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FIELD TRIP GUIDEBOOK #041

ICELAND LAND OF ICE AND FIRE

August 14-19, 2012

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NWGS FIELD TRIP GUIDEBOOK SERIES

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I. ITINERARY

Day One: August 14th

Theme: Mid-Ocean ridges, geothermal activity and geothermal power generation. Flow regimes of Icelandic rivers. Rift valleys and erupting hot springs. Seismic activity in the SW Seismic zone. Lava tubes.



*Figure 1.
Route driven on
the first day –
total km driven
this day 294.*

- 0900 Group pick up at Kex hotel.
- 09:30 High temperature hot springs at Kleifarvatn.
- 10:15 The Eldborg cinder crater.
- 11:30 Raufarholshellir lava tube.
- 12:00 Lunch.
- 13:30 The Kolviðarhóll power plant.
- 14:30 The South Iceland Seismic Zone – the 2000 and 2008 earthquakes.
- 15:00 Ljósifoss hydro – power station – flow regime of Icelandic river and geological settings.
- 15:30 Þingvellir rift valley.
- 16:30 Geysir – erupting hot springs.

- 17:30 Gullfoss – the golden waterfall.
- 18:00 Hotel.
- 19:00 Dinner.
- 20:30 Talk: The geology of Vestmannaeyjar Volcanic Eruption in Heimaey 1973.

Please note: Head lights and good gloves are needed if you intend to enter the lava tube. The surface is rough and you enter at your own risk. It is however an interesting site and those that venture into the cave usually do not regret taking the journey into the underworld.

Day Two: August 15th

Theme: Volcanic activity in the South Island volcanic zone. Natural hazards. The Heimey eruption in 1973. Seabirds in the North Atlantic.



Figure 2.
Route on day
2. Total
distance
driven 124 km.

- 07:30 Breakfast.
- 08:15 Depart for the ferry to the Vestmannaeyjar.
- 10:30 Arrive at Vestmannaeyjar.
- 10:30 Explore the island.
- 12:00 Lunch.
- 13:00 Explore the island.
- 17:00 Board the ferry.
- 18:00 Arrive at the main land.
- 19:00 Arrive at hotel.
- 19:30 Dinner.
- 21:00 Talk: Geology of Iceland and the 2010 Eruption of Eyjafjallajökull.

Note: While in the island we have the option to go on a boat ride around the island. This is a very interesting trip that I recommend. The cost is around \$35 per person. Please keep in mind that Heimaey was the site of the eruption in 1973 when a 2 km long fissure opened up at the outskirts of town of 5000 inhabitants. Close to 400 homes were destroyed by lava and the town was buried in tephra. It took two years to dig out the town once the eruption ended.

Day 3: August 16th

Theme: The eruption of Eyjafjallajökull 2010. The alpine landscape of the Thorsmörk area. Hike to the 2010 crater.

- 07:30 Breakfast.
- 08:30 Depart the hotel on a special mountain bus and head to Thorsmörk.
- 10:00 Gígjökull – the origin of the 2010 jökulhlaups.
- 10:30 Stakkholtsgjá – a feature created during the jökulhlaups during the last interglacial.

11:00 Hike to the craters that were formed in the 2010 eruption. This is a difficult hike through spectacular landscape. The total length of the hike is 13 km (4 miles) and the elevation increase is 770 m (2500 ft). A shorter hike is optional for those not interested in the long hike (see transect below).

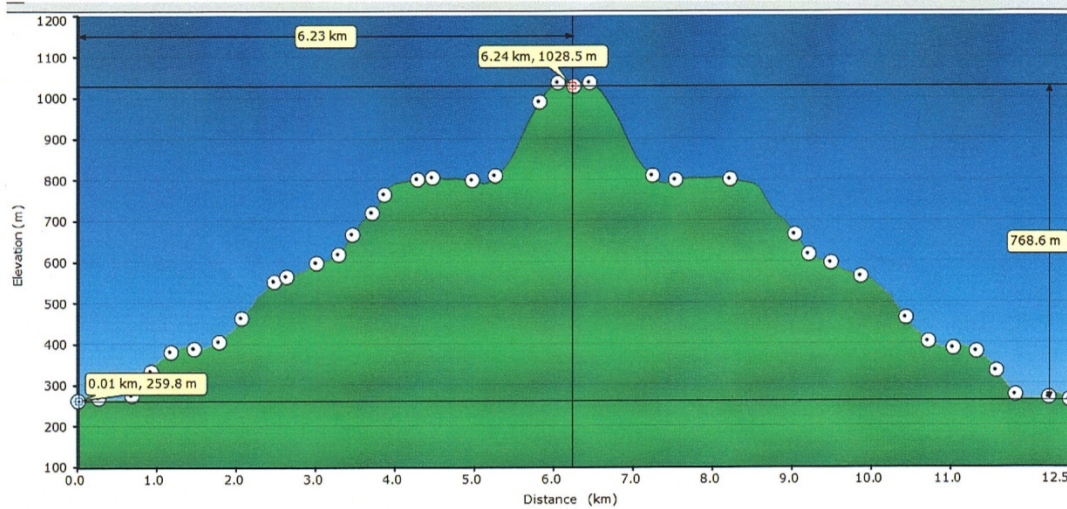


Figure 3.

- 17:00 Head from Thorsmörk.
- 18:30 Arrive at hotel.
- 19:30 Dinner.
- 21:00 Talk: The volcanic activity of South Iceland volcanic system –

Please note: For this day we also have the option of driving almost to the crater. This is a more costly option but if a large part of the group has difficulties hiking long distances this might be the way to go. Once again if part of the group would not be interested we would have an alternative activity for them.

Day 4: August 17th

Theme: Volcanic activity in the South Iceland volcanic zone. The Eyjafjallajökull eruption of 2010. The Katla eruption. Jökulhlaups and tsunamis. The Laki eruption of 1783 AD. Eldghar eruption of 934 AD. The warm based glaciers of Iceland. Rootless craters.



Figure 4. Route on August 16th — 400 km.

- 07:45 Breakfast.
- 08:30 Departure.
- 09:15 Seljalansfoss waterfall.

- 09:45 Þorvaldseyri – volcanic museum.
- 10:30 Reynisfjar beach & Dyrhólaey – columnar basalts.

12:00 Lunch in Vík – visit the wool factory.
 13:00 Mýrdalssandur outwash plain. Site of the Katla jökulhlaups.
 13:30 The Laki lava field. Largest Holocene lava field in the world.
 14:00 Fjaðrárgljúfur

14:30 Kirkjubæjarklaustur – rootless craters.
 15:15 The great glacial outwash plains along the south margin of Vatnajökull glacier.
 17:00 Arrive at the hotel
 18:30 Dinner.
 19:30 Talk: Glacial history of Iceland.

Day 5: August 18th

Theme: Glaciers in Iceland – the effect of climate change in Icelandic glaciers.

07:45 Breakfast.
 08:30 Depart the hotel.
 09:00 Boat trip on the Jökulsárlón ice marginal lake (\$25) optional. For those not interested in the boat trip a hike in the area is a fantastic option.
 10:00 Fjallsjökulsíón – another ice marginal lake.
 11:00 Kvíárjökull Iceland’s highest moraine.
 12:00 Svínafellsjökull – lunch.
 13:00 Skaftafell glacial park.
 13:10 Hike – an option of a short and a long hike (the short one is 2-3 hours) the long one is 5-6 hours).
 18:00 Depart the park.
 18:40 Arrive at the hotel.
 19:30 The final dinner.



Figure 5.

Day 6: August 19th

We drive back to Reykjavík arriving at 17:00.

Publication Coordinator’s notice: due to technical difficulties, a very small portion of the right edge of the pages throughout the remainder of this Field Guide may be cut off.