



## New Mexico: Geology in the Land of Georgia O'Keeffe October 7-14, 2012



*Georgia O'Keeffe's bold paintings often stay etched in our minds. Imagine having a geologist on hand to interpret her landscape's formation! Join a Naturalist Journey's trip that highlights the gamut from bedrock and earth processes to art and the story of a fascinating woman's life. Examine the way that nature and culture intertwine in New Mexico, which for us holds endless fascination. Join Narca Moore-Craig and expert geologist Kirt Kempter, to explore Tent Rocks National Monument, Bandelier National Park, and the Valles Caldera National Preserve. We plan moderate hikes (3 miles, uneven ground) and time in Abiquiu, Ghost Ranch, and Plaza Blanca, Georgia's White Place. Treats (this is your vacation!) include: great dining, lodgings at the Abiquiu Inn and in Santa Fe, and, for those that wish, a visit to the Ojo Caliente Hot Springs Spa. Learn more about the Rio Grande Rift, cataclysmic volcanic periods—young and old—and just how a hoodoo is formed!*



*Our guide, Kirt Kempter is a field geologist, teacher, and photographer based in Santa Fe, New Mexico. He has conducted numerous tours and geologic expeditions around the world, from Antarctica to Iceland. Kirt received his M.A. and Ph.D. from the University of Texas and was awarded a Fulbright Fellowship to study an active volcano in Costa Rica for his dissertation project. In recent years he has published numerous geologic maps and academic articles related to the geology of the Colorado Plateau and Rio Grande rift boundary in northern New Mexico. He enjoys hiking and sharing the region's landscapes, as well as its delightful lodgings and scrumptious cuisine. Explore some of his photographs at [www.geomosaics.com](http://www.geomosaics.com).*

### ITINERARY

#### **Sun., Oct. 7 Santa Fe**

Plan to arrive at the Albuquerque International Airport (ABQ) no later than 2:00 PM. We plan to drive north to Santa Fe pausing along the way to enjoy the fall colors. We arrive in Santa Fe late afternoon, with time to settle into our accommodations, located near the central historic plaza.

Enjoy a welcome dinner at one of the many great restaurants of Santa Fe.

*Accommodations in Santa Fe (D)*





## **Mon., Oct. 8 Kasha-Katuwe - Tent Rocks National Monument**

Today we explore the geologic past of little-known Kasha-Katuwe Tent Rocks National Monument, situated at the southeastern base of New Mexico's Jemez Mountains. We consider this a jewel of a park, one that Kirt knows in detail. Tent rocks are another name for hoodoos, and this area on the Pajarito ("Little Bird") Plateau provides a visual feast of dramatic rock formations left from volcanic explosions and pyroclastic flows. We explore the 3-mile Canyon Trail which follows many narrow passages and climbs 700 feet in elevation. We pass through pinon-juniper woodlands, where we should see Ponderosa Pines, Manzanita, Indian Paintbrush, and Apache Plume, Red-tailed Hawks, Violet-green Swallows, and possibly even a Golden Eagle soaring above us. At the

top, we'll be rewarded with spectacular views of slot canyons, tent structures topped with caprock, and a broad vista of the Sangre de Cristo, Sandia, and Jemez mountains and the Rio Grande Valley. Learn more about the volcanic history of Bearhead volcano, active ~7 million years ago, and responsible for many of the unique deposits now sculpted by erosion in the Tent Rocks area.

After a picnic lunch and depending on time, we'll take an optional drive through historic Los Cerrillos ("Little Hills"), the site of the old mining tent camps where in the 1880s, 3,000 prospectors extracted gold, silver, turquoise, lead, and zinc. The Cerillos Mining District is on the New Mexico Registry of historic places, and situated on the Turquoise Trail Scenic Byway.

We then return to Santa Fe, where you can dine at your leisure in one of many fine cafes within walking distance of our hotel.

*Accommodations in Santa Fe (B,L)*

## **Tue., Oct. 9 Santa Fe / Georgia O'Keeffe Museum / Museum Hill**

This morning we will take a geologic and birding hike in the foothills of the Sangre de Cristo Mountains on the outskirts of Santa Fe. Among the highlights will be a hands-on meeting with the Great Unconformity, where 300 million-year-old limestone rests upon 1.6 billion-year-old granite, representing a missing time gap of 1.3 billion years!

After a visit to the Georgia O'Keeffe Museum, enjoy more time in Santa Fe, North America's oldest capital city, to explore as you wish among local galleries, shops and



attractions. It's hard to ignore the daily pageant of vendors set up right around the plaza, in their colorful wear, talking in native dialect.

We gather for lunch at an appointed time and place and then provide transport up into the foothills of the mountains to Museum Hill, where those who wish can tour any of four world-class museums: The Museum of Indian Arts and Culture, the Museum of International Folk Art, the Museum of Spanish Colonial Art, and the Wheelwright Museum of the American Indian. You may prefer to stay on the square in Santa Fe; we invite you to explore as you wish.

Dinner is at your leisure again tonight. We're happy to advise you—so many restaurants to choose from!

*Accommodations in Santa Fe (B,L)*



## Wed., Oct. 10 Valles Caldera / Bandelier National Park

After breakfast, we head to the Valles Caldera, the world's type example of a resurgent caldera. The caldera is currently on track to become the nation's newest national park. We will explore the fascinating geologic story told by rock exposures inside and outside the caldera. Since the massive eruption that produced the caldera approximately 1.25 million years ago, the caldera has experienced profound changes, involving resurgent uplift, numerous volcanic eruptions, lakes, and erosion of the rim.

After crossing the caldera from east to west, we have lunch in either La Cueva or Jemez Springs. Afterwards, we visit the famous ancestral puebloan ruins at Bandelier National Monument. This is a gem of the national park system, with impressive ruins situated along a stream in the Jemez Mountains. At this time of year temperatures are great for



walking, fall color is at its prime, and in shrubs along the creek we encounter mixed flocks of Chickadees, Titmice, and Woodpeckers that may hold some lingering migrants. This

monument boasts the highest density of archaeological sites of any national park, all in a distinctive and beautiful canyon carved into the Pajarita Plateau. The ancestral puebloans inhabited this site—which has an abundance of water—even after abandoning others in their region. We walk trails established in the 600-foot-deep Frijoles Canyon to examine the historic structures. The geology of the area is fascinating as well, including spectacular cliffs of Bandelier Tuff, erupted from the Valles Caldera.

We wrap up the day with a stop to view the vast landscape carved by the Rio Grande River, at White Rock Canyon Overlook, before heading to Abiquiu and our delightful lodgings at the Abiquiu Inn, in the valley of the Rio Chama.

Accommodations at the Abiquiu Inn [www.abiquiuintn.com](http://www.abiquiuintn.com) (B,L,D)



## Thurs., Oct. 11 Plaza Blanca / Georgia O'Keeffe Home / El Rito

After breakfast we take an easy morning hike in Plaza Blanca, featuring bizarrely sculpted white cliffs that were a favorite painting subject for Georgia O'Keeffe. These rocks also tell an important story in the geologic history of the Rio Grande Rift, a major geologic structure in New Mexico. Following our hike we will explore the boundary of the Rio Grande Rift with the Colorado Plateau, featuring multi-colored sandstones capped by volcanic lavas from the Jemez Volcanic Field.

We return to the Abiquiu Inn for lunch, and afterwards tour the home of Georgia O'Keeffe, listed on the National Register of Historic Places.

O'Keeffe moved permanently to this home in 1949, inspired by the landscapes that surround Abiquiu.



Afterwards we head north to the charming village of El Rito, 15 miles north of Abiquiu. We explore the colorful red cliffs on the outskirts of El Rito, which tell a story of great compression and mountain uplift in New Mexico.

This evening we dine at El Farolito, a local El Rito restaurant which has won several awards for its green chili.

*Accommodations at the Abiquiu Inn (B,L)*



### **Fri., Oct. 12 Abiquiu / Georgia's Landscapes and their Geology**

This day in the field we will explore the geologic story behind the landscape that so fascinated Georgia O'Keeffe at her home at Ghost Ranch, situated on the eastern edge of the Colorado Plateau. We will take a 3-mile hike traversing bold sandstone cliffs that overlook the Piedra Lumbre Valley, looking out toward Cerro Pedernal, a geographic fixture that Georgia painted often. Following lunch at Ghost Ranch we will visit the dinosaur museum, where superbly preserved fossils of one of the first dinosaurs (*Coelophysis*) are on display. The important fossil discoveries at Ghost Ranch have led to the location being named a World Heritage Site.

En route back to Abiquiu, we stop along the highway to appreciate scenic vistas along the Rio Chama and to learn more about how the Abiquiu landscape evolved over geologic time. Time permitting, we might also visit Poshuoinge, a large ancestral pueblo ruin overlooking the Rio Chama just a few miles east of Abiquiu.

Dinner tonight back at the Abiquiu Inn.

*Accommodations at the Abiquiu Inn (B,L,D)*



### **Sat., Oct. 13 Exploring Taos / Ojo Caliente**

After breakfast we travel to Taos via the "High Road" that extends from Espanola. Our route is dotted with picturesque small villages rich in Hispanic culture. Endless vistas, fire-red strings of drying chilies, beautiful mission churches, quality weavings, and just great culture and scenery.

While in Taos, we visit the mission church of Saint Francis of Assisi, in Ranchos de Taos, painted by Georgia O'Keeffe and photographed by Ansel Adams. The church is prized for its dramatic form, built of indigenous adobe and wood.



Enjoy lunch in Taos at one of Kirt's favorite restaurants. He suggests we try *Rellonos en Nogadas* at Antonio's, a Taste of Mexico, located by the plaza.

We then travel to Ojo Caliente, where we offer an afternoon hike, either to a glittering mica mine or to the important ancestral puebloan village of Posiouiinge, followed by a luxuriant soak in the hot springs. These springs have been a fixture on the New Mexico historical scene for centuries, visited by the likes of Geronimo, Zebulon Pike, and Kit Carson to name a few. The geologic setting of the hot springs, however, is a story millions of years in the making, including a mountain, a rift, and deep circulating ground water.

We can't think of a better place to celebrate our week of exploring O'Keeffe country than a tasty farewell dinner at Ojo Caliente's Artesian restaurant.

*Accommodations at the Abiquiu Inn (B,L,D)*

### **Sun., Oct. 14 Departures from Albuquerque**

Morning departures through Santa Fe and on to Albuquerque for flights home (or we can drop you in Santa Fe if you wish to extend your visit. There is a handy shuttle back to the airport

from there if you wish to do so.





### **PLAN AHEAD!**

Protect yourself with [Allianz Travel Insurance](#) (formerly Access America).

Offset your [Carbon Footprint](#). Show us the receipt and we'll take 50% - up to \$50.00 - of your carbon offset fee off your final payment!

### **COST OF THE JOURNEY:**

The cost of this journey is \$2590.00 from Albuquerque, NM. This cost is based on double occupancy and includes all accommodations; meals as specified in the itinerary, group airport transfers, professional guide services, local park and other area entrance fees, and miscellaneous program expenses. The cost is based on a minimum number of 6 participants, with fewer a small group surcharge (typically \$100-\$300) may apply. The cost does not include transportation to or from your home to Albuquerque, or items of a personal nature such as laundry, telephone charges, portage, maid gratuities or beverages from the bar. Single supplement (as available) is \$595.00.

### **TRANSPORTATION:**

A good number of airlines service Albuquerque. Plan to arrive no later than 2:00pm on Oct. 7\*, and plan to depart after NOON on Oct. 14\*.

*\*Please note: some of you may wish to arrive early (or stay on after the tour) to explore Albuquerque, New Mexico. Under the shadow of Sandia Peak (reaching a mile above the city) several cultures have intermingled over the centuries to build a unique character: Pueblo, Hispanic and Anglo. We suggest lodgings at the Hotel Albuquerque at Old Town (formerly Sheraton Old Town) with easy access to museums, Old Town and some great restaurants. We will provide pick-up or drop-off here, in addition to the airport at the start of the tour.*

*Naturalist Journeys, LLC is an equal opportunity service provider and committed to the goal of ensuring equal opportunity for all in employment and program delivery.*

### **Photo Credits:**

*Santa Fe plaza and church, [www.santafenm.gov](http://www.santafenm.gov); Santa Fe street scene, [www.calwellbankersantafe.com](http://www.calwellbankersantafe.com); Tent Rocks, Bureau of Land Management; Valles Caldera, Valles Caldera National Park; Bandelier, Abiquiu Ruins, Plaza Blanca, Pedernal, Rio Chama and sunset, Kirt Kempter - [www.geomosaics.com](http://www.geomosaics.com); Abiquiu Inn, Rod Mikinski - [www.gamefaceimages.com](http://www.gamefaceimages.com) and Walter Nelson - [www.walterwnelson.com](http://www.walterwnelson.com); Taos, Alex Vargo; Ranchos de Taos, [longhorndave](http://longhorndave).*