

Focus on climate change and palaeoceanography at the Earth Science Institute, University of Iceland

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During the past decade, several research projects have focused on the role of oceanographic variability in the seas around Iceland. The purpose of these projects has been to understand the climate system and the climatic history of the North Atlantic region. The projects follow a long tradition of emphasis on climate research and dating of palaeodata at the Earth Science Institute (formerly Science Institute), University of Iceland, both on long and short time scales. Pioneering studies by Sigurdur Thorarinsson and Thorleifur Einarsson of the glaciation history of Iceland, the vegetation history of the last few thousands of years, and the role of volcanism in the environmental history of Iceland are amongst examples in this field.

The present poster gives an overview of a group of these projects, and collaboration with international research programmes in the field of palaeoceanography and palaeoclimate research. Instrumental to the participation in palaeoceanographic research is participation and or access to marine sediment cores and surface samples. The sediment cores need to reach back thousands of years in time, and surface samples are critical for the calibration of palaeodata and for coupling modern instrumental records to the palaeorecord.

Data collection for the projects introduced here took place in two oceanographic cruises. The first one was organised in 1995 by the BIOICE (Benthic Invertebrates in Icelandic Waters) programme, where numerous surface sediment samples and six gravity cores were collected. The second cruise was organised by IMAGES (The International Marine Past Global Change Study) in 1999, and five giant piston cores up to 40 m long were obtained.

The investigation of the core material and the surface samples has been a collaborative effort carried out in cooperation with universities and research institutes in ten countries. Major funding has been obtained from RANNIS, The Danish Research Council, and from the 5th and 6th Framework Programmes of the European Commission. The projects include PANIS (palaeoenvironments on the North Icelandic Shelf), HOLSMEER (Holocene Shallow Marine Environments of Europe), PACLIVA (Palaeoclimate variability), ALDA (Aldur Atlantssjávar), and MILLENNIUM (Climate variability of the last Millennium).