media advisory sent to Rigzone by the AccuWeather team this week stated, adding that the "deep freeze could impact natural gas production and operations in the Northeast". [Read Full Article](#)

**12/30/2024 - Karoon shares gain as drilling commences at Who Dat West** - Karoon said drilling at the Who Dat West exploration well will take around 50 days to drill and evaluate. An independent expert has estimated that the prospect contains 77 million barrels of oil equivalent (MMboe), with Karoon's share totalling 21.6 MMboe on a net revenue interest basis. Karoon — which shares the Who Dat West joint venture with US companies LLOG, Westlawn Americas Offshore and Houston Energy — said the geological probability of success has been assessed at 36%. [Read Full Article](#)

**12/25/2024 - Scalise, Brady Highlight Critical Role of Tax Policy for U.S. Energy in 2025** - Tax policy will be an important issue in 2025, which is why advancing sensible policies is integral to API's Five-Point Policy Roadmap – an action plan for the new Congress and incoming Trump administration to secure American energy leadership and help reduce inflation. The roadmap cites the need for "sensible" tax policies because they affect where financial capital goes. America's tax policy toward energy development must be competitive with other countries, because capital flows where it is welcome. This is critically important considering the U.S. oil and natural gas industry supports nearly 11 million jobs and is responsible for billions in domestic investment. [Read Full Article](#)

**12/20/2024 - Louisiana Operator Survives Forfeiture of Right to Recover Drilling Costs** - In *Mistretta v. Hilcorp Energy Company*, unleased mineral owner Mistretta sued Hilcorp alleging failure to provide requested production and well cost information pertaining to an oil well operated by Hilcorp. The well was in a unit established in accordance with the Louisiana Conservation Act. The issue: Do La. R.S 30:103.1 and 103.2 require one notice or two before the operator loses its right to recover costs from the owner? Under the Act, each mineral owner in a drilling unit is responsible for its share of development and operation costs. To prevent free riding, the Act provides a mechanism for sharing the risk that the well, once drilled, will not produce enough to cover drilling costs. If the operator gives the opportunity to participate in drilling the well and the unleased mineral owner declines, the operator can recover out of production the nonparticipating owner's share of drilling costs. [Read Full Article](#)



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The New Orleans Geological Society was organized on October 3, 1941, as a non-profit organization for the purpose of facilitating the development of the profession and science of Geology, with specific emphasis to exploration and production of petroleum and natural gas. Secondary related objectives include the dissemination of pertinent geological and environmental technological data, and the maintenance of a high standard of professional conduct of its members. The full history of the Society can be found at [nogs.org](http://nogs.org).

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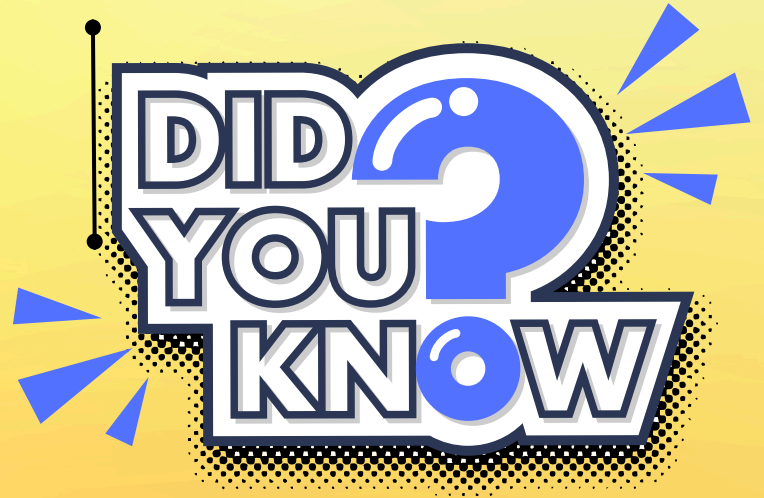
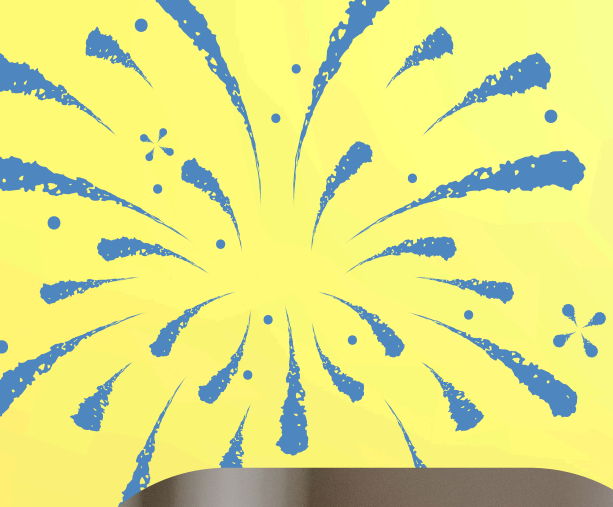
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## SPE DELTA SECTION 2024-2025 SCHEDULE

January 2025 Meeting: LSU's new Chair of the Craft & Hawkins Petroleum Engineering Department, David Schechter will speak on Thursday, January 23, 2025 on the Northshore. Location is still being finalized. A light lunch will be provided. It is free.

February 2025 Meeting: SPE Distinguished Lecturer Kåre Langaas, Aker BP ASA will lecture on "Designing Optimal Wells with Inflow Control Technology." He will speak on February 4, 2025 at the Viking office. A light lunch will be provided. It is free.

March 14, 2025, Friday, SPE Delta Golf Tournament at Carter Plantation, Springfield, LA. Matt Wandstrat is coordinating. For more golf information contact  
[Matt.wandstrat@gmail.com](mailto:Matt.wandstrat@gmail.com).

March, April and May 2025 meetings are in progress. Stay tuned. For more information contact Mary O'Neill at [cyberbrat@msn.com](mailto:cyberbrat@msn.com).

Thanks for your support of our events.