

Geochemistry of Paleogene sedimentary rocks from the eastern Ebro foreland basin

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The Ebro basin (NE Iberia) represents the Cenozoic foreland basin of the Pyrenees, the Iberian Range and the Catalan Coastal Ranges. Since the Late Miocene the basin begins to be eroded and uplifted in response to the drainage network connection with the Mediterranean sea.

Major and trace elements chemical composition of representative samples of the Paleogene sedimentary succession of the eastern part of the Ebro foreland basin (~12,000 km²) are presented. The sampling survey has been guided by a preliminary study of the stratigraphy and structure of the area. Overall, 150 samples belonging to 17 lithostratigraphic units have been sampled and analyzed. To facilitate the analysis of the results, the samples have been grouped into five lithological groups: mudstones, sandstones, marine marls, limestones and evaporites.

By means of statistical analysis, geochemical maps and bivariate diagrams the geochemical variability of the whole of the eastern part of the Ebro foreland basin is addressed. This geochemical survey provides a preliminary view of the element availability in soils and can be useful to address several environmental issues related to weathering and erosion that take place in the study area.

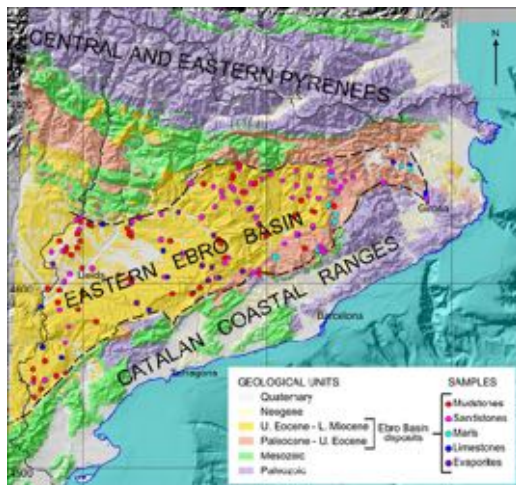


Figure 1: Location of the study area and the samples.