

Mammoth Cave National Park Kentucky



GARY C. BERDEAUX



Tour entering Historic Entrance.



Cave cricket (*Hadenocetus subterraneus*).

Quick Numbers for Mammoth Cave

Cave Length	590,629 meters
Cave Depth	115.5 meters
Years of Known Exploration	2000 - 0 BCE, ~ 1795 - present
Total Visitors per Year	584,000
Cave Visitors per Year	356,000



Project studying growth of lamp flora.



Monitoring cave cricket populations.



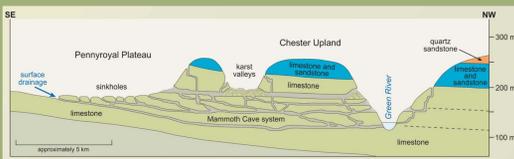
Cave surveyor descending into a pit.

Welcome!

Mammoth Cave National Park conserves 21,450 hectares of the central Kentucky karst. The park contains over 300 caves including at least 10 with lengths over 1.5 km. This includes portions of the longest (Mammoth-Flint Ridge-Roppel, 590 km), eighth longest (Fisher Ridge, 180 km) and forty-sixth longest (Whippistle-Martin Ridge-Jackpot, 55 km) caves. The park was designated a World Heritage Site in 1981 and the core of an 828,697 hectare UNESCO International Biosphere Reserve in 1990.



Echo River Spring.



Diagrammatic view of the Mammoth Cave area geology.

Geology

The Central Kentucky Karst is developed into approximately 100 meters of Lower Carboniferous carbonates. This karst is dominated by cave formation by meteoric water in an unconfined aquifer. The water for cave development derives from an extensive sinkhole plain that lies mainly outside the park. The caves are developed in levels that have formed as the Green River has cut down into its valley over the past 10 million years.



Gypsum crystals in Turner Ave.

Biology

Park caves have a very diverse and well-studied biology. The 41 species of cave adapted organisms from the area represents one of the highest subterranean biodiversities worldwide. The biodiversity at Mammoth Cave is notable because it includes high diversity of both terrestrial and aquatic cave-adapted creatures. Caves in the park are the type locality of over 25 cave adapted species.



Dixon Cave - a vadose canyon.



Gray bats (*Myotis grisescens*).



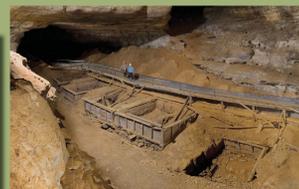
Endemic Kentucky cave shrimp (*Palaemonias gantieri*).



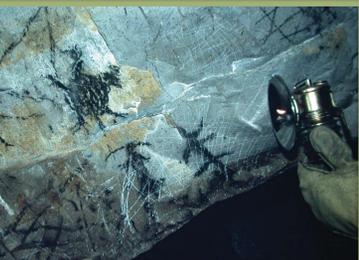
Southern cavefish (*Typhlichthys subterraneus*).

History and Archeology

Humans have inhabited the park area for at least 10,000 years. From about 3,000 to 2,000 years ago, several of the caves were extensively utilized by local people mining several types of evaporate minerals from the cave. During the early 1800s, calcium nitrate was mined from park caves for the production of saltpeter. Mammoth Cave became a show cave in 1816, and has been continuously open as one since that time.



200 year old saltpeter leaching vats.

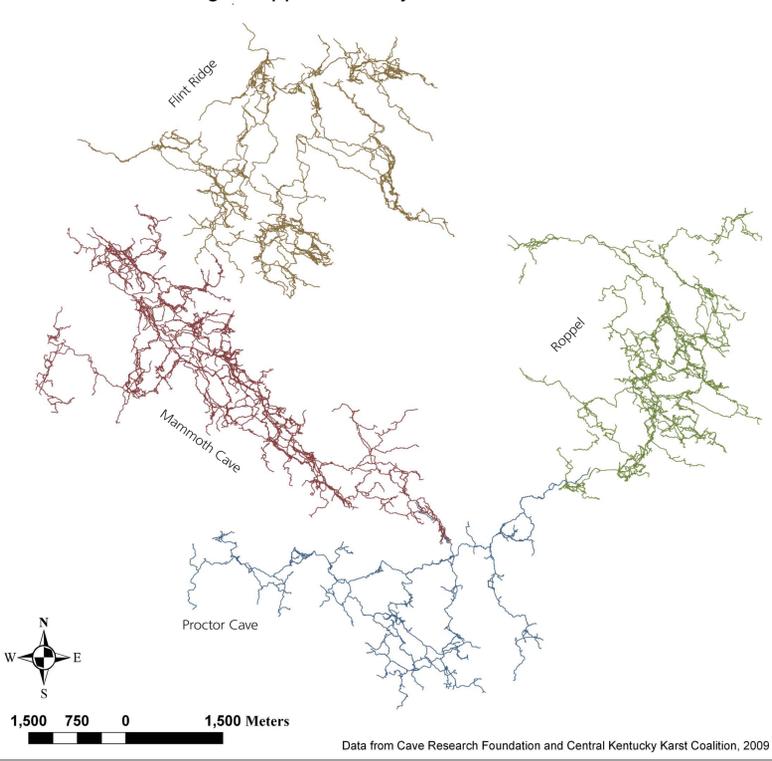


Pre-historic petroglyphs.

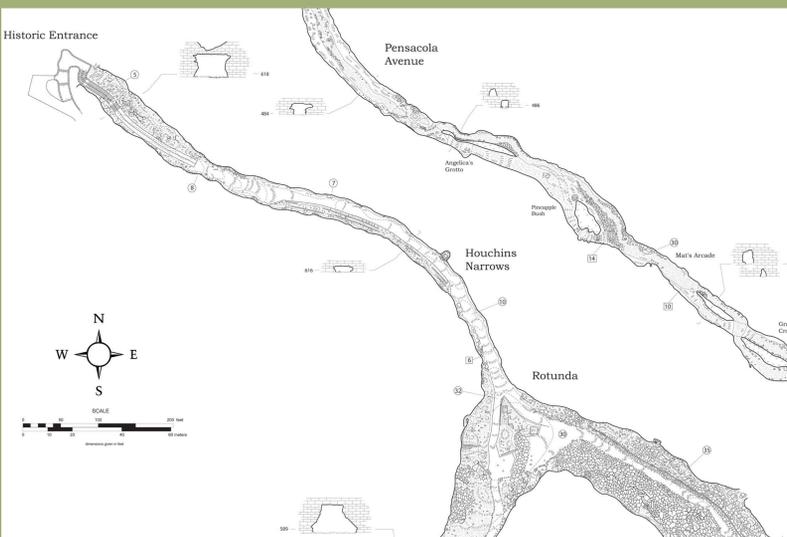


Smoke writing and monument in Gothic Ave.

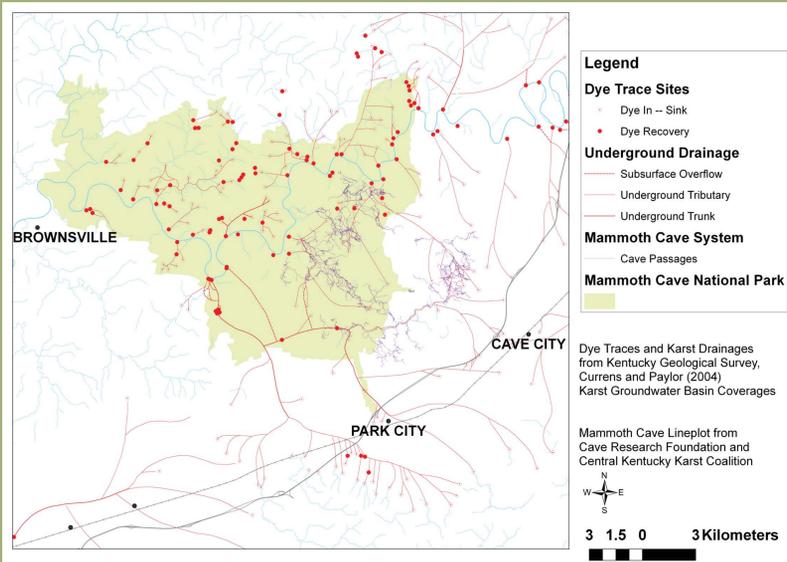
Mammoth-Flint Ridge-Roppel Cave System



Line plot of the Mammoth-Flint Ridge-Roppel Cave System. Data from Cave Research Foundation and Central Kentucky Karst Coalition, 2009



Detailed map of cave passages. Map provided by the Cave Research Foundation.



Dye traces showing underground drainage basin for Mammoth Cave National Park



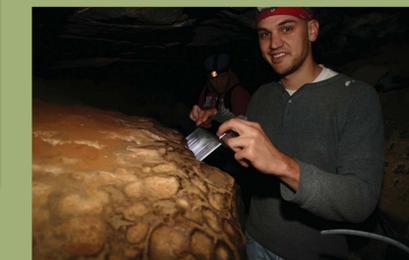
Cave surveyor mapping in river passage.



Whittenberg University students looking for cave passages using electrical resistivity testing.



MCICSL conducting a virtual cave presentation with Superintendent Pat Reed at the 2009 George Wright Society Conference.



An Ohio State geology student measuring scallops.

Research

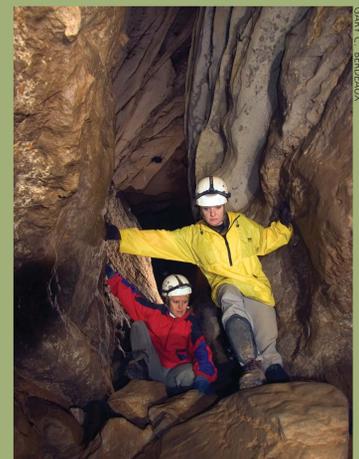
Modern scientific study of Mammoth Cave began in the early 1800s. Research in geology, hydrology, biology, cave climate, archaeology, and history has made Mammoth Cave one of the most studied caves in the world. Ongoing research includes cave survey, pure scientific research, and applied research for cave management. The Cave Research Foundation, Central Kentucky Karst Coalition, the James Cave Cavers, and other cave mapping groups have mapped over 833 km of caves in the area.



Karst Field Studies Karst Ecology class.

Mammoth Cave International Center for Science and Learning

MCICSL is a cooperative venture of Mammoth Cave National Park and Western Kentucky University. The center coordinates scientific research and research permitting at the park and consults on scientific issues. Staff assists researchers in arranging the logistics of research in the park, and provides numerous educational activities that highlight research at the park.



Tourists on the Wild Cave Tour.

Access and Tours

The park received over 584,000 visitors in 2008; over 356,000 of them took a cave tour. About 16 kilometers of cave passages are visited in regularly scheduled cave tours. Tours range from one-hour tours of a highly-decorated area to six-hour wild-cave tours that offer a taste of caving. All access to park caves is through either guided tours or via research or special use permits provided by the park. No park caves are open to public caving.

Contact Information

Patrick Reed
Superintendent
Mammoth Cave National Park
P.O. Box 7
Mammoth Cave, KY 42259, USA
ph 270-758-2184
fax 270-758-2349
pat_reed@nps.gov



Tour in Cleaveland Avenue, a classic phreatic tube.