Welcome

to the *Natural Inquirer* Caves and Karst Edition!

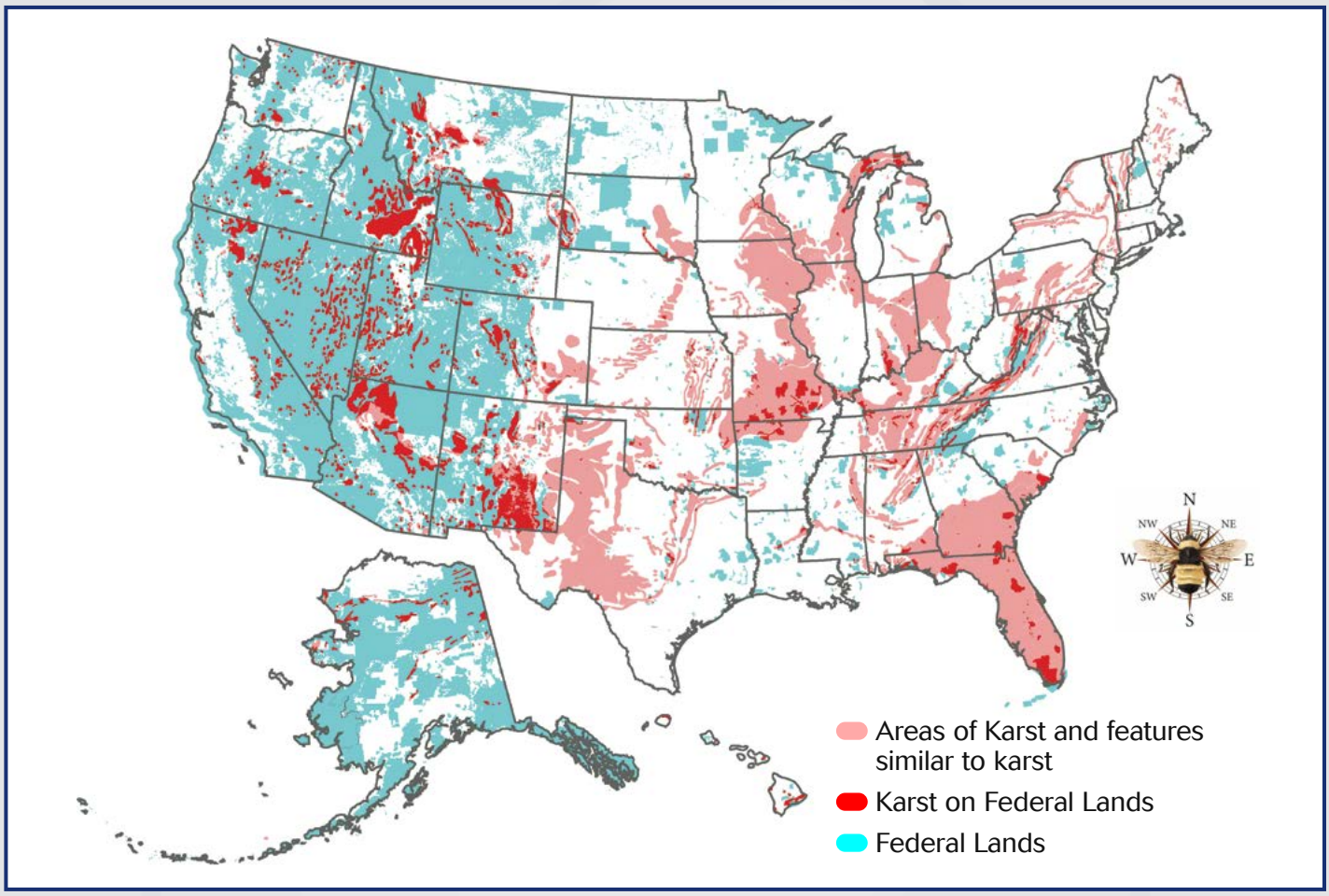


Figure 1. Map of karst features in the United States. Map courtesy of the National Cave and Karst Research Institute.

You probably have heard about caves before, but you may not have heard of karst. So what does karst mean? Karst refers to a type of landscape or topography that is formed when rocks are dissolved by a weak acid. Over time, groundwater that is acidic wears away rock and creates tunnels and open spaces. Approximately 20-25 percent of the United States is karst landscapes (**figure 1**). Karst landscapes usually have sinkholes, caves, streams that seem to disappear or sink, and springs (**figures 2-5**).

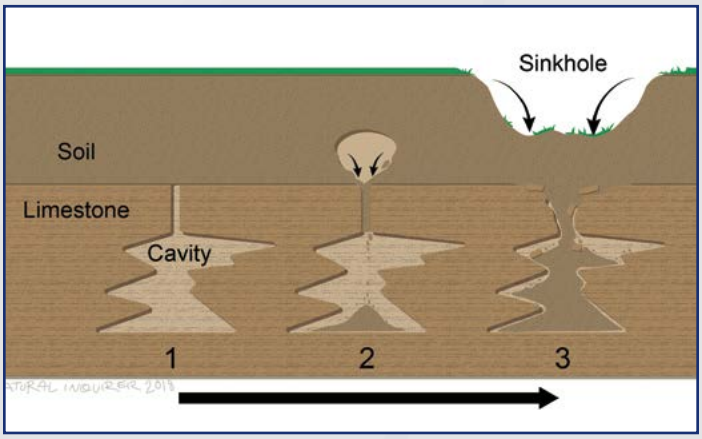


Figure 2. A sinkhole is a hole or depression in the landscape that is created when layers of dirt and soil are washed down into the cracks and crevices in a karst landscape. Illustration by Stephanie Pfeiffer.

Figure 3. A sinkhole on a flat plain in Grand Canyon-Parashant National Monument. Photo courtesy of National Park Service, via https://www.flickr.com.

Figure 4. A karst spring in Utah. Photo courtesy of Dale L. Pate, National Park Service, via https://www.flickr.com.

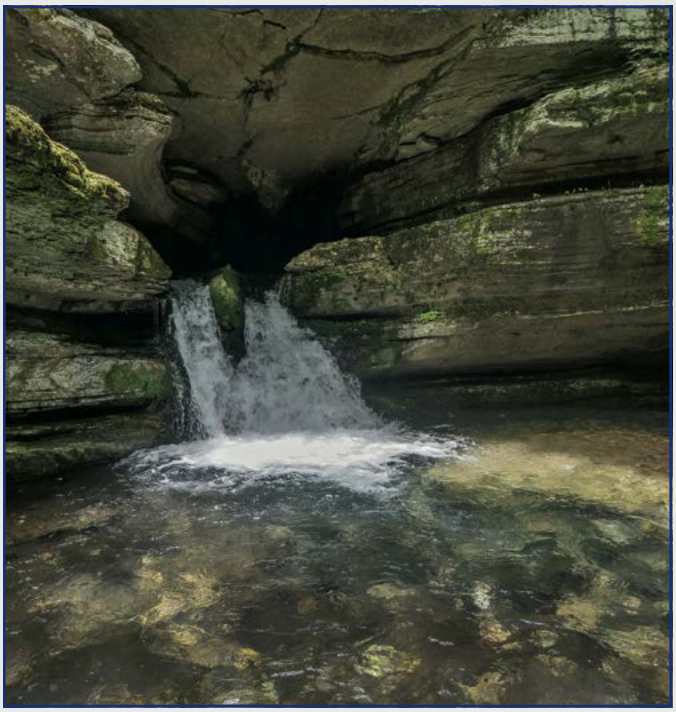


Figure 5. A karst spring on the Ozark-St. Francis National Forest in Arkansas. Photo courtesy of Dave Bunnell, Under Earth Images.

Karst landscapes vary in size from very large to very small areas. Additionally, some karst cannot be seen easily because it is buried beneath other kinds of rocks or deep layers of sediment or covered with vegetation. In the United States, a large amount of drinking water comes from karst aquifers—approximately 40 percent! Aquifers are underground areas that hold water. Karst aquifers are areas of dissolvable rock that are water-bearing and can also absorb water. The largest karst aquifer in the United States is the Floridan aquifer, which extends from Florida into South Carolina (**figure 6**).

Caves are found in karst landscapes, but also found in other areas. Generally, caves are defined as naturally occurring cavities or

openings in the earth (**figure 7**). Scientists who study caves are called speleologists (spē lē **ä** lə jists). Caves are fascinating for multiple reasons. One reason caves are fascinating is because they are home to unique ecosystems. The lack of light and other extreme conditions result in interesting animal adaptations and rock formations. Caves are also fascinating because they often contain fossils.

Some examples of animals that live in caves are Texas blind salamanders, cave fish, crayfish, tooth cave spiders, and bats (**figure 9**). Some of these animals are endangered species and need extra protection.

Bats that live in caves are facing a particularly difficult challenge with a fungus known as white-nose syndrome (WNS). You will learn about WNS in "Cave Conundrum." In "Tropic Topic," you will

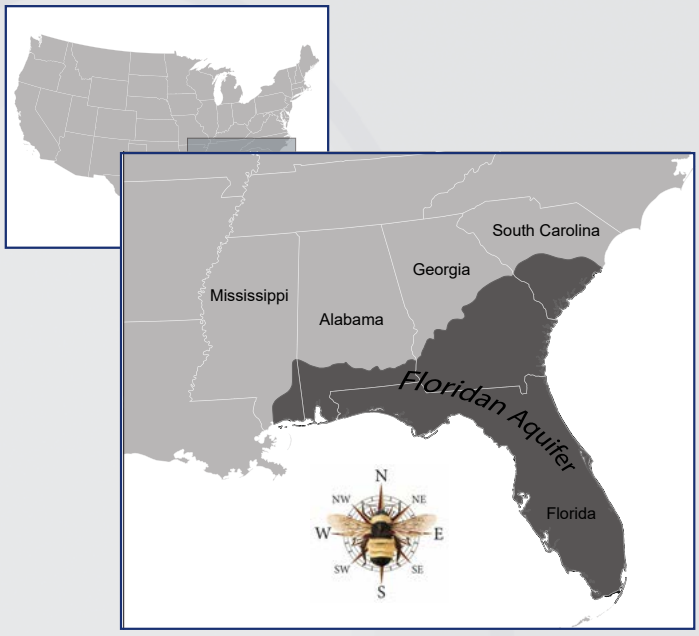
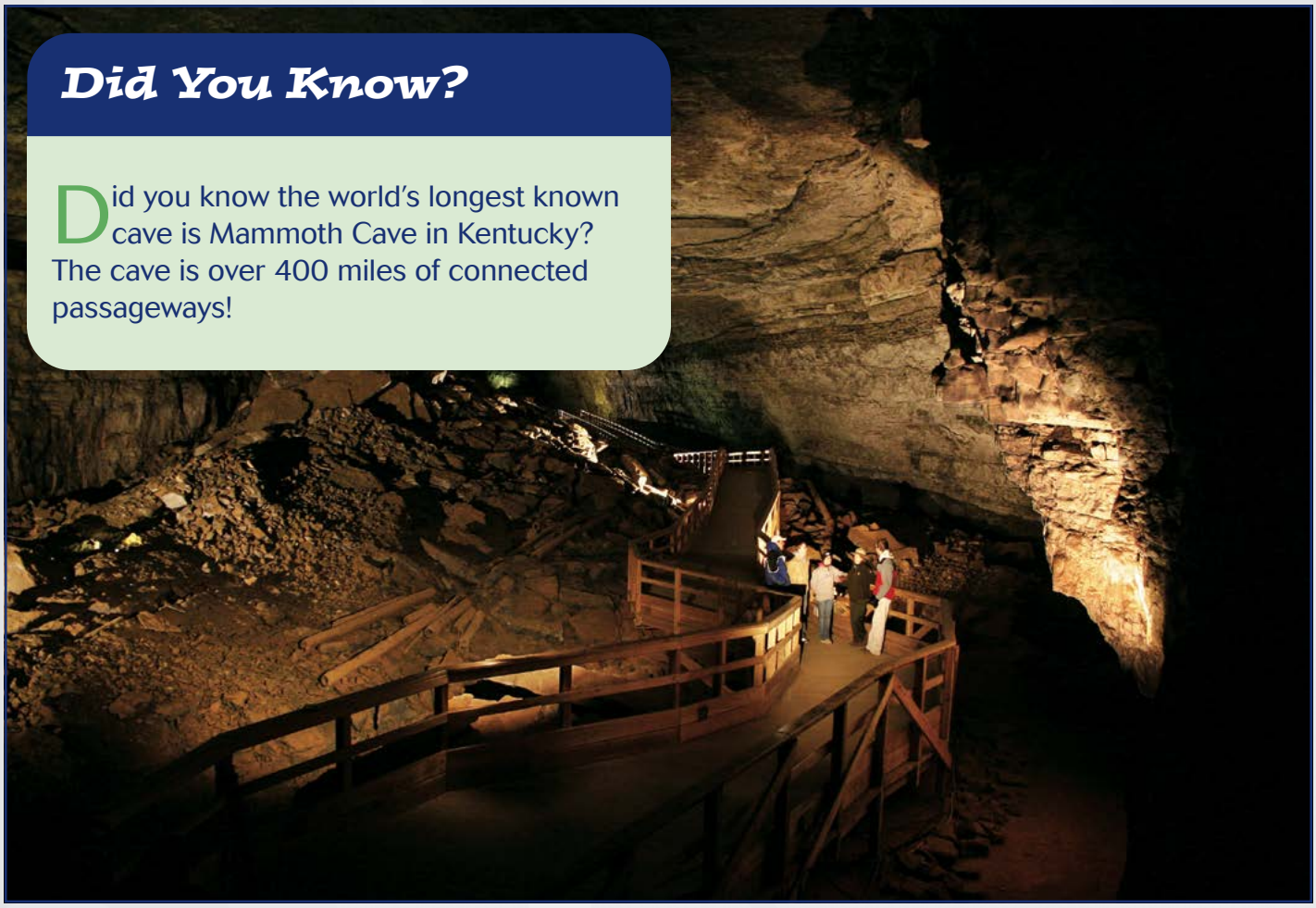


Figure 6. The Floridan Aquifer extends from Florida into South Carolina. It is one of the most productive aquifers in the world. A productive aquifer provides a large amount of freshwater. Map courtesy of Carey Burda and Stephanie Pfeiffer.

Figure 7. This cave has an opening high above the land below. This cave entrance has a beautiful view. Photo courtesy of Johanna Kovarik, USDA Forest Service.



Did You Know?

Did you know the world's longest known cave is Mammoth Cave in Kentucky? The cave is over 400 miles of connected passageways!

Figure 8. Visitors walk through the Main Cave, known as Broadway, in Mammoth Cave. Photo courtesy of National Park Service.

learn about karst landscapes in tropical forest areas. Through reading "The Whole Kit and Kaboodle" you will gain an understanding about an Alaska Native Tribe and their unique connection to coastal cave areas. The final article, "A Tale of Two Caves," will explore how caves develop and how caves near each other can develop differently. These articles represent just a few of the cool science topics that are studied in karst and cave areas.

Figure 9. Cave crayfish live in Mammoth Cave, Kentucky. Photo courtesy of National Park Service.