



Renewed activity in the Vestmannaeyjar Volcanic System, Iceland and the associated volcanic risks

R. Andrew

Department of Structural Geology and Geodynamics, Geoscience Centre, University of Göttingen, Germany (email: randrew@gwdg.de)

The Vestmannaeyjar Volcanic System is located off the southern coast of Iceland. The system is composed of 17 islands above sea level and many submarine peaks. The largest island of the group is Heimaey, which also holds the only population in the group. The volcanic system also represents the front of the southward-propagating East Volcanic Zone.

Up until several decades ago, the Vestmannaeyjar Volcanic System was thought to be extinct. Since then several eruptions in the volcanic system have proved that it is still highly active. Based on data from various parts of Iceland, a volcanic system is now regarded as active if it has erupted at least once in the Holocene.

The current phase of activity started with the eruption of the island of Surtsey in 1963 to 1967, and of Heimaey in 1973. The complex volcanotectonic regime of the Vestmannaeyjar, and the great depth of the magma source, means that there is little warning for the local population before an eruption. The island is therefore a site of comparatively high volcanic risk. The risk is increased by the isolated nature of the island of Heimaey and the associated difficulties in escaping from an eruption.

The study looks at the awareness of the population and their education with regard to the volcanic hazards in the area. A hazard map for the island of Heimaey recognises that a future eruption could be further away from the populated area, though this does not alter the risk involved. Alternate harbour opportunities and emergency supplies are considered for the island, as well as an education program for the residents and tourists, and evacuation routes.

The conclusions from the study are that there has recently been increased activity

within the Vestmannaeyjar Volcanic System, and thus the likelihood of a future eruption may have increased. The likelihood of a future eruption blocking the entrance to the harbour poses an increased level of risk as regards evacuation. Education programs are needed to bring awareness to the population of Heimaey and its visitors. Such programs are easily made and should be done soon.