

A Ranger Minute
Geology Exhibits at Yavapai Observation Station.
By P. S. Mayer

Welcome to Grand Canyon National Park. Everyone who has ever gazed into the beautiful depths of the Grand Canyon has wondered how it formed. Many different stories have been told of its creation over the years, but in the 1920s a group of geologist and scientists lead by John C. Merriam decided that Yavapai Point on the South Rim of Grand Canyon would be the best place to tell the story of how Grand Canyon formed.

All the geologic components of the formation of the canyon are visible from this point and in 1928 the Yavapai Point Trailside Museum was formally opened. This museum was one of the earliest interpretive structures in the National Park System and a huge success, but over the years the original geology exhibits were replaced and then completely removed. The building was converted to a bookstore in 1990 and renamed Yavapai Observation Station. In 1998 the National Park Service started worked on designs for new geology exhibits and in May 2007 these exhibits opened to the public.

The new geology exhibits are divided into two sections. The first section focuses on what visitors can observe outside of the building's large picture windows. These include exhibits on:

How big the canyon is?

How old the Canyon is?

and on the Colorado River and its role in carving the canyon.

Exhibits in the second section are each chapters in a story that explains how Grand Canyon formed. These stories are read from the rocks and fossils of Grand Canyon.

The first chapter tells the story of the oldest rocks in the Canyon: the Basement Rocks Sedimentary and volcanic rocks transformed by heat and pressure into hard metamorphic rocks during an ancient mountain building event.

The story continues with the Grand Canyon Supergroup Rocks 15,000 feet of sedimentary rocks deposited by ancient seas and rivers and then nearly completed destroyed by erosion.

The fossils found in the flat-lying layers of Paleozoic Rocks at the top of the canyon help tell the tale on how these rocks formed in a variety of changing environments including ancient tropical seas, rivers, wetlands, and deserts.

The final two chapters explain Grand Canyon Geology and what makes the Canyon unique. Chapter four tells the story of uplift and how the rocks in this area were lifted high and flat 7,000 feet above sea level.

The last chapter explains the formation of the canyon itself. About how the Colorado River cut down a mile into these rocks and how erosion in this dry desert environment widen the canyon to its present width of 10 miles.

On your next trip to Grand Canyon National Park make sure you check out the geology museum at YOS and learn for yourself the story of Grand Canyon. This has been a Ranger minute with Ranger Paul.