

Wetumpka Impact Crater Commission HISTORY



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•Geologically Speaking something was wrong with the vaguely circular patch of hills located immediately south and east of Wetumpka. Normally in this area, the soft sedimentary rocks of the Coastal Plain smoothly overlap the harder and older metamorphic rocks of the Piedmont, but at Wetumpka, this is not the case. In the crater area, rocks of more than two hundred million years difference in age are intermixed. At Bald Knob, where communication towers overlook Wetumpka, a curved ridge of very old metamorphic rock protrudes seven hundred feet above its normal level through jumbled layers of much younger rocks. Below the surface, the entire area is surrounded by concentric rings of fractures and zones of shattered rock. Nowhere else along the 2,250 mile border of the Piedmont does anything similar exist.

•**1894** Alabama State Geologist Eugene Allen Smith noted the unusual geographical nature of the Wetumpka area. For many years the area was marked on geological maps as “structurally disturbed.”

•**1926** G. W. Stose described Wetumpka as an arcuate fault zone.

•**1969-1972** Geologist Tony Neathery headed a team making detailed geologic maps of Elmore County as part of a Geological Survey of Alabama. As they approached Wetumpka, they found rock layers bent at dramatically different angles and in very different directions from other rocks in the area. It soon became clear that the unusual features were related to a disturbance centered in the hills east of downtown Wetumpka. Within this area, rocks were chaotically disturbed and intermixed, unlike the evenly layered horizontal rocks surrounding the area.

•**1976** When Geologist Tony Neathery and the research team’s findings were published, this feature was called an “Astrobleme,” literally, a star wound. For a number of years, this conclusion was greeted with skepticism.

•**1982** *Appalachiosaurus montgomeriensis* discovered in Montgomery County, AL by Dr. David King. It is the first and most complete tyrannosaur known from the eastern, USA.

•**1996** One of Dr. Lorraine Wolf’s (geophysicist, AU Department of Geology), students used a gravimeter to measure the force of gravity at numerous points in a line across the crater from west to east (using mainly the right of way for the natural gas pipeline that crosses the whole crater). Wolf’s reduction of that gravity data showed a gravity profile of values that was consistent with the impact crater interpretation.

• **1997** The Southeastern Regional Conference of the Geological Society of America was held in Auburn. For that meeting, the late Tony Neathery asked David King to join him and some others in organizing a field trip to be associated with this conference, which would show attendees the crater and its’ geology. This was King’s first time working at Wetumpka, and the field trip was a great success. It is quite common for geological conferences to include field trips to local areas, and this one was no exception. Joining us in this field trip effort was Dr. Lorraine Wolf, of our



department, who was our geophysicist. About 30 people participated; some of them had come from great distances to be there particularly for the Wetumpka field trip. One was a well-known impact researcher, Dr. Christian Koeberl, who came from the University of Vienna to see the crater.

- 1997** Tony Neathery, Lorraine Wolf, and David King compiled a field guidebook showing outcrops and maps, as well as the 1996 gravity interpretation for the 1997 SE-GSA field trip.
- 1997** After the SE-GSA meeting was over, Tony Neathery was in touch with geologists at Vulcan Materials Company in Birmingham, and he obtained a verbal agreement that they would give in-kind support for a core-drilling operation at the crater. I prepared a proposal to Vulcan Materials and they agreed to fund a drilling operation for two bore holes near the crater's center. Vulcan sent a drilling crew of three people, which was led by Ms. Marsha Andrews. During drilling local news channels, CNN, and Discovering Alabama with Doug Jones visited the drill site and filmed stories.
- 1997** First Wetumpka Impact Crater Tour (sponsored by Auburn Astronomical Society): At the November 7, 1997 meeting of the Auburn Astronomical Society, Dr. David King Jr., of the Auburn University Department of Geology presented a lecture on the subject of the Wetumpka Meteor Crater. The following day, Saturday, November 8, was a bracing, sunny, late-fall day -- just perfect for exploring a meteor crater. Gathering in Wetumpka for the field trip were: David King, Larry Owsley, Robert Rock, Scott Thompson, Ricky Wood, Ron & Jeanetta Hatherley, Allen & Christy Screws, Jason Schein, David Newton, Russell Whigham, and five of Dr. King's students; Jewel Benson, Jaime Demick, Michael Skotnicki, and Janet and Fred Leemhuis. The group met at the Hardee's in Wetumpka, piled into three vehicles, and headed out on what turned out to be a most enjoyable and informative tour.
- 1998** Two cores were drilled and core samples were extracted for testing during the summer. Funding was from Vulcan Materials Company of Calera, Alabama. These core holes on the Schroder's and Reeves' properties on Buck Ridge Road. Geologists hoped to find materials proving the "Astrobleme" theory. Dr. David T. King, Jr., Professor of Geology at Auburn University, headed the research team. The researchers indeed found the core contained shocked quartz, which can only be formed by pressures exerted during an enormous explosion such as a large meteor impact. The research team also found chemical traces of fallen meteorite embedded in the local bedrock.
- 1998** Wetumpka impact crater © Alabama Public Television; APT's Discovering Alabama segment no. 31 airs. Produced by Doug Phillips.
- 1999** Dr. Peter Schultz, a Brown University authority on impact craters visited the site and affirmed the previous findings. Christian Koeberl at the Institute of Geochemistry, University of Vienna, and an international expert on impact craters also examined the evidence and confirmed the presence of shocked quartz along with certain cosmic elements like iridium that would definitely confirm the site as an impact crater.



- 2002** Dr. David T. King, Jr. and the scientist's published all of the evidence and established the site as an internationally recognized impact crater. Wetumpka was added to the Earth database (an international list of proven impact craters). There is very strong evidence that at the time of the impact, a shallow sea of approximately 100 feet deep covered the area. The Wetumpka Impact Crater is now recognized as one of the best preserved marine impact craters in the world. Wetumpka impact crater became the 157th known impact crater on Earth and the 57th known impact crater in North America.
- 2003** Wetumpka Impact Crater Commission® (WICC) was created by City & County Resolutions.
- 2004** The City & WICC obtained the 25 acre exhibition site on US 231.
- 2005** Wetumpka Impact Crater Commission® (WICC) and Auburn University Initiated the Annual Crater Lecture and Tour Series. The annual Lectures and Tours have been conducted each year since their establishment (with the exception of the covid pandemic 2021-2022). They typically occur each year in late February or early March.
- 2006** WICC & ECEDA developed grant for Master Plan development the 25 acre exhibition site on US 231
- 2007** Interest in Wetumpka brought 40 scientists from 19 countries to a GSA International Field Forum there, which was organized by me. Wetumpka has been a great well-spring of information about asteroid impacts into ancient oceans, like the shallow Gulf of Mexico, which covered southern Alabama, including the impact area, about 85 million years ago. Wetumpka is now known and recognized globally.
- 2008** Gresham Smith and Associates Finished the site Master Plan.
- 2009** A scientific borehole was drilled a few hundred meters north of the Viewpoint Sign #1 location. The drill penetrated the metamorphic rocks of the rim that are inclined toward the west, then entered a thin, crushed zone of rock near the elevation of the Coosa River, and below river level drilling penetrated metamorphic rock that was not affected by the impact. The rock outcrop behind the Viewpoint #1 sign and other rock outcrops in the area, such as the rock wall north of the Waffle House and behind the First Community Bank, have been shown in figures within several scientific papers published on Wetumpka impact crater.
- 2010** Wetumpka / ECEDA hired AUM to complete a Resource Map.



- 2011** Research published in 2011, showed that this “boulder layer” (Viewpoint Sign #4) lies on top of the sedimentary rocks and sediments seen at Viewpoint #3. This superpositional relationship was revealed by careful field studies of outcrops along and near Harrogate Springs Road and the 2009 scientific borehole drilling through this “boulder layer” at a site near the driveway to the home at 205 Buck Ridge Road.
- 2011** Wetumpka / ECEDA set-up Auburn Architectural Design Competition.
- 2011** WICC initiated several projects including:
 - Alabama Tourism grant for Brochures.
 - Wetumpka Impact Crater Commission original web-page was developed.
 - ▶ wetumpkaimpactcratercommission.com
 - Site Signage Erected: Educational Viewpoints
 - Appalachian Regional grant to develop Tourist Asset Plan & Project Governance.
 - Developed and adopted WICC Bylaws.
- ????** The Gateway Corporation, a non-profit 501 (c)3 organization, was established to plan, develop, build, operate and maintain the Wetumpka Alabama Impact Crater Interpretive Center.
- ????** Land Trust was established to...
- 2012** A geology Master of Science student’s thesis was conducted on the metamorphic rocks of Viewpoint Sign #1 location, which also occur in outcrops near the County Courthouse and in the Coosa River near the old bridge. This student research revealed that the inclination of the rock layers is consistent with the expected structure of a crater rim
- 2012** Research at Auburn University for a geology Master of Science student’s thesis was conducted on the metamorphic rocks of the crater rim in this area (Viewpoint Sign #2). This research helped us understand the structure of the western crater rim, and its relationship to the sediments and sedimentary rocks of the crater floor (as seen at the cliffs).
- 2015** Two Master of Science student theses, both finished in 2015, showed that the sediments and sedimentary rock layers at the cliffs were moved to that location during a huge landslide event (described more specifically in Viewpoint #3) Research was conducted on these sediments and sedimentary rocks, showed that they are deformed and folded in a manner consistent with a “trans-crater” landslide. Outcrops of deformed sediments on Harrogate Springs Road, which are also related to this trans-crater landslide, are in some places upside down and in other places, intensively deformed.



- 2015** Art Impact | Wetumpka Crater Art Website was developed.
▶ <https://www.wetumpkacraterart.org>
- 2015** Hope Brannon conducted two Wetumpka Impact Crater Art & Science inservice teacher workshops for Elmore County School System’s teachers and administrators.
- 2015** Wetumpka Impact Crater Commission® (WICC) partnered with the Kelly Fitzpatrick Memorial Gallery to present an art and science exhibition entitled “When Dinosaurs Roamed.” The exhibition, sponsored by Alabama State Council on the Arts, Wind Creek Casino and the City of Wetumpka featured a monthly lecture series and the art of Jerry Armstrong, Wayne Atchison, Karen Carr, Asher Eilbein, Jonathan Hughes, Larry Percy, Rick Spears, and 35 Alabama artists including: Teresa Lee, Katie Rooks, Nancy Milford, Rhonda M. Sims, Larry Stewart, Cindy Beumer, Rachel Dun, Krystle Vance, Bryant Woody, Sara Bopp Wright, Mike Young, Avis F. Reid, William Farshee, Julie Harrison, Kathy Atchison, Libby Christenson, Shirley Esco, Toska Courbron, Carol Hickman, Adelia Turner, Elizabeth Byrd, Marguerite Edwards, Lynn Schmidt, Aimee Harbin, Hope Brannon, Nan Cunningham. Over 90 adult artist’s works were originally submitted for consideration. WICC’s permanent collection includes art from the exhibit. The project also included a Cetaceous Plant Exhibition, exhibition tours, student art activities for school classes and a student art competition/exhibition. There were 259 student entries originally submitted for consideration; 65 works were accepted for display and 25 students received awards. Adult and student awards totaled \$1,000.
- 2015-2018** Wetumpka Impact Crater Permanent Exhibit The educational exhibit opened to the public at 408 South Main St., Wetumpka, AL 36092 (2nd floor of the City Administrative Building.)
- 2016** Wetumpka Impact Crater Commission® (WICC) conducted a (K-12) online art and science competition. Over 50 works were originally submitted for consideration. Partnering with the Kelly Fitzpatrick Memorial Gallery, 10 student awards were presented at the reception.
- 2018** A study of sand grains removed from the chalk layer revealed that the chalk in the crater contains fine particles of shocked and melted materials that were ejected from the crater during the impact process and then fell into the adjacent waters of the Gulf of Mexico where they were mixed into the chalk deposits of the shelf area.
- 2019** Research at Auburn University for a geology Master of Science student’s thesis on the “boulder layer” (Viewpoint Sign #4) showed that the boulders were likely ejected during impact from the deeper bedrock under the crater, and likely landed on the original crater rim, not far from their source. Their appearance on the crater floor suggests that the boulder layer moved from the inner rim to the crater center by gravity sliding very early in the crater’s history, perhaps within hours or days of the impact. The presence of shocked minerals within the finer parts of the boulder layer supports the interpretation of the boulder layer as crater ejecta. showed in addition to



shocked minerals the layer contained accretionary lapilli, which are small spheres made of mineral grains that were adhered to one another while the impact's dust cloud was swirling above the impact location. Thus, Wetumpka is one of the few impact craters on Earth with documented accretionary lapilli preserved in its deposits.

- 2019** Wetumpka Impact Crater Permanent Exhibit Closed Because of Natural Disaster. In January of 2019 a tornado struck Wetumpka, AL: homes, business', churches and the Wetumpka Police Station were damaged or destroyed. It was determined that the only suitable and ready-available space for the Police was the 2nd floor of the City Administrative Building. WICC's Permanent Collection and Educational Exhibits were removed and placed in storage.
- 2022** "Crater Talks": Wetumpka Impact Crater Commission initiated a monthly series of "Crater Talks". *Open to the public and free.*
- Aug. 2022** Dr King Lecture to _____ in Wetumpka.
- **2022.** Work at the crater was supported in part by some very generous contributions to the Wetumpka Impact Crater Fund given by local landowners and a small grant from the Poarch Creek Endowment Committee. We were most grateful for this support, which meant a lot to us during an absence of federal funding. In order to try to bridge the gap in funding, during 2022 Dr. King submitted proposals for a grant-funded project at Wetumpka to the Planetary Society, the American Chemical Society, and the Meteoritical Society. In these new proposals, we are focusing more on the astrobiological aspects of Wetumpka crater, namely how the crater could have been a harborage for life after impact, which has implications for the study of other planets where there were impacts into ancient oceans (e.g., Mars).
- 2022** The City of Wetumpka and Main Street granted permission to the Wetumpka Impact Crater Commission® (WICC) for the installation of a series of Mural Art Panels about the Wetumpka Impact Crater in "The Alleyway."
- Dec. 2022- Oct. 2023** Alabama State Council on the Arts (Public Art Grant Awarded): Gateway Development Corporation, Wetumpka Impact Crater Commission® (WICC) was awarded a matching grant by Alabama State Council on the Arts for the creation of public art works, including: original sculptures and a series of 14 mural panels featuring the Wetumpka Impact Events. An additional component of the grant included juried art exhibits and competitions. Projects included and implemented in 2023:
 - April 2023** "Wetumpka Impact Crater: Chronological Sequence of Crater Formation installed in The Alleyway." Mural Art Panels opened to the public and organized tours. The project was funded by the Alabama State Council on the Arts, the City of Wetumpka and Wetumpka Gateway Development Corporation and created by artist, P.



Hope Brannon of Wetumpka, AL. The site and murals were added to our Educational Viewpoints as Educational Viewpoint #8a.

- 2023** Open call for public sculpture proposals. Sculptor Brooks Barrow of Montgomery, AL was selected.
- 2023** Dino Walk Youth Contest
- Aug. 31- Sept. 15, 2023** Art Impact 2023 | Crater Art Contest & Exhibit: Wetumpka Impact Crater Commission® (WICC) conducts an adult artist and student art competition entitled, Art Impact 2023 | Crater Art Contest. At the Opening Reception and Awards Ceremony Aug. 31, 5:30-6:30pm awards totaling \$650 are presented.
- 2023** Wetumpka Impact Crater Commission granted permission to use a property (124 Company St. - owned by Todd Ayers) as the downtown location of the Wetumpka Impact Crater: Discovery Center.
- 2023** Wetumpka Alabama Impact Crater Discovery Center opens in Downtown Wetumpka.
- Aug. 2023** Dr King Lecture to _____ in Wetumpka.

Tony Neathery (1931-2015), formerly an assistant state geologist, was the first person to interpret large, the semi-circular topographic feature at Wetumpka as a possible impact crater. Tony's work was pioneering and went against previous interpretations that made Wetumpka impact crater out to be a depression on unknown origin (E. A. Smith's work of 1894) and an arcuate fault zone (G. W. Stose's work of 1926). Tony was not successful in finding definitive proof of impact, but he had put Wetumpka on the map of possible impact craters based on his 1969-1970 field studies and 1976 paper in the Geological Society of America Bulletin. For Tony, understanding Wetumpka impact crater was "unfinished business."

"Since 1997, our efforts at Auburn University have produced 9 major scientific papers in peer-reviewed journals and monographs, including the 2002 paper that established Wetumpka as a bona fide impact crater, plus five other published conference proceedings manuscripts published. Two guidebooks on Wetumpka were co-authored by us, and since 1998 there have been 87 conference presentations on Wetumpka, which were presented by either by me or my students. Some far off places where we have given conference papers about Wetumpka include Norway, Sweden, Spain, Morocco, South Africa, Brazil, and Japan. Seven Auburn University students have earned Master's degrees (plus one Ph.D.) studying Wetumpka impact crater with me."