

Mammoth Cave International Center for Science and Learning

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Mammoth Cave International Center for Science and Learning's website: www.wku.edu/mcicsl



Students in the Karst Field Studies' Cave Ecology class learn first-hand about the cave's ecosystem.



Ohio State students sketching the profile of a scallop located along Audbon Avenue in Mammoth Cave.

Abstract

The Mammoth Cave International Center for Science and Learning (MCICSL) is a cooperative venture of Mammoth Cave National Park and Western Kentucky University. Funding, logistical support, and governance of MCICSL are shared equally by both entities. MCICSL is part of a network of 17 research learning centers within the National Parks.

The goals of MCICSL and the other research learning centers are to:

- I. Facilitate the use of parks for scientific inquiry.
- II. Support science-informed decision making.
- III. Communicate the relevance of and provide access to knowledge gained through scientific research.
- IV. Promote science literacy and resource stewardship.

MCICSL has been operational since the middle of 2005, so it is still building programs. Current staffing consists of a Research Director (Toomey) and a part-time Education Program Specialist (Trimboli). In spite of the limited staff, MCICSL is meeting its goals and is leading both research and education based programs.



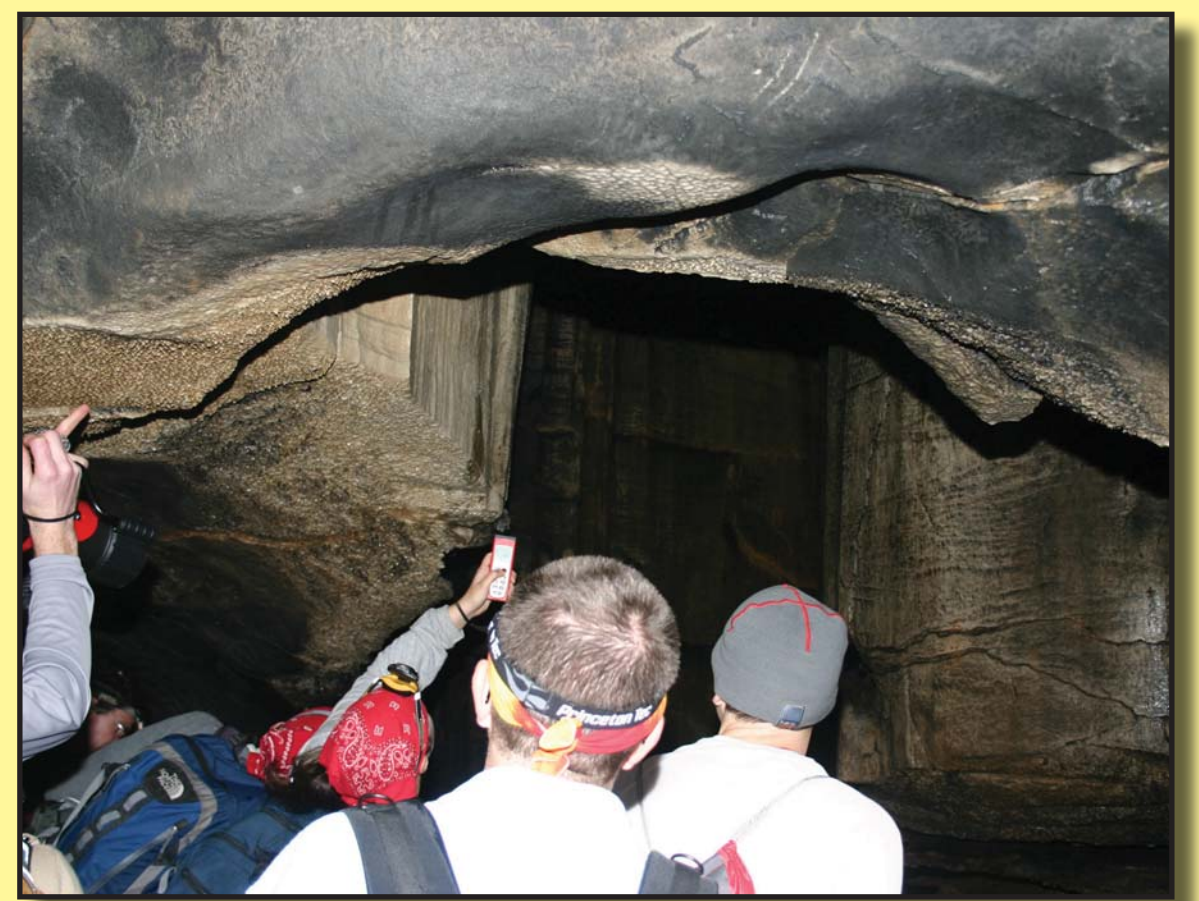
A Northern Kentucky University professor and student work together to map a cave passage.



A Geoscience-Teacher-in-the-Park intern records the GPS location of a cave entrance.

Facilitating the use of parks for scientific inquiry.

- Coordinates the research permitting process at Mammoth Cave National Park
- Assisted Ohio State University in conducting measurements of cave passages, pits, and other geologic formations
- Working with a fluid dynamics expert at WKU to study air flow in the caves
- Partnering to develop a statewide karst research initiative
- Working with Tennessee State University to study the fate of runoff contaminants in the park



Ohio State students measuring the height of a shaft in Mammoth Cave.

Communicating the relevance of and providing access to knowledge gained through scientific research.

- Co-host the Geoscience-Teachers-in-the-Park summer internships at Mammoth Cave National Park
- Provide research-focused field opportunities for various universities
- Create internal and external research summaries
- Serving on exhibit committee for new Visitor Center



A high school student makes a line drawing of a cave passage as part of a hands-on cave mapping exercise.

Supporting science-informed decision making.

- Serves as a consultant on cave lighting projects and co-lead on multi-park cave lighting research project
- Primary scientific consultant for an on-going E. coli contamination issue in areas of the cave
- Presented session on rabies risks and prevention to park staff
- Participating in the evaluation of paleontological resources for a cave trail project.

Promoting science literacy and resource stewardship.

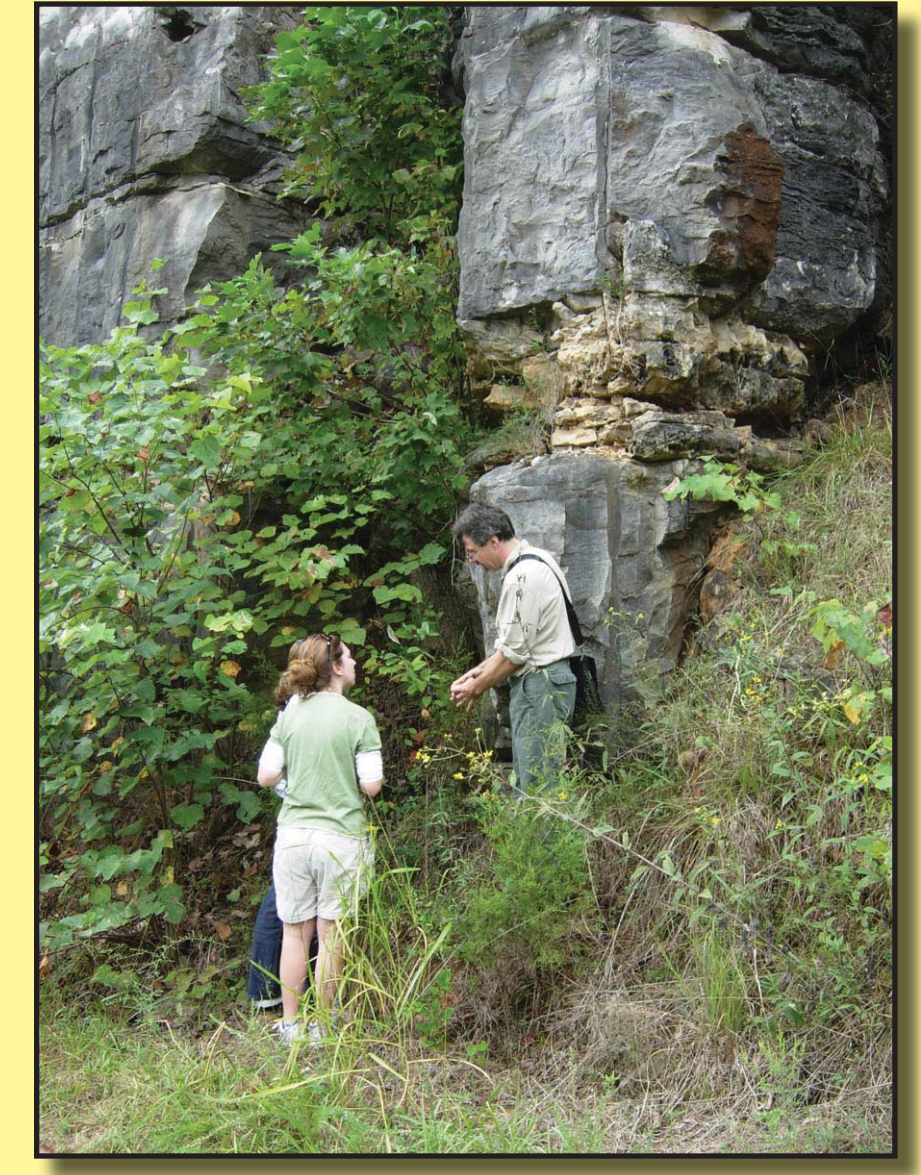
- Hosts public and teacher training workshops
- Assist with WKU's Karst Field Studies summer classes
- Conducted a pilot-program with a local high school to create a hands-on Special Topics in Biology II class
- Working with Tennessee State University on a grant to encourage minorities to pursue STEM careers



Research Director and Park staff discuss cave lighting options that will minimize lamp flora while meeting visitor needs.



A volunteer works on a cave gating project.



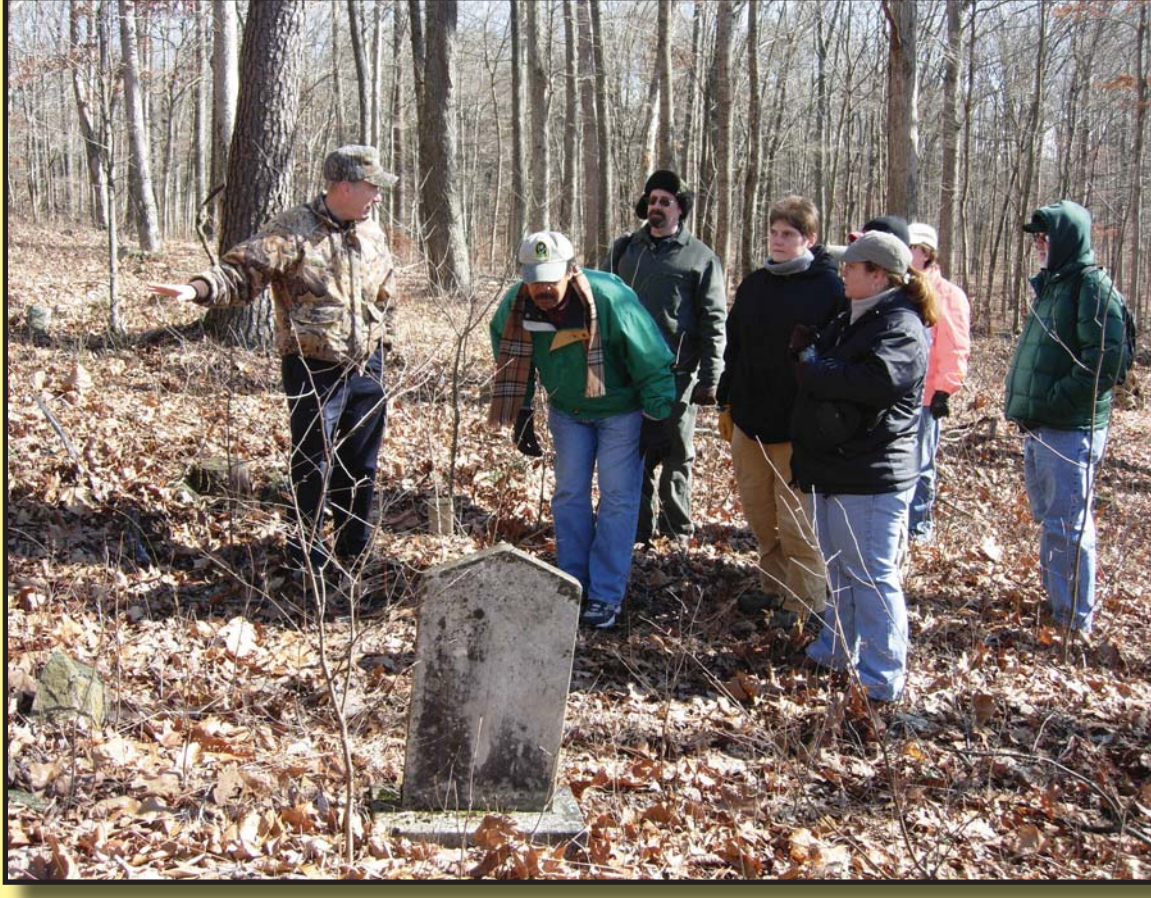
A roadside geology lesson during a session presented at the Kentucky Association for Environmental Education's 2007 conference.



A Geoscience-Teacher-in-the-Park intern records data about one of the springs located within the park.

Acknowledgements

Thanks to all those at Western Kentucky University and Mammoth Cave National Park who provide so much support and encouragement. Thanks also to our many partners who make the individual projects in which they are involved possible.



Participants in a weekend Karst Field Studies workshop learn about the history and contributions of African Americans to Mammoth Cave area.