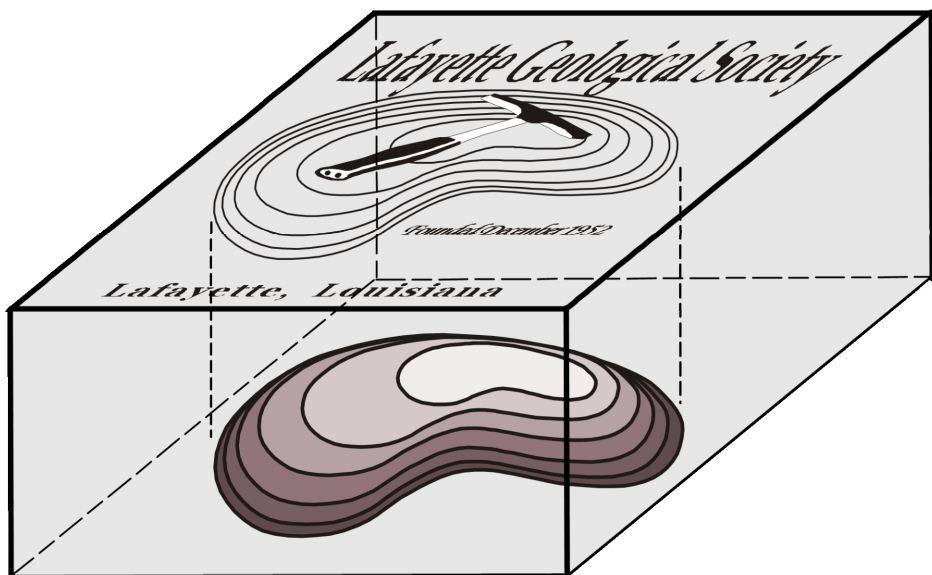


Lafayette Geological Society **BULLETIN**

Volume 62, No. 1

September 2017



LGS Luncheon Meeting
Wednesday, September 20, 2017
11:30 am – 1:00 pm
Lafayette Petroleum Club
Cost: \$20

Luncheon Presentation

**“The Role of Geology in the Failure of the Levees in
New Orleans during Hurricane Katrina”**

*Mary L. Gentry, P.G.
Louisiana Department of Environmental Quality,
Baton Rouge, Louisiana*

*Visit the LGS website at:
lafayettegeologicalsociety.org*

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2016–2017

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Website	John Boggs Stratagraph, Inc.	337-303-7026

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L–R (standing): Jennifer E. Hargrave – President; Lou Groth – Advisor; Raphaël Gottardi – President Elect; and W. R. (Bill) Finley – Auditing Chair.

**LGS Luncheon Meeting
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**“The Role of Geology in the Failure of
the Levees in New Orleans during
Hurricane Katrina”**

***Mary L. Gentry, P.G.
Louisiana Department of Environmental Quality,
Baton Rouge, Louisiana***

President's Column

Dear LGS Members:

The LGS Board would like to welcome you to the 2017–2018 year. I am excited to serve as your LGS President. I joined the UL geology faculty a year and a half ago, and appreciate this opportunity. We have a great board and truly believe it will be a great year. We have already begun planning the year, with several events and fundraisers in the works, and have the start of a great set of speakers. We are trying something new with the sponsorship, so please be sure to speak with Rudy Gibbs to determine which kind of sponsorship you would like to contribute. This will hopefully reduce the number of times we have to ask you for sponsorship.



As a reminder, please pay your annual dues if you have not already done so. If you are a lifetime member and not required to pay dues, please consider making a Cornerstone donation instead. If you would like to do both, we would gladly accept your donations.

The Fall will be a busy one, as usual. Here is a list of our upcoming activities:

- LGS Luncheon, Wednesday, September 20, at the Petroleum Club. Mary Gentry will discuss “The Role of Geology in the Failure of the Levees in New Orleans during Hurricane Katrina.”
- LGS/SWGLS BBQ and Icebreaker, Thursday, September 28, at Vermilionville beginning at 6 pm. All ages are welcome. Tickets are \$20. Proceeds from the BBQ will be donated to the UL Geology “Field Camp Fund” to help defray the cost for students to attend the camp. With your help, LGS will continue to support UL Geoscience. If you or your company has sponsored this event in the past, please consider sponsoring again this year. Your continued support is greatly appreciated. You can purchase tickets online or at the September luncheon.
- LAGCOE, Tuesday-Thursday, October 24–26. For more information, see their website: <http://www.lagcoe.com/home-expo>.
- LGS LAGCOE Breakfast, Wednesday, October 25, at 7 am. This will take the place of our monthly luncheon. UL students will present posters.

(continued on [page 12](#))

LGS
CORNERSTONE MEMBERSHIP

LGS wishes to thank its **Cornerstone Members** for their annual financial support of speaker programs, continuing education, UL-Lafayette scholarships, social functions, and community services.

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Joe R. Klutts
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Lafayette Geological Society

2017-2018 Sponsorship & Advertising Changes

Friends of the Lafayette Geological Society,

As many of you know, the Lafayette Geological Society has four main objectives. They are to advance Geology as a Science and profession, to encourage cooperation and fellowship between all members and others interested in geological problems, to foster higher standards of education and ethics among members and students, and to encourage public appreciation of the utility and application of geologic science. We try to accomplish these objectives through a series of activities and events scheduled throughout the year. In doing so we incur a number of expenses. If you have contributed to these activities in the past we thank you for your generosity and hope that you will consider continuing your support of the LGS in these tough times. For those that have not yet had the opportunity to lend support we hope that you will consider helping us provide these services to our Geoscience community and encourage the education and interest in the Geosciences. Rather than soliciting sponsorship throughout the year as money is needed for upcoming events we would like to send you a list of the events planned for the year (listed below) and ask you to consider making a donation towards these activities. Also, the LGS board has decided to no longer sell advertising space. Instead, in return for your sponsorship you will receive free advertising space in our bulletin and webpage. In addition, you will be recognized for your level of support at all of our activities including our monthly meetings.

Thank you for your consideration and your continued support of the LGS. If you have any questions, please contact Rudy Gibbs at (337) 521-2174.

Event	Average Expense
<i>Operating Expenses</i>	<i>\$5,160</i>
<i>Student Lunches</i>	<i>\$4,170</i>
<i>Annual BBQ</i>	<i>\$3,830</i>
<i>Local Student and School Support</i>	<i>\$1,700</i>
<i>Annual Crawfish Boil</i>	<i>\$1,340</i>
<i>Student – Professional Pizza Party</i>	<i>\$1,010</i>
<i>Golf Tournament</i>	<i>\$980</i>
<i>AAPG Delegation</i>	<i>\$970</i>
<i>Field Trip</i>	<i>\$900</i>
<i>Geology & Wine Talk</i>	<i>\$860</i>
<i>GCAGS Booth</i>	<i>\$560</i>



Lafayette Geological Society

2017-2018 Sponsorship & Advertising Changes

2017 – 2018 Lafayette Geological Society Sponsorship Form

Level of Support	Donation
<i>LGS Supporting Partner</i>	<i>\$100 - \$199</i>
<i>Bronze Level LGS Supporting partner</i>	<i>\$200 - \$299</i>
<i>Silver Level LGS Supporting partner</i>	<i>\$300 - \$449</i>
<i>Gold Level LGS Supporting partner</i>	<i>\$450 - \$599</i>
<i>Platinum Level LGS Supporting partner</i>	<i>\$600 & greater</i>

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Lafayette Geological Society Sponsorship
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Lafayette, LA 70505

Advertisements should be submitted in digital format (TIFF or PDF is preferred).

_____ **Check here if you have placed an advertisement with us in the past and have no changes.**

For additional details or information, please contact:

Rudy Gibbs
LGS Advertising Committee Chairperson
P.O. Box 51896
Lafayette, LA 70505
(337) 521-2174
gibbsrb@stoneenregy.com

SEPTEMBER LUNCHEON PRESENTATION

The Role of Geology in the Failure of the Levees in New Orleans during Hurricane Katrina

**Mary L. Gentry, P.G.
Louisiana Department of
Environmental Quality,
Baton Rouge, Louisiana**



Abstract

When Hurricane Katrina struck just east of New Orleans on August 29, 2005, it unleashed the most costly catastrophic failure of an engineered system in American history. Approximately 80% of the greater New Orleans area was flooded for nearly six weeks with up to 15 feet of water. Damage totals exceeded \$110 billion and the death toll in the New Orleans area alone was 1577. This was not a natural disaster, but rather a man-made engineering failure due to unrecognized geologic hazards. New Orleans is built on geologically young Holocene river deposits in one of the world's most dynamic, geologically active deltas. Much of the landscape lies within interdistributary basins formed between delta channels and is therefore underlain by highly organic and unconsolidated swamp and marsh deposits. From an engineering standpoint these deposits are poorly suited to support the loads imposed by adding structures such as levees to the surface. A subsurface feature known as the Pine Island Barrier Trend extends along the southeast shoreline of Lake Pontchartrain buried beneath 3–30 feet of delta sediments and is composed of sand, silty sand and seashells. These sediments are not subject to consolidation and shrinkage to the same degree as the surrounding delta sediments making the overlying land prone to differential subsidence, undermining structures built upon it. In addition to organic soils and differential subsidence, deep-seated faults that

underlie the area likely contributed to the failure of the levees. Geotechnical engineering failures included errors in the assessment of soil strength by averaging the data, failure to factor in subsidence rates into the structural elevation design, and linearly extrapolating stratigraphic contacts from soil data locations over one mile apart where the land is a product of delta switching and channel growth and abandonment cycles that result in dramatic changes in geology over short distances. Levee safety can best be improved by completing basic geology surveys supplemented by geophysical reconnaissance. Know the science before drawing lines on maps and building hard structures!

Biography

Mary Gentry was born and raised in New Orleans and received her B.S. degree in Geology from the University of New Orleans in 1990. She has worked as a geologist in water planning and assessment at the Louisiana Department of Environmental Quality since February of 1991 and is a licensed Professional Geoscientist in the State of Louisiana. She works with communities implementing Source Water/Wellhead Protection Programs statewide, evaluating hydrogeological data and educating water system operators and the public on drinking water protection. She received two awards from the U.S. EPA Region 6 for distinguished service in promoting statewide development of the Wellhead Protection Program. She was a co-developer of Louisiana's Source Water Assessment Program to assess the susceptibility of public water systems to potential contamination. She also serves on the Advisory Board of the Louisiana Water Resources Research Institute and served on Board of Directors of the Baton Rouge Geological Society.

2017-18 Dues are Due!!

Please make payments to LGS, P.O. Box 51896, Lafayette, LA 70505 to continue receiving the Bulletin or avoiding non-member lunch costs. Please see [p. 13](#) for membership dues amounts and LGS mailing address.

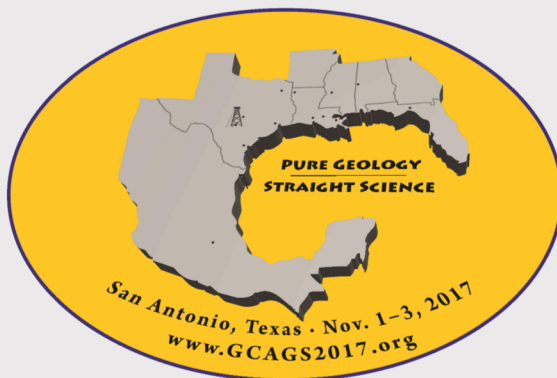
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GCAGS-GCSSEPM

2017

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win a Kindle E-Reader and dinner for two on the Riverwalk!*

For more information and sponsorship opportunities visit
www.GCAGS2017.org



L.G.S.

S.W.L.G.S

BAR-B-QUE ICE BREAKER

Thursday September 28, 2017 - 6 PM to 10 PM
@ Vermilionville (Next to Beaver Park)

Tickets (\$20/person) available from:

Lafayette GRC– 233-8197

201 Heymann Blvd.

Mack Energy Co – 988-9260

3861 Amb. Caffery Pkwy.

Stone Energy – 237-0410

625 E Kaliste Saloom Rd,

Acadian Log Library – 233-1430

117 Heymann Blvd.

ULL Geology Dept.

104 University Cr.

For additional Locations or information call John Hollier @ 781-8615

Sponsors Needed!! We are changing the way we fund events to recognize changes in the industry.
We hope that our changes benefit all members and companies that we serve.

Two drink tickets per attendee (beer or wine) Cash bar available.

***Sponsors will be recognized at ALL events, on the LGS website and in the LGS bulletin.**
Your Sponsorship is greatly appreciated!!!

Calendar of Upcoming Events

Sept. 20, 2017 — LGS: Lafayette Geological Society luncheon meeting, 11:30 am at the Petroleum Club in Lafayette — Mary L. Gentry, Louisiana Department of Environmental Quality, Baton Rouge, Louisiana, will present “The Role of Geology in the Failure of the Levees in New Orleans during Hurricane Katrina.”

Sept. 28, 2017 — LGS/SWLGS: Lafayette Geological Society/Southwest Louisiana Geophysical Society Annual BBQ, Vermilionville, 300 Fisher Rd., 6 pm to 10 pm — Please see [page 9](#) for more details.

Oct., 2017 — SGS: Southeastern Geophysical Society — No scheduled events as of press time. For further updates, please visit <http://sgs-neworleans.org/>.

Oct., 2017 — SPE: Society of Petroleum Engineers Evangeline Section — No scheduled events for October as of press time. For updates, please visit <http://www.spe-laf.org>.

Oct. 2, 2017 — NOGS: New Orleans Geological Society luncheon meeting, 11:30 am at the Holiday Inn, 330 Loyola Ave., New Orleans — Toby A. Roesler, Stone Energy Corporation, New Orleans, will present “Great White Field: A Near Perfect Petroleum System in the Perdido Foldbelt, Gulf of Mexico.” For abstract and biography, please visit <http://www.nogs.org/Content/pdf/events/2017/RoeslerAbstBio.pdf>.

Oct. 7, 2017 — NOGS: New Orleans Geological Society Kickoff Party, 4:30 pm to 7:00 pm, at Rock ‘n’ Bowl Lanes, 3000 S. Carrollton Ave., New Orleans — Please visit <http://www.nogs.org> for more information.

Oct. 10, 2017 — SWLGS: Southwest Louisiana Geophysical Society luncheon meeting, 11:30 am at the Petroleum Club in Lafayette — Speaker and topic not available as of press time. Please visit <http://www.swlgs.org/> for more information as the meeting date approaches.

Oct. 11, 2017 — SIPES: Society of Independent Professional Earth Scientists luncheon meeting, 11:30 am at the Petroleum Club in Lafayette — Speaker and topic not available as of press time.

Oct. 12, 2017 — SPWLA: Society of Petrophysicists and Well Log Analysts — Speaker and topic not available as of press time. Please visit http://www.spwla.org/SPWLA/Chapters_SIGs/Chapters/North_America/Lafayette/SPWLA/Chapters_SIGs/Chapters/North_America/Lafayette/Lafayette.aspx as the meeting date approaches for more information.

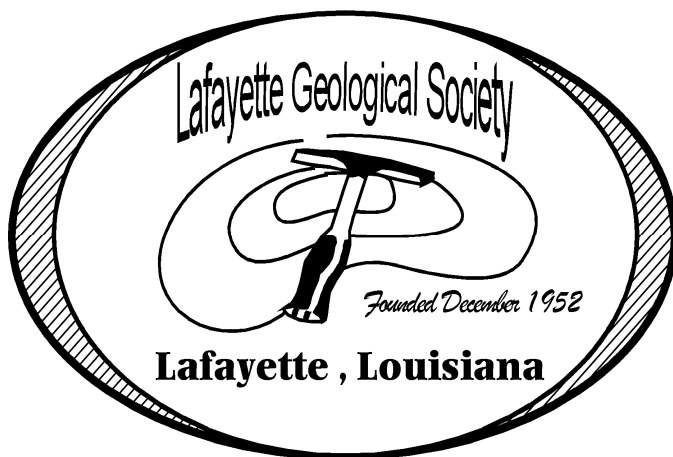
Oct. 13, 2017 — BRGS: Baton Rouge Geological Society luncheon meeting, 11:30 am at Mike Anderson Seafood Restaurant, 1031 W. Lee Drive, Baton, Rouge, Louisiana — Speaker and topic not available as of press time. Please visit <http://www.brgs-la.org/> for more information as the meeting date approaches.

Oct. 24-26, 2017 — LAGCOE: 2017 Louisiana Gulf Coast Oil Exposition at the Cajundome — For more information, please visit <http://www.lagcoe.com/home-expo>.

Oct. 24, 2017 — API: Acadiana Chapter of the American Petroleum Institute General Meeting Breakfast will be held on the opening morning of LAGCOE on Tuesday, October 24, 2017. The program is scheduled to begin at 7:30 am in the Cajundome Mardi Gras Ballroom. — Speaker will Todd Durkee, VP of Deepwater Drilling and Completions with Anadarko Petroleum Corporation. Topic not available as of press time. For more information, please visit http://www.apiacadiana.com/API_Acadiana_Chapter.html.

Oct. 25, 2017 — LGS: Lafayette Geological Society breakfast, 7:00 am at the Petroleum Club in Lafayette (Note that this alternative time and date will take the place of our regularly schedule luncheon meeting) — UL students will present posters. Specific speakers and topics are not available as of press time. For more information, please visit <http://lafayettegeologicalsociety.org> as the meeting date approaches.

Nov. 1-3, 2017 — GCAGS/GCSSEPM: 2017 Annual Gulf Coast Association of Geological Societies and Gulf Coast Section of the Society of Economic Paleontologists and Mineralogists, Marriott Rivercenter Hotel (101 Bowie St., San Antonio, Texas) — For more information, please visit <http://www.gcags.org>.



(continued on [page 2](#))

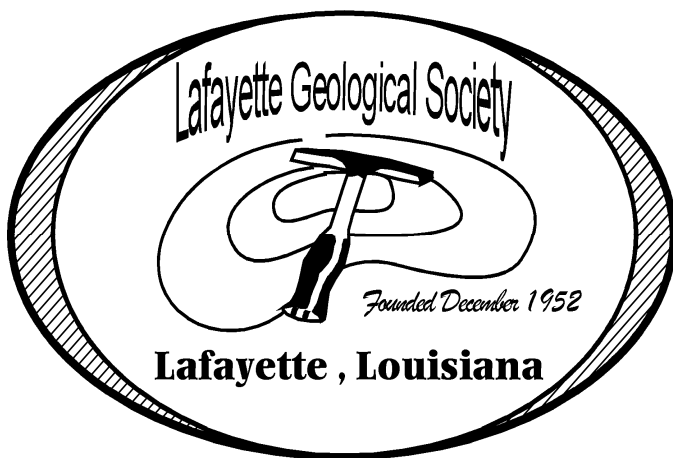
- 2017 GCAGS/GCSSEPM Annual Convention will be held Wednesday-Friday, November 1–3 in San Antonio, Texas. There are many field trips and short courses, as well, so be sure to check out their website: <http://www.gcags2017.org>.
- We are also planning a geosteering “Beer and Steer” event, a GIS-themed short course, and a mineral auction for the Fall. Stay tuned for more information to come for these events.

I am very excited to be your president and look forward to leading the society. I will do my best to serve the society. Be sure to let me know of any questions, concerns, or suggestions you may have.

Finally, as a little lagniappe, check out this website about worldwide geology research to either cure or drive your wanderlust: <http://www.travelingeologist.com>.

Sincerely,

Jennifer Hargrave



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Type Membership Approved: _____ Date: _____

Dues Amount: _____

Date Dues or Fee Received: _____

Membership Categories - Qualifications - Dues (Payable Yearly in May)

1. Student - Full Time Geology - \$5.00
2. Associate - No Geology Degree - \$20.00
3. Active - Geology Degree - \$20.00
4. Senior - Active who reaches age 65 - NO DUES
5. Honorary Life - Elected by Board (Active) - NO DUES

Each members' involvement in the Society is encouraged and any assistance with the areas below is welcomed. Please indicate if you are interested in serving on one (or more) of the following committees of the Lafayette Geological Society.

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Ballot
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P.O. Box 51896
Lafayette, LA 70505

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tduex@louisiana.edu*

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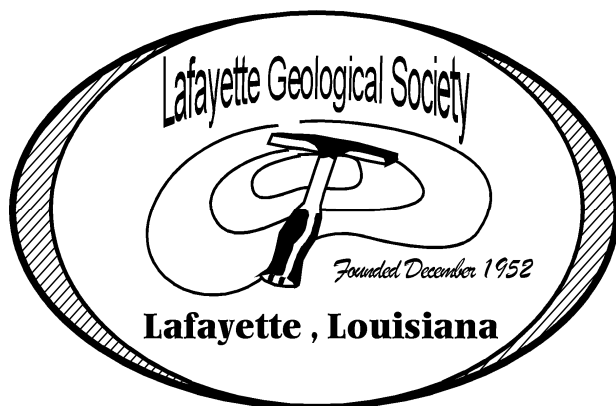
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