

Tapeats Creek to Deer Creek

Natural History Backpack

March 27 – April 3, 2027
with Christa Sadler



CLASS INFORMATION AND SYLLABUS

The region around Tapeats Creek and Deer Creek is perhaps one of the most special places in the entire Grand Canyon. From the slickrock of the Esplanade, to rushing streams and waterfalls and the inner reaches of Grand Canyon, this area has pretty much everything!

This class is designed as an in-depth look at Grand Canyon geology, ecology, history, and archeology and the connection between them. The route followed by the class travels through some of the most geologically and biologically significant areas of the canyon and affords views and access to spots that are exceptional illustrations of various principles and processes. We will have an opportunity to explore life zones from the rim to the river and creeks, including biologically important seeps and springs. Geologically, we'll see everything from the very ancient inner canyon basement rocks to the very modern sands and silts deposited by the Colorado River and her tributaries. This route also contains views of some features that are only visible in a very few places in the canyon.

The route is an excellent one in that it naturally takes us on a progression from basic principles to more complex ones during the course of the class, all the while taking us to some incredibly beautiful places!

Concept discussed throughout the class include:

- Sedimentary rocks: how they form and how this is reflected in texture, color and composition.
- Fossils and ancient environments.
- The Life Zone concept and associated biotic communities within the Grand Canyon.
- Floral and faunal adaptations to Grand Canyon's desert environment.
- The importance of seeps and springs at Grand Canyon.
- Symbiotic relationships between plants and.
- The effects of Glen Canyon Dam on Grand Canyon.

- Geologic time—deep time, lost time and unconformities.
- Introduction to metamorphic and igneous rocks: how they form and what this tells us about the region.
- Grand Canyon through time: the environment and geography from the Precambrian to the Late Paleozoic and beyond.
- Faults and folds: movement within the earth
- Modern erosional processes: mass wasting, flash floods and debris flows—widening and deepening the canyon, formation of rapids.
- The Colorado River: modern processes and environmental battles.
- Ancient and modern peoples of the region.
- Mormon history, mining, and European settlement of the area.
- Leave no Trace concepts, archeological and landscape etiquette.

DAY 1

We will meet at **10:00 AM MST** (AZ time, so one hour earlier than Utah) in the Cottonwood conference room at the BLM field office in Kanab, UT (669 S. Highway 89A, [Google Map](#)). We will spend some time on introductions and logistics, gear and class information (including an introduction to the geology, ecology and geography of the region). This will allow plenty of time for people to prepare and gather any last-minute items they need.

DAY 2

We will meet at **7:30 AM MST** at the BLM field office and leave any cars we are not taking with us. We'll carpool to the Thunder River trailhead at Indian Hollow. The 1.5- to two-hour drive follows forest service dirt roads.

From Indian Hollow, we will hike down the Thunder River Trail, approximately eight miles and 900 feet vertical, to a magnificent dry camp on the red slick rock Esplanade with tremendous views across the canyon. This day allows us to look for archeological sites and see the headwaters of some of the side streams we'll be exploring later in the trip.

NOTE: We will need to carpool to the trailhead in as few cars as possible so as not to take up too much room at the trailhead. Four-wheel drive is not necessary, but high clearance is.

DAY 3

We will hike to Tapeats Creek Campsite today, Four to six miles and 3,000 feet vertical. Along the way, we will pass through one of the most scenically stunning and geologically significant and unusual landscapes in Grand Canyon. From the Esplanade we will drop down into Surprise Valley, an ancient landslide at the base of the Redwall Limestone, and linger at Thunder Spring, where thousands of gallons of clear spring water gush straight from the limestone wall to form Thunder River. Our camp will be on the banks of Tapeats Creek, a lively, clear stream lined with cottonwoods, willow, and watercress.

NOTE: There is a composting toilet at Upper Tapeats Campground.

DAY 4

We will spend some time exploring Upper Tapeats Creek, then hike 2.2 miles down Tapeats Creek to camp at the Colorado River. We will have plenty of time to further explore lower Tapeats Creek and the Colorado River at our campsite.

DAY 5

Today, we will hike along the River Trail to Deer Creek, a total distance of about 5 miles. There is a fair amount of vertical gain (and loss!) on this stretch. The trail to Deer Creek passes above the narrowest point along the river, as well as affording us some incredible views of interesting oddities of the Grand Canyon and the Colorado (like Helicopter Eddy!). This trail involves walking on large boulders, and making some very steep (albeit short) climbs, but it is an obvious route or trail all the way.

NOTE: There is composting toilet at the Deer Creek camp.

DAY 6

Today we will layover at Deer Creek and explore this remarkable side canyon. This tributary offers excellent chances to discuss the ancient and historic Indians who lived in the area and left sites and pictographs in the canyon. We can wander down to the river to see Deer Creek Falls plunging 140 feet over the Tapeats Sandstone cliff at water's edge. This is also a great place to just relax in the shade of cottonwoods, hang out on The Patio, or chill down in The Jacuzzi.

DAY 7

Today, we will begin our climb out of the canyon, back through Surprise Valley and up to the Esplanade once more. We will fill up with water at Deer Spring and carry it up to our dry camp for the night. We will be traveling anywhere from five to nine miles (depending on group preference) and around 2,800 vertical feet. The trail is very steep, rocky and unmaintained on the way out of Deer Creek and up to Surprise Valley. After that, we'll be in known territory.

DAY 8

We will finish our hike out to Indian Hollow today. Depending on our timing, we can plan lunch along the trail, on the rim, or even a late lunch in Kanab.

ABOUT THE INSTRUCTOR

Christa Sadler has worked with the Field Institute since its inception in 1993. She is a geologist, educator, and naturalist with a serious addiction to rivers, deserts and mountains. She has pursued research in archaeology, geology and paleontology across much of the globe. Christa teaches geology and guides in the canyons and on the rivers of the Southwest in the spring and fall, and escapes to Alaska in the summers. She also runs This Earth, a small business that takes Earth Science programs to children around the country, and designs exercises, programs and field trips for students in grades K–12. Christa's writing and photographs have appeared in *Plateau Journal*, *Sojourns*, and *Earth Magazine*. She is the editor of the anthology *There's This River ... Grand Canyon Boatman Stories*, and the author of *Life in Stone*, *Dawn of the Dinosaurs*, *The Colorado*, *Where Dinosaurs Roamed*, and *Dinosaur Frontier*.

RECOMMENDED READING

- Anderson, Michael F. *Living at the Edge: Explorers, Exploiters and Settlers of the Grand Canyon Region*.
- Beus, Stanley S. and Michael Morales. *Grand Canyon Geology*.
- Billingsley, George, et al. *Quest for the Pillar of Gold: The Mines and Miners of the Grand Canyon*.
- Huisinga, Kristin, Lori Makarick, and Kate Watters. *River and Desert Plants of the Grand Canyon*.
- Price, L. Greer. *An Introduction to Grand Canyon Geology*.
- Ranney, Wayne. *Carving Grand Canyon*.
- Ranney, Wayne and Ron Blakey. *Ancient Landscapes of the Colorado Plateau*.
- Sadler, Christa. *Life in Stone, The Colorado*

NOTES

- Water needs to be purified prior to consumption along the route. Please bring your own water filter. We can decide as a group how many we need before the trip starts.
- We are hiking and camping for most of the trip along a creek, so there is no concern about water for much of the trip. But since we have two dry camps, you should bring at least eight liters of capacity (total) for water. You will want at least three liters for your daily consumption when we are hiking. In addition, you will need capacity for our dry camps on the Esplanade. We'll figure all this out when we meet but come with eight liters capacity. In addition, anyone driving should plan to have a large container of water in their vehicle. The Trip Leader will have several five-gallon containers of water for people not driving.
- Be prepared along the whole of this route to safeguard your food against rodents and other critters using a "Ratsack."
- Where there are no pit toilets, appropriate backcountry toilet etiquette is essential.
- You will need to have hiking shoes that can get wet. We will be crossing the creeks during our hike and our layover days.