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EUROMARGINS - Large scale dynamics and micro-scale processes affecting Europe's continental margins

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The nations of Europe share mainly two types of continental margin systems: rifted margins in the north Atlantic and convergent margins in the Mediterranean. A process-oriented approach to understand the entire system of margin evolution required broadly based interdisciplinary studies with focus on the Norwegian margin and the western Mediterranean margin. Earthquake and fluid flow processes reveal the inner working processes at convergent margins of the Mediterranean, providing a look "inside a subduction factory" of Europe. Here, the understanding of the factors leading to Europe's largest and most destructive earthquakes is obviously an important goal. In northern Europe, the erosion and transport of enormous amounts of sediments from source areas on land to sink areas on continental margins during ice ages shaped distinctly the high latitude margin development. Shallow earthquakes during glacial-interglacial times due to pressure changes in response to changing sea-level or post-glacial rebound of Scandinavia occasionally triggered mega-submarine sliding. Such geohazards of the north released several thousand km^3 of glacigenic sediments from the upper continental margins to the ocean basins and often triggered Tsunamis. One of the research frontiers in the years to come is to improve our understanding of the natural fluid flow and microbial processes. Geohazard research in the large sedimentary accumulations that draped the rifted margins and the evolution of fluid flow and geohazards in convergent margins is another topic continuously important. A fundamental aspect of the EUROMARGINS Programme has been the focus on active processes and "complete" margin systems. This process-oriented approach is hopefully to be continued. The EUROMARGINS Programme provided the international framework for promoting innovative, interdisciplinary work for the imaging, monitoring, reconstruction and modelling of the physical, chemical, and biological processes in

the passive continental margins. This presentation highlights only a few key achievements within this Programme where studies concentrated on the Norwegian/Arctic margins, western Mediterranean / eastern Atlantic margins, Nile delta fan and Red Sea. The EUROMARGINS Programme is financed by funding agencies from 10 European countries: FWO, Belgium; CNRS, France; DFG, Germany; CNR, Italy; NWO, the Netherlands; NFR, Norway; FCT, Portugal; CSIC and MCYT, Spain; VR, Sweden; NERC, the United Kingdom, and by the European Science Foundation (ESF) under the EUROCORES Programmes, with support by the European Commission, DG Research (Sixth Framework programme, contract ERAS-CT-2003-980409).