



## **Iceland, the Land of Fire and Ice, an ideal place to teach and study earth sciences**

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Iceland, the arctic island on the mid Atlantic ridge, is in many ways a unique place. While the earth crust is usually over 10 km thick, the mid Atlantic ridge on which Iceland is situated is less than 1 km thick. Accordingly, the country is characterized by frequent volcanic eruptions, seismic activity and numerous geothermal sites. Due to its Nordic location all elevated mountain peaks are covered by glaciers, accounting for about 11% of the area of the island. Only in Iceland earth sciences processes are occurring continuously and can be observed almost in real time. The frequent collision of cold Arctic winds with humid Atlantic air masses lead frequently to extreme weather constellations. Consequently, the weather in Iceland is characterized by high precipitation rates and extreme hydrological phenomena, ranging from rainfall flood peaks, to diurnal snow and ice melt and the all famous Jökulhaups. The frequent volcanic eruptions lead to a continuous renewal of the lithosphere, generating locations of distinct morphologic formations. Finally, 40% of Iceland's vegetation and soil has been lost due to anthropogenic impact since the first settlement 1100 years ago. These extreme conditions reveal also advantages, e.g. in the energy sector. Today Iceland electrical energy production is almost entirely renewable, 70% coming from hydropower and 30% from geothermal power plants. In this presentation we will present an outline why Iceland is an ideal place to teach and study earth science processes. The presentation will conclude by presenting educative itineraries for field excursions in Iceland.