



A Curious Ensemble of Wonderful Features United States

When John Wesley Powell led an expedition down the Colorado River and through the Grand Canyon in 1869, he was confronted with a daunting landscape. At its highest point, the serpentine gorge plunged 1,829 meters (6,000 feet) from rim to river bottom, making it one of the deepest canyons in the United States. In just 6 million years, water had carved through rock layers that collectively represented more than 2 billion years of geological history.

“The wonders of the Grand Canyon cannot be adequately represented in symbols or speech,” Powell wrote in his log. Powell was seeing the canyon mainly from river level; there was no technology that provided views of the landscape from space then. If there had been, he would have seen something similar to what Landsat 8 observed in March 2013.

The Colorado River traces a line across the arid Colorado Plateau. Treeless areas are beige and orange; green areas are forested. The river water is brown and muddy, a common occurrence in spring when melting snows cause water levels to swell and pick up extra sediment.

It took Powell months to navigate the gorge. By the time he had arrived in the area that is now Lake Mead (visible on the next page, far left), his men were weary and four had deserted. For water and sediment transported by the Colorado, the journey is much quicker; it takes just a handful of days.