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TOPO-EUROPE: An integrated solid earth approach to Continental Topography and Deep Earth – Surface Processes in 4D

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Topography influences various aspects of society, not only in terms of the slow process of landscape evolution but also through climate (e.g. mountain building). Topographic evolution (changes in land, water and sea level) can seriously affect human life, as well as terrestrial geo-ecosystems. To quantify topography evolution in space and time, understanding of the coupled deep Earth and surface processes is a requisite.
The TOPO-EUROPE initiative of the International Lithophere Program (ILP) addresses the 4-D topography of the orogens and intra-plate regions of Europe through a multidisciplinary approach. TOPO-EUROPE initiates a number of novel studies on the quantification of rates of vertical motions, related tectonically controlled river evolution and land subsidence in carefully selected natural laboratories in Europe. From orogen through platform to continental margin, these natural laboratories include the Alps/Carpathians-Pannonian Basin System, the West and Central European Platform, the Apennines-Tyrrhenian-Maghrebian and the Aegean-Anatolian regions, the Iberian Peninsula and the Scandinavian Continental Margin. TOPO-EUROPE integrates European research facilities (e.g. EPOS) and know-how essential to advance the understanding of the role of topography in Earth System Dynamics. The principal objective of the network is twofold. Namely, to integrate national research programs into a common European network and, furthermore, to integrate activities among TOPO-EUROPE institutes and participants. Key objectives are to provide an interdisciplinary forum to share knowledge and information in the field of the neotectonic and topographic evolution of Europe, to promote and encourage multidisciplinary research on a truly European scale, to increase mobility of scientists and to train young scientists.