

# VOLCANIC ERUPTIONS IN ICELAND – HISTORICAL EFFECTS AND FUTURE FORECASTS

## Summary

Volcanic eruptions include extreme events that strongly influence the balance of ecosystems. They are also a very important natural cause of climate change. Responses of climate systems to eruptive centre can be seen at different time scales, depending on the distance from the eruptive centre, the dominant wind directions and the duration and intensity of the eruption.

The study of influence of volcanic eruptions on climate should include the interactions between natural processes taking place in the environment. The eruption introduces changes that affect the natural

energy balance. The main disruptions are caused by changes in solar energy fluxes reaching the surface of the earth, manifested in changes of average air temperature.

The aim of the paper is to study the influence on the environment of the eruptions of the Icelandic volcano Laki in 1783 and the volcano Eyjafjöll in 2010. We try to reconstruct the mechanisms of transport of toxic gases from Iceland after the Laki eruption and present possible scenarios of the influence of similar scale eruptions on Europe.