



Mississippi Department of Environmental Quality

Environmental News

The mission of the Mississippi Department of Environmental Quality is to safeguard the health, safety, and welfare of present and future generations of Mississippians by conserving and improving our environment and fostering wise economic growth through focused research and responsible regulation.

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Pruitt Approves \$26M to State of Mississippi for Gulf Coast Ecosystem Restoration Activities

In April, U.S. Environmental Protection Agency (EPA) Administrator Scott Pruitt sent a letter to Gary Rikard, Executive Director of the Mississippi Department of Environmental Quality (MDEQ) announcing his approval of approximately \$26 million for Gulf Coast restoration activities in Mississippi.

"I applaud the Mississippi Department of Environmental Quality on the development of a thoughtful and effective State Expenditure Plan Amendment," said EPA Administrator Scott Pruitt. "Our collective efforts under the RESTORE Act will help ensure the long-term health and resilience of the Gulf Coast ecosystem."

"We are grateful to Administrator Scott Pruitt, as Chair of the RESTORE Council, for approving Mississippi's State Expenditure Plan in a timely fashion so we can begin to implement crucial projects including the Remote Oyster Setting Facility project and the Mississippi Gulf Coast Water Quality Improvement Program," said Rikard. "These projects are a boost to our efforts to improve water quality on the Gulf Coast and the Mississippi Sound and to improve the production of natural oyster reefs and help restore oyster fishery production. Our restoration efforts are integrated for the overall improvement of our natural resources just as the natural resources are dependent on one another. These projects are key components of our efforts and will complement one another along with many of our other projects."

The 2017 Mississippi State Expenditure Plan Amendment was submitted under the Spill Impact Component of the Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast Act of 2012 (RESTORE Act). The funding will support water quality improvement, oyster restoration, habitat conservation and other activities.



Restoration Project Update — INFINITY Science Center Now Open

A ribbon cutting ceremony was held May 16 at the INFINITY Science Center on the Mississippi Gulf Coast. Restoration initiatives at the center are complete and now open to the public.

MDEQ awarded a Natural Resource Damage Assessment (NRDA) grant of \$10.4 million to IN-

FINITY Science Center to provide visitors with interactive science, education, interpretive, and research opportunities for exploring the Gulf ecosystem and to increase access to coastal natural resources. NRDA funding was applied to this endeavor because the public was unable to or limited in their opportunity to use and enjoy the Coast's natural resources during the *Deepwater Horizon* oil spill in 2010.

"A complimentary and key part to preserving and appreciating our natural resources is education and research which will be enhanced by this center. It's rewarding to see this project progress and for the public to be able to now enjoy these outstanding fun and educational opportunities," said Gary Rikard, MDEQ Executive Director.



Gary Rikard's remarks at the opening event.

New exhibits at the Infinity Science Center include the Possum Walk trail which brings visitors on a tram tour through multiple coastal habitats that occur throughout the immediate area including marsh, bayhead swamp, cypress swamp, and pine flatwoods, and a boardwalk which allows visitors to explore various estuarine marsh and beach habitats. Nine indoor interactive exhibits offer visitors an opportunity to learn about the Gulf's ecosystems. The Sand Box is an interactive exhibit where visitors shape sand into different elevations and how elevations impact the flow of water into watersheds. The new 3D theater and Deep Ocean Explorer offers an opportunity to see below the surface and explore the marine environment. The Hurricane Prediction Lab provides an in-depth look at how a hurricane develops and impacts coastal environments.

The INFINITY Science Center is located southwest of the Interstate 10 and Highway 607 interchange in southern Hancock County, Mississippi. Visit www.visitinfinity.com for more information.



Student using the Hurricane Prediction Lab.



Want to join enHance?

More information about the enHance program, including how to apply, is available at www.enhance.ms.

Celebrating Ten Years of enHance and Looking for New Members

In April, the enHance program held its annual workshop and awards luncheon. In addition, this event marked the tenth anniversary of the program, a partnership effort between MDEQ and the Mississippi Manufacturers Association.

During those ten years, the impacts on the environment by enHance members have included the recycling, reuse, and reduction of 85,964 tons of solid waste, the reduction of 274,226 pounds of hazardous waste, the reduction of 18 million MMBTU of energy, and the reduction of 251 million gallons of water.

The enHance program is seeking its next class of environmental leaders in the state, and interested manufacturers, local governments and other organizations are encouraged to apply. The application period begins July 1 and closes September 30, 2018. More information about the program, including how to apply and access to the online applications are available at www.enhance.ms. In addition, questions on the program may be directed to Mr. Khairy Abu-Salah with MDEQ at 601-961-5284.





MDEQ Complaint System

MDEQ handles more than 1,000 air and water pollution citizen complaints a year on a variety of matters from illegal dump sites to sewage overflows to stormwater violations. Anyone can contact the agency at (601) 961-5171 or (888) 786-0661 to report an environmental problem. It is requested that callers provide a description of the problem and its location. This can be done anonymously; however, providing contact information allows the staff to provide investigation results.

A representative from one the Field Services Division's Regional Offices will respond to a complaint based on its location. MDEQ has regional offices located in Oxford, Pearl, and Biloxi. Typically, MDEQ staff will follow up a complaint with a visit to the location, discuss the issue with the property owner and others affected, and may be able to resolve the issue at the location. In many cases, the issue is referred to the Environmental Compliance and Enforcement Division to solve the problem which might include a Notice of Violation or other enforcement options. An online complaint status check is available to the public using the case's assigned number at this [link](#). Each complaint is tracked in a system including its resolution.

For spills of any pollutant, including hazardous materials, that may affect water, land, air, or public health, they must be reported to the Mississippi Emergency Management Agency at (800) 222-6362. MDEQ's Emergency Response Division responds to these type of incidents.

Information from the public about possible environmental issues is invaluable to the agency in fulfilling its mission to protect human health and the state's environment.

A stormwater complaint MDEQ staff responded to near the Ross Barnett Reservoir.



Working for MDEQ

A common request that staff receives is “how can I work for MDEQ?” The good news is that there are often vacancies for professionals such as engineers, biologists, geologists, chemists, and accountants—including entry level positions for recent college graduates.

MDEQ employment includes an opportunity to help the state’s citizens and its natural resources in a variety of interesting positions. That employment also includes significant benefits offered by the State of Mississippi.

Information about MDEQ employment can be found on the agency’s Human Resources page [here](#).

To apply for a vacant position, please email a cover letter and resume to Kelty Puckett at kpuckett@mdeq.ms.gov.

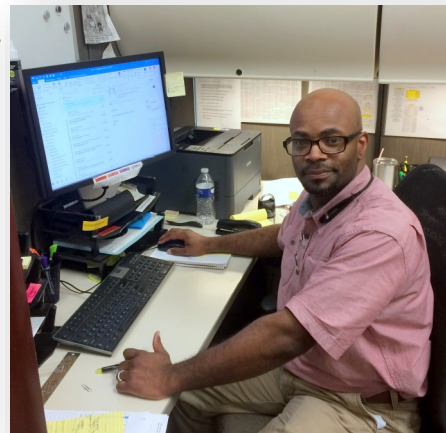


MDEQ staff at a career expo in Jackson in 2017.

Filing a Public Records Request

MDEQ receives approximately 950 public records requests a year. Responding and fulfilling these requests is an important function of the agency.

There are a variety of ways requests can be made that are detailed on a webpage [here](#). MDEQ's [new website](#) launched in February has made finding and using this information easier.



Lorenzo Boddie.

MDEQ's Lorenzo Boddie responds promptly to all requests and manages the flow of information in and out of the agency. Filling out the [online request form](#) and being specific regarding the information requested helps expedite the turnaround time. The regulations related to the production of public records, including the time required for the agency to respond, are found in the regulations section of the [MDEQ website](#).

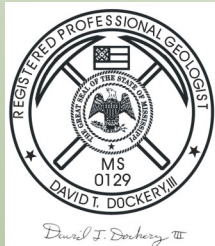
EPA to Launch Hazardous Waste e-Manifest System

EPA plans to launch its [e-Manifest system](#) on June 30 for hazardous waste management tracking purposes. Congress tasked EPA, in the Hazardous Waste Electronic Manifest Act of 2012, to develop an electronic system to track hazardous wastes and to collect fees to implement and support the system.

Beginning May 1, hazardous waste generators, transporters, and operators of treatment and storage facilities in Mississippi who wish to utilize the electronic system may register through the [MyRCRAid Application](#) located in [RCRAInfo](#). Participation in the electronic manifesting system will require a CROMERR-compliant signature process (Cross-Media Electronic Reporting Rule).

Since oversight of the federal e-Manifest regulations are not delegable to the states, EPA is charged with collecting payments and overseeing compliance related to non-payment. However, MDEQ will oversee the management of the industrial user profiles for Mississippi in the electronic system.

Further information regarding e-Manifest system registration and requirements can be found by visiting the e-Manifest page at: <https://www.epa.gov/e-manifest> or contacting MDEQ's Hazardous Waste Management Program at (601) 961-5171.



The Eruptive Phase of Jackson's Volcanic Island

David T. Dockery III, RPG

Mr. Eugene Hilgard, Mississippi's fourth state geologist, first reported evidence of a significant geologic dome at Jackson, Mississippi, in 1860. The dome underlies much of the greater Jackson area with its apex under the current state fairgrounds near downtown Jackson. In the 1930s, exploration wells discovered natural gas in the Jackson Gas Rock, a porous Cretaceous reef atop the Jackson Dome. Wells that penetrated the Gas Rock cut into once molten igneous rocks, proving the uplift was over a volcanic vent and not a salt dome. These wells encountered both light colored (felsic) fine-grained igneous rocks such as phonolite (the rock type from Mt. Vesuvius that covered Pompeii in 80 feet of molten ash) and dark fine-grained rocks (mafic) such as lamprophyre derived from the earth's mantle (Figure 1). Igneous rocks from Jackson have radiometric ages of between 101 and 73 million years old with a cluster around 75 million years old. At this latter time, a large volume of rising molten rock lifted the seafloor creating a volcanic island and charged surrounding Jurassic-age rocks, such as the Norphlet Sandstone, with carbon dioxide.



Figure 1. Contact of igneous rocks in a core interval of 3,028 to 3,036 feet in the #2 State Fee in the Jackson Volcano at Jackson, Mississippi; phonolite with flow structure on bottom and a lamprophyre dike at top. Picture from *The Geology of Mississippi*, p. 139, figure 135.

The Jackson Dome continues to have commercial uses. Denbury Resources, Inc., an oil and natural gas company, produces carbon dioxide from the Norphlet Sandstone and pipes it to old oil fields, such as the Tinsley Field in Yazoo County, for tertiary oil recovery. To make this point clearer, an illustration from Denbury's 2007 Annual Report depicts pterosaurs flying over Jackson's volcanic island some 75 million years ago (Figure 2). The pterosaur genus depicted is *Pteranodon*, which had a 50-foot wingspan.

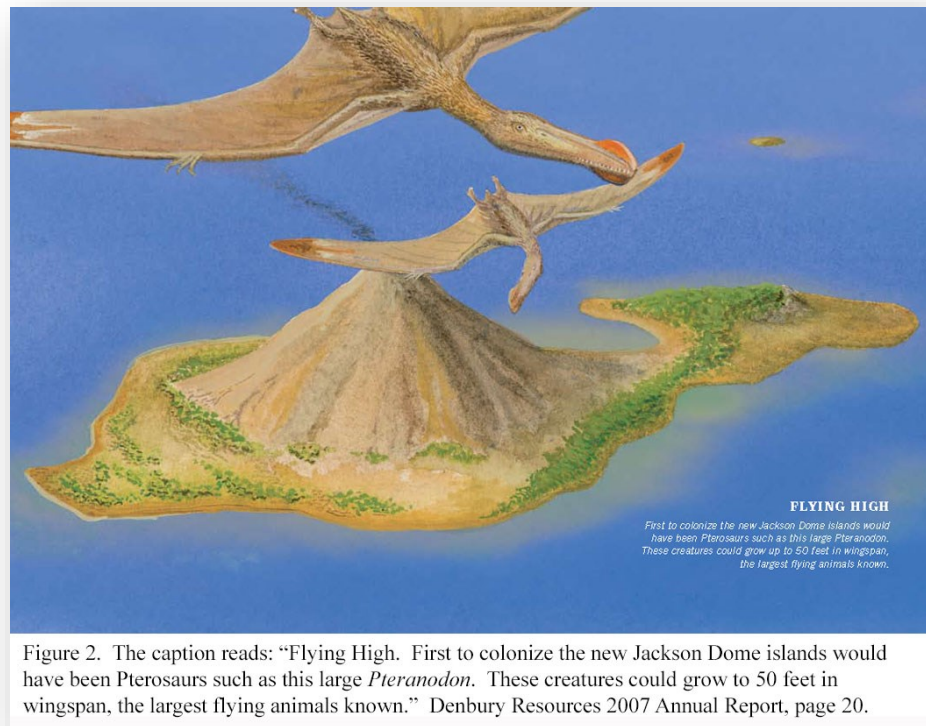


Figure 2. The caption reads: "Flying High. First to colonize the new Jackson Dome islands would have been Pterosaurs such as this large *Pteranodon*. These creatures could grow to 50 feet in wingspan, the largest flying animals known." Denbury Resources 2007 Annual Report, page 20.

Also present in the Jackson Dome is olive biotite basalt (Figure 3). Large biotite crystals from eruptions at Jackson occur in volcanic ash deposits in the Demopolis Chalk as far away as Sumter County, Alabama. Sanidine crystals in a biotite ash from the Demopolis Chalk at Artesia, Mississippi, have a radiometric age of 76.1 ± 0.32 million years as determined by retired geologist David Sawyer. Biotite ash of this age also occurs in the Demopolis section of the Shuqualak-Evans core from Noxubee County stored in MDEQ Office of Geology's Core and Sample Library (Figure 4). Mr. Sawyer has proposed a cooperative effort to the Office of Geology to locate the 76 million year old ash bed within Mississippi's stratigraphic section and to tie this absolute age date to geophysical log correlations used in mapping surface geology and in aquifer studies. This work would include assistance from both MDEQ's Office of Geology and the Office of Land and Water Resources in addition to international contributors.



Figure 3. Olivine-Biotite basalt from a 17-foot-thick sill or dike in the Cotton Valley Formation at 10,430 feet in the Stanolind Oil & Gas #1 Homer L. Cox in Section 24, T. 6 N., R. 1 W. in Hinds County. Picture taken by David Thompson.



Figure 4. Biotite crystals in the Demopolis Chalk of the Shuqualak-Evans core from Noxubee County, Mississippi. Picture taken on April 29, 2015.

Another exciting connection is the publication of the paper, *Did Late Cretaceous cooling trigger the Campanian–Maastrichtian Boundary Event?* (Linnert et al.) in a recent issue of *Newsletters on Stratigraphy*. The researchers correlated the Shuqualak-Evans core from Noxubee County with like stratigraphic localities in Gubbio (Italy), Tercis (France), North Germany, and Norfolk in East England (Figure 5).

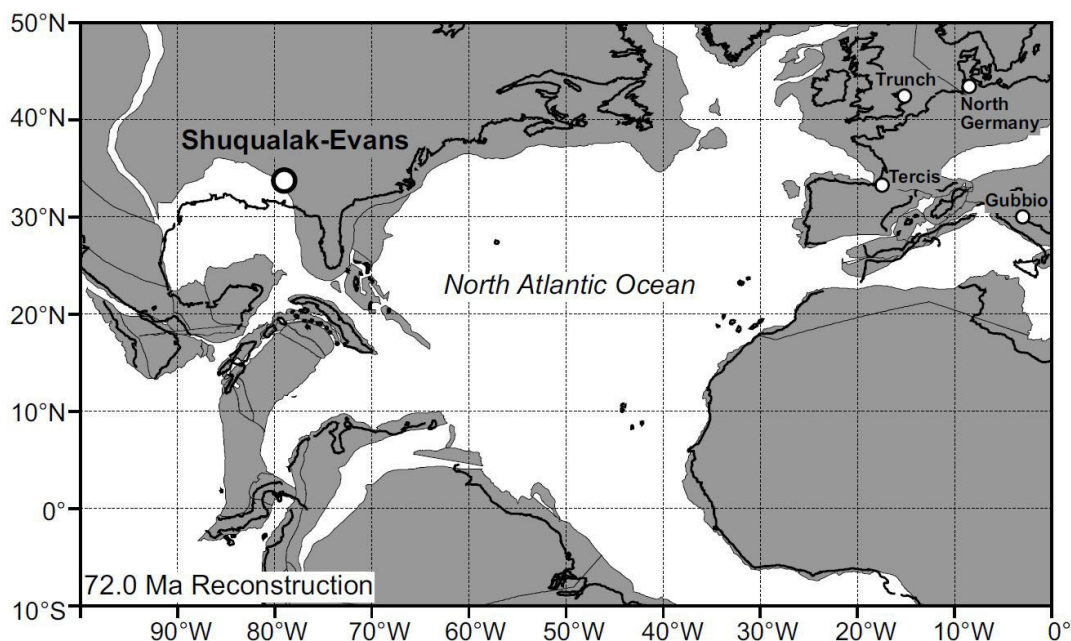


Figure 5. Palaeogeographic reconstruction of the North Atlantic area 72.0 million years ago, showing the location of the Shuqualak-Evans core and equivalent European sites.

Closer to home is another development, a Jackson Dome Historical Marker, sponsored by the Mississippi Geological Society, is coming to the Belhaven area of Jackson.

The Jackson Dome and the Jackson Volcano continue to provide fascination for researchers and students across the world. For more information about the Jackson Dome, access the [Office of Geology's webpage](#).



Adopt-A-Stream Workshop in June

The Mississippi Wildlife Federation, along with MDEQ, will hold a two-day Adopt-A-Stream workshop at Flint Creek Water Park near Wiggins on June 12 and 13 with an optional half day on June 14.

Adopt-A-Stream is a program that promotes environmental stewardship through training workshops, outdoor field activities and by introducing participants to watershed action projects.

The two-day program provides an in-depth study of watersheds, as well as hands-on training in chemical and biological parameters important to a healthy stream. In addition, the workshop will:

- Increase awareness of nonpoint source pollution
- Introduce surveying and mapping of your watershed
- Increase watershed protection awareness and possible actions that can be taken to help watersheds. A new model of *It Begins at Home* with ideas about projects such as:
 - Storm Drain Marking
 - Stream Clean-ups
 - Recycling
 - Advocacy and more

The half day added this year will concentrate on Black Creek, a Wild and Scenic River. A float trip has been planned to introduce participants to the stream's flora and fauna and to also do a watershed action clean-up project.

Who Should Participate?

Educators, land managers, advocacy groups, Scout troop leaders, Envirothon Team advisors, watershed team leaders, environmental educators, concerned citizens and others. For teachers, two CEU credits are available for the two days and 2.4 for the two and a half days.

Registration Information

Registration will be available on the Mississippi Wildlife Federation/[Adopt-A-Stream website](#) or by contacting Debra Veeder, Adopt-A-Stream Coordinator, at (601) 605-1790 or dveeder@mswf.org for a registration form.



MDEQ Environmental Action Links

- [Draft permits currently at public notice](#)
- [Environmental Permits Division scheduled public hearings](#)
- [Geology permit application public notice](#)
- [Permits and certificates issued in the last 90 days](#)
- [General permit coverages issued in the last 90 days](#)
- [Notices of Intent for coverage under a Statewide General permit received by the Environmental Permits Division](#)
- [List of the 401 Water Quality Certifications currently at public notice](#)
- [List of the compliance inspections recently conducted](#)
- [Orders issued by the Mississippi Commission on Environmental Quality](#)





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Picture of the Month

Carolina anole
(*Anolis carolinensis*)
taken by Zach
Cuda, Field Ser-
vices Division, out-
side of MDEQ's La-
boratory in Pearl.

