

Evolution of the European continental crust as recorded by sediments of large European Rivers

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Large river systems drain wide continental areas spanning different geotectonic domains. Considering sorting and transport effects, river sediments reflect the composition of the respective continental crust, and therefore allow for the analysis of its evolution. The analysis rests mainly on detrital minerals that permit the reconstruction of the isotopic and temporal evolution of the crust.

We are building the first comprehensive database of U-Pb, Hf and O in detrital zircon from European rivers to evaluate the timing of crustal reworking and major crust generation. In comparison to other continents, there is a notable scarcity of combined isotope data in zircon from Europe, either from outcrop samples or detritals in rivers. Consequently, it is currently impossible to analyse the relation of the European crust to the evolution of other continents and the supercontinent cycle.

We will present our preliminary results, specifically U-Pb ages in detrital zircon from mayor rivers on the Iberian Peninsula: the Douro, Tagus, Guadiana and Guadalquivir rivers. Additionally, we have sampled 10 main rivers of western and central Europe and the Glomma river system in southern Scandinavia (figure 1).

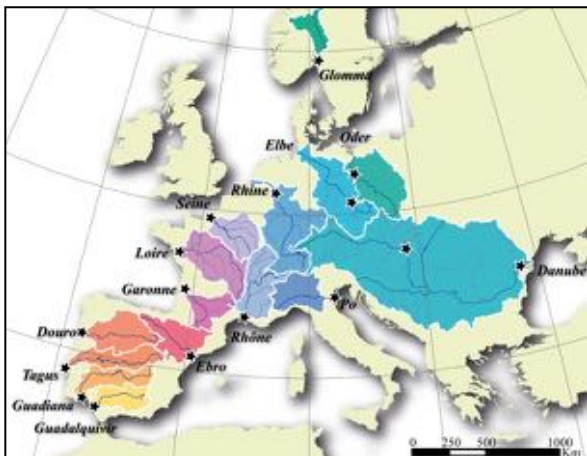


Figure 1: Sample location. Mayor rivers and drainage basin in Europe.