

## Volcanoes and Ruins of New Mexico Itinerary

June 3-4, 2023

1 semester graduate credit

Cost with tuition \$175. Cost without tuition \$120.

Day 1: We will meet for class in the parking lot by Bessemer Historical Society in Pueblo, Colorado. Pueblo is the site of some amazing Colorado History with the CF & I Steel Mill at the center of coal mining, steel production, company towns, exploitation of migrant workers, and labor wars. After introductions, we will hear some of Colorado's fascinating history.

We will then travel south along I-25 to Walsenburg, which was originally a coal mining company town for CF & I. We will take a short detour to view the intriguing geology of the Spanish Peaks, with their radial dikes and sandstone wall of the Devil's Stair Step. Legend has it that the devil came to this beautiful spot and used this Dakota Sandstone rock formation to climb out of hell. Surveying the beautiful mountains, valleys, and volcanic necks, the devil decided to take over the world. We will hear the rest of the legend from the Devil's Stair Step.

As we continue to travel south along I-25, we will stop at the site of the Ludlow Massacre to hear the tragic story of how a labor strike in the coal mining towns turned very brutal. A beautiful memorial to the 13 children and 2 women who were killed in the massacre has been erected by the United Mine Workers Association. We will also tour a company ghost town, coke ovens, and the memorial to the men who died in a mining accident.

At the top of Raton Pass we will stop to see the legendary Cretaceous / Tertiary Boundary in geologic time. Below this thin layer of strata, dinosaur fossils are plentiful around the world. This strange geologic layer is rich in the element iridium, an element that is scarce on earth but more abundant in meteorites. This K/T boundary layer is what led scientists to the conclusion that the earth was impacted with a meteorite, which destroyed much of Mesozoic life, including the dinosaurs. This site is one of the few places in the world, where we can clearly see the boundary between the geologic strata.

We will continue onward to the Capulin Volcano National Monument in New Mexico, which is a near perfect cinder cone. At the visitor center, we will watch a park video about the formation, geology and structure of Capulin. Here we will also learn about the Rio Grande Rift, which is stretching the United States apart. The rift starts near Leadville, Colorado and runs throughout the San Luis Valley and through much of New Mexico. This rift zone is responsible for numerous hot springs, the Sangre de Cristo Mountain Range, and the **Volcanoes of New Mexico**. Capulin is an amazing example of how different ecosystems often follow geologic strata lines. We can drive to the top of the Capulin Volcano and hike around the rim and into the vent of this beautiful cinder cone. We will also view many other

volcanoes in the distance from the summit of Capulin. Class will adjourn for the day and meet again in the morning in Taos, New Mexico.

Day 2: We will journey to the Rio Grande Gorge Bridge, which overlooks the Gorge formed by the Rio Grande Rift. Here we will learn more about the geology of the rift and the lava that has erupted within it. From Taos, we will drive to nearby Bandelier National Monument to view some of the most exciting and fascinating archeological ruins of Ancient Pueblo Indians. Here the massive Valles Volcano erupted and deposited thick cliffs of volcanic ash which hardened into tuff. The ingenious ancient Pueblo Indians tunneled their homes into the cliffs of this volcanic tuff. Many of the cliff dwellings still show signs of plaster with decorative paint. We will spend much of the day here hiking and exploring.

From Bandelier, we will drive a very short distance to the massive caldera of the Valles Volcano. This fascinating caldera is where the volcano collapsed in upon itself after it blew out its lava center. The immensity of the eruption is hard to envision until you see the caldera.

Are the **Volcanoes of New Mexico** extinct or just sleeping? Find out during this fascinating journey into history, culture, science and the volcano state.

Option to Continue Class to Volcanoes of New Mexico II to visit Santa Fe, Volcanoes of Albuquerque, El Malpais, and Chaco Canyon.