

MISSISSIPPI GEOLOGICAL SOCIETY

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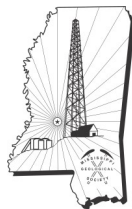
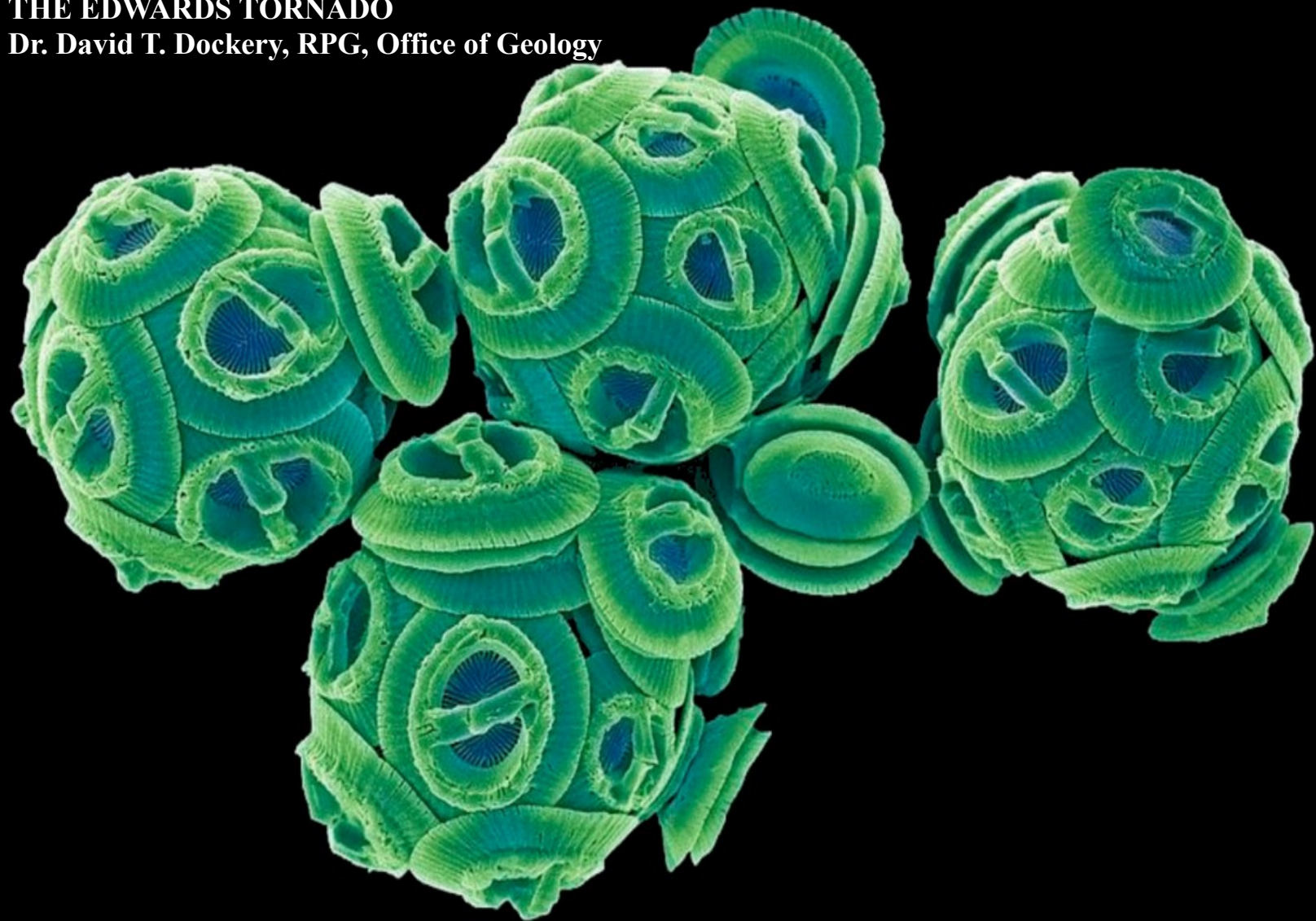
January 2020

THE JACKSON GAS ROCK, A UNIQUE UPPER CRETACEOUS LITHOFACIES

Steve Walkinshaw - Vision Exploration

THE EDWARDS TORNADO

Dr. David T. Dockery, RPG, Office of Geology



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PRESIDENT'S LETTER

James O. Sparks, RPG



Happy New Year to all.

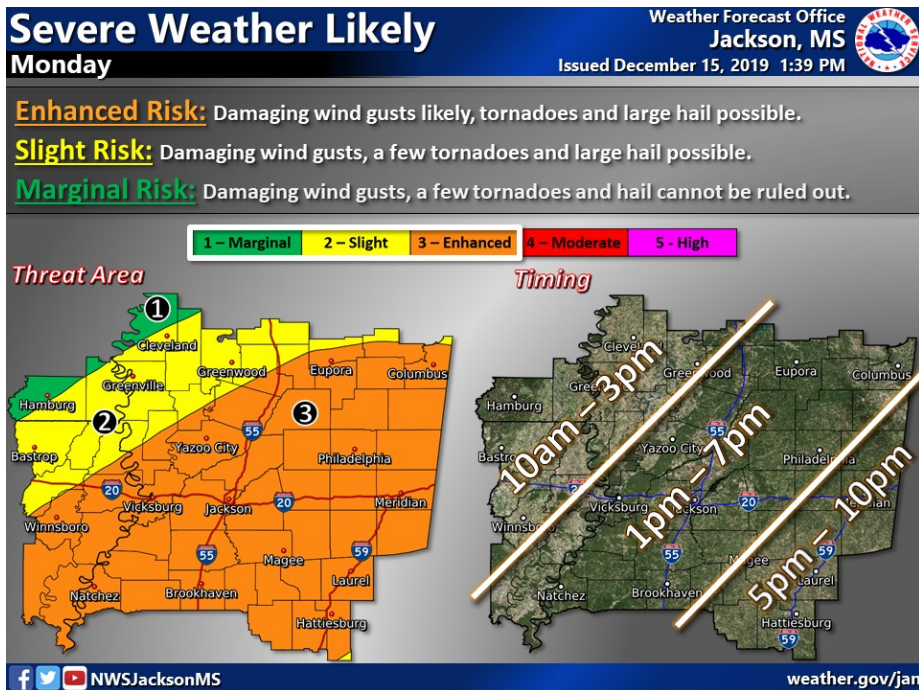
As most of you know, the MGS and SPE have combined our meetings. Our Treasure, Paul Parish will be at the meeting and the MGS members will pay the fee to him. Our next meeting is Wednesday January 8th. The speaker for the meeting is someone our membership is very familiar with, Steve Walkinshaw. Steve and I were classmates at Millsaps College in the late 70's and early 80's. His talk will be on the "Jackson Gas Rock, a Unique Upper Cretaceous Lithofacies". This topic should be of interest to all geologist from the Jackson area.

As a result of the conflict with Iran, we have seen a slight increase in the price of oil. As of today, the price is above \$63.00 and could rise even further. The price of natural gas is \$2.13.

On a sad note, Paul Day one of our members recently passed away. Many of our remember Paul as a good geologist and a fine person.

2019-2020 MGS MEETING SCHEDULE

When	What/Who	Where
September 12, 2019	Fall BBQ	Jackson Yacht Club-5:30pm
October 10, 2019	Jess New—MSOGB	River Hills – 11:30am
November 14, 2019	Stephen Champlin, RPG MDEQ	River Hills – 11:30am
	Merry Christmas	
January 8, 2020	Steve Walkinshaw—Jackson Gas Rock	River Hills – 11:30am
February 12, 2020	TBD	River Hills – 11:30am
March 11, 2020	TBD	River Hills – 11:30am
April 8, 2020	Boland Scholarship Awards	River Hills – 11:30am
May 13, 2020	Spring Fling	Jackson Yacht Club– 5:30pm



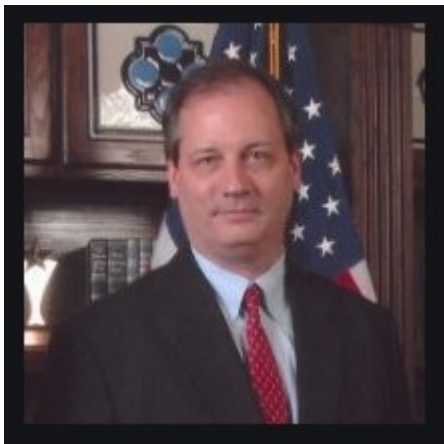
OFFICERS MEETINGS

September 10, 2019
October 8, 2019
November 12, 2019
January 7, 2020
February 11, 2020
March 10, 2020
April 7, 2020
May 12, 2020



JANUARY SPEAKER

Steve Walkinshaw



Biography:

Steve Walkinshaw is an independent petroleum geologist and the owner and manager of Vision Exploration, LLC. Steve graduated from Millsaps College in 1981 and has 39 years of experience in the upstream oil & gas business. He is a Registered Professional Geologist in the State of Mississippi, a Licensed Professional Geoscientist in the State of Louisiana, and an AAPG/DPA Certified Petroleum Geologist. Steve is the only Mississippi-based geologist that has served as technical consultant to two major Tuscaloosa Marine Shale ("TMS") operators and has lectured extensively on the TMS at numerous industry and academic venues. In addition, Steve served as presenter for the Unconventional Brown Dense Lime Trend at numerous shale conferences and professional society meetings from 2011 to 2015. Steve is a long-standing member and has served as Chairman of the Mississippi State Mapping Advisory Committee (SMAC) since 2017. In addition to holding numerous other officer positions, he has served as past President of the Mississippi Geological Society and has been the Society's webmaster since 2002.

This presentation was recently awarded the 2018 First Place Thomas A. Philpott Excellence of Presentation Award by the Gulf Coast Association of Geological Societies (GCAGS). The Philpott Excellence of Presentation Award was last awarded to a Mississippi-based petroleum geologist (Dudley Hughes) in 1960.

Steve has many oil and gas discoveries and successful field redevelopment projects to his credit, primarily in South and East Louisiana, Mississippi and Alabama.



JANUARY SPEAKER

Steve Walkinshaw

The Jackson Gas Rock: A Unique Upper Cretaceous (Selma Chalk) Lithofacies

Abstract:

The Jackson Gas Field was officially discovered in 1930 with the drilling and completion of the Jackson Oil & Gas Co. #1 Mayes in Section 2, Township 5 North, Range 1 East, Hinds County, Mississippi, in a carbonate reservoir informally named the "Jackson Gas Rock". The discovery well flowed gas with an open-flow potential of 15 MMCFGPD from a heavily karsted interval at the top of the Upper Cretaceous (Selma) Chalk. While the heavily karsted chalk reservoir produced 119 BCF of methane gas at Jackson Gas Field, a hydraulically-separated quartzitic sandstone deposited unconformably at the top of the Selma Chalk comprises the 7.6 MMBO (26° API gravity) oil reservoir that is stratigraphically trapped in the Flora Field area. A small volume of heavy (13.6° API gravity) oil has also been produced from the karsted Gas Rock chalk reservoir on the southern flank of the Dome, in the vicinity of the city of Pearl. In 1957, two years after the last producing Gas Rock gas well had been shut in, the crestal area of the Jackson Gas Field was converted to a gas storage reservoir and is still used for that purpose today, 61 years later.

The study area for this presentation encompassed 848 wells drilled within an area of approximately 1,465 square miles located in Hinds, Madison, Rankin and Yazoo Counties in west-central Mississippi. In addition to detailed subsurface mapping, lithology data pertaining specifically to the Jackson Gas Rock facies was derived from the analysis of a subset of 126 wells for which mudlog, sample log, core and/or sidewall core descriptions or analyses were available. Cores and samples from several key wells were also examined. Bottom-hole temperature data available for 446 wells (as recorded in each log header) was also collected and analyzed to determine if a significant deviation from the "normal" subsurface geothermal gradient was present within the study area, and specifically, within the known perimeter of the Jackson Dome uplift. The recent acquisition of high resolution 3D seismic and gravity data has shed new light on the origin and provenance of the Dome and this data is revealed for the first time in this presentation.

Subsurface mapping and 3D seismic interpretation indicates the Jackson Gas Rock facies represents a relatively pure chalky limestone deposited in a persistent syncline that had initially formed in the area surrounding the Dome in early Jurassic time. While thin lenses of framestones, boundstones and shell hash have been sporadically encountered within the overall Gas Rock interval, such occurrences are rare; and, while the most common fossiliferous lenses appear to be comprised of rudist shell fragments disseminated in a chalk matrix, a ubiquitous buff to white-colored leached chalk is clearly the predominant lithofacies. The thickest Gas Rock interval encountered to date (1,702') was deposited within the deepest portion of the northern syncline in Township 8 North, Range 1 East in southern Madison County.

In certain areas of west-central Mississippi, underlying the Gas Rock facies, a black micaceous clay containing water-lain volcanoclastics and thin beds of ash is associated with a period of vulcanism that was widespread across the south-central Texas, central Arkansas, northeastern Louisiana and west-central Mississippi areas during Austin Chalk time. This vulcanism appears to have been "locally" centered in the Sunflower Ridge area, in the eastern Mississippi Delta. The Austin-age volcanoclastics overlie a normal Mesozoic sedimentary sequence that was frequently intruded by magma in a broad area that extends from Monroe to Jackson, an area that includes the Monroe-Sharkey Platform and four other domal structures that are very similar in size, shape and origin to the Jackson Dome. Comparisons of these five domes to the actual nexus of igneous activity in Mississippi are presented and the aerial extent of the Mesozoic volcanoclastic sediments in the State is revealed for the first time.



BOLAND SCHOLARSHIP WATCH

Faculty & Students,

This is a new year and the Mississippi Geological Society along with the Boland Scholarship Fund would like to remind you that we want to honor the most outstanding overall students for the 2019-2020 year.

Each year, the Boland Scholarship awards 1 student from each institution a check that rewards students for their hard work and dedication to the Geosciences and their community.

We look forward to a great year and hope to see you at our monthly meetings.

Best Regards,

Matt Caton
Editor

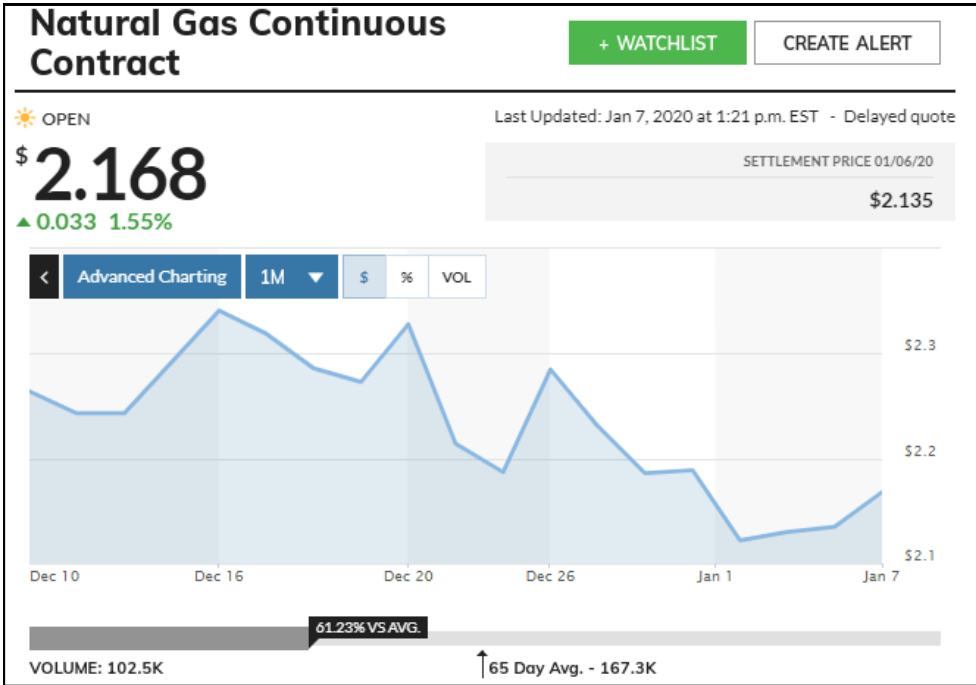


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CURRENT PRICES



Marketwatch





MONTHLY POST

Dr. David T. Dockery III RPG

THE DECEMBER 16, 2019, EDWARDS, MISSISSIPPI, TORNADO: WHERE GEOLOGY AND METEOROLOGY COLLIDED

David T. Dockery III, RPG, and James Starnes, RPG

The field trip on the morning of December 16, 2019, was a cooperative effort between George Phillips of the Mississippi Museum of Natural Science and James Starnes, Paul Parrish, and Jonathan Leard of MDEQ Office of Geology to salvage a 1,900-pound ice-rafted boulder from the pre-loess terrace in the Hammett Redwood Gravel Pit in Warren County, Mississippi. The two-vehicle caravan included an MMNS van and trailer and MDEQ truck. Weather forecasts called for an Enhanced Risk of damaging wind, tornadoes, and hail in the Vicksburg to Jackson area between 1:00 and 7:00 pm (Figure 1).

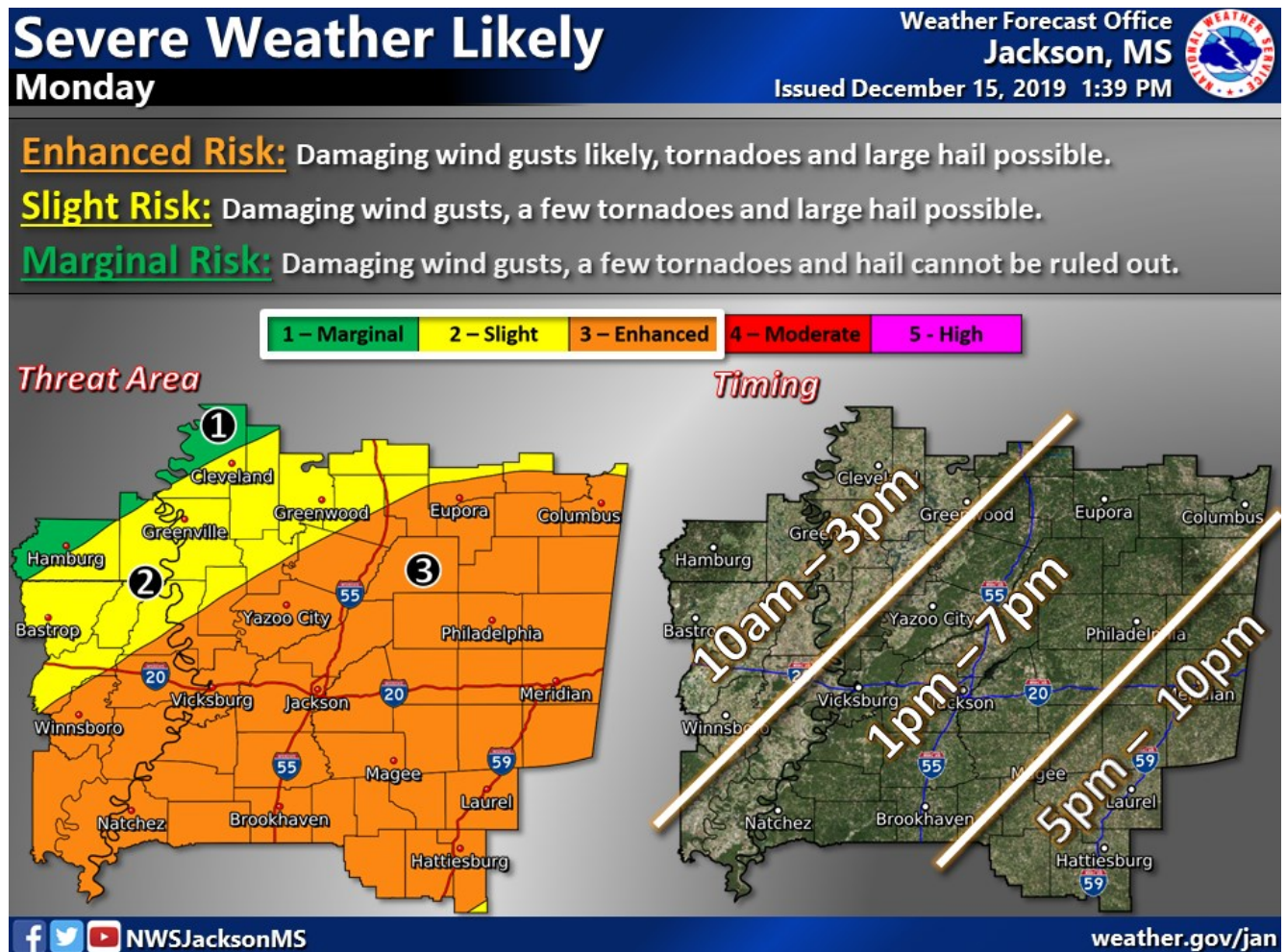


Figure 1. Severe weather prediction for west-central Mississippi on December 16, 2019.



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The forecast provided plenty of time to salvage the boulder (Figure 2) before the weather arrived. A stop at Edwards on the return trip was needed as the MNNS van was low on gas.



Figure 2. 1,900-pound ice-rafted boulder loaded on MNNS trailer. From left to right are James Starnes, Hammett pit foreman Donald Hearn, and George Phillips.



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The stop at Edwards was probably fortuitous as there was a storm moving northeast in front of the predicted weather event. James Starnes was driving the MDEQ truck and could see the tornado coming from the south along the Big Black River floodplain. The truck then drove through hail that cracked the windshield. Coming out of the hail back into sunlight, they parked under the canopy of a gas station at the Edwards four way stop (red X in Figure 3).

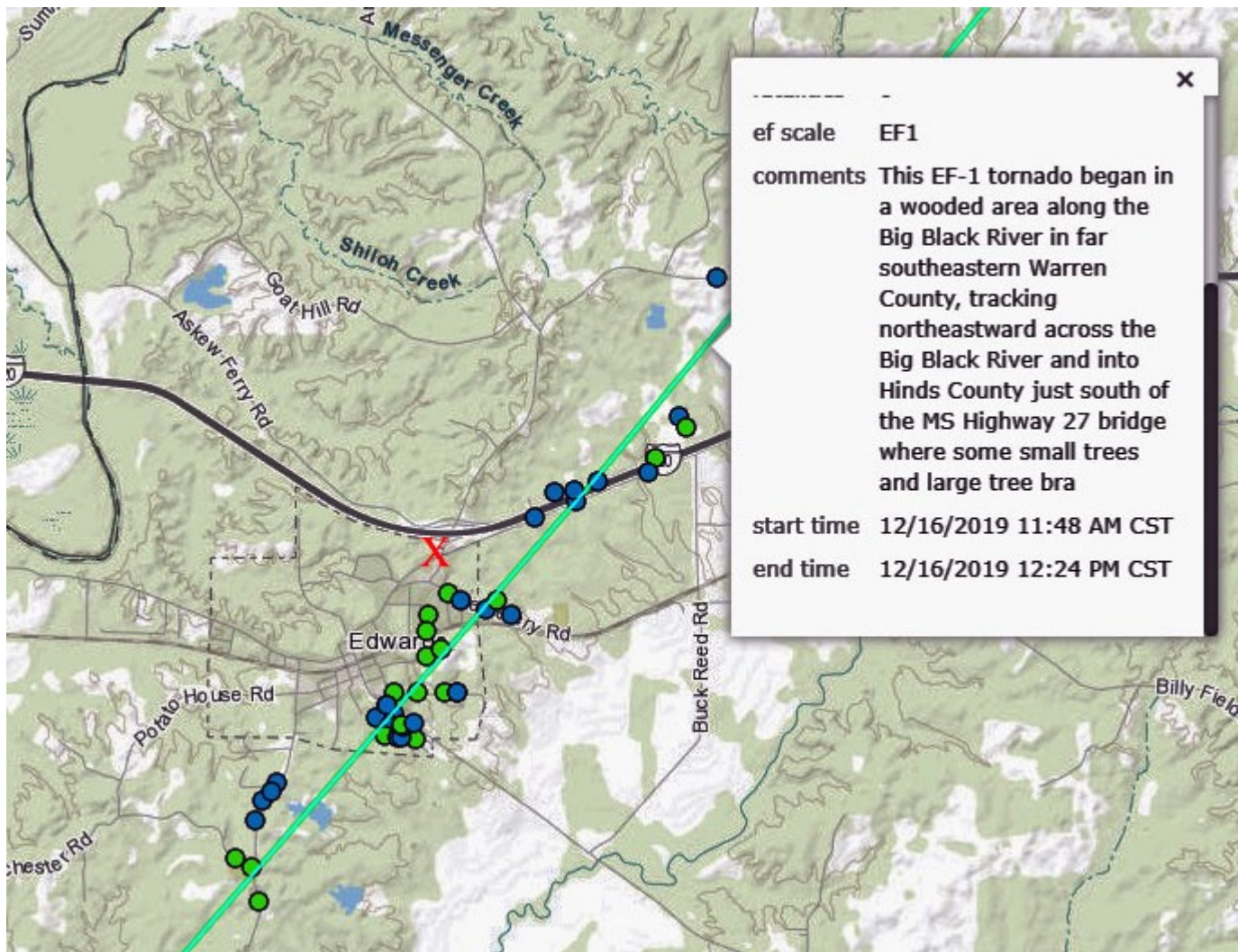


Figure 3. Location of the gas station stop (red X) and tornado track and damage sites (circles).



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Dr. David T. Dockery III RPG

At that time the sky grew dark as the tornado came overhead with the roar of a freight train. James watched the stop sign shake in the wind and then blow out of the ground. The gas station dumpster was shimming toward the truck. James jumped out to run for the gas station but was stopped by a blast of wind at which time he thought “I just did something really stupid.” But, with a break in the wind, he made it inside. James took a picture of the tornado after it passed the gas station at 12:18 p.m. (Figure 4). Notice all the damage along I-20 in Figure 3 where they would have been if not for the stop for gas.



Figure 4. Tornado as photographed by James Starnes.



GEOLOGY POST

ARTICLES, PAPERS or NEWS?

ATTENTION!!!!!! Industry, Professors and Students:

I am adding a dedicated section that includes more content from the industry and our schools.

Submissions can include anything from professional papers, thesis abstracts, job opportunities to pictures. Anything!!!!

If you have any information or news you would like to share with the Society **PLEASE** email them to the MGS Editor at:

mcaton@tellusoperating.com

Thanks & Regards,

Matt Caton
Editor

GEO LINK POST

USGS TAPESTRY OF TIME AND TERRAIN <http://tapestry.usgs.gov> The CCGS is donating to all of the 5th and 6th grade schools in the Coastal Bend. Check it out—it is a spectacular map. You might want a framed one for your own office. The one in my office has glass and a metal frame, and it cost \$400 and it does not look as good as the ones we are giving to the schools. Call Owen 510-6224 if you want one for your office for \$150. Duncan, Mike, Chris, Dave, Bob Randy, Seb., Kevin, Ken, Craig, Patrick, Robert.

FREE TEXAS TOPO'S <http://www.tnris.state.tx.us/digital.htm> these are TIFF files from your state government that can be downloaded and printed. You can add them to SMT by converting them first in Globalmapper. Other digital data as well.

FREE NATIONAL TOPO'S [http://store.usgs.gov/b2c_usgs/b2c/start/\(xcm=r3standardpitrex_prd\)/.do](http://store.usgs.gov/b2c_usgs/b2c/start/(xcm=r3standardpitrex_prd)/.do) go to this webpage and look on the extreme right side to the box titled TOPO MAPS DOWNLOAD TOPO MAPS FREE.

<http://www.geographynetwork.com/> Go here and try their top 5 map services. My favorite is 'USGS Elevation Date.' Zoom in on your favorite places and see great shaded relief images. One of my favorites is the Great Sand Dunes National Park in south central Colorado. Nice Dunes.

<http://antwrp.gsfc.nasa.gov/apod/astropix.html> Astronomy picture of the day — awesome. I click this page everyday.

<http://www.spacimaging.com/gallery/ioweek/iow.htm> Amazing satellite images. Check out the gallery.

<http://www.ngdc.noaa.gov/seg/topo/globegal.shtml> More great maps to share with kids and students.

www.geo.org Don't forget we have our own web page.

<http://micro.magneet.fsu.edu/primer/java/scienceoptiscu/owersof10/>

<http://asterweb.jpl.nasa.gov/gallery/default.htm> Great satellite images of volcanoes

<http://terra.nasa.gov/gallery/> More here

www.ermapper.com They have a great free downloadable viewer for TIFF and other graphic files called ER Viewer.

www.drillinginfo.com This is an incredible (subscription) well and completion data service for independents. Can be demo'ed for free.

<http://terraserver.com/> Go here to download free aerial photo images that can be plotted under your digital land and well data. Images down to 1 meter resolution, searchable by Lat Long coordinate. Useful for resolving well location questions.

<http://www.fs.fed.us/gpnl/volcanocams/msh/> This is a live cam of Mt. St. Helens refreshed every 5 minutes. At the bottom are old videos of past eruptions in this cycle. It is worth a watch especially now.



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2019-2020

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Professional Listing (1/2" x 3")	\$ 50	\$ _____

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(Note: Please contact Steve Walkinshaw at (601) 607-3227 or mail@visionexploration.com for details concerning placing your ad on the MGS web site.)

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