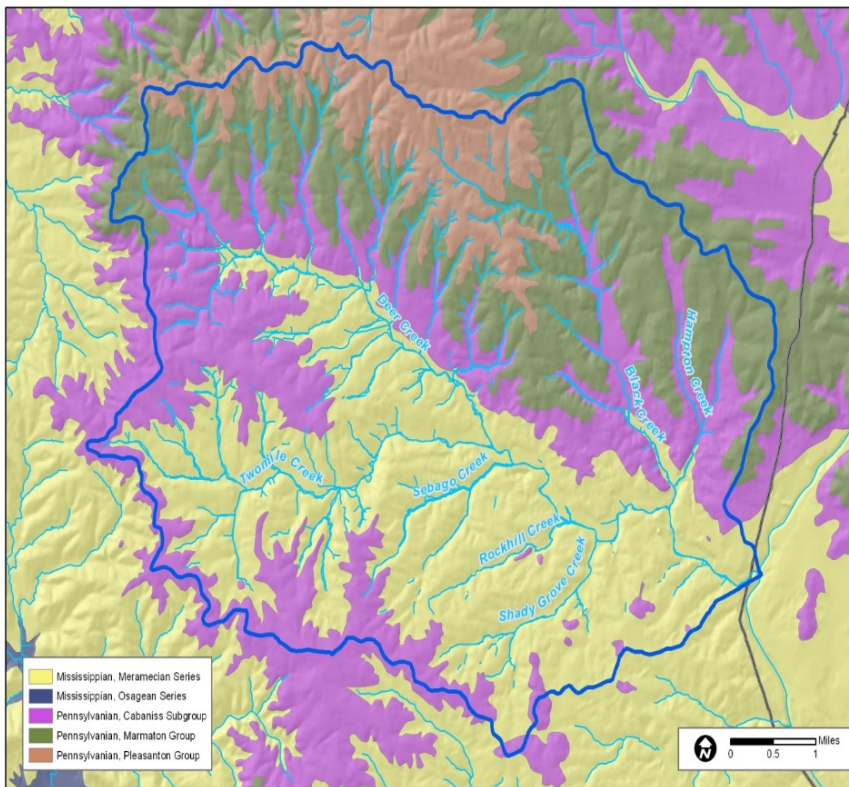
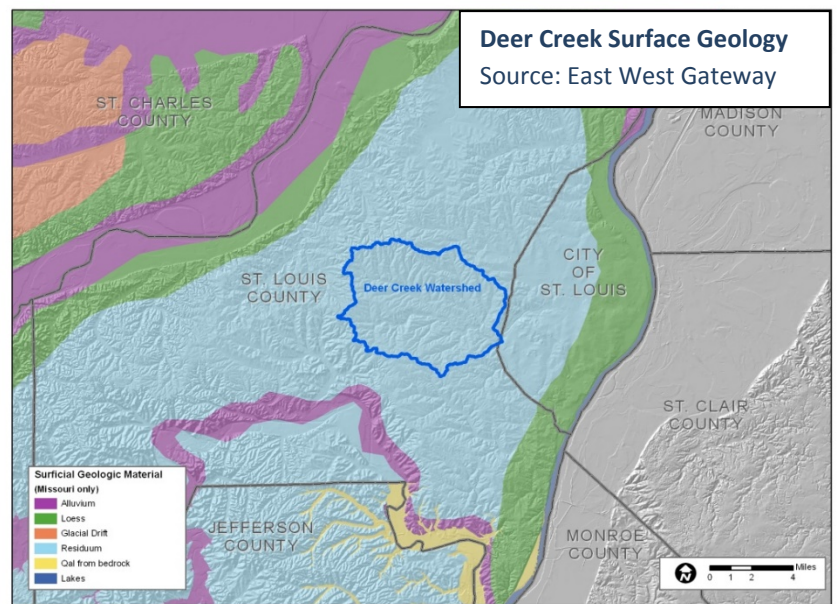


GEOLOGY

Geology in the St. Louis region consists of limestone, sandstone, and shale. Areas north of the River des Peres watershed consist of sandstone, whereas areas further south in the watershed lay on alluvium deposits from former flood events. Northern reaches of the River des Peres watershed itself as well as the northern part of its sub-watershed, Deer Creek, include Pennsylvanian limestone and sandstone, whereas western portions of the River Des Peres watershed and the southern half of the Deer Creek Watershed include Mississippian limestone and shale.

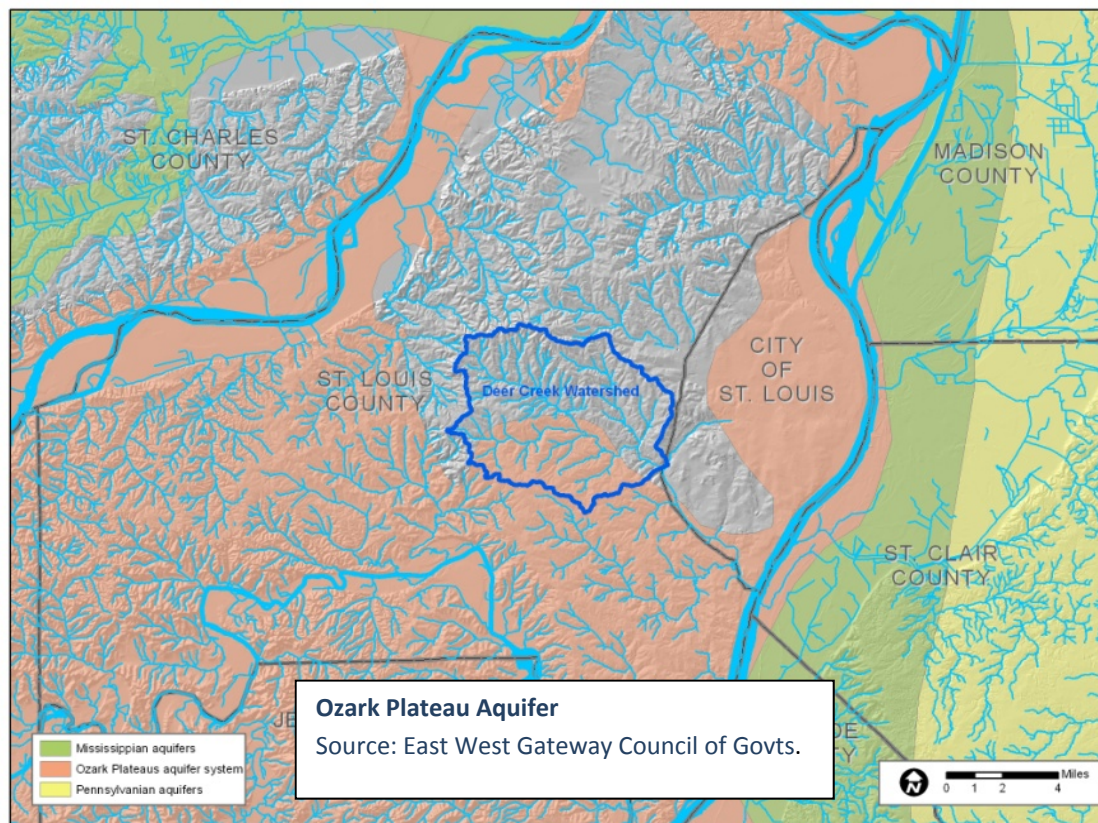


This region contains the oldest surface rocks in the state; limestone that was formed about 345 million years ago during the later part of the [Mississippian Period](#). Meramecian series is a sequence of [Mississippian](#) rocks in the [Mississippi River Valley](#) and is named for the [Meramec River](#).

These rocks show that during the Late Mississippian, the land was alternately above and below sea level. When the sea advanced, limestone (and occasionally shale) was deposited. When the sea retreated, erosion set in.

The Mississippian limestone contains [chert](#) (or flint). Because chert is much harder and more resistant to weathering than limestone, [erosion](#)

of the softer limestone has left a thick blanket of chert gravel on the hilltops and ridges. The Deer Creek watershed consists of Residium which is a cherty limestone – clay and gravel -- up to 50 feet thick.



KARST TOPOGRAPHY AND GEOGRAPHY

The region has an extensive karst landscape due to the presence of limestone. The Ozark Plateau's aquifer system (Map 1-7) generally is characterized as a carbonate aquifer with numerous karst features throughout, including caves, springs, sink holes and losing streams that are created as groundwater dissolves soluble rock such as limestone or dolomite. Karst aquifers have relatively free exchange of surface and ground water with limited geologic restrictions on water movement, which makes the aquifers susceptible to surface contamination. Microbiological activity in ground water can be affected by the presence of fractures, faults, and karst features such as losing streams, sinkholes, or solution channels in ground-water recharge areas that can affect the ability of viruses and bacteria to enter and move rapidly through the aquifers.

Limestone is a sedimentary rock composed of calcium carbonate. Approximately 166 sinks holes, rounded depression in the landscape formed when an underground cavity collapses, have been identified throughout the watershed. A majority of the sink holes are concentrated in the central area of the watershed between Ladue Road, Brentwood Blvd., and Rock Hill Road. The sinkholes tend to follow the creek drainages.

