Geotourism:
The Tourism of Geology and Landscape

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Promoting geotourism: a case study from Northeast Iceland

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Introduction

Iceland is becoming a popular venue for nature-based tourism enthusiasts interested in exploring Arctic environments for scenic and recreational purposes (ITB 2009; Gossling and Alkimou 2006). Visitation to Iceland is expanding exponentially, generating significant revenue and income, making tourism the third largest foreign currency earner for the Icelandic economy. In 2006, total tourism receipts were measured at 47 billion Icelandic kroner (ISK), contributing 4.1 per cent to the nation’s GDP, and providing 12.7 per cent of the country’s income from foreign sources (Rannsoknir and Radgjof Ferdapjonustunnar 2008). In 2007, over 530,000 international tourists visited Iceland with over 80 per cent first-time visitors mainly from Europe and North America (Rannsoknir and Radgjof Ferdapjonustunnar 2008).

The Icelandic Tourism Board (ITB 2007) identifies that the vast natural resources – glaciers, volcanoes, geysers, and untamed wilderness – are some of the most important reasons contributing to the present 7 percent annual growth rate in visitation (Gossling and Hultman 2006). The most popular leisure activity of visitors is nature observation (ITB 2007). Outdoor activities such as camping, hiking, boat tours, jeep and glacier tours, snowmobile excursions, and horseback riding are also popular throughout the island. Overall, visitor motivation to Iceland is based on romanticized notions of the unique wilderness and the grandness of the landscape and tourist experiences that recreate a ‘natural’ image of the island (Gossling and Alkimou 2006; Gossling and Hultman 2006).

This ‘myth of Iceland’ is also recognized as providing the country with the opportunity to foster visitor interest in geotourism (Dowling and Newsome 2006). Geotourism is defined as tourism with an emphasis on appreciating the geological processes that pertain to geomorphology, and the natural resources of landscape, landforms, fossil beds, and rocks and minerals (Newsome and Dowling 2006). Gudmundsson (2007) points out (p. 6), ‘the country is young and active, lies on top of a mantle plume and astride a divergent plate margin, has extensive glaciers, and in addition, most geological processes are rapid and dynamic’. Running from the southwest to the northeast of the island is a supramarine section of the Mid-Atlantic Ridge (Dowling and Newsome 2006). The ridge provides opportunities for studying geological processes, developing geotourism, and understanding Iceland’s ‘story of formation’ (Gudmundsson 2007; Dowling and Newsome 2006).
This chapter will outline the present planning and management efforts of tourism policymakers in Northeast Iceland to promote the development of a sustainable tourism industry that is integrating geotourism into its overall strategy for destination development. First a brief summary of the geology of Iceland will provide a general context for understanding destination attractions and activities linked to present visitation in Northeast Iceland. Second, the key elements of the five-year strategic plan for tourism completed in 2008 will summarize present planning efforts aimed at promoting geotourism in a context of a larger sustainable tourism framework. Finally, a number of recommendations will be identified to address future planning and development of geotourism in Northeast Iceland.

**Brief summary of Iceland’s geology**

In geological terms, Iceland is regarded as one of the world’s youngest countries emerging from the ocean around 20–24 million years ago. With an area of 103,000 square kilometres, similar in size to Ireland, Iceland boasts spreading ridge segments, intraplate lateral eruptive zones, transverse fracture zones and a hot spot (Gudmundsson 2007). Volcanic, tectonic, and glacial activities have shaped and continue to alter the present landscape.

**Volcanic**

More than 200 volcanoes are located within the active volcanic zone running through Iceland from the southwest to the northeast, with eruptions occurring on average every four to five years (Gudmundsson 2007). In this volcanic zone there are high-temperature areas containing steam fields with underground temperatures reaching 250°C (Figure 5.1). These areas are directly linked to the active volcanic systems as indicated by the triangles in Figure 5.1. About 250 separate low-temperature areas with temperatures not exceeding 150°C in the uppermost one kilometre of crust are mostly in the areas flanking the active zone. To date, over 600 hot springs (temperature over 20°C) have been located (Hull *et al*., 2008a).

![Figure 5.1: Tectonic map and active volcanic regions. Source: Wikimedia Commons.](image-url)