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## The International Quaternary Map of Europe and Adjacent Areas: Results from mapping of extreme environments inclusive

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The project of the International Quaternary Map of Europe project (IQUAME 2500) is a major international initiative coordinated by BGR under the auspices of the CGMW (Commission of the Geological Map of the World, Sub-Commission Europe) and with support of INQUA.

The project is collecting and compiling information from more than 40 partner institutions on numerous aspects of the European Quaternary. This includes the lithology and geochronological age of Quaternary units, genetic descriptions of the units, maximum extent of the ice sheets, extent of Arctic sea ice, off-shore Quaternary information, directions of ice movement, postglacial rebound, active faults, extent of permafrost and key localities (e.g. geologically and anthropologically interesting sites),

The IQUAME is based on hundreds of past mapping campaigns all over Europe. A considerable amount took place in extreme environments such as in polar, mountainous and/or glaciated regions. For example, the mapping of Lateglacial moraines in the Eastern Alps in Austria indicating extensive multiple glacier advances after the breakdown of the Last Glacial Maximum ice cap that occur in a high alpine environment with peaks of 3000 m altitude and steep slopes. The IQUAME also presents offshore map information, as the geology does not end on the shoreline. These data are based on data of European Marine Observation and Data Network (EMODnet) Geology project, established in 2009 by the European Commission. Within EMODnet Geology the Workpackage "Seafloor geology" compiles and harmonizes offshore geological map layers also from the Quaternary, from the EMODnet partners all over Europe.

Participation of the numerous international partners and the many different topics requires considerable data harmonization (semantics, structure and geometry). To achieve this, common standards and guidelines were set up and are used by all participants: structured vocabularies to describe the IQUAME's contents, a common topographic base, technical procedures to include the map data and guidelines to aid the partners to submit their data to the project. The harmonization is still in progress.

This contribution shows the pathway from regional mapping campaigns such as the one from the Lateglacial moraines in high alpine valleys and cirques to an overall harmonized Quaternary map layer of the entire Europe.