Explosive volcanism in Iceland between 8000 and 60.000 years as expressed by tephra layer frequency in marine sediments.

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Volcanism is a major force in shaping the Earth Environment. Understanding volcanic processes is therefore an important goal, which can benefit significantly from a thorough knowledge of past behavior of volcanoes and the course of volcanic events.

In the project presented here the aim is to unravel the activity of volcanic systems in Iceland between 8000-60.000 years as expressed by tephra layers in five cores from high-resolution marine sediments on the shelf and slope fans north and northeast of Iceland. The cores used in the study are; core MD99 2271, MD99 2272, MD99 2275 collected in 1999 and cores IS-4C and IS-1C collected in 2012.

Here we present preliminary results from three cores MD99 2271, MD99 2272 and MD99-2275. In core MD99-2271 roughly 60 tephra layers, spanning the Holocene and Late Glacial, have been identified and traced to a source volcanic system. In core MD99-2275 about 60 tephra layers from early Holocene and Late Glacial have been identified and chemically analyzed. However further high-resolution studies between 8000-15.000 years remain to be carried out. Over 200 potential tephra layers have been identified in core MD99 2272, which spans approx. 60.000 years. Thereof are 20 layers that have been analyzed for geochemistry. Remaining layers await further investigation i.e. acquiring chemical composition, source volcano and confirming pristineness. Investigation of cores IS-1C and -4C is in progress.