

# Death Valley National Park: Geology in a Land of Contrasts and Extremes

**March 10th - 16th, 2014**

**Located in Death Valley National Park and southern portions of the area just outside the park. Lodging will be at Furnace Creek Ranch Resort at Death Valley, California (“in the Park lodging” means less driving and more geology!).**

## **Program Description:**

According to the Park Service Death Valley National Park is the “Hottest, Driest, Lowest! A superlative desert of streaming sand dunes, snowcapped mountains, multicolored rock layers, and water-fluted canyons”. Death Valley National Park (DVNP) is all of this and more in its 3 million acre size and convenient location near Las Vegas, NV.

Join us to explore the geology of these “contrasts and extremes” in Death Valley National Park.

“The Hottest!” We will be investigating the geology at various sites in the park in one of the mild seasons of the year (day time highs of 70-80 degrees F). In addition to a milder temperature on the human species, the flora and fauna are most accessible to the human traveler at these times and should provide us with an added benefit.

“The Driest!” We will have first-rate accommodations at Furnace Creek Ranch Resorts. This ranch was established in the 1880s as a working cattle ranch. Now it is home to comfortable accommodations, pool, golf course, and four restaurants. We will be staying and eating here when not in the field looking at the rocks.

“The Lowest!” Yes, and we will be visiting these “low areas” (and high ones too!) in order to take in the geologic story of the Park.

The key topics to be addressed are:

- 1) Geologic Framework of DVNP
- 2) Tectonic evolution and Basin Formation of DVNP
- 3) Arid Basin Hydrology of DVNP and surrounding area

From our home-base in Furnace Creek we will visit various places within the Park in order to create a rich understanding of the Park’s Geology. The program will include

visits to the following places: Harmony Borax Works, Mormon Point Turtleback, Lake Manly shorelines, Dante’s View, Zabriskie Point, Gower Gulch, Badwater, Titus Canyon, Devil’s Golf Course, Race Track Playa, Ubehebe Craters, Tucki Dunes, Hole-in-the- Wall, Artist’s Drive.

Time permitting, areas outside of the park to the south may be visited. These include: Shoshone (Tecopa basin), Amargosa Borax Works, and Tecopa Hot Springs.

Guests will each receive an extensive guidebook to use during the week and keep at the end of the program. The guidebook will cover all subjects of the trip using primary research papers when available.

Some hiking of up to 2 miles may be required, with elevation gains of 500 - 1,000 feet, over moderate terrain. This is an active program and not intended for those who cannot actively explore outcrops/ road cuts; some of which require hiking to reach (call provider with questions on the level of mobility that participants must have).

## **What is included:**

All lodging at Death Valley’s Furnace Creek Ranch Resort  
Food except one dinner on your own (4 dinners, 6 breakfasts, and 5 lunches are provided)  
All gratuities on food and other services  
All transportation once the program begins in DVNP until its close  
All professional guiding by geologists  
Field materials including a field manual especially designed for this program Entrance into the Park

## **What is not included:**

Purchases of a personal nature  
All alcoholic beverages  
Transportation to and from DVNP  
One dinner on your own (night off)

**Program Leaders:**

\*Dr Daniel Larsen, (PhD), Professor at the U of Memphis, Memphis, TN. Dr Larsen has continuously been researching the spring and water/rock interaction in the southern Death Valley region since the mid 90s. Has led field trips to the area and currently supervises graduate students working in the Park and surrounding areas.

\*Peter McCarville (MS), Professional Geologist and Geological Guide, Crawford, CO. Mr McCarville leads and designs geological educational outings for various organizations such as Road Scholar and the Geological Society of America. He has he has co-led 2 geology programs to DVNP and is the originator of this program.

**Contact person for program details and registration:**

Peter McCarville, [petermccarville@gmail.com](mailto:petermccarville@gmail.com) or 970-921-3867. Also inquire about our Colorado Mining and Moab Utah geology programs.

**Program Cost:**

The per person price is \$2445. Single room supplement is an extra \$675. Price does not include transportation to and from DVNP. For those that sign up before December 31st, 2013, an "Early Bird" discount of \$100 off the per person price is available.

**Program Size:**

small group