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Distribution of heavy metals in waters and stream sediments

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[1] At the time of digital provision, the authors mentioned are no longer active in the BGR for reasons of age. The digital processing was carried out by U. Rauch, Bundesanstalt für Geowissenschaften und Rohstoffe, Dienstbereich Berlin, Wilhelmstraße 25-30, D-13593 Berlin, Email: uwe.rauch@bgr.de, geochemischeatlanten@bgr.de.

[2] The addresses were updated to the status of the year 2022.

2.3.2.13 Lithium in stream sediments

Between 1977 and 1979, lithium analyses were carried out using an optical emission spectrometer (see Section 1.3). It became apparent that this method was subject to such serious matrix effects that, from 1979 onwards, it was replaced by AA analysis, which is more accurate. All the lithium values plotted on the maps were determined using this method. It is planned to reanalyse the samples from the first years in order to complete the lithium map.

This is of importance because lithium can be used as an indicator for the presence of pegmatites. These pegmatites are associated genetically with the granites and gneisses of the Upper Palatinate and the Black Forest. So far there are no reliable lithium analyses covering these regions. At times, the pegmatites in the Upper Palatinate have been mined for lithium, which occurs as lithium phosphate.

The distribution of lithium in stream sediments is largely controlled by the occurrence of shales, which in comparison with other types of rock, have a high lithium content (on average 60 ppm).

The median concentration in all the stream sediments analysed so far is 9 ppm Li; the highest value is 96 ppm Li.