

NCGS LOG

AUGUST 2022
Volume 63 No. 2



On the Cover

Cannon Beach is a small coastal city in northwest Oregon. It's known for its long, sandy shore. Standing tall in the ocean, Haystack Rock is a seasonal haven for tufted puffins. On a headland to the north, trails in Ecola State Park offer sweeping views of the ocean, coves and a lighthouse. Towards the south is Arcadia Beach, with tide pools and a picnic area. Nearby Hug Point has sea caves. Boutiques and galleries dot downtown Cannon Beach.



From the Editor...

My name is David Reiter and I am the new NOGS Log Editor for the next NOGS fiscal year (until next June 2023). I am replacing Emmitt Lockard who did a superb job organizing and editing each monthly NOGS Log to extremely high standards. Thanks Emmitt.

By way of introduction, I have been a member of NOGS since 1981 (41 years!) and have served on the NOGS Board of Directors, the NOGS Memorial Foundation Board, and numerous NOGS committees. I've seen tremendous changes in the petroleum industry in that time, especially in the New Orleans area with the consolidation of most companies to Houston. Our NOGS membership is only about 20% of what it used to be at its peak, but our commitment to fulfilling our goals for the Society remains strong, as stated in the NOGS Bylaws, "facilitating the development of the profession and science of Geology." We do this through several activities for all ages, including children's museum events, secondary and high school science fairs, college scholarships, and NOGS sponsored seminars, field trips, and monthly technical luncheon presentations. Our original emphasis was geared more toward the petroleum industry, but in recent years NOGS has embraced the increasingly important disciplines of coastal restoration and environmental geology. Even though NOGS is much smaller than in the past, we remain an active, committed and vibrant Society. With this in mind, the NOGS Board would like to hear from you, whether you're a NOGS member or not. Please send us any helpful suggestions, criticisms, or innovative ideas about how we can best serve the geological community. Email us at editor@nogs.org. Try to stay cool this summer!



David Reiter
2022/2023 NOGS LOG Editor



A MESSAGE FROM 2022/2023 NOGS PRESIDENT

DOUGLAS BRADFORD

To all members and friends of the New Orleans Geologic Society:

In August NOGS will take a short recess from our regular speaker series and turn all attention towards hosting the Geology Seminar and Virtual Field Trip Day at the Gulf of Mexico Deepwater Technical Symposium that will take place beginning Monday August 22 through Wednesday August 24 at the New Orleans Marriott, Warehouse Arts District.

The seminar and workshop will be run by Dr. John Snedden, Director, Gulf Basin Depositional Synthesis Project Institute for Geophysics, University of Texas Austin, who will speak about depositional evolution and petroleum applications in the Gulf of Mexico. This is FREE to students with the help of the NOGS Foundation.

The API luncheon will be mid-day and then in the afternoon NOGS will run a virtual field trip of Louisiana Salt Mines for those interested in only participating in a 3-hr event. The field trip will be offered in-person at the New Orleans Marriott Convention Center Hotel with live speakers from the Louisiana DNR and will also be broadcast virtually for a wider audience. Attendees will be eligible to earn CEUs.

NOGS will have a booth at the conference and everyone is invited to stop by and visit. You can register for any of these events directly on our NOGS website: <https://www.nogs.org/events>.

We are looking forward to our fall meeting in September. There have been a number of suggestions that we hold the meetings at some different locations, including Mandeville, Covington, Slidell and Metairie. Information of possible meeting locations is being gathered and more information regarding the location of the September meeting and speaker will be announced in the near future.

As always, a reminder of dues renewal if you haven't already done so, \$35.00 for Regular membership and \$15 for Student membership. I encourage you to pay your dues and to give consideration to adding a special donation to the Memorial Foundation to help us continue our worthwhile local community, university, and education programs.

**Best regards,
Doug Bradford
2022-2023 NOGS President**





August - No Meeting for the Month

Attend the following:

- **Deep Water Tech Symposium**
- **NOGS GeoScience Seminar**
- **Virtual Field Trip**

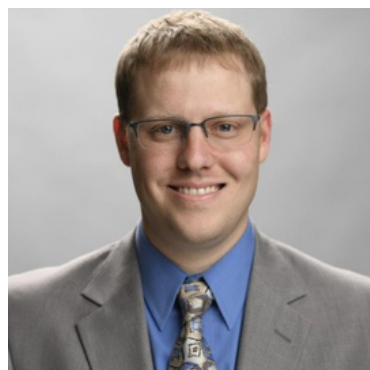


NOGS September Meeting

Zea's Restaurant - Northshore

Monday, September 12, 2022

11:30 am



David Schneider

Presents:

**Connectivity and Completion
Strategy for a Multi-Well Subsea
Tieback in the
Deep Water Spruance Field**



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Opening Geoscience Seminar

Monday, August 22, 2022

8:00 am - 3:30 pm

Marriott Convention Center

25th Annual Gulf of Mexico
Deepwater
Technical Symposium

**THE GULF OF MEXICO SEDIMENTARY
BASIN: DEPOSITIONAL EVOLUTION
AND PETROLEUM APPLICATIONS**



One Day Seminar Registration Fees
\$120 Seminar Only

\$170 Seminar and API Luncheon

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registration when registered using
school email address

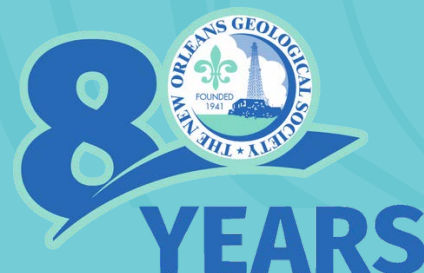
Dr. John W. Snedden
UT-Austin GBDS

REGISTER HERE

Student Registration Provided by:



NEW ORLEANS
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The New Orleans Geological Society

Virtual Field Trip

Geologic Aspects of Underground Injection Control (UIC) in Louisiana

**Special guest: Louisiana Department of Natural Resources,
Office of Conservation - Injection and Mining Division**

August 22, 2022

1:30-4:30PM | \$20 per person

**Registrants may also attend an in-person group session at
the Marriott Convention Center**

Geologists can earn 3 hours continuing education credit



25th Annual Gulf of Mexico
Deepwater
Technical Symposium



PICTURE FROM THE PAST



April 12, 1997 – NOGS Field Trip to Old River Control Structure in Morganza, LA. The Field Trip was organized and led by Dr. Dale Easley of UNO Geology Department.

*Submitted by
Ed Picou, Chairman - Historical Committee*

advertising rates

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.

The NOGS LOG is now a digital magazine with live links to your site to reach NOGS Members and support your Society. Please contact Christy Himel admin@nogs.org for placement availability. Full page NOGS LOG advertisers will have their Company LOGO posted on the NOGS Website front page. All advertisers are included on the Society's monthly PowerPoint and listed on the website with a link to their home page. Please check out our website www.nogs.org

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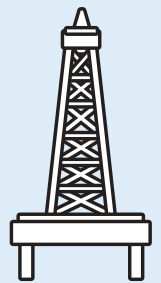
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JASON BOURGEOIS

DRILL BITS

OFFSHORE GULF OF MEXICO SHELF AND
DEEPWATER ACTIVITIES
BY AL BAKER



During June 2022, the Bureau of Ocean Energy Management (BOEM) approved 82 Gulf of Mexico (GoM) drilling permits. Twenty-one of the permits were for shelf wells, and the remaining 61 permits were for deepwater wells. There were 4 new well permits issued in deepwater.

The four deepwater new well permits were for 1 development well and 3 exploration wells. Shell Offshore received all 4 new well permits that included their Mississippi Canyon 657 #C-5 development well in their Coulomb Field and their Alaminos Canyon 772 #WS-301, WS-303 and #WS-403 exploration wells in their Whale Field.

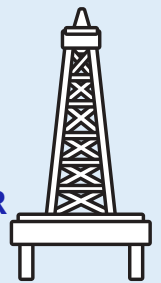
On June 24th, IHS-Petrodata indicated that the GoM mobile offshore rig supply stood at 45, which is 1 less than last month. The marketed rig supply consisted of 33 rigs, of which 27 were under contract. The marketed rig supply and the contracted rig supply number were also 1 less than last month. The marketed contracted versus total rig supply utilization rate remained at 73.3%, and the marketed contracted versus marketed supply utilization rate stayed at 81.8%. By comparison, the June 2021 total fleet utilization rate stood at 55.4% with 31 rigs under contract out of the 56 rigs in the fleet.

On June 24th, Baker Hughes reported that there are 15 active mobile offshore rigs in the GoM, which is the same as last month and 55.6% of the rigs under contract mentioned above. Currently, 2 rigs are drilling on the shelf, and 13 rigs are drilling in deepwater. They include 7 rigs in the Green Canyon Area, 5 rigs in the Mississippi Canyon Area and 1 rig each in the Garden Banks, Main Pass and Eugene Island Areas.

On June 24th, the Baker Hughes total U.S. rig count stood at 753 rigs, which is 26 more rigs than reported at the end of May 2022. Of the 753 rigs, 594 (78.9%) are oil rigs and 157 (20.8%) are gas rigs. Two rigs were listed as miscellaneous. A year ago, there were 470 rigs working in the U.S. inferring that the current rig figure represents an 60.2% increase in rigs year over year. Presently, Texas continues to have the largest number of rigs with 362, which is 48.1% of the total number of rigs in the U. S. Louisiana currently has a total of 63 rigs, which are 2 more than last month. Louisiana is ranked third behind New Mexico, which currently has 111 rigs.

DRILL BITS

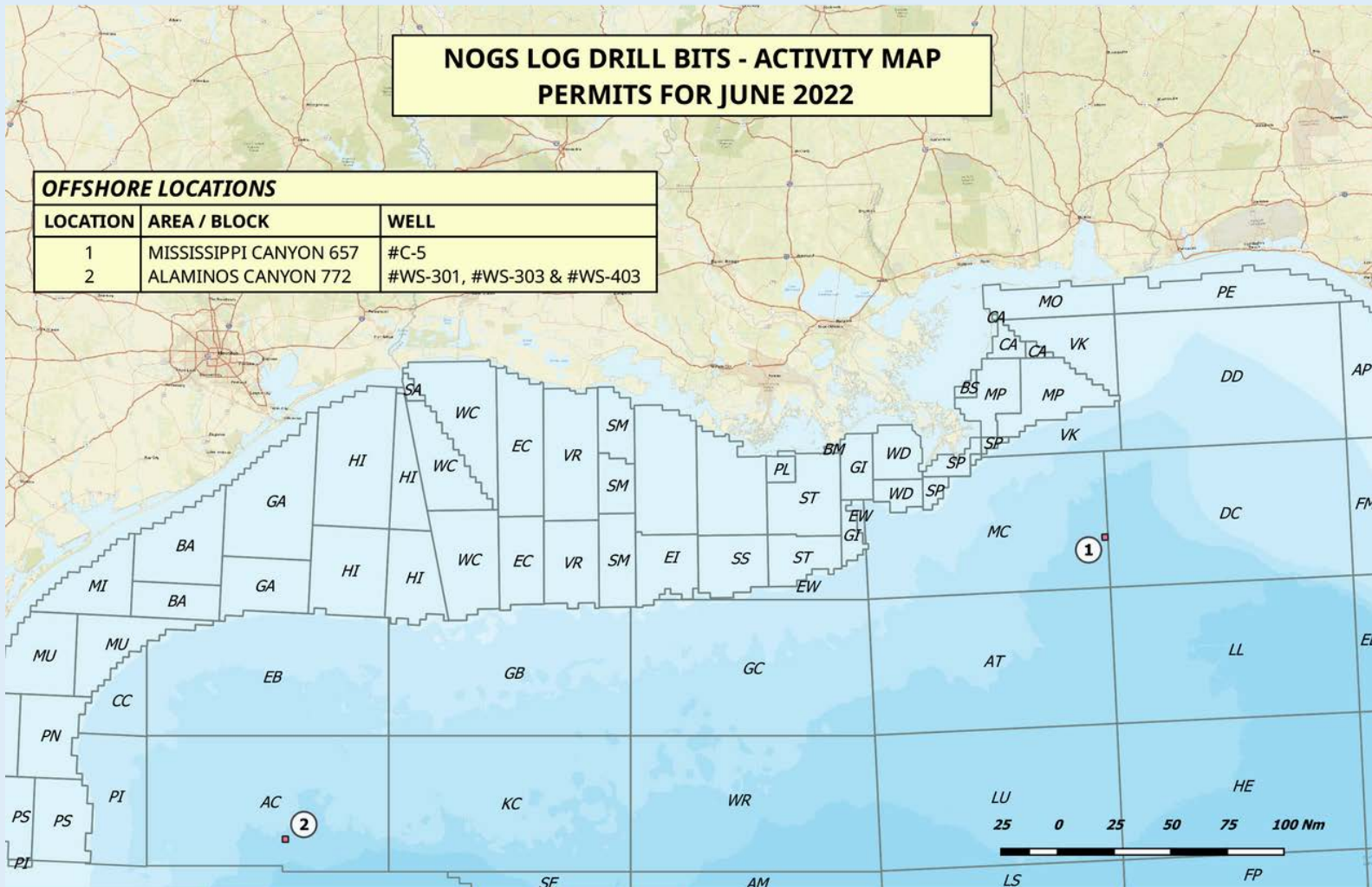
OFFSHORE GULF OF MEXICO SHELF AND
DEEPWATER ACTIVITIES MAP BY KEVIN TROSCLAIR



NOGS LOG DRILL BITS - ACTIVITY MAP PERMITS FOR JUNE 2022

OFFSHORE LOCATIONS

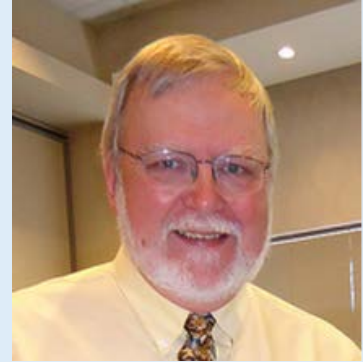
LOCATION	AREA / BLOCK	WELL
1	MISSISSIPPI CANYON 657	#C-5
2	ALAMINOS CANYON 772	#WS-301, #WS-303 & #WS-403



NOGS July 2022

Meeting

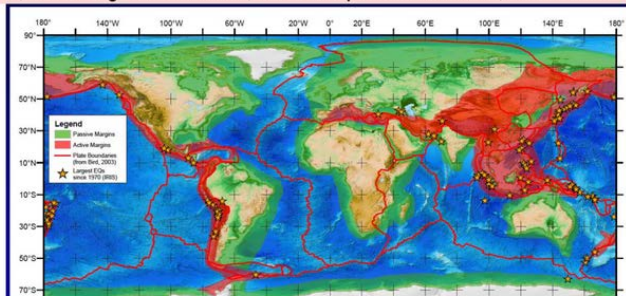
GLOBAL CONVENTIONAL EXPLORATION HOTSPOTS IN 2022



Presented by: John Dribus

Importance of Passive Margins

Active margins are hotter (gas window), compressional faults with lower porosity and perm, more diagenesis/cement, more compartmentalization, and smaller reservoirs.



Passive margins are cooler (oil window), extensional faults with open porosity and perm, less diagenesis/cement, large accommodation space, and larger reservoir volumes.

Dribus Geologic Consulting, LLC.
July, 2022

Modified From Paul Mann, University of Houston, 2014

KEY Exploration Hot Spots for 2021-2022

1. **Equatorial South America:** Guyana and Suriname >15 Bboe.
2. **Brazil Pre-salt & Equatorial:** Santos/Campos Basins, Ceara, FDA.
3. **S Africa/Namibia** (Venus-1)/**Angola:** (Outinequa and Orange Basins).
4. **Eastern Mediterranean:** Egypt, Cyprus, Lebanon, Israel.
5. **UK & Norway & Netherlands:** Barents Sea, N.Sea, Norwegian Sea.
6. **Ghana, Cote d Ivoire, Gabon, Sao Tome & Principe, Nigeria** UDW.
7. **Indonesia, Malaysia, Australia and Viet Nam.**
8. **E. Canada:** Newfoundland/Nova Scotia.
9. **Mexico DW Gulf of Mexico:** Perdido, Campeche, Sureste Basins
10. **USA Gulf of Mexico and Alaska:** Mio/Plio, Jurassic, and L Tertiary

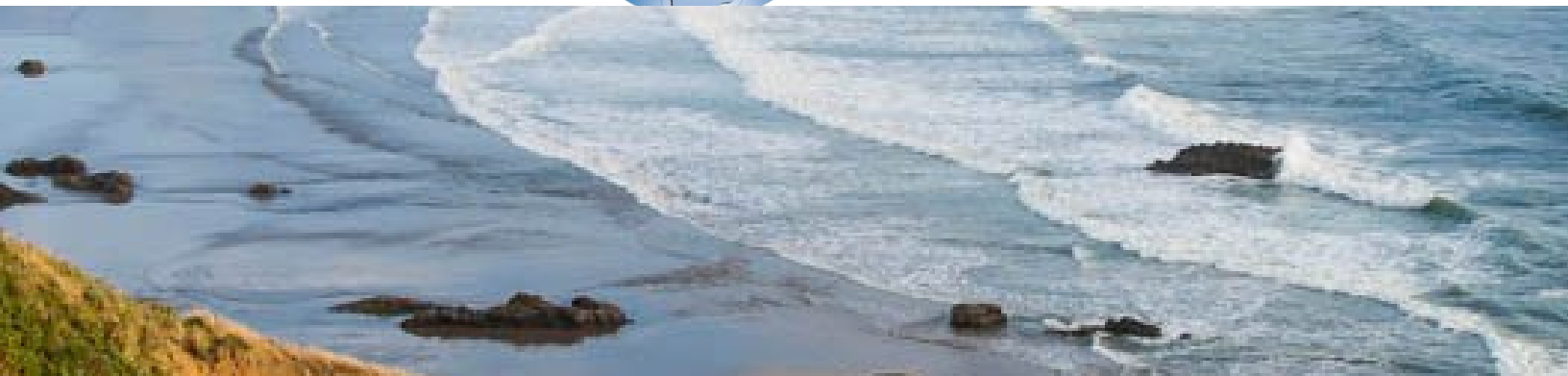
Dribus Geologic Consulting, LLC.
July, 2022

KEY Exploration Hot Spots for 2021-2022

1. **India, Pakistan, and Myanmar**
2. **E. Caribbean:** Colombia, Trinidad & Tobago, and Jamaica.
3. **Kenya, Tanzania, Mozambique, Madagascar.**
4. **Mauritania, Senegal, Gambia, Guinea Bissau.**
5. **Argentina, Malvinas/N Falkland Island Basin.**
6. **Uruguay Pelotas Basin** UDW.
7. **Italy, Montenegro, Malta.**
8. **Algeria.**
9. **Morocco.**
10. **Black Sea (Turkey) and Caspian Sea (Azerbaijan).**

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July, 2022

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Founded March 14, 1978, the mission of the New Orleans Geological Society Memorial Foundation is to promote earth science related or scientific purpose by granting of scholarships to outstanding Geology students at the universities in Southeast Louisiana having a comprehensive curriculum and 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 is defined as the area encompassing New Orleans, Jefferson, Plaquemines, St. Bernard and St. Tammany Parishes.

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Recent Energy HeadlinesJuly 2022 Recap

7/1/2022 - Supreme Court curbs EPA authority to regulate fossil fuels - The U.S. Supreme Court handed down a highly anticipated opinion on Thursday that curbed the U.S. Environmental Protection Agency (EPA)'s power to regulate fossil fuels. The decision in *West Virginia v. Environmental Protection Agency* is expected to prove consequential for both U.S. and global ambitions to reduce carbon emissions. [Read Full Article](#)

7/3/2022 - Chevron, More Oil Companies Push Back on Biden's Warning Letter - Chevron this week released a statement addressing President Joe Biden's letter to oil companies that suggested he may take executive action amid record-high gas prices. "We understand the significant concerns around higher fuel prices currently faced by consumers around the country, and the world. We share these concerns, and expect the Administration's approach to energy policy will start to better reflect the importance of addressing them," Chevron said in a statement to Biden. [Read Full Article](#)

7/13/2022 - Interior secretary encouraged to halt all offshore oil, gas lease sales - Interior Secretary Deb Haaland got a strong push July 13 from a Senate subcommittee chairman to end all new lease sales for oil and gas in federal offshore waters. [Read Full Article](#)

7/21/2022 - Earth's Wobbly Inner Core Illuminated by Nuclear Explosions - Shock waves from Cold War era nuclear tests gave seismologists a glimpse of Earth's inner core. Its wobbly rotation could explain phenomena such as the periodic change in the length of a day. Earth's inner core is a ball of solid metal as hot as the surface of the Sun, rotating in a molten tempest of iron and nickel—Hades, if ever there were one. The sphere is ever growing as the surrounding liquid outer core slowly cools and crystallizes, driving convection and the geodynamo, which provides Earth's magnetic field. [Read Full Article](#)

7/21/2022 - ConocoPhillips Considers Exiting U.S. Gulf Of Mexico - ConocoPhillips is considering a potential sale of its minority stake in a Shell-operated oil and gas platform in the U.S. Gulf of Mexico, which would mark the exit of ConocoPhillips from U.S. offshore operations, sources with knowledge of the deliberations told Reuters. ConocoPhillips has already hired a financial advisory for the potential sale of its 15.96-percent stake in the Ursa platform. A deal for ConocoPhillips's stake in Ursa and the Princess well is expected to be valued "in the high hundreds of millions of dollars," two of the sources told Reuters. [Read Full Article](#)

7/25/2022 - Shell to divest US Gulf of Mexico oil and gas assets to raise \$1.5bn - The firm has recently launched the auction process for its Auger production hub and stake in the Conger field. Shell is planning to divest its stakes in two oil and gas development projects located in the US Gulf of Mexico for as much as \$1.5bn, Reuters reported, citing people familiar with the development. [Read Full Article](#)

TOP 10 REASONS TO JOIN NOGS

1

Proclaim your professionalism

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

2

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.

3

Advertise your integrity

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

4

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.

5

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.

6

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.

7

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.

8

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.

9

Play a part in elevating the status of geosciences.

Your membership in NOGS and your dedication to geoscience elevates the entire profession.

10

Do it for YOURSELF!

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



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about these
resources available



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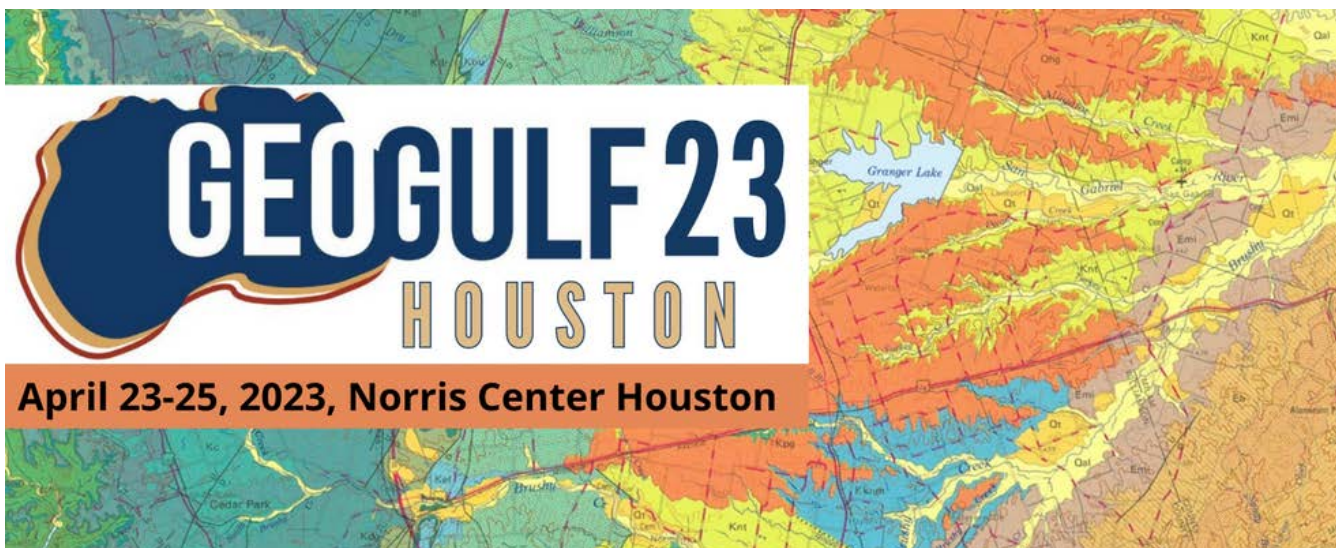
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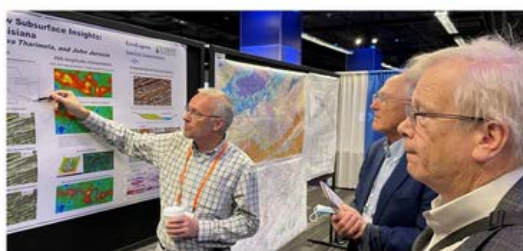
Present a talk or poster on Gulf Coast geoscience

Abstract deadline: December 15, 2022

submit title and 300 words to linda.sternbach@gmail.com



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The Gulf of Mexico Sedimentary Basin

Depositional Evolution and Petroleum Applications

John W. Snedden

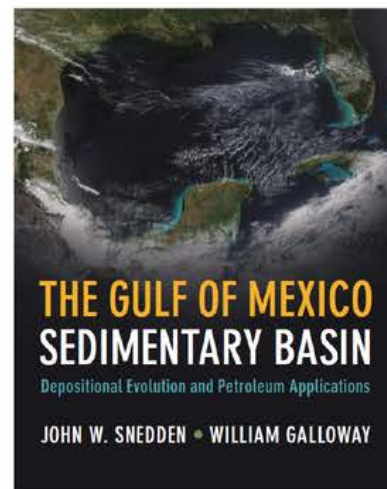
University of Texas, Austin

William E. Galloway

University of Texas, Austin

The Gulf of Mexico Basin is one of the most prolific hydrocarbon-producing basins in the world, with an estimated endowment of 200 billion barrels of oil equivalent. This book provides a comprehensive overview of the basin, spanning the US, Mexico and Cuba. Topics covered include conventional and unconventional reservoirs, source rocks and associated tectonics, basin evolution from the Mesozoic to Cenozoic Era, and different regions of the basin from mature onshore fields to deep-water subsalt plays. Cores, well logs and seismic lines are all discussed providing local, regional and basin-scale insights. The scientific implications of seminal events in the basin's history are also covered, including sedimentary effects of the Chicxulub Impact. Containing over 200 color illustrations and 50 stratigraphic cross-sections and paleogeographic maps, this is an invaluable resource for petroleum industry professionals, as well as graduate students and researchers interested in basin analysis, sedimentology, stratigraphy, tectonics and petroleum geology.

Part I. Introduction: 1. Introduction: tectonic and stratigraphic framework; Part II. Mesozoic Depositional Evolution: 2. Post-orogenic successor basin-fill and rifting phase; 3. Middle Mesozoic drift and cooling phase; 4. Late Mesozoic local tectonic and crustal heating phase; Part III. Cenozoic Depositional Evolution: 5. Cenozoic depositional history 1: Paleogene Iaramide phase; 6. Cenozoic depositional history 2: Middle Cenozoic geothermal phase; 7. Cenozoic depositional history 3: Neogene tectono-climatic phase; 8. Cenozoic depositional synthesis; Part IV. Petroleum Habitat: 9. Gulf of Mexico petroleum habitat;



December 2019

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The Gulf of Mexico Sedimentary Basin: Depositional Evolution and Petroleum Applications. One-Day Short Course by Dr. John W. Snedden (UT-Austin GBDS)

Lecture 1/Chapter 1: Introduction and Basin Framework

- Presentations on **Gulf of Mexico** Tectonic and Stratigraphic Framework :identifying deep crustal types, and breaking down structural domains, discussion of three basin cycles with distinctive tectonostratigraphic aspects, and discussion of the related potential (or known) petroleum systems of the US and Mexico deep-water sectors.
- *Group Discussion:* basin scale cross-sections and depositional systems classifications

Lecture 2/Chapters 2-3-4: Mesozoic Depositional Evolution

- Presentation includes **Gulf of Mexico** Oxfordian Play (Norphlet in USA, Bacab (Jso) in Mexico illustrating how the Jurassic Aeolian Play developed from play concept to giant field discovery via paleogeographic maps and cross-sections, evolution of thinking on critical play elements.
- Source rock maturation and migration versus trap timing, seal quality; •

Exercise: CE343_10_Norphlet Deepwater Play evolution (see description below)

Lecture 3/Chapters 5-6-7-8: Cenozoic Depositional Evolution

- Early Cenozoic: Laramide orogeny Wilcox sandstones US and Mexico' Mid-Cenozoic thermal Phase
- Neogene Tectono-climatic Phase; Middle Miocene Chiapas tectonic event effects in Mexico
- *Group Discussion: Future of the Cenozoic Plays in the northern and southern Gulf of Mexico*

Lecture 4/Chapter 9: Petroleum Habitat

- Gulf of Mexico as a super basin; spatial and temporal distribution of hydrocarbons
- Frontier play: Cretaceous deep-water play (Tiber, Galapagos Deep)
- New trends and advances in GoM deepwater exploration and production (R. Meltz)
- *Group Discussion: Gulf of Mexico depleted traps and saline reservoirs as sites for carbon storage*

CE343_10: Norphlet Deepwater Play evolution

Summary: For the Mesozoic, the largest ultimate technically recoverable resources (UTRR) reside in the Jurassic Norphlet play, currently concentrated in the Desoto Canyon and Mississippi Canyon protraction blocks of the eastern Gulf of Mexico. Since the play was initiated with drilling of the Shiloh prospect (DC 269#1), 24 valid tests have made since 2003. This exercise affords the opportunity for participants to assess the success rates (GCOS and ECOS), cumulative discovered resources versus time, and success/failure metrics and their causes. The creaming curve for the Norphlet Play is compared to traditional play development histories including the Jurassic of the North Sea/Norwegian Sea and Miocene Play of the Kutei basin Indonesia, revealing important similarities and differences in exploration play development.

Textbook for course: **Snedden, J. W., and W. E. Galloway, 2019, The Gulf of Mexico Sedimentary Basin: Depositional Evolution and Practical Applications: Cambridge, United Kingdom, Cambridge University Press, 344 p., doi:10.1017/9781108292795.**

Instructor Short Biography

John W. Snedden

John W. Snedden is co-Director of the Gulf Basin Depositional Synthesis Project at the Institute for Geophysics, University of Texas at Austin. He received his B.A. from Trinity University (San Antonio), his M. S. at Texas A&M University (College Station), and Ph.D. from Louisiana State University (Baton Rouge). With multiple domestic and international assignments, he worked for Mobil and ExxonMobil for over 25 years in research, exploration, development, and production prior to joining UT. As a senior research scientist, he leads the University of Texas at Austin research project focused upon Gulf of Mexico Cenozoic and Mesozoic depositional systems in the US and Mexico, which is currently supported by 20 oil and gas exploration companies.

He co-edited SEPM Special Publication No. 64, *Isolated Marine Sand Bodies: Sequence Stratigraphic Analysis and Sedimentologic Interpretation*. John has published on modern and ancient lagoonal, fluvial, deltaic, shelfal, and deep-water deposits as well as sequence stratigraphic correlation and reservoir connectivity. He has won the SEPM Excellence in Oral Presentation award, the GCAGS Journal Best paper award and Al Levenson award from GCAGS. John recently gave a keynote address at the 2020 Mexican Basins conference for AAPG. He has published over 30 papers on the Gulf of Mexico Basin, both US and Mexico.

John is lead author of the new book *The Gulf of Mexico Sedimentary Basin: Depositional Evolution and Petroleum Applications* published by Cambridge University Press, with William Galloway, co-author.

In October of 2021, Dr. Snedden received the Doris Malkin Curtis Medal Award presented by the Gulf Coast Section of SEPM (Society of Sedimentary Geology), GeoGulf Conference, Austin, Texas. The medal reads: *Recognition for outstanding contributions to our understanding of the Gulf of Mexico Super Basin.*