

2017 GSA CORDILLERAN SECTION MEETING

Geology and Current Activity of Kīlauea Volcano, Island of Hawai‘i

FIELD TRIP #8

COST: US\$274.73

DATE(S) OF FIELD TRIP: May 26-27, 2017

MAX # OF PARTICIPANTS: 18

MIN # OF PARTICIPANTS: 11

LEADER: *Tom Shea*
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CO-LEADER: *Emily First*
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SPECIAL NOTICE: This post-conference field trip will start and end in Hilo, on the island of Hawai‘i (also known as the big island). You are responsible for getting yourself to Hilo on May 26 in time to start the trip at 7:00 am. One option is to purchase a round-trip ticket from home to Honolulu (HNL) and back, as well as a round-trip ticket from Honolulu to Hilo (ITO) and back. Currently, interisland flights cost ~\$180 round-trip. However, it may be cheaper to fly directly from home to Honolulu, attend the conference, fly from Honolulu to Hilo, participate in the field trip, and then fly directly home from Hilo. A travel agent should be able to help figure this out. You are also responsible for lodging arrangements during the field trip (i.e., in Hilo – see lodging suggestions below). It is possible to fly into Hilo on May 26 in time to make it to the start of the field trip, but you will need to catch a very early flight to do this, so we strongly urge you to arrive the evening before. This will require you to book a minimum of 2 nights in Hilo (the night of May 25 – before the trip starts, and the night of May 26 – between the two field trip days). Note that hotel rooms in Hilo are likely to be a little cheaper than in Honolulu, so you might as well leave Honolulu the evening that the conference ends (May 25) and avoid having to catch an early flight the next morning. You will need to get yourself to your hotel that evening, however, it is only a ~10-minute taxi ride. Finally, only lunches are included in the field trip cost - you will be responsible for your breakfasts and dinners. For more information, feel free to contact the trip leaders.

DEPARTURE **Meet in Hilo 0700 May 26** in the lobby of the Hilo Hawaiian Hotel at 0700 sharp. Vans will pick up participants to go directly to the Hawai'i Volcanoes National Park.

ITINERARY

Day 1. After pick up in Hilo at 0700, arrive at HVO in the parking lot at 0800 May 26, 2017

Stop 1. 0800. Meet USGS volcanologist Don Swanson outside HVO, who will provide an overview of the summit geology, and the last ~500 years of activity at Kīlauea (the formation of the caldera, the explosive period that followed, the renewed effusive caldera-filling period, some of the 20th century features and the current Halema'uma'u activity).

Stop 2. 0930. Stop at the Kīlauea Iki overview to talk briefly about the 1959 eruption and Pu'u Pua'i construct. Walk through Thurston lava tube from Ailā'au eruption.

Stop 3. 1045. Continue down the road to Devastation Trail parking. Walk to the ancient road where deposits are, examine Kīlauea Iki deposits in collapse pits.

Stop 4. 1130. Continue down Chain of Craters Road, depending on how we are doing on time, stop at either the main Pauahi crater or at Devil's Throat for a discussion of collapse/pit craters.

Stop 5. 1215. Lunch at Mauna Ulu parking lot. Toilet is available.

After lunch, walk along the western segment of 1969 fissure system that started the Mauna Ulu eruption (1969–74). Examine spatter ramparts, tree molds, and typical eruptive features of Hawaiian fissure systems.

Stop 6: 1400. Drive to Mauna Ulu channel overlook. Walk along the channel to the first pali lookout where channel steepens. Discuss dynamics of active lava flow channels (blockages, overflows, thermal erosion).

Stop 7: 1600. Time permitting, drive down to coastal plain and walk to petroglyphs.

Make our way back towards the Park entrance by around 1730 and have dinner at Kīlauea Military Camp/Volcano, and go to see Halema'uma'u after dark before departing for Hilo.

Day 2. Meet in lobby of Hilo Hawaiian Hotel at 0700 May 27, 2017

After pickup in Hilo, we will drive to Kalapana and park at the end of the road, to walk to the active flows and/or ocean entry (assuming they are present!). This will be the main activity of the day, with ~2-3 hrs of hiking each way. Therefore, participants should be in **good physical condition** to do this part of the field trip. Participants must carry lots of water, food (lunch will be provided), a raincoat, and wear good hiking boots. While walking, we will discuss the history of Pu'u' Ō'ō and its >30 years of activity. If active surface flows are present, we will make temperature measurements. Note that sampling in the Park is not allowed without a permit (see sampling permit restrictions below if interested), and participants should be respectful not to bring items to 'stick' into the active flows (!). After spending some time at the flows, lunch, and potentially walking down towards any ocean entry, we will start the hike back around 1:30 pm at the latest. Note that if there are no accessible surface flows, we will only go to view the ocean entry, and then return.

Return to car by 1600, in time for transport to Hilo hotels/airport and flights to Honolulu. **Make sure your flight out is no earlier than 7 pm.**

Note: If there are no active lava flows at all (i.e., no surface flows *and* no ocean entry) at the time the field trip occurs, we will be spending the second day around Kīlauea examining some of the many other great geological locations and features the volcano has to offer.

COST INCLUDES: Ground transportation, 2 lunches, water, fieldguide. All participants are required to cover the cost of lodging, meals other than lunches, and incidentals. We strongly recommend that you fly to Hilo the night of May 25, which is what the leaders are planning to do. It is possible to catch a flight from Honolulu to Hilo on the 26th (the first day of the field trip) in time to make the 7 am meeting in Hilo, but that flight is very early (it leaves Honolulu at 5:20 am).

SPECIAL

INSTRUCTIONS: Be prepared for a range of weather including heavy rain and strong sun. The weather at Kīlauea's summit (1200 m elevation) varies hourly and may be hot and sunny or rainy and chilly in the same day. Wind speed ranges up to 10 m/s, averaging 5 m/s. Typical daytime temperature ranges are 16 to 24°C; wind chill can be several degrees less. Umbrellas are useless because of the wind; either pack light rain gear or just get wet. Temperatures may be 5 to 10 degrees hotter and much more humid at sea level.

Depending on wind direction during the day, there is a slight possibility you may be exposed to minor amounts of vog or sulphur dioxide gas and sulfate aerosol particles. This should be no more than a very minor annoyance unless you have respiratory sensitivities; please see this link for more information: <http://ivhhn.org/vog/>

For both days of the trip, sturdy shoes are required. Hiking boots with good soles, long pants, and gloves are **required** for the lava hike day (plenty of folks have lost bad quality soles to the heat produced by few-day-old lavas flows that we may be walking on). A good backpack will be needed for the lava flow hike with enough space for ½ gallon water and lunch.

Sunscreen, sunglasses if needed/desired, and a hat with chin strap are strongly recommended. Remember that sunburn happens quickly at 19°30' latitude.

Sampling will not be allowed during the fieldtrip, as this requires a special collections permit from the National Park. If you are interested in collecting specimens, please plan ahead and apply for a collections permit: <https://irma.nps.gov/rprs/>

Helpful information about the National Park fees, amenities, and what is available in the general area can be found here:

<https://www.nps.gov/havo/index.htm>

Each day, vans will pick you up at 7:00 in the morning in the parking lot of the Hilo Hawaiian Hotel. These vans will not stop during the ~50-minute drive to the each day's first stop, so please be ready for the entire day's activities when the vans pick you up.

LODGING:

We recommend staying at the Hilo Hawaiian Hotel, as this is where vans will meet each morning at 07:00 before driving to Hawai'i Volcanoes National Park to begin the field trip.

<http://www.castleresorts.com/big-island/hilo-hawaiian-hotel/>

Other lodging nearby:

Grand Nanioloa Hotel <http://www.grandnanioloahilo.com/>

Uncle Billy's Hilo Bay Hotel: <http://unclebilly.com/hilo-bay-hotel-2/>

Hilo Seaside Hotel <http://www.hiloseasidehotel.com/>

GROCERIES AND OTHER AMENITIES IN THE HILO AREA (note that only the first, which is really only a stop-n-shop, is within walking distance of the hotels listed above):

Uncle Billy's General Store
87 Banyan Dr.
(808) 935-0861

KTA Super Store
50 E. Puainako St.
(808) 959-9111

Safeway
381 E. Maka`ala St.
(808) 339-3795

Sack 'N Save
Puainako Center
2100 Kanoelehua Ave
(808) 959-5831

RESTAURANTS WITHIN WALKING DISTANCE OF THE HILO HOTELS LISTED ABOVE:

Queens Court Restaurant (in Hilo Hawaiian hotel itself; (808) 935-9361)

Coconut Grill (in Hilo Seaside Hotel; (808) 961-3330)

Verna's Drive-in (open 24 hours; (808) 935-2776)

Ken's House of Pancakes (open 24 hours; (808) 935-8711)

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CANCELLATION: Must be made in writing and received by the Field Trip Coordinator, GSA Headquarters, PO Box 9140, Boulder, CO 80301-9140, (303) 357-1006, by **date TBD** to qualify for refund. NO refunds for cancellation notices received after this date. Refunds will be processed as soon as possible after the meeting.