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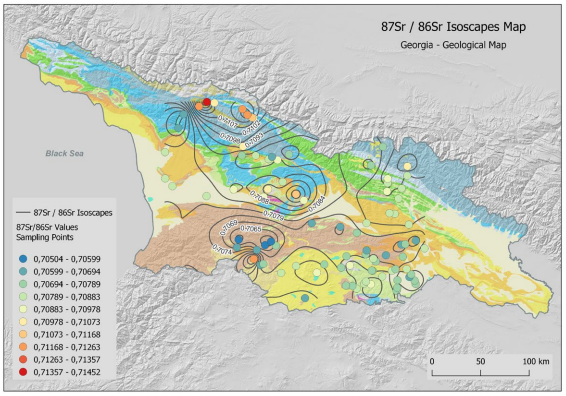

Strontium isoscape of Georgia, south Caucasus region : implications for paleodiet and population migration studies

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Advances in isotopic geochemistry and mapping software have proven a close ally to the study of mobile human populations in recent years. A region that would benefit greatly from such a tool is the southern Caucasus. Its extensive archaeological record demonstrates continuous and ever-changing human occupation since the middle stone age by numerous communities. Our goal is therefore to produce an $^{87}Sr/^{86}Sr$ isoscape of the country of Georgia that can be useful in tracing paleodiet, thus following mobility of peoples such as middle bronze age nomadic tribes and Silk Road merchants through *in situ* Sr isotope ancient human tooth analysis. The working hypothesis is that geology has a role in defining the overlying plant's Sr isotope compositions. When plants are consumed locally by humans (or herbivores, which are then consumed by humans), Sr isotope signatures are retained and preserved in mineralized bone and tooth enamel, which can be extracted from archaeological contexts. A challenge arises in adequately characterizing such a geologically variable region as Georgia so that inter-regional human mobility may be detected and directionally located. Two sampling campaigns were carried out in Georgia in 2018 and 2019, where local plants and snail shells samples were collected. They were brought back to Geotop's laboratory for processing. The samples were first cleaned in ultrapure water in an ultrasonic bath to remove any soil particulates. Shells were acid leached and plants were reduced to ash in a high-temperature oven. Following complete digestion (*aqua regia*), purified Sr from the samples were obtained through ion chromatography (Sr-Resin in HNO_3 3N / 0.05N). Mass spectrometry was carried on a NuPlasma II MC-ICP-MS with an Aridus II desolvating membrane as the introduction device. Repeated measurements of NIST-SRM-987 yielded an average of 0.71024+/-2 during this study. Samples showed values ranging from a high $^{87}Sr/^{86}Sr$ value of *ca*. 0.7145 in the northern region of Svaneti, and low value of 0.7046 in the southern Javakheti plateau. The results will be presented in a poster format overlaying the Caucasus geological map [1].

[1] Adamia et al. (2010) Geological map of the Caucasus 2010; scale 1: 1 000 000.