



European and international cooperation in ice core research: the success of Greenland and EPICA projects and the IPICS strategy for the future

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Polar ice cores have provided several of the cornerstones of contemporary climate research. They have for example provided the most compelling evidence that very rapid climate changes can occur, and they have shown us how closely greenhouse gas concentrations and climate are linked over glacial-interglacial cycles. However, drilling deep ice cores requires logistic, technical and scientific resources that are very difficult for even small consortia of nations to amass. In the last two decades, a very deep collaboration has grown, firstly between 8 European nations in the Greenland Ice Core Project (GRIP), with other nations at NorthGRIP, and in the 10-nation European Project for Ice Coring in Antarctica (EPICA). This last project has completed two bedrock ice cores in Antarctica; these have extended the ice core record back to 800,000 years, and given unprecedented details about more recent periods. We will discuss some of the factors that enabled this success, including a genuine need and desire for collaboration by the partners, co-funding by the European Union and national agencies, and organisational assistance from the European Science Foundation. The entire international ice core community has recently formed a grouping called International Partnerships in Ice Core Sciences (IPICS) which has set an agenda of 4 science projects, as well as technical needs to achieve them, for the next decade or

more. These projects will require collaboration extending internationally, beyond even the extent of EPICA, and poses new challenges for sharing of resources, responsibility and rewards.