

Catalogue of Icelandic volcanoes

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Iceland has over 30 volcanic systems which have been active during the Holocene. During the last 100 years, about 30 eruptions have occurred. Volcanic activity is very varied in terms of eruption styles, eruptive environments, eruptive products and their distribution. Although basaltic eruptions are most common, the majority of eruptions are explosive, not the least due to magma-water interaction in ice-covered volcanoes. Icelandic volcanism has been investigated in a large number of studies, and the results reported in scientific papers and other publications. In 2010, the International Civil Aviation Organisation funded a 3 year project to collate the current state of knowledge and create a comprehensive catalogue readily available to decision makers, stakeholders and the general public. The work on the Catalogue began in 2011, and was then further supported by the Icelandic government and the EU. The Catalogue forms a part of an integrated volcanic risk assessment project in Iceland (commenced in 2012), and the EU FP7 project FUTUREVOLC (2012-2016), establishing an Icelandic volcano supersite.

The Catalogue is a collaborative effort between the Icelandic Meteorological Office (the state volcano observatory), the Institute of Earth Sciences at the University of Iceland, and the Icelandic Civil Protection, with contributions from a large number of specialists in Iceland and elsewhere. Once completed, it will be an official publication intended to serve as an accurate and up to date source of information about active volcanoes in Iceland and their characteristics.

The Catalogue is composed of individual chapters on each of the volcanic systems. The chapters include information on the geology and structure of the volcano; the eruption history, pattern and products; the known precursory signals and current monitoring level; associated hazards; and detailed descriptions of possible eruption scenarios. The probability of the eruption scenarios will also be depicted by probabilistic event trees. The chapters are illustrated with a number of figures, maps and photographs. The Catalogue will be published in early 2014 as an open web resource in English.