Geochemical Atlas – Erzgebirge and Vogtland

Caesium in stream sediments

At 8.5 mg/kg the arithmetic average of caesium (Cs) is almost twice the median of 4.4 mg/kg. The overall maximum is 86.5 mg/kg, the minimum 0.6 mg/kg. Values near to the median are close to being distributed log normally and refer to the bulk of sedimentary, metasedimentary and orthometamorphic rocks. A secondary maximum in the histogram forms in the range of 30 to 60 mg/kg. It is characterised by samples from granite zones, the averaging about four times higher than the average of all other rock units combined. The 100 highest values plot to the Eibenstock granite (99 samples) and to the Kirchberg granite (1 sample). The Eibenstock granite, with a diametre of approx. 17 km, holds the only Cs > 40 mg/kg aureole in its centre, surrounded by a Cs > 25 mg/kg area in its periphery. Additionally, a narrow strip with Cs > 16 mg/kg surrounds the Eibenstock massif, whereas a separate spot with this concentration appears in the area of stratiform Sn mineralisation SE of Schneeberg. In the eastern Erzgebirge, only the Schellerhau granite forms a zone of similar grades, which strikes 6 km NW. Areas with Cs levels up to 10 mg/kg accompany the Kirchberg granite and the Bergen granite in its SW continuation, further an area between Schneeberg, Schwarzenberg and the Ehrenfriedersdorf Sn district. In the eastern Erzgebirge, areas of similar concentration extend from the Schellerhau granite to Dippoldiswalde, including further granitoids and the Sn deposit of Sadisdorf. A rhyolite body N of Freiberg also shows a zone of Cs > 10 mg/kg over 2 km with a N-S strike. The lowest levels of caesium (Cs < 1 mg/kg) occur in Ordovician to Silurian metasediments around Oelsnitz and Adorf and along the entire northern rim of the study area.

Project partners:

beak consultants advangeo

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TECHNISCHE UNIVERSITÄT BERGAKADEMIE FREIBERG

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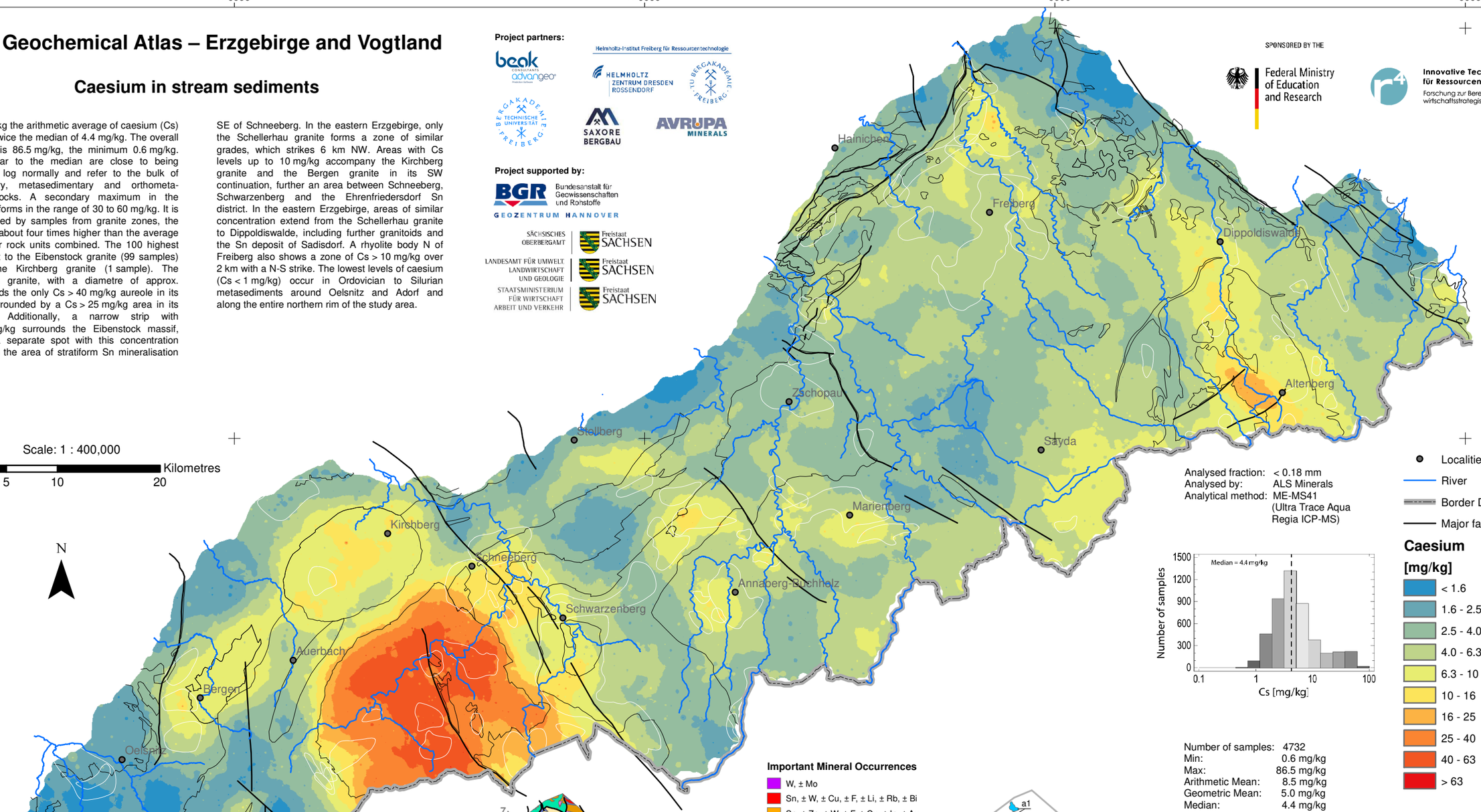
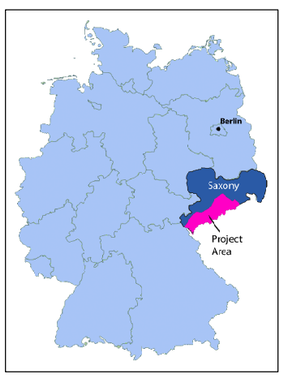
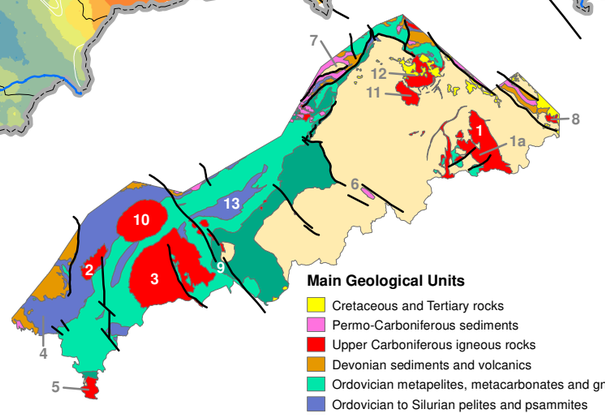
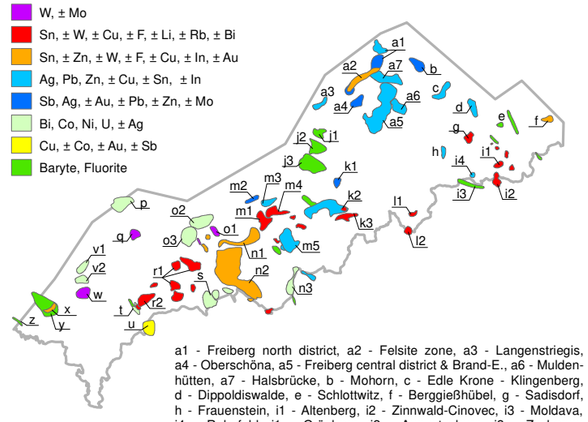






1 – Altenberg-Teplice-Caldera (incl. 1a - Schellerhau granite), 2 – Bergen Pluton 3 – Eibenstock Pluton, 4 – Eichigt Pluton (concealed), 5 – Fichtelgebirge Pluton, 6 – Flöha Fault Zone, 7 – Frankenberg Crystalline Complex, 8 – Markersbach Pluton, 9 – Gera-Jachymov Fault Zone, 10 – Kirchberg Pluton, 11 – Niederbobritzsch Pluton, 12 – Tharandt Volcanic Complex, 13 – Lößnitz-Zwönitz Syncline



a1 - Freiberg north district, a2 - Felsite zone, a3 - Langenstriegis, a4 - Oberschöna, a5 - Freiberg central district & Brand-E., a6 - Muldenhütten, a7 - Halsbrücke, b - Mohorn, c - Edle Krone - Klingenberg, d - Dippoldiswalde, e - Schlottwitz, f - Berggießhübel, g - Sadisdorf, h - Frauenstein, i1 - Altenberg, i2 - Zinnwald-Cinovec, i3 - Moldava, i4 - Rehefeld, j1 - Grünberg, j2 - Augustusburg, j3 - Zschopau k1 - Lengefeld, k2 - Marienberg - Wolkenstein, k3 - Pobershau, l1 - Seiffen, l2 - St. Katharinaberg, m1 - Geyer, m2 - Hormersdorf, m3 - Thum, m4 - Ehrenfriedersdorf, m5 - Annaberg-B., n1 - Lauter-Elterlein, n2 - Westerzgebirge complex deposit, n3 - Niederschlag-Bärenstein, o1 - Aue-Bärengrund, o2 - Bad Schlema-Alberoda, o3 - Schneeberg, p - Neumark (U), q - Pechtelsgrün, r1 - Sn Deposits of the Eibenstock Granite, r2 - Gottesberg-Mühlleiten, s - Johanngeorgenstadt, t - Brunnadóbra & Schneckenstein, u - Klingenthal-Kraslice, v1 - Zobes, v2 - Bergen, w - Tirpersdorf, x - Oelsnitz, y - Schönbrunn, z - Wiedersberg

Project: Prediction of Strategic High Technology Metals in the Erzgebirge (WISTAMERZ)

- Caesium in stream sediments -

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