

Voluntary-Extra Credit Field Trip #1 – San Diego Coastal Geology

Torrey Pines Beach - Saturday, February 10, 2018

9:00 am for Surf/Beach trash pick-up; 10:00 pm for Beach hike

Introduction

This voluntary fieldtrip assignment is optional and involves participating in a coastal geology field trip with your earth science professor. Students will be guided by the instructor on a leisurely hike along one of most natural and beautiful beaches in San Diego County. Students will receive extra credit if they show up and participate for the entire time, as determined by the instructor. Students must complete the fieldtrip worksheet to be eligible for extra credit (up to 13 points). Below is information for the Torrey Pines fieldtrip.

Coastal Geology and Tectonics Fieldtrip along Torrey Pines Beach

When: Saturday February 10, 2018 at 10:00 AM (9:00 AM for surf/trash activity)

Where: Torrey Pines State Reserve Beach, San Diego. We will meet across from the bathrooms near the park entrance located off the Pacific Coast Highway against a big hill next to the beach (NOT the bathrooms near the river mouth and bridge!). Park either along the highway (for free) or go into the park (pay an \$12 fee). Don't be late!

How to Get There: go to this site for maps and directions to the meeting place - <http://www.torreypine.org/parks/basic-information.html>

How long?: The trip will probably take four hours to complete (9:00 am to 10:00 am for pre-trip surf/trash pick-up activity and 10:00 am to 1:00 pm for the main trip activity).

Cancellation due to Weather: Field trip will be cancelled if it rains (very unlikely!).

General Purpose: To familiarize students with the coastal geology of San Diego County, and to better understand the concepts concerning sedimentary rocks, depositional environments, shoreline processes, geomorphology, weathering and erosion, and beach sediment, with an emphasis on geologic and tectonic history of San Diego.

Activities:

1) Pre-trip Extra-extra Credit Activity

Show up one hour early (9:00 am) and either spend **one total hour in the ocean with the instructor** (doing whatever surf zone activity you prefer) **OR spend one total hour collecting trash off the beach** with your own supplied trash bag.

Note: To earn the 3 extra points, you must find and check in with the professor at 10:00 am sharp at the beach, **AND** then check back in with him at 10:00 am for points approval. You need to spend at least 50 minutes to earn the 3 E.C. points.

2) Official Fieldtrip Activity

Show up at 10:00 am sharp for a leisurely, 3-hour-max, 1-mile hike along the beach. Observe, study, and discuss the geologic history and development of the local marine rock formations of coastal San Diego. Note that this 3-hour activity will earn you up to 10 extra points, but you must find and check in with the professor at 10 am sharp at the beach and sign the attendance sheet. Then you must also resign the attendance sheet at the very end of the fieldtrip for complete credit. If you have to leave early, you must first check in the instructor to let him know that you are leaving, and you will get prorated points for how much you attended.

Field Assignment: Students will be required to complete a short field trip question handout, which includes answering fill-in questions, observing ocean and bluff conditions, and writing a short reflection on the field trip experience that can be turned in later in class.

What to Bring: Students should bring a clipboard, writing tools, water, and sunscreen. Frisbee, towel and a surfboard are optional. **Also bring a copy of the in-person fieldtrip question worksheet. Download a copy from this link:**

http://www.seascisurf.com/inperson_fieldtrip1_worksheet.pdf

What to Wear: Loose, comfortable clothes (T-shirt and shorts is good) along with a sweatshirt or windbreaker. Beach weather may range from sunny and warm to overcast and cool. So it is a good idea to be prepared either way.

Option #2 – Alternative Fieldtrip Assignment – Coastal Geology and Tectonic History of San Diego (not yet available)

Field Assignment: Students need to complete a question-based worksheet on the virtual field trip experience to be turned into class (in-class course) or in the assignment center (online courses) in order to receive extra credit. This “virtual” fieldtrip focuses on the geology of coastal San Diego and the tectonic history of Southern California. This assignment is composed of two parts: 1) Tectonic history of San Diego County; and 2) Geologic rock formations, paleo-depositional environments, and marine sediments of coastal San Diego. The virtual fieldtrip assignment is worth up to 5 points.

This assignment can be completed online, and is composed of two parts:

- I. Tectonic history of San Diego County: 500 million-year evolution from oceanic crust to continental crust.
- II. San Diego Coastal Geology: Major Rock Formations; Geologic settings; Marine Sediments

A copy of the complete virtual fieldtrip information and worksheet is found at this link:

Worksheet link: http://www.seacisurf.com/virtual_fieldtrip1_info.htm